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L 44160-65 EPF(c)/EWP(j)/EWA(c)/EWT(m)/T Pc-4/Pr-4 RM

S/0366/65/001/002/0236/0240

ACCESSION NR: AP5009017

25
24
B

AUTHORS: Bankov, Yu. V.; Perekalin, V. V.

TITLE: Synthesis of disconnected nitroalkenes

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 2, 1965, 236-240

TOPIC TAGS: halogen compound, nitration, IR spectrum, refractometer

ABSTRACT: The present methods of obtaining disconnected nitroalkenes have many defects, so the authors propose a method involving nitration of 3-bromopropene-1 nitrogen tetroxide and 3-iodopropene-1 nitrogen tetroxide, making 3-nitropropene-1 compounds. In developing the process, nitration by nitrogen tetroxide at -20C in other was investigated for several halogen derivatives having a bromine atom in allyl position: 2,3-dibromopropene-1; 1-bromo-butene-2, a mixture of 3- [illegible] 3-bromo-2-methylpropene-1;

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4-nitropentene-2; 5-nitro ... The structure of these nitroalkenes was determined by ...

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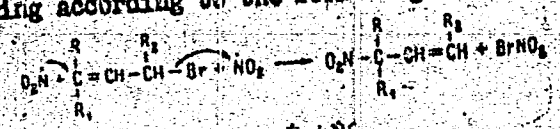
to the method of W. Maier, by IR spectra, and by refractometer measurements. The reaction probably takes place by a synchronous homolytic mechanism accompanied by allyl regrouping according to the following scheme:



$BrNO_2 \rightarrow Br + NO_2$

The reactions with derivative products and properties of these products are tabulated. Orig. art. has: 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy pedagogicheskiy institut imeni A. I. Gertsena (Leningrad State Pedagogical Institute)

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Card 2/2

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L 51071-65 EWG(j)/EWT(m)/EPF(c)/EWP(j)/T/EWA(h)/EWA(c)/EWA(1) Pc-4/Pr-4/
Pab RM UR/0366/65/001/004/0636/0640

ACCESSION NR: AP5011187

AUTHORS: Sokovishina, I. F.; Perekalin, V. V.; Lerner, O. M.; Andreyeva, L. M.

33
30
B

TITLE: Synthesis and isomerization of nitro-alpha-oxides

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 4, 1965, 636-640

TOPIC TAGS: organic synthesis, isomeric transition, oxide, nitro compound

ABSTRACT: Because of the antibacterial activity of some nitro compounds and the fungicidal properties of some alpha oxides, the authors attempted to combine the two. Nitro-replaced alpha oxides were first obtained by an exchange reaction of iodine-replaced oxides with silver nitrite. The structure was determined by IR spectra: the 862 and 1260 cm-1 bands characteristic of alpha oxide rings and the 1362 and 1560 cm-1 bands of the nitro group were all detected. Chemical analysis also confirmed the composition of the compound. The oxide of 1-nitropropen-2 was converted, on heating with water, to 1-nitropropylene glycol-2,3, and this was then converted to a benzil derivative. When the nitro oxide was acted on by hydrogen chloride, 1-chloro-3-nitropropanol-2 was obtained, and this was hydrolyzed to 3-chloropropanol-2 acid, from which an acyl derivative was obtained. It was found that the oxide of 1-nitropropen-2 when acted on by a base, by ultraviolet light or

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gamma radiation, or when heated undergoes extraordinary isomerization to the more stable conjugated nitroalkenol-1-nitropropen-1-ol-3. Orig. art. has: 4 formulas.

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NO REF SOV: 005 OTHER: 002

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

L 64558-65 EWT(m)/EPF(c)/EWP(j)/T/EWA(h) JW/RM

ACCESSION NR: AP5020830 UR/0020/65/163/004/0894/0896

AUTHOR: Lipina, E. S.; Perekalin, V. V.; Bobovich, Ya. S.

TITLE: Synthesis and structure of 1,4-dinitrobutadienes-1,3

SOURCE: AN SSSR. Doklady, v. 163, no. 4, 1965, 894-896

TOPIC TAGS: diene synthesis, nitrobutadiene, organic synthetic process

ABSTRACT: A method was worked out for synthesizing nitrobutadienes potentially useful in organic syntheses. Suspensions of disodium salts of 1,4-dinitrobutenes-2 in ether or water were reacted with one mol of oxidizing agent to form the corresponding 1,4-dinitrobutadienes-1,3. 1,4-Dinitrobutadiene-1,3 (I), 1,4-dinitro-2,3-dimethylbutadiene-1,3(II) 1,4-dinitro-1,4-diphenylbutadiene-1,3 (III) and 1,4-dinitro-2,3-diphenylbutadiene-1,3 (IV) were studied. Raman spectra showed I was a conjugated system, with conjugation somewhat weakened by action of the terminal nitro groups. Conjugation in II was decreased further by the methyl radicals. Spatial hindrance in III and IV led to the formation of 2

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ACCESSION NR: AP5020830

series of geometrical isomers, cis-cis and trans-trans. The 1,4-dinitrobutadienes-1,3 added nucleophilic reagents to the 2-1 position with subsequent vinyl-allyl isomerization. Addition was onto the terminal C atom of the system when the second and third C atoms were blocked. Thus, when isomers of IV underwent the Michael reaction, the methylene component added to the terminal carbon, and after subsequent denitration, diene systems were formed. II underwent vinyl-allyl isomerization to the inactive 2,3-di(nitromethyl)butadiene-1,3. The latter readily formed the tetrabromide while II added Br only under drastic conditions or on nucleophilic bromination. Orig. art. has: 6 equations.

ASSOCIATION: Leningradskiy gosudarstvennyy pedagogicheskiy institut im. A. I. Gertsena (Leningrad State Pedagogical Institute)

SUBMITTED: 13Jul64 ENCL: 00 SUB CODE: OC, GC

NR REF SOV: 006 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

ACC NR: AP6035680 (A,N) SOURCE CODE: UR/0413/66/000/019/0030/0030

AUTHOR: Mastryukova, T. A.; Baranov, G. M.; Perekalin, V. V.; Kabachnik, M. I.

ORG: none

TITLE: Preparation of O, O-dialkyl 1-methyl-1-hydroxy-2-nitroalkylphosphonates Class 12, No. 186462

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 30

TOPIC TAGS: organic phosphorus compound, ~~dialkylmethylhydroxynitroalkyl~~ phosphonate, catalytic organic synthesis

ABSTRACT: In the proposed method, O,O-dialkyl 1-methyl-1-hydroxy-2-nitroalkylphosphonates are obtained by the reaction of O,O-dialkyl acylphosphonates with nitroalkanes in the presence of basic catalysts, e.g., diethylamine. [PS]

[WA-50; CBE No. 14]

SUB CODE: 07/ SUBM DATE: 09Sep65

Card 1/1 UDC: 547.26'118.07

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

SOPOVA, A.S.; YURCHENKO, O.I.; PEREKALIN, V.V.

Synthesis of nitrocyclopropanes. Zhur. org. khim. 1 no.9: 1707-1708 S '65. (MIRA 18:12)

1. Leningradskiy pedagogicheskiy institut imeni A.I. Gertsena. Submitted May 12, 1965.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

SOKOVISHINA, I.F.; PEREKALIN, V.V.; LERNER, O.M.; ANDREYEVA, L.M.

Synthesis and isomerization of nitro-α-oxides. Zhur. org. khim. 1 no.4:636-640 Ap '65. (MIRA 18:11)

1. Leningradskiy gosudarstvennyy pedagogicheskiy institut imeni Gertsena.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

DANILOVA, Ye.M.; PEREKALIN, V.V.

Synthesis and transformations of aminoethyl derivatives of cyclic β-diketones. Zhur. org. khim. 1 no.9:1708 S '65. (MIRA 18:12)

1. Leningradskiy pedagogicheskiy institut imeni A.I. Gertsena. Submitted May 12, 1965.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

APARIN, N.; PEREKALINA, N.; KHALETSKAYA, T.

Problems of the over-all mechanization and electrification of agriculture. Vest.Mosk.un.Ser.8: Ekon., filos. 15 no.3:93-97 My-Je '60. (MIRA 13:6)

(Agricultural machinery)
(Electricity in agriculture)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

SPIRIDONOVA, Nina Sergeyevna; SKIPETROV, P.A., red.; PEREKALINA, N.S., red.; GEORGIYEVA, G.I., tekhn. red.

