

L 36627-65

ACCESSION NR: AP5002346

s--d transitions on the temperature dependence of the electrical resistance of these nonferromagnetic transition metals was discussed. "The authors thank Yu. P. Irkhin for helpful discussion and V. A. Novoselov for assistance in the measurements." Orig. art. has: 3 figures and 6 equations

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography AN SSSR); Institut fiziki metallov AN SSSR (Institute of the Physics of Metals, AN SSSR)

SUBMITTED: 03Apr64

ENCL: 00

SUB CODE: MM

NR REF SOV: 012

OTHER: 016

Card 2/2

VOLKOVSHTEYN, N.V.; STAROSTINA, L.S.; STARTSEV, V.Ye.; ROMANOV, Ye.P.

Study of the temperature relationship of the electric conductivity of single crystals of molybdenum and tungsten in the low temperature range. Fiz. met. i metalloved. 18 no.6:888-894 D '64. (MIRA 18:3)

1. Institut kristallografii AN SSSR i Institut fiziki metallov AN SSSR.

L 40309-66 ENT(m)/BWP(t)/FTI IJP(c) JD SOURCE CODE: UR/0126/66/021/005/0674/0677

ACC NR: AP6017302 (A)

AUTHORS: Volkenshteyn, N. V.; Dyakina, V. P.; Novoselov, V. A.; Startsev, V. Ye.

ORG: Institute of Metal Physics, AN SSSR (Institut fiziki metallov AN SSSR)

TITLE: Peculiarities of the temperature dependence of electric resistivity of dysprosium at low temperatures

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 5, 1966, 674-677

TOPIC TAGS: dysprosium, electric resistivity, resistivity

ABSTRACT: The electric resistivity of highly purified dysprosium ( $R_{300K}/R_{42K} \approx 105$ ) was measured over the temperature interval 1.5--300K to determine the magnetic contribution to the electric resistivity as a function of temperature. The resistivity was measured on 10 x 1 x 0.5 mm strips made of distilled dysprosium using a cryostat (R. V. Colvin and S. Arajs. Phys. stat. sol., 1964, 4, 73). The results are shown in Fig. 1. These results were found to agree well with the theoretical predictions proposed by A. K. Mackintosh (Phys. Lett., 1963, 4, 140). This is demonstrated in Fig. 2 which shows a comparison.

UDC: 539.292:537

Card 1/2

L 40307-66

ACC NR: AP6017302

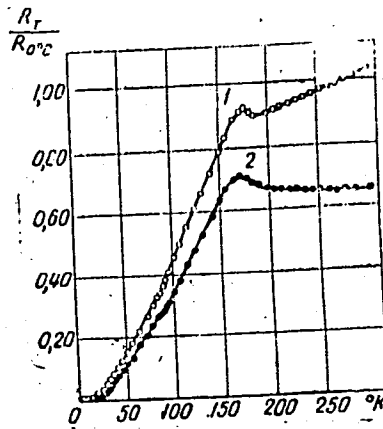


Fig. 1. Electric resistivity of dysprosium: 1 - total resistivity; 2 - magnetic resistivity.

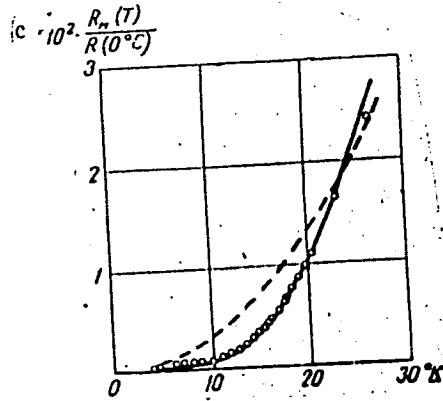


Fig. 2. Low temperature electric resistivity: 0 - experimental results; solid line - curve

$\rho_M = aT^2 e^{-\frac{\Delta}{kT}}$ , with  $a/R_{0C} = 1.27 \times 10^{-4} \text{ degrees}^{-2}$ ,  $\Delta/k = 30K$ ; dotted line - curve of  $T^2$  function having common point with experimental results at  $T = 24K$ .

Orig. art. has: 2 formulas and 3 figures.

Card 2/2ml<sup>o</sup> SUB CODE: 11/ SUBM DATE: 10Aug65/ ORIG REF: 005/ OTH REF: 004

ACC NR: AP6037057

SOURCE CODE: UR/0056/66/051/005/1311/1316

AUTHOR: Startsev, V. Ye.; Volkenshteyn, N. V.; Novoselov, N. A.

ORG: Institute of the Physics of Metals, AN SSSR (Institut fiziki metallov AN SSSR)

TITLE: Galvanomagnetic properties of molybdenum crystals in intense effective fields

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1311-1316

TOPIC TAGS: molybdenum, crystal, molybdenum crystal, single crystal, transverse magnetic field, galvanomagnetic effect, Hall effect

ABSTRACT: The anisotropy of galvanomagnetic properties (Hall effect which is even with respect to a magnetic field of transverse voltage and magnetic resistance) of a high purity single crystal is investigated at liquid helium and liquid hydrogen temperatures in transverse magnetic fields up to 25 koe. The results are discussed within the framework of the theory of galvanomagnetic phenomena [I. M. Lifshits,

Card 1/2

~~STARTSEV, V.T.; RAZMAKHANIN, S.L.; YEGOROVA, V.M.; PASHANOVA, L.D.; YEVSEYEV,  
V.R.; BASTIN, K.F.; BELOBORODOV, P.P.; DEDOV, N.D., red.~~

[Economy of Amur Province; a statistical manual] Narodnoe khoziaistvo  
Amurskoi oblasti; statisticheskii sbornik. Blagoveshchensk, Amurskoe  
knizhnoe izd-vo 1957. 111 p. (MIRA 11:6)

1. Amur (Province). Oblastnoye statisticheskoye upravleniye. 2.  
Statisticheskoye upravleniye Amurskoy oblasti (for all except  
Beloborodov, Dedov). 3. Nachal'nik Statisticheskogo upravleniya  
Amurskoy oblasti (for Beloborodov)  
(Amur Province--Statistics)

1. STARTSEV, Ye.
2. USSR (600)
4. Lumbermen
7. Fully satisfy the cultural interests of lumberjacks. V pom. profaktivu 14 no. 7  
1953

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

STARTSEV, Yevgeniy Mikhaylovich; POLYAKOVA, V., red.; KUZNETSOVA, A.,  
tekhn. red.

[Beans and corn are companion crops] *Boby i kukuruza družhat.*  
Moskva, Mosk. rabochii, 1962. 17 p. (MIRA 15:6)

1. Upravlyayushchiy otdeleniyem No.5 sovkhoza im. 1 maya  
Shchelkovskogo rayona (for Startsev).  
(Beans) (Corn (Maize))



VECHERKIN, S.G., gornyy inzhener; ~~STARTSEV~~, Yu.G., gornyy inzhener.

Sliding of internal dumps at the Kamyshburun iron mines. Ger.shur.  
no.4:57-59 Ap '56. (MIRA 9:7)  
(Kerch--Strip mining) (Iron mines and mining)

STARTSEVA, Antonina Il'ichna; KALENSKIY, V.G., red.; TIMOFEYEVA,  
N.V., tekhn.red.

