"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

BATYUK, V.P., kand.biol.nauk; KOZIN, V.M.; VOLKOV, B.V.; PROTSENKO, A.S.

Use of furylacrylic acid salts as physiologically active substances.
Khim.prom. [Ukr.] no.2:34 Ap-Je '65. (MIRA 18:6)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.; MARTYNENKO, L.A.; KOCHUROVA, G.A.

Determination of nitrocyclohexane in sewage. Gig.i san. 26 no.1: 62-63 Ja '61. (MIRA 14:6)

1. Iz Lisichanskogo filiala Nauchno-issledovatel'skogo i proyektnogo instituta azotnoy promyshlennosti i produktov organicheskogo sinteza.
(CYCLOHEXANE) (SEWAGE)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Effect of hydrogen chloride on the composition of complex compounds of aluminum chloride with aromatic hydrocarbons. Zhur. prikl. khim. 34 no.2:456-458 F '61. (MIRA 14:2)
(Hydrochloric acid) (Aluminum chloride)
(Hydrocarbons)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

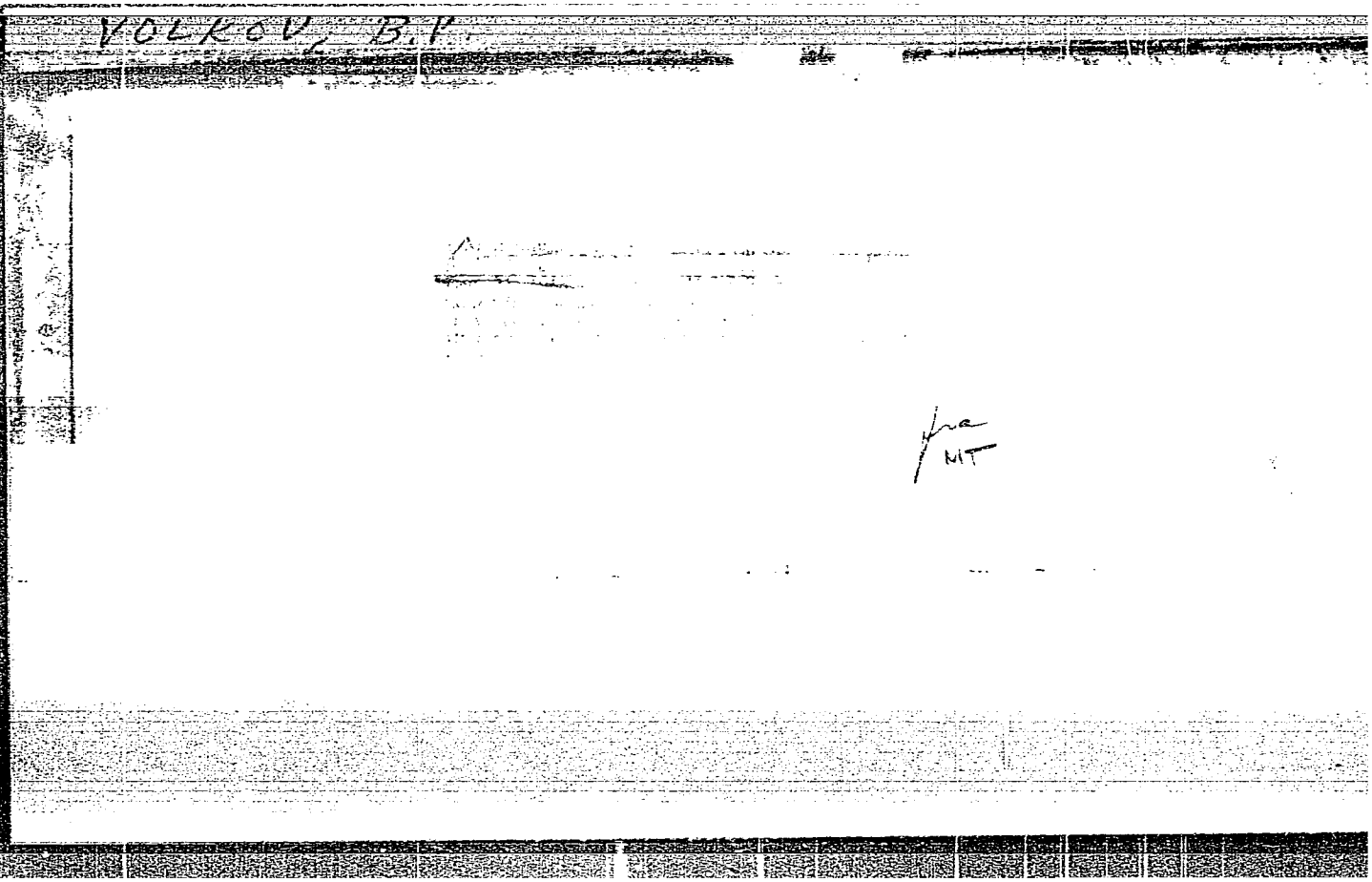
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Meeting of the chemical industry section of the Lugansk Economic Council dealing with problems in industrial sewage purification. Gig. i san. 24 no.9:90-91 S '59. (MIRA 13:1)
(LUGANSK PROVINCE--SEWAGE--PURIFICATION)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7



APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

VOLKOV, B.V., otvetsvennyy za vypusk.

[Lesson plan and program for training machinists in simple work in industrial schools] Uchebnyi plan i programmy po podgotovke v shkolakh fabrichno-zavodskogo obucheniia slesarei na neslozhnykh rabotakh. Moskva, Vses.uchebno-pedagog.izd-vo Trudrezervizdat, 1957. 27 p. (MIRA 10:11)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye trudovykh rezervov. Uchebno-metodicheskoye upravleniye. (Technical education)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B. V.

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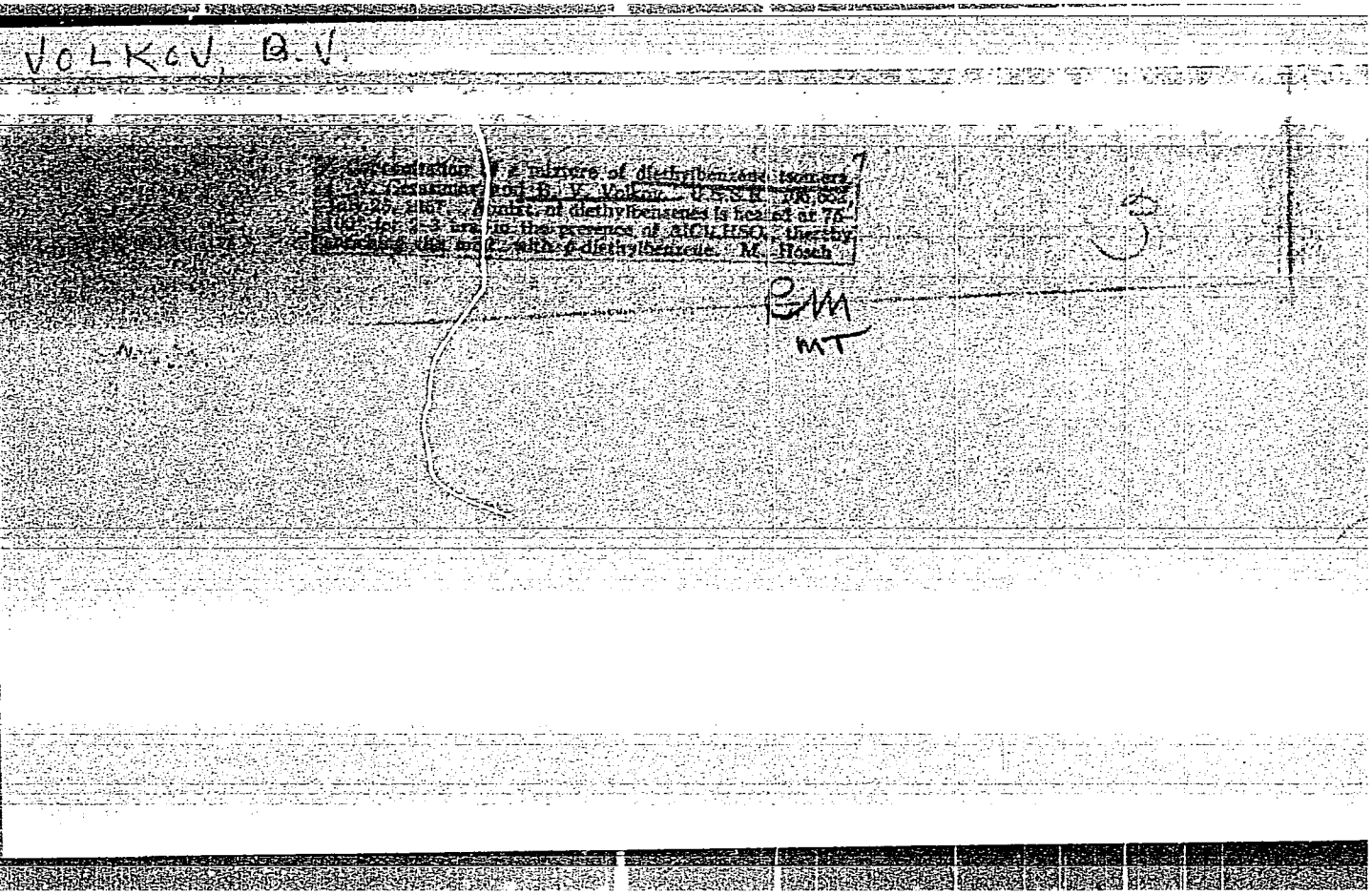

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

AUTHOR: Volkov, B.V. 68-1-16/21

TITLE: De-sulphurisation of Benzole with Complex Compounds of Aluminium Chloride with Hydrocarbons. (Obesserivaniye benzola kompleksnymi soyedineniyami khloristogo alyuminiya s uglevodorodami)

PERIODICAL: Koks i Khimiya, 1957, No.1, pp. 53 - 54 (USSR)

ABSTRACT: The use of aluminium chloride complex with hydro-carbons left after the synthesis of ethylbenzene for the de-sulphurisation of benzole was investigated. Experiments were carried out in a reactor with a reflux condenser, thermometer and a stirrer. The investigating technique was as follows: a mixture of benzole and the complex in a proportion of 1:15 was placed in the reactor, heated to a required temperature (24 °, 50 ° and 70 °C) and stirred for a required time. Then after settling (15 min) of the catalyst, the top layer of purified benzene was sucked off, washed with water, dried and distilled. The determination of sulphur on bromine numbers of raw and treated benzene were carried out. The influence of the duration of treatment on the degree of de-sulphurisation is given in Fig.1 and the dependence of the efficiency of purification on the temperature and volume of the benzene treated with the same catalyst - in Fig. 2. The results obtained indicated that

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68-1-16/21

De-sulphurisation of Benzole with Complex Compounds of Aluminium Chloride with hydro-carbons.

the efficiency of purification of benzole with aluminium chloride solutions (in the form of complex compounds with hydro-carbons) is as high as with crystalline aluminium chloride. The loss of aluminium chloride when treating 90 volumes of benzole with 1 volume of the catalyst was about 0.4%. As the amount of aluminium chloride left in the complex after the synthesis of ethylbenzene in the majority of cases is sufficient for the purification of fresh benzole required for the reaction, the use of crystalline aluminium chloride can be more efficient.
There are 2 figures and 5 references, 3 of which are Slavic.