[Business accounting under the new conditions of industrial management]Khoziaistvennyi raschet v novykh usloviiakh upravleniia promyshlennost'iu. Pod red. P.A.Skipetrova. Moskva, Izd-vo Mosk.univ., 1961. 511 p. (MIRA 15:1)
(Finance)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

CA

2

**Magnetic properties of chromium tellurides.** F. M. Gal'perin and T. M. Perminova. *Zhur. Eksper. Teoret. Fiz.* 19, 470-2(1949).—Alloys with up to 70 at. % Te were obtained by sintering under slow heating for 6 hrs. and keeping at 1100° for 1 hr.; higher sintering temp. or longer time does not change the magnetic properties. The magnetization *I* was measured as a function of the magnetic field *H* at 20° and at −196°. The Cr-Te alloy becomes ferromagnetic at as low as 1 at. % Te. The satn. *I*, increases proportionally to the Te content up to 50 at. % Te. The alloy corresponding to the formula CrTe has the max. magnetic satn., 314 gausses at 20° and 447 at −196°, which is much higher than the figure of Guillaud, 74.57 (*C.A.* 40, 4028[1], 5613[3]). At Te contents above 50 at. %, *I*, falls rapidly to zero. At the lower temp., stronger fields are necessary to attain satn. than at room temp. The temp. dependence of *I*, is the same for all Te contents. The Curie points of alloys with less than 50 at. % Te are very close; in alloys with higher Te contents, the Curie points are much lower, and vary strongly with the Te content. By x-ray examn., all alloys have the same NiAs-type structure, *i.e.* the same structure as CrTe. Addn. of Cr to this alloy results in a solid soln. of Cr in CrTe, apparently of the interstitial kind. The variation of the lattice const. is very slight. Addn. of Te to CrTe gives an apparently substitutional solid soln. of Te in CrTe, with strong decrease of the lattice const. The two-phase region Cr + solid soln. of Cr in CrTe exists up to 15 at. % Te.

N. Thon

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9

**Paramagnetic susceptibility of alloys of transition metals with tellurium.** P. M. Gal'perin and T. M. Perekalina. *Doklady Akad. Nauk S.S.S.R.* 69, 19-22(1949).—The following alloys were all obtained by vacuum sintering of compressed powders. (1) Cr-Te (25-70 at. % Te), CoTe (50 at. %), and NiTe (50 at. %) have crystal lattices of the NiAs type, but with different parameters. The lattice of VTe is different, but has not yet been deciphered. (2) For VTe (50 at. %), the mol. magnetic susceptibility $\chi_m = C/T$, with $C = 0.092$. The Landé factor $g = 0.99$; the effective magnetic moment per mol., $\mu = 2.84\sqrt{C}$, or 1.70 Bohr magnetons per at. V. This is in accord with a bond formed between 2 *d* electrons of V and 2 *p* electrons of Te, leaving one *d* electron of V unpaired. (3) Cr-Te alloys (25-70 at. % Te) are all ferromagnetic. By x-ray and magnetic detns., alloys with 25-50 at. % Te are mixts. of Cr and the compd. CrTe; the lattice consts. remain unchanged, $a = 3.952 \pm 0.002$, $c = 6.160 \pm 0.006$ A.; magnetization at satn. increases linearly with the concn. of Te, attaining a max. at 50 at. %; the ferromagnetic Curie point, 91°, remains const. In alloys with 50-70 at. % Te, the lattice parameters vary with the amt. of Te, thus, at 56, 60, and 70 at. % Te, $a = 3.932 \pm 0.002$, $3.912 \pm 0.002$, and $3.880 \pm 0.002$, $c = 6.132 \pm 0.006$, $5.981 \pm 0.003$, and $5.908 \pm 0.005$ A. The at. ferromagnetic moment and the ferromagnetic Curie point fall with increasing Te content. The parameters of the Curie-Weiss law, $\chi = C/(T - \theta)$ (where $\theta$ = paramagnetic Curie point), vary with the Te content. With 50, 52, 54, and 56 at. % Te, $C = 0.243$, $\theta = 345°K.$; with 60, 65, and 70 at. % Te, $C = 0.175$, 0.073, and 0.123, resp., whereas $\theta = 210°K.$ for all 3 compns., i.e. $\theta$ undergoes a discontinuous change at 56 at. % Te. The Landé factor $g = 1.60$ for CrTe remains unchanged up to 56 at. % Te, but decreases with further increasing Te content. For CrTe, the effective magnetic moment per 1 at. Cr $\mu_a = 2.81$ Bohr magnetons, in accord with bonding between 2*p* electrons of Te and 2*d* electrons of Cr, leaving 2*d* electrons of Cr unpaired. (4) For NiTe, $\chi$ is found to be practically independent of the temp., in accord with the absence of unpaired *d* electrons. (5) For CoTe, the magnetization curve at room temp. lies above that at −196°, and does not attain satn., whereas at −196° satn. is attained. In a const. field (8000 oersteds), the magnetization increases linearly with the abs. temp., $I = I_0 + cT$, where $I_0 = 22$ gausses, $c > 0$. Consequently, this alloy is neither paramagnetic nor ferromagnetic, and may possibly be of the antiferromagnetic type. N. Thon

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2A

**Effect of the ordering of the structure of nickel-manganese alloys on their atomic magnetic moment and the anisotropy constant.** F. M. Gal'perin and T. M. Perekalina. *Zhur. Eksptl. Teoret. Fiz.* 29, 73-83(1950).—The alloys, annealed in vacuo 24 hrs. at 1000°, were shaped into rotation ellipsoids with the axes $2a = 70$ and $2b = 7$ mm., and once more annealed 1 hr. at 1000°. The initial part of the curve of the at. magnetic moment $m$ as a function of the Mn content, up to about 5 at. %, for disordered alloys quenched in $H_2O$ from 1000°, coincides with the detns. of Sadron (*C.A.* 29, 4987), which is proof that S.'s alloys were quenched. However, from 10 at. % Mn up, the difference becomes significant (S.'s values of $m$ are lower). Extrapolation of the linear low-Mn part of the curve to 100% gives $m = 3.20$ magnetons, i.e. a fractional value, not the integer 3 as with S, and comparing satisfactorily with G.'s calcd. $m = 3.17$ (cf. preceding abstr.). For alloys tempered 48 hrs. at 380°, the extrapolation gives $m = 3.44$, i.e. higher than for the quenched alloy. The magnetic satn. of quenched alloys close to $Ni_3Mn$ is low. After tempering at 380°, the magnetization is considerably greater. The quenched 22.4 at. % Mn alloy is paramagnetic. After 20 min. temper the magnetization curve shows a bend which characterizes this alloy as ferromagnetic. Satn. is attained only after 48 hrs. temper. After 76 hrs. temper at 380° the magnetization attains 750 gausses ($m = 0.94$). For a 19.6 at. % Mn alloy, satn. is reached after 20 min. temper; after 48 hrs., $m$ ceases to increase and remains at 0.91 magnetons. Extrapolation to 100 at. % Mn of alloys tempered for 76 hrs. gives for $Ni_3Mn$ an at. magnetic moment of 1 magneton. The general formula for the calcn. of $m$ is $m = M + K_1(d_1 - D) + K_2(d_2 - D) + K_3(d_3 - D) + \ldots$; here, $M = 2m_0$, and $m_0 = 10 - n$ for $n > 5$ and $m_0 = n$ for $n \leq 5$; $d_1$, $d_2$, ... are the distances of the 1st, 2nd, ..., layer of neighbors in the lattice; $K$ (magnetons/A.) depends on the lattice type, and is $K_1 = 7.7$ for the 12 nearest neighbors in a face-centered cubic lattice, and $K_1 = 5.13$ for the 8 nearest neighbors in a body-centered lattice, and in the Mn lattice; for the 6 next-to-nearest neighbors in the body-centered lattice, $K_2 = 3.85$. $D$ is a const. of the magnetic substance, and is $= 2.41$ A. for Ni and 2.54 for Co. The difference $\Delta D$ between Ni and Co is 0.13 A. Between Cr and V, $\Delta D = 0.26$ A. $K$ is inversely proportional to $\Delta D$, and $D = R_s + R_d$, the sum of the radii of the $s$ and the $d$ electron shells in the isolated atom. Another formula for $m$, leading to the same numerical result, is $m = m_0 + K(d - d_0)$, with $d_0 = D - 0.13m_0$ for 12 nearest neighbors, and $d_0 = D - 0.065m_0$ for 8 nearest neighbors. For Ni, both formulas give $m = 2.85$. For the calcn. of $m$ of Mn, only the 1st 2 terms need be considered; this gives $m = 2.57$ magnetons. In the absence of direct exptl. detns. of $m$ for pure Mn, this can be compared with the data extrapolated from the alloys, through $m_{extrap} = M_0 + m$, where $M_0$ of the

