

BALA, Yu.M., prof.; LIFSHITS, V.M.

Clinical significance of trace elements in leukemia and anemia.
Report No.1: Nickel, vanadium, manganese. Probl. gemat. i perel.
krovi no.5:28-34 '65. (MIRA 18:10)

1. Kafedra fakul'tetskoy terapii (zav.- prof. Yu.M. Bala)
Voronezhskogo meditsinskogo instituta.

LIFSHITS, V.M.

Content of some trace elements of the erythrocytes, leucocytes
and blood plasma of man. Vop. med. khim. 9 no.6:610-614 N-D '63.
(MIRA 17:10)

1. Kafedra fakul'tetskoy terapii Voronezhskogo meditsinskogo
instituta.

BALA, Yu.M.; LIFSHITS, V.M.

Content of trace elements in the blood in leukemia and anemia.
Report No.1: Molybdenum and chromium. Probl. gemat. i perel.
krovi no.6:23-27 '65. (MIRA 18:11)

1. Kafedra fakul'tetskoy terapii (zav. - prof. Yu.M.Bala)
Voronezhskogo meditsinskogo instituta.

LIFSHITS, V.M.

"Works on oceanography" (GDR). Meteor. i gidrol. no. 6:56
Je '64 (MIRA 17:8)

LIFSHITS, V. M.

Telemetering in foreign oceanography. Meteor. i gidrol. no.1:
53-55 Ja '63. (MIRA 16:1)

(Oceanographic instruments)
(Telemetering)

ABUZYAROV, Z.K.; LIFSHITS, V.M.

Modern foreign instruments for studying waves. Meteor. i gidrol.
no.6:56-58 Je '63. (MIRA 16:6)

1. Tsentral'nyy institut prognozov.
(Waves) (Oceanographic instruments)

S/032/60/026/011/019/035
B015/B066

AUTHORS: Kislyuk, F. I., Lifshits, V. S., and Shmeleva, I. A.

TITLE: New Nondestructive Method of Determining the Quality of
Butt Welds ¹⁴

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11.
pp. 1262-1263

TEXT: The known nondestructive test methods cannot be applied in the case of butt welds, since the material defects in the surface are very thin and the weld seam shows a considerable thickening. In the present case a nondestructive patented (Ref. 1) test method is described. In principle, it is based on the fact that a flawless weld seam of this kind will show a higher tensile strength than the metal itself because of its thickness. In the thicker seam less tensile strains will occur in the range of elasticity with equal modulus of elasticity of weld seam and metal the relative deformation in the seam will be less if it is flawless. By measuring the deformation on three cross sections, i.e., in the seam and

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New Nondestructive Method of Determining the
Quality of Butt Welds

S/032/60/026/011/019/035
B015/B066

at a certain distance from it, the weld seam quality may be valued after elongation in the range of elasticity. To check the method suggested the authors tested two types of tubing in this way: Diameter $D = 325$ mm, and thickness of the wall $d = 10$ mm, as well as $D = 58$ mm and $d = 4$ mm. The welding of the $D = 325$ mm specimens of Cr 4 (St.4) steel was made by means of a sliding KICA (KISA) device, the tensile test on a horizontal machine with a maximum load of 3000 t. The latter type made of Cr. 3 (St.3) steel was tested on a machine with a maximum load of 100 t. The test results show that a tensile strain of the order of magnitude of $10 - 12 \text{ kg/mm}^2$ is sufficient for the quality rating. There are : figure and 1 Soviet reference.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po
stroitel'stvu magistral'nykh truboprovodov (All-Union
Scientific Research Institute for the Construction of Main
Pipelines)

Card 2/2

FAL'KEVICH, A.S.; LIFSHITS, V.S.; RAKHMANOV, A.S.; PAFKOV, O.S.

Advantages of using electric contact welding in the construction of oil-field pipelines. Stroi. truboprov. 10 no.1:5-9 Ja '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

LIFSHITS, V.S., inzh.

Following-up of V. IA. Khazov's article entieled: "Investigating the fusion process in the butt welding of nonferrous metal machine parts." Svar. proizv. no.7:39-41 J1 '61.

(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

(Nonferrous metals---Welding)
(Khazov, V.IA.)

LIFSHITS, V.S., inzh.; PETROV, G.N.

Possibility of using electric power stations with a capacity of 125 kilovolt-amperes for electric contact welding of gas pipelines with a cross section of 10,000 mm². Stroi.truboprov. 6 no.7:9-11 J1 '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu i magistral'nykh truboprovodov, Moskva.
(Pipelines--Welding)

LIFSHITS, V.S., inzh.; PETROV, G.N., inzh.

Evaluating the quality of pipeline butt joints made by resistance welding. Svar. proizvod. no.4:22-24 Ap '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.
(Pipelines--Welding) (Welding--Testing)

LIPSHITS, V.S.

Relation between the technical and the electric parameters of
electric resistance welding. Stroitel'nykh truboprov. 8 no.5:14-16
My '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu
magistral'nykh truboprovodov. (Electric welding)

LIFSHITS, V.S., inzh.