ASSOCIATION: Gorlovka Nitrogen-fertilizer Works. (Gorlovskiy Azotno-tukovyy Zavod)

AVAILABLE: Library of Congress

Card 2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Effect of hydrogen chloride on the composition of aluminum chloride and aromatic hydrocarbon compounds. Khim. prom. no.1:20-23 Ja-F '57. (MLRA 10:4)
(Hydrochloric acid) (Aluminum chloride) (Hydrocarbons)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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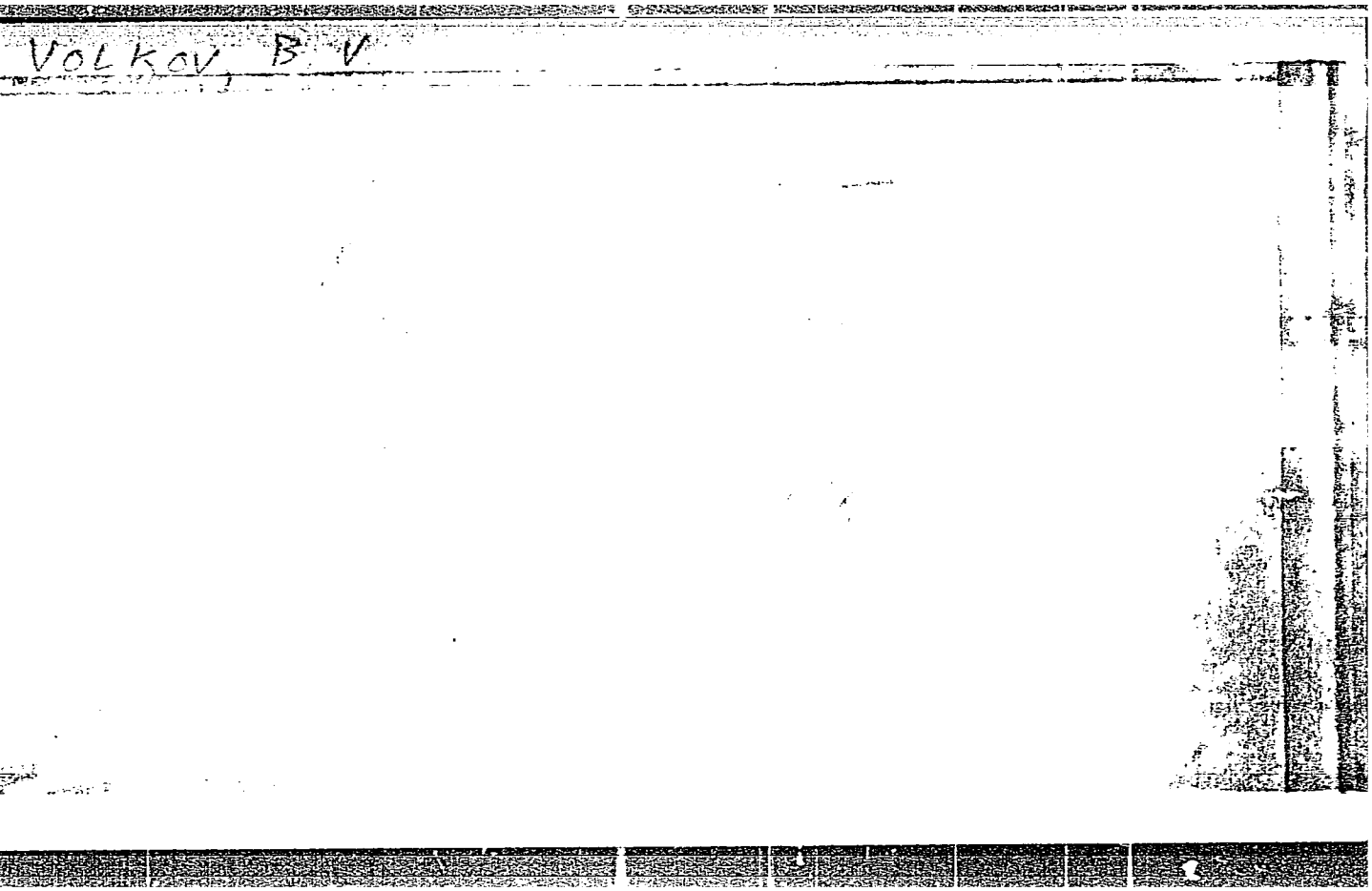

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B. V.

A.V. Granzhan and B.V. Volkov. Apparatus for the shop control of the acetylene content in gas. P. 1432

The Gorlov Nitrogen
Fertilizer Factory

SO: Factory Laboratory, No. 12, 1950

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Determination of benzene and of other hydrocarbons in waste waters. Khim.prom. no.3:184-185 Ap-My '54. (MLRA 7:8)
(Benzene) (Hydrocarbons) (Factory and trade waste)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B. V. FD 181

USSR/Chemistry - Analytical, Industrial Effluents

Card 1/1

Author : Volkov, B. V.

Title : Determination of benzene and of other hydrocarbons in waste waters

Periodical : Khim. prom. 3, 56-57 (184-185), April-May 1954

Abstract : Gives directions for the analytical determination of benzene and/or other hydrocarbons in waste water by distilling the hydrocarbons off with steam. Illustrated by 1 figure and 2 graphs. 1 USSR reference is appended.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

5(3) SOV/64-58-7-7/18

AUTHORS: Bulycheva, L. D., Volkov, B. V.

TITLE: On the Influence of Some Driers on the Rate of the Oxidation of Ethyl Benzene and Isopropyl Benzene With Oxygen (O vliyanii nekotorykh vysushivayushchikh veshchestv na skorost' okisleniya etilbenzola i izopropilbenzola kislorodom)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 7, pp 413 - 416 (USSR)

ABSTRACT: The experiments were carried out with an arrangement consisting of four 1 l containers. Some little pieces of the drier are put into each of the vessels (metallic sodium, sodium and potassium hydroxide, or calcined calcium chloride). The control tests were carried out with a similar arrangement with ethyl benzene of the same quality, however, instead of air (or oxygen) nitrogen was conducted through the system. The experiments with ethyl benzene demonstrated that it relatively easily oxidizes, and that its oxidizability is mainly increased by KOH and metallic sodium as well as an increase in temperature. It is recommended to blow nitrogen through the apparatus as well as onto those liquid faces that come into contact with the air when heating or boiling ethyl benzene. Calcium chloride or sodium hydroxide should

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be used for drying. The experiments with isopropyl benzene yielded the same results as those with ethyl benzene. The presence of KOH effected also in this case a more intense oxidation at a contact with atmospheric oxygen. There are 2 figures, 2 tables, and 4 references, 3 of which are Soviet.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Conference on the study and generalization of experience in purifying industrial wastes from enterprises of Lugansk Province, Donetsk Province, and the Kharkov Economic Region. Gig. i san. 26 no.4:100-102 Ap '61. (MIRA 15:5)

1. Iz opytno-konstruktorskogo byuro sinteticheskikh produktov Upravleniya khimicheskoy promyshlennosti Luganskogo sovnarkhoza.
(UKRAINE--INDUSTRIAL WASTES)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.; MARTYNENKO, L.A.; KOCHUROVA, G.A.

Use of methanol for the regeneration of spent activated carbon in the purification of industrial sewage from organic compounds. Gig. i san. 26 no.9:83-84 S '61. (MIRA 15:3)
(CARBON, ACTIVATED)
(METHANOL)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B. V.

USSR/Chemistry - Analysis, Bases Dec 50

"Apparatus for Plant Control of the Acetylene Content in Gas," A. V. Granzhan, B. V. Volkov, Gorlovka Nitrogen-Fertilizer Plant

"Zavod Lab" No 12, p 1432

Describes portable gas analyzer used for anal of gases with acetylene contents 0.005-0.8%. App, consisting of 3 glass parts mounted on wooden frame, is very simple in constr and sufficiently accurate.

182T7

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

CA

Apparatus for plant control of acetylene content in gas. A. V. Granzhan and B. V. Volkov. *Zavodskaya Lab.* 16, 1432(1950).—The app. is a simplified gas analytical buret through which the sample is drawn and in which a desired colorimetric reagent is placed. A picture of the app. is provided.

G. M. Kosolapoff

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Determination of benzene and other hydrocarbons in water effluents. B. V. Volkov. *Khim. Prom.* 1954, 184–5.—The proportion of benzene and its alkyl derivs. in water effluents can be detd. in the distillate if the amt. of hydrocarbons in the original sample is as low as 0.1 ml./l.
W. M. Sternberg

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Device for setting-up laboratory fractionating columns. Zav.lab. 21 no.3:368 '55. (MLRA 8:6)

1. Gorlovskiy azotno-tukovyy zavod.
(Distillation, Fractional)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Effect of water on the formation of complex compounds of aluminum chloride with aromatic hydrocarbons. Zhur.prikl. khim. 35 no.5:1136-1138 My '62. (MIRA 15:5)
(Aluminum organic compounds)
(Water)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.

Reconditioning spline shafts by built-up welding with a weaving arc under flux. Avtom. svar. 15 no.2:78-85 F '62. (MIRA 15:1)

1. Tashkentskiy institut inzhenerov zheleznodorozhnogo transporta.
(Shafting--Maintenance and repair)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

KRAVCHUK, Ivan Ivanovich; MOROKHIN, Boris Grigor'yevich. Prinimali uchastiye: VOLKOV, B.V.; AKIT, R.P.; STUPAKOVA, L.A., red.; TIKHONOVA, Ye.A., tekhn. red.