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solvent (Ni) = 0.60). Hence $m_{extrap}$ = 3.17, as against the exptl. 3.20. For an ordered alloy AB, $m_{alloy} = M_{AB} + K_{i,AA}(d_{i,AA} - D_{AA}) + K_{i,AB}(d_{i,AB} - D_{AB}) + \ldots$, where $i$ is the no. of the layer of atoms of the same sort as A, and $l$ of the other sort surrounding A; $D_{AB} = R_{i,A} + R_{i,B} = R_{i,A} + R_{i,B}$ and $M_{AB} = C_A m_{i,A} + C_B m_{i,B}$. For the calcn. of $M_{AB}$, $m_i$ must be taken into account only for metals that are ferromagnetic in the pure state, i.e. not Mn. For the ordered $Ni_3Mn$ alloy, $D_{Ni,Mn}$ = 2.63 and $D_{Mn,Ni}$ = 2.64 A., hence $C_{AB} = D_{BA}$ = 2.635 A. With these numerical values, $m_{alloy}$ = 0.92, as against the exptl. 0.94. By the same procedure, $m_{alloy}$ = 1.085 is found for the ordered $Ni_3Fe$ alloy; exptl. data are available for the disordered alloy, 1.145 magnetons, i.e. about 6% as expected. For an ordered alloy, $m_{alloy} = \pm(m_{extrap} - C\Delta M)$, where $C$ is the concn. of the solvent, and $\Delta M$ is the no. of atoms of the 1st component multiplied by the magnetic moment that an atom of the 1st component would possess if it occupied all the points of the lattice, at the same $d$ as in the alloy; $m_{extrap}$ is the moment that the 2nd component would possess if it were alone. This formula gives for $Ni_3Mn$ and $Ni_3Fe$ the same values as those calcd. above, and, for $MnCu_3Al$, $m_{alloy}$ = 0.53 (exptl. 0.54), for FeCo 2.32 (exptl. 2.35). The anisotropy const. $k_1$ is obtained from measurements of the susceptibility $\kappa = \partial I/\partial H$ as a function of $1/H_i^2$ (internal magnetic field) in the linear range; the slope gives $l = I_s[1 - (a/H_i^2)] + \kappa_s H$, where $\kappa_s$ is the paramagnetic susceptibility; hence, $k_1^2 = 0.152\,(1/I_s)[(\kappa - \kappa_s)/(1/H_i^2)]$. For alloys with up to 10 at. % Mn, $k_1$ increases on tempering; it increases even more strongly with the 19.6 at. % Mn alloy. Temper more prolonged than 48 hrs. has no further effect. In contrast, with the 22.4 at. % Mn alloy, studied after 48 and 76 hrs. temper, $k_1$ decreases strongly with increasing degree of order, and order is attained on more prolonged temper than in the 19.6 at. % Mn alloy. The hardness, in the tempered alloys (76 hrs.), has 3 maxima, at about 5 and 25 at. % Mn. The position of this 2nd max. is about the same as for the magnetic moment.

N. Thon

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CA

**The influence of low temperatures on the magnetic properties of high-alloyed chrome steels.** F. M. Gal'perin and T. M. Perchalina. *Zhur. Tekh. Fiz.* 20, 193-202(1950); *Chem. Zentr.* 1950, II, 1322.—The magnetic and elec. properties and the hardness of high-alloy steels were essentially changed at low temps. The magnetic satn. was increased when the steels were again heated to room temp. This and the increase in hardness were related to the conversion of austenite into martensite. M. G. Moore

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PEREKALINA, [illegible]

"Investigation of the Magnetic Properties of Alloys of Manganese, [illegible], Iron, Cobalt and Nickel with Tellurium." Sub 17 Oct 51, Moscow Order of Lenin State [illegible] M. V. Lomonosov.

Dissertations presented for science and [illegible] degrees in [illegible] 1951.

SO: Sum. No. 4[illegible]0, [illegible] May 55.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T.

185T102

USSR/Physics - Gyromagnetic Effect 21 Feb 51

"Investigating the Gyromagnetic Effect by Classical Resonance Method," F. Gal'perin, T. Perekalina

"Dok Ak Nauk SSSR" Vol LXXVI, No 6, pp 821-823

Investigates gyromagnetic relations for electrolytic nickel prepd in vacuum at 1,000°C and for alloys CrTe and $MnCu_2Al$; namely, magnetization I vs fld H, amplitude A of oscillations of metal sphere vs time, and Lande factor g. Authors were assisted by Prof I. K. Kikoin. Submitted 22 Dec 50 by Acad A. F. Ioffe.

185T102

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T. M.

Investigation of the gyromagnetic effect in a chromium-tellurium alloy by a classical resonance method. F. M. [illegible] and T. M. Perekalina. Izvest. Akad. Nauk [illegible] Ser. [illegible] (1958); cf. C.A. 48, 5423s.— A method is described in which a small sphere is suspended in a vacuum tube located inside a solenoid spool. A mirror is attached to the suspension wire, and the reflected light falls on 3 photoelements which trigger alternately 2 thyratrons in an inverter circuit when the sphere passes through zero; thus the direction of current in the solenoid is changed. Details of compensation for the earth magnetic field and the suspension wire are also given. The Lande factor is calcd. from the formula $g = (4/\pi)(H/A_\infty)(2mc/e)\chi(\pi d^2/3)(l/k\delta')$, where $H$ is the field strength, $A_\infty$ the resonant amplitude of the light spot from the mirror on a scale at the distance $l$ in cm., $\chi$ the susceptibility, $k$ the moment of inertia relative to the vertical axis, $\delta'$ the decrement of the free oscillations. $g_{Mi} = 1.97 \pm 0.01$; $g_{MnCuAl} = 1.99 \pm 0.01$. CrTe was remelted in vacuum at 1200° for 6–8 hrs. in a quartz tube. The molten alloy was cast from the upper part through a narrow opening into a lower part. After it was cooled, the quartz was removed with HF. $g_{CrTe} = 1.84 \pm 0.02$. S. Pakswer

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

USSR/Physics - Ferromagnetic Resonance of CrTe 21 May 52

"Investigation of Ferromagnetic Resonance in the Alloy CrTe," T. M. Perekalina, Sci Res Inst of Phys, Moscow State U imeni Lomonosov

"Dok Ak Nauk SSSR" Vol LXXXIV, No 3, pp 475, 476

Investigation of the gyromagnetic effect in the alloy CrTe (50% atomic Te) conducted by the author and F. M. Gal-perin by the classical method ("Dok Ak Nauk SSSR" Vol LXXVI, No 6, 1951) showed that both spin magnetic moments of electrons and orbital movements take part in the

225T82

creation of ferromagnetism (it turned out that the g-factor of CrTe equals 1.86 and 2). The purpose of the current article is to discuss an investigation of ferromagnetic resonance in an alloy of the same compn in the centimeter range by the same method as that of A. W. Birks, (Proc Phys Soc, 60, 282, 1948). Submitted by Acad M. A. Leontovich 22 Mar 52. Acknowledges help of Prof Ye. I. Kondorskiy.

225T82

PEREKALINA, T. M.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

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AUTHORS: Perekalina, T. M., Askochenskiy, A. A. 57-28-3-13/33

TITLE: Natural Ferromagnetic Resonance in Nickel, Magnesium and Cobalt Ferrites (Yestestvennyy ferromagnitnyy rezonans v nikelevom, magniyevom i kobal'tovom ferritakh)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28 Nr 3, pp. 511-517 (USSR)

ABSTRACT: The authors investigated the spectra of the complex magnetic permeability of the ferrites in a wide frequency range which comprises the boundary-displacement-processes, as well as rotation processes. They compared the obtained results with the existing theories. The measurements were made under different conditions: 1.) In toroids at a constant magnetic field according to the ballistic method 2.) At frequencies of from 0,45-12 megacycles according to the resonance-method with the use of the permeameter described in reference 1 and developed by Ye. A. Afanas'yeva, scientific collaborator of the laboratory. 3.) Within the frequency range of 10-30 megacycles. Here a frame was instead

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Natural Ferromagnetic Resonance in Nickel, Magnesium and Cobalt Ferrites 57-28-3-13/33

of the permeameter placed into the testing circuit of the Q-meter. 4.) In the frequency range of 60-40, 29-20, 14,9-14, 108-9,2 cm at the coaxial measuring leads and in the wave range of 7-6, 3,2, 1,8 and 1,5 cm at the measuring wave guides according to the impedance-measuring-method on conditions of short circuit and idling. The apparatus were set up by: G. Ye. Arkhangel'skiy, scientific collaborator, L. P. Shabanskaya, Diplomantka, and N. A. Shuvalova, Laboratory assistant. The experimental results confirm the theory by Landau and Lifshits (in the form given by Kittel) for the high-frequency part of the range. The authors refrain from a conclusion for the low-frequency part. The subject was suggested by Professor G. I. Skanavi, Director of the Laboratory. The results of the work were discussed with Ye. I. Kondorskiy, Professor, and K. I. Polivanov.
There are 5 figures and 14 references, 6 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moskva (Moscow Institute for Physics imeni P. N. Lebedev, AS USSR)

SUBMITTED: September 24, 1957

Card 2/2 1. Ferrites--Magnetic properties 2. Ferrites--Test methods

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

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24.7900 1160, 1395, 1140, also 1454

S/056/61/040/002/007/047
B113/B214

AUTHORS: Perekalina, T. M., Askochinskiy, A. A., Sannikov, D. G.

