ANNAU, Ella

Significance of cortisone therapy in interstitial keratitis. Szemeszet 93 no.3:139-142 Sept 56.

1. A Budapesti Orvostud. Egyetem I. Szemklinikaj. (igaz: Radnot, Magda, egyet. tanar, az orvostud. doktora) kozl.

(KERATITIS, ther.
cortisone in interstitial keratitis (Hun))
(CORTISONE, ther. use
keratitis, interstitial (Hun))

NEUROLOGY

HUNGARY

KOLNAR, Sandor, Dr, ARKAU, Nanda, Dr; Medical University of Budapest, Neurological Clinic (director: HORANYI, Bela, Dr, prof.) (Budapesti Orvostudomanyi Egyetem, Neurologiai Klinika).

"On Sarcoidosis of the Nervous System."

Budapest, Ideggyogyaszati Szemle, Vol XIX, No 8, Aug 66, pages 237-249.

Abstract: [Authors' Hungarian summary] Two cases of sarcoidosis of the nervous system are reported. The nature of the pathological process was diagnosed by means of muscle biopsy in both cases. One of the cases involved meningoencephalitis with psychic symptoms; the other involved recurring diabetes insipidus and changes in motor function. Description of the two cases is followed by the presentation of literature data concerning sarcoidosis of the nervous system and some conclusions derived from them. 9 Hungarian, 28 Western references.

1/1

KORNIYENKO, Z.P. (Koneva); BELOVA, Ye.M.; KARIMOV, Sh.M.; ANNAYEVLIYEV, O.A.

On visceral leishmaniasis in dogs in Ashkhabad. Med.paraz.i paraz. bol. 37 no.5:609 S-O '59. (MIRA 13:4)

1. Iz Turkmenskogo sel'skokhozyaystvennogo instituta imeni M.I. Kalinina, Ashkhabadskogo instituta epidemiologii i gigiyeny Turkmenskogo meditsinskogo instituta imeni I.V. Stalina.
(LEISHMANIASIS VISCERAL epidemiol.)

33938
S/665/61/000/003/002/018
E032/E314

26.1512

AUTHORS: Teplyakov, D.I. and Annayev, A.

TITLE: Study of the optimum receiver geometry for accurately-reflecting solar installations

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Teploenergetika. no. 3, 1961. Poluprovodnikovyye preobrazovateli solnechnoy energii, 21 - 30

TEXT: Studies carried out at the Energeticheskiy institut AN SSSR (Power-engineering Institute of the AS USSR) showed that the efficiency of trarsformation of radiant solar energy by semiconductor devices is reduced owing to the nonuniform energy distribution over the working surface of the energy converter. It has therefore become necessary to equalize the energy flux over the surface of the receiver by suitably modifying the form of the concentrator. In previous papers by the first of the present authors and R. Aparisi (Ref. 4: Teploenergetika, no.2, published by AS USSR, 1960) and the first of the present authors (Ref. 5: IFZh, 1958, no. 4) a differential equation was derived for the form of the receiving surface on which a parabolic mirror

Card 1/5

Study of the optimum ....

gives a uniform energy distribution. In the present paper, the authors report a numerical integration of this differential equation, which was carried out with the aid of a mechanical integrator at the above institute. The integration was carried out by L.I. Korneyev and A.F. Koleganov under the direction of V.I. Gorushkin; the solutions were obtained for a wide range of values of the parameter

$$\varepsilon = \frac{E_0 R_\lambda}{E^M} \qquad (3)$$

where R_λ is the reflecting coefficient,

E^M is the energy density at the surface of the required receiver, and

E_0 is the energy density of solar radiation on an area perpendicular to the direction of incidence (ε = 0.01 - 1.0) .

Card 2/5

Study of the optimum ....

Comparison of the numerical results with analytical expressions shows that the form of the receiver surface in polar coordinates is

$$\rho = \frac{f_o \sqrt{t}}{\sqrt{\cos^3 \frac{U}{2}}} \qquad (6) .$$

This expression applies to the case of a parabolic reflector (ρ - radius of curvature, f_o - focal length, U - angle between the radius vector and the direction of the optical axis). For values of U up to 60°, the difference between the analytical and numerical calculations is less than 0.48%. For a reflecting parabolic cylinder the formula for the receiver surface is

Card 3/5

Study of the optimum ....

$$\rho = \frac{f_0 \varepsilon}{\cos \frac{U}{2}} \qquad (7)$$

where up to $U = 60^\circ$ the above discrepancy is < 6
These numerical and analytical calculations were checked experimentally in September-October, 1960, at the solar base of the Fiziko-tekhnicheskiy institut AN TSSR (Physicotechnical Institute of the AS TSSR (Ashkhabad)). The apparatus was very similar to that described in detail by R. Aparisi in Ref. 3 (Experimental installation for the production of high temperatures, Solar-energy utilisation, AS USSR, 1957). A disadvantage of the Ashkhabad installation is said to be that it does not incorporate automatic tracking and must be adjusted manually. It was shown that it was possible to obtain a uniform energy distribution by making the receiver surface conform to the special shape required by the above calculations. The

Card 4/5

3955/
S/202/62/[illegible]30/003/001/002
1028/1223

26.1510

AUTHOR: Annayev, A.

TITLE: Solar-radiation concentrator with ameliorated uniformity of distribution of the energy over a plane receiver

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1962, 12-19

TEXT: The paper represents a penetrating analysis of the proposal made by Aparisi for ameliorating the uniformity of the energy distribution by varying the geometry of the reflecting surface of the concentrator, the receiver itself remaining plane. Basing himself on purely geometrical considerations, Aparisi has obtained the following formula for calculating the radius-vector of the generatrice of the concentrator:

$$\rho_1 = f\frac{\phi_a \operatorname{tg}^2\phi_a + \phi_a^2(1+K)\operatorname{tg}\theta/2}{\operatorname{tg}^2\phi_a - \phi_a(1-K)\operatorname{tg}\theta/2}\cdot\frac{1}{\phi_a + K\sin\theta} \qquad (3)$$

where $f = \rho_{1(\theta=0)}$—the focal distance of the concentrator, ϕ_a—the angle of opening of the elementary reflected beam, θ—current angle of opening of the concentrator, $K = \sqrt{1+\operatorname{tg}^2\phi_a}$. The author analyses the distribution of the ray flux in the focal spot of this concentrator, and establishes curves of distribution of the density of radiation energy in the focal plane as a function of θ and ϕ_a. It is shown that the non-uniformity

Card 1/2

ACCESSION NR: AP4037558 S/0202/64/000/002/0121/0122

AUTHOR: Annayev, A.

TITLE: Configuration calculation of a cooling system of solar uniform heating thermoelectric generators

SOURCE: AN TurkmSSR. Izv. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 2, 1964, 121-122

TOPIC TAGS: solar generator, thermoelectric generator, thermocouple, thermopile

ABSTRACT: This paper investigates the optimum operating conditions for a solar thermoelectric generator (STEG), based on the length of the generator's thermocouple. To obtain uniform distribution of the radiation flux, the surface of the solar thermoelectric generator must have the shape of a receiver of uniform radiant fluxes. This configuration is shown in Fig. 1 of the enclosure. Based on this figure, the author obtained in conclusion a formula which describes the shape of the cooling system surface, having a thermocouple of optimum length situated perpendicular to the sought surface:

$$\rho_1 = \sqrt{\rho^2+h^2+2\rho h\cos\theta} \qquad (1)$$

Card 1/3

ACCESSION NR: AP4037558

where ρ - polar coordinates on the heated surface of the receiver, h - the length of the thermocouple, and θ - the angle of incidence of concentrated rays on the surface of the converter. The cooling results for various surface positions of the separate receiver elements to be heated and cooled, and for various angles of concentrated rays striking the surface of the converter, are presented in a table. Orig. art. has: 1 table, 2 formulas, and 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physical Technical Institute, AN Turkmenskoy SSR)

SUBMITTED: 13Nov63 DATE ACQ: 05Jun64 ENCL: 01

SUB CODE: EC NO REF SOV: 002 OTHER: 000

Card 2/3

AMRAYEV, A.

Energy distribution over the surface of reservoirs of approximately uniform radiant fluxes. Izv. AN Turk. SSR. Ser. fiz.-[illegible] i geol. nauk no.3:116-118 '64 (MIRA 18:1)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.

ANNAYEV, A.A.

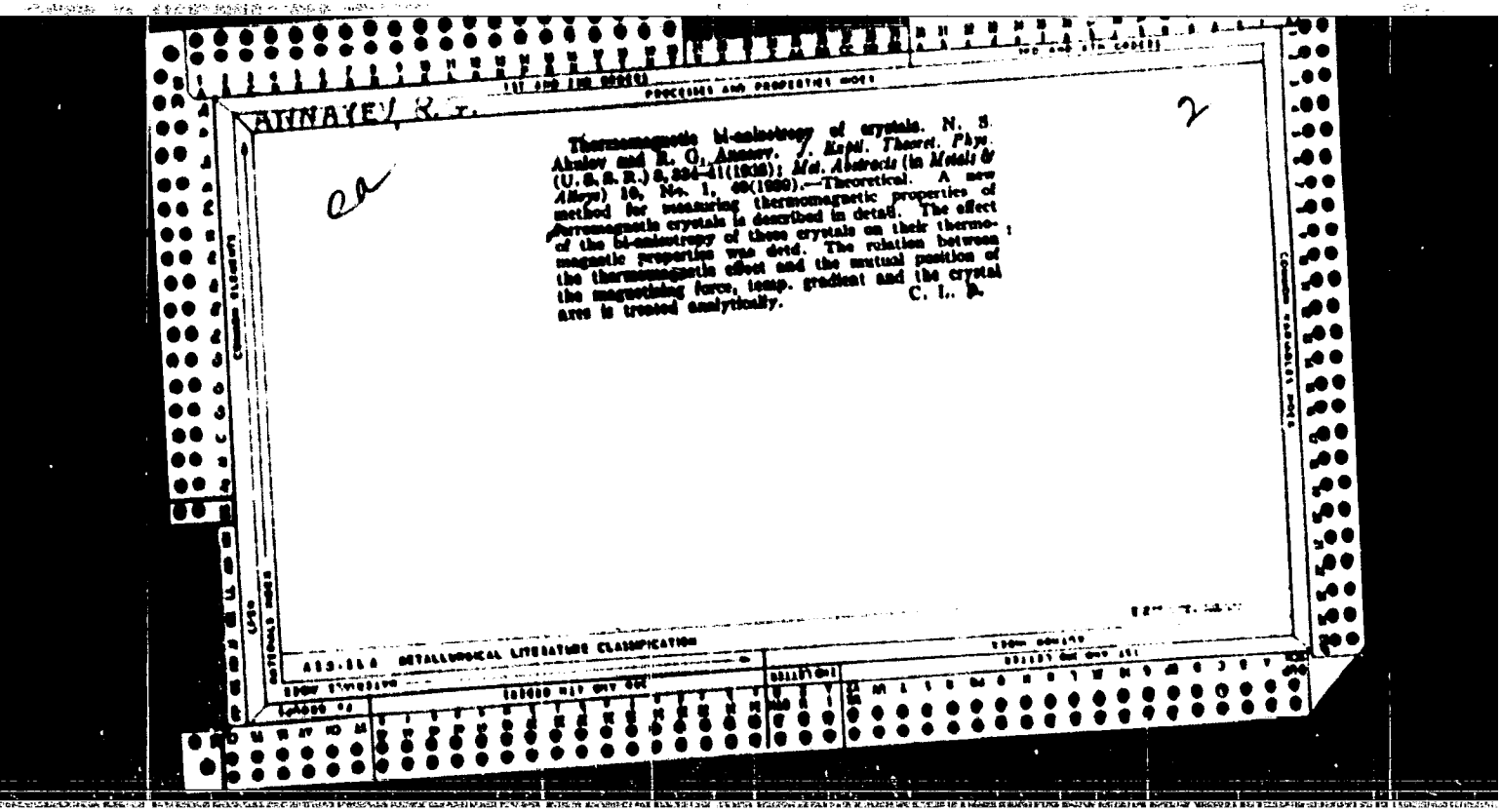
Case of a knife wound of the right iliac vein. Zdrav. Turk 8 no.1: 20 Ja '64. (MIRA 17:5)

1. Iz kafedry fakul'tetskoy khirurgii (zaveduyushchiy Ch.B. Bayriyev) Turkmenskogo gosudarstvennogo meditsinskogo instituta i Turkmenskoy respublikanskoy klinicheskoy bol'nitsy im. N.I. Pirogova (glavnyy vrach M.B. Shapiro).

ANNAYEV, G.

Erythromycin treatment of trachoma patients in rural therapeutic and prophylatic institutions. Izv. AN Turk. SSR. Ser. biol. nauk no.2:81-85 '65. (MIRA 18:5)

1. Turkmenskiy gosudarstvennyy meditsinskiy institut.



ANNAYEV, R. T.

Thermomagnetic bi-anisotropy of crystals. N. S. Akulov and R. O. Annaev. *J. Exptl. Theoret. Phys.* (U.S.S.R.) 9, 394-41(1939); *Met. Abstracts* (in *Metals & Alloys*) 10, No. 1, 48(1939).—Theoretical. A new method for measuring thermomagnetic properties of ferromagnetic crystals is described in detail. The effect of the bi-anisotropy of these crystals on their thermomagnetic properties was detd. The relation between the thermomagnetic effect and the mutual position of the magnetizing force, temp. gradient and the crystal axes is treated analytically. C. I.. B.

ANNAYEV, R. G.

"Application of the Thermomagnetic Method to the Study of the Anisotropy of an Iron-Nickel Monocrystal of the Boguslavka Meteorite," Bull. TsKMKA, No. 44, pp. 1-2, 1944

ANNAYEV, R.