[Teaching ship care to first-class seamen] Proizvodstvennoe obuchenie matrosov I-go klassa. Izd.2., dop. i perer. Moskva, "Morskoi transport," 1963. 215 p. (MIRA 16:11)
(Seamanship)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.V.; ASMAKOVA, A.S.

Production of polyfurylacrylate, a new ion exchanging substance. Khim. prom. [Ukr.] no.3:26-27 Jl-S '64.

(MIRA 17:12)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

L 08798-67 EWT(m)/EWP(j) IJP(c) WW/RM
ACC NR: AP6030851 (A,N) SOURCE CODE: UR/0191/66/000/009/0040/0042

AUTHOR: Li, P. Z.; Mikhaylova, Z. V.; Bykova, L. V.; Chertok, O. M.; Volkov, B. V.; Zaslavskiy, N. N.; Telegina, L. I.; Novikova, T. V.

ORG: none

TITLE: Moisture resistance and chemical stability of unsaturated polyester resins modified with colophony

SOURCE: Plasticheskiye massy, no. 9, 1966, 40-42

TOPIC TAGS: solid mechanical property, polyester plastic, synthetic material, physical chemistry property, stability constant

ABSTRACT: Moisture resistance and oxidation stability of two commercial resins modified with colophony, resin PN-10- a copolymer of an unsaturated ester with styrene and resin TGM-3- (a copolymer of an unsaturated ester and polyacrylate) and some glass laminates based on these two resins were investigated. The physical properties of the colophony-modified resins are tabulated. The tensile strength of the colophony-modified resins and the glass-laminates based on them was practically unaffected after holding in water or 25%-sulfuric acid for 7-360 days. In general, the addition of colophony was found to be beneficial with respect to water resistance and chemical stability of the unsaturated polyester resins. Orig. art. has: 1 figure and 3 tables.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 006
UDC: 678.674=9:547:914.2]:678.019.3
Card 1/1 pst

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.Ye.

Economic aspects of supplying industrial oxygen to consumers.
Kislorod 12 no.5:29-32 '59. (MIRA 13:2)
(Oxygen)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, Boris Mikhaylovich; GRODNEV, Igor' Izmaylovich; YEREMEYEVA, Nina Yefimovna; KUZNETSOV, Nikolay Ivanovich; VOLODARSKAYA, V.Ye., red.

[Plastic coated communication cables] Kabeli sviazi v plastmasse. Moskva, Sviaz', 1965. 190 p. (MIRA 18:12)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D., zhestyanshchik (Rostov-na-Donu).

Device for marking templates. Stroitel' no.6:14 Je '57.
(MLRA 10:9)

(Marking devices) (Pipe, Steel)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.

3

Ahiezer, A.; Aleksin, V.; and Volkov, D. On some effects resulting from the [illegible] of an electron magnetic [illegible]

[illegible] methods of F. Rohrlich and R. Gluck[illegible] Rev. (2) 86 (1952), 1-9], the scattering of light is calculated for the electrodynamics of spin-[illegible] particles. The forward coherent scattering of light [illegible]

[illegible] Princeton, N.J.).

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

AKHIYEZER, A., ALEKSIN, V., VOLKOV, D.

Certain effects produced by the interaction of an electromagnetic field with the vacuum of scalar charged particles. Dokl. AN SSSR 104 no.4:830-833 O '55. (MLRA 9:3)

1. Predstavleno akademikom L.D. Landau.
(Electromagnetic theory) (Field theory)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.

Volkof, D. Les fonctions analytiques dans le champ des nombres hypercomplexes. Leningrad State Univ. Annals [Uchenye Zapiski] 83 [Math. Ser. 12], 92-113 (1941). [MF 16491]

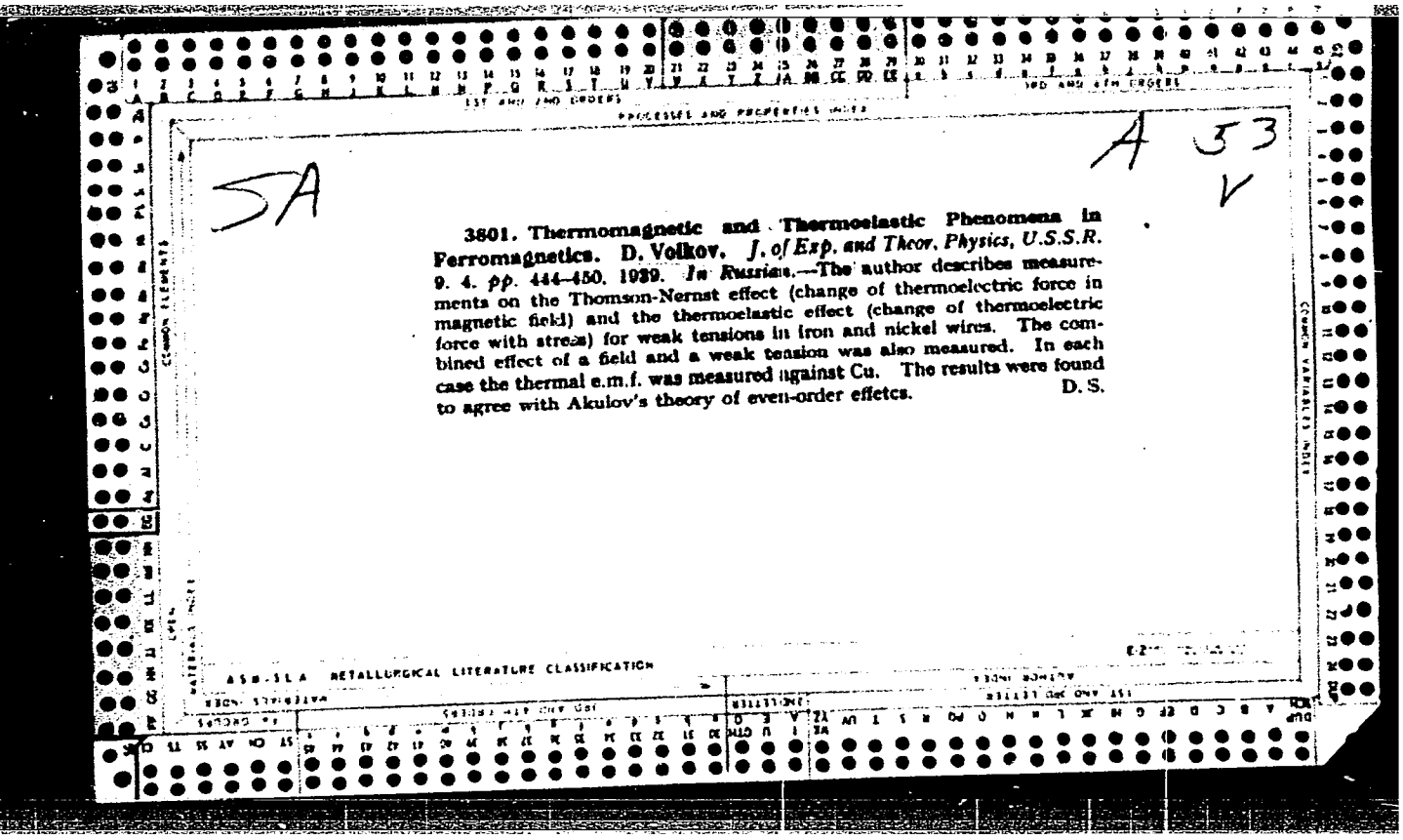
[illegible] functions of expressions of the form [illegible] satisfies the equation $\sum_{j=0}^{n} A_j j^j = 0$, A_j being constants. Operations with such functions, in particular, integration and differentiation, are defined. A generalized Cauchy formula is introduced. The components of the functions satisfy systems of linear partial differential equations. In particular, it is possible to obtain solutions of the Laplace and biharmonic equations; the author obtains general formulas for the representation of their solutions. These formulas can be used for the solution of boundary [illegible]. The reviewer remarks that since the [illegible] members the question of uniqueness of the [illegible] functions should be clarified.

[illegible] (Cambridge, Mass.).

Source: Mathematical Reviews, Vol 8, No. 3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7



SA

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V

3801. **Thermomagnetic and Thermoelastic Phenomena in Ferromagnetics.** D. Volkov. *J. of Exp. and Theor. Physics, U.S.S.R.* 9. 4. *pp.* 444–450. 1939. *In Russian.*—The author describes measurements on the Thomson-Nernst effect (change of thermoelectric force in magnetic field) and the thermoelastic effect (change of thermoelectric force with stress) for weak tensions in iron and nickel wires. The combined effect of a field and a weak tension was also measured. In each case the thermal e.m.f. was measured against Cu. The results were found to agree with Akulov's theory of even-order effetcs. D. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D., kand. fiz.-matem. nauk

Two neutrinos. Nauka i zhyttia 12 no.2:16-17 F '63.
(MIRA 16:4)

(Neutrinos)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. A.

Hydrologists of the FCE Serice c1947

Soviet Source: N: "Krasnyy Flot" No 180 (2667) 2 Aug 47 Moscow

Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information Division, Report No. 42585

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.A.; GOLOVIN, A.F.

Isotopic shift in the spectrum of erbium. Opt. i spektr. 18 no.2:185-189 F '65. (MIRA 18:4)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

POPILOV, Lev Yakovlevich; VOLKOV, D.A., kandidat tekhnicheskikh nauk, redaktor; KAPLANSKIY, Ye.F., redaktor izdatel'stva; SOKOLOVA, L.V., tekhnicheskiy redaktor

[Safety engineering in the electrical working of metals] Tekhnika bezopasnosti pri elektricheskikh sposobakh obrabotki metallov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 174 p. (MLRA 9:10)
(Metalwork--Safety measures)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

ZLOBINSKIY, B.M.; YUDIN, K.A., retsenzent; KRUKOVSKIY, V.A., dots., retsenzent; WOLKOV, D.A., dots., retsenzent; ZOLOTNITSKIY, N.D., prof., red.; BRUSHTEYN, A.I., red. izd-va; MODEL', B.I., tekhn. red.