Power reasons in the selection of resistance flash welding of
large-diameter pipe. Svar. proizv. no.9:13-16 S '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu
magistral'nykh truboprovodov.

ACC NR: AP6021446

SOURCE CODE: UR/0413/66/000/011/0051/0051

INVENTORS: Shataykin, V. A.; Stepanovskiy, O. A.; Lifshits, V. S.

ORG: none

TITLE: A device for contact butt welding of large-diameter pipes. Class 21, No. 182266 [announced by Special Construction Bureau "Gazstroy Mashina" (Spetsial'noye konstruktorskoye byuro "Gazstroy Mashina")]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 51

TOPIC TAGS: welding, butt welder, metal welding, welding equipment, welding technology

ABSTRACT: This Author Certificate presents a device for contact butt welding of large-diameter pipes with an annular welding transformer and with equipment for centering and positioning the pipes. To increase the productivity of pipe welding, the device is made up of two independent assemblies (see Fig. 1). One assembly comprises the annular welding transformer placed on the outside of the welded pipe; the other serves to center and position the pipes and is located inside the welded pipe.

Card 1/2

UDC: 621.791.762.1.03-462

ACC NR: AP6021446

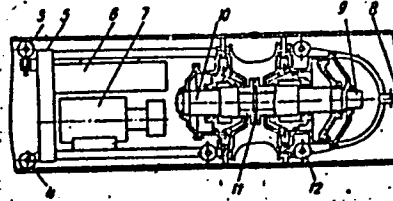
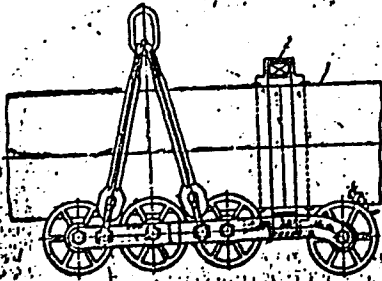


Fig. 1. 1 - welded pipe; 2 - annular welding transformer; 3 - holding roller; 4 - supporting roller; 5 - frame; 6 - hydraulic storage cell; 7 - hydroelectric drive mechanism; 8 - rod; 9 and 10 - trunnions; 11 - insulator; 12 - forward rollers

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 07Dec62

Card 2/2

LIFSHITS, YA. G.

Lifshits, Ya. G. - "Leadership in the preparation and use of tools in a course on the theory of tools for students of the machine-building colleges", (In index" Livshits, Ya. G.), Trudy Rost. n/D in-ta s.-kh. mashinostroyeniya, Issue 4, 1948, p. 37-44, - Bibliog: 10 items.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

LIFSHITS, YA. G.

33179. Primeneniye Strukturnoy Formuly P. L. Chebysheva K Floskim
Mekhanizmam. Trudy Rost. N/D In-Ta S.-Kh. Mashinostroyeniya, Vyp.
5, 1949, C. 37-47

SO: Letopis'Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

USSR/Engineering - Machine tools

Card : 1/1 Pub. 128 - 13/32

Authors : Lifshits, Ya. G. and Frolov, S. P.

Title : Results of exploitational testing of machine bushings made of an anti-friction wrought iron.

Periodical : Vest. mash. 34/7, 48 - 50, July 1954

Abstract : The Rostov Institute of Machine Construction, in cooperation with "Rostsel'mash" factory, have conducted extensive tests on the use of wrought iron bushings in lathe equipment. Performance characteristics of wrought iron bushings under operational conditions, and their resistance to wear, are indicated. Table.

Institution : ... *Rostov Inst. Agric Machine Bldg,*

Submitted : ...

U.S.S.R.

Checking the quality of antifriction malleabilized iron in quantity production. Ya. G. Lishits. *LitAnnoe Proizvodstva* 1955, No. 1, 26; cf. C.A.B. 48, 81771. A statistical study showed that the quantity of pearlite present has a predominant effect on the hardness of Fe, provided the type of pearlite remains const., since sorbitization increases hardness. C content and size of temper C particles have no effect on it. J. D. Gat

LIFSHITS, Ya.G.

LIFSHITS, Ya.G.

Theory of antifriction properties of malleable cast iron. Lit.
proizv. no.10:22-23 0'55. (MIRA 8:12)
(Cast iron)

Lifshits, Ya. G.

USSR/ Engineering - Bronze bushings

Card 1/1 Pub. 128 - 18/28

Authors : Lifshits, Ya. G., Cand. of Mech. Sc.; and Obchinnikov, T. T., Eng.

Title : ~~USSR/ Engineering - Bronze bushings~~
The use of cast iron in place of bronze bushings in tractors

Periodical : Vest. mash. 35/6, page 72, Jun 1955

Abstract : The Institute for Construction of Agricultural Machinery, in cooperation with the "Rostsel'mash" Plant in Rostov, and a Motor and Tractor Station in Fersianovsk, developed an anti-friction wrought iron used in STZ-KhTZ, NATI, DT-54, and ChTZ3-60 tractors, as a substitute for bronze bushings. The bushings are made of perlite-ferrite composition, in which perlite constitutes 35-75%. Four USSR references.