[Procedure for examining labor disputes] Poriadok rassmotrenia  
trudovykh sporov. Moskva, Gos.isd-vo iurid.lit-ry, 1960. 124 p.  
(MIRA 13:6)

(Labor disputes)

CA

Dynamics of content of auxins in leaves and flowers of red clover. A. M. Alkseev and A. V. Startseva (Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 71, 937-40 (1950).—Auxin level in young flower buds is very low, but it rises rapidly with plant development, especially in the pollen grains; the auxin levels in the leaves are consistently very low. Addnl. PNK fertilization causes a rise of auxins in the reproductive organs of the plant, along with the general improvement of the condition of the plant. C. M. Kowaloff

STARTSEVA, A. V.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Biological Chemistry

~~The dynamics of the bios group of substances in leaves and flower clumps of red clover. A. M. Aleksey and A. V. Startseva (Biol. Inst., Acad. Sci. U.S.S.R., Kazan). Doklady Akad. Nauk S.S.S.R. 93, 709-12(1953).—The bios group of substances, which are specific org. activators present in plant and animal tissues, was followed in red clover plants using *Torula utilis* as the index of activity. Generally the bios material declines in the leaves at the time of stem formation, probably by flow of the material to the stem matter during its growth. When stem growth subsides, the bios content of the leaves rises. In the flower clump the bios content declines steadily as the flowers develop. Highest bios content is found in the flowers of plants that are supplied with N-P-K fortified with B. Seed formation serves again to increase the bios content of these parts of the plant and the content of bios rises with development and ripening of the seeds. Fertilization of the plant increases the accumulation of bios matter.~~  
G. M. Kosolapoff

ALEKSEYEV, Aleksey Mikhaylovich; VASIL'YEVA, Irina Mikhaylovna;  
SPARTSEVA, Anna Vasil'yevna; GUSEV, N.A., otv.red.;  
SHAROVATOVA, I.B., red.izd-vs; ASTAF'YEVA, G.A., tekhn.red.

[Physiology of metabolism in red clover] Fiziologiya obmena  
veshchestv klevra krasnogo. Moskva, Izd-vo Akad.nauk SSSR,  
1959. 145 p. (MIRA 13:1)  
(Red clover) (Plants--Metabolism)

ALEKSEYEV, A. M.; VASIL'YEVA, I.M.; STARTSEVA, A.V.

Metabolic role of the main root in red clover. Bot.zhur.  
45 no.6:785-794 Je '60. (MIRA 13:7)

1. Biologicheskiy institut Kazanskogo filiala Akademii nauk  
SSSR.  
(Red clover) (Roots(Botany)) (Plants--Metabolism)

NADIROV, N.K.; STARTSEVA, E.P.

Study of the adsorptive properties of clays. *Khim. v shkole*  
16 no.2:63-66 Mr-Apr '61. (MIRA 14:6)

1. Pedagogicheskiy institut, Khabarovsk.  
(Clay) (Adsorption)

OZHIGANOV, V.S.; LEVANTO, M.A.; KOROLEVA, V.A.; Primali uchastiye:  
KOZLOVSKIY, N.I.; ABOIMOV, P.S.; STARTSEVA, G.B.; KRIVONOSOVA, R.B.;  
SHERSTYUK, M.I.; KONOVALOVA, T.S.; ZHABOTINSKIY, I.M.; RADIN, F.A.

Improving the technology of producing electrical steel. Stal'  
22 no.4:343-346 Ap '62. (MIRA 15:5)

1. Verkh-Isetskiy metallurgicheskiy zavod.  
(Steel--Electric properties)



DOKSHITSKAYA, A.I.; OZHIGANOV, V.S.; STARTSEVA, G.B.; LEVANTO, M.A.

Using type AlCaSi complex alloys in the manufacture of transformer  
steel in electric furnaces. Trudy Ural. politekh. inst. no.116:  
89-101 '61. (MIRA 16:6)

(Steel--Electrometallurgy)

KHOLODOV, A.I.; DOKSHITSKAYA, A.I.; STARTSEVA, G.B.; LEVANTO, M.A.

Some indices of technological conditions for the manufacture of  
transformer steel in electric arc furnaces. Trudy Ural. politekh.  
inst. no.116:102-109 '61. (MIRA 16:6)  
(Steel--Electrometallurgy)

00571-07 IWEI IWEI UJFC MWAC

ACC NR: AP6032448

SOURCE CODE: UR/0368/66/005/003/0385/0386

AUTHOR: Galaktionov, I. I.; Startsev, G. P.

50  
B

ORG: none

TITLE: Light source for investigations in a shock tube in the near vacuum ultraviolet

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 3, 1966, 385-386

TOPIC TAGS: discharge tube, shock tube, uv spectrum, flash lamp

ABSTRACT: The authors describe a simple design of a U-shaped flash lamp that produces a continuous spectrum from 1600 Å to the visible part of the spectrum (Fig. 1). The working pressure is 6 - 10 mm Hg. The flash is ignited by discharging a capacitor from 2.5 - 3 kv through an artificial long line consisting of LC sections. The uniform part of the flash lasts 50 µsec, and the amplitude is reproducible from flash to flash within 5%. A sample oscillogram of the absorption of CO<sub>2</sub> heated in the shock tube to 5000K, obtained at 1720 Å wavelength, is presented by way of an example. Orig. art. has: 2 figures

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UDC: 535.89 + 533.6.071.8

ACC NR: AF6032448

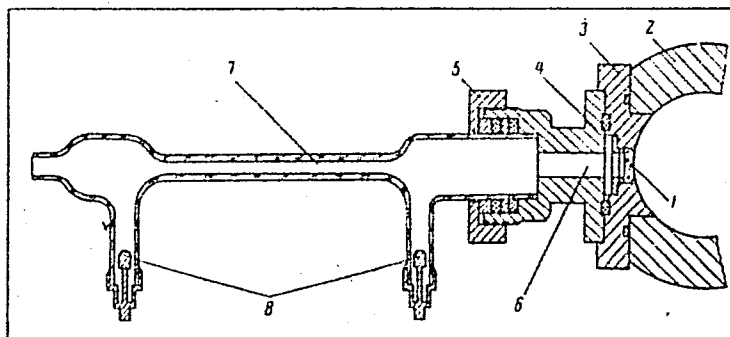


Fig. 1. Overall view of the source and of the low-pressure compartment of the shock tube. 1 - LiF peep-hole, 2 - low-pressure compartment, 3 - peephole mount, 4 - lamp gasket flange, 5 - nut, 6 - long diaphragm, 7 - capillary, 8 - tungsten electrodes.

SUB CODE: 20/      SUBM DATE: 09Nov65 /      ATD PRESS:      5100

2/2

Shankar, L.A.

Experience in organizing proper feeding of school age children.  
A.S. Uranski, L.A. Startseva, V.A. Shvaiko, G.A. Frotko,  
A.A. Sapozhnikova, M.L. Mozhej. Vop. pit. 12 no. 1:85 Ja-F '53.

BELEN'KIY, Ye.Ye.; KOLLA, V.E.; STARTSEVA, I.F.

Effect of ginseng and the long-leaf carline thistle on  
Sechenov's inhibition. Mat. k izuch. zhen'. i drug. lek. rast.  
Dal'. Vost. no.5:133-135 '63. (MIRA 17:8)

1. Permskiy farmatsevticheskiy institut.

PA 174774

USSR/Physics - Magnetism, Thermo-Resistance, Electrical 21 Sep 50

"Influence of Thermomagnetic Treatment Upon the Electrical Resistance of Soft Magnetic Materials," Ye. S. Shur, I. Ye. Startseva; Inst Phys of Metals, Ural Artil, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIV, No 3, pp 473-475

Investigates subject influence on resistance and its variation in magnetic fld for 66-permalloy (66-Ni, 34-Fe) in form of wire 100-800 mm long and 0.3-0.6 mm diam to verify assumption that oriented magnetostrictive stresses

174774

USSR/Physics - Magnetism, Thermo- (Contd) 21 Sep 50

occurring during thermomagnetic treatment changes structure and crystal lattice. Submitted 7 Jul 50 by Acad I. P. Berdin.

STARTSEVA, I. Ye.

174774

SOV/112-58-1-92D

Translation from: Referativnyy zhurnal, Elektrotehnika, 1958, Nr 1, p 9 (USSR)

AUTHOR: Startseva, I. Ye.

TITLE: Investigation of the Durability of Residual Magnetism in Soft Magnetic Materials (Issledovaniye ustoychivosti ostatochno namagnichennogo sostoyaniya myagkikh magnitnykh materialov)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Physical and Mathematical Sciences, presented to Ural'skiy gos. un-t (Ural State University), Sverdlovsk, 1956.

ASSOCIATION: Ural'skiy gos. un-t (Ural State University)

1. Magnetic materials--Magnetic properties

Card 1/1



STARTSEVA, I. E.

F - 4

USSR / Magnetism . Ferromagnetism

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9534

Author : Startseva, I.E., Shur, Ya. S.

