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APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

AUTHOR: Breydo, I. 107-58-3-39/41

TITLE: A Useful Beginning (Poleznoye nachinaniye)

PERIODICAL: Radio, 1958, Nr 3, p 63 (USSR)

ABSTRACT: Recently a series of lectures was held in Leningrad on small-size radio parts. The lectures were organized by NTORiE imeni A.S. Popov. The lectures dealt with materils for producing small-size receivers, capacitors, resistors, transformers, induction coils, printed circuits and technological questions. Some of the most interesting lectures were: "Physics and Technology of Electrotechnical Materials Used in the Manufacture of Radios" by N. Bogoroditskiy; "Capacitors Made of Paper and Tape" by L. Zakgeym; "Non-wire Resistors" by B. Gal'perin ; "Magnetic Materials" by V. Mes'kin. In the reports it was pointed out that there is a tendency to reduce the dimensions of the radio parts. Tantalum capacitors were listed as example for the effort made in this direction. However, there are certain obstac-

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cles in the development of new, small-size parts. Frequently, such parts are not manufactured immediately after their development is completed, because there are no orders from the consumers who do not know that these parts have been developed. Therefore it is necessary to publish information on new developments in periodicals on electronics, radio engineering, etc.

1. Radio equipment--Miniatureization

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

5(4) SOV/69-21-4-8/22

AUTHOR: Gal'perin, B.S. and Soldatova, L.P. (Leningrad)

TITLE: Orientation Effect in Lacquer Films With Carbon-Black Filler

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 4, pp 415-418 (USSR)

ABSTRACT: This is a study of the phenomenon of anisotropy of electric conductivity, which can be observed in carbon black lacquer films obtained by dipping the film support into solution. The experiments were carried out with small marble rods 20 mm long and 4 mm thick. The thickness of the coating did not exceed 5-7μ. The black carbon concentration in the film varied from 8 to 15%. Electric conductivity was measured along the rods, i.e. in the direction of running of the suspension. Other measurings, perpendicular to the mentioned direction, were made possible by grinding out a spiral around the rods. The results of both kinds of measuring(resistance) were evaluated in surface units (equations 2 and 3.)The coefficient of anisotropy was determined (equation 4). The experiments have shown

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Orientation Effect in Lacquer Films With Carbon-Black Filler

that anisotropy of electric conductivity of carbon black lacquer films obtained in the above described way is connected with orientation of the carbon black chains in the direction of running of the suspension. The anisotropy increases at an increase in the rate of drying of the film, and diminution of its carbon black content. The orientation effect in the films can be eliminated by introducing a small quantity of plasticizer into the solution. There are 3 graphs and 1 photograph.

SUBMITTED: March 1, 1958

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, B.S. (Leningrad); SOLDATOVA, L.P. (Leningrad)

Orientation effect in lacquer films with a carbon-black filler. Koll.zhur. 21 no.4:415-418 Jl-Ag '59. (MIRA 13:8)
(Lacquers and lacquering) (Carbon black)

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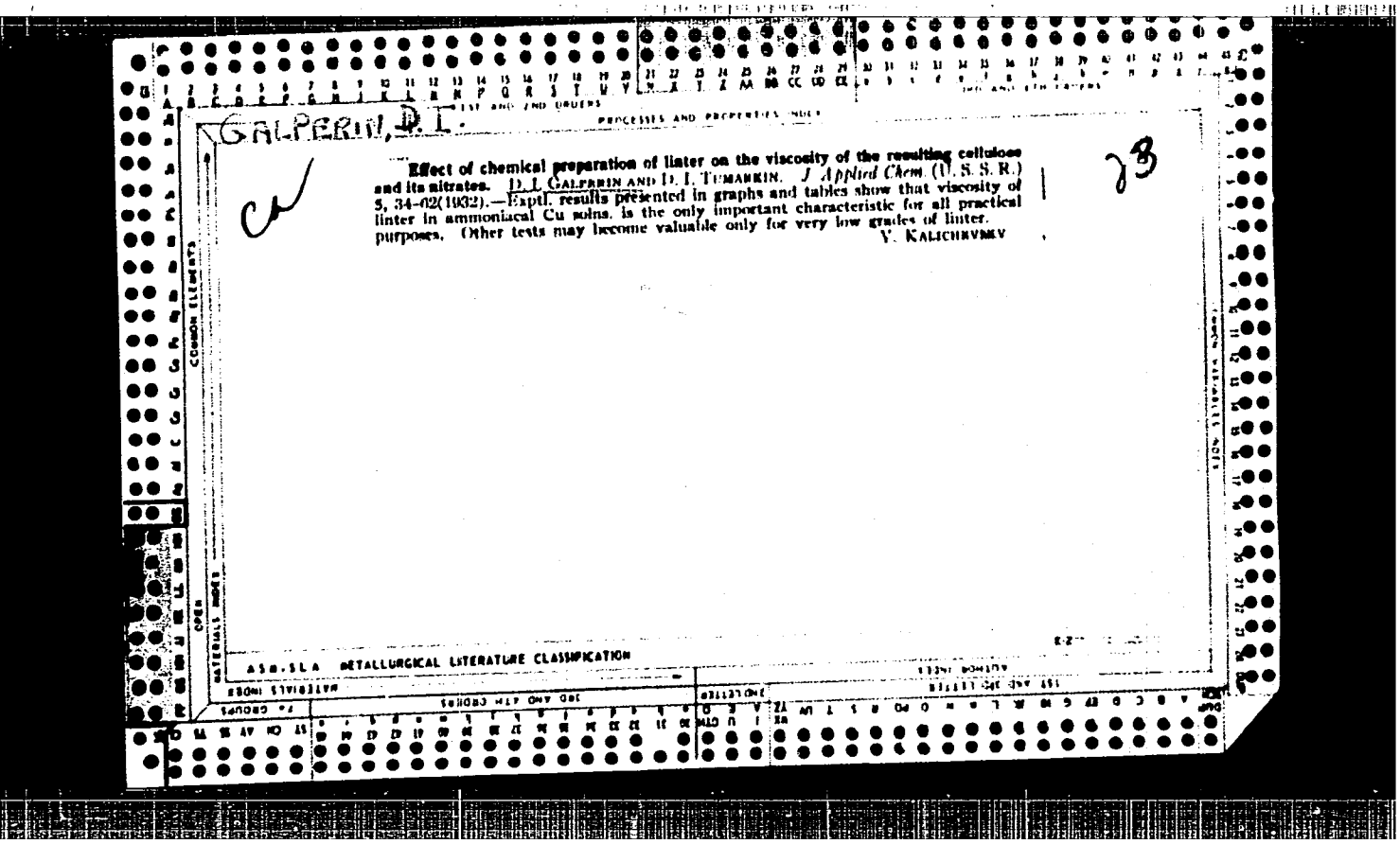

GALPERIN, D. I.

Effect of chemical preparation of linter on the viscosity of the resulting cellulose and its nitrates. D. I. GALPERIN AND D. I. TUMANKIN. *J Applied Chem.* (U. S. S. R.) 5, 34-62(1932).—Exptl. results presented in graphs and tables show that viscosity of linter in ammoniacal Cu solns. is the only important characteristic for all practical purposes. Other tests may become valuable only for very low grades of linter.
V. KALICHEVSKY

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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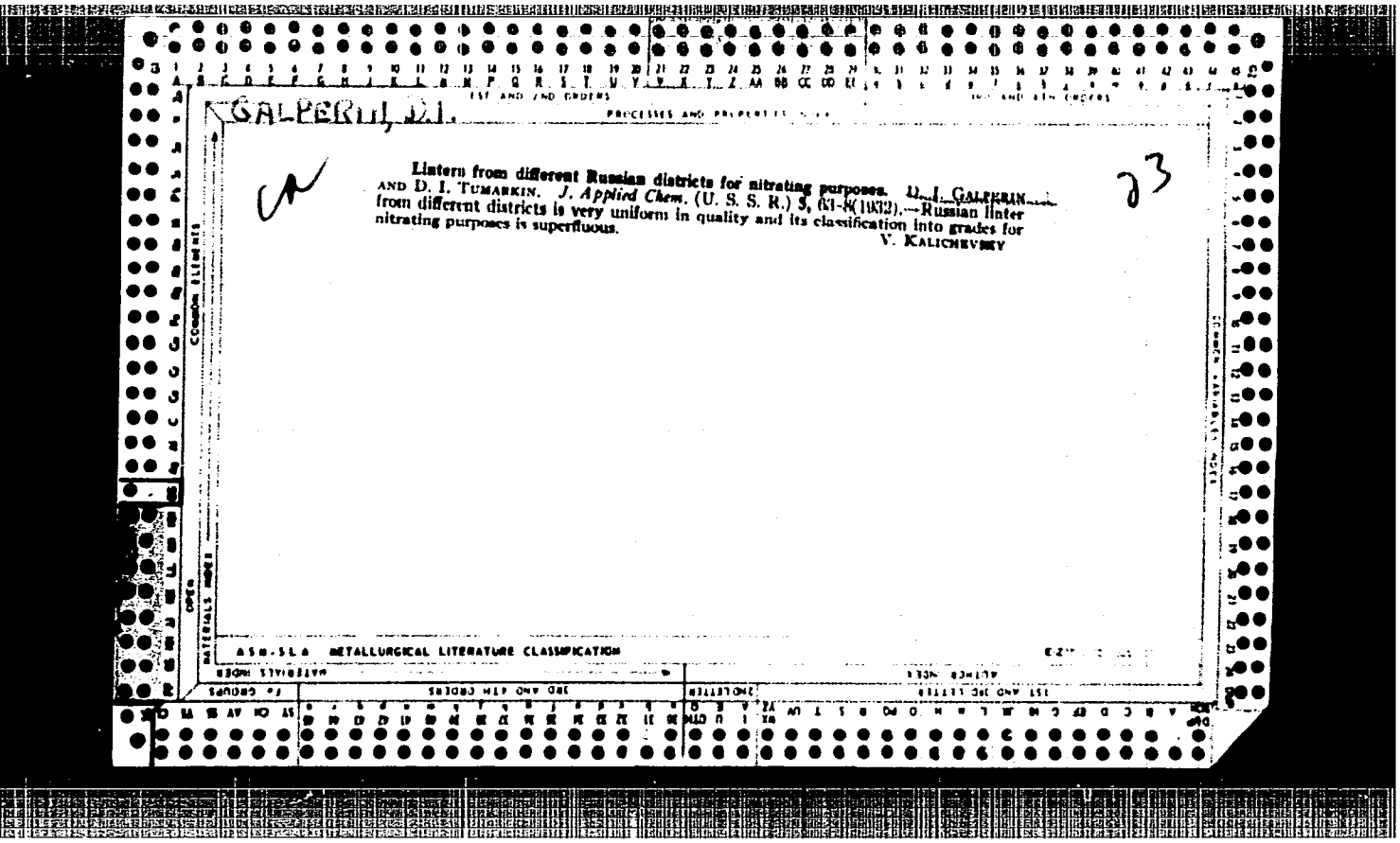


GALPERIN, D.I.

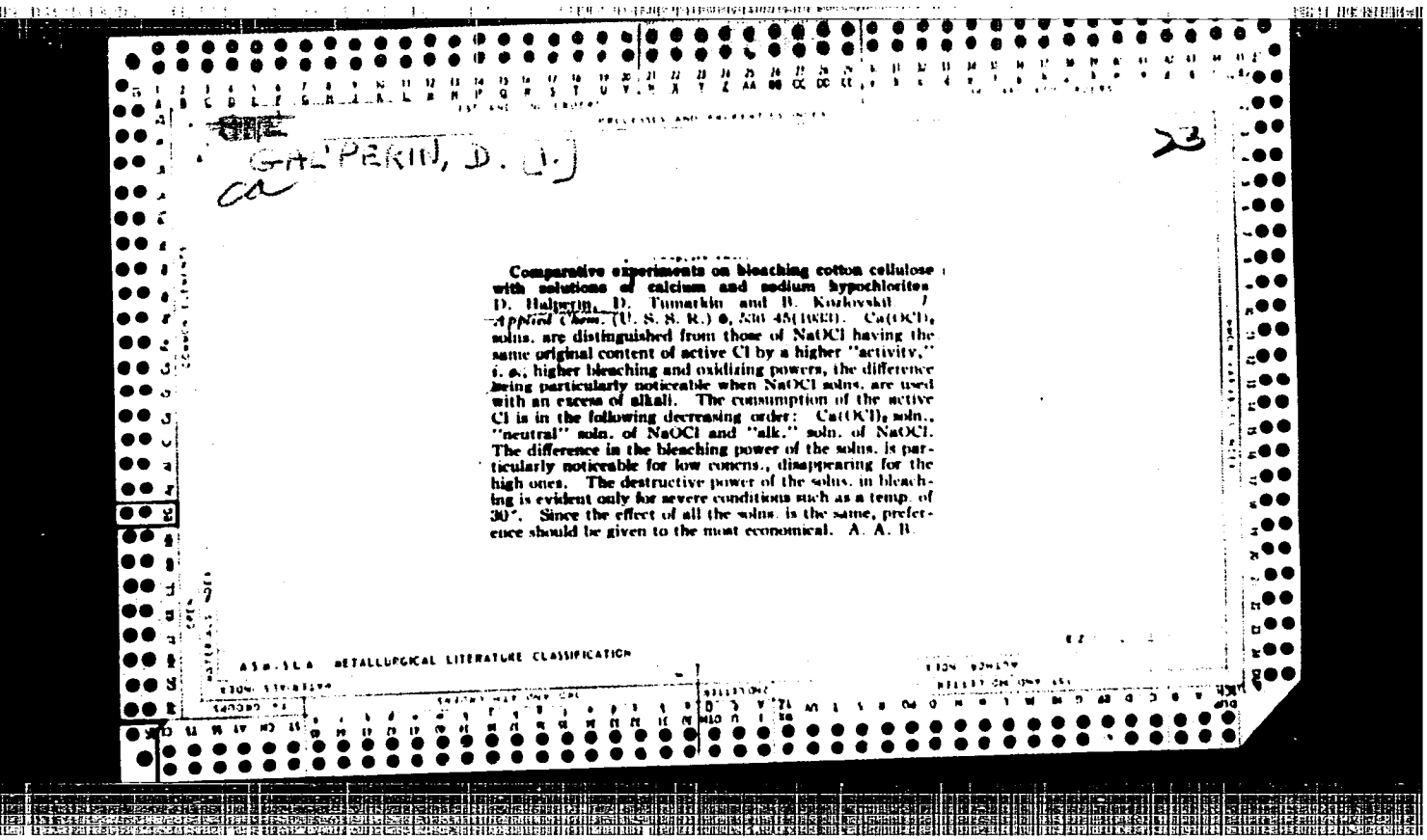
Listern from different Russian districts for nitrating purposes. D. I. GALPERIN AND D. I. TUMARKIN. *J. Applied Chem.* (U. S. S. R.) 5, 61-8(1932).—Russian linter from different districts is very uniform in quality and its classification into grades for nitrating purposes is superfluous.
V. KALICHEVSKY

23

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8



GALPERIN, D. I.