1ST AND 2ND ORDERS — 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

"Investigation of the Thomson-Nernst Thermomagnetic Effect in Nickel Crystals. R. Annayev (*J. Physics* (U.S.S.R.), 1945, 9, (1), 280 2(8).—(In English.) The Thomson-Nernst effect, i.e., the variation of thermo-electromotive force under the action of a magnetic field, was investigated for polycrystalline nickel specimens, and for single crystals of nickel. In the latter case, studies were made along the principal crystallographic axes and in the planes of the crystal. The apparatus is described and illustrated. The Thomson-Nernst effect depends markedly on the shape of the specimen, and thus upon the distribution of heat currents in the sample. The influence of shape on the ratio $\frac{\text{change of thermoelectric force}}{\text{Initial thermoelectric force}}$ is less marked and can to a first approximation be neglected. Measurements were also made of the effect of internal elastic strains on the phenomena. The results, given graphically, are described and discussed in the light of the theory of ferromagnetism. —G. V. R.

ANNAYEV, R. G.

USSR/Physics
Magnetic Fields
Nickel Alloys

Aug 48

"Variation of Electrical Resistance and Thermoelectromotive Force in a Longitudinal Magnetic Field of Alloy Ni$_3$Mn as a Function of Regulating Phase," R. G. Annayev, Sci Res Inst Phys, Moscow U/ State U imeni M. V. Lomonosov, 4 pp

6/13.46

"Dok Ak Nauk SSSR" Vol LXI, No 6

Experimental research on subject question, giving results in four curves: (1) intensity of magnetization (oersteds) versus magnetic field for alloy Ni$_3$Mn and exposure at 370° with subsequent air cooling; (2) longitudinal galvanomagnetic effect of Ni$_3$Mn versus factors mentioned in (1); (3) alloy Ni$_3$Mn versus intensity of magnet- effect mentioned in (2) versus intensity at 370° ization at room temperature and exposure at 370° with subsequent air cooling; and (4) longitudinal thermomagnetic Thomson effect E_s, with saturated field H - 1,500 Oe, versus temperature difference of thermocouple junctions and exposure at 370° with subsequent air cooling. Submitted by Acad V. F. Mitkevich, 25 Jun 48.

35/49782

Dec 48

USSR/Physics
Magnetic Fields
Nickel Alloys

"Abnormal Thermoelectromotive Force Variation in the Magnetic Field of Ni-Mn Alloys," R. G. Annayev, Sci Res Inst Phys, Moscow State U imeni M. V. Lomonosov, 2 pp

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613.68
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"Dok Ak Nauk SSSR" Vol LXIII, No 6

Investigates longitudinal and transverse thermomagnetic Thomson effect as function of composition of Ni-Mn alloy. Graphs show: dependence of longitudinal Thomson effect upon external magnetic field, and alloy composition for constant temperature difference in the thermocouple junction, transverse Thomson effect for the same conditions, and dependence of longitudinal Thomson effect upon temperature difference in the junction ($T_1 = 5°$, T_2 varying up to 220°) with a saturated field $H_s = 60,000$ Oe. Submitted by Acad S. I. Vavilov, 5 Nov 48.

35/49T94

ANNAYEV, R. G.

DOC PHYSICOMATH SCI

ANNAYEV, R.G.

Dissertation: Investigation of "agnetoelectric Phenomena in Relation to the Order of Atom istribution in Binary Alloys."

8 Jun 49

Moscow Order of Lenin State U imeni M.V. Lomonosov

SO Vecheryaya Moskva
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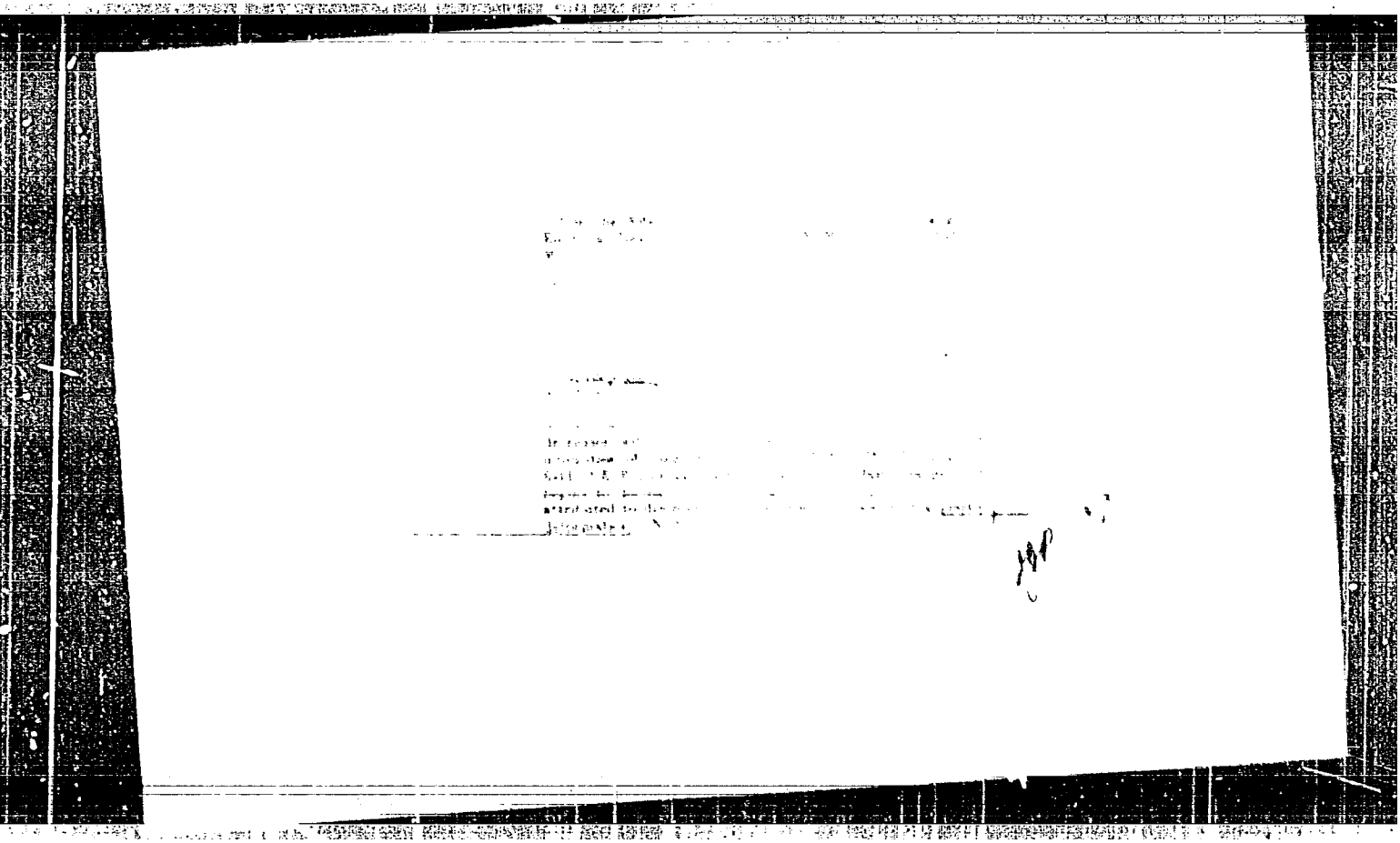

ANNAYEV R. G.

USSR/Physics - Alloys, Resistance of 21 Jun 49
Metals - Nickel Alloys

Variation in Electrical Resistance of Superstructural Alloys in a Longitudinal Magnetic Field," R. G. Annayev, Sci Res Inst of Phys, Moscow State U imeni M. V. Lomonosov, 4 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 6

Study of electrical resistance in a longitudinal magnetic field (Thomson's galvanomagnetic effect) and magnetic properties of the alloy Ni_3Mn from the non-equilibrium to the equilibrium state versus annealing time and temperature. Submitted by Acad S. I. Vavilov 23 Apr 49.

151T85

ANNAEV, R. O.

THE THERMOMAGNETIC TRANST EFFECT IN CRYSTALS OF FERROSILICON AND OF Ni$_2$Mn. R. O. ANNAEV. Doklady Akad. Nauk S.S.S.R. v.67, 41-4(1949). General equations for odd (Hall, Nernst, Ettinghausen) and for even (change of heat or elec. cond., e.m.f. under the action of the magnetic field, magnetostriction, etc.) effects, involving 2 or 3 vectors (e.g., magnetic field, magnetization, e.m.f., temp. gradient), are derived from a common Fourier series. The 1st equation is valid for both the case of simple anisotropy and of bianisotropy (i.e., when the effect depends both on the angle between the vectors and on their orientation relative to the crystal axes); the 2nd holds only for simple anisotropy. Measurements on a single crystal of ferrosilicon (Si 4+ Fe 96%), at 14 kilo-oersteds and a temp. difference of 92°, gave for the Nernst effect $\Delta E = -37 \times 10^{-8}$, -37×10^{-8}, and -25×10^{-8} v./degree, resp., for the temp. gradient g parallel to the axis (100) and perpendicular to the magnetic field H and to the distance vector r, for g parallel to (110) and perpendicular to H and to r, and for g parallel to (110) and perpendicular to r, and H lying in the (001)

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plane under 45° to (110). The measured ΔE are in good agreement with the theoretical equation. The Nernst const. = -27.1, -27.1, and -17.8 × 10^4 c.g.s.m., resp. Measurements on a Ni_3Mn alloy (A., C.A. 43, 1231c) show the expected dependence of the Nernst cons. on the amt. of ordered phase. The observations are in accord with the considerations of Akulov (A. and Annaev, C.A. 33, 4481[1]) and of Pisarenko (Izvest. Akad. Nauk S.S.S.R., Ser. Fiz. 5, 417 (1941)).

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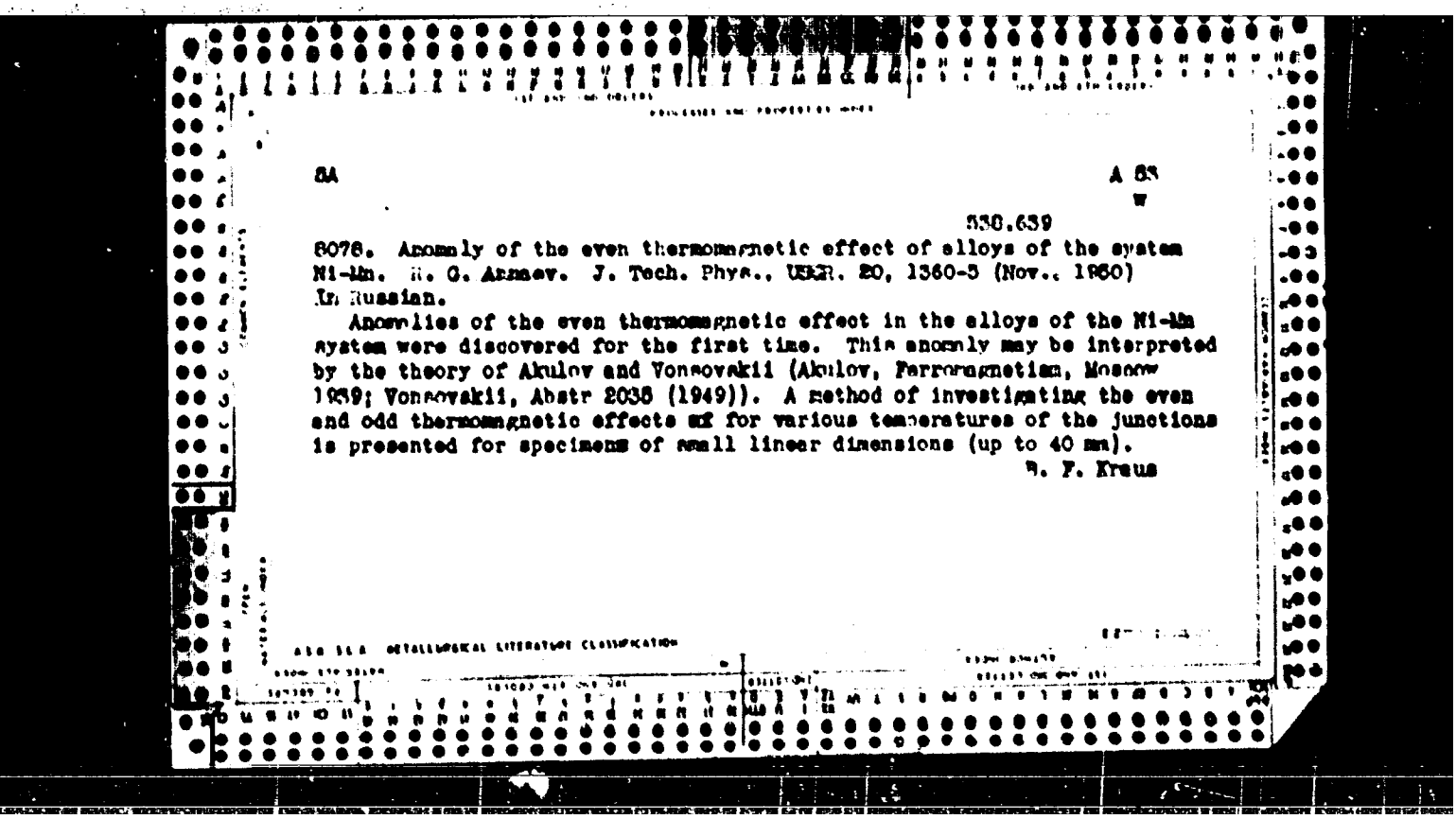

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538.639

8078. Anomaly of the even thermomagnetic effect of alloys of the system Ni-Mn. R. G. Arutyunov. J. Tech. Phys., USSR. 20, 1360-5 (Nov., 1950) In Russian.

Anomalies of the even thermomagnetic effect in the alloys of the Ni-Mn system were discovered for the first time. This anomaly may be interpreted by the theory of Akulov and Vonsovskii (Akulov, Ferromagnetism, Moscow 1939; Vonsovskii, Abstr 2038 (1949)). A method of investigating the even and odd thermomagnetic effects ∇f for various temperatures of the junctions is presented for specimens of small linear dimensions (up to 40 mm).

W. F. Kraus

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

1. ANNAYEV, R. G.

2. USSR (600)

4. Science

7. Magneto-electric phenomena in ferromagnetic metals, Ashkabad, Izd-vo AN Turkmenskoi SSR, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

ANNAYEV, R. G.