TITLE: Resonance of domain boundaries in cobalt ferrite

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 441-447

TEXT: The resonance dispersion of magnetic permeability in cobalt ferrite, which is caused by the displacement of domain boundaries, has been investigated experimentally. It was necessary to have a dispersion-free coaxial line with a square cross section, in which TEM-type waves appear and in which the form of the magnetic lines of force is almost quadratic. Quadratic frames were cut from a single crystal, whose sides coincide with the axes of easiest magnetization. Four quadratic frames of equal size were prepared from single crystals of cobalt ferrite (outer dimensions: 10 × 10 mm; inner dimensions: 6 × 6 mm); two of them were heated for 6 hr, and the other two for 7 days in order to reduce the conductivity due to crystals of divalent iron. In the first case ($Co_{0.94}Fe^{2+}_{0.12}Fe^{3+}_{1.96}O_4$) conductivity was

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Resonance of domain...

$10^3$ ohm·cm, and in the second case ($Co_{0.94}Fe^{2+}_{0.06}Fe^{3+}_{2.00}O_4$) it was $10^4$ ohm·cm. To determine the direction of magnetization and the domain width, powder patterns on the frames were microscopically examined and photographed. The pictures showed that in all frames, the variable magnetic field was parallel to the direction of domain magnetization. The domain boundaries were parallel to the boundary of the frames. The domain width on 6-hr heating was $3.7 \cdot 10^{-3}$ to $6.4 \cdot 10^{-3}$ cm, and on 7-day heating $3 \div 4 \cdot 10^{-4}$ cm. Measurements in the range of 250 - 450 Mc/sec showed for the first two frames a maximum magnetic loss at 360 Mc/sec, while for the other two frames no absorption was observed in the range of 200 - 300 Mc/sec. The course of the real and imaginary parts $\mu'$ and $\mu''$ of the magnetic permeability of the ferrite as a function of the frequency of the magnetic field shows a resonance character. A comparison of this resonance curve with that obtained from the resonance formula

$$\chi(\omega) = \chi_0 \frac{1}{1 - \omega^2/\omega_0^2 + i\omega/\omega_1},$$

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shows that the two curves are the same. This is surprising, for one would expect a much broader curve experimentally. In the calculation of the effective mass of the boundary, the special case of the 180° boundary was considered, whose mass is twice that of the 90° boundary. From the equation for the energy of the boundary layer of a cubic crystal:

$$W = \int_{-\infty}^{\infty} d\xi\,\delta \left\{ \frac{Aa^2 n}{4} \left[ \frac{1}{1-\alpha^2} \left(\frac{\partial\alpha}{\partial\xi}\right)^2 \frac{1}{\delta^2} + (1-\alpha^2) \left(\frac{\partial\varphi}{\partial\xi}\right)^2 \frac{1}{\delta^2} \right] + K\left[(1-\alpha^2)\alpha^2 - (1-\alpha^2)^2 \cos^2\varphi \sin^2\varphi\right] + \left[2\pi I_s^2 (\alpha - \alpha_\infty)^2 + I_s H_0 e^{i\omega t} (1-\alpha^2)^{1/2}\, 2^{-1/2} (\sin\varphi - \cos\varphi)\right] \right\}, \quad (5)$$

a solution is sought for $\alpha$ and $\varphi$

$$\alpha(\xi, t) = \alpha_0(\xi) + \alpha_1(\xi)\, p e^{i\omega t},$$
$$\varphi(\xi, t) = \varphi_0(\xi) + \varphi_1(\xi)\, p e^{i\omega t}, \quad (6)$$
$$v(t) = 4\pi I_s \gamma \delta V_0 p e^{i\omega t},$$

and also for $\alpha_0$ and $\varphi_0$: $\alpha_0(\xi) = 0$, $\varphi_0(\xi) = \arctan e^{\xi}$ (7). If Eq. (6) is substituted in (5) and if (7) is used, one obtains the equation:



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Resonance of domain...

$$m = \frac{1}{8\pi\gamma^2\delta}\frac{2\lambda}{V_0}\int_0^{\pi} d(2\varphi_0)\left\{\left(\frac{d\alpha_1}{d2\varphi_0}\right)^2 \sin 2\varphi_0 + \alpha_1^2\left(\frac{1+1/\lambda}{\sin 2\varphi_0} - \frac{3}{4}\sin 2\varphi_0\right)\right\}, \quad (10).$$

In order to calculate m from this formula, it is necessary to find a solution for $\alpha_1$ from the equation:

$$\left(\frac{d\alpha_1}{d\xi}\right)^2 - \alpha_1\left(1 + \frac{1}{\lambda} - 3\sin^2\varphi_0 + 3\sin^4\varphi_0\right) = \frac{V_0}{\lambda}\sin\varphi_0\cos\varphi_0. \quad (8);$$

this is done by a variational method. This results finally in the equation for $m_{90^\circ}$: $m_{90^\circ} = 0.24/8\pi\gamma^2\delta$ (13), from which it follows that $m_{180^\circ} = 0.48/8\pi\gamma^2\delta = 1.7\cdot10^{-10}$ g/cm$^2$. From $\chi_0 = 4I_s^2/\alpha l$ (3) it results that $\alpha_{180^\circ} = 4I_s^2/\chi_0\cdot l = 1.6\cdot10^9$ g/cm$^2$sec$^2$ and $\omega_0 = \sqrt{\alpha/m} = 2\pi\cdot500$ Mc/sec. K. V. Vladimirskiy is thanked for advice and a discussion. There are 1 figure and 4 non-Soviet-bloc references.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

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AUTHORS: Askochenskiy, A. A., Perekalina, T. M.

TITLE: Natural ferromagnetic resonance in monocrystalline nickel-iron ferrite

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 841-846

TEXT: The authors discovered natural ferromagnetic resonance in a ferrite single crystal of the composition $Ni_{0.78}Fe^{2+}_{0.12}Fe^{3+}_{2.07}O_4$. The specimen was a square frame measuring 10·10 mm outside and 6·6 mm inside which had been cut from a plate ⊥(100) and 1.4 mm thick. The temperature dependence of the complex magnetic permeability $\mu = \mu' + i\mu''$ (from +20 to -196°C) was measured at magnetic field frequencies between 180 and 3300 Mc. The temperature dependences of $\mu'$ and $\mu''$ are similar. In the frequency dependences the course of the $\mu'(\omega)$ and $\mu''(\omega)$ curves is similar only below -100°C (both have a maximum and a minimum). At higher temperatures only the $\mu''(\omega)$ curve keeps its extrema, $\mu'(\omega)$ decreases monotonically. For a

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comparison between experimental and theoretical results, magnetic anisotropy and spontaneous magnetization were determined. The axis of easiest magnetization of the Fe-Ni ferrites was found to be always ∥[111] at -196 - +300°C and that of heaviest was ∥[100] above -140°C and ∥[110] below -140°C. The magnetic characteristics were determined with three frames cut in parallel to [100], [110] and [111]. The temperature dependence of the resonance frequency is calculated for the cases where the h-f magnetic field is perpendicular (⊥) or parallel (∥) to the domain boundary

$$K_1 < 0,\ K_2 < 0;\quad -140^\circ C \leqslant T \leqslant +20^\circ C;$$

$$(\omega/\gamma)_\perp = \tfrac{4}{3}\sqrt{(K_2/3K_1 + 1 + \pi M)(K_2/3K_1 + 1)}\ , \qquad (4)$$

$$(\omega/\gamma)_\parallel = \tfrac{4}{3}(K_2/3K_1 + 1);$$

$$K_1 > 0,\ K_2 < 0;\quad -196^\circ C \leqslant T \leqslant -140^\circ C;$$

$$(\omega/\gamma)_\perp = \tfrac{4}{3}\sqrt{(K_2/3K_1 - 1 + \pi M)(K_2/3K_1 - 1)}\ , \qquad (5)$$

$$(\omega/\gamma)_\parallel = \tfrac{4}{3}(K_2/3K_1 - 1).$$



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and is compared with experimental results. The calculations follow partly Artman (Phys. Rev. 105, 62, 1957), but the authors, here, take both anisotropy constants ($K_1$,$K_2$) into account. Above -120°C the experimental $\omega_{res}(T)$-curve coincides with the $\omega_{\parallel}(T)$ curve calculated; the deviation at lower temperatures is attributed to inaccurate determination of $K_2$. There are 5 figures.

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

SUBMITTED: April 19, 1962



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PEREKALINA, T. M., and ASKOCHENSKIY, A. A.,

"Domain Wall Resonance and Natural Ferromagnetic Resonance in Ferrite Single Crystals."

report presented at the Symposium on Ferroelectricity and Ferromagnetism, Leningrad, 30 May-5 June 1963.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

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 x $10^3$ 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

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ACCESSION NR: AP4042556

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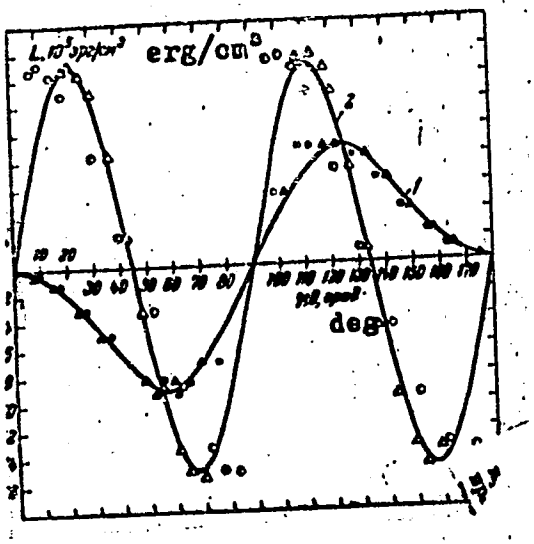


Rotational moments for single-crystal $BaCO_{1.0}Fe_{1.0}W$ in the (1010) plane at 290K (full points) and 77K (light points).