Ca

23

Comparative experiments on bleaching cotton cellulose with solutions of calcium and sodium hypochlorites. D. Halperin, D. Tumarkin and B. Kozlovskii. *Zhur. Prikladnoi Khim.* (U. S. S. R.) 6, 530-45(1933). $Ca(OCl)_2$ solns. are distinguished from those of NaOCl having the same original content of active Cl by a higher "activity," i. e., higher bleaching and oxidizing powers, the difference being particularly noticeable when NaOCl solns. are used with an excess of alkali. The consumption of the active Cl is in the following decreasing order: $Ca(OCl)_2$ soln., "neutral" soln. of NaOCl and "alk." soln. of NaOCl. The difference in the bleaching power of the solns. is particularly noticeable for low concns., disappearing for the high ones. The destructive power of the solns. in bleaching is evident only for severe conditions such as a temp. of 30°. Since the effect of all the solns. is the same, preference should be given to the most economical. A. A. B.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

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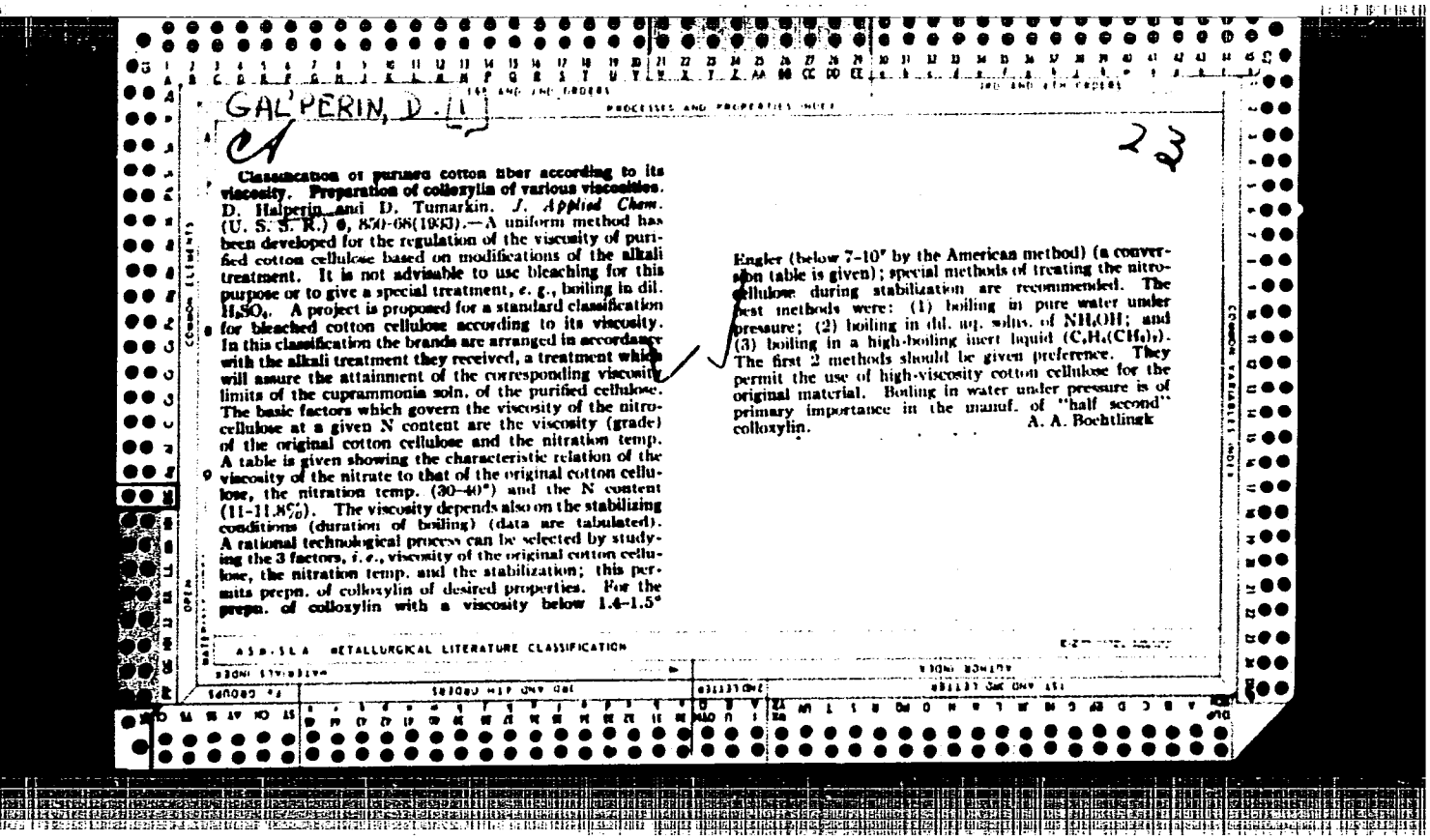

GAL'PERIN, D. I.

CA

23

Classification of purified cotton fiber according to its viscosity. Preparation of colloxylin of various viscosities. D. Halperin and D. Tumarkin. *J. Applied Chem.* (U. S. S. R.) 6, 850-66(1933).—A uniform method has been developed for the regulation of the viscosity of purified cotton cellulose based on modifications of the alkali treatment. It is not advisable to use bleaching for this purpose or to give a special treatment, *e. g.*, boiling in dil. H_2SO_4. A project is proposed for a standard classification for bleached cotton cellulose according to its viscosity. In this classification the brands are arranged in accordance with the alkali treatment they received, a treatment which will assure the attainment of the corresponding viscosity limits of the cuprammonia soln. of the purified cellulose. The basic factors which govern the viscosity of the nitrocellulose at a given N content are the viscosity (grade) of the original cotton cellulose and the nitration temp. A table is given showing the characteristic relation of the viscosity of the nitrate to that of the original cotton cellulose, the nitration temp. (30–40°) and the N content (11–11.8%). The viscosity depends also on the stabilizing conditions (duration of boiling) (data are tabulated). A rational technological process can be selected by studying the 3 factors, *i. e.*, viscosity of the original cotton cellulose, the nitration temp. and the stabilization; this permits prepn. of colloxylin of desired properties. For the prepn. of colloxylin with a viscosity below 1.4–1.5° Engler (below 7–10° by the American method) (a conversion table is given); special methods of treating the nitrocellulose during stabilization are recommended. The best methods were: (1) boiling in pure water under pressure; (2) boiling in dil. aq. solns. of NH_4OH; and (3) boiling in a high-boiling inert liquid ($C_6H_4(CH_3)_2$). The first 2 methods should be given preference. They permit the use of high-viscosity cotton cellulose for the original material. Boiling in water under pressure is of primary importance in the manuf. of "half second" colloxylin.

A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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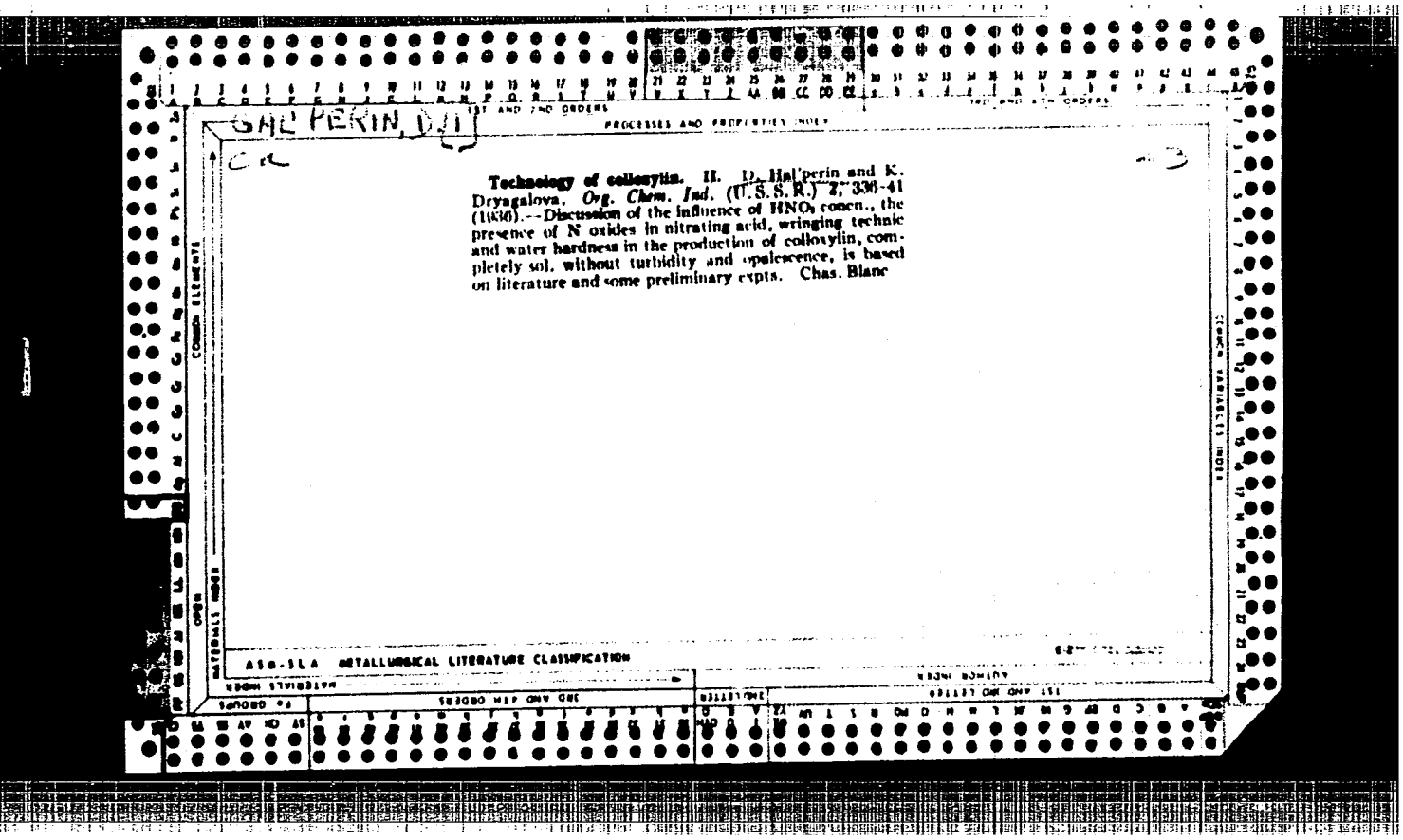

GAL'PERIN, D.I.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CR

Technology of colloxylin. II. D. Hal'perin and K. Dryagalova. *Org. Chem. Ind.* (U.S.S.R.) 2, 336-41 (1936).--Discussion of the influence of HNO_3 concn., the presence of N oxides in nitrating acid, wringing technic and water hardness in the production of colloxylin, completely sol. without turbidity and opalescence, is based on literature and some preliminary expts. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, D.I.

GAL'PERIN, D.I. (g. Molotov oblastnoy) MOSEYEV, L.I. (g. Molotov oblastnoy)

Heat of swelling and heat of solution of nitrocellulose. Koll.zhur. 19 no.2:167-171 Mr-Ap '57. (MLRA 10:5)
(Nitrocellulose)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, D.I. (Perm'); MOSHEV, V.V. (Perm'); STEPANOVA, V.G. (Perm')

Thermal and mechanical properties of plasticized ethyl cellulose. Koll. zhur. 23 no.1:8-11 Ja-F '61. (MIRA 17:2)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

L 08909-67 EWT(m)/EWP(j) RM

ACC NR: AP6023066 (A) SOURCE CODE: UR/0191/66/000/004/0041/0043

AUTHOR: Gal'perin, D. I.; Khamzin, S. I.; Stepanov, Ye. S.

ORG: none

TITLE: Mechanical properties of ethylcellulose plastics

SOURCE: Plasticheskiye massy, no. 4, 1966, 41-43

TOPIC TAGS: solid mechanical property, cellulose plastic, plasticizer

ABSTRACT: The authors studied the effect of the degree of substitution (ethylation) of ethylcellulose and of the concentration of different plasticizers on the mechanical properties of plasticized ethylcelluloses. The experiments were carried out with ethylcellulose samples containing 25% plasticizer (dibutyl phthalate, dioctyl phthalate, or tricresyl phosphate) and 1% diphenylamine antioxidant. Within the degree of substitution of 2.3-2.5, the glass transition temperature, tensile strength, and range of elasticity decreased regularly and the elongation at break and cold resistance increased. Experiments on the dependence of the temperature of the glass (T_g) on the concentration of plasticizer showed an equivolumetric relationship between the plasticizer concentration and T_g. This relationship is expressed by the empirical equation $T_g=182-3.64c_{vol}$, where c_{vol} is the concentration of a plasticizer in volume %. Orig. art. has: 5 fig. and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 002

UDC: 678.546.2.01 : 539.3

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APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E. A.

PA 75T60

USSR/Medicine - Scarlet Fever Apr 1948
Medicine - Penicillin

"Treatment of Scarlet Fever With Penicillin," E. A. Gal'perin, Moscow, 2 pp

"Sov Meditsina" No 4

Discusses results obtained from studies on some 800 scarlet fever cases treated by many methods. Penicillin therapy was found to be most effective; although not considered a specific therapy, it can be considered a pathogenetic therapy.

[redacted] 75T60

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

USSR/Medicine - Scarlet Fever Mar/Apr 49
Medicine - Sulfanilamide and Sul-
fanilamide Derivatives

"Is It Worth While to Use Streptocide for Scarlet Fever?" M. A. Gal'perin, Clinic of Infectious Diseases, Cen Inst for Advancement of Doctors; Ord of Lenin Hosp imeni Botkin, 4 pp

"Pediatriya" No 2

Clinical study of scarlet fever treatment indicated that streptocide had no antipyretic actions and no effect on the recurrence of critical symptoms. Also observed an absence of preventive action

41/49T79

USSR/Medicine - Scarlet Fever (Contd) Mar/Apr 49

against complications. Use of streptocide for scarlet fever is not justifiable and must be discontinued.

41/49T79

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, Ye.A.

Treatment of relapsing fever with neosalvarsan preparations. Klin.med., Moskva no.4:64-71 Ap '50. (CLML 19:3)

1. Of the Clinic of Infectious Diseases (Head -- Prof. G.P.Rudnev) of the Central Institute for the Advanced Training of Physicians and of the Hospital imeni Botkin, Moscow.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, Ye.A.; RYSKIND, R.R.; PERSHIN, G.N.

Application of synthomycin in erysipelas. Klin. med., Moskva 31 no.6: 68-70 June 1953. (CIML 25:1)

1. Of the Clinic for Infectious Diseases (Head -- Prof. G. P. Rudnev), Central Institute for the Advanced Training of Physicians.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, Efraim Aleksandrovich

Academic degree of Doctor of Medical Sciences, based on his defense, 22 February 1955, in the Council of the Central Inst for the Advanced Training of Physicians, of his dissertation entitled: "Materials on the Pathogenesis and Treatment of Scarlet Fever."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 16, 2 Jul 55, Byulleten' MVO SSSR, No. 15, Aug 56, Moscow, pp 5-24, Uncl. JPRS/NY-537

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GALPERIN, DR E A,

TETANUS

"Tetanus", by Doctor of Medical Sciences E.A. Galperin, Zdorov'ye, No 5, May 1957, p 20.

This popular type article reports that tetanus is an acute infectious desease caused by a toxin produced in the human body by a genus of Bacillaceae, which are anaerobic spore-bearing gram-positive rods. The symptoms of this disease are described in detail. Dr. Galperin concludes that a prophylactic vaccination is the most efficient means of fighting tetanus.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

E

Country : USSR
Category: Virology. Viruses of Man and Animals. Rickettsias.

Abs Jour: Ref Zhur-Biol., No 23, 1958, No 103580

Author : Gal'perin, E. A.
Inst : -
Title : The Clinic, Therapy and Pathogenesis of Polycyclic (Five-Day Fever) and Paroxysmal Rickettsial Diseases

Orig Pub: Sb. Lecheniye infekts. bol'nykh. No 3, Moscow, 1957, 20-30.

Abstract: No abstract.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., doktor med.nauk

Clinical aspects, treatment and pathogenesis of polycyclical (five-day fever) and paroxysmal rickettsiosis. Lech. infekts. bol'., no.3: 20-30 '57. (MIRA 14:5)

(RICKETTSIAL DISEASES)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., doktor med.nauk; YEREMENKO, A.V., kand.med.nauk

Treatment of typhus fever with some antibiotics. Lech. infekts. bol'. no.3:31-48 '57. (MIRA 14:5)
(TYPHUS FEVER) (ANTIBIOTICS)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

EXCERPTA MEDICA Sec 4 Vol.11/9 Microbiology Sep 58

2152. RICKETTSIOSIS QUINTANA (5-DAY FEVER): PATHOGENESIS, CLINICAL PICTURE AND DIAGNOSIS (Russian text) - Galperin E. A. - Z. MIKRO-BIOL. 1957, 6 (62-66) Graphs 1

The disease was known to occur in epidemic form during the 1st and 2nd world wars, but it never disappeared entirely and is diagnosed sporadically. The disease is characterized by a polycyclic course with several febrile attacks each from 1 - 7 days' duration. In 50% of cases a roseolar skin rash was observed. The disease, which is accompanied by headaches, muscular pains, hyperaemia of the face, conjunctivitis and general malaise, lasts 3 - 6 weeks. The causative agent is Rickettsia quintana, which may persist in the circulating blood 2 - 3 months and even 1.5 yr. in viable form.