USSR/Physics - Electrical Resistance 1 Feb 52
of Fe_3Pt

"Variation in Electrical Resistance of the Alloy Fe_3Pt in a Longitudinal Magnetic Field," R. G. Annayev, Act Mem, Acad Sci Turkmenian SSR, V. G. Dubrovskiy, Ye. K. Kapustyan, Inst of Phys and Geophys, Acad Sci Turkmenian SSR, Ashkhabad

"Dok Nauk SSSR" Vol LXXXII, No 4, pp 549-552

Investigates longitudinal galvanomagnetic effect of the alloy Fe_3Pt in dependence on the true magnetic field for various heat treatments. Verifies the quadratic law, following from M. S. Akulov's

213T110

theory of even effects, governing the dependence of the galvanometric effect on intensity of magnetization for various tempering temps. Measures the galvanometric effect for total satn and the sp elec resistance of the alloy in dependence on temp of tempering. Submitted 3 Dec 51.

(PA 52 no. 7/1: 76 Pq '53)

213T110

ANNAIEV, R. G.

USSR/Physics - Thermomagnetism of Alloys 11 Feb 52

"Thermomagnetic Effect of the Alloy Fe_3Pt," R. G. Annayev, Act Mem, Acad Sci Turkmen SSR, M. V. Kolodin, Inst of Phys and Geophys, Acad Sci Turkmen SSR; Ashkhabad

"Dok Ak Nauk SSSR" Vol 82, No 5, pp 697-700

Authors study the dependence of the termomagnetic effect of the alloy Fe_3Pt upon the effective magnetic field for various temps; the

230T93

Influence of heat treatment on the magnetization curve of the alloy Fe_3Pt; the termomagnetic effect of Fe_3Pt as a function of the square of the magnetization intensity for various heat treatments; and the influence of the annealing temp on the thermomagnetic effect and on the initial thermoelectromotive force and magnetization intensity. Submitted 3 Dec 1951.

230T93

ANNAYEV, R. G.

PA 245T98

USSR/Physics - Thermoelectricity 11 Nov 52

"Measuring the Electrical Resistance and Thermoelectromotive Force of the Alloy Fe_3Pt in Longitudinal and Transverse Magnetic Fields," R. G. Annayev, Active Mem, Acad Sci Turkmen SSR, and M. V. Kolodin, Turkmen State U imeni Gor'kiy, Ashkhabad

"Dok Ak Nauk SSSR" Vol 87, No 2, pp 195, 196

Authors state that their investigation of the galvanomagnetic and thermomagnetic effects in a transverse magnetic field for various degrees of ordering of subject alloy Fe_3Pt is the first ever conducted. Cite related works of V. G. Dubrovskiy, Ye. K. Kaputsyan ("Dok Ak Nauk SSSR" 82, No 4, (1952)). Submitted 5 Sep 52.

245T98

245T98

ANNAYEV, R. G., MIKHAYLOV, R. A., MANAYEV, M., MYNDAYEV, V., and BULATOV, B., (Ashkhabad)

"The Investigation of Even and Odd Effects in the Alloy System Ni-Cu," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

Annayev R.G.

USSR / Magnetism. Ferromagnetism F - 4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9536

Author : Annayev, R.G., Myalikgulyyev, G.
Inst : Turkmenian University imeni A.M. Gor'kiy
Title : Investigation of the Change in the Electric Resistivity of Molybdenum Permalloy Under the Influence of Magnetization and Elastic Deformation.

Orig Pub : Izv. AN Turkm SSR, 1956, No 2, 45-53

Abstract : An experimental investigation is made of the longitudinal evan galvanomagnetic effect in molybdenum permalloy (81.09% nickel, 14.9% iron, 3.2% molybdenum and 0.81% other admixtures) in the inversion field. Acting simultaneously is the effective magnetic field (up to 10 oersted) and the elastic tension force (from 0 to 74.2×10^7 dyne/cm^{-1}). Investigated were wire specimens of two series (l = 250 -- 300 mm, d = 0.3 mm): (1) Annealed in forevacuum at 1,000°

Card : 1/3

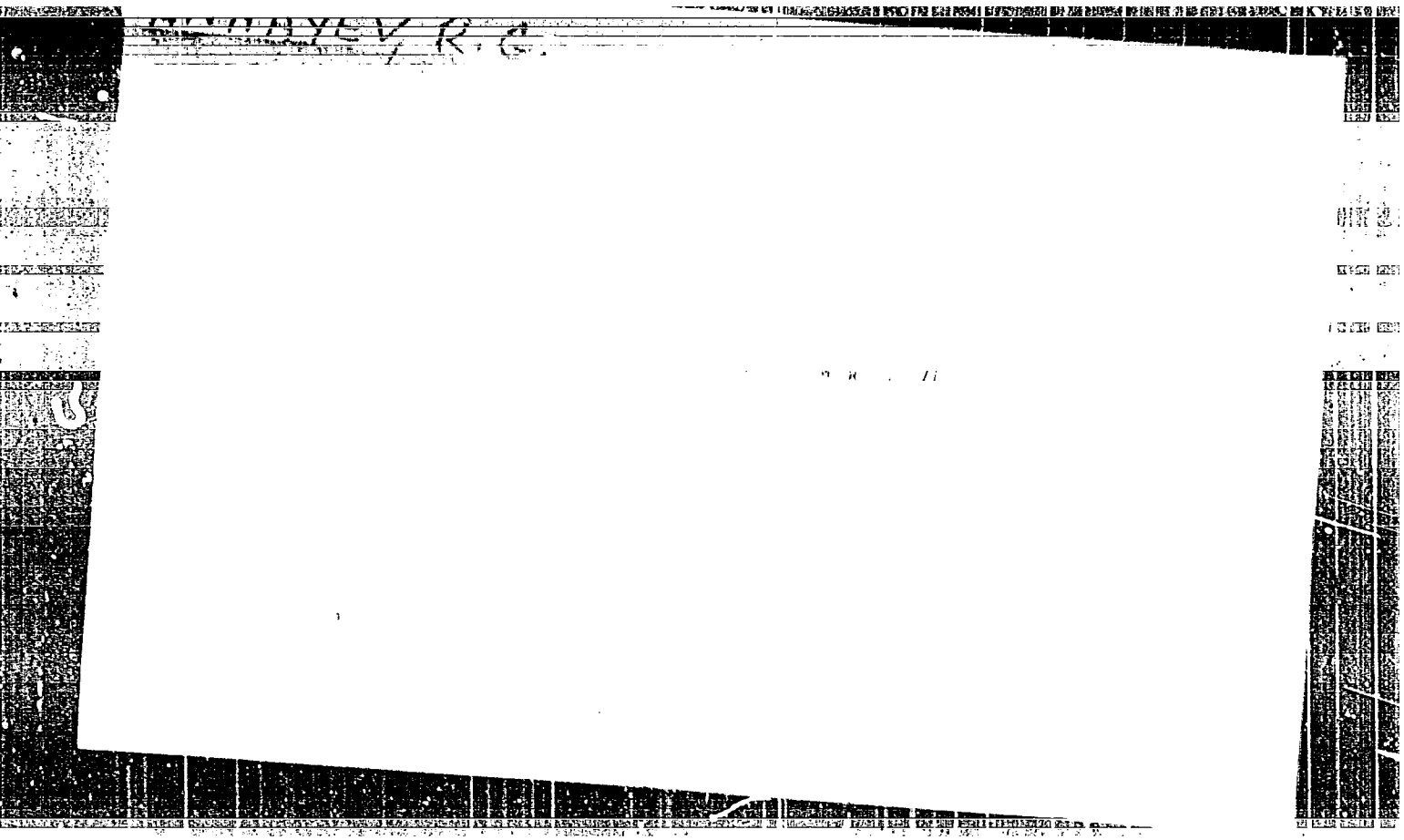
USSR / Magnetism . Ferromagnetism

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9536

F - 4

Abstract : for one hour and then cooled together with the furnace. (2) Quenched after annealing at 1,000° in water. The magnetization was measured with a differential coil, and the galvanomagnetic effect was measured with an unbalanced double bridge. Measurements were carried out at room temperature. Curves are shown for the dependence of the longitudinal galvanomagnetic effect vs the effective magnetic field and the elastic force and vs the square of the intensity for both series of specimens. Examination of the curves shows that with simultaneous increase of the magnetization and of the elastic deformation, the value of the magnetization of the molybdenum permalloy increases, while its electric resistivity decreases. It is shown that the dependence of the longitudinal galvano-magnetic effect on the square of the intensity

Card : 2/3



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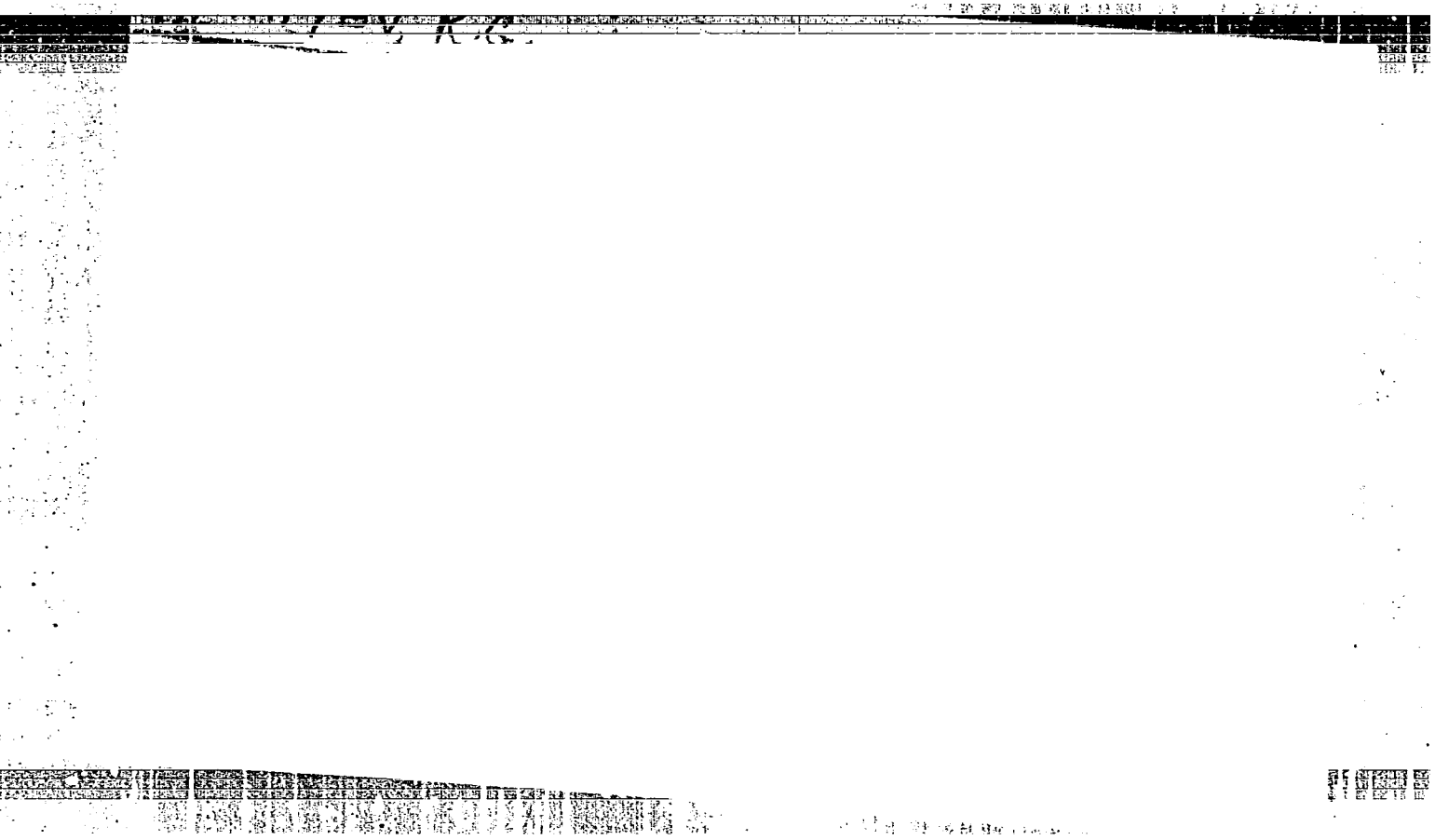

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ANNAYEV, R.G.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 398

Author : R.G. Annayev.

Inst : Turkmen University

Title : Orderliness of Atoms in Some Alloys (Superlattice).

Orig Pub : Ylmy yazgylar. Turkm. univ., Uch. zap. Turkm. un-ta, 1956, vyp. 6, 19-27

Abstract : The superlattice of the alloy of the composition Ni_3Mn was studied by the method of measuring the magneto-resistive effect of Goldhammer-Thomson and that of Nernst. The amount of the ordered phase increases with the length of exposure at 370° of a specimen hardened in the disordered state. No further change was observed after a 30-hour exposure. Nernst's effect was measured in al alloy of the

Card 1/2

Card 2/2

ANNAYEV, R.G.

"Investigation of the Magnetoelectric Properties of Germanium Single Crystals and of Ferrites," by R. G. Annayev, Presidium of the Academy of Sciences Turkmen SSR, Izvestiya Akademii Nauk Turkmenskoy SSR, No 2, Feb 57, pp 3-10

The anisotropy of germanium single crystals with respect to magnetoelectric characteristics was investigated for the first time. In the experimental investigation described, the following results were obtained:

1. Germanium single crystals were found to be anisotropic as far as the galvanomagnetic Thompson-Goldhammer effect is concerned.

2. It was established experimentally that the galvanomagnetic effect ($\frac{\Delta\rho}{\rho}$) is proportional to the square of the intensity of the magnetic field at small field strengths, i.e., that the following law applies:

$$\frac{\Delta\rho}{\rho} = bH^2.$$

SUM./391

ANNAYEV, R.G.

3. Germanium single crystals proved to be isotropic as far as volume magnetostriction is concerned.

4. Results obtained in work with ferrites of the composition $Ni_{0.75}Mg_{0.25}Fe_2O_4$ and $Ni_{0.5}Cu_{0.5}Fe_2O_4$ were in close accordance with Akulev's second rule of parity effects.

5. It was established that the constant Q and the Nernst effect are anisotropic in germanium single crystals.

6. It was established that the constant R and the Hall effect are anisotropic in germanium single crystals. (U)

SUM. 1391

SOV/137-58-11-23278

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 205 (USSR)

AUTHORS: Annayev, R.G., Yazliyev, S.