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L 31970-65 EWP(1)/EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWD-2/EWP(b) JD
ACCESSION NR: AP5004379 S/0056/65/048/001/0094/0102

33
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B

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

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

21

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 energy of the crystal was investigated in order to obtain a quantitative estimate of the induced anisotropy effect, to check the validity of a phenomenological for-

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The magnetic anisotropy energy of a spherical sample 4 mm in diameter, was meas-

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ACCESSION NR: AP5004379

ured by the torque method. The thermomagnetic treatment consisted of heating the sample to 2500, keeping it at this temperature for 15 minutes in a field of 15,000 Oe, and cooling it slowly in this field to room temperature at a rate of 3 deg/min. The magnetic anisotropy was measured as a rule in a field of 24,500 Oe. The results showed that the proposed phenomenological formula

$$W_U = U_1\alpha_3^2\beta_3^2 + U_2(\alpha_1\beta_1 + \alpha_2\beta_2)^2 + U_3(\alpha_2\beta_1 - \alpha_1\beta_2)^2 + \\ + 2U_4\alpha_3\beta_3(\alpha_2\beta_2 + \alpha_1\beta_1).$$

with constants $U_1 = -1.5 \times 10^5$, $U_2 = -3.0 \times 10^5$, $U_3 = 1.3 \times 10^5$, and $U_4 = 2.0 \times 10^5$ erg/cm$^3$ describes the anisotropy induced in the crystal. The results also show that the thermomagnetic treatment along the hexagonal axis is not accompanied

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the easy magnetization direction under various conditions is briefly discussed. Orig. art. has: 4 figures and 10 formulas.

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

Card 2/3

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ACCESSION NR: AP5003[illegible]

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L 24377-66 EWT(m)/EWA(d)/T/EWP(t) IJP(c) JD

ACC NR: AP6010980 SOURCE CODE: UR/0056/66/050/003/0595/0604

AUTHORS: Yamzin, I. I.; Sizov, R. A.; Zheludev, I. S.; Perekalina, T. M.; Zalesskiy, A. V.

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

TITLE: Spin ordering and magnetocrystalline anisotropy in single crystals of $BaCo_xFe_{18-x}O_{27}$ ferrites

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 3, 1966, 595-604

TOPIC TAGS: ferrite, single crystal, magnetic anisotropy, neutron diffraction, nuclear spin, Curie point, temperature dependence, spin wave theory

ABSTRACT: This is a continuation of earlier work by the authors (ZhETF v. 46, 1985, 1964). In this paper new data are presented on the magnetic anisotropy energy of the ferrite system under discussion. The crystals were grown by the Verneuil method and were the same as

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ACC NR: AP5010980

used in the earlier investigation. In view of the fact that the ferrites investigated exhibit various types of magnetic anisotropy at low temperatures, the authors used a neutron diffraction method to investigate the influence of the cobalt ions on the positions of the spin ordering axis in these crystals in the temperature range from 77K to the Curie temperature. The temperature dependence of the magnetic anisotropy constants was investigated in the same range of temperatures and compared with the theory. The same samples were used to obtain neutron diffraction patterns as were used in the investigation of the magnetic anisotropy. The results show that the spin directions coincide with the directions of the total magnetization vectors of the crystals. The data also indicate that the experimental results can be fully reconciled with a theoretical formula deduced by Ye. A. Turov from the phenomenological theory of spin waves (Fizicheskiye svoystva magnitouporyadochennykh kristallov [Physical Properties of Mangetically Ordered Crystals], AN SSSR, 1963), without need to make allowance for any particular structure model. Orig. art. has: 7 figures, 3 formulas, and 3 tables.

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PEREKHALINA, T.P.

PHASE I BOOK EXPLOITATION SOV/4893

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

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

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

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

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

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

Ferrites (Cont.) SOV/4893


Perekalina, T. M., and A. A. Askocherskiy. Magnetic Anisotropy of Single Crystals of Iron-Cobalt Ferrites 95

Tretyakov, Yu. D., and K. G. Khomyakov. Experiment in Producing Ferrites by Nondiffusion Methods 100

Bashkirov, L. A., A. P. Falkin, and N. N. Sirota. Formation of Ferrites During the Decomposition of Salts 111

Yeremeev, V. I., and I. I. Petrova. Investigation of the Properties of Nickel-Zinc Ferrites of Near-Stoichiometric Composition 117

Reznitskiy, L. A., and K. G. Khomyakov. Calorimetric Determination of the Heat of Formation of Ferrites 124

Vasilkin, Yu. V. The Chemical Nature of Some Magnetic Spinels of the Diagram $MgO-MnO_t-Fe_2O_3$. Spinels With Rectangular Hysteresis Loop 129


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PEREKRALINA, T. M.

PHASE I BOOK EXPLOITATION SOV/4893

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

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

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

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

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

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

Ferrites (Cont.) SOV/4893

Perekralina, T. M., and A. A. Askochenskiy. Investigation of the Ferromagnetic Resonance of a Cobalt Ferrite in an Internal Field of Anisotropy 501

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PEREKALIN, T.V.

Experimental data showing the crystallization sequence of certain basic rocks. Uch.zap.Len.un. no.102:113-141 '50. (MLRA 10:1)
(Rocks, Igneous)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T.V.

Geology of Hercynian granite instrusions in central Kazakhstan. Vest. LGU 15 no.18:5-22 '60. (MIRA 13:9)
(Kazakhstan--Granite)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

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ALEKSANDROVA, M.I.; BORSUK, B.I.; PEREKALINA, T.V.; YAGOVKIN, V.I.

Geology of the Sarysu-Balkhash-Nura watershed. Trudy VSEGEI 32: 7-126 '60. (MIRA 13:11)

(Kazakhstan--Geology)

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PEREKALINA, T.V.

Distribution of Hercynian granite intrusions in central Kazakhstan. Biul.MOIP.Otd.geol. 35 no.2:154-155 Mr-Ap '60. (MIRA 14:4)
(Kazakhstan—Granite)

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PEREKALINA, T.V.

Petrology of Late Hercynian granites in central Kazakhstan. Uch.zap. LGU no.312:26-41 '62. (MIRA 15:6)
(Kazakhstan--Granite)

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PEREKALINA, T.V.

Post-Ladoga granitoids in the southern part of the Lake Ladoga region. (MIRA 15:6)
Uch.zap. LGU no.312:58-82 '62.
(Ladoga Lake region--Granite)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PERKALINA, T. V.

Some aspects of the petrology of Hercynian granitoids of central Kazakhstan. Dokl. AN SSSR 147 no.6:1448-1451 D '62. (MIRA 16:1)

1. Laboratoriya geologii dokembriya AN SSSR. Predstavleno akademikom A. A. Polkanovym.

(Kazakhstan--Petrology)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T.V.

Hercynian ring intrusions of central Kazakhstan. Vop. magm. i metam. 1:26-40 '63. (MIRA 16:8)

(Kazakhstan—Rocks, Igneous)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T.V.

Segregation of the intrusive complexes of Hercynian granitoids in central Kazakhstan. Vop.magm.i metam. 2:7-13 '64.

(MIRA 18:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PHREKALINA, T.V.

Methods for the study of granite plutons (as revealed by a study in central Kazakhstan). Trudy lab. geol. dokem. no.19: 250-255 '64 (MIRA 17:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, T.V.

Some petrological problems of Hercynian granitoids in central Kazakhstan. Izv. vys. ucheb. zav.; geol. i razv. 7 no.6:54-65 Je '64. (MIRA 18:7)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

VOZNESENSKIY, V.A.; PEREKALINA, T.V.

Structural characteristics and the mechanism of the formation of the Kor-Murun granitoid intrusive. Vest. LGU 20 no.18 '65 Seriia geologii i geografii no.3:15-24 (MIRA 18:10)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

TSINZERLING, Ye.V.; PEREKALINA, Z.B.

Strength of quartz during twisting. Trudy Inst.krist.no.11: 172-176 '55. (MLRA 9:6)
(Quartz) (Dislocations in crystals)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

SOV/70-3-1-11/26

AUTHORS: Perekalina, Z.B., Regel', V.R. and Dubov, G.A.