Institution : *Rostov Inst. Agricultural Machine Building*

Submitted :

137-58-4-8280

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 280 (USSR)

AUTHOR: Lifshits, Ya. G.

TITLE: The Operational and Technological Properties of Antifriction Malleable Cast Iron and the Employment Thereof in the Machinery Industry (Ekspluatatsionnyye i tekhnologicheskiye svoystva antifriktsionnogo kovkogo chuguna i yego ispol'zovaniye v mashinostroyenii)

PERIODICAL: V sb.: Progressivn. metody proiz-va v mashinostr. Rostov-na-Donu, 1957, pp 137-147

ABSTRACT: The results of further studies for the purpose of determining the possibility of producing pearlitic-ferritic antifriction malleable cast iron (MI) by cupola smelting, pouring into fixed sand molds, and annealing in standard compartment furnaces are presented. It was established that: 1. cast irons of various chemical compositions may be used to produce antifriction MI, provided it has a white fracture. 2. When thick-walled parts are cast in sand molds, white heart shows if the total of C+Si is reduced to 3.4-3.6%, in which case the C should fluctuate between 2.4-2.6% and the Si between 0.9 and 1.10% in accordance with

Card 1/2

137-58-4-8280

The Operational and Technological (cont.)

the thickness of the wall of a bushing and the diameter of an ingot. 3. Centrifugal casting and casting in permanent molds make for the best quality and surface finish, high density castings free of gas pockets, porosities, and slag inclusions, and for high homogeneity of the metal throughout the entire length of a bushing and an ingot. 4. Metal of the necessary fluidity is obtained with a teeming temperature of 1500-1520°C in the duplex process, and 1350-1400° and simultaneously a somewhat elevated C content under conditions of cupola smelting. 5. In centrifugal casting or permanent-mold casting, it is desirable to inoculate the MI with Al. 6. Annealing to ferritic structure may be performed in any kind of furnace. 7. Supplementary normalization after annealing is recommended to assure uniform distribution of the pearlite and of the hardness in the various segments along the length of a given bushing and ingot.

S. Sh.

1. Iron--Casting 2. Cast iron--Properties 3. Cast iron--Applications

Card 2/2

LIFSHITS, Ya. G., kandidat tekhnicheskikh nauk; SKVORTSOV, F. Z., inzhener;
TIRATSUYAN, A. V., inzhener.

Effect of sulfurizing on the strength and wear resistance of
machine parts. Sel'khoz mashina no.7:29-30 J1 '57. (MLRA 10:11)

1. Rostovskiy institut sel'skhozaystvennogo mashinostroyeniya
(for Lifshits). 2. Spetsial'noye konstruktorskoye byuro zavoda
Rostsel'mash (for Skvortsov). 3. Zavod Rostsel'mash (for Tiratsuyan)
(Metals--Hardening)

SOV/137-59-3-7070

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 301 (USSR)

AUTHORS: Lifshits, Ya. G., Sapov, P. M.

TITLE: Low-temperature Sulfidization and its Effect on the Durability of Cutting Tools and the Wear Resistance of Machine Parts (Nizkotemperaturnoye sul'fidirovaniye i yego vliyaniye na stoykost' instrumenta i iznosostoykost' detaley mashin)

PERIODICAL: Byul. tekhn.-ekon. inform. Sovnarkhoz Rostovsk. ekon. adm. r-na, 1958, Nr 4, pp 3-5

ABSTRACT: Two types of baths were developed by the Rostsel'mash [Rostov-na-Donu Agricultural Machinery Plant] for purposes of low-temperature sulfidization (S) of metal parts: 1) The Nr-26 thermochemical bath, which consists of three parts of hyposulfite and two parts of KCNS, operates at a temperature of 220-230°C, the exposure time being five hours; 2) the Nr-26 electrochemical bath involves the following procedures: One hour of lead priming in a solution of $PbCO_3$ (162 g/liter) at a current density of 0.003 a/cm² followed by a one-hour period in a bath (current density: 0.003 a/cm²; temperature: 60-70°C) consisting of a hyposulfite solution (112 g/liter) and KCNS (28.6 g/

Card 1/2

SOV/137-59-3-7040

Low-temperature Sulfidization and its Effect on the Durability (cont.)

liter). Large-scale program of wear testing of components was carried out in laboratories, test stands, machine shops, and in the field. It was established that S enhances the process of wearing in of mated components and increases the durability of tools and machine parts operating at high pressures and under conditions of semilubricated friction (F) when sliding F is accompanied by rolling F (e.g., in dies for rolling of threads and in sprocket wheels of harvesters). In the case of sliding or abrasive F only (the teeth on the threshing drum of a harvester), or under conditions of cutting (screw taps, tangential threading dies) when a sulfur-bearing layer is separated in the course of wear, the S does not improve wear resistance.

A. S.

Card 2/2

LIFSHITS, YA. O.

5(2):25(1) PHASE I BOOK EXPLOITATION SOV/2313

Abzdeliya nauk SSSR. Institut mashinovedeniya
Povzraeniye stoykosti detalей mashin /sul'fidirovaniye/ i sbornik
statей (Increasing the Wear Resistance of Machine Parts /Sul-
furation/) Collection of Articles) Moscow, Mashgiz, 1959.
126 p. Errata slip inserted. 4,500 copies printed.