Inst : Institute of Physics of Metals, Ural' Branch, Academy of Sciences USSR, Sverdlovsk.

Title : Residual Magnetization of Nickel and Its Stability.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 2, No 3, 568

Abstract : A study was made of the influence of the preliminary treatment (recrystallizing annealing, oxidizing annealing, and plastic deformation by tension or compression) on the value of  $I_r$  of nickel and its stability against alternating magnetic fields, mechanical vibrations, and temperature fluctuations. It was observed that treatment of the material (even such treatment that does not lead to the creation of a crystalline or magnetic texture) can change radically both the value of  $I_r$  as well as its ability. In this case the stability of  $I_r$  can both increase and decrease with increasing  $H_c$ .

Card : 1/1

USSR/Magnetism - Ferromagnetism

F-4

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12003

Author : Startseva, I.E., Shur, Ya. S.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001653010006-9"

Inst : -

Title : Change of the Magnetic State of Soft Magnetic Materials Under the Influence of Alternating Magnetic Fields.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 3, No 1, 190-191

Abstract : Report on a study of the variation in the value of  $I_r$  of annular specimens of nickel and permindure under the influence of alternating magnetic fields having an amplitude that diminishes smoothly to zero. It is shown that such an alternating field cannot only demagnetize a residually-magnetized specimen, but in some cases it can increase the  $I_r$  of the specimen, and also change the sign of  $I_r$ .

Card 1/1

STARISEVA, I. Ye., and SHUR, Ya. S.

"The Structure of the Residual Magnetized Ferromagnetic by Aid of the Method of Powder Patterns; the change of this structure under the Influence of a Changing Magnetic Field."

paper presented at the All-Union meeting on Magnetic Structure of Ferromagnetics June 1958, in Krasnoyarsk. Meeting sponsored by Inst. of Physics, Acad. Sci. USSR, and Comm. for Magnetism, Dept Phys-Math Sci, AS USSR,

SOV/126-6-4-6/34

AUTHORS: Shur, Ya.S.,  
Startseva, I.Ye.

TITLE: Change in the Magnetic Structure of Residually  
Magnetised Crystals of Silicon Iron in the Case of  
Demagnetisation with an Alternating Field. (Izmeneniye  
magnitnoy struktury ostatochno namagnichennykh  
kristallov kremnistogo zheleza pri razmagnichivanii  
peremennym polem)

PERIODICAL: Fizika metallov i metallovedeniye, 1958, Vol 6,  
Nr 4, pp 614-620 (USSR)

ABSTRACT: In earlier work of the authors, (Ref.1), relating to  
studying by means of powder patterns the magnetic  
structure of silicon iron crystals which are in the  
state of residual magnetisation, it was established  
that the magnetic structure of a residually magnetised  
crystal may consist of basic magnetic regions (the  
magnetisation vector  $I_s$  of these regions is orientated  
in the direction of easy magnetisation, which is near  
to the direction of the field of preliminary  
magnetisation of the crystal), reverse regions (with

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SOV/126-6-4-6/34

Change in the Magnetic Structure of Residually Magnetised Crystals of Silicon Iron in the Case of Demagnetisation with an Alternating Field

anti-parallel orientation of the  $\vec{I}_s$  vector), supplementary closing regions of various types and also sub-regions which occur around defects. Thereby, the authors defined as "closing regions", regions which form around the surface of the crystal and reduce its total energy. It was also established that the type of the magnetic structure in the state of residual magnetisation depends on the crystallographic orientation of the surface of the specimen, on the orientation relative to the crystallographic axes of the crystal of the field which brought about the preliminary magnetisation and on the type of the magnetic structure of adjacent crystallites. It follows therefrom that the type of magnetic structure in the residually magnetised state can differ for differing crystals. Therefore, it can be anticipated that the change in the magnetic structure in the case of demagnetisation of

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SOV/126-6-4-6/34

Change in the Magnetic Structure of Residually Magnetised  
Crystals of Silicon Iron in the Case of Demagnetisation  
with an Alternating Field

residually magnetised crystallites will also differ, depending on the type of their magnetic structure in the original state of the residual magnetisation. The details of the process of demagnetisation can be established only on the basis of directly observed changes of the magnetic structure and, in order to establish these, experiments were carried out which are described in this paper. The experiments were carried out on polycrystalline specimens of silicon iron containing a large number of crystals with various crystallographic orientations of the surface. The linear dimensions of the individual crystallites were 0.5 to 2.0 mm. For excluding the demagnetising effect of the ends of the specimens, the investigations were carried out on rings of 40 mm outer diameter and 28 mm inner diameter with a thickness of 0.1 - 0.2 mm. Preparation of the surface of the specimens and of the magnetic suspension was carried out by means of methods

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described in earlier work (Ref.2). Observation of the powder patterns was carried out by means of an instrument, a photo of which is reproduced in Fig.1. The investigated specimen was placed in front of the objective lens of the microscope in a special attachment which was fixed to the stand of the microscope. The specimen could be turned about its axis and could also be displaced along its radius by means of screws. Preliminary magnetisation of the investigated specimen was effected by the field of a circular permanent magnet of 200 Oe; the demagnetisation was effected by a 50 cps magnetic field. The circular magnetic field was generated by passing a (d.c. or a.c.) current through a coil which can be taken apart and which surrounds the specimen. The amplitude of the a.c. field was made to vary continuously each time from the maximum value to zero by means of a special transformer with a mobile core. The powder patterns were photographed

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SOV/126-6-4-6/34

**Change in the Magnetic Structure of Residually Magnetised Crystals of Silicon Iron in the Case of Demagnetisation with an Alternating Field**

by means of a camera which was attached to the microscope in such a way that it was possible to follow the magnetic structure of the specimen whilst the exposures were being taken. Some of the obtained powder patterns are reproduced (Fig.2-5). On the basis of observation of the powder patterns in a large number of crystals with various crystallographic orientations, the following conclusions were arrived at:

1. The process of variation of the magnetic structure of a crystal under the effect of an a.c. field during transition from the residually magnetised into the demagnetised state takes place as follows: the supplementary surface regions become transformed into reverse regions; the reverse regions become extended and subsequent fragmentation of the reverse regions was observed; sub-regions never became transformed into reverse regions.
2. Supplementary regions and regions with reverse

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SOV/1265-4-6/34

Change in the Magnetic Structure of Residually Magnetised  
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Alternating Field

magnetisation, which occur in the crystal in the state of residual magnetisation, reduce the stability of its magnetic structure against the demagnetising effects. In presence of reverse regions the residually magnetised state is the most unstable; even in very weak magnetic fields a displacement of the inter-domain boundaries takes place. This phenomenon can easily be understood if it is taken into consideration that during displacement of the boundaries of reverse magnetisation regions no appreciable change in their areas takes place, whilst transformation of the supplementary regions into reverse regions is always linked with a considerable increase of the areas of the inter-domain boundaries.

3. In the case of repeated magnetisation with a d.c. field, the appearance of the magnetic structure in the state of residual magnetisation will differ each time in the same way as the reconstruction of the magnetic structure of a crystal in the case of repeated

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SOV/126-6-4-6/34

Change in the Magnetic Structure of Residually Magnetised  
Crystals of Silicon Iron in the Case of Demagnetisation with an  
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demagnetisation by an a.c. field of equal maximum  
amplitude.

4. In the case of polycrystalline specimens, the  
crystallographic orientation of adjacent grains will  
show an appreciable influence on the change of the  
magnetic structure of the individual crystallites.  
There are 5 figures and 5 references of which 4 are  
Soviet and 1 English.

ASSOCIATION: Institut Fiziki Metallov, AN SSSR (Institute of  
Metal Physics, AS USSR)

SUBMITTED: 18th July 1957.

Card 7/7

24.7900

68181

SOV/58-59-5-10798

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 128 (USSR)

AUTHORS: Startseva, I.Ye., Shur, Ya.S.