[Safety engineering] Tekhnika bezopasnosti. Moskva, Mashgiz, 1963. 185 p. (MIRA 16:4)
(Industrial accidents)
(Technological innovations--Safety measures)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

SHUMAYEV, V.D., nauchnyy sotrudnik; NEVSKAYA, A.I., nauchnyy sotrudnik; SHANINA, T.N., nauchnyy sotrudnik; DMITRIYEVA, V.P., nauchnyy sotrudnik; VOLKOV, D.G., nauchnyy sotrudnik; CHIGRINA, T.A., khimik

Waste waters from the Leninogorsk Polymetallic Combine and their effect on the open water reservoirs of the city. Gig. i san. 28 no.7:69-73 Jl '63. (MIRA 17:1)

1. Iz otdela gigiyeny Kazakhskogo instituta epidemiologii, mikrobiologii i gigiyeny i Respublikanskoy sanitarno-epidemiologicheskoy stantsii.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

Category : Farm Animals. Poultry. Q-4

Abs. Jour : RZBiol., No. 4, 1959, No. 16702

Author : Volkov, D. I.

Institut. : Scientific Research Institute of Poultry*

Title : A New Pedigreed Group of the Kuchinskaya Jubilee Hen for General Use.

Orig Pub. : Byul. nauchno-tekhn. inform. N.-i. in-ta ptitsevodstva, 1957, No 2, 40-43

Abstract : The breed has been created by crossing hens and roosters of the Russian White, New Hampshire, Rhode Island, Australian, and White Plymouth Rock breeds. The method of hatching is described, the productive qualities of the new pedigreed group of hens is shown. -- A. D. Lusin

Card: 1/1

*Breeding.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I., nauchnyy sotrudnik; KHRAMOVA, L.Ye., zootekhnik.

Comparative experiment in raising young Russian White and Kuchino Jubilee hens for meat. Ptitsevodstvo 8 no.3:15-16 Mr '58.
(MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ptitsepromyshlennosti Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I. Lenina (for Volkov). 2. Yukhnovskaya inkubatorno-ptitsevodcheskaya stantsiya, Kaluzhskoy oblasti (for Khramova).
(Poultry)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.

Hall effect in ferromagnetic substances. Vest.Mosk.un.Ser.3:Fiz., astron.15 no.4:18-20 Jl-Ag '60. (MIRA 13:9)

1. Kafedra magnetizma Moskovskogo universiteta.
(Hall effect) (Ferromagnetism)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

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Akademiya nauk SSSR. Laboratoriya aerometodov

Trudy, tom 9 (Transactions of the Laboratory of Aerial Methods, USSR Academy of Sciences, vol. 9) Moscow, AN SSSR, 1960. 357 p. Errata slip inserted. 1,700 copies printed.

Resp. Ed.: V.V. Sharkov, Candidate of Geography; Ed. of Publishing House: D.M. Kudritskiy; Tech. Ed.: M.Ye. Zendel'.

PURPOSE: This volume is intended for geographers, geologists, geodesists, and photogrammetrists.

COVERAGE: This collection of 23 articles contains studies of the earth's surface, structure, and geological formations by means of aerial photography. The authors discuss the principles, methods and techniques used in aerial surveying to determine such factors as the petrographic composition of the soil through the measurement of the spectral brightness of surfaces, the geological structure of underwater areas through recorded photographic images, the geological composition and geomorphological structure of underlying layers through the analysis of surface plant coverings, the trends and characteristics of recent tectonic movements through the study of surface features traced photographically

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AVAILABLE: Library of Congress

Volkov, I.A.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I.: Master Agric Sci (diss) -- "A comparative study of the growth, development, and productivity qualities of hens -- 'Kuchin Jubilee' and New Hampshire". Moscow, 1959. 19 pp (Moscow Vet Acad of the Min Agric USSR), 140 copies (KL, No 15, 1959, 118)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

USSR/Farm Animals - Domestic Fowls.

Q-4

Abs JOur : Ref Zhur - Biol., No 7, 1958, 30977

Author : Volkov D.I., Gorodkova N.Ye., Nakhlupina A.G., Shapovalov Ya. Ya.

Inst : -

Title : A New Breed Group of Chickens of an All-Purpose Type - Kuchinskiye Yubileynyye.
(Novaya porodnaya gruppa kur obshchepol'zovatel'nogo tipa - kuchinskiye yubileynyye).

Orig Pub : Ptitsevodstvo, 1957, No 6, 19-23

Abstract : The methods of raising the breed and the characteristics of its exterior, meat quality, egg-laying capacity (about 175 eggs a year), and area of occurrence are described.

Card 1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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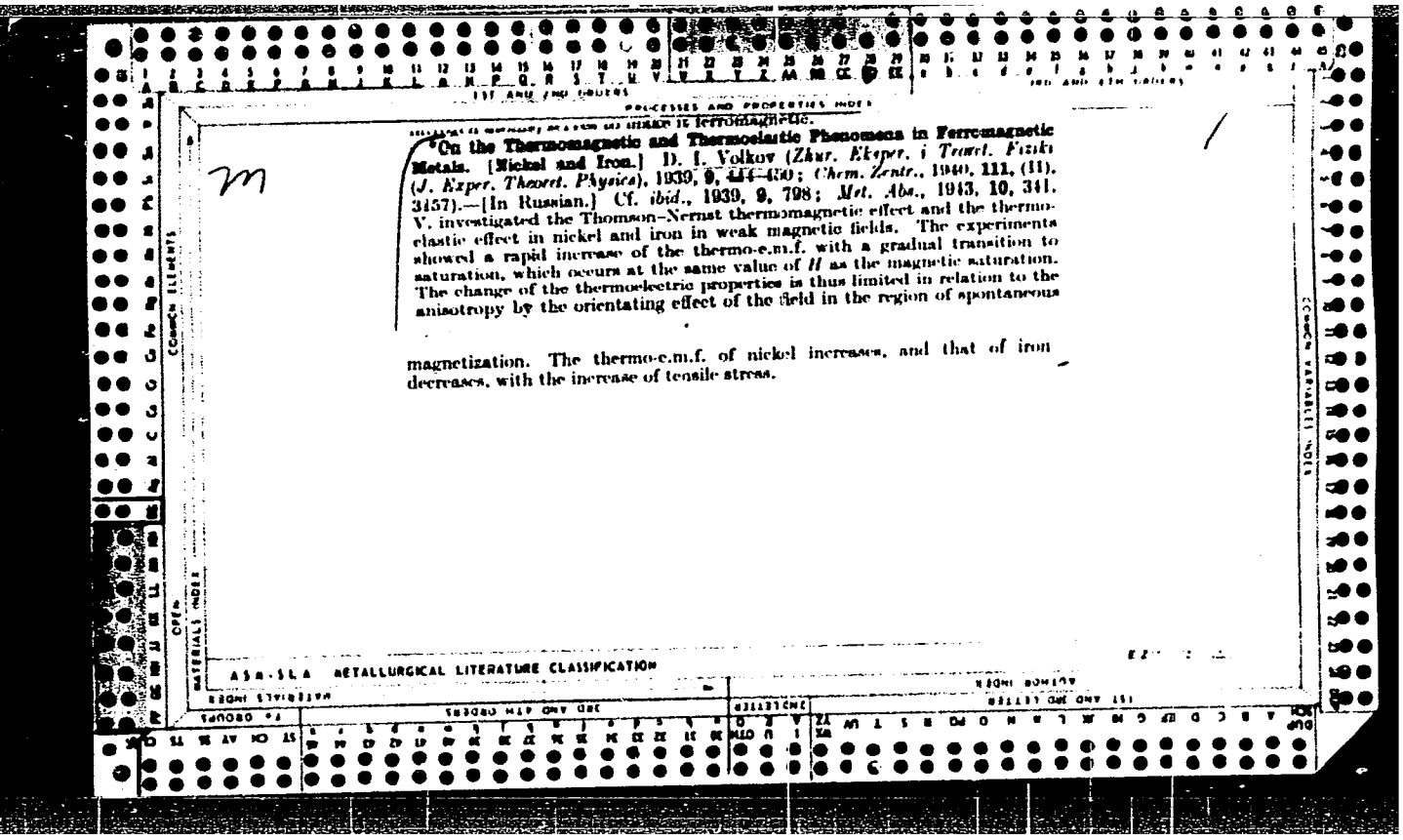

On the Thermomagnetic and Thermoelastic Phenomena in Ferromagnetic Metals. [Nickel and Iron.] D. I. Volkov (*Zhur. Eksper. i Teoret. Fiziki* (*J. Exper. Theoret. Physics*), 1939, **9**, 444–450; *Chem. Zentr.*, 1940, **111**, (II), 3457).—[In Russian.] Cf. *ibid.*, 1939, **9**, 798; *Met. Abs.*, 1943, **10**, 341. V. investigated the Thomson–Nernst thermomagnetic effect and the thermoelastic effect in nickel and iron in weak magnetic fields. The experiments showed a rapid increase of the thermo-e.m.f. with a gradual transition to saturation, which occurs at the same value of H as the magnetic saturation. The change of the thermoelectric properties is thus limited in relation to the anisotropy by the orientating effect of the field in the region of spontaneous magnetization. The thermo-e.m.f. of nickel increases, and that of iron decreases, with the increase of tensile stress.

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m.a.

*The Thermomagnetic and Thermoelastic Effect in Ferromagnetic Materials Subjected to High Elastic Stresses. [Nickel Under Tensile Loading.] D. I. Volkov. (*Zhur. Eksper. i Teoret. Fiziki* (*J. Exper. Theoret. Physics*), 1939, 9, 798–803; *Chem. Zentr.*, 1940, 111, (II), 2725).—[In Russian.] In the case of anisotropy caused by high tensile stresses, *e.g.* in polycrystalline nickel, a change of the Thomson–Nernst thermo-e.m.f. has been observed, which depends on the direction of the magnetic moment, on the magnetic saturation, and on the tensile load; a corresponding change in the thermoelastic effect has also been established. These changes are expressed by equations. In

1943

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MA

1

Effect of Elastic and Residual Deformations on the Galvanic Effect of Ferromagnetic Materials [Nickel]. K. P. Belov and D. I. Volkov (*Zhur. Tekhnich. Fiziki* (*J. Tech. Physics*), 1939, **9**, 1529–1539; *Chem. Zentr.*, 1940, **111**, (1), 2132).—[In Russian.] In plastic deformation, zones of tensile and of compressive stresses in the metal can be postulated, the magnitude, number, and direction of which depend on the nature of the deformation. B. and V. assume a model of distribution of internal stresses in a nickel wire after plastic deformation, in which tensile and compressive zones alternate periodically in the cross-section. Corresponding to the stress directions, the magnetization vectors lie parallel and vertical to the axis of the wire, this explaining the decrease of galvanomagnetic effect by 25% in drawn nickel compared with annealed soft nickel. Galvanometric and similar effects may serve in general as sensitive indicators of the internal stress distribution in ferromagnetic metals.