Anigstein - Galveston, Tex. (L, 6, 4)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., doktor med.nauk

Role of streptococcal allergy in scarlet fever. Pediatriia no.8: 19-24 Ag '57. (MIRA 10:12)

1. Iz kliniki infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. G.P.Rudnev) TSentral'nogo instituta usovershenstvovaniya vrachey i bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov)

(SCARLET FEVER) (STREPTOCOCCUS) (ALLERGY)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.

"Chart for differential diagnosis of the most important acute infectious diseases" by A.F.Bilibin. Reviewed by E.A.Gal'perin. Sov.med. 21 no.1:156-157 Ja '57. (MLRA 10:6)
(COMMUNICABLE DISEASES) (DIAGNOSIS)
(BILIBIN, A.F.)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

(GAL'PERIN, E.A.)

USSR/Virology - Human and Animal Viruses.

E-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14601

Author : Gal'perin, E.A.
Inst : -
Title : Polycyclic Rickettsia (5-day Fever). Pathogenesis, Clinical Treatment and Diagnosis.

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiologii, 1957, No 6, 62-66

Abstract : No abstract.

Card 1/1

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., KUZICHEVA, L.R., AKILOV, A.A.

Intranasal vaccination against influenze A2. Vop.virus. 3 no.5: 305-306 S-) '58 (MIRA 11:10)

1. Kafedra infektsionnykh bolezney TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(INFLUENZA, immunology,
A2, vaccine for intranasal admin (Rus))

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., prof. (Moskva)

Is there a basis for I.Z.Kopshitser's conclusions in the article "Neuropsychic disorders in spirochetal jaundice?" Klin.med. 36 no.3:144-145 Mr '58. (MIRA 11:4)
(WEIL'S DISEASE)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., doktor med.nauk

Tetanus. Zdorov'e 5 no.6:28 Je '59. (MIRA 12:11)
(TETANUS)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.

Current status of the problem of erysipelas and further problems in the control of this infection. Zhur.mikrobiol.epid.i immun. 31 no.1:125-130 Ja '60. (MIRA 13:5)
(ERYSIPELAS prev. & control)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., prof.; YEREMENKO, A.V., kand.med.nauk

Treatment of typhus fever with antibiotics and hormone preparations. Report No.4: Treatment with levomycetin. Lech. infekts. bol'. no.4: 126-143 '60. (MIRA 14:5)
(TYPHUS FEVER) (CHLOROMYCETIN) (ACTH)
(CORTISONE)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.; YEREMENKO, A.V.

Treatment of typhus patients with a combination of ACTH or cortisone and oxytetracycline. Antibiotiki 5 no.2:105-110 Mr-Ap '60. (MIRA 14:5)

1. Klinika infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN prof. G.P.Rudnev) TSentral'nogo instituta usovershenstvovaniya vrachey.

(TYPHUS FEVER) (TERRAMYCIN)
(ACTH) (CORTISONE)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., (Moskva)

Clinical aspects of influenza and associated problems. Klin.med. 36 no.5:48-56 My '58 (MIRA 11:7)
(INFLUENZA,
clin. aspects (Rus))

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, Efraim Aleksandrovich; KARON, I.I., red.; PETROVA, N.K., tekhn. red.

[Clinical aspect of smallpox and vaccination reactions] Klinika ospy i privivochnykh reaktsii. Moskva, Medgiz, 1962. 157 p. (MIRA 16:3)

(SMALLPOX)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.; KRASOVITSKIY, Z.I.; VORONTSOV, G.Ya., [illegible]

Observations of vaccinations against influenza A2. Trudy [illegible] 68: 64-67 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.; BULDAKOVA, A.A.; LIZGUNOVA, A.V.

Clinical aspects of the outbreak of influenza A2 in January 1962.
Trudy TSIU 68:167-171 '64. (MIRA 18:5)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A.

Clinical classification of acquired toxoplasmosis. Trudy TSIU 80:154-155 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.A., prof.

Did the patient with Behcet's syndrome, described by B.I. Krasnov and I.S. Kamenetskii, have toxoplasmosis? Vest. derm. i ven. no.3:77-78 '65. (MIRA 18:11)

1. Klinika infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. G.P. Rudnev) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.I., Cand Med Sci -- (diss) "~~Attempt at~~ Experience in the diagnosis and treatment of portal hypertension." Mos, 1959, 16 pp (First Mos Order of Lenin Med Inst im I.M. Sechenov) 200 copies (KL, 36-59, 118)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

PETROV, B.A., prof.; GAL'PERIN, E.I., doktor

Diagnosis and treatment of portal hypertension. Khirurgiia 35 no.12:32-38 D '59. (MIRA 13:6)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (dir. - zasluzhennyy vrach USSR M.M. Tarasov).
(HYPERTENSION PORTAL)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.I., kand.med.nauk; SHCHERBATENKO, M.K., kand.med.nauk

Single-stage splenoportography in portal hypertension. Khirurgiia 36 no.10:132-134 O '60. (MIRA 13:11)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (nauchnyy rukovoditel' - zasluzhennyy deyatel' nauki prof. B.A. Petrov, dir. - zasluzhennyy vrach USSR M.M. Tarasov).
(HYPERTENSION) (ANGIOGRAPHY)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

RUDENSKAYA, M.V., kand.biologicheskikh nauk; GAL'PERIN, E.I., kand.med.nauk

Some functional and morphological changes in the liver deprived of the portal blood. Sov.med. 25 no.4:105-112 Ap '61. (MIRA 14:6)

1. Iz eksperimental'noy laboratorii (zav. - kandidat meditsinskikh nauk V.S.Dashkovskaya) Nauchno-issledovatel'skogo instituta imeni Sklifosovskogo (dir. - zasluzhennyy vrach USSR M.M.Tarasov).
(LIVER) (PORTAL VEINS)

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.I., kand. med. nauk; SHCHERBATENKO, M.K., kand. med. nauk

Simultaneous examination of the portal and the biliary systems (splenoportocholangiography). Khirurgiia 39 no.8:63-65 Ag '63. (MIRA 17:6)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR, zasluzhennyy deyatel' nauki prof. B.A. Petrov, direktor - zasluzhennyy vrach UkrSSR M.M. Tarasov).

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.I.; TEVDORADZE, O.M.

Roentgenological and manometric examination of the bile ducts during surgery. Khirurgiia 39 no.11 15-21 N '63.
(MIRA 17:11)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR zasluzhennyy deyatel' nauki prof. B.A. Petrov) i kafedry gospital'noy khirurgii (zav. - zasluzhennyy deyatel' nauki prof. M.K. Chachava) pediatricheskogo i sanitarno-gigiyenicheskogo fakul'teta Tbilisskogo meditsinskogo instituta.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, Eduard Izrailevich; OSTROVSKAYA, Inna Mironovna; PISAREVSKIY, A.A., red.

[Contrast examination in surgery on the biliary tract] Kontrastnoe issledovanie v khirurgii zhelchnykh putei. Moskva, Meditsina, 1964. 163 p. (MIRA 17:4)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

PETROV, B.A., prof.; GAL'PERIN, E.I., kand. med. nauk

Choledochotomy in chronic and acute cholecystitis. Khirurgiia 40 no.2:58-65 F '64. (MIRA 17:7)

1. Institut skoroy pomoshchi imeni N.V. Sklifosovskogo (direktor M.M. Tarasov), Moskva.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, E.I., kand. med. nauk

Bilirubin test in the differential diagnosis of mechanical and parenchymatous jaundice. Khirurgiia 40 no.3:56-60 Mr '64. (MIRA 17:9)

1. Moskovskiy gorodskoy nauchno-issledovatel'skiy institut imeni Sklifosovskogo (nauchnyy rukovoditel'- chlen-korrespondent AMN prof. B.A. Petrov).

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GALPERIN, F.I.

DECEASED
C' 1962

1962/6

SEE ILC

SHOE INDUSTRY

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L 20707-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RAEM(1) RM

ACCESSION NR: AR3010298 S/0081/63/000/012/0726/0726

SOURCE: RZh. Khimiya, Abs. 12T372

AUTHOR: Gal'perin, F. I., Ol'shevskaya, Ye. S., Insarova, A. V.

TITLE: Viscous flow properties of rubber and rubber mixtures

CITED SOURCE: Nauchno-issled. tr. Ukr. n.-i. in-t kozh.-obuvn. prom-sti, sb. 13, 1962, 192-205

TOPIC TAGS: rubber flow, rubber viscosity, synthetic rubber, rubber extrusion, styrene, plasticizer, sulfur content, SKS rubber, SKN rubber, SKI rubber, NK rubber

TRANSLATION: The authors studied changes in the index of viscosity of rubber and rubber mixtures. In order to determine the index of viscosity, they used a piston, in the center of which there was a capillary through-hole, 2 mm in diameter, for extrusion of the rubber mixture. The viscosity was determined from the height of the extruded rod and from the kinetics of its formation, as well as from the time required for extrusion of a column of rubber 3 mm high. NK, SKS-30, SKS-40, SKN-50 and SKI rubber were tested at 20 and 160 ± 3C. The lowest viscosity was

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ACCESSION NR: AR3010298

shown by SKI rubber, that of NK rubber being 2.5 times as high. Due to the significant branching of its structure, SKS-30 is characterized by a relatively high viscosity. The viscosity is decreased by plasticizing or an increase in the styrene concentration. The transition to the visco-fluid state during heating increases the fluidity of NK rubber 10 fold, and that of SKI and SKN-40, 5 fold. At 160C, the nature of the curves of 3-hour flow shows a tendency towards further growth. Sulfur acts as a plasticizing agent, increasing the fluidity by 30% at 20C. Comparative experiments on the outflow of rubber through an orifice 2 mm in diameter showed that there is no increasing inhibition in a capillary tube. Rubber mixtures made with plasticized or non-plasticized SKS-30 had a viscosity which was about equal to the viscosity of the rubber from which they were made.
Yu. Vilents

SUB CODE: MT ENCL: 00

Card 2/2

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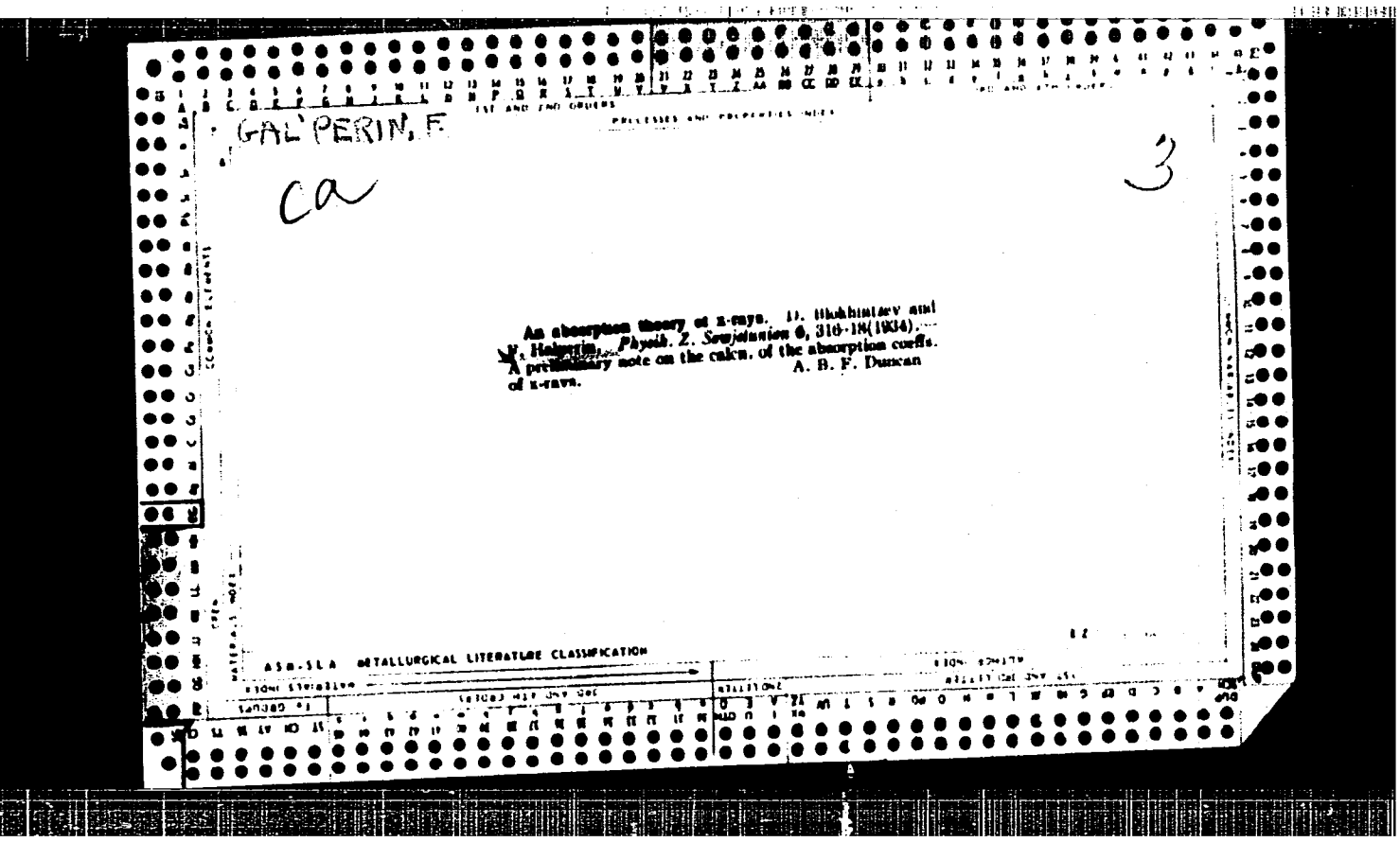

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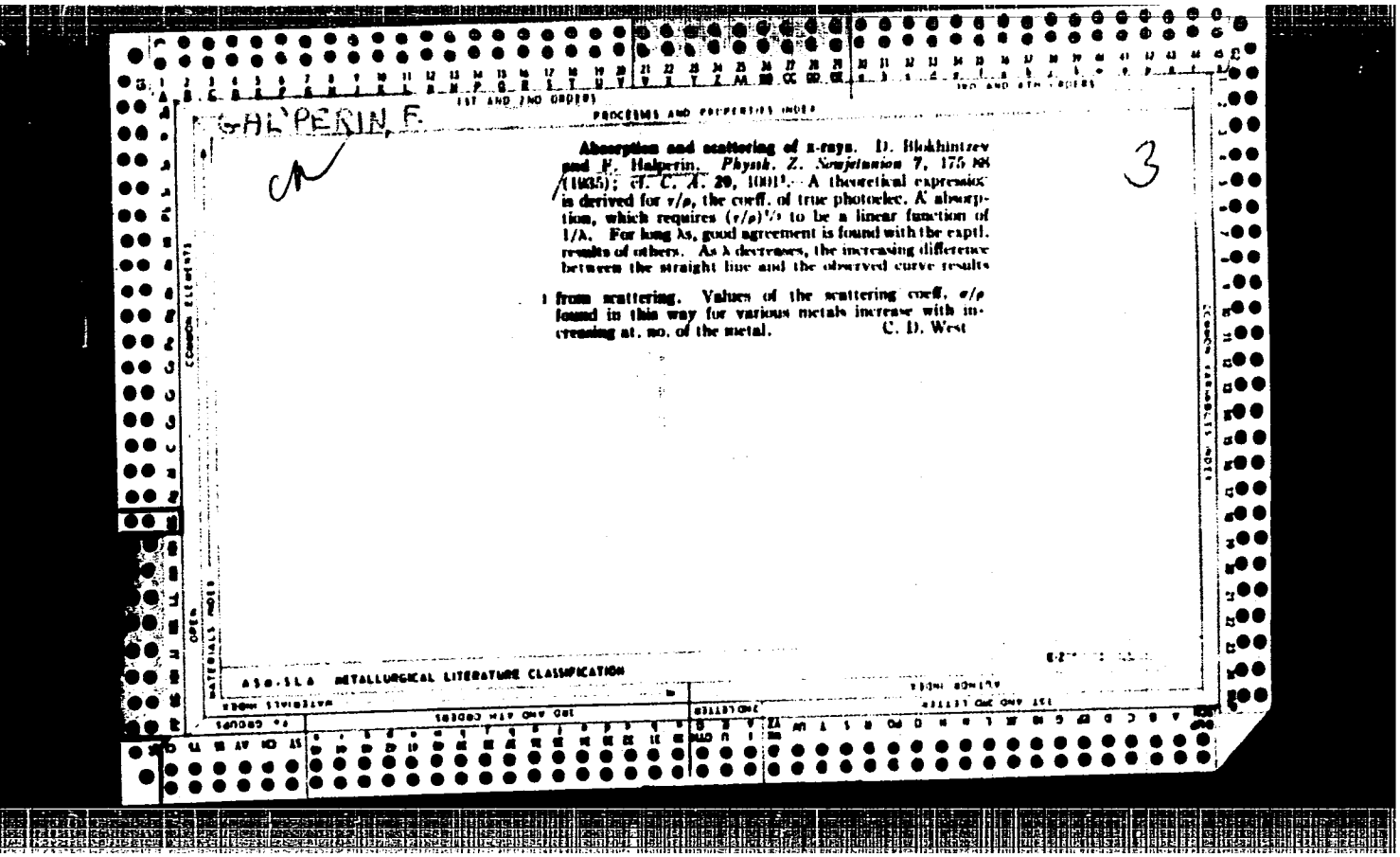

GALPERIN, E.