TITLE: Magnetic Structure<sup>2/</sup> of Iron Silicide Crystals in a State of Residual Magnetization <sup>2/</sup>

PERIODICAL: Tr. in-ta fiz. metallov. Ural'skiy fil. AS USSR, 1958, Nr 20,  
pp 125 - 130

ABSTRACT: Using the powder figure method, the authors studied the magnetic structure of individual crystallites of polycrystalline iron silicide samples in a state of residual magnetization. The authors discovered that in each crystallite, in addition to the "basic" magnetic domains (magnetized in the directions of easy magnetization that are closest to the direction of the field by which the sample was first magnetized), there generally exist "reverse" and "supplementary" magnetic domains of various forms. In the "reverse" domains the spontaneous magnetization vectors are oriented antiparallel and in the "supplementary" domains either antiparallel or at an angle of 90° relative to the magnetization of the "basic" domains. The form of magnetic structure in a state of

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AUTHORS: Startseva, I. Ye., Shur, Ya. S. SOV/48-22-10-6/23

TITLE: The Magnetic Structure of a Ferromagnetic Substance With Remanent Magnetization and Its Change When Demagnetized by an Alternating Field (Magnitnaya struktura ostatochno namagnichennogo ferromagnetika i yeye izmeneniye pri razmagnichivanii peremennym polem)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 10, pp 1189 - 1193 (USSR)

ABSTRACT: In previous papers (Refs 1 and 2) assumptions concerning some particular features of the magnetic structure of a ferromagnetic material with remanence ( $I_r$ ) and their influence on the stability of remanence was made. In the present paper these assumptions are checked by means of a direct observation of the structure in the case of presence of a remanent magnetization as well as in the case of its annihilation by an alternating magnetic field. Because of observations of powder patterns on the surface of single crystal grains of the polycrystalline samples the following conclusions could be deduced: In a state of remanence in crystals apart from the magnetic ground domains also inverse

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The Magnetic Structure of a Ferromagnetic  
Substance With Remanent Magnetization and Its  
Change When Demagnetized by an Alternating Field

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(obratnyye) and supplementary (dopolnitel'nyye) domains of various kinds exist, among them also sub-domains. The existence of these domains leads to a decrease of the remanence which is greater as compared to the theoretical value. In the state of remanence the nature of the magnetic structure depends on the crystallographic orientation of the crystal surface and on the orientation of the magnetizing field with respect to the crystallographic axes. Supplementary and inverted domains decrease the resistance of the magnetic structure to the demagnetizing influences. Sub-domains usually do not change into inverted domains. Changes in the magnetic structure of a crystal with remanence at a demagnetization take place in the following way: Some supplementary surface-domains change into inverted domains by growing. These inverted domains expand with the increase of the amplitude of the alternating field. In the case of even stronger alternating fields sometimes a disintegration of the inverted domains can be observed. In polycrystals the nature of the magnetic structure of single crystal grains

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The Magnetic Structure of a Ferromagnetic  
Substance With Remanent Magnetization and Its  
Change When Demagnetized by an Alternating Field

SOV/48-22-10-6/23

with remanence as well as the change of the structure at  
a demagnetization is considerably influenced by the crystal-  
lographic orientation of neighboring grains. There are 4  
figures and 8 references, 6 of which are Soviet.

ASSOCIATION: Institut fiziki metallov Akademii nauk SSSR (Institute of  
Metal Physics, AS USSR)

Card 3/3

MOROZ, V.G., inzh.; STARTSEVA, I.Ye.

Manufacturing cast fittings for high pressure pipelines.  
Khim. masln. no. 4:45-47 JI-Ag '59. (MIRA 12:12)  
(Pipe fittings)

STARTSEVA, I. Ye.

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PHASE I BOOK EXPLOITATION

SOV/5526

Vsesoyuznoye soveshchaniye po magnitnoy strukture ferromagnetikov, Krasnoyarsk, 1958.

Magnitnaya struktura ferromagnetikov; materialy Vsesoyuznogo soveshchaniya, 10 - 16 iyunya 1958 g., Krasnoyarsk (Magnetic Structure of Ferromagnetic Substances; Materials of the All-Union Conference on the Magnetic Structure of Ferromagnetic Substances, Held in Krasnoyarsk 10 - 16 June, 1958) Novosibirsk, Izd-vo Sibirskogo otd. AN SSSR, 1960. 249 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut fiziki Sibirskogo otdeleniya. Komissiya po magnetizmu pri Institute fiziki metallov OZNN.

Resp. Ed.: L. V. Kirenskiy, Doctor of Physical and Mathematical Sciences; Ed.: R. L. Dudnik; Tech. Ed.: A. F. Mazurova.

PURPOSE: This collection of articles is intended for researchers in ferromagnetism and for metal scientists.

Card 1/11

Magnetic Structure (Cont.)

SOV/5526

COVERAGE: The collection contains 38 scientific articles presented at the All-Union Conference on the Magnetic Structure of Ferromagnetic Substances, held in Krasnoyarsk in June 1958. The material contains data on the magnetic structure of ferromagnetic materials and on the dynamics of the structure in relation to magnetic field changes, elastic stresses, and temperature. According to the Foreword the study of ferromagnetic materials had a successful beginning in the Soviet Union in the 1930's, was subsequently discontinued for many years, and was resumed in the 1950's. No personalities are mentioned. References accompany individual articles.

TABLE OF CONTENTS:

Foreword

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Shur, Ya. S. [Institut fiziki metallov AN SSSR - Institute of Physics of Metals, AS USSR, Sverdlovsk]. On the Magnetic Structure of Ferromagnetic Substances

5

Card 2/11



Magnetic Structure (Cont.)

SOV/5526

Kirenskiy, L. V., and V. V. Veter [Institute of Physics, Siberian Branch AS USSR, Krasnoyarsk]. Measuring the Width of the Boundary Layer Between Domains in Ferromagnetic Substances

53

Startseva, I. Ye., and Ya. S. Shur [Institute of Physics of Metals AS USSR, Sverdlovsk]. Magnetic Structure of a Ferromagnetic Material of Residual Magnetization and Its Change Under the Effect of a Variable Magnetic Field.

59

Kirenskiy, L. V., N. I. Sudakov, and L. I. Slobodskoy [Institut fiziki SO AN SSSR, pedagogicheskiy institut - Institute of Physics, Siberian Branch AS USSR, Teachers Institute, Krasnoyarsk]. Temperature Dependence of Hysteresis Losses in Rotating Magnetic Fields in Iron Silicide Crystals

61

Sudovtsov, A. I., and Ye. Ye. Semenenko [Fiziko-tekhnicheskiy in-t AN UkrSSR - Physicotechnical Institute AS UkrSSR, Khar'kov]. Effect of Domain Structure on the

Card 5/11

STARTSEVA, I.Ye.; SHUR, Ya.S.

Characteristics of the domain structure of magnesium-manganese ferrites with a rectangular hysteresis loop. Fiz. met. i metalloved. 11 no. 1:158-160 Ja '60. (MIRA 14:2)

1. Institut fiziki metallov AN SSSR.  
(Ferrites--Magnetic properties)  
(Magnesium-manganese alloys--Metallography)

84962

S/056/60/039/003/048/058/XX  
B006/B070

24.7600 (1043, 1137, 1160)

AUTHORS: Shur, Ya. S., Startseva, I. Ye.

TITLE: Temperature Hysteresis of the Domain Structure of Ferrosilicon Crystals

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3(9), pp. 566 - 573

TEXT: The aim of the authors was to study the general rules governing the temperature hysteresis of the domain structure of ferrosilicon crystals. The magnetic structure was observed by the method of powder patterns. Single and polycrystals with 3.5% Si were studied; they were in the form of disks 15 mm large and 0.3 - 0.7 mm thick. All the samples were annealed at 1,250°C before they were ground and polished. The effect of cyclic temperature changes on the magnetic structure was investigated. For this, the samples were heated from room temperature to different temperatures (up to 550°C), and cooled again to the initial temperature. The samples were heated by a special instrument which was placed in a vacuum chamber (Fig.1). This instrument as well as the

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84962

Temperature Hysteresis of the Domain  
Structure of Ferrosilicon Crystals

S/056/60/039/003/048/058/XX  
B006/B070

experimental method are described in the introduction. The maximum strength of the magnetic field was 600 oe. Photographs of the domain structure were taken for one and the same sample a) after the first magnetization, b) after heating and cooling, and c) after the second magnetization. It could be established that no significant change in the domain structure took place when the sample was heated from 20° to 200°C and cooled again to 20°C. A hysteresis is first observed on heating to 400 - 550°C. Figs. 2, 4, 5, and 6 show powder patterns which illustrate the transformation of the domain structure in one cycle. Figs. 6 and 7 show a schematic representation of the structure of the types B and A. The investigations showed that a significant irreversible transformation of the magnetic structure in mono- and polycrystalline samples takes place in a cycle between 20° and 400 - 550°C. This change in the structure shows itself in the following way: The dimensions, the form, and the number of closure domains are changed, and the boundaries between the principal regions are displaced. Finally, the results are discussed and theoretically interpreted. L. D. Landau, Ye. M. Lifshits, L. V. Kirenskiy, and I. F. Degtyarev are mentioned. There are 7 figures and 8 references: 6 Soviet and 2 US.