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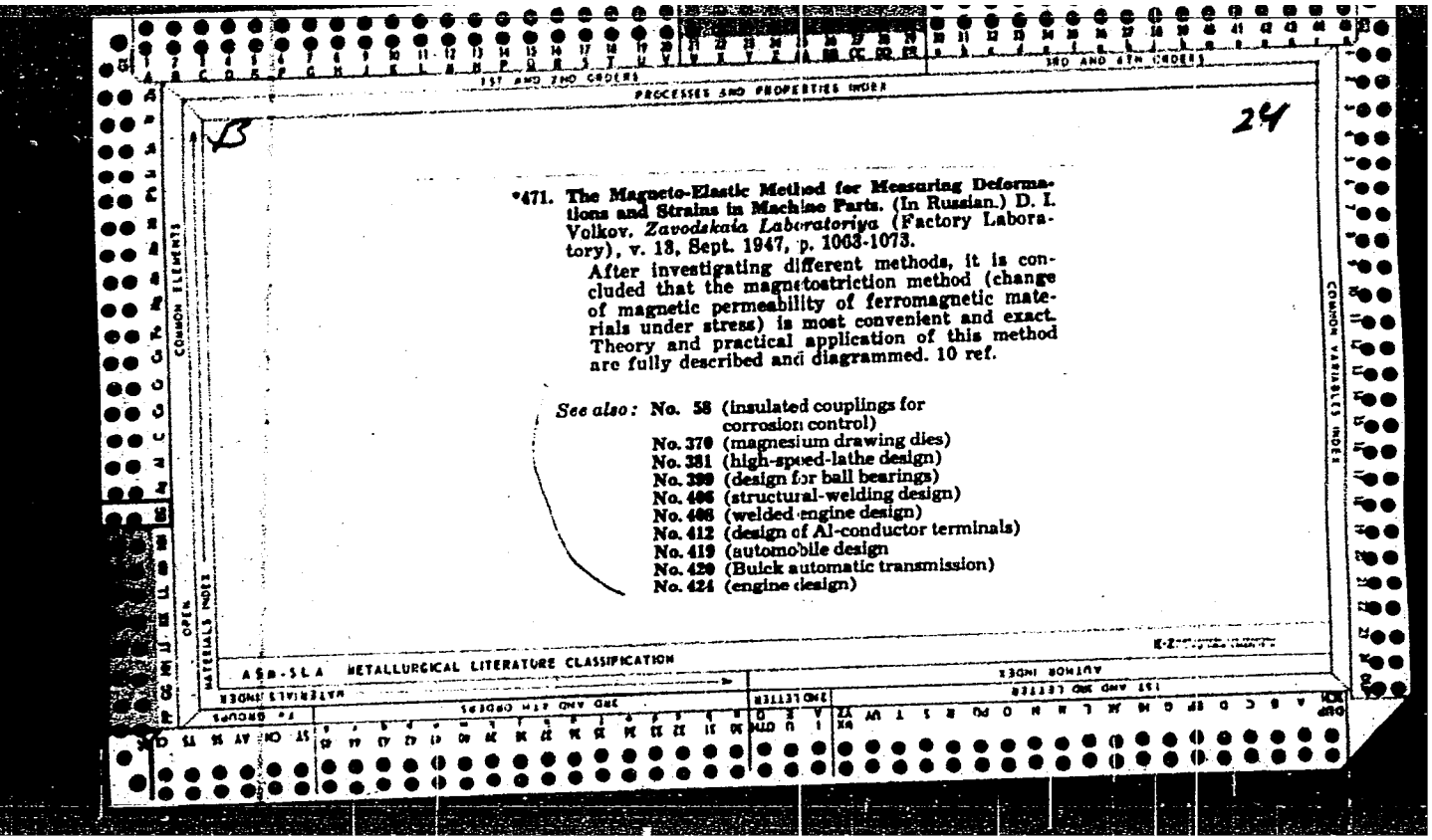

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

24

*471. **The Magneto-Elastic Method for Measuring Deformations and Strains in Machine Parts.** (In Russian.) D. I. Volkov. *Zavodskaia Laboratoriya* (Factory Laboratory), v. 13, Sept. 1947, p. 1063-1073.

After investigating different methods, it is concluded that the magnetostriction method (change of magnetic permeability of ferromagnetic materials under stress) is most convenient and exact. Theory and practical application of this method are fully described and diagrammed. 10 ref.

See also: No. 58 (insulated couplings for corrosion control)
No. 370 (magnesium drawing dies)
No. 381 (high-speed-lathe design)
No. 399 (design for ball bearings)
No. 406 (structural-welding design)
No. 408 (welded engine design)
No. 412 (design of Al-conductor terminals)
No. 419 (automobile design
No. 420 (Buick automatic transmission)
No. 424 (engine design)

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AUTHOR INDEX

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

AKULOV, N.S., VOLKOV, D.L.

Magnetrostriction

Precision method of measuring magnetostriction. Vest. Mosk. un 5 No. 6, 1950

9. Monthly List of Russian Accessions, Library of Congress, November 1952 ~~1953~~, Uncl.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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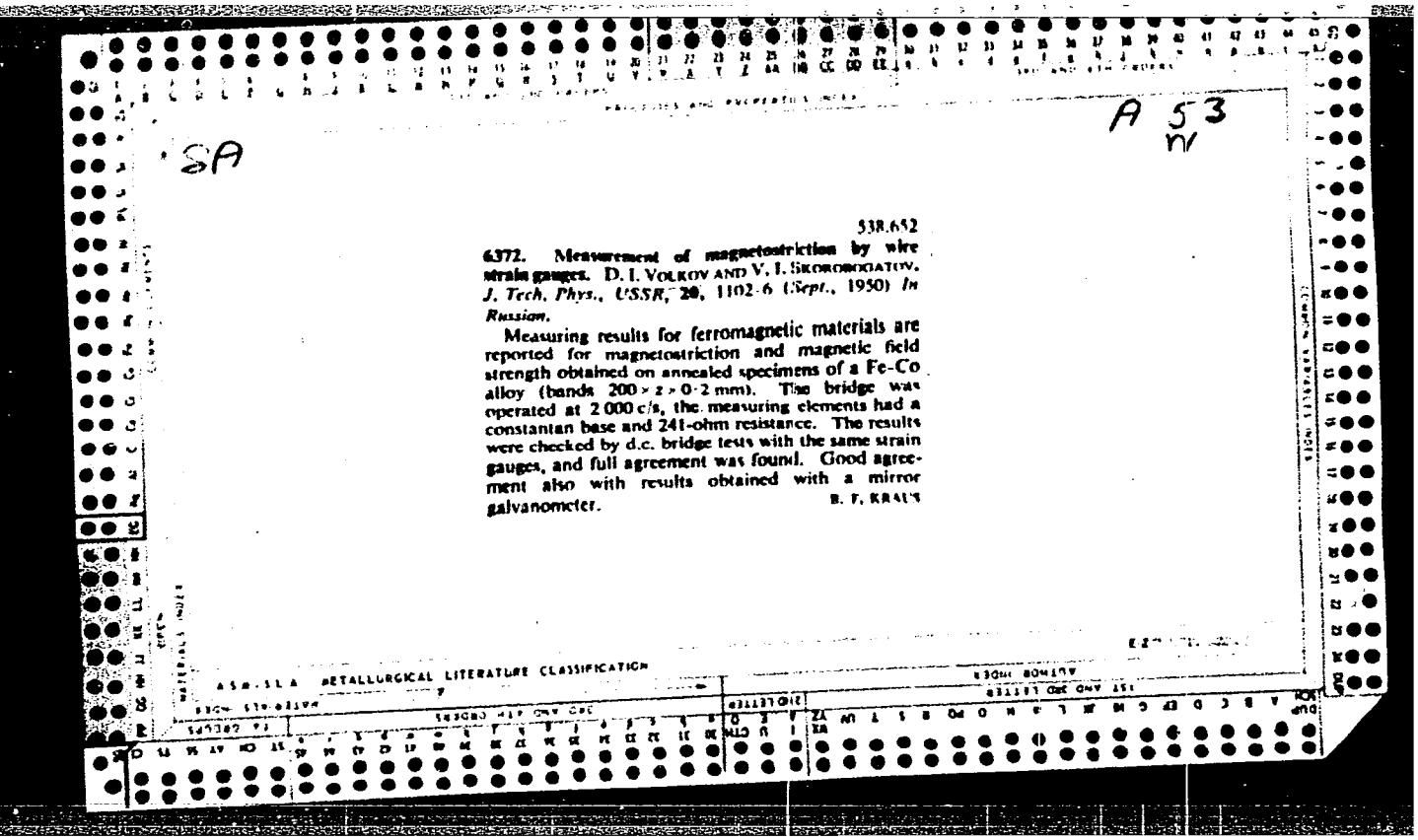

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6372. **Measurement of magnetostriction by wire strain gauges.** D. I. VOLKOV AND V. I. SKOROBOGATOV. *J. Tech. Phys., USSR*, **20**, 1102–6 (*Sept.*, 1950) *In Russian.*

Measuring results for ferromagnetic materials are reported for magnetostriction and magnetic field strength obtained on annealed specimens of a Fe-Co alloy (bands $200 > z > 0{\cdot}2$ mm). The bridge was operated at 2 000 c/s, the measuring elements had a constantan base and 241-ohm resistance. The results were checked by d.c. bridge tests with the same strain gauges, and full agreement was found. Good agreement also with results obtained with a mirror galvanometer.