Absorption and scattering of x-rays. D. Blokhintzev and E. Halperin. *Physik. Z. Sowjetunion* **7**, 175-88 (1935); *C. C. A.* **29**, 1001[1]. A theoretical expression is derived for τ/ρ, the coeff. of true photoelec. K absorption, which requires $(\tau/\rho)^{1/3}$ to be a linear function of $1/\lambda$. For long λs, good agreement is found with the exptl. results of others. As λ decreases, the increasing difference between the straight line and the observed curve results from scattering. Values of the scattering coeff., σ/ρ found in this way for various metals increase with increasing at. no. of the metal. C. D. West

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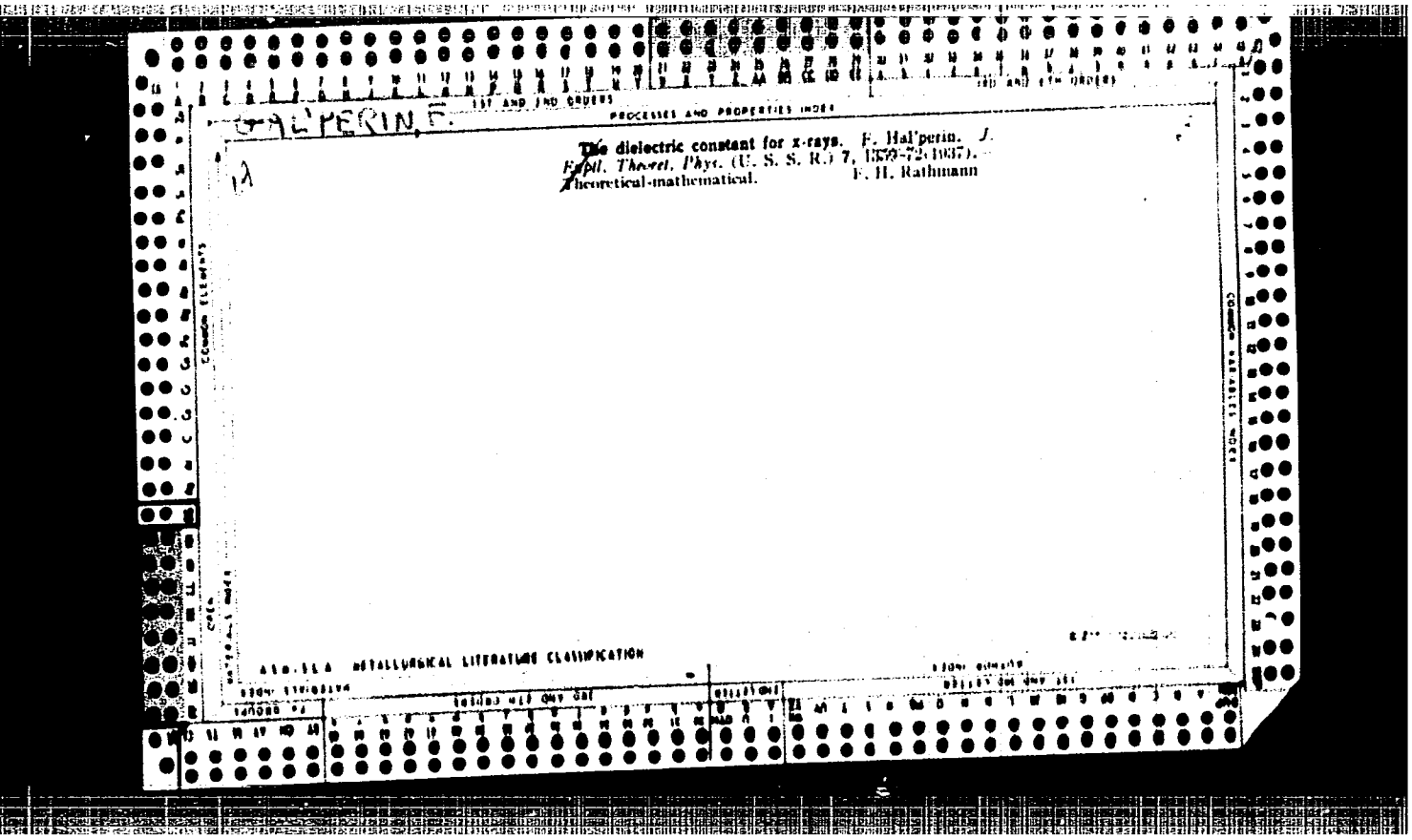

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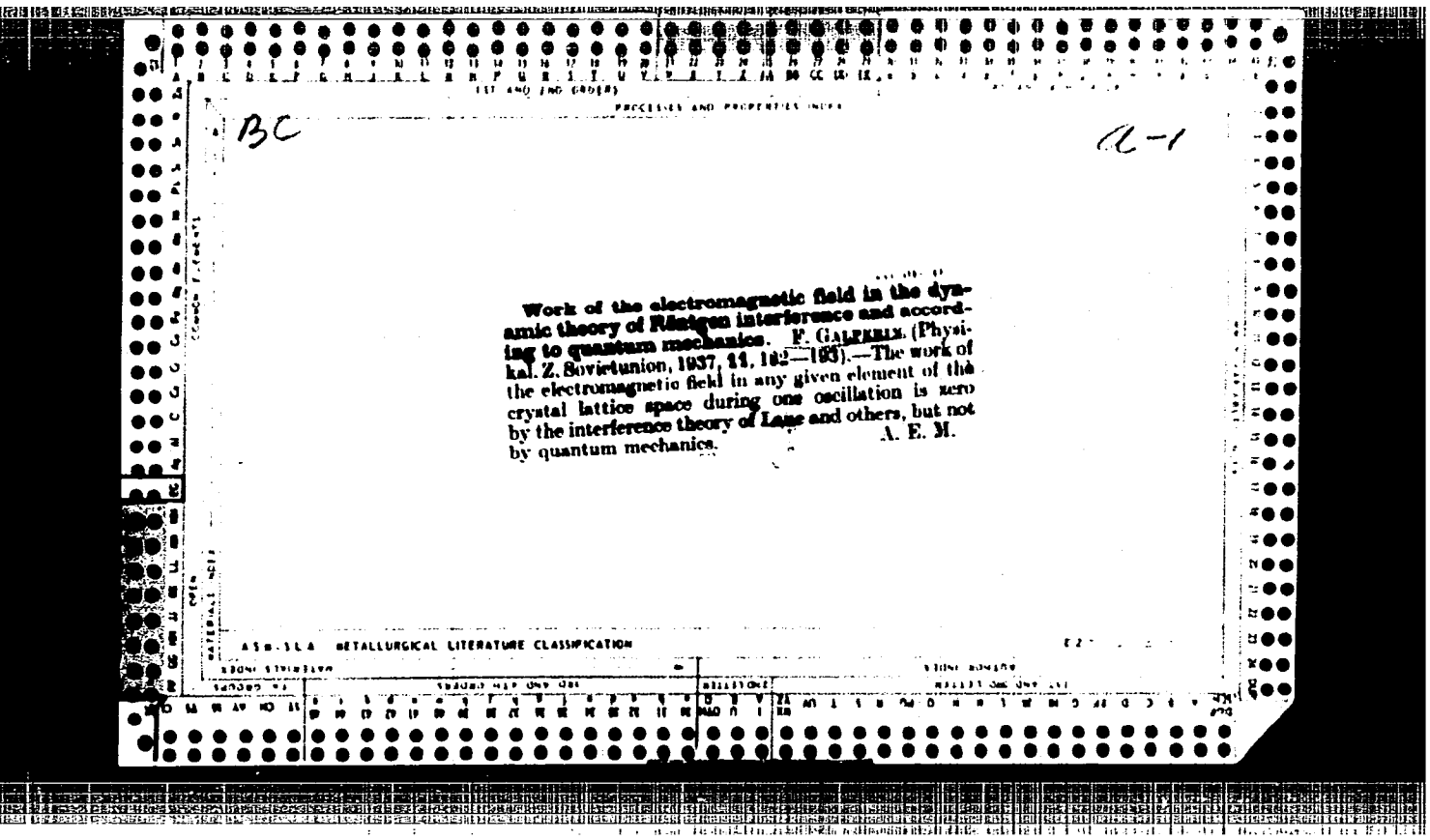

BC

A-1

Work of the electromagnetic field in the dynamic theory of Röntgen interference and according to quantum mechanics. F. GALPERIN. (Physikal. Z. Sowjetunion, 1937, 11, 183—193).—The work of the electromagnetic field in any given element of the crystal lattice space during one oscillation is zero by the interference theory of Laue and others, but not by quantum mechanics. A. E. M.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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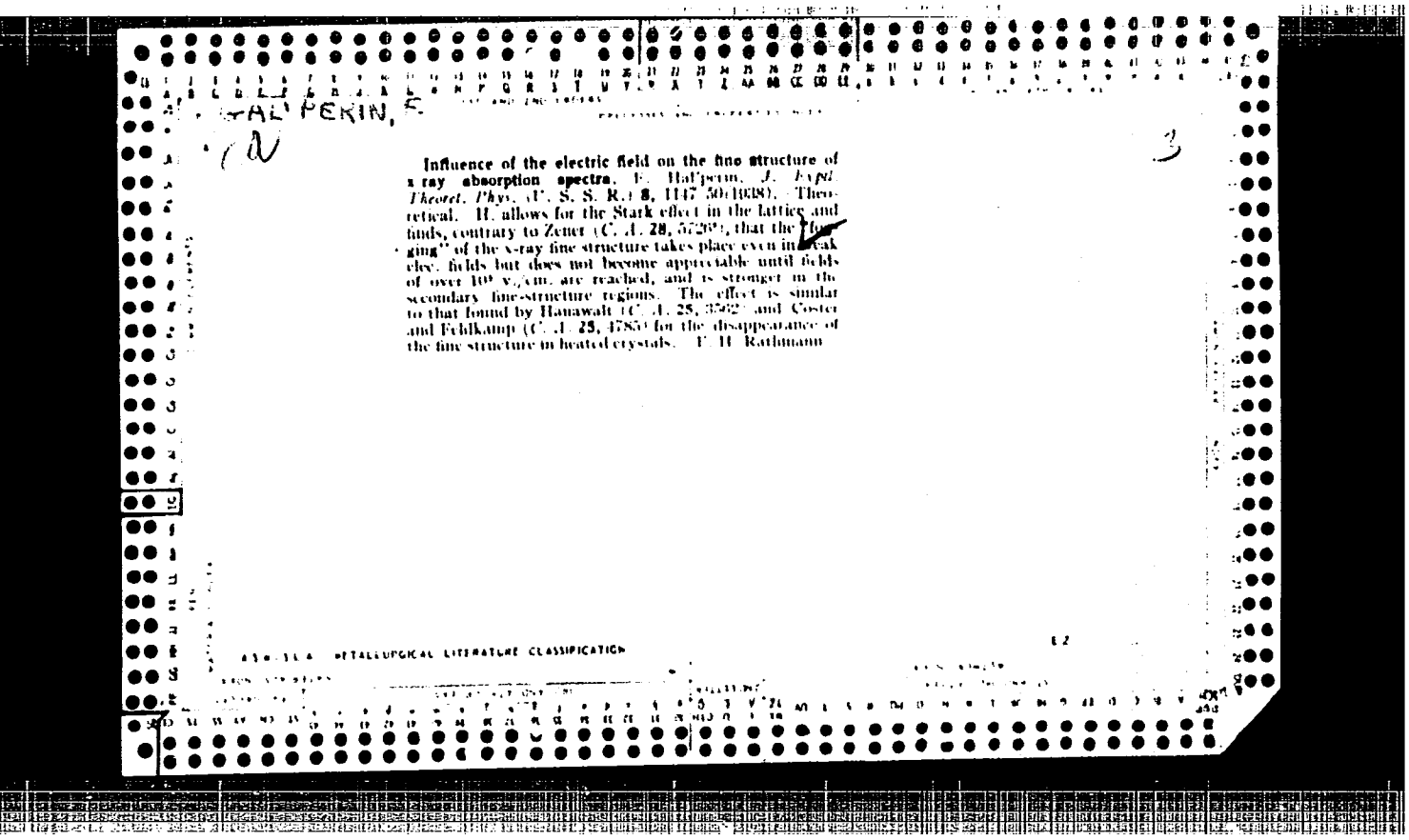

HALPERIN, E.

Influence of the electric field on the fine structure of x ray absorption spectra. E. Halperin. *J. Exptl Theoret. Phys. (U. S. S. R.)* **8**, 1147-50(1938). Theoretical. H. allows for the Stark effect in the lattice and finds, contrary to Zener (C. A. **28**, 5725⁹), that the "fuzzing" of the x-ray fine structure takes place even in weak elec. fields but does not become appreciable until fields of over 10^8 v./cm. are reached, and is stronger in the secondary fine-structure regions. The effect is similar to that found by Hanawalt (C. A. **25**, 3562⁵) and Coster and Veldkamp (C. A. **25**, 4785⁵) for the disappearance of the fine structure in heated crystals. F. H. Rathmann

ASM-TSIA METALLURGICAL LITERATURE CLASSIFICATION

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"Divergency in the Higher Approximations in Quantum Electro-Dynamics," Zhur. Esper. i Teoret. Fiz., 9, No. 12, 1939.

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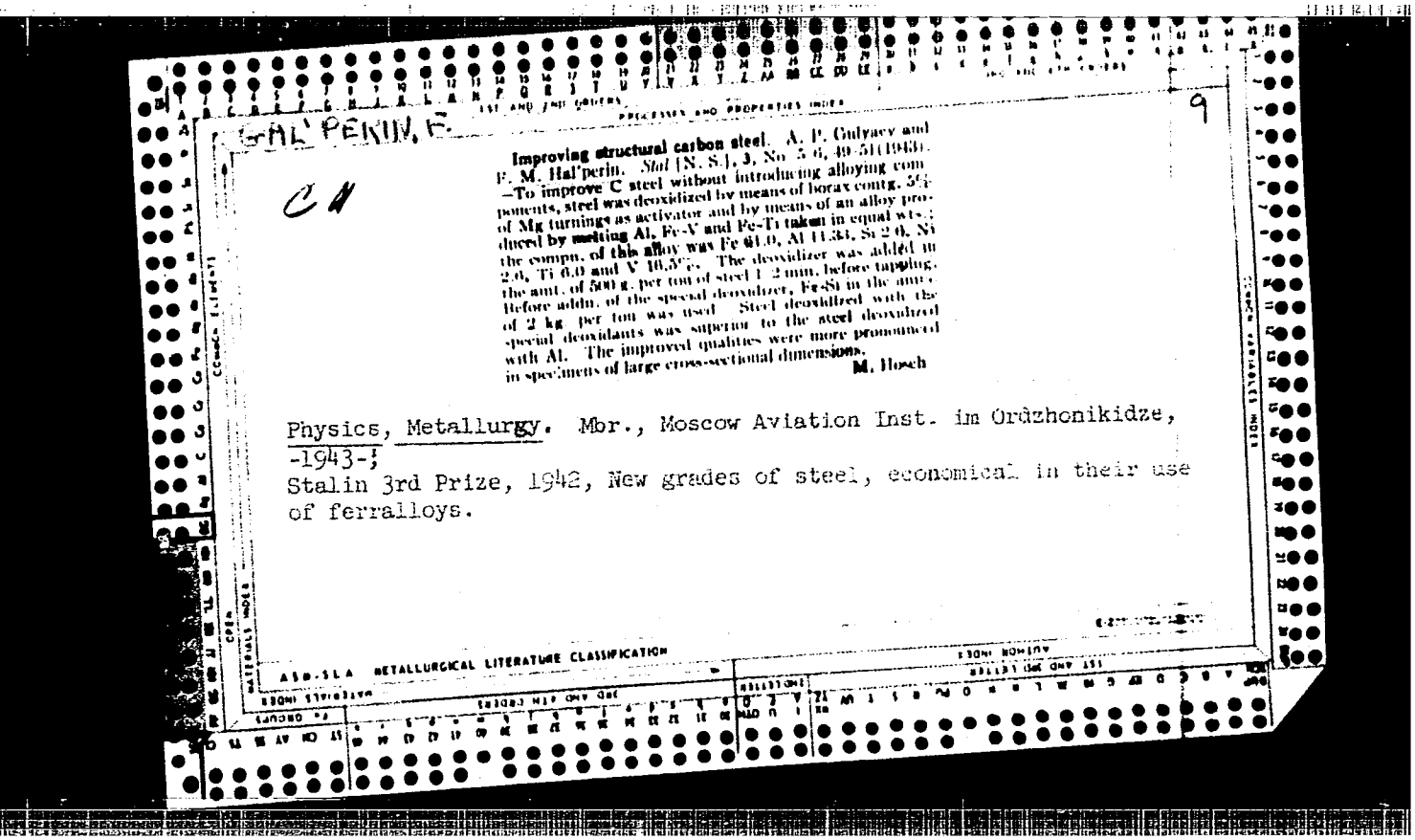

HAL'PERIN, F.