Card 2/3

84962

Temperature Hysteresis of the Domain  
Structure of Ferrosilicon Crystals

S/056/60/039/003/048/058/XX  
B006/B070

ASSOCIATION: Institut fiziki metallov Akademii nauk SSSR (Institute of  
Metal Physics of the Academy of Sciences USSR)

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SUBMITTED: April 16, 1960

X

Card 3/3

31601  
S/048/61/025/012/005/022  
B102/B138

242200

AUTHORS:

Zaykova, V. A., and Startseva, I. Ye.

TITLE:

Stability of magnetic state of magnetically soft materials

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,  
v. 25, no. 12, 1961, 1455 - 1461

TEXT: Besides the stability of magnetic states the authors studied the possibilities of determining the most stable state of the domain structure. Annular specimens of coarsely crystalline silicon steel were used to determine the variations in magnetic induction due to field, and flat specimens for those due to tensile stresses. Stability was determined from these and from the changes observed in domain structure. The former were measured ballistically, domain structure by the powder method. The following demagnetization methods were applied: (1) A damped alternating field, no external magnetic field; (2) Magnetization in the direction of the Earth's magnetic field  $H_e$  up to maximum residual magnetization, application of an anti-field, and again application of  $H_e$ ; (3) Demagnetization as in (1).

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31603

S/048/61/025/012/008/022  
B116/B138

The nature of the rectangular...

the greatest  $P_R$  occurs during a hysteresis cycle in which most crystallites are in the state of maximum induction and where the principle domains, in which magnetization is unfavourably oriented relative to field, vanish. In addition, in all crystallites, closed domains with magnetization differently orientated from that in the principal part of the crystallite, are left behind on the surfaces and possibly at internal lattice defects. The boundaries between the principal and closed domains are distorted. There is no noticeable increase in the closed domains when the field vanishes. Therefore  $P_R$  becomes almost equal to unity. It can be seen that in all three

cases the curves obtained after demagnetization through heating, are steeper and higher in the first section than these obtained after demagnetization with a variable field. The difference increases with  $P_R$ . This means that, unlike the metallic ferromagnetics, the permeability of  $Mg-Mn$  ferrites in weak fields after demagnetization with a variable field is much smaller than after demagnetization through heating. This is probably due to a particular kind of structural defect. In a demagnetized crystal the domain boundaries are arranged in such a way that the total energy is at a minimum. These boundaries are probably distorted by demagnetization with variable

X

Card 2/3

S/048/62/026/002/017/032  
B106/B104

AUTHORS: Startseva, I. Ye., Glazer, A. A., and Shur, Ya. S.  
TITLE: Temperature dependence of domain structure in ferrosilicon crystals  
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 2, 1962, 262-265

TEXT: Earlier studies of the domain structure in ferrosilicon crystals (Ya. S. Shur, I. Ye. Startseva, Zh. eksperim. i teor. fiz., 39, 566 (1960)) have revealed a temperature hysteresis of domain structure. This fact may possibly be the cause of the departure of the calculated from the measured temperature dependence of domain structure. It was investigated as to whether experimental and theoretical data will agree better when this hysteresis is excluded. This may be accomplished by allowing the specimen to attain the state of equilibrium at every temperature. The domain structure of ferrosilicon with 3.5 % Si was examined by the magneto-optical Kerr effect. Annular specimens (outer diameter 40 mm, inner diameter 28 mm, 0.35 mm thick) were cut out from coarsely crystalline

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S/048/62/026/002/017/032  
B106/B104

Temperature dependence of...

textured ferrosilicon. After polishing the specimens were vacuum tempered at 200°C, and subsequently their surface was slightly oxidized in order to increase the angle of rotation of the plane of polarization. The (011) face was near the surface in most of the crystallites. Temperature dependence of the domain structure was studied in the range of 20-600°C. At every temperature the specimens were carefully demagnetized by alternating magnetic field with its amplitude monotonically decreasing to zero. This procedure was to eliminate the temperature hysteresis of domain structure. The studies led to the following conclusions: (1) The domain width is strongly temperature dependent when temperature hysteresis is eliminated by demagnetization at every temperature. (2) The temperature dependence of the domain width observed in equilibrium agrees qualitatively with the calculated data. Strictly quantitative comparison of experimental and theoretical data was not possible as it is not known how the magnetic flux is closed at the crystal edges. (3) Various authors found in the study of different ferromagnetics great discrepancies between the experimental and theoretical temperature dependences of the domain widths. These discrepancies are obviously due to the fact that the observed domain structures which exist in metastable states were compared with the

Card 2/3

MOROZ, V.G., inzh.; STARTSEVA, I.Ye., inzh.; IVAKO, L.P., inzh.

Effect of heat treatment on the structure of 25L steel. Metalloved.  
i term. obr. met. no.5:18-21 My '62. (MIRA 15:5)

1. Irkutskiy filial Gosudarstvennogo nauchno-issledovatel'skogo  
i proyektного instituta neftyanogo mashinostroyeniya.  
(Steel--Heat treatment) (Steel castings--Testing)

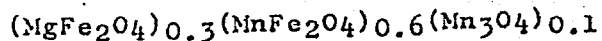
S/126/63/015/002/004/033  
E039/E420

AUTHORS: Bogoslovskiy, V.N., Startseva, I.Ye., Zhuravleva, M.G.,  
Shchepetkin, A.A., Chufarov, G.I., Shur, Ya.S.

TITLE: The effect of phase composition on the magnetic  
properties of magnesium-manganese ferrite with a  
rectangular hysteresis loop

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.2, 1963,  
181-186

TEXT: A magnesium-manganese ferrite with a rectangular  
hysteresis loop and with a sufficiently simple composition was  
used to facilitate the interpretation of the results obtained.  
Toroidal samples 12 mm outer dia, 8 mm inner dia and 3 mm high  
were used. After a second annealing in air at 1200°C they were  
cooled in a CO<sub>2</sub> atmosphere. The composition was Fe<sub>2</sub>O<sub>3</sub> - 42.8 mol%,  
MgO - 14.4%, MnO - 42.8% (as MnCO<sub>3</sub>) which corresponds with the  
formula



The dependence of the coercive force  $H_c$ , the residual  
Card 1/2

S/126/63/015/002/004/033  
E039/E420

The effect of phase ...

induction  $B_r$ , the maximum induction  $B_m$ , the induction in the field of 90 Oe  $B_{90}$ , and  $B_r/B_m$  on the pressure of oxygen when annealing at 600°C was investigated.  $B_r$  shows a steady decrease with increasing oxygen pressure up to 150 mm Hg, while for the other parameters there is little change for oxygen pressures above 50 mm. Maximum squareness of the hysteresis loop is obtained at 10 mm pressure of oxygen. A comparison of the results of physicochemical analysis, X-ray and magnetic investigation suggests that the spontaneous rectangularity of the hysteresis loop in this ferrite depends on the presence of the  $Mn^{3+}$  ion which leads to local distortions in the crystal lattice. There are 2 figures.

ASSOCIATIONS: Institut metallurgii UFAN SSSR  
(Institute of Metallurgy UFAN USSR)  
Institut fiziki metallov AN SSSR  
(Institute of Physics of Metals AS USSR)

SUBMITTED: August 10, 1962

Card 2/2

ACCESSION NR: AP4042347

S/0129/64/000/007/0031/0035

AUTHOR: Mosoz, V. G., Startseva, I. Ye., Popov, K. V.