TITLE: Investigation of the Changes in the Thermo-electromotive Force of Nickel-palladium Alloys in Longitudinal and Transverse Magnetic Fields (Issledovaniye izmeneniya termoelektrodvizhushchey sily splavov nikel'-palladiy v prodol'nom i poperechnom magnitnykh polyakh)

PERIODICAL: Izv. AN TurkmSSR, 1957, Nr 6, pp 3-8

ABSTRACT: The investigation of the longitudinal (LT) and transverse (TV) thermomagnetic effect (TE) was carried out on 15 specimens of Ni-Pd alloys containing 0 - 90 atom % Pd. Specimens measuring 20 x 13 x 0.5 mm were annealed at 760°C for 12 hours and slowly cooled at the rate of 100° a day. During the measurement of the transverse TE the magnetic field attained 13,000 oersted, that of the LT attained 5,000 oersted. The temperature difference necessary for creating the effect was 75°. The magnitude of TE was measured on an unbalanced potentiometer. It was possible to measure TE only on alloys containing up to 75 atom % Pd. In alloys containing >70 atom % Pd the longitudinal and transverse Te owing to a

Card 1/2

Investigation of the Changes in the Thermo-electromotive Force (cont.)

strong paraprocessus have the same signs and are about equal in magnitude. A comparatively sharp change in the course of the TE curves is observed close to the stoichiometric Ni_3Pd composition; this is probably caused by the presence of a superstructure.

P. S.

Card 2/2

Annayev, R. G.

25-9-5/40

AUTHOR: Annayev, R.G., Vice-President of the Turkmen Academy of Sciences

TITLE: In the Service of National Economy (Na sluzhbe narodnomu khozyaystvu)

PERIODICAL: Nauka i Zhizn', 1957, # 9, p 11 (USSR)

ABSTRACT: The author reports an interview he had with the Vice-President of the Turkmen Academy of Sciences. In the field of geology, oil prospecting is giving very encouraging results, and it is hoped that the Turkmen SSR will soon occupy a leading position in the production of oil. Valuable work has been done by the Institute of Earthquakeproof Construction. Scientists are studying local raw materials for possible utilization in seismoresistant buildings. As Turkmenia is known for its abundance of sunshine, physicists of the Academy of Sciences are working on the transformation of solar energy directly into electric power by means of semiconductor alloys. On the occasion of the 40th anniversary of the October Revolution, the Turkmen Academy of Sciences is publishing a two-volume book "Istoriya Turkmenii" ("History of Turkmenia"), which contains a series of special articles dedicated to the development of the republic

Card 1/2

In the Service of National Economy 25-9-5/40

during Communist leadership.

ASSOCIATION: Akademiya nauk Turkmenskoy SSR (Academy of Sciences, Turkmen SSR)

AVAILABLE: Library of Congress

Card 2/2

SOV/165-58-6-12/24

AUTHORS: Annayev, R.G. and Yazliyev, S.

TITLE: Determination of the Hall (Kholl) and Nernst Effects on the Alloys of Ferrochrome and Ferromolybdenum (With Weak Chrome and Molybdenum Concentrations)

PERIODICAL: Izvestiya Akademii nauk Turkmenskoy SSR, 1958, Nr 6, pp 93-94 (USSR)

ABSTRACT: The Hall (Kholl) and the transverse thermomagnetic Nernst effects upon the alloys of ferrochrome and ferromolybdenum with weak chrome (to 10.3 weight %) and molybdenum (to 4.8 weight %) concentrations, in their dependency upon an outer magnetic field, were determined for the first time, and it was thereby established that their curves with a constant magnetic field of 15,000 Östred run differently in their dependency upon the molybdenum or chrome content in the alloy with both of these alloy components, whereas with weak magnetic fields the curves in both alloy systems run in a straight line.

Card 1/2

AUTHOR: Annayev, R. G., Member of the AN Turkmenian SSR, Allanazarov, A. 20-1-23/58

TITLE: The Investigation of the Longitudinal and Transverse Galvanomagnetic Effect in n-Type Germanium Single Crystals Along the Main Crystallographic Axes (Issledovaniye prodol'nogo i poperechnogo gal'vanomagnitnykh effektov na monokristalle germaniya n-tipa po glavnym kristallograficheskim osyam)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 47-50 (USSR)

ABSTRACT: The aim of the present work is the exact investigation of the relative change of the electric resistance in a magnetic field (of the longitudinal and transverse effect) in relation to the crystallographic axes [100], [110], [111] in the diagonal plane of an extremely pure germanium single crystal (degree of purity up to 10^{-8} %) with one and the same ball-shaped sample. From the known formula of F. Seitz (ref. 3) a (given) formula for the galvanomagnetic effect can be deduced for the intensity of current in semiconductors of cubic system with an electric and weak magnetic field being present. The authors shortly report on the production of the germanium single crystal as well

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The Investigation of the Longitudinal and Transverse Galvanomagnetic Effect in n-Type Germanium Single Crystals Along the Main Crystallographic Axes

as on the methods of investigation. All measurements were carried out at a temperature of 29°C. The results obtained at the investigation of the longitudinal as well as of the transverse galvanomagnetic effect as functions of the outer magnetic field are shown in a diagram. With weak field strength the experimental points are situated on the parabulum $\Delta R/R = bH^2$ which was earlier obtained by N. S. Akulov (ref. 4) for ferromagnetic crystals with cubic system in the case of weak magnetic fields. In a table the theoretic values b_{theor} of the proportionality coefficient are given. The experimental ratio between the coefficients differs from the theoretic ratio determined here. In relation to the axis [100] the greatest longitudinal effect as well as the smallest transverse effect are observed. On the other hand the smallest longitudinal as well as the greatest transverse effect correspond to the axis [111]. The authors experimentally showed that the primary electric conductivity and the strength of the galvanomagnetic effect depend on the

The Investigation of the Longitudinal and Transverse Galvanomagnetic Effect in n-Type Germanium Single Crystals Along the Main Crystallographic Axes

20-1-13/58

crystallographic direction of the germanium single crystal. This proves the assumption of the authors that an anisotropy of the galvanomagnetic effect exists in the object investigated here. There are 4 figures, 1 table , and 4 references, 2 of which are Slavic.

ASSOCIATION: Institute for Physics and Geophysics AN Turkmenian SSR (Institut fiziki i geofiziki Akademii nauk TurkmSSR)

SUBMITTED: September 7, 1957

AVAILABLE: Library of Congress

Card 3/3

ANANAYEV, R.G.

PHASE I BOOK EXPLOITATION SOV/4893

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

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

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

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov, Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; 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

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Card 4/18

20559

24.7700 (1137, 1144, 1158)

S/165/60/000/004/012/012
A104/A129

AUTHORS: Annayev, R.O., Allanazarov, A.

TITLE: Changes in the electric resistance of silicon in the magnetic field

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziki-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 4, 1960, 88-91

TEXT: The relation between the intensity of the magnetic field and changes in the electric resistance of n- and p-type silicon at 18°C was studied by the Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physical-technical Institute AS Turkmenskaya SSR). Scientists N.S. Orlova and V.M. Tushkevich (Ref. 4) [Abstracter's note: Bibliographical listing of references not included] have recently published the results in respect of the dependence of the Hall effect on the intensity of the magnetic field. According to these, the Hall effect in silicon increases linearly to the magnetic field and reaches a saturation of 10-11 kilo-oersted, an occurrence which was not noted in previous experiments. Dimensions and resistance (ρ) of n-type silicon specimens used in experiments described in this article were 25.3x5.3x3.9 mm and 0.13 ohm/cm; p-type specimens: 21.86x

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Changes in the electric resistance ...

x12.87x4.8 mm and 40 - 50 ohm/cm. The great difficulty was the ensuring of proper contact, particularly as the methods recommended by A.F. Gorodetskiy (Ref. 5) and by authors in Refs. 6 and 7 were considered unsuitable. To overcome this difficulty a new method vouchsafing good contact was developed, i.e., the specimens were clamped between two silver plates of 7.3x1.9x0.4 mm; one side of these plates was covered with gold paste and copper wiring was fixed to the other. Measuring in electronic specimens with relatively low resistance was based on the unbalanced double Thomson bridge and the effect value was calculated according to a method developed by R.G. Annayev (Ref. 8). In this specific case a satisfactory value of 0.21 ohm/cm was obtained. In subsequent tests on the same specimen 0.27 ohm/cm was achieved, which confirmed the superiority of silicon contacts over welded ones. The specific resistance measured in a holed specimen was 100 ohm/cm, which is rather in excess of given ρ for analogous specimens. Providing that the discrepancy is due to contact resistance, the true change of resistance can be computed according to

$$(\Delta\rho/\rho)_{true} = K(\Delta\rho/\rho)$$

K .. ρ_m/ρ.

In this and other cases an 0.05 class MTB (MTV) type constant current bridge was used, to which an M-21 type mirror galvanometer with a sensitivity ratio of

Card 2/5

Changes in the electric resistance ...

$C_1 = 2.44 \cdot 10^{-10}$ a/mm was attached. An electromagnet produced magnetic-field intensities of up to 23,000 oe. Results and comments: Fig. 1 shows the dependence of the transverse electro-magnetic effect on the intensity of the magnetic field, which can be generally expressed as:

$$\Delta R/R_0 = bH^{\alpha} \quad (1)$$

b - proportionality coefficient; a - exponent of magnetic field H. Assuming b as constant, a can be calculated according to

$$\lg (\Delta R/R_0)_2 - \lg (\Delta R/R_0)_1 = \alpha (\lg H_2 - \lg H_1) \quad (2)$$

In fields up to 12 kilooersted the exponent value on electronic specimens is close to two, in hole specimens 2.6 and decreases rapidly with further increase of H. Analogous occurrence in germanium was established by V.I. Stafeyev and Y.M. Tushkevich (Ref. 9). The proportionality coefficient b is calculated on the basis of the inclination angle tangent of straights in the weaker region of the field. According to the theory, the coefficient of the electro-magnetic effect determined by relation $b = \Delta R/R_0 H^2$ is a constant and Equations (1) and (2) are based on this assumption. Nevertheless, both n- and p- silicons reveal a comparable dependence of the coefficient b on the field intensity. It can be assumed that the marked dependence of the electromagnetic effect on the field intensity indicates the inaccuracy of power semi-conductors of cubic system crystals, on

Card 3/5

S/020/60/132/03/19/066
B014/B011

AUTHORS: Annayev, R. G., Academician of the AS Turkmenskaya SSR, Allanazarov, A.

TITLE: Anisotropy of the Galvanometric Effect in n-Type Germanium Crystals at Temperatures in the Transition Zone of Conductivity

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 3, pp. 557-560

TEXT: The scope of the present paper is that of investigating the galvanometric effect in n-type germanium single crystals in a temperature range, in which the impurity conductance passes over to the proper conductance. The theory of the galvanometric effect is not fully developed for this case, and no more than a comparison between data stemming from the field of impurity conductance on the one hand, and theory on the other, was undertaken by the authors. Formula (1) is written down for the galvanometric effect, and it may be observed therefrom that $\Delta\varrho/\varrho_H$ is proportional to the square of the magnetic field strength.

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Anisotropy of the Galvanometric Effect in n-Type Germanium Crystals at Temperatures in the Transition Zone of Conductivity

S/020/60/132/03/19/066
B014/B011

It was found that in the conductance field treated here, $\Delta\varrho/\varrho_H$ is inversely proportional to the third power of absolute temperature in the case of weak fields. Investigation results of the galvanometric longitudinal and transversal effect at different temperatures with respect to the crystallographic principal axes are shown in the diagrams of Figs. 1 and 2. An anisotropy of the effect was found at all temperatures. The differences between the measurement results and the calculated values obtained by formula (1) are discussed. In the region of impurity conductance there is agreement between experimental and theoretical values. A discussion comes next concerning the calculation of the ratio of the effective longitudinal mass of electrons to the effective transversal mass thereof and the dependence of this ratio on temperature. Next, the calculation of the carrier mobility from this ratio is dealt with (Fig. 4). Fig. 3 shows the dependences of coefficient $b = \Delta R/R_H H^2$ on T^{-3} (R = resistance) for the crystallographic principal

VC

Card 2/3

S/728/61/007/000/001/002

AUTHORS: Annayev, R. G., Allanazarov, A., Mamayev, S., Mikhaylov, A. R., Dashevskiy, M. Ya., Kafiyev, E. I., Myndyyev, V.

TITLE: Investigation of magnetoelectric properties of n- and p-type germanium single crystals along the principal crystallographic axes.

SOURCE: Akademiya nauk Turkmenskoy SSR. Fiziko-tekhnicheskiy institut. Trudy, v. 7. Ashkhabad, 1961. 3 - 34.

TEXT: Experiments were performed to detect the presence of simple anisotropy in single-crystal germanium with respect to the Hall and Nernst effects, the presence of bianisotropy with respect to the Thomson-Bakhmet'yev thermomagnetic effect, the Thomson-Goldhammer galvanomagnetic effect, and magnetostriction. Along with the foregoing, a check was made on the presence of anisotropy with respect to the thermo-emf and electric conductivity in a semiconducting germanium crystal as a cubic system, along the principal crystallographic axes, although such anisotropy has not been hitherto observed in metallic cubic-crystal systems. No previous research on this subject is known. At weak fields the galvanomagnetic effect is proportional to the square of the magnetic field intensity, and its magnitude depends on the orientations of the current and of

Card 1/3

Investigation of magnetoelectric...

the magnetic field vectors relative to the crystallographic axes of the specimen. Longitudinal (current parallel to field) and transverse (current perpendicular to field) galvanomagnetic effects were investigated for a spherical specimen, relative to the [001], [110], and [111] axes in one diagonal plane (110) of the crystal. It is theoretically predicted that the longitudinal effect should be respectively 2.5 and 3 times larger along [110] and [111] than along [001]. The transverse effects are equal for [001] and [110] but not of the same value as for [111], according to theory. The experimental test procedure and the method of crystal production are described. The test results confirm the theory in first approximation only, the presence of bianisotropy in n-type germanium, and the fact that the absolute values of the galvanomagnetic effect are different along the principal crystallographic axes of n- and p-type germanium crystals. A brief historical summary is presented of studies of the Nernst and Hall effects in semiconductors. Although theory predicts that these effects should be the same along all axes not only for metals but also for semiconductors, no experiments were made heretofore on the latter. This was now confirmed with the same spherical n-type single crystal of germanium as used for the Thomson-Goldhammer effect. A special DC potentiometer developed for this purpose is described. Single crystals of germanium with different types of conductivity were also grown to check on the

course of the "odd" effects in different types of semiconductors. It was found that different impurities give rise to different types of anisotropy. Magnetostriction of single crystals of germanium in fields up to 17,340 Oersted was found to be independent of the directions of the crystal axes and of the measurements, to have a negative sign and to be of the volume type, and to be independent of the type of conductivity. The thermomagnetic Thomson-Bakhmet'yev effect (sometimes called the longitudinal Nernst-Ettinghausen effect) was likewise investigated, using the same specimen and a 17,000 Oersted field, at room temperature, and the germanium crystal was found to be bianisotropic with respect to the longitudinal and transverse thermomagnetic effects, with anisotropic thermal emf and electric resistivity along the principal crystal axes. English papers cited are by Pearson and Suhl (Phys. Rev. vol. 83, 768, 1951), Seitz (Phys. Rev. vol 79, 372, 1950), Morin and Maita (Phys. Rev. vol. 94, 1525, 1954), and Hung and Glissman (Phys. Rev. vol. 96, 1226, 1954). There are 19 figures and 4 tables.