Ed. (Title page): M. N. Krushchov, Doctor of Technical Sciences;
Ed. (Inside book): A.G. Rikitin, Engineer; Tech. Ed.: V.D.
El'vind; Managing Ed. for Lithography: On General Technical and
Transport Machine Building (Mashgiz) L.N. Ponomareva, Engineer.

PURPOSE: This collection of articles is intended for engineering plants
and technical workers of machine-building and overhauling plants.
COVERAGE: This book presents results of investigations of methods
to increase the resistance of machine parts to seizure, friction or
method of sulfurization which improves the friction behavior of
cast iron and steel and an analysis of the effect of sulfuriza-
tion on the anti-friction properties and wear of metal are given.
These articles are the transactions of a seminar held at the
Institute of Mechanical Engineering of the Academy of Sciences,
USSR, in December 1956.

TABLE OF CONTENTS:

Smovt, M.S., Engineer. Results of Work on the Technology of
the Sulfurization Process in Rostsel'mash /Rostov-na-Donu 111
Agricultural Machinery Plant)
The author describes an investigation carried out at the
Rostov plant aimed at improving wear resistance of cutting
tools by sulfurization.

Lifshits, Ya. O., Candidate of Technical Sciences. Uses of
Sulfurization in Manufacturing Agricultural Machinery 115
In this article, the author presents the results of lab-
oratory and bench tests of sulfurized and nonsulfurized
machine parts carried out by RISKH (Rostov Institute for
Agricultural Machinery) and ROSTSEL'MASH.

Blotkin, M.A., V.S. Mesterenko, and X.T. Shuvayev. X-ray and
Spectrometry Analysis of Sulfurized Samples 121
The author describes an investigation of depth distribution
of sulfur in type 45 steel and gray cast iron sulfurized at
the ROSTSEL'MASH.

Lesnykh, D.S., Candidate of Chemical Sciences. Electro-sulfur-
ization 126
The author presents the results obtained from sulfurizing
parts in various molten salts at 240 to 270°C and in
aqueous solution of salts and 50 to 75°C using electrolytic
methods.

AVAILABLE: Library of Congress
Card 6/6

00/00
10-20-59

18(3)

AUTHOR:

Lifshits, Ya. G.

SOV/163-59-2-40/48

TITLE:

Influence of Sulphidization on the Corrosion Process of Malleable Antifriction Cast Iron (Vliyaniye sul'fidirovaniya na protsess iznosa antifriktsionnogo kovkogo chuguna)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 221-223 (USSR)

ABSTRACT:

The influence of sulphidization on the wear of antifriction cast iron parts in tractors, agricultural machines and machine-tools was investigated in the present paper. The sulphidization of the machine parts was carried out in two tanks; a) thermochemical tank with three parts hyposulphite and two parts potassium thiocyanate at 220-230° within five hours; b) electrolytic tank with hyposulphite (112 g/l) and potassium thiocyanate (28.6 g/l) with the current density 0.003 a/cm² within one hour at 60-70°. A comparison of investigations concerning the wearability of the sulphidized and non-sulphidized samples of antifriction-perlite-ferrite cast iron showed that the non-sulphidized samples are 1.87, 3.53 times, respectively more stable than the samples from the thermochemical or electrolytic tank. The investigation results are

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SOV/63-59-2-40/48

Influence of Sulphidization on the Corrosion Process of Malleable Anti-friction Cast Iron

given in the figure. Sulphidization can, however, increase the stability of the machine parts which are exposed to friction if the parts are lubricated and exposed to a higher pressure and temperature. There are 1 figure and 3 Soviet references.

ASSOCIATION: Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya
(Rostov-na-Donu Institute of Agricultural Machine Construction)

SUBMITTED: May 24, 1958

Card 2/2

LESNYKH, D.S.; LIFSHITS, Ya.G.; OSIPOV, O.A.; SMOVT, M.S.

Electrochemical method for the sulfidization of metals. Uch.zap.
RGU no.60:151-172 '59. (MIRA 14:10)
(Metals) (Sulfurization)

LIFSHITS, Ya.G., kand.tekhn.nauk; KRESCHIK, V.S., inzh.; SAPOV, P.M.;
TIRATSUYAN, A.V.

Using powder-metal bearings for the SK-3 combine. Trakt. i sel'-
khoz mash. 30 no.9:29-31 S '60. (MIRA 13:9)

1. Rostovskiy n/Donu Institut sel'khoz masheniya (for Lifshits, Kreshchik)
2. Rostsel'mash (for Sapov, Tiratsuyan).
(Combines (Agricultural machinery)) (Bearings (Machinery))

S/137/62/000/012/065/085
A006/A101

AUTHORS: Lesnykh, D. S., Lifshits, Ya. G., Osipov, O. A., Smovt, M. S.