TITLE: Cast steels for low temperature operations

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1964, 31-35, and insert facing p. 25

TOPIC TAGS: cast steel, steel alloy, cold resistant steel, steel 12N9L, steel 20KhN3ML, steel 12N5L, steel 15N3ML, steel 15N3FL, steel 12KhN2ML, steel 20N3L, steel 20G2N2ML, steel 20Kh2D3L, steel 15DKhGSL, steel 10KhS2N2DML, impact toughness, heat treatment, structural uniformity, fine-grained structure, transition point determination

ABSTRACT: Experimental castings from 11 steel alloys (compositions given) were tested for resistance to low temperatures in a cast or variously heat treated state to formulate recommendations on the use of pearlite and ferrite steels for castings operating at temperatures as low as -100C. The temperature corresponding to an impact toughness of 2.0 kg/cm<sup>2</sup> was accepted as the transition point. Heat treatment involved normalizing (900 or 1050C) and tempering (650, 660 or 720C). Transition points for the optimal heat

Card

1/2

L 22897-65 EED-2/EWT(1)/EWT(m)/EWP(b)/EWP(t) IJP(c) JD  
ACCESSION NR: AP5001240 S/0126/64/018/005/0711/0716

AUTHOR: Bogoslovskiy, V.N.; Shchepetkin, A.A.; Startseva, I. Ye.; Antonov, V.K.;  
Chufarov, G.I.; Shur, Ya. S.

TITLE: Effect of the phase composition on the magnetic properties of magnesium-  
manganese-iron ferrite with a rectangular hysteresis loop B

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 5, 1964, 711-716

TOPIC TAGS: ferrite magnetic property, magnesium ferrite, manganese ferrite, spinel  
solid solution, hysteresis loop

ABSTRACT: The object of this work was to find out whether the rectangularity of the hysteresis loop of Mg-Mn ferrites is related only to the presence of vacancies, or whether trivalent manganese ions also play a major part in this phenomenon. An Mg-Mn-Fe ferrite obtained from a mixture of 34 mol. % MgO, 8.5% MnO (in the form of MnCO<sub>3</sub>) and 57.5% Fe<sub>2</sub>O<sub>3</sub> and having a relatively high rectangularity coefficient of the hysteresis loop was investigated. X-ray diffraction was used to determine the concentration of the components of the spinel solid solutions, the magnetic characteristics were measured by the ballistic method, and changes in the composition of the solid solutions

Card 1/2

L 22897-65

ACCESSION NR: AP5091240

were induced by annealing the samples under various conditions. It was found that the increase or decrease in the rectangularity coefficient of the hysteresis loop is due primarily to the formation and disappearance of  $Mn^{3+}$  ions, although there is a simultaneous change in the concentration of vacancies in the spinel solid solution. Samples containing an appreciable quantity of vacancies but no  $Mn^{3+}$  ions have a rectangularity coefficient of less than 0.5. The authors conclude that the rectangular shape of the hysteresis loop of Mg-Mn-Fe ferrites obtained from a mixture containing over 50 mol. %  $Fe_2O_3$  is due to the presence of  $Mn^{3+}$  ions which cause local distortions of the crystal structure of the spinel solid solution. Orig. art. has: 1 table, 1 figure, and 7 formulas.

ASSOCIATION: Institut metallurgii, Sverdlovsk (Metallurgical Institute); Institut fiziki metallov AN SSSR (Institute of the Physics of Metals, AN SSSR)

SUBMITTED: 02Nov63

ENCL: 00

SUB CODE: MM, EM

NO REF SOV: 007

OTHER: 010

Card 2/2

MOROZ, V.G.; STARTSEVA, I.Ye.; POPOV, K.V.

Cast steels for operation at low temperatures. Metalloved. i term. obr.  
met. no.7:31-35 J1 '64. (MIRA 17:11)



BOGOSLOVSKIY, V.N.; SHCHEPETKIN, A.A.; STARTSEVA, I.Ye.; ANTONOV, V.K.;  
CHUFAROV, G.I.; SHUR, Ya.S.

Effect of phase composition on the magnetic properties of the  
magnesium-manganese iron ferrite with a rectangular hysteresis  
loop. Fiz.met. i metalloved. 18 no.5:711-716 N '64.

(MIRA 18:4)

1. Institut metallurgii, Sverdlovsk i Institut fiziki metallov  
AN SSSR.

AGAPOV, N.F., kand. tekhn. nauk; ZHEREBICHEVSKIY, V.I., inzh.; STARTSEVA,  
K.V., inzh.

Production and use of bitumen emulsions in Kazakhstan. Avt.  
dor. 27 no.8:14-15 Ag '64. (MIRA 17:12)

MIROLYUBOV, N.N., prof.; STARTSEVA, Ye.K., kand. med. nauk

Plenum of the board of the All-Russian Scientific Society of  
Roentgenologists and Radiologists. Vestn. rentgen. i radiol.  
38 no.4:85-86 J1-Ag'63 (MIRA 17:2)

1.

DOBROVOL'SKIY, Viktor Konstantinovich, prof.; LEBEDEVA, V.S., kand.med. nauk, starshiy nauchnyy sotrudnik; UL'RIKH, Ye.S., kand.biolog. nauk, starshiy nauchnyy sotrudnik; YAGUNOV, S.A., prof., doktor med.nauk [deceased]; STARTSEVA, L.I., kand.med.nauk, starshiy nauchnyy sotrudnik; LEKHTMAN, Ya.B., red.; KHARASH, G.A., tekhn.red.

[Therapeutic physical culture] Lechebnaia fizicheskaia kul'tura. Leningrad, Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1960. 349 p. (MIRA 13:7)

1. Chlen-korrespondent Akademii meditsinskikh nauk (for Yagunov).  
(EXERCISE THERAPY)

STARTSEVA, L.I., aspirant

Extermination of Epilachna by ladybird larvae. Zashch. rast. ot  
vred. i bol. 6 no.7:46 JI '61. (MIRA 16:5)

1. Dal'nevostochnaya opytnaya stantsiya Vsesoyuznogo instituta  
rasteniyevodstva, Primorskiy kray.

(Maritime Territory--Potatoes--Diseases and pests)  
(Maritime Territory--Ladybirds--Biological control)

STARTSEVA, L. N.

Mbr., Inst. Obstetrics & Gynecology, -1949-. Cand. Medical Sci. "Diathermal Surgery during Treatment of Certain Pathological Conditions of Cervix" Akusher. i Ginekol., No. 4, 1949.

STARTSEVA, L.N., kandidat meditsinskikh nauk

Morphological changes in tissue dissected by diathermy from the cervix uteri. Akush. i gin. no.4:35-36 JI-Ag '54. (MLRA 7:11)

(CERVIX, UTERINE, surgery,

diathermy, morphol. changes in dissected tissue)

(DIATHERMY,

morphol. changes in cervical uterine tissue dissected by diathermy)

STARTSEVA, L.N., kandidat meditsinskikh nauk (Leningrad)

Coniform diathermic excision of the cervix uteri. Akush. i gin.  
no.5:53-56 S=0 '54. (MLRA 7:12)

(CERVIX, UTERINE, surgery,  
diathermy, coniform excis.)

(DIATHERMY,  
electrosurg. of uterine cervix, conical excis.)



YAGUNOV, S.A. [deceased]; STARTSEVA, L.N.

Use of physical culture and medical control in labor. Akush.  
i gin. 35 no.3:14-19 My-Je '59. (MIRA 12:8)

1. Iz otdeleniya fizioterapii i lechebnoy fizicheskoy kul'tury  
(zav. - chlen-korrespondent AMN SSSR prof.S.A.Yagunov) Insti-  
tuta akusherstva i ginekologii AMN SSSR (dir. - chlen-korrespondent  
AMN SSSR prof.P.A.Beloshapko).

(LABOR

prep., phys. culture & med. control (Rus))

(EXERCISE THERAPY

value in labor prep. (Rus))

YAGUNOV, S.A. [deceased]; STARTSEVA, L.N.