S/202/62/000/004/001/001
1048/1248

AUTHOR: Annayev, R. G., Myalikgulyyev, G. and Oraszakhatov, A.

TITLE: The galvanomagnetic effect in iron-molybdenum alloys

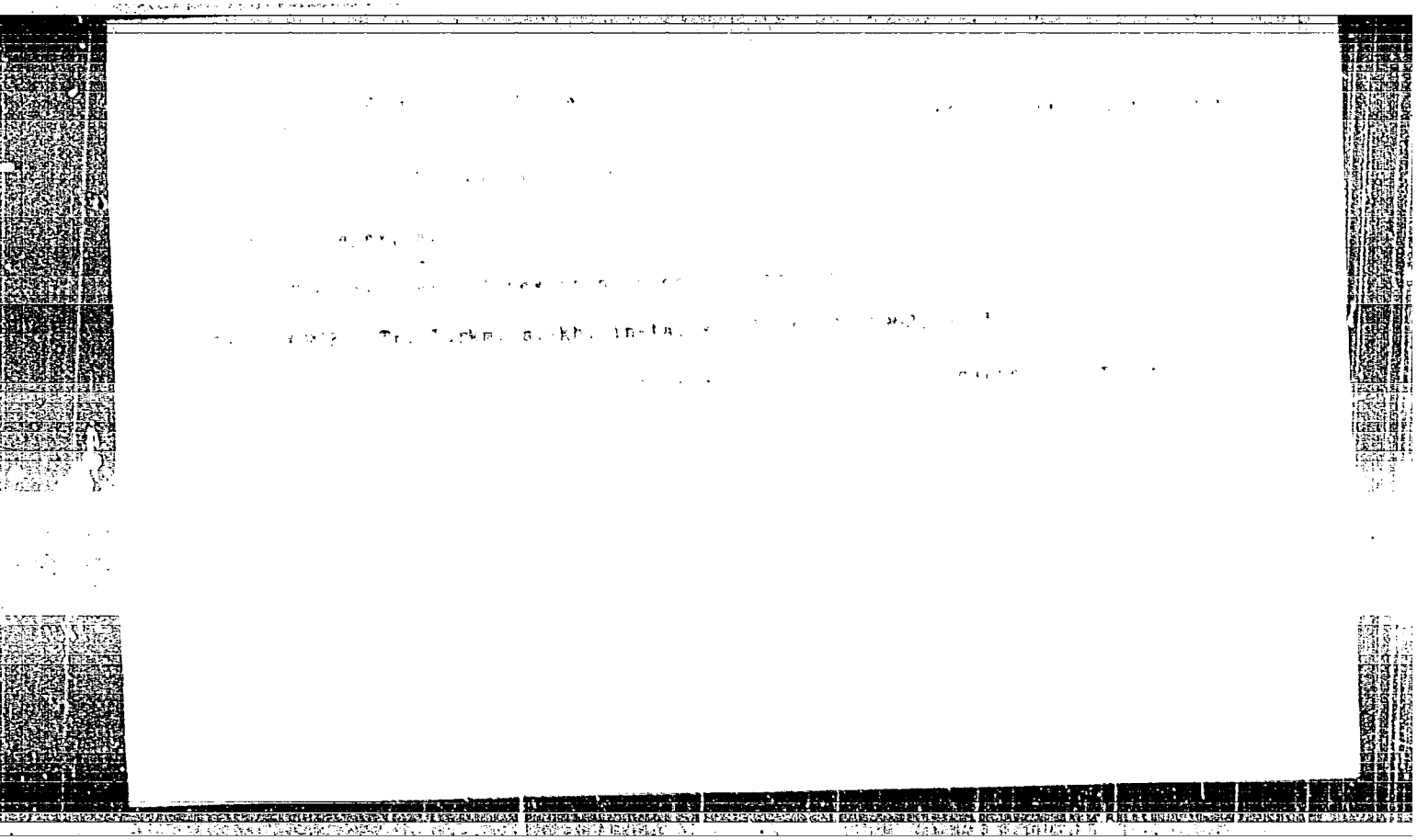
PERIODICAL: Akademya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 4, 1962, 106-108

TEXT: The longitudinal galvanomagnetic effect in Fe-Mo alloys containing up to 11.7% Mo was studied for the first time. The values of this effect ($\Delta R/R \times 10^4$) and of the saturation magnetization (I_s) (both measured in a saturation field, H = 920 oersteds) were, in the order given (in parentheses, the Mo content of the alloy): 15.26, 1760 G (0.34%); 20.00, 1758 G (0.65%); 21.19, 1761 G (1.66%); 30.10, 1760 G (3.36%); 30.40, 1758 G (4.80%), and 62.50, 1674 G (11.7%). The specific electrical resistance ($\rho \times 10^5$) increased with the Mo content, from 1.14 ohm.cm at 0.34% to 2.60 ohm.cm. at 11.7%. It is evident that the galvanomagnetic effect is a linear function of the Mo content and of I_s^2. There are 4 figures.

ASSOCIATION: Turkmenskii gosuniversitet im. A. M. Gor'kiy (The Turkmen State University im A. M. Gork'iy)

SUBMITTED January 22, 1962

Card 1/1



L 12634-65

ACCESSION NR: AR4044052

S/0202/63/000/006/0010/0014

ACCESSION NR: AP4014860

AUTHORS: Annayev, R. O.; Myalikguly*yev, G.; Orazsakhatov, A.

TITLE: Dependence of longitudinal and transverse magnetostriction of Ni_3Pd alloy on thermal treatment

SOURCE: AN TurkmSSR. Izv. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 6, 1963, 10-14

TOPIC TAGS: magnetostriction, annealing temperature, strain gauge, transverse magnetostriction, superstructure, parity effect, magnetic saturation

ABSTRACT: The longitudinal and transverse magnetostriction of Ni_3Pd has been studied as a function of annealing temperatures. The magnetostriction is measured by means of a wire strain gauge. Both magnetostrictions decrease by increasing the annealing temperature up to 410C and increase after a further raise in the annealing temperature. The nature of the change on the effect of longitudinal and transverse magnetostriction saturation as a function of annealing temperatures indicates the presence of superstructures in the alloy and places the order-disorder transition in the 410-420C temperature range. The results also verify the parity effect law

Card 1/2

ACCESSION NR: AP4014860

which states: the longitudinal parity effect at magnetic saturation is twice the transverse effect with a negative sign. Orig. art. has: 3 formulas, 3 figures, and 1 table.

ASSOCIATION: Turkmenskiy gosudarstvenny"y universitet im. A. M. Gor'kogo (Turkmen State University)

SUBMITTED: 29Jan63 DATE ACQ: 19Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 013 OTHER: 000

Card 2/2

ACCESSION NR: AP4040288 S/0202/64/000/003/0013/0017

AUTHORS: Annayev, R. O.; Myalikguly*yev, G.; Yusupov, T. M.

TITLE: Concerning the longitudinal and transverse galvanomagnetic effects of the nickel palladium alloy

SOURCE: AN TurkmSSR. Izv. Ser. fiz.-tekhn., khim. i geol. no., no. 3, 1964, 13-17

TOPIC TAGS: nickel palladium alloy, galvanomagnetic effect, superlattice, Akulov even effect/ P 329 double bridge

ABSTRACT: The longitudinal and transverse galvanomagnetical effects of Ni_3Pd were studied (under similar conditions of thermal processing) to verify the conclusions derived from the theory of even effects. From Akulov's theory the transverse and longitudinal galvanomagnetical effects are linked by $\alpha_s^{(1)} + \alpha_s^{(2)} + \alpha_s^{(3)} = 3a\chi_p/I_s$, where $\alpha_s^{(1)}$, $\alpha_s^{(2)}$, $\alpha_s^{(3)}$ are the magnitudes of any even effect measured in three mutually perpendicular directions, with a constant direction of saturating magnetization I_s; a is a constant; χ_p is sensitivity of the paraprocess; H is the magnetic field intensity. In the absence of the paraprocess, the magnetic and crystallographic textures give a particular rule of the even effects expressed by

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ACCESSION NR: AP4040288

$\alpha_1 = -2\alpha_2$. An Ni_3Pd wire (18 cm long and 0.5 mm in diameter) was bent into a zigzag 23 mm long to give it greater sensitivity to the effect. The specimen was annealed in a partial vacuum at 1000C for 2 hours and quenched in water to produce a completely disordered state of the alloy, and the effects were measured. The specimen was then placed in a furnace at 350C (the temperature controlled to ± 5C by an automatic electronic potentiometer), annealed for 10 hours, chilled quickly in water to create a specified value of the ordered phase, and the effects measured again. Next, the alloy was again returned to its initial state by quenching at 1000C. The process was repeated with the furnace temperature increased in steps of 25C through the interval 350-525C (in the range 400-450C the steps were 10C). The effect was measured on a P-329 double bridge, which included a galvanometer with a current constant 10^{-9} A·mm/m, permitting resistance measurements to 10^{-6} ohm. The specimen was positioned in a holder allowing it to be orientated at any angle to the electromagnetic field. It was determined that the transverse and the longitudinal galvanomagnetic effects of saturation of the Ni_3Pd alloy decreased in absolute value with an increase of the annealing temperature up to 420C, and then increased with the temperature. The character of the change in both $\left(\frac{\Delta R_\perp}{R}\right)_s$, and $\left(\frac{\Delta R_\parallel}{R}\right)_s$ completely verified the presence of an ordered phase (superlattice) in Ni_3Pd and proved that a point of superlattice conversion

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ACCESSION NR: AP4040288

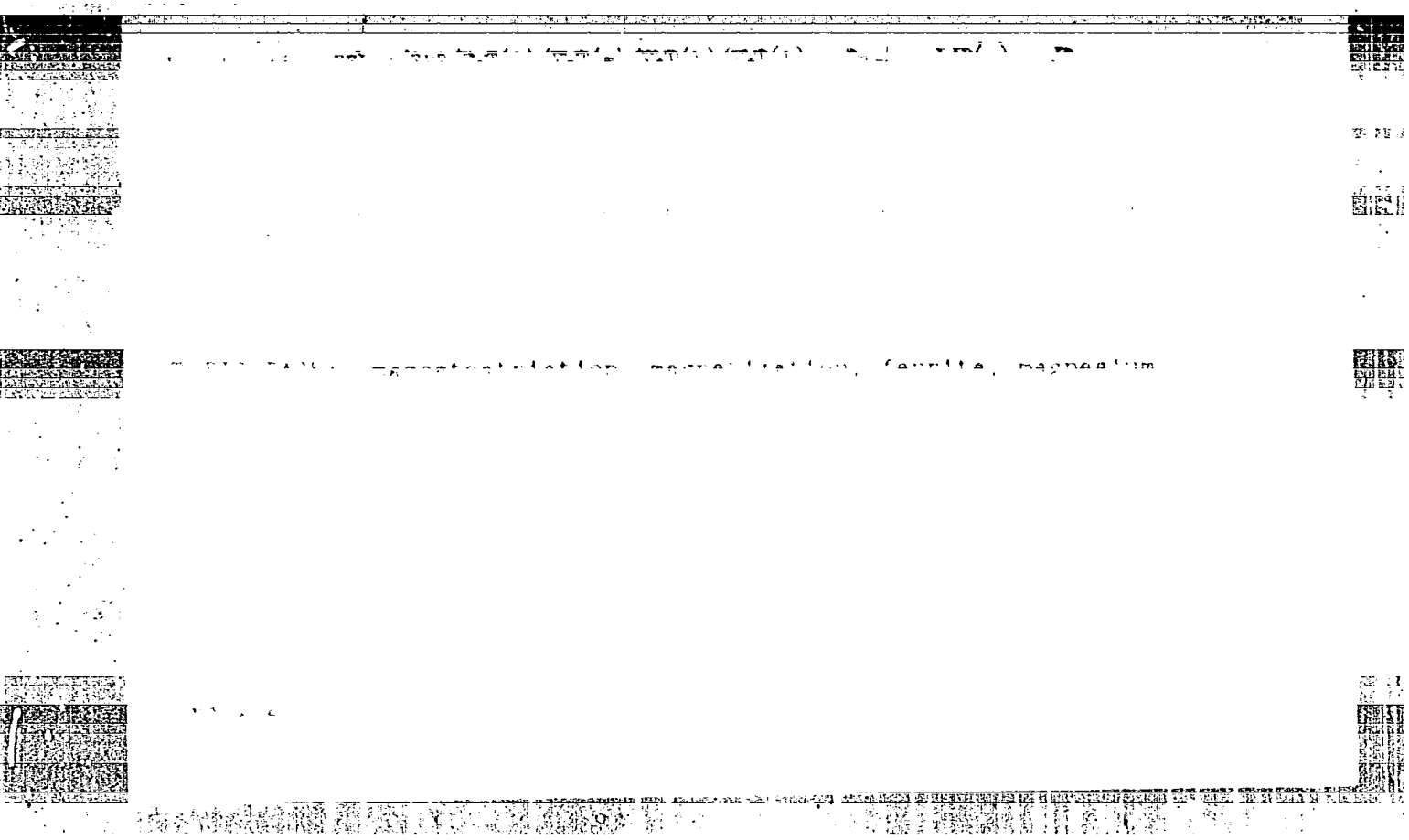
(Kurnakov point) lies in the temperature interval 400-450C. The second law of N. S. Akulov even effects was verified for all ordered phases of the alloy. Orig. art. has: 1 table, 2 equations, and 3 figures.