CA

9

Improving structural carbon steel. A. P. Gulyaev and F. M. Hal'perin. *Stal* [N. S.], 3, No. 5-6, 49-51(1943).—To improve C steel without introducing alloying components, steel was deoxidized by means of borax contg. 5% of Mg turnings as activator and by means of an alloy produced by melting Al, Fe-V and Fe-Ti taken in equal wts.; the compn. of this alloy was Fe 61.0, Al 11.34, Si 2.0, Ni 2.0, Ti 0.0 and V 10.5%. The deoxidizer was added in the amt. of 500 g. per ton of steel 1-2 min. before tapping. Before addn. of the special deoxidizer, Fe-Si in the amt. of 2 kg. per ton was used. Steel deoxidized with the special deoxidants was superior to the steel deoxidized with Al. The improved qualities were more pronounced in specimens of large cross-sectional dimensions.

M. Hosch

Physics, Metallurgy. Mbr., Moscow Aviation Inst. im Ordzhonikidze, -1943-;
Stalin 3rd Prize, 1942, New grades of steel, economical in their use of ferralloys.

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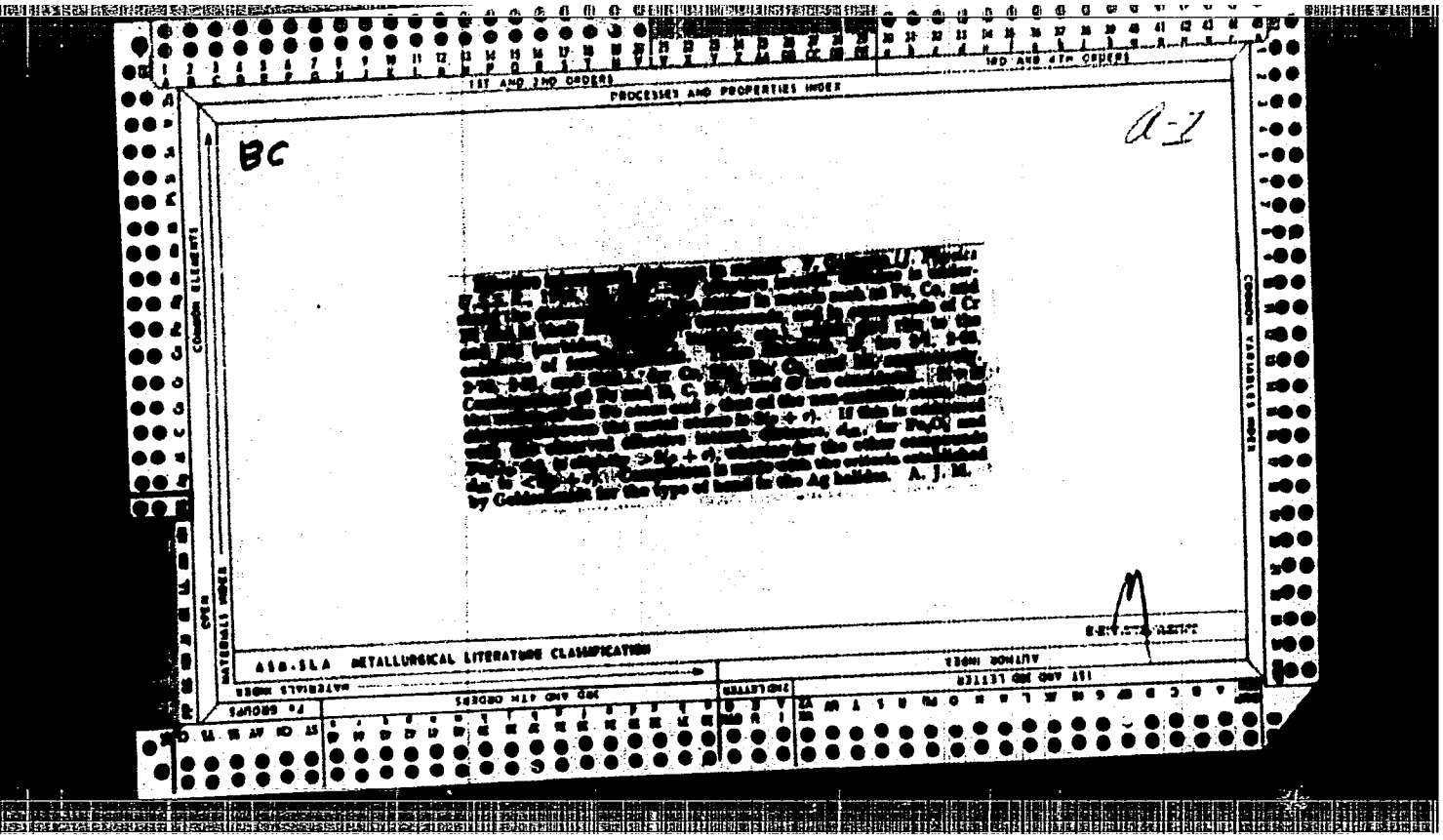

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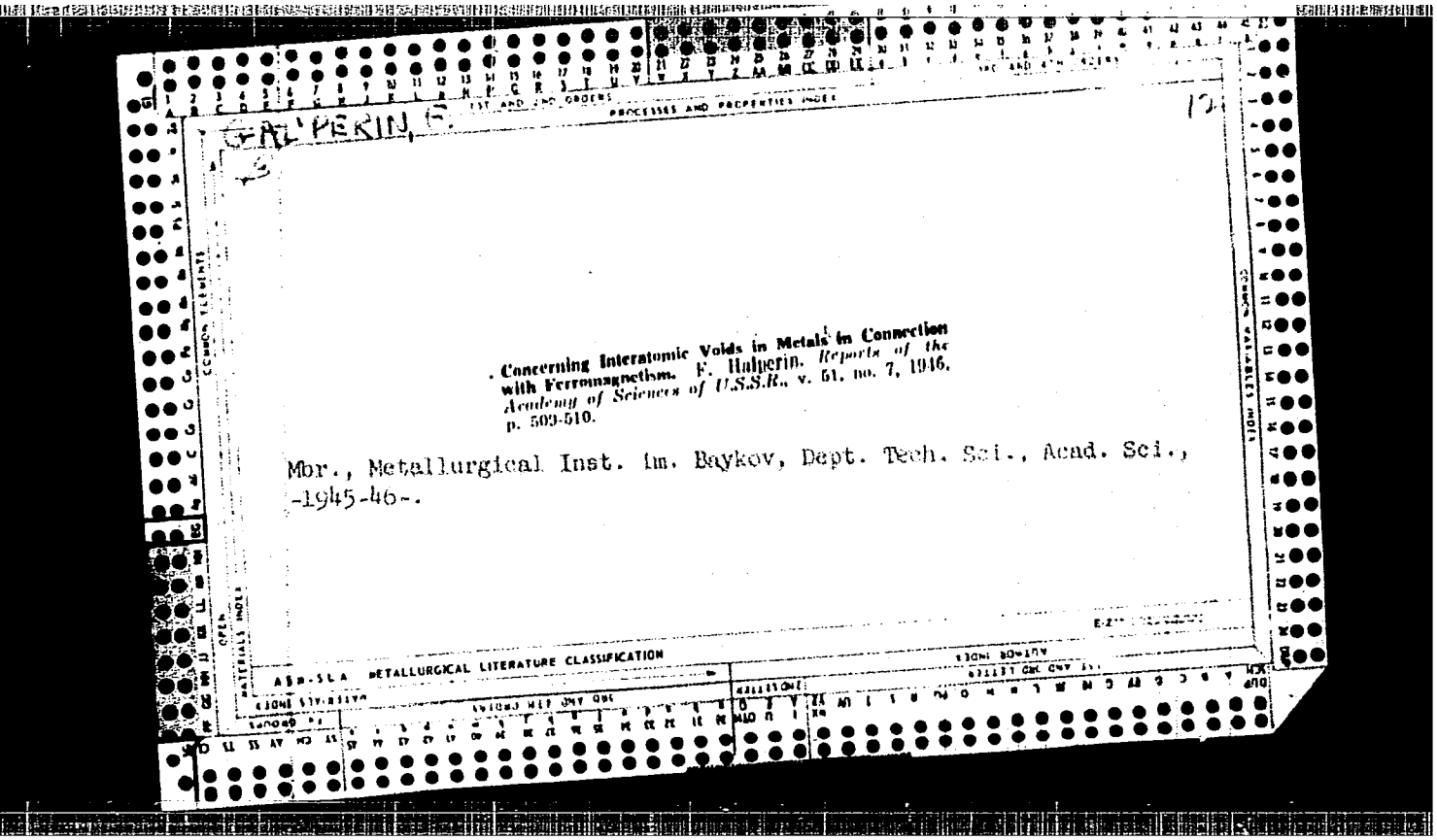

GAL'PERIN, F.

Concerning Interatomic Voids in Metals in Connection with Ferromagnetism. F. Halperin. *Reports of the Academy of Sciences of U.S.S.R.*, v. 61, no. 7, 1946, p. 509-510.

Mbr., Metallurgical Inst. im. Baykov, Dept. Tech. Sci., Acad. Sci., -1945-46-.

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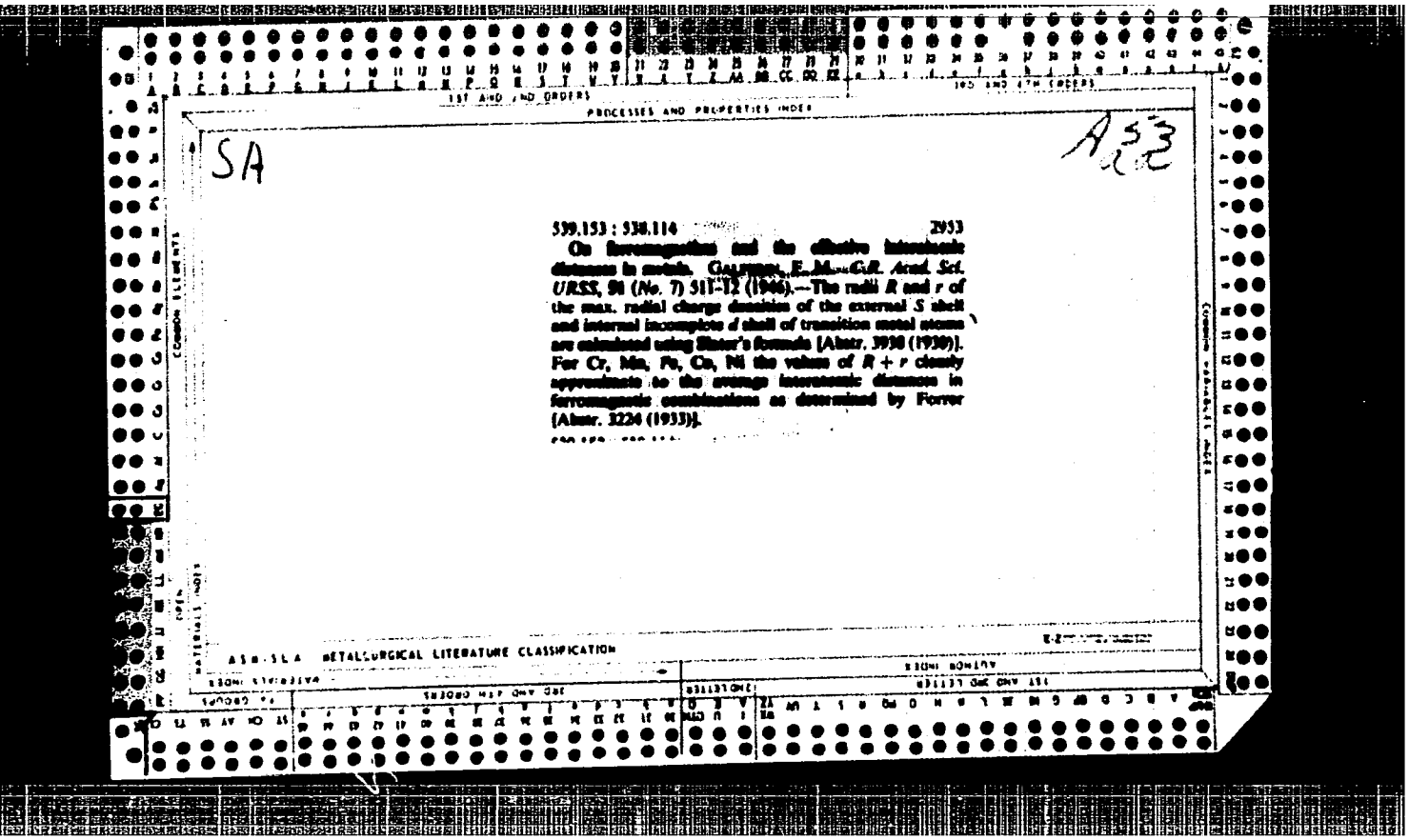

PROCESSES AND PROPERTIES INDEX

SA

A53

539.153 : 538.114 2953

On ferromagnetism and the effective interatomic distances in metals. Gaigerov, E. M.—*C.R. Acad. Sci. URSS*, 51 (*No. 7*) 511–12 ([1946]).—The radii *R* and *r* of the max. radial charge densities of the external *S* shell and internal incomplete *d* shell of transition metal atoms are calculated using Slater's formula [Abstr. 3930 (1930)]. For Cr, Mn, Fe, Co, Ni the values of $R + r$ closely approximate to the average interatomic distances in ferromagnetic combinations as determined by Forrer [Abstr. 3224 (1933)].