Using an aerophotarium in a medical establishment. Vop. kur., fizioter.  
i lech.fiz. kul't. 27 no.1:16-20 '62. (MIRA 15:5)

1. Iz otdeleniya fizioterapii i lechebnoy fiz.cheskoy kul'tury  
(zav. - chlen-korrespondent AMN SSSR prof. S.A.Yagunov [deceased])  
Instituta akusherstva i ginekologii AMN SSSR (dir. - chlen-korrespondent  
AMN SSSR prof. P.A.Beloshapko).  
(RADIOTHERAPY) (CLIMATOLOGY, MEDICAL)

GURTOVOY, L.Ye., prof.[deceased]; IVANITSKAYA, Ye.P., doktor med. nauk; MAZHBITS, A.M., prof.; PREYSMAN, A.B., prof.; STARTSEVA, L.N., kand. med. nauk; TRUYEVITSEVA, G.V., kand. med.nauk; SHUB, R.L., zasl. deyatel' nauki Latvyskoy SSR prof.; YAGUNOV, S.A., prof.[deceased]; PERSIANOV, L.S., prof., otv. red.; ZHMAKIN, K.N., prof., zasl. deyatel' nauki RSFSR, red.; RYABOV, G.Z., red.; ROMANOVA, Z.A., tekhn. red.

[Multivolume manual on obstetrics and gynecology] Mnogotomnoe rukovodstvo po akusherstvu i ginekologii. Moskva, Medgiz. Vol.4. Book 1. [General gynecology] Obshchaia ginekologiya. 1963. 674 p. (MIRA 16:9)

1. Chlen-korrespondent Akademii meditsinskikh nauk (for Yagunov, Persianinov).

(GYNECOLOGY)

STARTSEVA, I.N.

Procreative function of women after surgical diathermy of the  
cervix uteri. Akush. i gin. no.1 57-63 '63. (MIRA 17:6)

1. Iz otdeleniya fizioterapii (zav. - kand. med. nauk .N.  
Startseva) Instituta akusherstva i ginekologii (dir. - prof.  
M.A. Petrov- Maslakov ) AMN SSSR.

MIKHAYLOV, V.G.; STARTSEVA, M.A.

Rating the advantages of soliusur'min therapy for kala-azar in infants. *Pediatria* no.4:80 J1-Ag '55. (MLRA8:12)

1. Iz kliniki gospiatal'noy pediatrii Tashkentskoy gorodskoy stantsii, tropicheskoy meditsiny.  
(KALA-AZAR) (ANTIMONY--THERAPEUTIC USE)

MIKHAYLOV, V.G.; STARTSEVA, M.A.

Treatment of infantile visceral leishmaniasis with solusurmin as revealed by data from the Parasitological Department of the Tashkent City Sanitary and Epidemiological Station. Med. paraz. i paraz. bol. no. 5:563-567 '61. (MIRA 14:10)

1. Iz Instituta krayevoy eksperimental'noy meditsiny Akademii nauk Uzbekskoy SSR (dir. instituta G.M. Makhkamov) i kafedry laboratornoy diagnostiki i parazitarnykh bolezney Tashkentskogo instituta usovershenstvovaniya vrachey (dir. instituta M.A. Mirzamukhamedov).

(KALA-AZAR)

(ANTIMONY—THERAPEUTIC USE)

STARTSEVA, M. E., and SHUR, Y. S., (Sverdlovsk)

"Stability of magnetic structure of Residual-Magnetized Soft magnetic Materials," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

KUDRYAVTSEVA, N.A.; PUSHKAREVA, Z.V.; STARTSEVA, M.V.

Some derivatives of 10-methyl-3-aminophenothiazine. Zhur.org.khim.  
1 no.2:364-366 F '65. (MIRA 18:4)

1. Ural'skiy politekhnicheskij institut imeni S.M.Kirova.



SHOSTAKOVSKIY, M.F.; KALABINA, A.V.; STARTSEVA, M.Ya.; POD'YACHENKO, N.P.

Synthesis and transformations of vinyl aryl ethers. Report  
No.4: Synthesis and properties of vinyl ethers of ortho-,  
meta-, and para- cresols and para-tert-amyl phenol. Izv.  
Fiz.-khim. nauch.-issl. inst. Irk. un. 5 no.1:90-100 '61.  
(MIRA 16:8)

(Ethers) (Phenol) (Cresol)

S/153/60/003/005/009/016  
B013/B058

AUTHORS: Kohergin, V. P., Pozhidayeva, G. A., Startseva, N. A.

TITLE: Dissolution of Iron in Melts Containing Zinc Sulfate and Halides of Alkali Metals and Zinc

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 5, pp.892-897

TEXT: The rate of dissolution (corrosion) of iron in aqueous  $ZnSO_4 - ZnCl_2$ ,  $ZnSO_4 - LiCl$ , and  $ZnSO_4 - KCl$  solutions, as well as in  $ZnSO_4 - NaF$ ,  $ZnSO_4 - NaCl$ ,  $ZnSO_4 - NaBr$  and  $ZnSO_4 - NaI$  melts, was studied here. It was the aim of the study to investigate the possibility of using sulfate halide melts for the heat treatment of steels, and to find possible bases for producing new salt melts which are less aggressive against iron and steels. Chemically pure  $ZnSO_4 \cdot 7H_2O$ ,  $LiCl \cdot H_2O$ ,  $KCl$ ,  $NaCl$ ,  $ZnCl_2 \cdot 1.5H_2O$ ,  $NaI$ ,  $NaBr$ ,  $NaF$  were used for producing the melts mentioned. Melts with  $NaBr$  and  $NaI$  content were produced in carbon dioxide medium. Metal samples were prepared  
Card 1/4

Dissolution of Iron in Melts Containing Zinc S/153/60/003/005/009/016  
Sulfate and Halides of Alkali Metals and Zinc B013/B058

in the form of plates, and polished. The determination was made by the method described in Ref. 9. The rate of dissolution of iron in aqueous solutions was determined at 550°C (Fig. 1) and in melts at 500°C (Fig.2). It was established that the rate of dissolution decreases during the first 2-3 hours, and then remains constant. By adding  $ZnCl_2$ -LiCl-KCl to the  $ZnSO_4$  melt, the dissolution of iron is slowed down much more than by adding NaF, NaCl, NaBr, NaI. In melts containing zinc- and alkali metal halides, an increased solubility of iron may be observed in the absence of zinc sulfate. When increasing the zinc sulfate content up to 45% (Fig. 3), accelerated dissolution of iron was first observed in sulfate halide melts, which slowed down, however, with a further increase of the zinc sulfate concentration. It can be clearly seen from the polytherms for the rate of dissolution (Fig. 3) of iron in sulfate halide melts that the dissolution process is influenced by the nature of these melts and the complex formation within them. A similar effect was observed at different temperatures of the melts (Fig. 4). It was established that the dissolution of iron in aqueous sulfate halide melts is accelerated at a temperature increase according to an exponential function. A lower solubility of iron

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was established in melts from which the water was previously extracted in vacuo, as compared with aqueous melts. The rate of dissolution of iron is higher in  $ZnSO_4-NaF$  and  $ZnSO_4-NaI$  melts than in melts with zinc sulfate, sodium chloride, or sodium bromide. Passage of dry air through aqueous melts with zinc sulfate as well as zinc-, sodium-, and potassium chlorides contributes to the slowing down of the rate of dissolution of iron in these melts (Fig. 5). In order to prevent corrosion of metal products in molten electrolytes, it is, therefore, suitable to treat them with dry air at increased temperature or in high vacuum. Since the rate of dissolution of iron is only small in sulfate chloride melts with a zinc content of more than 70-80 mole%, these melts may be used as heat carriers (Ref. 16) or for the heat treatment of steels. I. F. Afonskiy, A. A. Kroshkin, I. Ya. Tutov, Ye. A. Smol'nikov, and N. P. Luzhnaya are mentioned. There are 5 figures and 16 references: 13 Soviet, 1 German, and 1 US. ✓

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M. Gor'kogo,  
Kafedra neorganicheskoy khimii (Ural State University imeni  
A. M. Gor'kiy, Department of Inorganic Chemistry)

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Dissolution of Iron in Melts Containing Zinc  
Sulfate and Halides of Alkali Metals and Zinc

S/153/60/003/005/009/016  
B013/B058

SUBMITTED: December 15, 1958



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STARTSEYA, N.D.