TITLE: An electrochemical method of metal sulfonation

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 131 - 132,
abstract 121808 ("Uch. zap. Rostovsk.-n/D. un-ta", 1959, v. 60,
151 - 172)

TEXT: The authors studied the effect of factors upon the quality of a forming surface layer in the electrochemical method of cast-iron and steel sulfonation. These factors are: bath composition; metal type used for the cathode specimen (part) prior to sulfonation; current density on the anode; bath temperature; duration of the process and throwing power of the bath. Aqueous solutions and melts of sulfur-containing salts were used as sulfonation baths, e.g. CH_3COOK 50%, CH_3COONa 30%, $\text{Na}_2\text{S}_2\text{O}_3$ 10% and KCNS 10% with an operational temperature of the melt as high as $260 - 240^\circ\text{C}$, and a 10% aqueous solution of $\text{Na}_2\text{S}_2\text{O}_3$ and KCNS in a 5 to 2 ratio; the sulfonation temperature is $50 - 75^\circ\text{C}$. To obtain a strong and elastic sulfonated layer, the specimens were

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An electrochemical method of metal sulfonation

S/137/62/000/012/065/085
A006/A101

subjected to preliminary cathodic coating with a 5 μ metal layer (Pb, Fe, Zn, Sn, etc). The sulfonated layer formed improves noticeably the mechanical properties of the steel and the cast-iron, as compared with a layer produced without cathodic coating. During the investigation of the sulfonation process, the radioactive S³⁵ isotope was used. Comparison tests were carried out at laboratories, plants and on the site, with parts of agricultural machines, tractors, and machine tools, that were not sulfonated, and sulfonated in an aqueous electrolytic bath. As a result, the conclusion is drawn that sulfonation improves the antigalling properties and corrosion resistance (at Pb coatings). Sulfonation does not raise the wear resistance of friction parts in case of sufficient greasing, if the pressure and temperature do not attain high values (bushings in friction assemblies of agricultural machines). It is recommended to sulfonate rolling mill rolls, parts of press-forging equipment, etc. Sulfonation is not expedient in cases of abrasive friction, dry friction, cutting (drum teeth, combiner sprocket wheels, etc). The authors stress the necessity of further improvement in the method of electrochemical sulfonation. There are 7 references.

[Abstracter's note: Complete translation]

A. Babayeva

Card 2/2

LIFSHITS, Ya.I.

Conveyer-drier for cores. Lit. proizv. no.12:20-21 D '61,

(MIRA 14:12)

(Coremaking)

(Foundries—Equipment and supplies)

KIYEVSKIY, I.K.; LIFSHITS, Ya.I.

Activity of the Vinnitsa Scientific Pharmaceutical Society.
Apt. delo 12 no.4:77-78 J1-Ag '63. (MIRA 17:2)

1. Aptechnoye upravleniye Vinnitskoy oblasti.

DESPILLER, O.D.; KONAKHOVSKAYA, S.M. [Konakhovs'ka, S.M.]; LIFSHITS, Ya.I.
[Lifshyts', IA.I.]

Qualitative analysis of carbocholine. Farmatsev. zhur. 18 no.2:
42-43 '63. (MIRA 17:10)

1. Kafedra obshchey khimii Vinnitskogo meditsinskogo instituta im.
Pirogova i Laboratoriya aptechnogo upravleniya Vinnitskogo oblastnogo
otdela zdravookhraneniya.

LIFSHITS, Ya.I. [Lifshyts', IA.I.]

Second Scientific and Practical Conference of Pharmacists
of Vinnitsa Province. Farmatsev.zhur. 20 no.6:79-80 '65.
(MIRA 19:1)

1. Vinnitskoye otdeleniye Nauchnogo farmatsevticheskogo ob-
shchestva.

LIFSHITS', Ya.K. [Lifshyts', IA.K.]

Improving the knowledge of analytical chemists at analysis control
laboratories and drugstores. Farmatsev. zhur. 16 no. 2:79-80 '61.
(MIRA 14:4)

1. Vinnits'ka kontrol'no-analitichna laboratoriya.
(PHARMACY--STUDY AND TEACHING)

LIFSHITS, Ye.A.

Duality principles for the problem of periodic solutions to
differential equations of higher order. Dokl. AN SSSR 165
no.2:277-280 N '65. (MIRA 18:11)

1. Voronezhskiy gosudarstvennyy universitet. Submitted
April 6, 1965.

KRASNOSEL'SKIY, M.A. (Voronezh); LIFSHITS, Ye.A. (Voronezh)

A duality principle. Ukr. mat. zhur. 17 no.5:119-122 '65.
(MIRA 18:12)

1. Submitted March 30, 1965.

BEL'SKAYA, Beata Rafailovna; KRYMOV, Boris Vladimirovich; LIFSHITS,
Ya.L., red.; RAKITIN, I.T., tekhn. red.

[Companions and competitors; on the European Economic Com-
munity] Soratniki - soperniki; o Evropeiskom ekonomicheskom
soobshchestve. Moskva, Izd-vo "Znanie," 1962. 46 p.
(MIRA 15:7)

(European Economic Community)

LIFSHITS, Ya. T.