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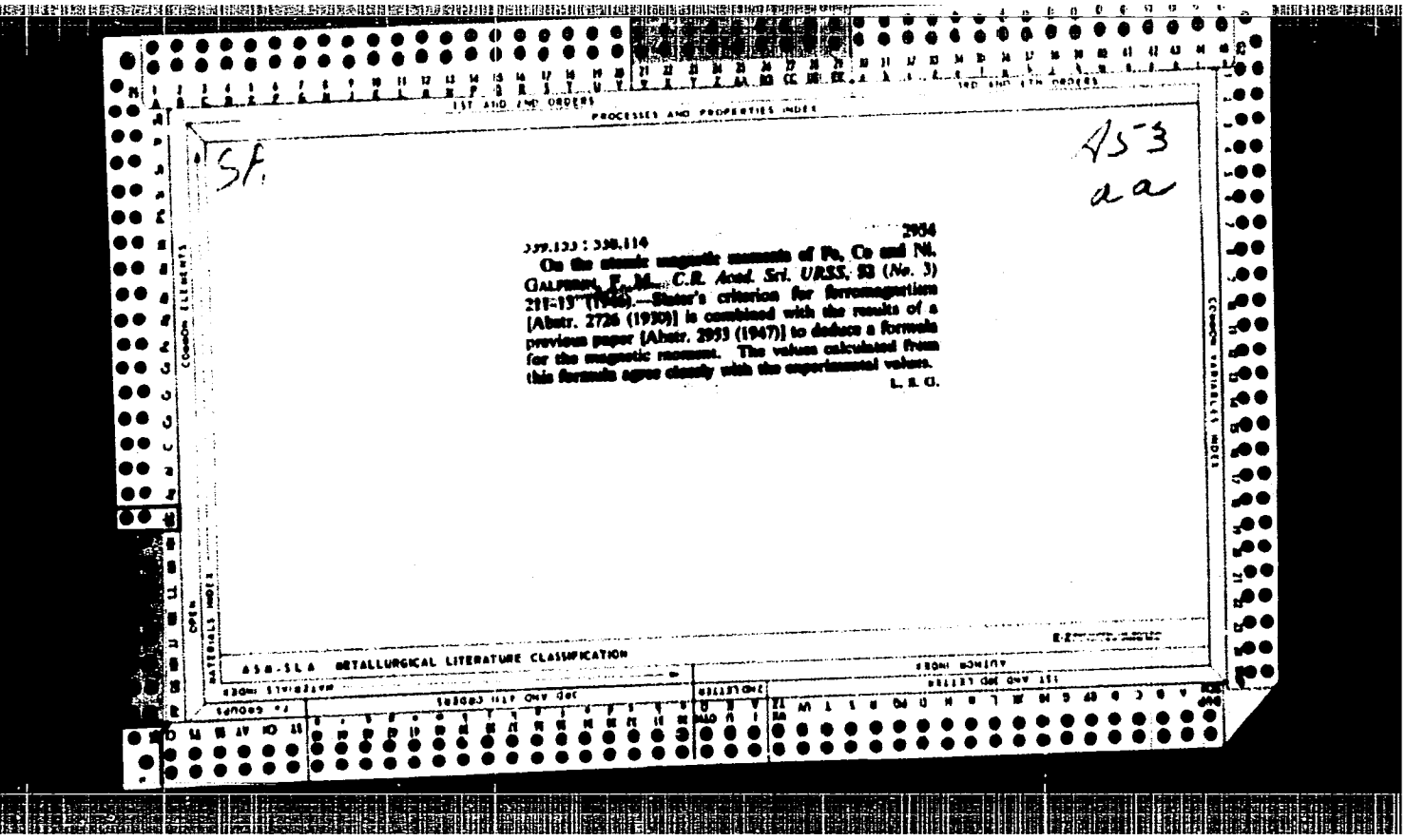
1ST AND 2ND ORDERS



PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

SF.

453
aa

2954

539.133 : 538.114

On the atomic magnetic moments of Fe, Co and Ni. GALPERIN, E. M. *C.R. Acad. Sci. URSS*, 52 (*No.* 3) 211-13 (1946).—Slater's criterion for ferromagnetism [Abstr. 2726 (1930)] is combined with the results of a previous paper [Abstr. 2953 (1947)] to deduce a formula for the magnetic moment. The values calculated from this formula agree closely with the experimental values.

L. S. G.

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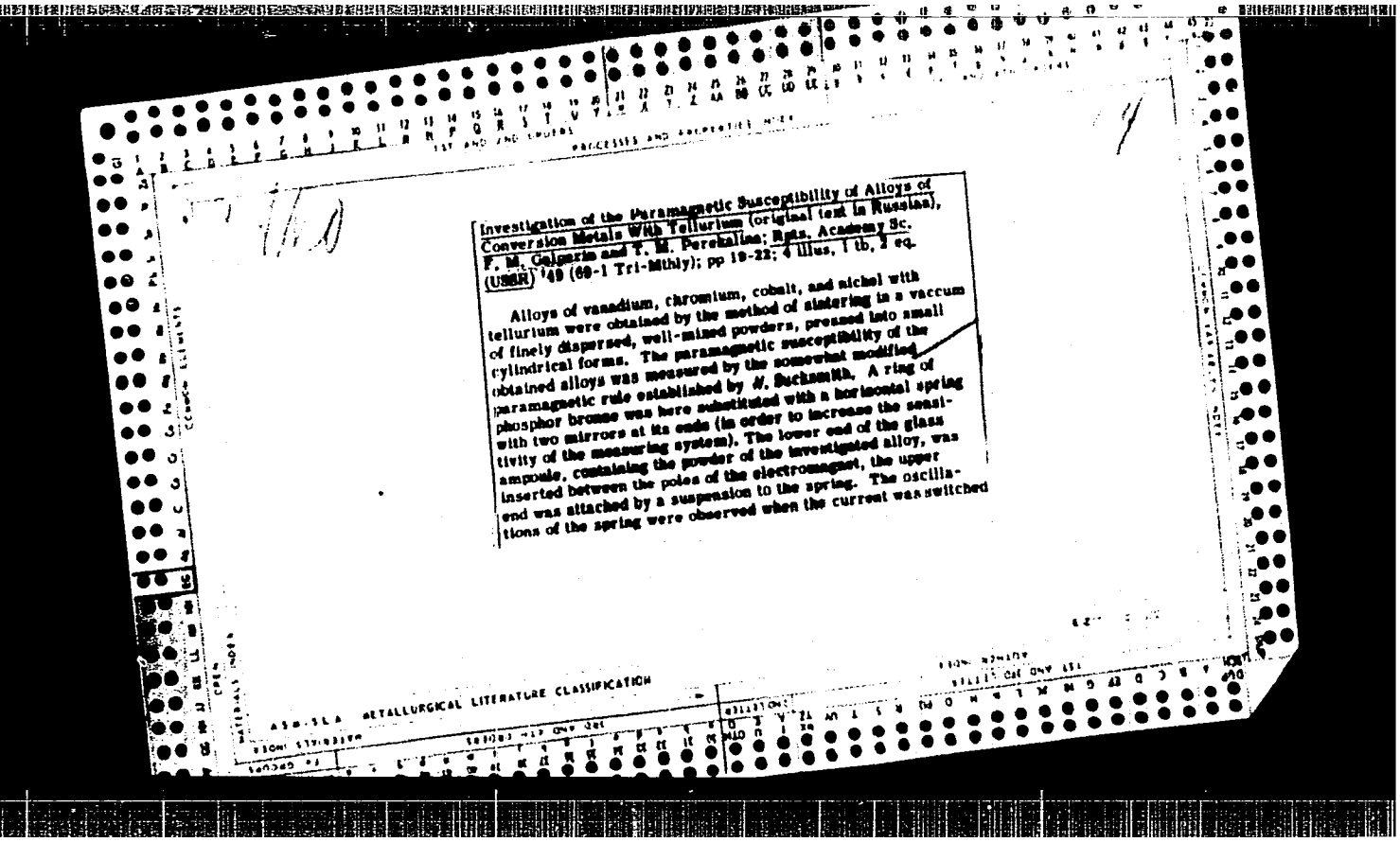

Investigation of the Paramagnetic Susceptibility of Alloys of Conversion Metals With Tellurium (original text in Russian), F. M. Gaigerin and T. M. Perekalina; Rpts. Academy Sc. (USSR) '49 (68-1 Tri-Mthly); pp 19-22; 4 illus, 1 tb, 2 eq.

Alloys of vanadium, chromium, cobalt, and nickel with tellurium were obtained by the method of sintering in a vaccum of finely dispersed, well-mixed powders, pressed into small cylindrical forms. The paramagnetic susceptibility of the obtained alloys was measured by the somewhat modified paramagnetic rule established by W. Suchannik. A ring of phosphor bronze was here substituted with a horizontal spring with two mirrors at its ends (in order to increase the sensitivity of the measuring system). The lower end of the glass ampoule, containing the powder of the investigated alloy, was inserted between the poles of the electromagnet, the upper end was attached by a suspension to the spring. The oscillations of the spring were observed when the current was switched

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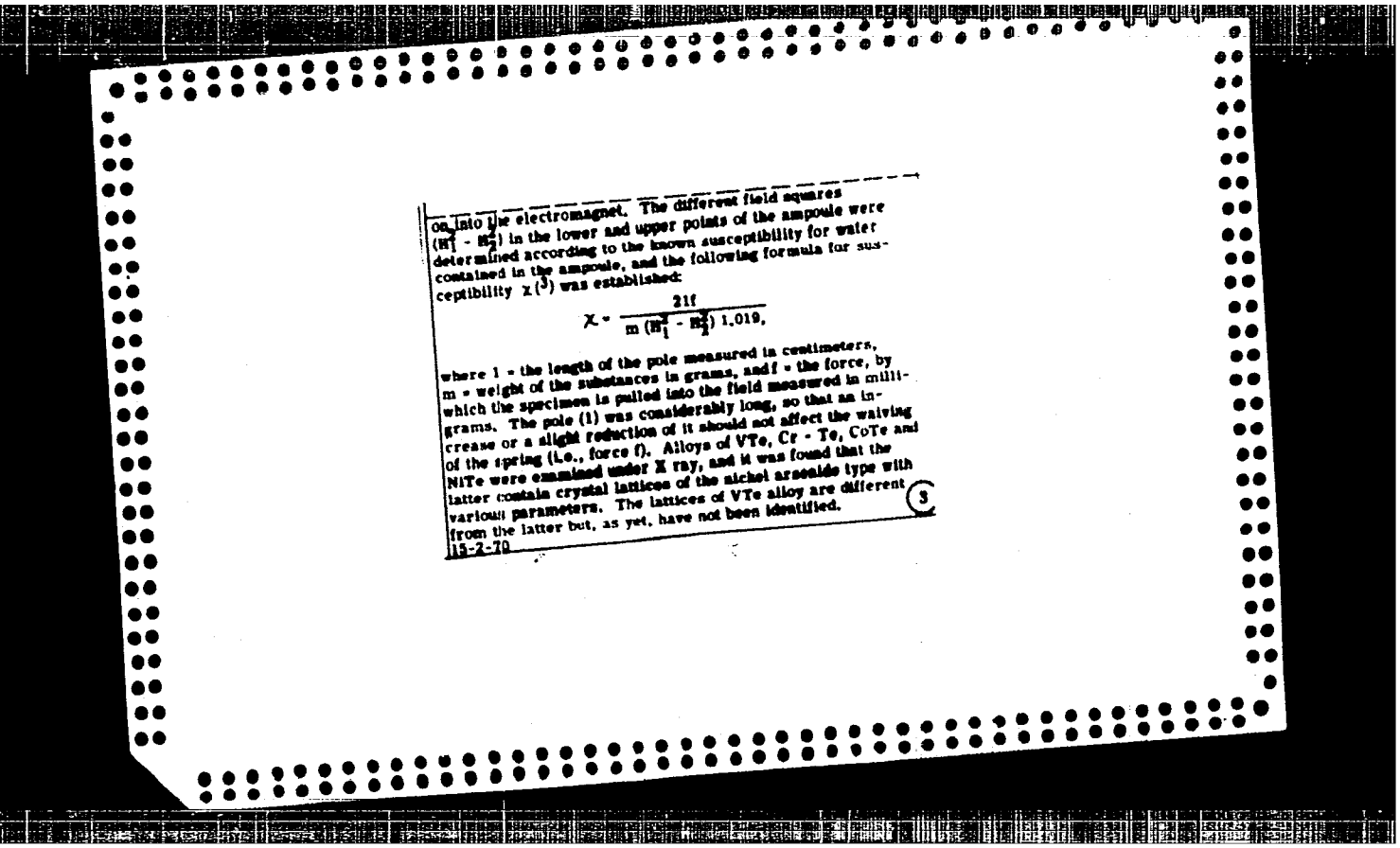

on into the electromagnet. The different field squares ($H_1^2 - H_2^2$) in the lower and upper points of the ampoule were determined according to the known susceptibility for water contained in the ampoule, and the following formula for susceptibility χ (3) was established:

$$\chi = \frac{21f}{m(H_1^2 - H_2^2)\,1.019},$$

where l = the length of the pole measured in centimeters, m = weight of the substances in grams, and f = the force, by which the specimen is pulled into the field measured in milligrams. The pole (l) was considerably long, so that an increase or a slight reduction of it should not affect the waiving of the spring (i.e., force f). Alloys of VTe, Cr - Te, CoTe and NiTe were examined under X ray, and it was found that the latter contain crystal lattices of the nickel arsenide type with various parameters. The lattices of VTe alloy are different from the latter but, as yet, have not been identified. (3)

15-2-70

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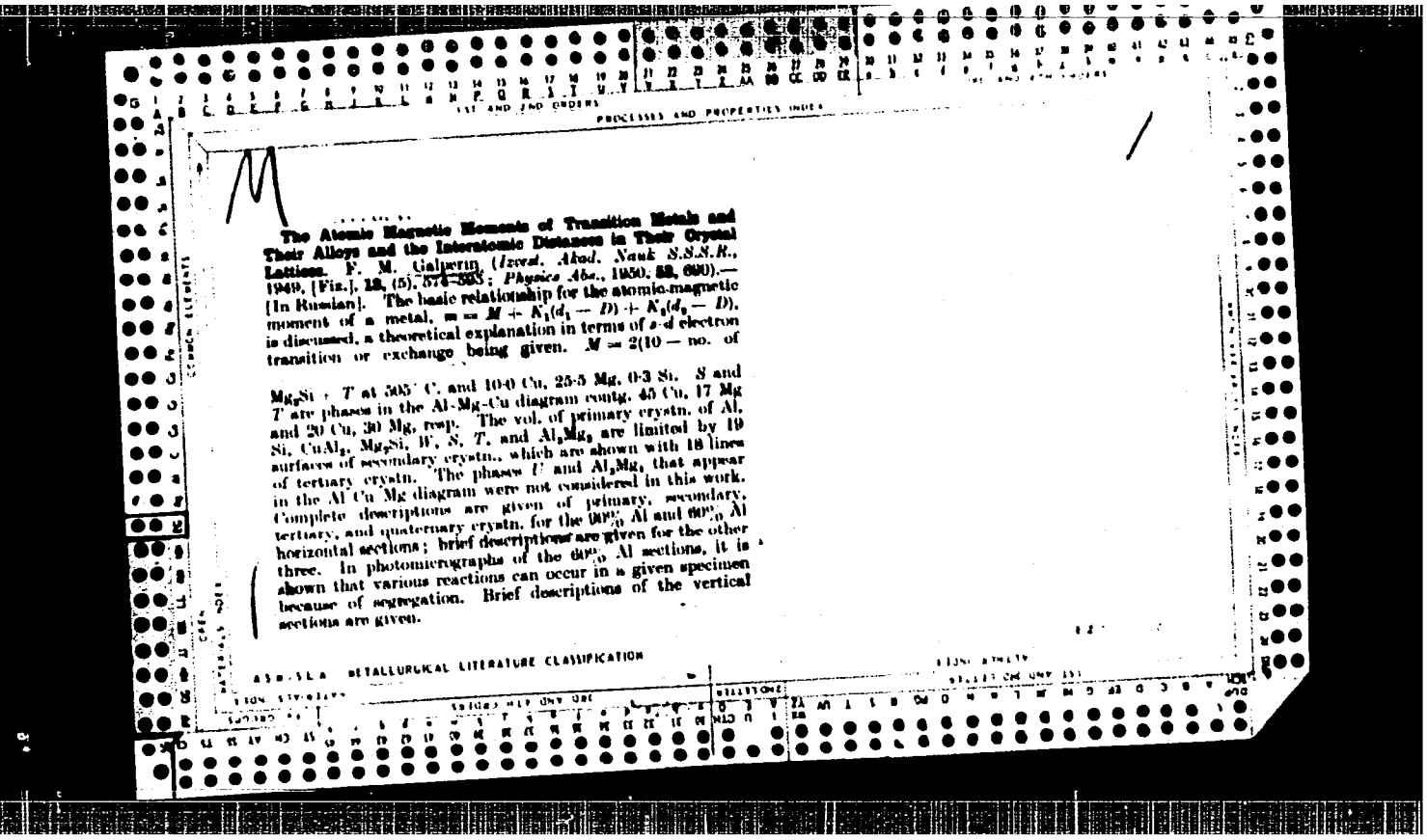
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

M



The Atomic Magnetic Moments of Transition Metals and Their Alloys and the Interatomic Distances in Their Crystal Lattices. F. M. Galperin (*Izvest. Akad. Nauk S.S.S.R.*, 1949, [Fiz.], **13**, (5), 574–595; *Physics Abs.*, 1950, **53**, 690).—[In Russian]. The basic relationship for the atomic-magnetic moment of a metal, $m = M + K_1(d_1 - D) + K_2(d_2 - D)$, is discussed, a theoretical explanation in terms of s-d electron transition or exchange being given. $M = 2(10 -$ no. of

$Mg_2Si + T$ at 505° C. and 10·0 Cu, 25·5 Mg, 0·3 Si. S and T are phases in the Al-Mg-Cu diagram contg. 45 Cu, 17 Mg and 20 Cu, 30 Mg, resp. The vol. of primary crystn. of Al, Si, $CuAl_2$, Mg_2Si, W, S, T, and Al_3Mg_3 are limited by 19 surfaces of secondary crystn., which are shown with 18 lines of tertiary crystn. The phases U and Al_3Mg_4 that appear in the Al Cu Mg diagram were not considered in this work. Complete descriptions are given of primary, secondary, tertiary, and quaternary crystn. for the 90% Al and 60% Al horizontal sections; brief descriptions are given for the other three. In photomicrographs of the 60% Al sections, it is shown that various reactions can occur in a given specimen because of segregation. Brief descriptions of the vertical sections are given.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PA 46/49T95

GAL'PERIN, F. M.