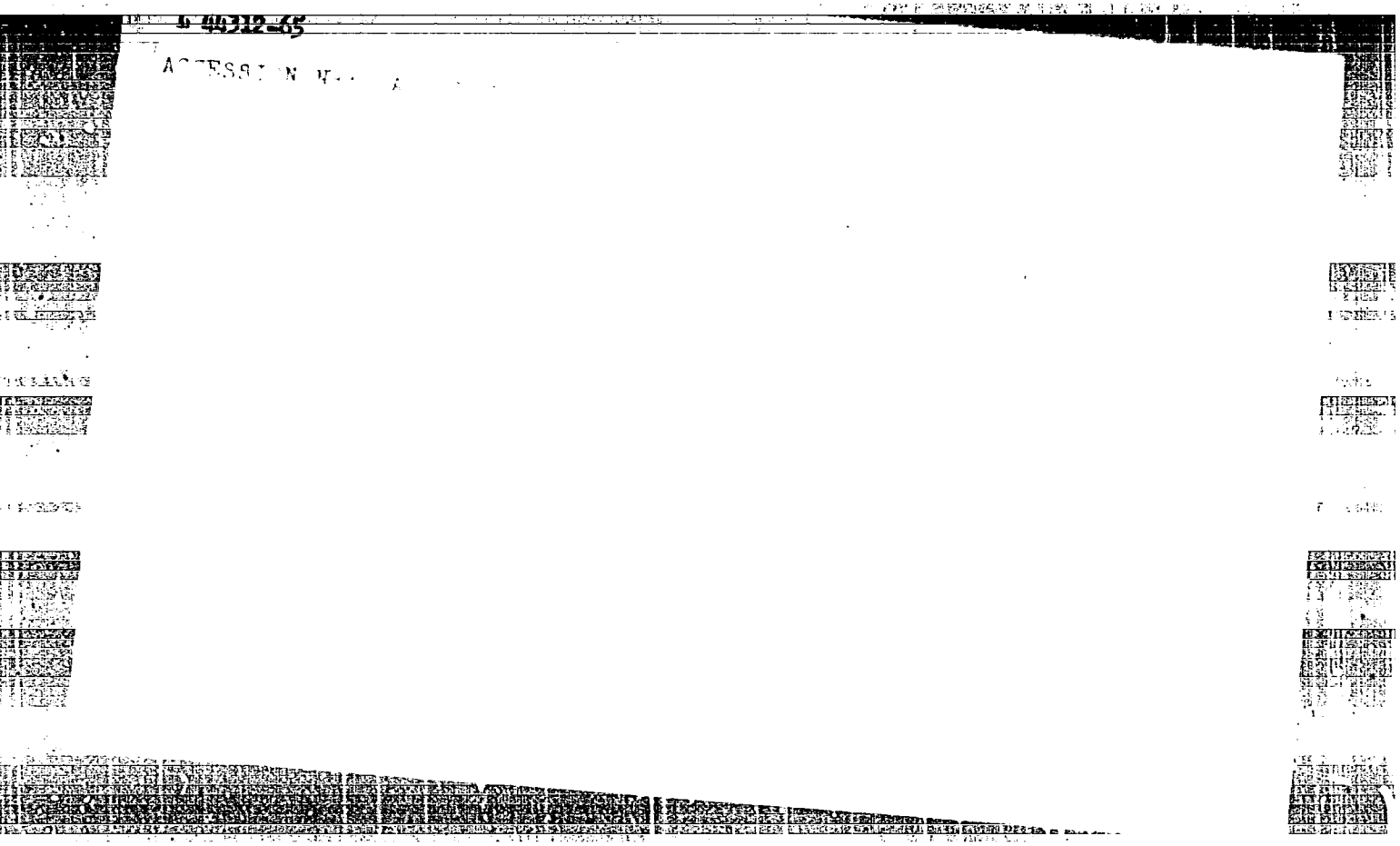
ASSOCIATION: Turkmenskiy gosuniversitet im. A. M. Gor'kogo (Turkmen State University)

SUBMITTED: 03Dec63 ENCL: 00

SUB CODE: MM NO REF SOV: 008 OTHER: 000

Card 3/3





L 62092-65 EWT(1)/EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(z)/ EWP(b) IJP(c) JD/WW/JG/MJW(GT)

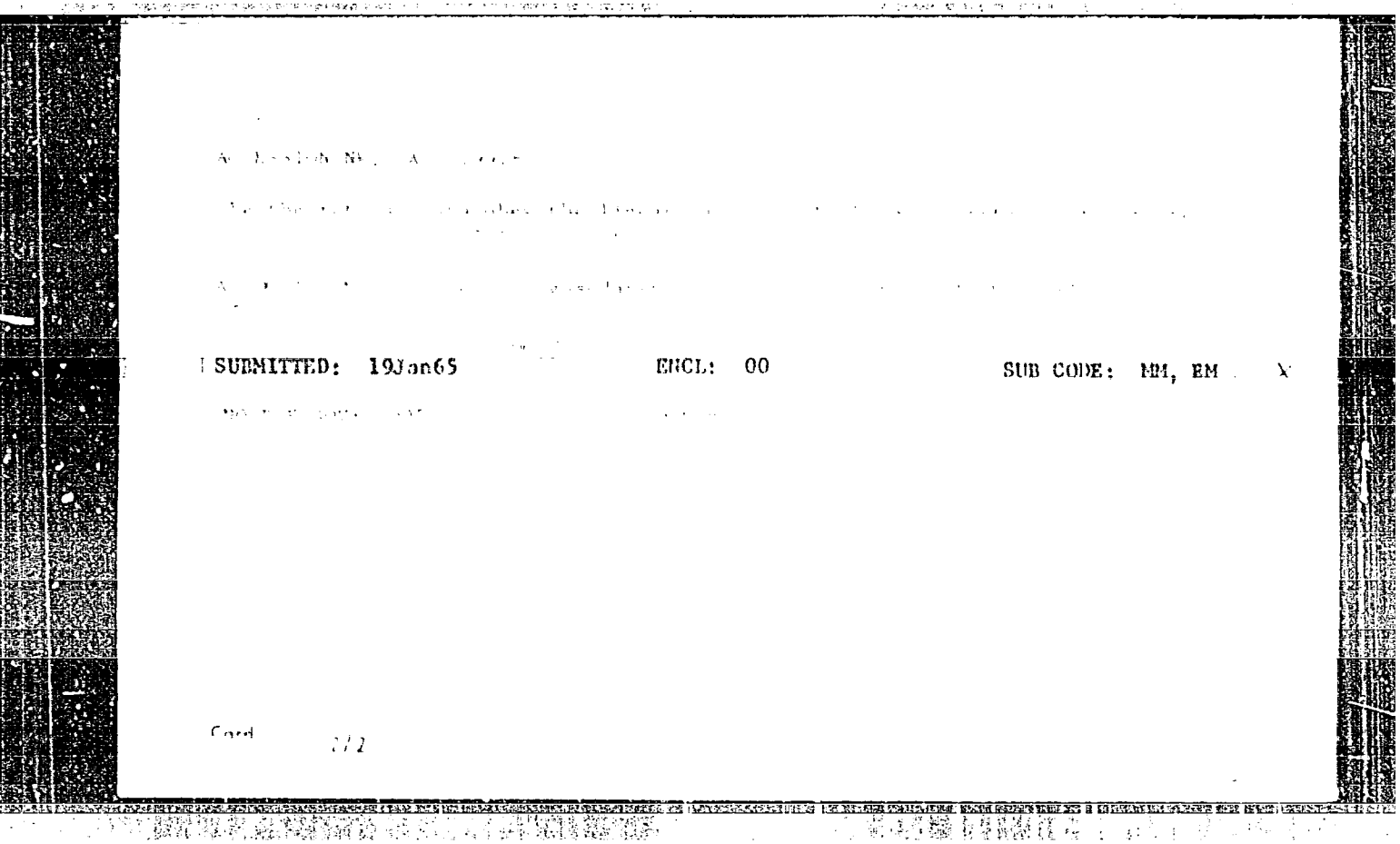
ACCESSION NR: AP5010918

AUTHOR: Arnasov, [illegible], Panakhov, [illegible]

TITLE: Effect of tantalum admixture on the thermomagnetic properties Ni and Fe alloy

[illegible] AN [illegible], Izvestiya, [illegible] geologicheskikh [illegible]

ABSTRACT: The effect of tantalum (5, 6, and 9%) on the temperature dependence of the longitudinal Thomson-Bakhmet'yev [illegible]



SUBMITTED: 19Jan65 ENCL: 00 SUB CODE: MM, EM

Card 2/2

L 29244-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/JW

ACC NR: AP6019307 SOURCE CODE: UR/0202/65/000/006/0042/0051

AUTHOR: Annayev, R. G.

ORG: Turkmen State University im. A. M. Gor'kiy (Turkmenskiy gosudarstvennyy universitet)

TITLE: Laws of compensation and decompensation in certain ferromagnets

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 6, 1965, 42-51

TOPIC TAGS: ferromagnetic material, binary alloy, saturation magnetization, Curie point, magnetic anisotropy, thermomagnetic effect, nickel alloy, cobalt alloy

ABSTRACT: In two earlier articles the author gave a brief exposition of the laws of compensation and decompensation. The present article considers the same regularities in greater detail on the basis of new investigations. The magnetoelectrical properties of binary alloys are considered. Two laws are stated as follows:

1. Law of compensation: In metal and semiconductor (ferrite) binary or more complex alloys in which one component (atomic or molecular) is magnetic and the other (alloying) is nonmagnetic certain physical quantities, such as intensity of saturation magnetization, Curie point, number of Bohr magnetons per atom, constants or energy magnetic anistropy, and parity effect quantities near the Curie point in fields of magnetic saturation, decrease linearly as functions of low concentrations of the alloying nonmagnetic element.

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2. Law of decompensation: When both components of a binary alloy are ferromagnetic elements, these physical quantities increase linearly as functions of low concentrations of the alloying ferromagnetic component. Various aspects of the law of compensation have been investigated by G. Myalikgulyyev, S. Yazliyev, V. Kyndyyrov, and T. Yusupov; and the law of decompensation of thermomagnetic effect and Curie point of a system of nickel-cobalt alloys has been studied by A. Afaridn. S. V. Kuznetsova checked the fundamental regularities of the two laws against experimental data of Soviet and foreign investigators and found good agreement between them. Author's conclusion: "Use of the laws of compensation and decompensation makes it possible to predict the regularity of certain physical quantities of binary or more complex alloys by making only one measurement from a series of alloys of a given system. Orig. art. has: 2 figures and 20 formulas. [JPRS]

SUB CODE: 20, 11 / SUBM DATE: 22May65 / ORIG REF: 015 / OTH REF: 013

Card 2/2

L [illegible] EWT(m)/EWP(w)/EWP(t)/ETI [illegible]

ACC NR: AP6027795 (A) SOURCE CODE: UR/0126/66/022/001/0117/0120

43
AUTHOR: Amayev, R. G.; Ali-Zade, Z. I.; Panakhov, T. M. 41

ORG: Azerbaydzhan Polytechnic Institute (Azerbaydshanskiy politekhnicheskiy institut)

TITLE: Influence of tantalum concentration on longitudinal galvano- and thermomagnetic effects in iron-nickel alloys close to Ni_3Fe in composition

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 1, 1966, 117-120

TOPIC TAGS: iron nickel alloy, tantalum, galvanomagnetic effect, thermomagnetic effect, temperature dependence

ABSTRACT: The influence of tantalum concentration on the temperature dependence of these effects was investigated for four specially prepared alloys with a composition close to that of Ni_3Fe, one alloy being Ta-free and the other three containing 3, 6 and 9 at. % Ta. After appropriate heat treatment (quenching and vacuum annealing) longitudinal galvano- and thermomagnetic effects were measured in the presence of various temperatures (16, 60, 103, 222, 308, 404, 538, 553, 560, 569°C). Findings: in all cases the longitudinal galvano- and thermomagnetic effects decreased with increasing concentration of Ta, as can be seen from Fig. 1.

Card 1/3 UDC: 537.312.8+537.322:538.221

L 09016-67

ACC NR: AP6027795

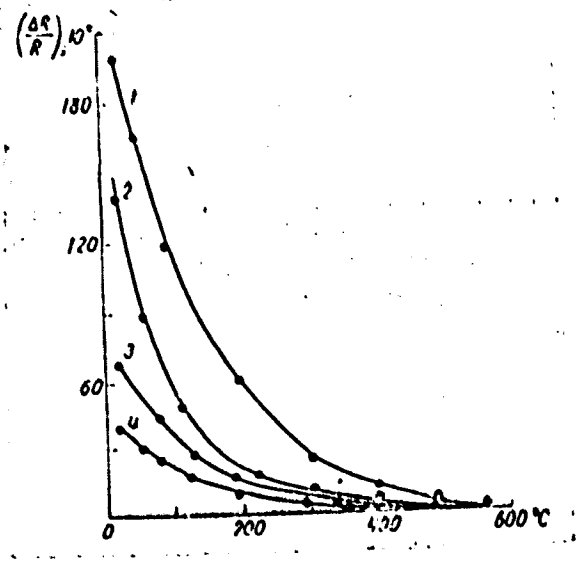

Fig. 2 Temperature dependence of the longitudinal galvanomagnetic effect for the Ni_3Fe alloy without as well as with Ta, in fields of magnetic saturation (below Curie point):
1 - Ni_3Fe; 2 - 3% Ta, 3 - 6% Ta; 4 - 9% Ta

Card 2/3

L [illegible]
ACC NR: AP6037[illegible]

The Curie points for the investigated alloys then also decreased. Those findings should be of special interest considering that ferromagnetic Fe-Ni alloys of a composition close to that of Ni_3Fe are widely used as magnetically soft materials in modern electrotechnical industry. Orig. art. has: 6 figures.