B. F. KRAUS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I.

176T97

USSR/Physics - Magnetostriction 11 Apr 50
Alloys, Nickel

"Magnetostriction of Ni-Mn Alloys in Longitudinal and Transverse Fields," D. I. Volkov, V. V. Zubov, Sci Res Inst Phys, Moscow State U imeni M. V. Lomonosov

"Dok Ak Nauk SSSR" Vol LXXI, No 5, pp 863-865

Experiments on the 2d rule of even effects in magnetostriction of Ni-Mn alloys. Rule states: Longitudinal effect in saturation depends upon the transverse; and if in the anisotropy tensor terms higher than 2d order are small and the paraprocess, magnetic and crystallic texture are absent, then longitudinal effect is opposite to transverse and twice as great. Submitted by Acad S. I. Vavilov 13 Feb 50.

176T97

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

CA

Magnetostrictive hysteresis of high-coercive steels. I. L. Volkov (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 73, 917-9(1950).—Magnetostriction, λ, was measured by a wire tensometer on Vicalloy (Fe 38, Co 52, V 10%) strips that had been given coercive forces, H_c, ranging from 48 to 310 oersteds by cold working and then annealing at 500 to 600°. For $H_c = 310$, the variation of λ with magnetization, I, below I_s, was $\lambda = kI^2$; for $H_c = 48$, $\lambda = k(I^2 - I_s^2)$, where $I_s \leq I \leq I_s$ and I_s is satn. magnetization. This difference is due to the displacement of domain boundaries in the low-H_c alloy in addn. to domain rotation, which also occurs in the high-H_c alloy. Hysteresis loops, λ vs. H, were detd. for alloys with $H_c = 177$ and $H_c = 48$. The loop area was greater the greater H_c and I_r, the residual magnetization. Residual magnetostriction, λ_r, was small compared to $\lambda_{max.}$ for $H_c = 48$ and was large for $H_c = 177$. When $H_{max.}$ was less than 150, λ_r was about zero. Above this value of $H_{max.}$, λ_r increased rapidly at first and then leveled off at the value for I_s. For $H > H_c$, λ_r was proportional to the I_r^2. For $H < H_c$ this proportionality disappeared since λ_r was almost zero while I_r was fairly large. This fact also showed that domain boundary movement occurred. Good agreement was found between the data and Weiss-Kondorskii theory.

A. G. Guy

1951

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I.

USSR/Physics - Magnetization, High-Coercive Ferromagnetics 21 Sep 51

"Magnetization of High-Coercive Ferromagnetics in Weak Fields," D. I. Volkov, Sci Res Inst of Phys, Moscow State U imeni M. V. Lomonosov

"Dok Ak Nauk SSSR" Vol LXXX, No 3, pp 349-351

The purpose of this work is to clarify to what extent the theoretical relations for magnetic susceptibility and residual magnetization are valid for high-coercive ferromagnetics. Concludes that

210T91

USSR/Physics - Magnetization, High-Coercive Ferromagnetics (Contd) 21 Sep 51

the familiar Rayleigh relations hold from comparatively small values (25 oersteds) up to almost max (345 oersteds) for vikalloy. Submitted 12 Jan 51 by Acad S. I. Vavilov (deceased).

210T91

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.

USSR

The magnetostriction of ferromagnetic alloys in parallel and transverse fields. D. I. Volkov. *Uchenye Zapiski Moskov. Gosudarst. Univ.* No. 162, *Fizika* No. 6, 33–50(1952); cf. C.A. 49, 29785.—The magnetostriction of polycryst. ferromagnetic alloys was calcd. for a parallel and a transverse field at satn.; consideration was given to all terms to the 6th power in the expression for the anisotropy tensor in order to det. the accuracy of the 2nd rule of Akulov's theory of even effects (Akulov, *Ferromagnetism*, 1939). This theory which states that in the absence of the para-process, the parallel effect is twice as great as, and of opposite sign to the perpendicular effect. Results show that Ni alloys follow this rule very well. The Mn alloys do not follow the rule, and reasons for this are discussed.

J. Rovtar Leach

BB

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV,D.I.; SKOROBOGATOV,V.I.

Magnetostriction measurements in alternating magnetic fields.
Uch.zap. Mosk. un. no.162:121-124 '52. (MIRA 8:7)
(Magnetostriction)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.

FD-770

USSR/Physics - Ferromagnetics, Hall Effect

Card 1/1 : Pub 129-7/24

Author : Volkov, D. I.

Title : Hall effect in ferromagnetics

Periodical : Vest. Mosk. un., Ser. fizikomat, : yest. nauk, Vol 9 No. 2, 65-68, Mar 1954

Abstract : Determines constants of the material that actually characterize the Hall effect in a ferromagnetic material; namely constants of the "ordinary" and "extraordinary" effect Ri and Rt, such that the Hall emf is $E = R_i I_i - R_t I_t$

Institution : Chair of Magnetism

Submitted : October 14, 1953

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.

USSR/Physics - Magnetostriction

FD-798

Card 1/1 Pub. 146-11/21

Author : Volkov, D. I. and Chechernikov, V. I.

Title : Temperature dependence of magnetostriction of ferromagnetic alloys

Periodical : Zhur. eksp. i teor. fiz., 27, 208-214, Aug 1954

Abstract : Study the temperature dependence of magnetostriction of saturated ferromagnetic alloys on nickel basis (Ni-Cu, Ni-Ma, Ni-Fe). The results of measurements were in satisfactory agreement with theory. Fourteen references including 5 foreign.

Institution : Moscow State University

Submitted : October 26, 1953

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. N.

USSR/Physics - Magnetostriction

Card : 1/1 Pub. 22 - 14/48

Authors : Volkov, D. N.

Title : Magnetostriction of ferro-magnetic alloys with manganese base

Periodical : Dok. AN SSSR 97/5, 809 - 811, August 11, 1954

Abstract : Mangetostriction phenomenon of ferro-magnetic alloys with manganese base was studied. The following binary alloys were investigated: Mn - Sb, Mn - Bi, Mn - Sn; also tertiary alloys Cu - Mn - X, where the X is either Al, Sn, Bi. Four references 1949-1950). Graphs.

Institution : Scientific Research Institute of Physics of the Moscow State University of im. M. S. Lomonosov.

Presented by : Academician A. V. Shubnikov, May 5, 1954

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I.

USSR/Physics - Magnetostriction

Card 1/1 : Pub. 22 - 13/44

Authors : Volkov, D. I., and Leont'ev, V. I.

Title : About peculiarities of magnetostriction characteristics of ferro-magnetic alloys Manganese-tin

Periodical : Dok. AN SSSR 97/6, 995-997, Aug 21, 1954

Abstract : Experimental study of peculiarities (deviations from an accepted theory) in the magnetostriction phenomenon of manganese-tin alloys, in varying percentages, is described. Eight references: (1931-1952). Graphs.

Institution : Scientific-Research Institute of Physics of the Moscow State University im M. V. Lomonosov

Presented by : Academician A. V. Shubnikov, May 5, 1954

Translation M-109, 21 Jan 55

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; TAYCHINOV, R.S.;

Temperature dependence of the galvanomagnetic effect in iron-nickel alloys. Vest. Mosk. un.10 no.12:75-79 D '55. (MLRA 9:5)

1. Kafedra magnetizma.
(Iron-nickel alloys--Magnetic properties) (Hall effect)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.

7

1964

ON SOME EFFECTS RESULTING FROM THE INTER-

ACTION OF THE ELECTROMAGNETIC FIELD WITH THE VACUUM OF SCALAR CHARGED PARTICLES. A. Akhiezer, V. Aleksin, and D. Volkov. Doklady Akad. Nauk S.S.S.R. 104, 530-3(1955) Oct. 21. (In Russian)

The interaction of the electromagnetic field with electron-positron vacuum leads to changes in Coulomb's law and to a series of non-linear effects (scattering of light by light, nuclear coherent scattering of γ rays, etc.). Studies of this effect in the electrodynamics of a particle with zero-spin are made. (R.V.J.)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I., and CHICHERNIKOV, V. I. (Moscow)

"Magnetic Properties of Alloys over the Curie Temperature," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I

F - 4

USSR / Magnetism. Ferromagnetism

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9525

Author : Volkov, D.I., Chechernikov, V.I., Tseytlin, V.B.
Inst : Not given
Title : Temperature Dependence of Magnetostriction of Ferromagnetic Alloys.

Orig Pub : Vestn. Mosk. un-ta, 1956, No 2, 21-28

Abstract : An experimental study was made of the temperature dependence of the magnetostriction of saturation λ_s of ferromagnetic alloys with a nickel base (Ni-Cu, Ni-Co, Ni-Mn and a Ni-Fe alloy with 45% nickel) in the temperature region close to the Curie point. It was established that in this temperature region the variation of λ_s with T is linear in character, and this is in accordance with the theory of the temperature dependence of even Akulov effects. For Ni-Co al-

Card : 1/3

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

USSR / Magnetism..Ferromagnetism

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9525

Abstract : loys (2.4 and 6% Co) and the Ni-Fe alloy (45% Ni) this linear dependence of λ_s on T is observed in a greater range of temperatures than for Ni-Cu and Ni-Mn. It is noted that on the λ_s (T) curves of the Ni-Cu and Ni-Mn alloys (3.7 and 8.5 atomic percent of manganese), in the direct vicinity of the Curie point (Θ), there appear clearly pronounced asymptotic "tails" which vanish at $T_k > \Theta$. For the case of Ni-Cu alloys, the authors establish the dependence of T_k on the composition of the alloy. The authors propose that such "tails" on the λ_s (T) curves are due to micro-irregularities in the composition and to the appearance of magnetic ordering at close distance. A study of the temperature dependence of λ_s for Ni-Co alloys (29 and 30.5% Ni) which have an allotropic transformation, has shown that at the transfor-

Card : 2/3

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

USSR / Magnetism . Ferromagnetism F - 4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9525

Abstract : mation temperature jumps appear in saturation magnetostriction, the λ_s (T) curves have considerable hysteresis, and the hysteresis loop remains unclosed at room temperatures.

Card : 3/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

Volkov, D.I.

AUTHORS: Volkov, D. I. and Chechernikov, V. I. 126-1-27/40

TITLE: On the temperature dependence of the paramagnetic susceptibility of ferromagnetic alloys. (O temperaturnoy zavisimosti paramagnitnoy vospriimchivosti ferromagnitnykh splavov).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.1, pp. 168-169 (USSR)

ABSTRACT: The temperature dependence of the paramagnetic susceptibility of ferromagnetic alloys was investigated in the temperature range from the ferromagnetic Curie point to 1200°C in vacuum by means of the Faraday-Sacksmith method for the binary alloys Ni-Cu, Ni-Al, Ni-Si, Ni-Sn, Ni-Cr and Ni-Mo in which the concentration of the non-ferromagnetic component was varied within wide limits. The investigations have shown that in the high temperature range the paramagnetic susceptibility of the studied alloys can be satisfactorily described by the relation:

$$\chi = \chi_k + \chi_T \qquad (1)$$

The results are graphed in Fig.1 and discussed in the text. There are 1 figure and 1 Slavic reference.