②
Mass production of antifrictional malleable iron. Ya. T. Lifshits and S. F. Proloy, *Litening Proizvodstvo* 1953, No. 6, 31-2.

Malleable iron having a hardness of 107-108 Brinell and a structure consisting of temper C, 35-80% pearlite, and ferrite can fully replace bronze for frictional applications. The iron suitable for the purpose, contg. C 2.07-2.73, Si 1.08-1.22, Mn 0.44-0.46, S 0.11-0.13, and P 0.12% can be sand cast, but preferably should be centrifugally cast at 1580-1600°. With the latter practice the

iron remained white even when 35-40 mm. thick and could be completely malleabilized following malleabilizing cycles from 180-90-hr. duration. Sand casting requires a longer treatment for complete decomn. of cementite. Both types of castings are then strengthened by placing them in a furnace at 825°, cooling to 680-700°, heating to 820° in 26 min., soaking for 1 hr. 40 min., and air cooling. This treatment brings their hardness to 150 Brinell and adjusts pearlitic structure.

J. D. Cat

LIVSHITS, Ye.A. (Petrozavodsk).

Critique of a simplified concept; discussion. *Klin.med.* 31 no.9:79-80 S '53.
(MLRA 6:11)

(Mineral waters) (Baths) (Lepeshinskaia, Ol'ga Borisovna, 1871-)

LIFSHITS, Ye. B.

(4) Photo 5

B. T. R.
Vol. 3 No. 4
Apr. 1954
Graphic Arts

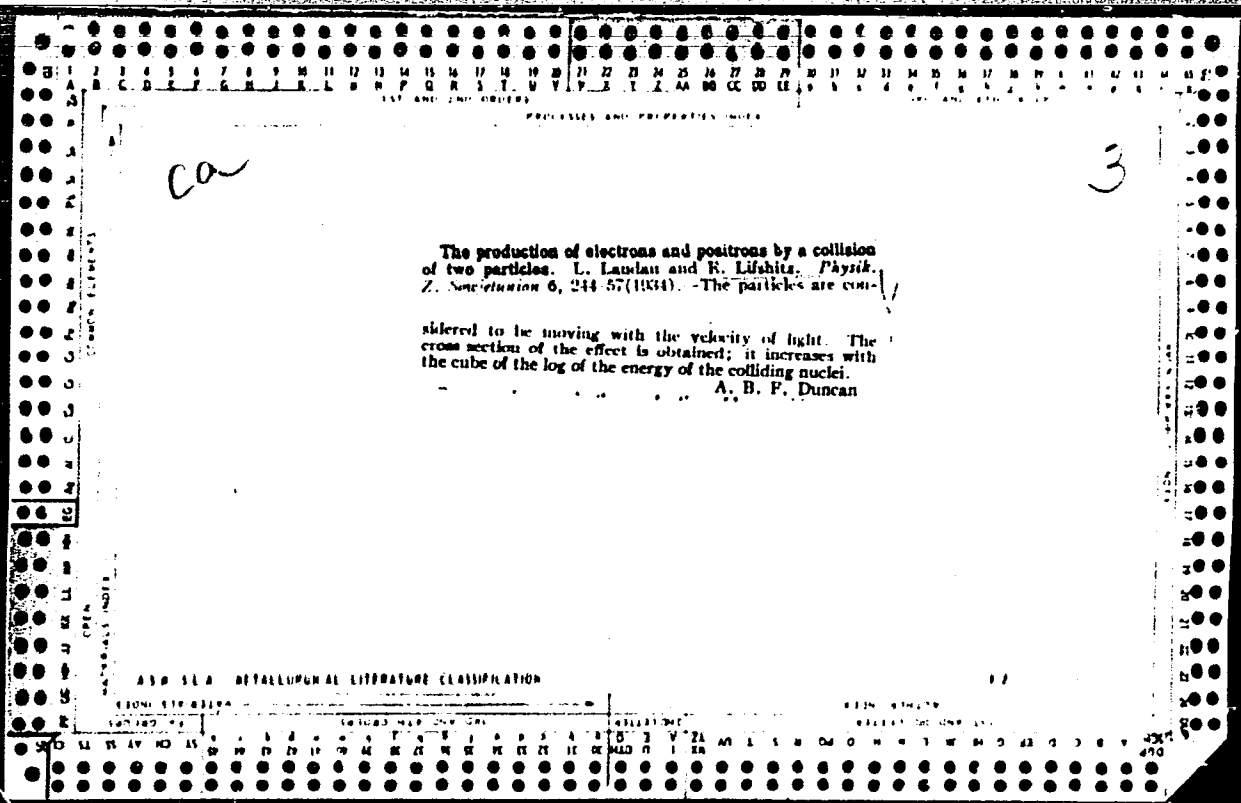
5040* Position of the Maximum of Sensitization of Photographic Emulsions Sensitized by Photomethylene Merocyanins. (Russian) M. V. Deichmeister, I. I. Lévkov, E. B. Lifshits, and S. V. Nalanson. *Doklady Akademii Nauk SSSR*, v. 93, no. 6, Dec. 21, 1953, p. 1057-1059.