SUB CODE: 11 20/ SUBM DATE: 06Jul65/ ORIG REF: 003/ OTH REF: 003

Card 3/3 nst

ACC NR: AT6028984 SOURCE CODE: UR/0000/66/000/000/0155/0159

AUTHOR: Amayev, R. G.; Orazsakhatov, A.

ORG: none

TITLE: Analysis of linear magnetostriction in some composite ferrites

SOURCE: Vsesoyuznoye soveshchaniye po ferritam. 4th, Minsk. Fizicheskiye i fiziko-khimicheskiye svoystva ferritov (Physical and physicochemical properties of ferrites); doklady soveshchaniya. Minsk, Nauka i tekhnika, 1966, 155-159

TOPIC TAGS: ferrite, magnetostriction, electric resistivity, magnetic field, saturation condition, metal physics

ABSTRACT: A study was made of longitudinal ($\lambda_{\parallel}$) and transverse magnetostriction ($\lambda_{\perp}$) of polycrystalline nickel-magnesium, nickel-copper, and cobalt-zinc ferrites. Room temperature magnetostriction was measured on a Wheatstone bridge by measuring $\Delta R/R$ to an accuracy of 10^{-6} ohm, since $\lambda = \Delta l/l = 1/\eta\ \Delta R/R$. Values of $\lambda_{\parallel}$ and $\lambda_{\perp}$ are given as functions of the outer magnetic field which ranged from 0 to $5.5 \cdot 10^{-3}$ oersted. For all ferrites, $\lambda_{\parallel}$ was negative while $\lambda_{\perp}$ was positive. Both $\lambda_{\parallel}$ and $\lambda_{\perp}$ reached a saturation value at $1\text{-}2 \cdot 10^{-3}$ oersted depending on the ferrite composition. Saturation val-

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ACC NR: AT6028984

uos of $\lambda_{\parallel}$ and $\lambda_{\perp}$ increased linearly in absolute magnitude as functions of wt % of NiO in nickel-magnesium ferrites. Up to 24.8% NiO, good agreement was obtained with a formula previously developed for nickel-magnesium ferrites having low NiO contents:

$$\lambda_{S,AB}^{(T)} = \lambda_{S,AO}^{(0^\circ)}\left(1 - \frac{T}{\theta_{AB} - \beta B}\right) + \alpha B,$$

where $\lambda_{S,AB}^{(T)}$ is the magnetostrictive saturation of a two component alloy *A-B* at a given temperature *T*, $\lambda_{S,AO}^{(0^\circ)}$ is the magnetostrictive saturation for ferromagnetic component *A* at 0°K, B is the composition of the second component, α and β are constants, and θ_{AB} is the Curie point of the alloy *A-B*. Saturation values of $\lambda_{\parallel}/\lambda_{\perp}$ ranged from 1.993 to 2.280 for all ferrites tested. These values were compared to the saturation values predicted by the law of Akulov:

$$\lambda_{\parallel} = -2\lambda_{\perp}.$$

Orig. art. has: 3 figures, 2 tables, 3 formulas.

SUB CODE: 11,20/ SUBM DATE: 22Dec65/ ORIG REF: 007

Card 2/2

ANNAYEVA, I.

Biology and distribution of the lesser Turkestan turtle (Streptopelia senegalensis erasmi Bonnaterre) in the middle Amu Darya Valley. Izv. AN Turk.SSR.Ser.biol.nauk no.1 87-90 '65. (MIRA 18:2)

1. Fiyevskiy gosudarstvennyy universitet imeni Shevchenko.

ANNEAYEVA, L.Z., assistent

Modification of Fülleborn's coprologic method for use in the study of hymenolepiasis in hot climates. Zdrav. Turk. 3 no.1:33-35 Ja-F '59.
(MIRA 12:7)

1. Iz kafedry biologii (zav. - dotn. Ye. S. Popova) Turkmenskogo gosudarstvennogo meditsinskogo instituta im. I.V. Stalina.
(TAPEWORMS) (FECES--ANALYSIS)

ANNEKOVA, E.G.

A device for cutter fastening. Ratsionalizatsiia 14 no.10: 22 '64.

AVTENBERG, E. A. (Ernest Aleksandrovich) Engr.

"Modernization of DiP20M Machine," Stanki i Inst., 16, Nos. 7-8, 1945

Chief Designer, Krasnyy Proletariy Plant

ANNENBERG, E.A.; MAYOROVA, E.A.; SOKHOR, I.M.

Film materials for expansion bellows-type guards. Stan.i instr. 33 no.11:35-38 N '62. (MIRA 15:11)
(Machine tools--Safety appliances)

ANNENBERG, M. I.

Annenberg, M. I. "From an experiment in labor consultation in a plant for invalids of the Fatherland War having neuropsychiatric disturbances," Ogr.-metod. voprosy sov. neyropsikiatrii (VII), 1948, p. 183-88

SO: U-3264, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

ANNENKOV, A.D., gornyy inzh.

Influence of a yearly increase in depth on the cost of a ton of iron ore. Gor.zhur. no.8:9-11 Ag '65. (MIRA 18:10)

1. Trest Leninruda, Krivoy Rog.

ANNENKOV, A.G., ukladchik parashyutov

Storage of parachutes. Vest.Vozd.Fl. no.8:63 Ag '61. (MIRA 14:8)
(Parachutes)

ANNENKOV, A.V., polkovnik,; VASIL'KOV, F.P., polkovnik,; DEOTYAREV, N.F., polkovnik,; YEGOROV, G.E., polkovnik,; SAFRONOV, A.A., polkovnik,; SOFONOV, S.S., polkovnik,; KHARITONOV, P.N.,polkovnik,; SHERSTOBITOV, Ye.P.,polkovnik,; GORBATYUK, G.M., podpolkovnik,; SARAFANOV, I.A., podpolkovnik,; VASILEVSKIY, D.V., general-mayor, otv. red.; DUKACHEVA, M.P.,polpolkovnik, red.; SOKOLOVA, G.F., tekhn. red.

[Battle operations of a rifle regiment; a collection of war experiences] Boevye deistviia strelkovogo polka; sbornik boevykh primerov. Moskva, Voen. izd-vo M-va obor. SSSR, 1958. 278 p. 32 maps. (MIRA 11:11)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony. 2. Prepodavateli TSentral'nykh strelkovo-takticheskikh ordena Lenina Krasnoznamennykh ofitserskikh kursov "Vystrel" imeni Marshala Sovetskogo Soyuza B.M. Shaposhnikova i rabotniki Arkhiva Ministerstva Oborony Soyuza SSR (for all except Vasilevskiy, Dukacheva, Sokolova).
(World War, 1939-1945)
(Infantry drill and tactics)

ANNENKOV, B.A., inzh.

Irregularity of methane escape in walls of coal mines.
Nauch. soob. IGD 18:39-52 '63. (MIRA 16:11)

ANNENKOV, B. N.

ANNENKOV, B. N.: "The problem of mineral exchange in disturbances of the acid-base equilibrium in the animal organism." Moscow Order of Lenin Agricultural Academy imeni K. A. Timiryazev. Moscow, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN BIOLOGICAL SCIENCE)

So.: Knizhnaya letopis' No 15, 1956, Moscow

ANIKHKOV, B.N., kand. biol. nauk.

Protecting farm animals for radioactive isotope poisonings and deactivating strontium-90 in forage [with summary in English]. Izv. TSKhA no.2:221-228 '58. (MIRA 11:6)
(Forage Plants) (Strontium--Isotopes)

USSR/Human and Animal Physiology - (Normal and Pathological). T
Metabolism. Water-Salt Metabolism.

Abs Jour : Ref Zhur Biol., No 4, 1959, 17144

Author : Annenkov, B.N.

Inst : Timiryazev Agricultural Academy

Title : The Experiments of Study of Mineral Metabolism in Disturbance of Acid-Alkali Balance in the Organism of Animals.

Orig Pub : Izv. Timiryazevsk. s.-kh. akad., 1957, No 3, 224-234

Abstract : In rabbits, acidosis (A) was induced by means of the introduction of 0.1-0.15 g/kg NH_4Cl in the course of 7-10 days. In giving P^{32} internally to rabbits with A, an increase of its excretion with feces and a decrease of excretion with urine was noted. In intravenous introduction of Ca^{45} and P^{32}, their excretion in animals with A

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AUTHOR: Annenkov, B.N.

TITLE: The effects of the calcium nourishment level of lactating cows on the excretion of radioactive fission products with the milk

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 95-100

TEXT: Failing to find published data on the metabolism of radioactive fission products in chronic experiments with introduction of the radio-isotopes in fodder form, the author, together with Z.A. Bakhareva, made a series of experiments to study the radio-active fission products metabolism in lactating cows exposed to prolonged contamination with radio-isotopes. The present article gives the results of research on the general laws governing the excretion of

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The effects of the calcium...

radioactive fission products with the milk after chronic administration of fission isotopes with the feed, and also the effects of excess calcium in the fodder ration on the udder's excretion of radioisotopes. The author also set out to confirm C.L. Comar's findings (Ref. 7: Science, 126, 3272, 486 (1957)) that radioactive strontium in the milk was reduced by the addition of excess calcium to the feed ration. The tests were carried out on cows in the 7th-8th month of lactation. Their feed was arranged to ensure a calcium deficit of 20-70 g/day; one group of cows received no mineral additive to correct the deficiency, while two other groups of cows received respectively 50 g (normal calcium content) and 200 g (calcium surplus) of additive. The excretion of radioactive fission products with the day's milk yield comprised 0.61-1.53% of the dose i.e., 6-15 times the value determined by D.I. Il'in and Yu.I. Moskalev (Ref. 3: K voprusi ob obmene tseziya, strontsiya i smesi β-isluchateley u korov (The Metabolism of Cesium, Strontium and a Mixture of β-Irradiators in Cows), Atomnaya energiya, 2, 2, 163

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The effects of the calcium...

(1957)). This, the author believes, is because Il'in and Moskalev used a mixture of β-isotopes in which Sr^{89} and Sr^{90} comprised 10%, while the present author's mixture contained 38.3% Sr^{90}. The author's findings for the percentage excretion of strontium-90 per liter of milk exceeded Comar's findings (0.02%) by 8-9 times, probably because the author's results were derived from protracted tests, and Comar's from relatively short ones. It was found that excess calcium in the feed ration did not reduce the contamination of milk with radioactive fission products. The concentration of these fission products and strontium-90 in a liter of milk comprised respectively 0.126-0.153 and 0.16-0.175% of the daily dose. The total excretion of fission products and strontium-90 with the milk depends on the cow's yield; in high-yield cows it can be as much as 2.74% and 3.2% respectively of the amount of isotope administered. Discrimination of strontium-90 as compared to calcium was noted, with transfer of Sr^{90} from the fodder to the milk. The discrimination factor with a shortage or normal amount of calcium in the feed ration ranged from 0.087 to 0.093. With surplus calcium the discrim-

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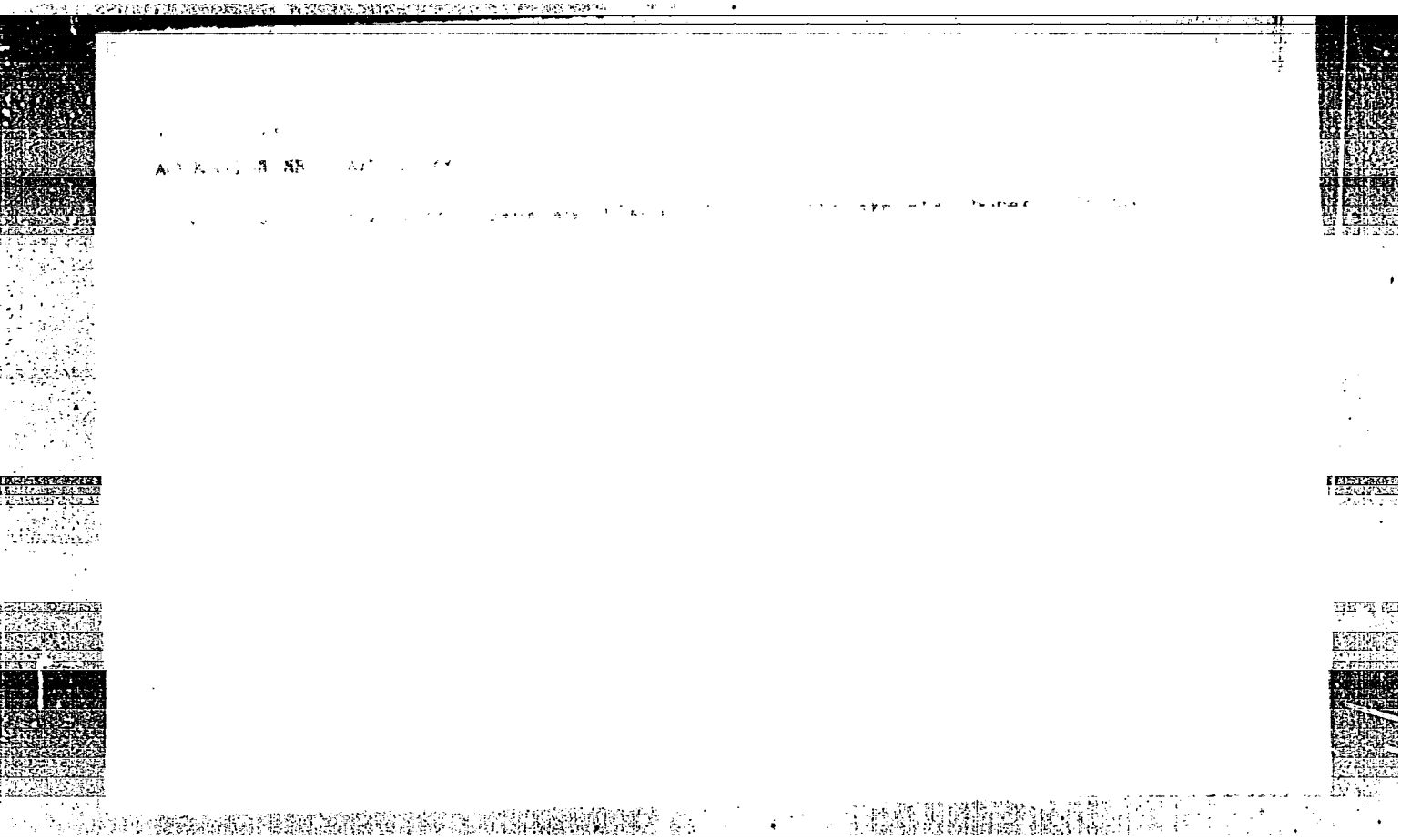
The effects of the calcium...

ination factor was 0.219. There are 3 tables and 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: G.V. Alexander, R.E. Nusbaum, J. Biol. Chem., 234, 2, 418 (1959); D.V. Becker, Cesium-137 in Dried Milk. Nature, 183, 4666, 921 (1959); R.F. Palmer, R.S. Thompson, H.A. Kornberg, Science, 127, 3313, 1505 (1958); H.M. Squire, L.J. Middleton, B.F. Sanson, C.R. Cold, UNESCO/NS/RJC, 143, (1958).