USSR/Physics May 49
Magnetic Moments, Atomic

"Atomic Magnetic Moments of Metals of the Ferric Group and Interatomic Intervals," F. M. Gal'-perin, 9 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 5

Studies relationship between (1) atomic magnetic moments of solid, face-centered, cubical ferric metals (2) interatomic distances in the latter. Shows that a strong relationship exists. Zone theory of metals explains this connection and proves its necessity. Submitted 3 Jan 49.

46/49T95

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

CA

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

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USSR/Engineering - Alloys 1 Nov 49
Physics - Paramagnetism

"Investigating Paramagnetic Susceptibility of Alloys of Transitional Metals With Tellurium," F. M. Gal'perin, T. M. Perekalina, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 1, pp 19-22

Studied alloys VTe, CrTe, CoTe, and NiTe. Graphs show molar susceptibility of alloys versus temperature (in range 200-600° K) for various values of Te in atomic %. Also shows graph of magnetic induction I versus magnetic field strength H (0-8,000 oersteds) and temperature T (0-400° K). Table shows atomic

PA156T18

156T18

USSR/Engineering - Alloys (Contd) 1 Nov 49

dimensions in angstroms for various atomic percentages of Te. Submitted 9 Sep 49 by Acad A. F. Ioffe.

156T18

GALPERIN, F.M.

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155T76

USSR/Physics - Magnetic Moments, Atom Jan 50
Alloys

"Influence of Regularity (Orderliness) in the Structure of Nickel-Manganese Alloys Upon Their Atomic Magnetic Moments and Upon the Constant of Anistropy," P. M. Gal'perin, T. M. Perekalina, 11 pp

"Zhur Eksper i Teoret Fiz" Vol XX, No 1

Experimentally measured and then calculated atomic magnetic moments of Ni-Mn alloys and of a well-regulated alloy of stochiometric composition Ni_3Mn. Found calculated and experimental values to be in satisfactory agreement. Studied constant of magnetic

155T76

USSR/Physics - Magnetic Moments, Atom Jan 50
(Contd)

anistropy as function of concentration of components and regularity of alloys. Shows that, in one system of Ni-Mn alloys, two entirely opposite phenomena are possible: increase in constant of magnetic anistropy with increasing degree of regularity (for some concentrations) and its decrease with increasing degree in regularity (for other concentrations). Submitted 18 Jul 49.

155T76

GAL'PERIN, F. M.

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USSR/Physics - Steel, Chromium Feb 50
Low Temperature Research

"Influence of Low Temperatures Upon the Magnetic Properties of High-Chrome Steel," F. M. Gal'perin, T. M. Perekalina, 10 pp

PA 156T102

"Zhur Tekh Fiz" Vol XX, No 2

Discusses magnetic saturation of steels in liquid oxygen (nitrogen); variation in saturation during secondary cooling in liquid oxygen or nitrogen, and in liquid helium, time and speed of magnetic conversion at low temperatures. Curie point for steels worked at low temperatures; residual induction;

156T102

USSR/Physics - Steel, Chromium (Contd) Feb 50

coercive force; hardness; and specific resistance. Results obtained show that high-chrome steels at low temperatures vary considerably their magnetic and electric properties and hardness. New fact established and studied: magnetic saturation is considerably increased in steels during annealing from low to room temperatures. Submitted 15 Apr 49.

Consulting Prof., 1st Chief Directorate, Council Ministers, -c1950-.

156T102

GAL'PERIN, F. M.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

Chem Abstracts

General and Physical Chemistry
(2)

Investigation of magnetic properties of manganese alloys with nickel and cobalt. P. M. Gal'perin. *Doklady Akad Nauk S.S.S.R.* 78, 515–18(1951).—The at. magnetic moment, m, of ellipsoidal samples of Mn-Ni and Mn-Co was detd. as a function of the concn. of Mn, and the results are compared with those of Bozlron (*C.A.* 26, 4087). For Mn-Ni the moment increased up to about 10 at.% Mn and then decreased rapidly. For Mn-Co, m decreased as the concn. of Mn increased; m decreased more rapidly for concns. of Mn > 10 at.%. Values for m for 100 at.% Mn, 100 at.% Co, and 100 at.% Ni were obtained by extrapolation from these curves. The results agreed with values obtained from G's. formula for m in a metal with face centered cubic lattice or with close-packed hexagonal lattice: $m = 2m_0 + 7.7(d - D)$, where $m_0 = 10 - n$ (n is the full no. of electrons in the 3*d* and 4*s* shells of an individual atom), d is the least interat. distance, and D is a const. of the metal.

Ellen H. Dunlap

1751

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

CA

Investigation of the magnetic properties of well-ordered alloys. F. M. Gal'perin. *Doklady Akad. Nauk S.S.S.R.* 75, 647–50(1950); cf. *C.A.* 45, 6444c.—Five alloys were studied: Ni_2Mn, Ni_3Fe, FeCo, MnBi, and CrTe. The temp. at which the ferromagnetic alloy was formed from the components was detd. by measuring the paramagnetic susceptibility χ_m; the optimum sintering temp. for MnBi was 315°. Heating above this causes χ_m to drop sharply; just above 400° it increases linearly. The at. magnetic moments were calcd. from the exptl. values of the magnetization, and the results, given in a table, agreed satisfactorily with the values calcd. from the formulas of the author (*C.A.* 44, 3318*f*).

Ellen H. Dunlap

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GALPERIN, F. M.

PA 197T98

USSR/Nuclear Physics - Magnetic Moments Oct 51

"Atomic Magnetic Moments and Crystalline Structures of Ferromagnetic Metals and Alloys," F. M. Galperin

"Zhur Eksper i Teoret Fiz" Vol XXI, No 10, pp 1146-1152

Uses formulas for computation of atomic magnetic moments of ferromagnetic metals and alloys to study effect of manganese and chromium on formation of magnetic moment of (a) solid solns of these elements in nickel and iron and of (b) ordered alloys, consisting of these and other nonferrous elements. Submitted 4 Oct 50.

LC 197T98

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

USSR/Physics - Gyromagnetic Effect 21 Feb 51

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

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

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

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

CAL' PERIN, F.

Metallurgical Abstracts
July 1954
Properties of Alloys

Investigation of the Magnetic Properties of Ordered Alloys of the System Cobalt–Manganese. F. Calperin (*Doklady Akad. Nauk S.S.S.R.*, 1951, 77, (6), 1) (In Russian).
Having previously investigated ferromagnetic alloys in this system (*ibid.*, 1950, 75, 515; *M.A.*, 20, 10), C. has now studied experimentally the dependence of the paramagnetic mass susceptibility (χ_m) of CoMn and $CoMn_3$ on the annealing time (t) and temp. (T). With CoMn, χ_m increases linearly with t at 200° C.; at 400° or 500° C. there is a much more rapid initial increase and saturation is soon attained (i.e. χ_m does not change; the relaxation time τ is small). $CoMn_3$ reaches saturation rapidly even at 250° C.; values of χ_m are much less than the corresponding values for CoMn. The equilibrium values of χ_m for both alloys decrease rapidly with increasing T, but for the disordered alloys (quenched from high temp.) χ_m is almost independent of the temp. and very small. The graphs of $\log \tau$ versus $1/T$ are linear, as was deduced by G. from the kinetics of the ordering reaction; from these graphs the activation energies of CoMn and $CoMn_3$ are 16 and 18 kg.cal./mole, resp. X-ray measurements on annealed alloys showed that CoMn had a f.c.c. lattice with parameter 3.59 Å., whilst $CoMn_3$ was hexagonal with $a = 2.41$ and $c = 1.65$ Å. Superlattice lines were not detected.—G. V. R. T.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

CALPERIN, F.

USSR/Physics - Ferromagnetization 21 May 51

"Variation in Ferromagnetization of Steel Under Elastic All-Sided Compression," F. Calperin

"Dok Ak Nauk SSSR" Vol LXXVIII, No 3, pp 451, 452

Investigates discrepancies between theoretical formulas, relating atomic magnetic moment to interatomic distance in cryst pattern, and exptl results. Calperin finds saturation magnetization decreases under at bulk compression. Expts were performed by P. T. Oreshkin under direction of

186T103

USSR/Physics - Ferromagnetization 21 May 51
(Contd)

Calperin and Professors Ye. I. Kondorskiy and L. F. Vereshchagin. Submitted by Acad L. D. Landau 28 Mar 51.

186T103

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8"

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, F.M.

Gal'perin, F. M.

Investigation of the gyromagnetic effect in a chromium-tellurium alloy by a classical resonance method. F. M. Gal'perin and T. M. Perekalina. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 16, 724-7(1952); cf. *C.A.* 46, 5423e.—A method is described in which a small sphere is suspended in a vacuum tube located inside a solenoid spool. A mirror is attached to the suspension wire, and the reflected light falls on 2 photoelements which trigger alternately 2 thyratrons in an inverter circuit when the sphere passes through zero; thus the direction of current in the solenoid is changed. Details of compensation for the earth magnetic field and the suspension wire are also given. The Lande factor is calcd. from the formula $g = (4/\pi)(H/A_m)(2mc/e)\times(\pi d^2/6)(l/k\delta')$, where H is the field strength, A_m the resonant amplitude of the light spot from the mirror on a scale at the distance l in cm., $\times$ the susceptibility, k the moment of inertia relative to the vertical axis, δ' the decrement of the free oscillations. $g_{Ni} = 1.97 \pm 0.01$; $g_{MnO_2Al} = 1.99 \pm 0.01$. CrTe was remelted in vacuum at 1300° for 6-8 hrs. in a quartz tube. The molten alloy was cast from the upper part through a narrow opening into a lower part. After it was cooled, the quartz was removed with HF. $g_{CrTe} = 1.84 \pm 0.02$. S. Pekawer

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GALPERIN, F.

USSR/Physics - Ferromagnetism 1 Feb 53

"Magnetic Moments and Crystalline Structures of Ferromagnetic Metals and Alloys," F. Galperin

DAN SSSR, Vol 88, No 4, pp 643-646

A number of works were published in foreign literature on "ferromagnetism" of ferrites as radically different from ferromagnetism in general (see L. Neel, Ann. de Phys., 3 (1948)). Attempts to demonstrate that this difference does not exist and that the simple formula derived by author (see Iz Ak Nauk SSSR, Ser Fix, 13 (1949)) may be generalized to ferrites. Presented by Acad L. D. Landau 12 Nov 52.

249T52

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL' PERIN F. M

The effect of hydrostatic pressure on the magnetic saturation of iron at the temperature of liquid nitrogen. F. M. Gal'perin, S. Larin, and A. Shishkov. *Doklady Akad. Nauk. S.S.S.R.* 89, 419–22(1953).—An Armco-Fe rod 670 mm. long and 5.75 mm. in diam. was subjected to hydrostatic pressure up to 2000 atm. by a gas within a nonferromagnetic bronze compression chamber in a field of 1800 to 2000 oersteds and at temps. of 20° and −196°. The measuring circuit contained 2 coils connected in opposition to compensate for changes in the magnetizing current. The changes in magnetic flux as the pressure was decreased were observed by Grassot-type fluxometer readings. Satn. magnetization of the Fe was 1690 gauss. The value of $\Delta\psi/\psi_0 \Delta p$, where ψ_0 was the flux at 1 atm., was detd. from 22 measurements and was 0.55 ± 0.25 × 10^{-7}/atm. at −196° and 0.24 ± 0.1 at 20°. The quantity $d\sigma/\sigma dp = (d\psi/\psi_0 dp) - (\chi/3)$, where σ is the magnetic satn. per unit mass and $\chi = 5.82 \times 10^{-7}$/atm. is the coeff. of compressibility, was calcd. from the above values and was −1.39 ± 0.25 and −1.70 ± 0.1 × 10^{-7}/atm., resp. A formula previously obtained by G. for the at. magnetic moment of Fe was used to obtain the calcd. value $d\sigma/\sigma dp = -1.49 \times 10^{-7}$/atm.

A. G. Guy

6

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

GAL'PERIN, F. M.

Paramagnetism of certain ferrites. F. M. Gal'perin, G. Dmitrukova, and L. Moloditsova. *Doklady Akad. Nauk S.S.S.R.* 94, 833–4(1954).—The paramagnetism of Mn, Co, Mg, Co-Mn, and Co-Zn ferrites and of Vektolit (0.3 Fe_2O_3.0.44 Fe_3O_4.0.26 Co_3O_4) was studied in an app. described earlier (*C.A.* 44, 994*d*). The relation of $1/x$ (x is the permeability) to temp. is given. J. Rovtar Leach

(2)

Evaluation B-81595,

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GAL'PERIN, F.M.

62

The g-factor of some ferromagnetics. F. M. Gal'perin, I. Kupriyanov, and B. Panfilov. *Doklady Akad. Nauk S.S.S.R.* 95, 749-51(1954).—The ferromagnetic materials, $MnO.(Fe_2O_3)_3$ and $(Mn, Zn)O.Fe_2O_3$, were studied. They were obtained by the method of reaction in the solid phase, providing practically pure substances. The g-factor was measured by spectroscopic sepn. in a 3-cm. wave-length range. The error involved in calcn. of the g-factor rests on the inaccuracies in measuring the field and the wave length. The latter was detd. with an accuracy up to 0.1%. The error in detg. the field amounted to little more than 1%. The max. error was equal to 1%, which for $g = 2$ amounts to approx. 0.02. Gladys S. Mann

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

Gal'perin, F. M.

Atomic magnetic moments of ferromagnetic metals and alloys. F. M. Gal'perin. *Zhur. Eksptl. i Teoret. Fiz.* 31, 150-2(1960); cf. C.A. 49, 15308f.—The following empirical equations are established for the magnetic moments m_f (ferromagnetic) and m_p (paramagnetic): For metals $m_f = N_d + N_f - 2 + E_0 + i + \Delta E_f$ and $m_p = N_d + N_f - 2 + E_0 + 1 + i \mp \Delta E_p$, where N_d and N_f are the nos. of unpaired d and f electrons per atom, $i = 1$ for Gd, Fe, Co and $= 0$ for Ni, Dy, and Eu. $E_0 + \Delta E = 0.041\,[n_1(r_1 - R) + n_2(r_2 - R)]$, where n_1 is the no. of nearest and n_2 the no. of next nearest at. neighbors, r_1 and r_2 the corresponding interat. distances, R an empirical const. and a function of Z. For alloys $m_f = N_d - 2 + i \pm \Delta E_f$ and $m_p = N_d - 2 + 1 \mp \Delta E_p$, with $i = 0$ for Gd, Fe, and Co and $= 1$ for Ni, Dy, and Er. The results agree well with measurements of metals and alloys, such as MnAs, MnBi, $MnCu_2Al$, CrFe, CrSb, CrO_2, Ni_3Fe, and Ni_2Mn. A formula is also given for Curie points and their displacement under pressure. This formula agrees with expts. on Ni, Co, Fe, Gd, Tb, Dy, Ho, Er, and Tu.