Data confirm expressed hypothesis of very great influence of polarizing action of AgBr on degree of displacement. Table. 19 ref.

KRASNOSEL'SKIY, M.A.; KLIMOV, V.S.; LIFSHITS, Ye.A.

Convergence of positive functionals and operators. Dokl. AN SSSR
162 no.2:258-261 My '65. (MIRA 18:5)

1. Voronezhskiy gosudarstvennyy universitet. Submitted December 1,
1964.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

180 AND 170 CODES

ca

3

The production of electrons and positrons by a collision of material particles. --H. B. Lishitz. *Physik. Z. Sowjetunion* 7, 385-08(1915). --The cross section for the production of electronic pairs by a collision of two particles with a velocity much less than that of light is calculated. The effects of the 1st and 2nd approximations are compared. Morris Muskat

COMMON LITERATURE

OPEN

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODES

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

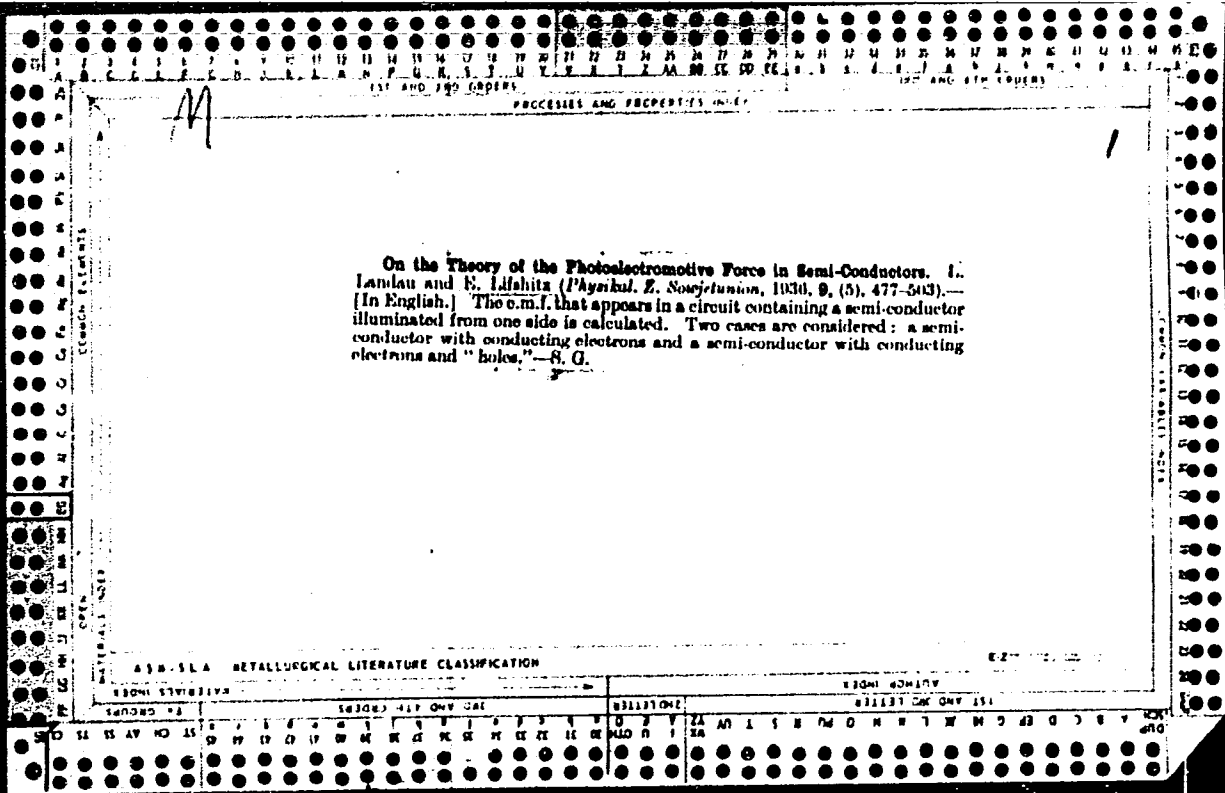
1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 1ST AND 2ND ORDERS