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PHASE I BOOK EXPLOITATION

SOV/6181

Ural'skoye noveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTO.

Eds. (Title page): G. P. Skornyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skornyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

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Materials of the Third Ural Conference (Cont.)

SOV/6181

**COVERAGE:** The collection presents theoretical and practical problems of the application of atomic and molecular spectral analysis in controlling the chemical composition of various materials in ferrous and nonferrous metallurgy, geology, chemical industry, and medicine. The authors express their thanks to G. V. Chentsova for help in preparing the materials for the press. References follow the individual articles.

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Temporary bonds of the respiratory apparatus in decorticated cats. Biul. eksp. biol. i med. 41 no.2:17-20 F '56. (MLRA 9:6)

1. Iz kafedry normal'noy fiziologii (zav.-prof. D.G. Kvasov) Leningradskogo pediatricheskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR P.S. Kupalovym.

(RESPIRATION, physiology,  
conditioned temporary bonds in cats after cerebral decortication (Rus))

(REFLEX, CONDITIONED,  
conditioned temporary resp. bonds in cats after cerebral decortication (Rus))

(CEREBRAL CORTEX, physiology,  
same)

KLIMENOK, B.V.; KONDRAT'YEV, A.A.; Primali uchastiye: BASYROVA, Z.V.;  
YELEPINA, V.I.; ZEMLYANSKIY, A.T.; PIRKIS, L.N.; STARTSEVA, T.K.;  
YANTSEN, Ya.Ya.

Counter-current horizontal extractor for processing hard materials.

Izv. vys. ucheb. zav.; neft' i gaz 4 no.2:75-77 '61.

(MIRA 15:5)

(Paraffins) (Diesel fuels)

STARTSEVA, T.V. (Ufa); SHVIDLER, M.I. (Ufa)

Numerical solution of problems in plane filtration flow in media with random nonhomogeneities. Izv. AN SSSR Otd. tekhn. i mashinostr. no.2:33-37 Mr-Apr '63.

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DOLGOVA, L.S.; Prinimali uchastiye: VEBER, I.B., student; STARTSEVA, T.V.,  
studentka

Characteristics of turf-Podzolic soils formed on two-component  
deposits. Pochvovedenie no.5:53-63 My '63. (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet.  
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Determination of the functional state of the liver in various diseases with  $J^{131}$ -labelled rose bengal. Med. rad. 8 no.8: 31-34 Ag '63. (MIRA 17:10)

1. Iz kafedry rentgeno-radiologii (zav.- prof. N.N. Miroljubov) Irkutskogo meditsinskogo instituta.

NADIROV, N.K.; STARTSEVA, E.P. [Startseva, Ye. P.]

Adsorption properties of clay. Biol i khim 5 no.1:60-62 '63.

1. Pedagogicheski institut, g. Khabarovsk.

VLADIMIR W. I.P.: STARNEVA, V.I.

Complexometric metalochromic indicators. Report no.3: Metal  
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Trudy Ural'politekh.inst. no.130:35-41 '63.

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dipl. inz.; STARTZEL, W., dipl. inz.; ZULLICH, H., dipl. inz.

Forming the working process with respect to man. Pod org 17  
no.6:281 Je '63.

STARUKH, M. A.

"Vitamin B<sub>1</sub> and Stomach Secretions in Young Children During Acute Gastrointestinal Disturbances." Cand Med Sci, L'vov State Medical Inst, L'vov, 1954. (RZhBiol, No 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: Sum. No. 556 24 Jun 55

S'FARUKH, M.A., kand.med.nauk

Glycogenesis. Sov.med. 21 no.11:101-104 N '57. (MIRA 11:3)

1. Iz kafedry detskikh bolezney (zav.-dotsent I.M.Rudnev)  
L'vovskogo meditsinskogo instituta (dir.-prof. L.N.Kuzmenko) na  
baze oblastnoy klinicheskoy bol'nitsy (glavnyy vrach I.A.Karagodin).  
(GLYCOGENOSIS, case reports)

STARUKH, M.A., kand.med.nauk

Sugar content of the cerebrospinal fluid in children with tuberculous meningitis. Ped., akush. i gin. 20 no.6:28 '58. (MIRA 13:1)

1. Detskaya klinika (zav. - prof. S.I. Ignatov) L'vovskogo meditsinskogo instituta (direktor - prof. L.M. Kuzmenko).

(SUGAR IN THE BODY) (CEREBROSPINAL FLUID) (MENINGES--TUBERCULOSIS)

STARUKH, M.A., dots.

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1. Kafedra propedevticheskoy i fakul'tetskoy pediatrii (zav. - dots. I.M. Rudnev [I.M. Rudniev] L'vovskogo gosudarstvennogo meditsinskogo instituta (direktor - prof. L.M. Kuz'menko).  
(ASCORBIC ACID) (PNEUMONIA) (BLOOD VESSELS)

STARUKH, R.M.; SOZANSKIY, O.M. [Sozans'kyi, O.M.]

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S.I.Tregub [Trehub, S.I.] L'vovskogo instituta okhrany mate-  
rinstva i detstva (direktor - kand.med.nauk L.Ya Davidov  
[Davydov. L.IA.]) i L'vovskaya oblastnaya klinicheskaya bol'-  
nitsa (glavnyy vrach - T.I.Plakhova).  
(CYSTS) (OVARIES—TUMORS)

STARUKH, R.M.

Antenatal prevention of staphylococcal infection. Akush. i gin.  
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1. L'vovskiy nauchno-issledovatel'skiy institut okhrany materinstva  
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KONOROV, A.V., prof.; STARUKHIN, N.M., inzh.

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1. Vsesoyuznyy nauchno-issledovatel'skiy institut po organizatsii  
i mekhanizatsii stroitel'stva.  
(Containers) (Loading and unloading)



STARUKHIN, N.M., nauchnyy sotrudnik; SHUL'GINOVA, M.N., nauchnyy sotrudnik;  
SOLOV'YEVA, T.P., nauchnyy sotrudnik; SUGROBOV, N.P., nauchnyy  
sotrudnik; pri uchastii rabotnikov Lozhnikova, N.N.; Lagoda, S.G.  
i Shishmilo, N.N.; SKVORTSOVA, I.P., red.izd-va; GUSEVA, S.S.,  
tekh.n.red.; BOROVTSEV, N.K., tekh.n.red.

[Construction of a multistory frame-panel apartment house in Moscow]  
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1. Akademiya stroitel'stva i arkhitektury. Institut organizatsii  
i mekhanizatsii stroitel'stva. 2. Sektor organizatsii zhilishchnogo  
i grazhdanskogo stroitel'stva Nauchno-issledovatel'skogo instituta  
organizatsii i mekhanizatsii stroitel'stva (for Starukhin, Shul'ginova,  
Solov'yeva, Sugrobov). 3. Stroitel'no-montazhnoye upravleniye No.6  
tresta Moszhilstroy Glavmosstroya (for Lozhnikov, Lagod, Shishmilo)  
(Moscow--Apartment houses)

STARUKHIN, N.M., nauchnyy sotrudnik; SHUL'GINOVA, M.N., nauchnyy sotrudnik;  
SOLOV'YEVA, T.P., nauchnyy sotrudnik. Primala uchastiye YEVSINA,  
A.I., starshiy tekhnik. SKVORTSOVA, I.P., red.izd-va; TEMKINA,  
Ye.L., tekhn.red.

[Construction of an experimental residential block in Moscow]  
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Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam,  
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1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Sektor organizatsii zhilishchnogo stroitel'stva i tekhnologii proizvodstva rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu (NIIONMP) (for all except Skvortsova, Temkina).  
(Moscow--Apartment houses)

MERKLING, M.I., inzh.; SAVINOV, S.G., inzh.; SPARUKHIN, N.M., inzh.,  
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'59. (MIRA 12:1)

(Konorov, Andrei Vladimirovich, 1890-1958)