Card 4/4

TOPIC TAGS: animal, dog, strontium-90, oral administration, fractional dose, strontium-90 deposit, bone, tissue

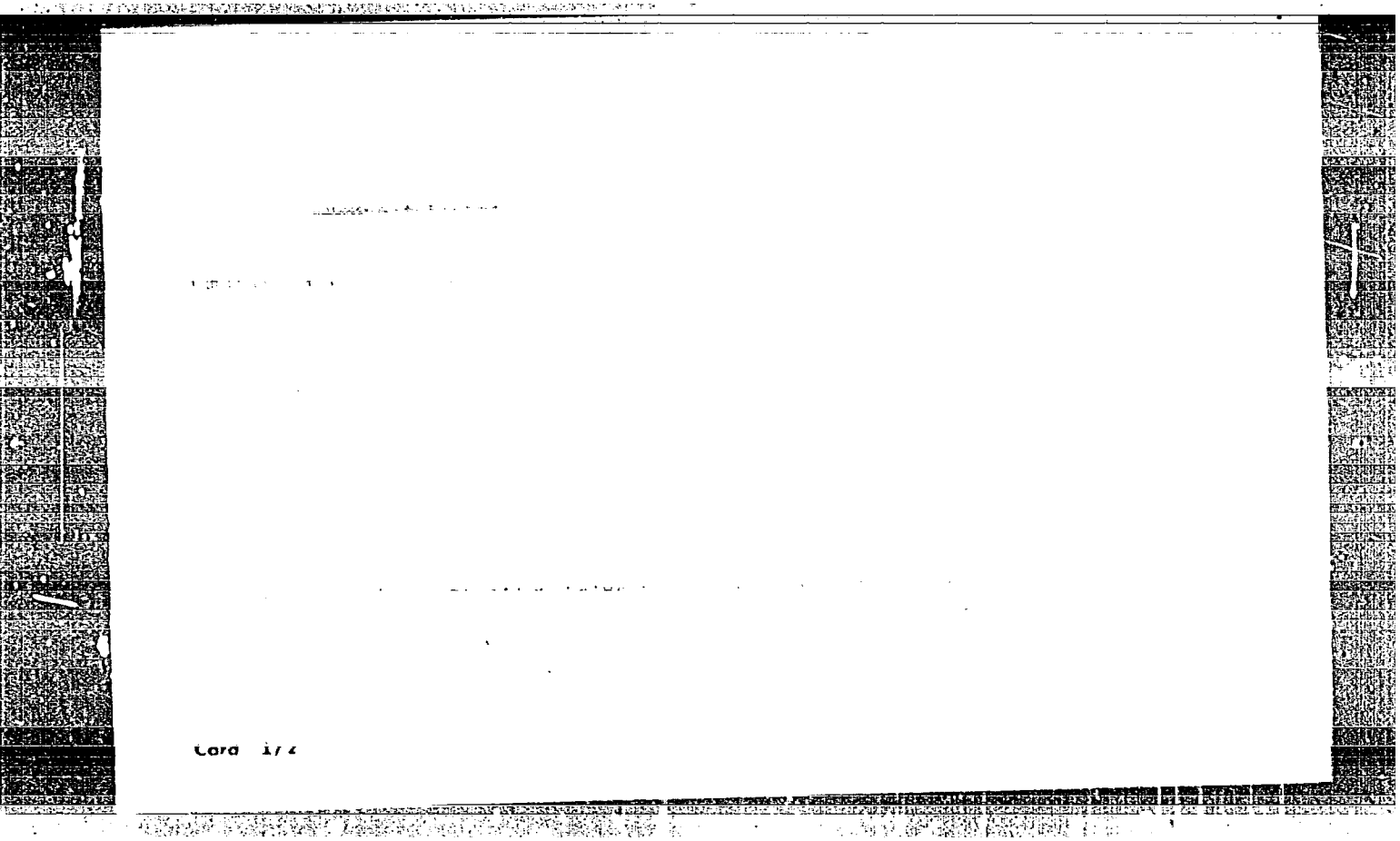


ANNENKOV, B.N.

Effect of magnesium sulfate on the removal of strontium-90 from the organism of some laboratory animals. Radiobiologiia 5 no.4:620-621 '65. (MIRA 18:9)

ANNENKOV, G.; ABEYDULINA, V.

Determining the index of the level of mechanization in the enterprises of the confectionery industry. Biul.nauch. inform.: trud i zar. plata 5 no.3:26-30 '62. (MIRA 15:3)
(Confectioners)



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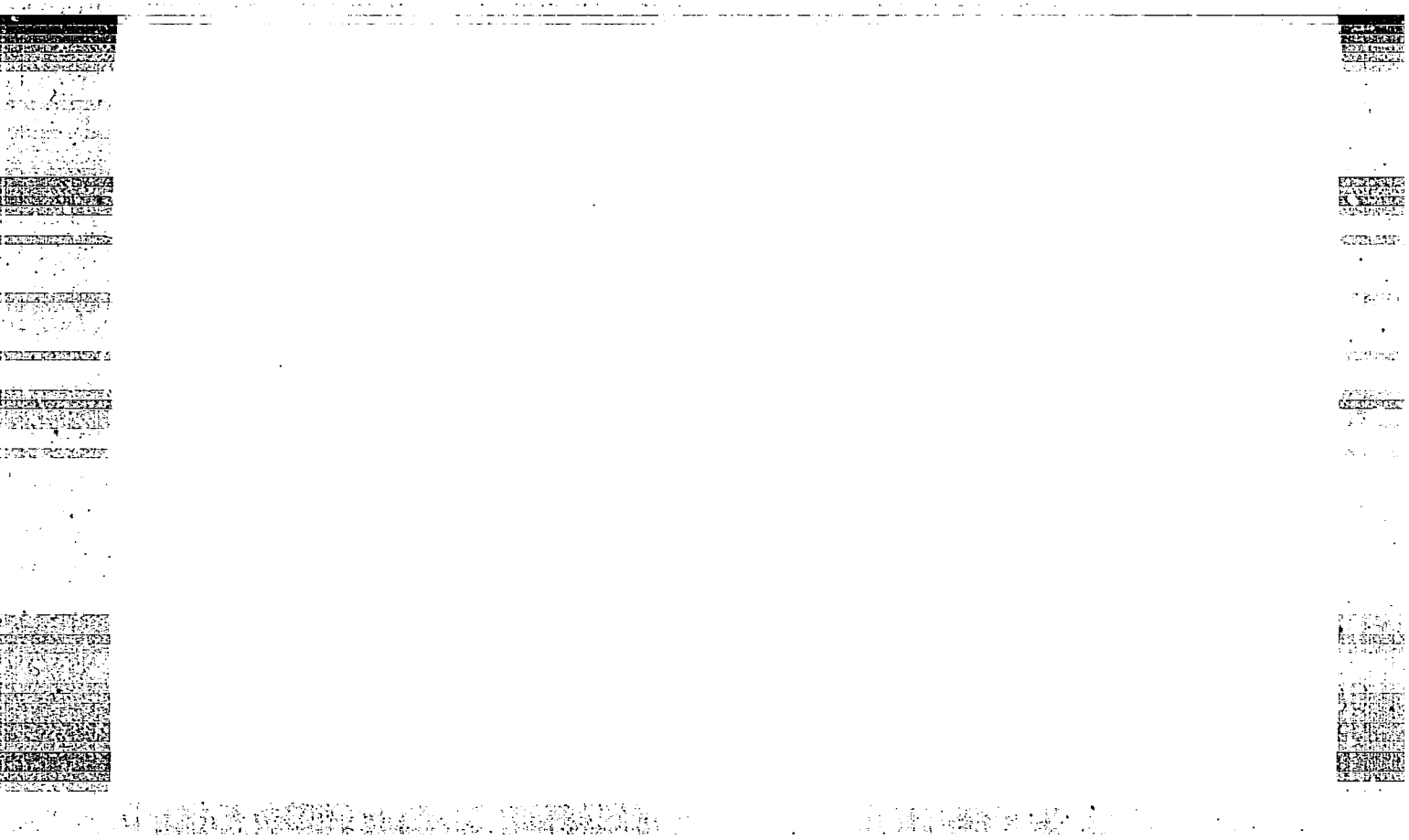
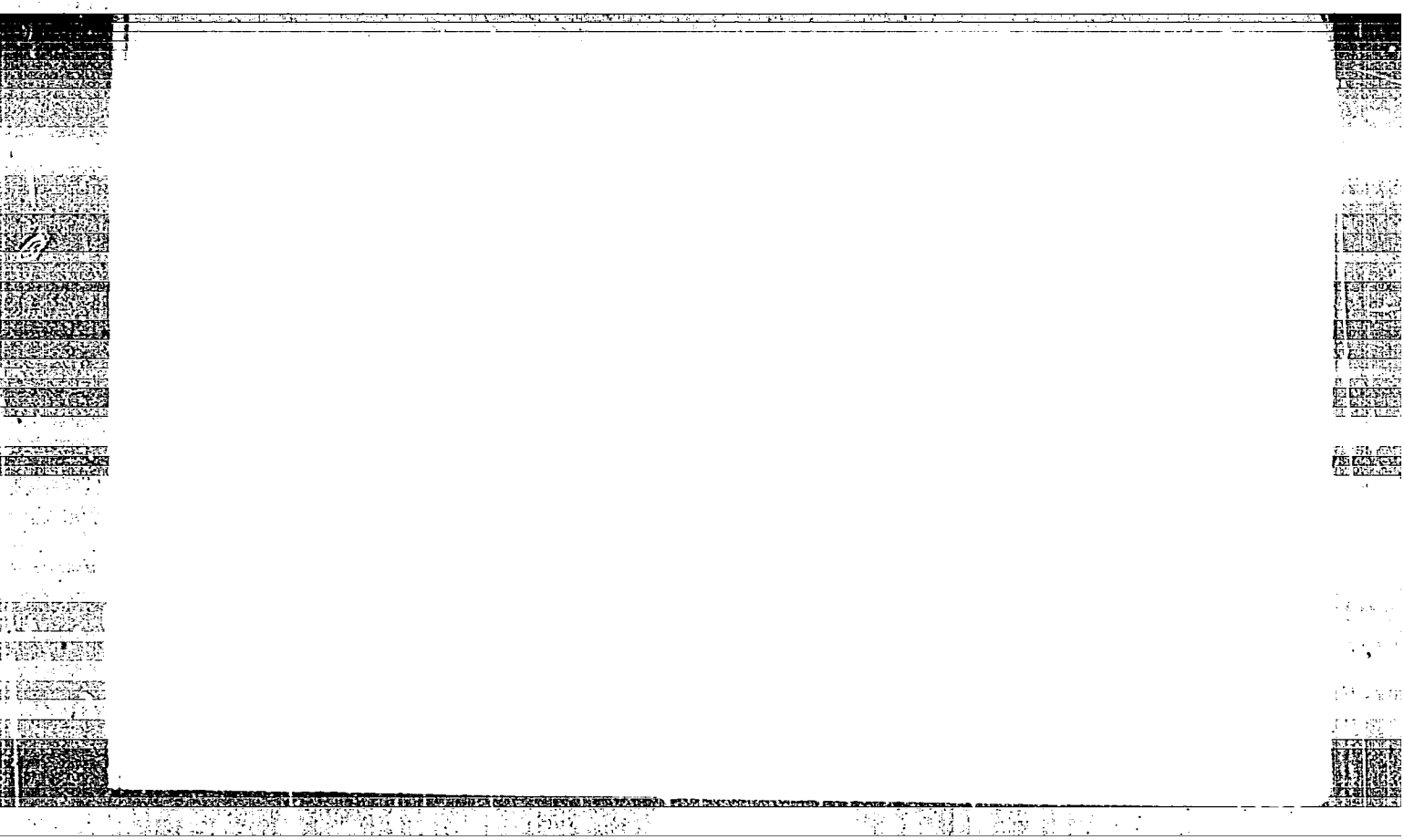
ACCESSION NR: AT5006115

the Sr^{90} ingested with hay was retained by the cows. The additional [illegible] amount of radiostrontium deposited in the organism. The distribution of [illegible] in





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L 34140-65

ACCESSION NR: AT5006137 S/0000/64/000/000/0316/0328

AUTHOR: Annenkov, B. N.

TITLE: Effect of some constituents of food products (calcium, magnesium, protein, fat) on accumulation of strontium-90 in animals

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes), albinik rabbits. Moscow, [illegible], 1964, 316-328

TOPIC TAGS: strontium-90, radioisotope, radioactivity, calcium, phosphorus, magnesium, protein, fat, bone

ABSTRACT: Increasing the amount of calcium to the rations of rats and rabbits from 0.25 to 1.5% decreased the deposition of Sr^{90} in the skeleton of young rats 2.8-3 times; in that of adult rats, 1.9-2 times. In growing chicks and mature hens, increasing the amount of calcium from 0.15 to 3.5% reduced the deposition of radiostrontium in the skeleton 4.4 and [illegible] times. This was noted when calcium was added to rations containing various amounts of phosphorus, magnesium, fat, and protein. The protective effect [illegible] was evident [illegible] when the diet had a low (0.25%) content of this element, but when added to rations with a

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