S. Pakswer

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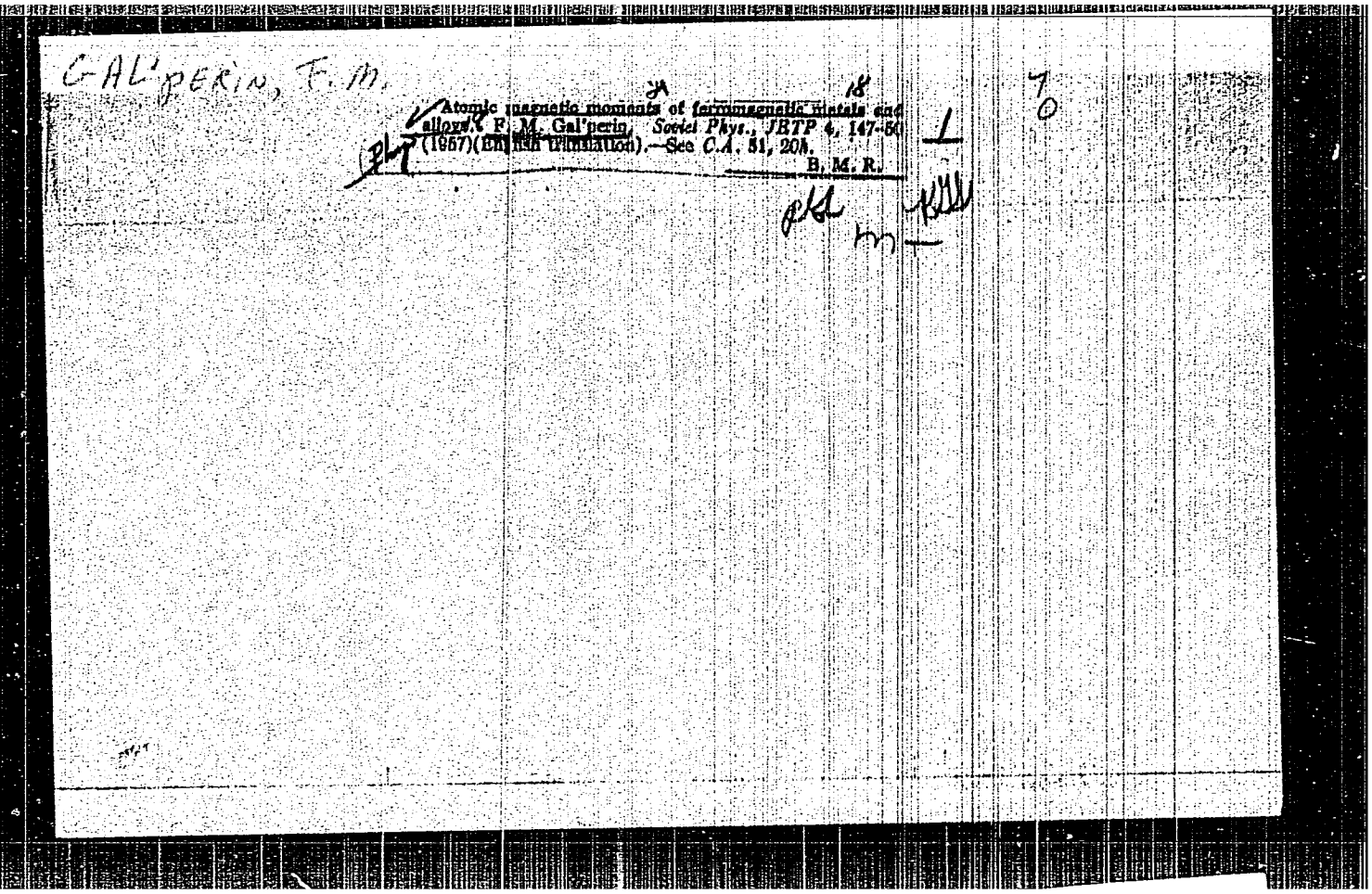

GAL'PERIN, F. M.

Atomic magnetic moments of ferromagnetic metals and alloys. F. M. Gal'perin, *Soviet Phys., JETP* 4, 147-50 (1957)(Engl. translation).—See *C.A.* 51, 20h.

B. M. R.

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"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R000614120018-8

PA - 2096

AUTHOR GAL'PERIN F.M.

TITLE The s-d Exchange in Ferromagnetic Metals.
(s-d obmen v ferromagnetnykh metallakh -Russian)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki,1957, Vol32, Nr 2, pp 381-382 (U.S.S.R.)
Received 5/1957 Reviewed 6/1957

ABSTRACT Vonsovskiy has given us an exact elaboration of the theory of the s-d exchange. His results contain exchange integrals for the exchange between the s- and the d-electrons of the same atom (I_o) and between neighboring electrons (I), as well as an integral for the transmission of an s-electron. At the present state of theory it is not possible to compute these integrals, because a qualitative comparison with the experiment is impossible. The paper under review aims at demonstrating that it is possible to compute these integrals empirically and that by substituting the thus obtained values into the Vonsovskiy relationships we obtain for pure ferromagnetic metals a satisfactory coincidence with the experimental data. The author starts out from the simple and natural premise that the s-d exchange interaction depends on the distances between the electrons and on the number of the participating electrons. The approximation of the strong coupling of an s-electron is used here as example. According to the sign of the magnitude $r_i - R$ it is possible to divide the metals into two groups. ($R=R_s + R_d$; R_s stands for the distance of the s-electron from the nucleus of any atom, R_d for the distance of a d-electron from the nucleus, r_1 for the distance between an atom and the atom closest to it, and $(r_2 - R)$ for the distance between an s-electron and the d-electron

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The s-d Exchange in Ferromagnetic Metals. PA - 2696

closest to it). The author sets for the exchange integral the formula $I = 1 \pm \sum_i \Delta E_i$, $\Delta E_i = 0.641\ n_i\ (r_i - R)$. The upper sign is used for the group 1 (with $(r_i/R) < 1$) and the lower sign for the group 2 (with $(r_i/R) > 1$). The paper concludes by giving explicit expressions for the exchange integral, the magnetic moments of the atoms, the paramagnetic moments of the atoms, the exchange energy, and for the Curie point. A Chart contains the properties of the pure ferromagnetic elements. (1 Chart).

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GAL'PERIN, F. M.

48-9-24/26

AUTHOR: Gal'perin, F. M.

TITLE: A Note on the Magnetic Momenta and the Curie-Constants of Ferromagnetic Alloys (Magnitnyye momenty i postoyannyye Kyuri ferromagnitnykh splavov)

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 9, pp. 1323-1326 (USSR)

ABSTRACT: The paper refers to former publications of the author (ZhETF, 19, 451, 1949 and 31, 150, 1956), where the empiric relations for the magnetic momenta of the atoms, the Curie points and other properties of pure ferromagnetic metals were given. Here analoguous relations for ferromagnetic alloys are proposed and it is shown at the example of iron-chromium and iron-nickel alloys, which have been investigated according to the neutrono-graphic method by C.G.Shull and M.K.Wilkinsion (Phys.Rev. 97, 304, 1955), that these relations are in accordance with experiment. At first, the approximation of the strongly bound electrons is studied. It is shown that the distances between the electrons are very small and that, subsequently, the quantities dependent on it, the magnetic momenta of the atoms, the Curie points and other can be expanded into a series according to the powers of

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A Note on the Magnetic Momenta and the Curie-Constants of Ferromagnetic Alloys. 48-9-24/26

the small parameters, and that it is sufficient to consider only the first term of the series, implying, that the quantities enumerated above can be considered to be linearly dependent on the distances between the electrons. The equations for the magnetic moment of the atom of the component A and of the alloy in the paramagnetic state, and the Curie constant per gram atom of the component A in the general state and the Curie constant per gram atom of the alloy is given. A table is added for the computation of the quantities under investigation and a diagram, containing a comparison of the computed values with the experimental ones. There are 1 table, 2 figures and 12 references, 7 of which are Slavic.

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AUTHOR: Gal'perin, F. M. 56-34-4-35/60

TITLE: Interatomic Distances in Ferromagnetics (Mezhatomnyye rasstoyaniya v ferromagnetikakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 4, pp. 1000 - 1003 (USSR)

ABSTRACT: The present report discusses the analogy between the dependence of the atomic magnetic moments of ferromagnetic metals and alloys on the concentration of electrons per atom, as found by the author, (complete number of s and d electrons) and the same dependence of a certain quantity on the dimension of the length. This quantity is, in the case of pure metals, equal to the difference between the distance r_1 of the nearest neighbors of the first sphere of coordination of a crystal lattice and a certain constant R of the metal. This quantity is also expressed for alloys by an analogous difference. The author investigates the transition elements with Z = 21 to Z = 29. For these elements it holds that $R = 0,13 [(Z/2)^2 - (13,75 + 1)Z + 26(1 - 1) + 235,525]$, where for $Z \leqslant 26$ $1 = 0$ and for $Z \geqslant 26$ $1 = 1$ is true. A diagram shows

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the values of r_1, R_2, r_1-R_2 and the concentrations C of the electrons and the lattice types of the metals. The metals are subdivided into 2 groups. The first group comprises Co, Fe etc. with $r_1 - R_{AB} < 0$, the second Ni and other metals for which it holds that $r_1 - R_{AB} > 0$. The quantity $r_1 - R_{AB}$ as a rule depends linearly on C. Also the corresponding points for not ordered alloys fit on to straight lines. Also the alloys are subdivided in a similar manner into 2 groups, according to whether the difference r_1-R_{AB} is positive or negative. Here r_1 denotes the distance between the nearest atoms of the transition metals in the lattice of the alloy and it is true that $R_{AB} = \lambda_A R_A + \lambda_B R_B$. Here λ_A and λ_B denote the atomic concentration of the components A and B respectively of the alloys, and R_A and R_B are calculated according to the formula mentioned above. The alloys Ni-Fe, Fe-Co, Co-Cu, Fe-Cr, Ni-Cu, FeAl, CoAl, NiAl react like pure metals. There are 2 figures and 5 references, 2 of which are Soviet.

SUBMITTED: October 25, 1957 (initially) and January 29, 1958 (after revision)

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Interatomic Distances in Ferromagnetics 56-34-4-35/60

1. Ferromagnetic materials--Crystal structure

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24(3)

AUTHOR: Gal'perin, F. M. SOV/48-23-3-24/34

TITLE: Atomic Magnetic Moments, Curie Points, Exchange Energy, and Paramagnetic Susceptibility of Ferromagnetics (Atomnyye magnitnyye momenty, tochki Kyuri, obmennaya energiya i paramagnitnaya vospriimchivost' ferromagnetikov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 407-413 (USSR)

ABSTRACT: As there are no theoretical relations available for the quantitative calculation of the magnetic fundamental properties of ferromagnetics, empirical relations are suggested in the present paper. The elements from $_{21}$Sc to $_{29}$Cu were investigated. According to the author's opinion it is possible to characterize each of these elements by the constant R which has the dimension of one length (Ref 1). Table 1 gives the numerical values of this constant, the values of the constants of formulae (1) and (6), and the magnetic moments for a number of transition metals. Table 2 shows the values of several magnetic parameters of ferromagnetic metals. These two tables indicate that the calculated, and the experimental

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values of the quantities investigated are in good agreement. Furthermore, non-ordered ferromagnetic alloys Fe-Ni, Fe-Co, Fe-Cr, and Fe-V were investigated. The first and the third alloy were investigated by the neutronographical method (Ref 14). This method was used for measuring the difference of the magnetic moments $m_A - m_B$, and the ballistic method for measuring $\overline{m}$ in this investigation. The combination of these two methods permits to determine each "individual" moment of the components for itself. Figure 1 gives the calculated and experimental values of the moments for the Fe-Ni-alloy with a lattice of the A2 and A1 type. An interrupted line shows the course of the moments m_{Fe} and $\overline{m}$, in the intermediate range with the lattices A1 + A2. At concentrations of 100 at% nickel up to approximately 67 at% nickel the moment m is represented by a straight line. The deviation from it begins at 67 at% Ni. In the case of equal concentrations the straight-lined course of the moment $m_{Fe(-)}$ represented by an interrupted line is followed by a curvilinear one, and apart from this $r_1 > R$,

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where $m_{Fe(-)}$ is the value m_{Fe}. This was obtained from the difference $m_{Fe} - m_{Ni} < 0$ by the neutronographical method. The values m_{Fe} given on the uninterrupted curve do, however, correspond to the difference $m_{Fe} - m_{Ni} > 0$. Similar results were obtained for the Fe-Co alloy (Fig 2). Figure 3 shows the magnetic moments of the Fe-Cr alloy, and figure 4 of the Fe-V alloy. Herefrom can be seen that in the case of an increase in the Cr- and V-concentration their moments increase from 1 M_B to 0. They attain 0 at those concentrations the parameter of the alloy lattice of which $a = \overline{R}$ (40 at% Cr and 20 at% V). The deviation from the straight-lined course of m_{Fe} begins at equal concentrations. In the case of solid solutions, e.g. Cr in Co and Ni, the Cr-moment varies from 1 M_B to 6.40 M_B in Co-Cr alloys, and up to 3.40 M_B in Ni-Cr alloys. In this connection the variation of m_{Cr} to 100 at% Cr shows the same

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quantities as in the experiments with weak solid solutions for the variation $\overline{m}$ (Ref 7). There are 4 figures, 2 tables, and 19 references, 8 of which are Soviet.

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18(7),24(3)
AUTHOR: Gal'perin, F. M. SOV/56-36-4-37/70

TITLE: On the Connection Between Structural and Magnetic Parameters of Transition Metals (O svyazi strukturnykh i magnitnykh parametrov perekhodnykh metallov)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 4, pp 1212-1223 (USSR)

ABSTRACT: In the present paper the author uses the semiempirical method for the purpose of investigating the connection between structural parameters such as lattice type, interatomic distances, coordination numbers, etc, and the magnetic parameters (atomic magnetic moment, Curie point, Curie constant) for pure transition elements (Cr, Mn, Fe, Co, Ni) and for a number of their ferromagnetic ordered alloys and chemical compounds. First, the ferromagnetic atomic magnetic moment m of such metals and their alloys is investigated, and in a table the experimentally and theoretically determined moments for Ni, Co and Fe as well as for a large number of their alloys are compared besides other parameters. Agreement is good. The semiempiric qualitative relations are set up which describe a connection between structural and magnetic parameters. According to

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On the Connection Between Structural and Magnetic Parameters of Transition Metals

SOV/56-36-4-37/70

Vonsovskiy and Vlasov the following is obtained for m (Ref 15): $m = N_d + 0.15\, n_s(J_o/J-4)/(1 - 2J_s/J)$, where J_o and J denote the exchange integrals between s- and d-electrons, and J_s the s-electron transfer integral. The magnetic moments and other parameters are calculated for a) pure ferromagnetic metals, b) ferromagnetic ordered alloys, c) ferromagnetic chemical compounds of the NiAs-type structure, d) ferromagnetic Heusler alloys, and e) ferromagnetic weak solid solutions, and compared with experimental data. Finally, the connection between magnetic moment and Curie constant, Curie point and exchange energy is investigated. The semiempiric and experimental values do not, on the whole, differ essentially from each other. There are 2 tables and 27 references, 9 of which are Soviet.

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B014/B007

AUTHOR: Gal'perin, F. M.

TITLE: On the Number of 3d Electrons in Transition Metals

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 801-802

TEXT: In the introduction the relationship between the number of 3d electrons of the transition-metal atoms and the crystal structure of these metals is pointed out. The present paper aims at showing that this relationship between the structure and the number of 3d electrons may be expressed by the relation (1). In Table 1 the numerical values computed by means of (1) and experimentally determined numerical values for the 3d electrons of various elements are given. Good agreement of these values is found. There are 1 figure, 1 table, and 5 references, 1 of which is Soviet.

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GAL'PERIN, F.M.; DEMIN, V.F.; SMIRNOV, A.A.; KHESTANOV, R.Kh.

Nuclear magnetic resonance in nickel. Izv. AN SSSR. Ser. fiz. 27 no.12:1458-1459 D '63. (MIRA 17:1)

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