TITLE: Some Results of Compression Testing of Naphthalene Monocrystals (Nekotoryye rezul'taty ispytaniy monokristallov naftalina na szhatiye)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 1, pp 71 - 79 (USSR)

ABSTRACT: Mechanical properties of naphthalene monocrystals are of practical interest because these monocrystals, with anthracene admixtures, are widely used as scintillators for recording of radioactive radiations. Detailed investigations of plasticity of naphthalene were carried out by Kochendörfer (Ref 2). In the majority of his tests, Kochendörfer applied shear stresses. The present paper extends Kochendörfer's work to compression stresses. Naphthalene samples were prepared in the form of rectangular rods of 6 x 6 x 15 or 6 x 6 x 20 mm dimensions, by cutting up a large monocrystal grown by the Kyropoulos method. The samples were polished by means of a cloth soaked in kerosene. They were cut with their longitudinal axes at various orientations to the crystallographic axes and the cleavage plane of the crystal. The orientation

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SOV/70-3-1-11/26

Some Results of Compression Testing of Naphthalene Monocrystals

of each sample was expressed in terms of an angle $\chi_0$ between the sample axis and projection of this axis onto the plane of slip and the angle $\lambda_0$ between the sample axis and the direction of slip. Compression tests were carried out at room temperature using the apparatus described earlier (Refs 3, 4). In the majority of tests, the rate of deformation was ~0.17 mm/min. The rods were compressed to a certain degree of deformation and then held at constant deformation for 15 - 30 minutes in order to obtain the stress relaxation curves. Both the compression and the relaxation curves were recorded automatically by means of a device incorporating a microphotometer MF-4. The apparatus used made it possible to determine the applied force to within $\pm$ 20 g and the stresses were known to within $\pm$ 1 g/mm$^2$. The changes produced by compression could be seen in polarized light; the angles of mutual rotation of various regions of the crystal were deduced from the extinction angles.

Card2/5 To determine the orientation of a particular region of the

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deformed sample with respect to the crystallographic directions of the original monocrystal, the authors used the fact that naphthalene splits along its cleavage plane when lightly wetted with a volatile solvent such as kerosene, dichlorethane or acetone. Cleavage cracks so produced show clearly the rotations of individual portions of the deformed sample. Over 50 samples of various orientations were tested. Figure 1, curves a-в, show the compression and relaxation and Figures 2-4 show photographs of samples in which the principal system of slip lines was expected ($\chi_0 = \lambda_0 = 15\text{-}75^\circ$). Curves $\eta$, $\delta$ and e in Figure 1 show the compression and relaxation of samples with $\chi_0 = \lambda_0 = 0^\circ$, $\chi_0 = 45^\circ$, $\lambda_0 = 90^\circ$, $\chi_0 = 0^\circ$, $\lambda_0 = 90^\circ$, respectively; in these cases, the



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Some Results of Compression Testing of Naphthalene Monocrystals

principal system of slip cannot occur. Photographs of the latter group of samples are shown in Figures 5-7. Each curve of Figure 1 consists of two portions separated by a vertical dotted line. The lefthand curve shows the compression plotted as the degree of deformation ($\varepsilon$), in percent, against the stress ($\sigma$), in g/mm$^2$. The righthand curve shows the relaxation plotted as stress ($\sigma$), in g/mm$^2$, against time (t), in minutes. From the results obtained, the authors draw the following conclusions: 1) the compression curves have a jagged form because of formation of faults (regions of asymmetric reorientation). The presence of these faults was confirmed by observation in polarized light; 2) the rate of relaxation is high to start with, but it slows down rapidly with time. The relaxation is not accompanied by softening; 3) the flow limits of samples with different orientations varied between 15 and 360 g/mm$^2$.

Acknowledgments are made to L.M. Belyayev and M.V. Klassen-Neklyudova for their advice.

Card4/5

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

SOV/70-3-1-11/26

Some Results of Compression Testing of Naphthalene Monocrystals

There are 8 figures, 1 table, and 13 references, 6 of which are Soviet, 2 German, 4 English and 1 translation from English into Russian.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac.Sc.USSR)

SUBMITTED: January 5, 1957

Card 5/5

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, Z. B.

24.7100

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SOV/70-4-5-33/36

AUTHORS: Beljayev, L. M., Dobrshanskiy, G. F., Chadayeva, V. V., Panova, V. P., Perekalina, Z. B., Varialomeyeva, V. N.

TITLE: Growing Activated Lithium Fluoride Crystals

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 5, pp 794-795 (USSR)

ABSTRACT: The admission of impurities into the structure of LiF crystals to activate them for detection of thermal electrons, as for example for use in scintillators, is difficult, because of certain crystal-chemical properties of the crystals. The authors have grown LiF crystals by the Kyropoulos method in open Pt crucibles. In each case, a seed was attached to a cooler, protected by a Pt mantle. Mg, Al, Fe, Cu, Ga, In, and U compounds were added to the readily molten LiF. The luminiscence and absorption spectra were examined by monochromatizer UM-2 and spectrophotometer SP-4 respectively. The excitation by ultraviolet rays disclosed the highest luminescence of LiF(Mg) crystals and of those activated by uranyl

Card 1/3

compounds. The former showed higher absorption than LiF, especially of ultraviolet rays. The luminescence intensity of the LiF(Mg) crystals increases with the duration of aging of the molten phase prior to crystallization. The excitation of the LiF crystals, activated by uranyl compounds, was high by both electron beams and X-rays. The scintillation intensity of LiF(U) crystals was about 4% of that of NaI(Tl). There are 4 figures; and 4 references, 2 Soviet, 1 German, 1 U.S. The latter is: R. S. Moon, Phys. Rev., 13, 1210-1211, 1948.

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

SUBMITTED: June 15, 1959

Card 2/3

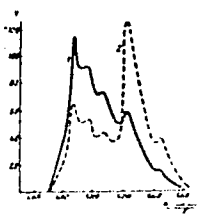

Fig. 4. Luminescence Spectra of the LiF Crystals Activated by: (1) $UO_2(NO_3)\cdot 6H_2O$ and (2) $UO_2SO_4\cdot 3H_2O$

Card 3/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

S/070/60/005/005/009/017
E132/E360

AUTHORS: Belyayev, L.M., Perekalina, Z.B., Varfolomeyeva, V.N., Panova, V.P. and Dobrzhanskiy, G.F.

TITLE: The Luminescent Properties of Lithium Fluoride Activated by Uranium

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 5. pp. 757 - 760

TEXT: Crystals of LiF - U were grown by the Kiropulos method in air. Uranium was introduced as uranyl nitrate or sulphate in concentrations of 0.01 to 0.5 wt.%. Crystals with 0.01% activator had a blue-green luminescence and with 0.02% and above a yellow-green luminescence. The spectra of the luminescence excited by a mercury lamp (ПРК-4 (PRK-4) with a УФС-1 (UFS-1) filter) were measured with a УМ-2 (UM-2) monochromator and an ФЭУ-32 (FEU-32) photomultiplier. Absorption spectra were measured on an СФ-4 (SF-4) spectrophotometer. The spectra are reproduced. From 0.01 to 0.03% of the activator an effect was discovered by which the bands of the luminescence spectrum were displaced. The absorption spectrum was also displaced towards

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

S/070/60/005/005/009/017
E132/E360

The Luminescence Properties of Lithium Fluoride Activated by Uranium

the long wavelength region. It is shown that the presence of an oxidising atmosphere which permits the formation of the $U^{+6}$ ions is a necessary condition for the activation of a crystal by uranium during its growth. The dependence of the luminescence and absorption in the crystal on the concentration of the activator permits the use of luminescence analysis for studying the processes by which impurities are distributed during the growth of crystals. There are 4 figures and 7 references: 5 Soviet and 2 English.

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

SUBMITTED: March 11, 1960

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

L 26182-65 EWT(m)/EWP(j) Po-4 RM

ACCESSION NR: AR5004855 S/0058/64/000/011/B032/B033

SOURCE: Ref. zh. Fizika, Abs. 11E263

AUTHORS: Dourzhanskiy, G. F.; Perelalina, Z. B.; Sorokina, V. V.

TITLE: Procedure for growing stilbene crystals in sealed test tubes using oriented primers

CITED SOURCE: Sb. Stsintillyatory i stsintillyats. materialy. Khar'kov, Khar'kovsk. un-t, 1963, 54-55

TOPIC TAGS: stilbene, single crystal, crystal growth, oriented primer

TRANSLATION: An improved procedure of growing stilbene single crystals is described. Unlike the presently employed procedure of growing in open test tubes, it is proposed to carry out the process in sealed ampoules using oriented primers. It was established experimentally that the primer must be oriented along the (001) cleavage plane; a method is described for preparing such primers. The crystallizing substance in the form of compressed tablets is fed on top of a primer,

Card 1/2

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L 26182-65

ACCESSION NR: AR5004855

which is lowered to the bottom of the test tube. The procedure prevents decomposition of the substance and ensures safety of the operating personnel against the toxic action of the stilbene vapor. Ye. Givargizov.