Card 1/2

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On the temperature dependence of the paramagnetic susceptibility of ferromagnetic alloys. 126-1-27/40

SUBMITTED: September 29, 1956.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov. (Moskovskiy Gosudarstvennyy Universitet imeni M. V. Lomonosova).

AVAILABLE: Library of Congress.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

Volkov D.I.

AUTHORS: Volkov, D. I., Chechernikov, V. I. 48-8-10/25

TITLE: Temperature Dependence of the Paramagnetic Susceptibility of Alloys on a Nickel-basis (Temperaturnaya zavisimost' paramagnitnoy vospriimchivosti splavov na osnove nikelya).

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 8, pp. 1111-1115 (USSR)

ABSTRACT: As an introductory remark it is maintained here that this field of research has not been fully explored. From a theoretical point of view it is generally assumed, that the paramagnetic susceptibility of ferromagnetic metals in the range of temperatures above the ferromagnetic Curie-point $T > \Theta_f$ is caused by the inner electrons. Whereas the role of the outer electrone is not touched at all. Under certain circumstances, however, the consideration of the effect of s-electrons might be of great importance in the range of temperatures above the Curie-point, because here the peculiarities of the temperature dependence of the paramagnetic susceptibility of alloys containing non-ferromagnetic

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

Temperature Dependence of the Paramagnetic Susceptibility of Alloys on a Nickelbasis 48-8-10/25

elements with differing valence must be taken into consideration. This problem was investigated in this paper. Experimental research was executed on pure nickel and its alloys with non-ferromagnetic components: Ni-Cu, Ni-Zn, Ni-Al, Ni-Si, Ni-Mo and Ni-Cr in the temperature range from the Curiepoint up to 1200°C. The method by Faraday-Sucksmith was employed for the measurement of the paramagnetic susceptibility, the investigations being conducted in vacuum up to 1200°C. The conclusions drawn here are such, that the paramagnetic susceptibility of ferromagnetic alloys does not follow the law by Curie-Weiss, at high temperatures, but the generall law $X = X_k + \frac{C}{T-\Theta_p}$, C denoting the Curie-Weiss constant, Θ_p the parametric Curie point, X_k a X independent of temperature. Further research furnished, that the paramagnetic susceptibility is largely dependent on the

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strength of the magnetic field at temperatures near the Curie point, and that with an increase of the concentration of the non-ferromagnetic components in the nickel alloy the values of the coefficients dependent upon temperature and the composition of the alloy decrease. Near the Curie point the parameter varies with a linear relation and drops to zero at the Curie point. There are 8 figures and 7 references, 1 of which is Slavic.

ASSOCIATION: Deptment of Physics of the Moscow State University imeni M. N. Lomonosow (Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova)

AVAILABLE: Library of Congress

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I., KONDORSKIY, E. I., KRINCHIK, G. S., MIRYASOV, N. Z., PARSANOV, A. P., RODE, V.E., CHECHERNIKOV, V. I., and GOFMAN, U. (Moscow Univ.)

"Results of Studies of Certain Magnetic and Magneto-Optical Properties of Ferro-Magnetics."
"Saturation Magnetization of CuNi Alloys at Low Temperatures."
"Magnetic Propeties of MnB System."
"Temperature Dependence of Paramagnetic Susceptibility of Ferrites."
"Magneto-Optical Resonance in Ferromagnetics." (Krinchik)

report presented at Colloquim on Magnetism, Grenoble, France, 2-5 Jul 58.

Eval: B - 3,111,755. 3 Sep 58.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

S/188/60/000/03/07/008
B019/B056

AUTHOR: Volkov, D. I.

TITLE: A Method of Calculating the Magnetostriction of Ferromagnetics in Strong Magnetic Fields

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 3, pp. 52 - 54

TEXT: The calculation of the magnetostriction of isotropic ferromagnetics in strong fields is investigated. Proceeding from formula (1) for magnetostriction, which was derived by N. S. Akulov (Ref. 2), the author, by using results obtained by Brown (Ref. 3) as well as by L. V. Kirenskiy and L. I. Slobodskoy (Ref. 4) obtains formula (4) for magnetostriction, which takes the influence exerted by dislocation into account. This formula is in the form of a power series, which, on neglecting terms of higher order, goes over into the formula given by G. P. D'yakov (Ref. 1). There are 5 references: 3 Soviet and 2 American.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: November 26, 1959

Card 1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

ACCESSION NR: AP5004374 S/0056/65/048/001/0065/0068

AUTHOR: Volkov, D. I.; Kozlova, T. M.

TITLE: Hall effect in nickel alloys

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 65-68

TOPIC TAGS: nickel alloy, electric resistivity, magnetoresistance, temperature dependence, Hall constant, conduction electron, electron scattering

ABSTRACT: Unlike in earlier investigations, the authors analyze simultaneously the data on the dependence of the Hall constant R_s on both the electric resistivity ρ and the magnetic part of the resistivity (ρ_m), as well as on the spontaneous magnetization in Ni-Mo alloys (up to 5 at.% Mo) and Ni-Si alloys (up to 3 at.% Si) in the interval from room temperature to well above the Curie point. The purpose of the investigation was to check on the validity of the frequently quoted theoretical relation $R_s = a\rho + b\rho^2$. The theoretical relations between the Hall constant and the electric resistivity and the magnetoresistivity are confirmed experimentally. The experimental dependence of R_s on the temperature is found to

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ACCESSION NR: AP5004374

2

be $R_S = b_0 + b_1T + b_2T^2$. It is concluded that contributions to the anomalous Hall effect are made by both the impurity-phonon mechanism of conduction-electron scattering and by scattering from magnetic inhomogeneities. "We thank Professor Ye. I. Kondorskiy for participating in the evaluation of the results." Orig. art. has: 3 figures and 6 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 13Jun64 ENCL: 00 SUB CODE: SS, EM

NR REF SOV: 008 OTHER: 003

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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S/188/60/000/004/002/014
B005/B060

24,7600 (1035, 1158, 1160)

AUTHOR: Volkov, D. I.

TITLE: The Hall Effect in Ferromagnetics

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 4, pp. 18-20

TEXT: The author of the present paper studied the temperature dependence of the Hall effect in ferromagnetic substances. If also paramagnetic processes occur in these substances, then the Hall effect at temperatures below the ferromagnetic Curie point θ_f is given by the following equation: $E = R_o H + RI + R_i I_i$ (2) (E = Hall emf, referred to the units of current density and the electrode spacing; R = Hall constant in the technical magnetization I; R_o = "classical" Hall constant; H = magnetic field strength; I_i = magnetization depending on the para-process; R_i = Hall constant corresponding to the para-process). At temperatures in the immediate vicinity of the Curie point ($T \lesssim \theta_f$) the term RI can be

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

neglected in equation (2). However, it is more appropriate not to determine the Hall emf in this temperature range as a function of I_i, but of H, this being easily feasable with the aid of an equation theoretically derived by V. L. Ginzburg (Ref. 3) for the present case ($R_oH \ll R_iI_i$). The term R_oH must be also taken into account for strong magnetic fields. The following equation thus holds for the Curie point itself ($T = \Theta_f$):

$E/H = R_o + R_i/\beta^{1/3}H^{2/3}$ (7), where β is the thermodynamic coefficient.

This equation makes it possible to determine R_o in the experimental way. Experiments conducted by I. K. Kikoin (Ref. 5) in the range of high temperatures ($T \gg \Theta_f$) showed that also in the paramagnetic region the Hall effect is determined by the magnetization I, and not by the magnetic field. In this case, $E = R_oH + R_pI$ (8) (R_p being the paramagnetic Hall constant). The dependence of the Hall emf on H is directly derived therefrom: $E = R^*H$ (9), and $R^* = R_o + R_p\chi$ (10) (χ being the magnetic susceptibility which is practically independent of

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

the magnetic field). The value of χ can be determined for temperatures above the Curie point with the well-known law by Curie - Weiss. Equation (10) describes the temperature dependence of the effective Hall constant R^*. K. B. Vlasov and S. V. Vonsovskiy (Ref. 6) showed that the susceptibility of ferromagnetic metals at temperatures above the Curie point consists of two components, one of which (χ_T) is dependent on temperature according to the Curie - Weiss law, while the other (χ_k) is practically independent of temperature and, in the absence of interactions between s- and d-electrons, passes over into the ordinary susceptibility of conduction electrons. The temperature-independent part of the effective Hall constant in equation (10) thus consists of two components: the "classical" constant R_0 and the constant $R_p \chi_k$, which, in its turn, is dependent on the susceptibility of conduction electrons. These two components are in different manners dependent on the density n of conduction electrons in the unit volume: R_0 is proportional to $1/n$, while $R_p \chi_k$ is proportional to $n^{1/3}$ according to Pauli. N. S. Akulov and A. V. Cheremushkina (Ref. 2), and N. V. Bazhanova (Ref. 4) are mentioned.

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The Hall Effect in Ferromagnetics

83928
S/188/60/000/004/002/014
B005/B060

There are 7 Soviet references.

ASSOCIATION: Moskovskiy universitet Kafedra magnetizma (Moscow University, Chair of Magnetism)

SUBMITTED: November 26, 1959

Card 4/4

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, B.I.; TARASOV, B.V.; ZELENTSOVA, S.A.

Magnetic properties of glasses with admixtures of manganese, cobalt, and nickel. Fiz. tver. tela 6 no. 4:981-985 A '64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

MUSHKIN, N.I., kand. tekhn. nauk; VOLKOV, D.I., kand. tekhn. nauk

Calculating the heat exchange in mazut-operated marine boiler fireboxes. Sudostroenie 30 no.5:29-30 My '64. (MIRA 17:6)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

ACCESSION NR: AP4028417 S/0181/64/006/004/0981/0985

AUTHORS: Volkov, D. I.; Tarasov, B. V.; Zelentsova, S. A.