SUB CODE: GS ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKALINA, Z.B.; SHNYREV, G.D.; MIRENSKIY, A.V.; PERMOGOROV, V.I.; KIZEL', V.A.

Photoelectric spectropolarimeter for measuring the rotation of the light polarization plane in crystals. Kristallografiia 10 no.2:270-272 Mr-Ap '65. (MIRA 18:7)

1. Institut kristallografii AN SSSR.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

L 08536-67 EWT(m)/EWP(j) IJP(c) RM SOURCE CODE: UR/0364/66/002/011/1332/1335

ACC NR: AP6035590

AUTHOR: Raskina, E. M.; Perekal'skaya, L. M.; Davydov, B. E.; Shishkina, M. V. 37

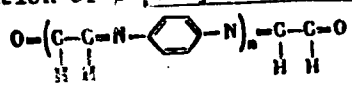
ORG: Institute of Petrochemical Synthesis im. A. V. Topchiyev, Academy of Sciences SSSR, Moscow (Institut neftekhimicheskogo sinteza Akademii nauk SSSR) B

TITLE: Preparation and study of complexes of Schiff bases

SOURCE: Elektrokhimiya, v. 2, no. 11, 1966, 1332-1335

TOPIC TAGS: organic semiconductor, semiconducting polymer, charge transfer complex

ABSTRACT: Charge transfer complexes of polymeric Schiff bases and bromine have been prepared and the effect of chemical structure on the physical, chemical and electrical properties of these complexes has been studied. The polymers (I-IV) were prepared by polycondensation of p-phenylenediamine with various dicarboxylic compounds: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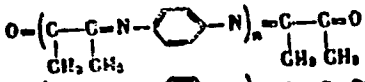
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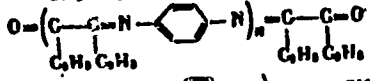
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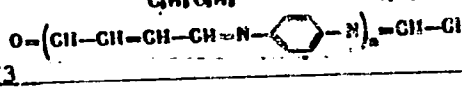
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UDC: 621.315.592:547

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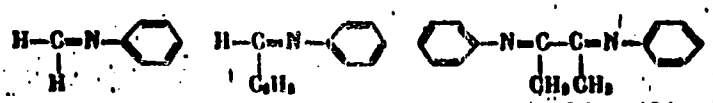
"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

L 08536-67

ACC NR: AP6035590

For comparative purposes, analogous low-molecular-weight compounds were also prepared:



methyleneaniline benzalaniline biacetyldianiline

(II[a])

(III[a])

The complexes were prepared by treatment of the compounds with gaseous bromine. The results of density, x-ray-diffraction, thermal-stability, and IR and EPR spectroscopic measurements are described briefly in the source. Electrical measurements showed that for complexes of the monomeric compounds (benzalaniline, biacetyaniline, but not methyleneaniline), resistivity did not drop below $10^{11}$ ohm cm. On going to the dimers II[a] and III[a], resistivity dropped by more than six orders of magnitude. However, on going to the corresponding polymers, resistivity changed but little. Differences in polymer structure had a marked effect for complexes with

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L 08536-67

ACC NR: AP6035590

a bromine content no higher than 21—35%, but had little effect at higher bromine content. For most complexes, the activation energy for conduction was lower for the low-temperature region than for the high-temperature region, but the reverse was true in a number of cases, e.g., the complex of II (64% bromine). The temperature behavior of resistivity was interpreted in terms of macromolecular coplanarity. Orig. art. has: 6 formulas.

SUB CODE: 07, 20/ SUBM DATE: 17Nov65/ ORIG REF: 003/ OTH REF: 004/ ATL. PRESS: 5103

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

L 08536-67 EWT(m)/EWP(i) IJP(c) RM SOURCE CODE: UR/0364/66/002/011/1332/1335

ACC NR: AP6035590

AUTHOR: Raskina, E. M.; Perekal'skaya, L. M.; Davydov, B. E.; Shishkina, M. V. 37

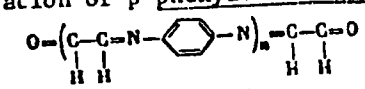
ORG: Institute of Petrochemical Synthesis im. A. V. Topchiyev, Academy of Sciences SSSR, Moscow (Institut neftekhimicheskogo sinteza Akademii nauk SSSR)

TITLE: Preparation and study of complexes of Schiff bases

SOURCE: Elektrokhimiya, v. 2, no. 11, 1966, 1332-1335

TOPIC TAGS: organic semiconductor, semiconducting polymer, charge transfer complex

ABSTRACT: Charge transfer complexes of polymeric Schiff bases and bromine have been prepared and the effect of chemical structure on the physical, chemical and electrical properties of these complexes has been studied. The polymers (I-IV) were prepared by polycondensation of p-phenylenediamine with various dicarboxylic compounds: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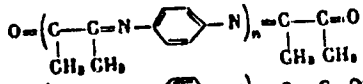
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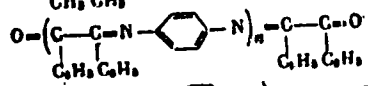
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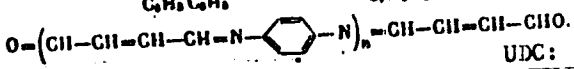
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UDC: 621.315.592:547

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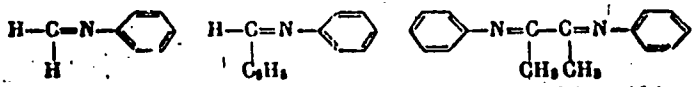
"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

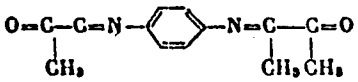
L 08536-67

ACC NR: AP6035590

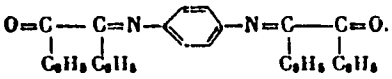
For comparative purposes, analogous low-molecular-weight compounds were also prepared:



methyleneaniline benzalamiline biacetyldianiline



(II[a])



(III[a])

The complexes were prepared by treatment of the compounds with gaseous bromine. The results of density, x-ray-diffraction, thermal-stability, and IR and EPR spectroscopic measurements are described briefly in the source. Electrical measurements showed that for complexes of the monomeric compounds (benzalaniline, biacetyaniline, but not methyleneaniline), resistivity did not drop below $10^{11}$ ohm cm. On going to the dimers II[a] and III[a], resistivity dropped by more than six orders of magnitude. However, on going to the corresponding polymers, resistivity changed but little. Differences in polymer structure had a marked effect for complexes with

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L 08536-67

ACC NR: AP6035590

a bromine content no higher than 21—35%, but had little effect at higher bromine content. For most complexes, the activation energy for conduction was lower for the low-temperature region than for the high-temperature region, but the reverse was true in a number of cases, e.g., the complex of II (64% bromine). The temperature behavior of resistivity was interpreted in terms of macromolecular coplanarity. Orig. art. has: 6 formulas.

SUB CODE: 07, 20/ SUBM DATE: 17Nov65/ ORIG REF: 003/ OTH REF: 004/ ATL PRESS: 5103

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKAYA M. P.

V

Country : USSR
Category : Pharmacology and Toxicology. Analeptics

Abs. Jour. : Ref Zhur-Biol, No 19, 1958, No 89829

Author : Perekal'skaya, M. P.
Institut. : Chelyabinsk Pharmaceutical Institute
Title : Effect of Caffeine and Sodium Bromide on the Vitamin $B_1$ and $B_2$ Content in the Brain and Other Tissues of White Rats
Orig. Pub. : V sb.: Materialy nauchn. konferentsii Chelyab. med. in-ta, posvyashch. 40-letiyu Velikoy Oktyabr'skoy sotsialisticheskoy revolyutsii.*
Abstract : A single administration of caffeine (0.02 g./kg. subcutaneously) to rats almost does not change the free riboflavin (R) content of the brain (B), but considerably lowers its content in the liver, kidneys, heart and skeletal muscles; following triple administration of caffeine, the R content in the B decreases and increases in the kidneys. The same regularity is also

* Chelyabinsk, 1958, 69-71

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

Country :
Category :

Abs. Jour. : Ref Zhur-Biol, No 19, 1958, No 89829

Author :
Institut. :
Title :

Orig. Pub. :

Abstract cont'd. : sodium bromide (0.03 g./kg. subcutaneously), various changes in the content of T and R occur in the organs. After triple administration of sodium bromide, the content of free R increases in all the investigated organs, and the content of total T (with the exception of the kidneys) decreases.

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PEREKAL'SKIS, Beniamin Shepshelevich; MILKOVSKAYA, L.B., red.; KHRUSTALEVA, N.I., red. izd-va; YEZHOVA, L.L., tekhn. red.

[Conducting a course in physics with demonstrations of an electronic oscilloscope] Demonstratsii s elektronnym ostsilloskopom v kurse fiziki. Moskva, Gos. izd-vo "Vysshaia shkola," 1960. 46 p. (MIRA 14:6)

(Oscillograph) (Physics—Study and teaching)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, Fedor Matveyevich, kand. sel'khoz. nauk

[Moisture and yield] Vlaga i urozhai. Moskva, Znanie, 1964. 47 p. (Novoe v zhizni, nauke, tekhnike. V Seriia: Sel'skoe khoziaistvo, no.24) (MIRA 17:11)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, Fedor Matveyevich, kand. sel'khoz. nauk; DOLINSKIY, N.M., red.; TRUKHINA, O.N., tekhn. red.

[Spring wheat] IArovaia pshenitsa. Moskva, Gos. izd-vo sel'khoz. lit-ry, zhurnalov i plakatov, 1961. 278 p. (MIRA 14:6)
(Wheat)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, F.M., kand. sel'skokhoz. nauk (Moskva)

A powerful source of field harvest increase. Priroda 53 no.5:69-77 '64. (MIRA 17:5)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

MAYSURYAN, N.A., akademik; PEREKAL'SKIY, F.M., kand.sel'skokhozyaystvennykh nauk

High crop yields are based on correct accumulation and utilization of moisture. Zemledelie 7 no.4:9-13 Ap '59. (MIRA 12:6)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. Lenina (for Maysuryan).
(Soil moisture) (Field crops)

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14-57-7-15385

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 184 (USSR)

AUTHOR: Perekal'skiy, F. M.

TITLE: Summer Wheat Crops in Virgin and Fallow Lands in the Northern Oblasts of Kazakh SSR (Voprosy kul'tury yarovoy pshenitsy na tselinnykh i zalezhnykh zemlyakh v severnykh oblastyakh Kazakhstana)

PERIODICAL: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1956, Nr 22, pp 44-51

ABSTRACT: Summer wheat constitutes the basic cereal crop of northern Kazakh SSR. From 60 to 70 percent of the summer growing area is taken up by this crop. Its yield, however, continues to be low. From 1944 to 1953 its average yield in the Kokchetav Oblast did not exceed 9.1 centners/hectare, although the best collective farms sometimes achieved a summer wheat yield

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M

USSR/Cultivated Plants. Cereals.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77593.

Author : Perekal'skiy, F.M.
Inst : Moscow Agricultural Academy Imeni K. A. Timiryazev.
Title : Peculiarities of Spring Wheat Crops on Virgin Lands.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K.A. Timiryazeva, 1957, vyp. 28, 158-164.

Abstract: Summary data is cited on the observations of the dependence on different factors of harvest yields of spring wheat on the virgin lands. Soil fertility, and the water reserves in it, are of basic importance. On the southern and southwest slopes, the soils possess less fertility; the thickness of the arable horizon is decreased. In the Kokchetavskaya

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

1. PEREKAL'SKIY, F. M.

2. USSR (600)

4. Wheat

7. High level of scientific spring wheat farming in the non-chernozem zone. Sel. i sem. 19 No. 11, 1952.

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

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'-SKAYA, M.P.

"The administration of caffeine to animals caused a drop in the Vitamin B2 content in some organs and a rise in others", paper read at the First Ural Conference of Physiologists, Biochemists, and Pharmacologists, Sverdlovsk, 5-8 June 1956.

Sum. 1305

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, Fedor Matveyevich; NEKLYUDOVA, A.S., red.; KOZLOVSKAYA, M.D., tekhn.red.

[Biology of grain crops; reference book for secondary school teachers] Biologiia zernovykh kul'tur; posobie dlia uchitelei srednei shkoly. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv. RSFSR, 1959. 239 p. (MIRA 14:3)
(Grain)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

Perekalina, Z.B.

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11934

Author : Tsinzerling, Ye.V., Perekalina, Z.B.
Inst : -
Title : Strength of Quartz in Twisting.

Orig Pub : Tr. In-ta kristallogr. AN SSSR, 1955, vyp. 11, 172-176

Abstract : No abstract.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, F.M., kand. nauk.

Special problems in growing spring wheat on virgin lands. Dokl. TSKhA no.28:158-164 '57. (MIRA 11:4)

(Wheat)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, F. M.

Wheat

North-south orientation of rows in sowing. Dost. sel'khoz. No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, F. M.

Sowing

North-south orientation of rows in sowing. Dost. sel'khoz. no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY N

**Application of seaweeds in the production of roofing cardboard.** N. PEREKAL'SKIY. *Bumazhnaya Prom.* 10, No. 1, 37-41 (1931).—The application of seaweeds from Siberian lakes, whether cooked or uncooked, and mixed with 0, 25, 50 and 75% of rags, for production of roofing cardboard proved unsatisfactory. CHAS. BLANC

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PROCESSES AND PROPERTIES INDEX

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**The utilization of waste in the paper and leather production.** N. PEREKALSKII. *Bumashnaya Prom.* 10, No. 2, 57-62(1931).—A crit. discussion is given of the patents of M. Serebryanuil.

CHAS. BLANC

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

**Comparative characteristic of the methods for determination of the degree of cooking of sulfite pulp.** N. PERBEALSKII. *Bumzhnaya Prom* 10, No. 7, 30-5(1931).—Investigation of various methods for detn. of the degree of cooking of cellulose ("hardness" or bleach requirement based on the content of lignin) leads to the conclusion that the method of Björkman (*C. A.* 22, 1680) is most reliable. CHAS BLANC

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PROCESSES AND PROPERTIES INDEX

**Production of leather board.** N. PEREKAL'SKII. *Bumeshnaya Prom.* 11, No. 1, 7-15(1932). P. describes the compn., method of processing and tests of leather board obtained from waste leather. The process is based in part on American practice.
CHAS. BLANC

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PROCESSES AND PROPERTIES INDEX

**Production of leather pasteboard** N. Perekalskii. *Materialni Vsesoyuznoi Nauch.-Issledovatel. Inst. Bumazhnoi Tsellyulozhnoi Prom. (Trans. All-Union Sci. Research Inst. Paper Cellulose Ind.)* **1932**, No. 1, 33-51.—A description of the exptl. studies of the production and testing of compn. leather, with and without the addn. of waste leather, for use in the shoe industry. Particular attention is given to the U. S. practice. Chas Blanc

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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**Production of asphalted pasteboard.** N. Perekalskii and N. Podlipnev. *Materialni Vsesoyuznoi Nauch.-Issledovatel. Inst. Bumashnoi Tsellyulozhnoi Prom.* (*Trans. All-Union Sci. Research Inst. Paper Cellulose Ind.*) 1932, No. 1, 52-7.—The exptl. work in the production of pasteboard by impregnation with asphaltic emulsions is based on the U. S. practice. Chas. Blanc

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**The influence of kaolin on the strength of paper.** S. Fotiev and N. Perekalskii *Bumashnaya Prom* 11, No. 9, 40-1(1932).—The addn. of a little filler of the kaolin type improves the mech. properties of paper. The influence of ash content on the strength of paper was investigated with addn. of kaolin (contg. 1% sand). The optimum strength of paper is reached at about 2-3% of ash content, and is decreased at both lower and higher figures.

Chas. Blanc

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PROCESSES AND PROPERTIES INDEX

CA

**Application of nephelite in paper industry.** N. Perekalskii. *Bumashnaya Prom.* 11, No. 10, 7-16(1932).—Expts. in substitution of nephelite for clay in sizing of paper are described. Chas. Blanc

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**Fillers and filling of paper. Technological part.** N. Petrakal'skii and N. Timesheva. *Vsesoyuznoi Nauch.-Issledovatel'skii Inst. Bumazhnoi Tsellyuloznoi Prom. Materialov* (*Trans. All-Union Sci. Research Inst. Paper Cellulose Ind.*) 1933, No. 1, 81–128.—The various types of fillers and the existing theories and practice of filling paper are discussed. **Economical part.** M. Yu. Marshak. *Ibid.* 129–42. The economic problem of substituting $CaCO_3$ and $CaSO_4$ for the inadequate domestic supply of talc in paper filling is discussed. C. B.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, N.P.; ANTONOVICH, L.N.; KRYUKOVA, [illegible].M.; KURYLEV, Y[illegible].

Use of alkyl ketene dimers in paper sizing. Trudy [illegible] 231 '64. [illegible] 18:8)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, N.P.; SHIL'NIKOV, I.L.

Investigating the milling process on con cal mills. Trudy LTI TSBP no.13:91-100 '64. (MIRA 18:2)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, N.P.; MOISEYEV, B.N.; YAKUBOVICH, S.Z., red.

[Norms for lapping woodpulp from the screening and drying sections of wet machines] Normy s'ema tselliulozy s setochnoi i sushil'noi chastei presspatov. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issl. po lesnoi, tselliulozno-bumazhnoi, derevoobrabatyvaiushchei promyshl. i lesnomu khoziaistvu, 1963. 23 p.
(MIRA 17 8)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010003-0

PEREKAL'SKIY, N.P., doktor tekhn.nauk; YEMEL'YANOV, S.I., inzh.

Electrostatic device for the continuous measurement of stock concentration in the production lines of woodpulp and paper industries. Trudy LTITSBP no.11:203-205 '62. (MIRA 16:10)

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