TITLE: Magnetic properties of glass containing additions of manganese, cobalt, and nickel

SOURCE: Fizika tverdogo tela, v. 6, no. 4, 1964, 981-985

TOPIC TAGS: glass, magnetic susceptibility, temperature dependence, Curie law, Curie Weiss law

ABSTRACT: The temperature dependence of the magnetic susceptibility of glass containing up to 13.8% Mn, 14.6% Co, and 14.5% Co was measured. The initial glass (without addition of Mn, Co, or Ni ions) was diamagnetic, with a susceptibility of $-0.35 \cdot 10^{-6}$, practically independent of temperature. With the addition of the indicated ions, the glasses became paramagnetic and strongly temperature dependent. The reciprocal of the susceptibility proved to depend linearly on the temperature for all compositions of glass tested, but it was found not to be zero at absolute zero. This means that the relation does not simply follow the Curie law, but is rather expressed by the Curie-Weiss law: $\chi = \frac{C}{T-\theta}$, where χ is the susceptibility,

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ACCESSION NR: AP4028417

C the Curie constant, T the absolute temperature, and θ the Weiss constant. The observed linear dependence was found to hold only at low temperatures. At high temperatures the relationship is destroyed, and the law ceases to hold, the changes in magnetic susceptibility becoming irreversible. Heating and cooling lead to different susceptibility values. This irreversible character holds for glasses containing any of the investigated ions, and this suggests that such behavior is due solely to changes in the framework of the glass itself. Orig. art. has: 4 figures, 1 table, and 1 formula.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 10Jun63

ENCL: 00

SUB CODE: MT

NO REF SOV: 003

OTHER: 001

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; KOZLOVA, T.M.

Hall effect in ferromagnetic metals near the Curie temperature.
Fiz. met. i metallovед. 20 no.3:355-360 S '65.
(MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

L 4916-66 EWT(1)/EWT(m)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/hw

ACCESSION NR: AP5025318 UR/0126/65/020/003/0355/0360
538.292:538:537.3

AUTHOR: Volkov, D. I.; Kozlova, T.M.

TITLE: Hall effect in ferromagnetic metals near the Curie point

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 3, 1965, 355-360

TOPIC TAGS: ferromagnetic material, Curie point, nonferrous metal, Hall constant, nickel base alloy, molybdenum containing alloy

ABSTRACT: The dependence of the Hall field on the true magnetization of ferromagnetic materials was investigated theoretically by Ye. I. Kondorskiy (ZhETF, 1965, 48, 506). Experimentally, the Hall effect was studied in Ni-Mo alloys (≦5 atom% Mo) near the Curie point in a magnetic field, where the magnetization of samples was controlled mostly by true magnetization. The experiments showed that (1) the anomalous Hall field was proportional to true magnetization; (2) the constant R_1, describing the Hall field in the region of true magnetization, had an absolute value higher than the Hall spontaneous constant R_s, i.e. $|R_1| > |R_s|$; (3) the R_1 and the spontaneous magnetization I_s were related

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by $|R_1| = |R_p| + aI_s^2$ (R_p is a constant in the paramagnetic region); and (4) at $I_s \to 0$; the R_1, as did the R_s, tended to acquire the value of the Hall paramagnetic constant, i.e. $\lim_{I_s \to 0} R_1 = R_p$. The Hall constant in the region of the Curie point had no maximum. It passed gradually into the paramagnetic region. The maximum of the Hall constant in the region of the Curie point, observed in some experiments, was caused by the fact that the determination was made of the effective Hall constant which depends on susceptibility. The effective Hall constant has a sharp maximum in the region of the Curie point. The Hall constants R_p and R_0 (Hall field constant) depended differently on the content in alloy of the nonferromagnetic component. The R_p increased monotonically with increased concentration of Mo in the alloy, whereas the R_0 had a maximum at a definite alloy composition (1.8 atom% of Mo). This experimental study substantiated the theoretical conclusions of Ya.I. Kondorskiy, to whom the authors are thankful for advice during the interpretation of the results. Orig. art. has: 6 figures and 10 formulas.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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ACCESSION NR: AP5025318

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

SUBMITTED: 22Jul64/--Sep65

ENCL: 00 SUB CODE: MM, TD

NO REF SOV: 010 OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; KOZLOVA, T.M.

Temperature dependence of the Hall effect in Ni-Mo alloys.
Fiz. met. i metalloved. 17 no.6:838-844 Je '64.
(MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; KOZLOVA, T.M.

Hall effect in nickel alloys. Zhur. eksp. i teor. fiz. 48 no.1:65-68 Ja '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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L 16454-65 EWT(l)/EWT(m)/EPF(n)-2/EEC(t)/EWP(t)/EWP(b) Pu-4/Pad/Peb IJP(c)/
ESD(t)/ESD(gs)/SSD/AFWL/AS(mp)-2 JD/HW/JG

ACCESSION NR: AP4042040 S/0126/64/017/006/0839/0844

AUTHOR: Volkov, D. I.; Kozlova, T. M.

TITLE: Temperature dependence of the Hall effect in Ni - Mo alloys

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 6, 1964, 839-844

TOPIC TAGS: Hall effect, Curie point, ferromagnetic metal, electrical resistivity, magnetic saturation, phonon scattering, Ni, Mo alloy

ABSTRACT: Neither experimental nor theoretical data provide information on the laws governing the spontaneous Hall effect near the Curie point where the processes of scattering on magnetic impurities are of significance. The authors studied the Hall effect in Ni - Mo alloys containing 1.2; 2.5 and 5 at% Mo. The electrical resistivity and magnetic saturation I_s^2 as affected by temperature were investigated within a room temperature - Curie point range. Observations below the Curie point were useful for the verification of the current theory of effect in ferromagnetic metals. Since a linear relationship exists between the spontaneous Hall coefficient R_s/ρ and ρ the former may be described by

$$R_s = a\rho + b\rho^2.$$

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ACCESSION NR: AP4042040

In the direct neighborhood of the Curie point where the changes in electrical resistivity are highest in accordance with temperature, the Hall coefficient R_s is independent of ρ while it remains constant. The authors also established a linear dependence between R_s and I_s^2. They conclude that along with the phonon mechanism of scattering, the mechanism of scattering on magnetic inhomogeneities participates in the Hall effect and plays a particular role near the Curie point. The authors recommend additional theoretical studies of the spontaneous Hall effect near the Curie point. Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy gosuniversitet imeni M. V. Lomonosova (Moscow State University)

SUBMITTED: 23Jul63 ENCL: 01

SUB CODE: MM,SS NO REF SOV: 008 OTHER: 001

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ACCESSION NR: AP4042040

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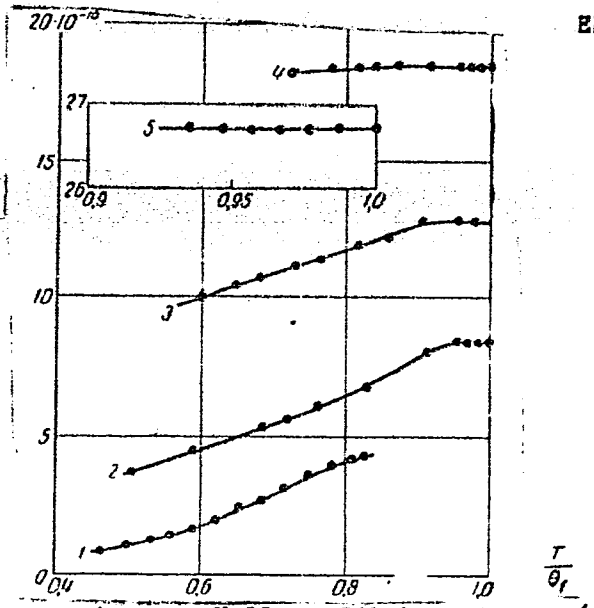

Fig. 1: Temperature versus spontaneous Hall coefficient R_s for (1) Ni and Ni - Mo alloys with (2) 1.2% Mo; (3) 2.5% Mo; (4) 3.8% Mo; (5) 5% Mo.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; PSHENICHKIN, P.A.; KARPACHEVA, G.P.

Temperature dependence of the magnetic susceptibility of manganese-copper alloys. Zhur. eksp. i teor. fiz. 43 no.2:370-375 Ag '62. (MIRA 16:6)

1. Moskovskiy gosudarstvennyy universitet.
(Manganese-copper alloys--Magnetic properties)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D. I., and PSHENICHKIN, P. A.,

"Anomalous Temperature Dependence of Paramagnetic Susceptibility of Some Mn-Alloys."

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

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I.; PSHENICHKIN, P.A.

Paramagnetism of manganese-antimony alloys at high temperatures. Fiz. met. i metalloved. 11 no. 4:513-518 Ap '61. (MIRA 14:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Manganese-antimony alloys--Magnetic properties)
(Metals at high temperatures)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

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S/056/62/043/002/002/053
B102/B104

AUTHORS: Volkov, D. I., Pshenichkin, P. A., Karpacheva, G. P.

TITLE: Temperature dependence of the magnetic susceptibility of manganese-copper alloys

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 2(8), 1962, 370 - 375

TEXT: The magnetic properties of Cu-Mn alloys show peculiarities, the causes of which have so far not been fully clarified. The authors studied χ (T) between 77 and 1250°K for Mn concentrations from 5.76 - 91.2 at%. Measurements were made by the weighing method. The alloys were fused in an evacuated h-f furnace. At low temperatures, all alloys show an antiferromagnetic transtition (Neel point Θ_N); Θ_N lies the deeper, the lower the Mn content; from 50% Mn upward, it remains constant at about 150°K. The course of the curves χ^{-1}(T) showing a minimum at Θ_N depends on the Mn content: up to 17%, they are linear between Θ_N and the melting point,

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

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as from 22% between Θ_N and room temperature. They show a salient point at room temperature, and go on linearly up to the melting point. The inclination of these straight lines is the greater, the higher the Mn concentration. Resistivity maxima occur at these critical temperatures. Alloys containing 82.3 and 91.2 at% Mn show an abnormal behavior of $\chi_{\perp}(T)$: χ grows with the temperature. The experimental results can be explained by assuming that conduction electrons participate in the exchange interaction. There are 5 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 8, 1962

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860520011-7

VOLKOV, D.I., inzh.

Heat loss during steam condensation in horizontal pipes.
Sudostroenie 26 no. 11:33-38 N '60. (MIRA 14:1)
(Steam engineering)

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