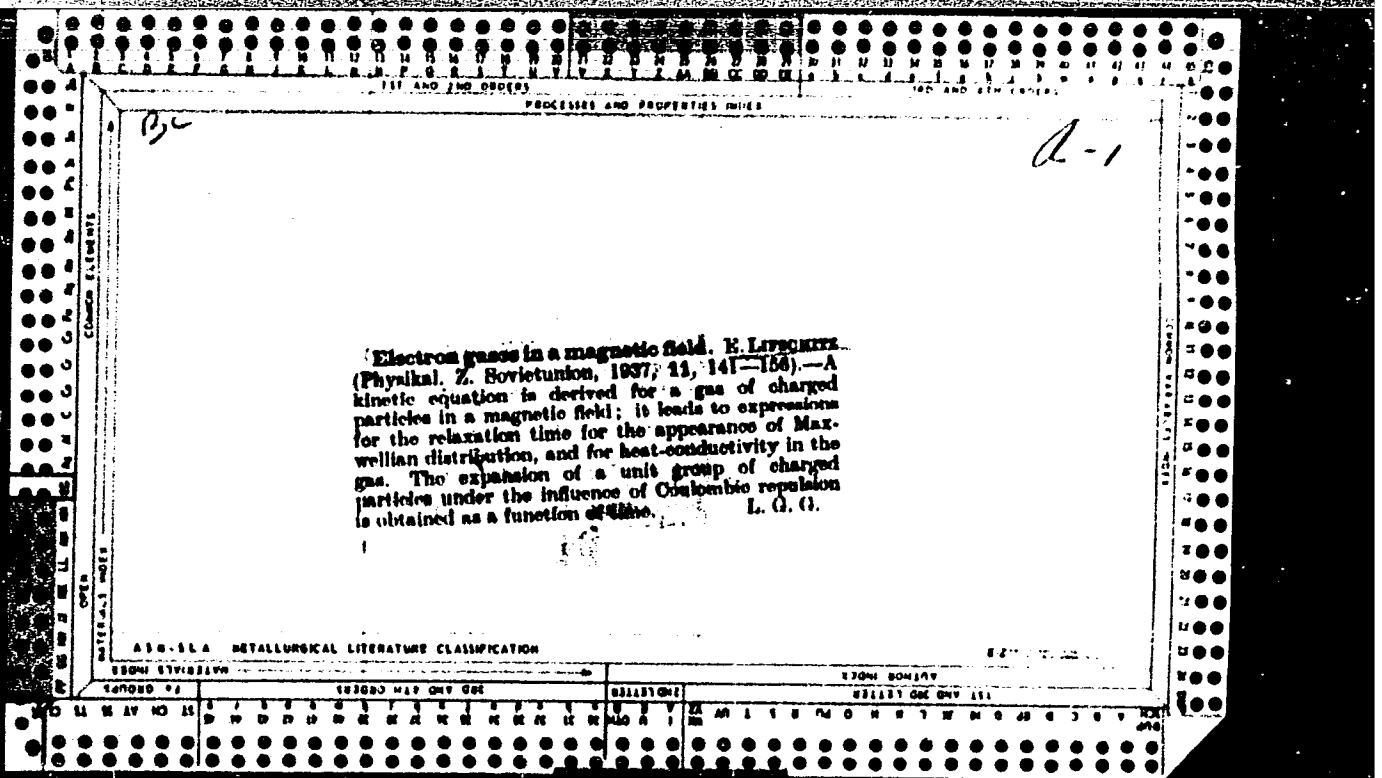
M

***The Theory of the Dispersion of Magnetic Permeability in Ferromagnetic Bodies.** L. Landau and E. Lifshitz (*Physikal. Z. Sowjetunion*, 1935, 8, 163-169).--(In English.) The distribution of magnetic moments in a ferromagnetic crystal is investigated mathematically. Such crystals are shown to consist of elementary layers magnetized to saturation; the width of the layers is determined. In an external magnetic field the boundaries between the layers move; the velocity of movement is determined. Expressions are derived for the magnetic permeability in parallel fields, respectively parallel and perpendicular to the axis of easiest magnetization.--J. S. U. T.

A.S.A. METALLURGICAL LITERATURE CLASSIFICATION

GROUPS 1ST AND 2ND ORDERS 1ST AND 2ND ORDERS





Electron gases in a magnetic field. E. LIFSHITZ
 (Physikal. Z. Sovietunion, 1937, 11, 141-154).—A kinetic equation is derived for a gas of charged particles in a magnetic field; it leads to expressions for the relaxation time for the appearance of Maxwellian distribution, and for heat-conductivity in the gas. The expansion of a unit group of charged particles under the influence of Coulombic repulsion is obtained as a function of time. L. G. G.

LIFSHITZ YE. [m]

1-10/12
3

0546 AEC-tr-2889

COLLISIONS OF DEUTERONS WITH NUCLEI. E. Lifshitz.

Translated from Zhur. Eksp. Teoret. Fiz. 6, 330-34
(1938). 42p.

W
B

Investigation is made of the collisions of deuterons with heavy nuclei accompanied by the disintegration of the deuteron with escape or capture of the neutron and proton particles produced. The effective cross section for each processes is computed as a function of the deuteron energy. The energy distribution of escaped particles is determined. (auth)

RMK
JSP

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

SA H5300

2822. Collisions of Deuterons with Heavy Nuclei. Part I.
E. Lifshitz. *Phys. Zeits. d. Sowjetunion*, 13, 2, pp. 224-243, 1938. In English.—The collisions of deuterons with heavy nuclei, accompanied by a disintegration of the deuteron with the capture of the neutron, are discussed. The cross-section for such reactions is calculated as the function of the deuteron energy. The distribution of the outgoing particles with respect to their energies is also determined. AUTHOR.

ALSO SEE METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS COMMON TRANSITION METALS

COMMON METALS COMMON NONMETALS

COMMON OXIDES COMMON SULFIDES

COMMON HALIDES COMMON NITRATES

COMMON CARBIDES COMMON BORIDES

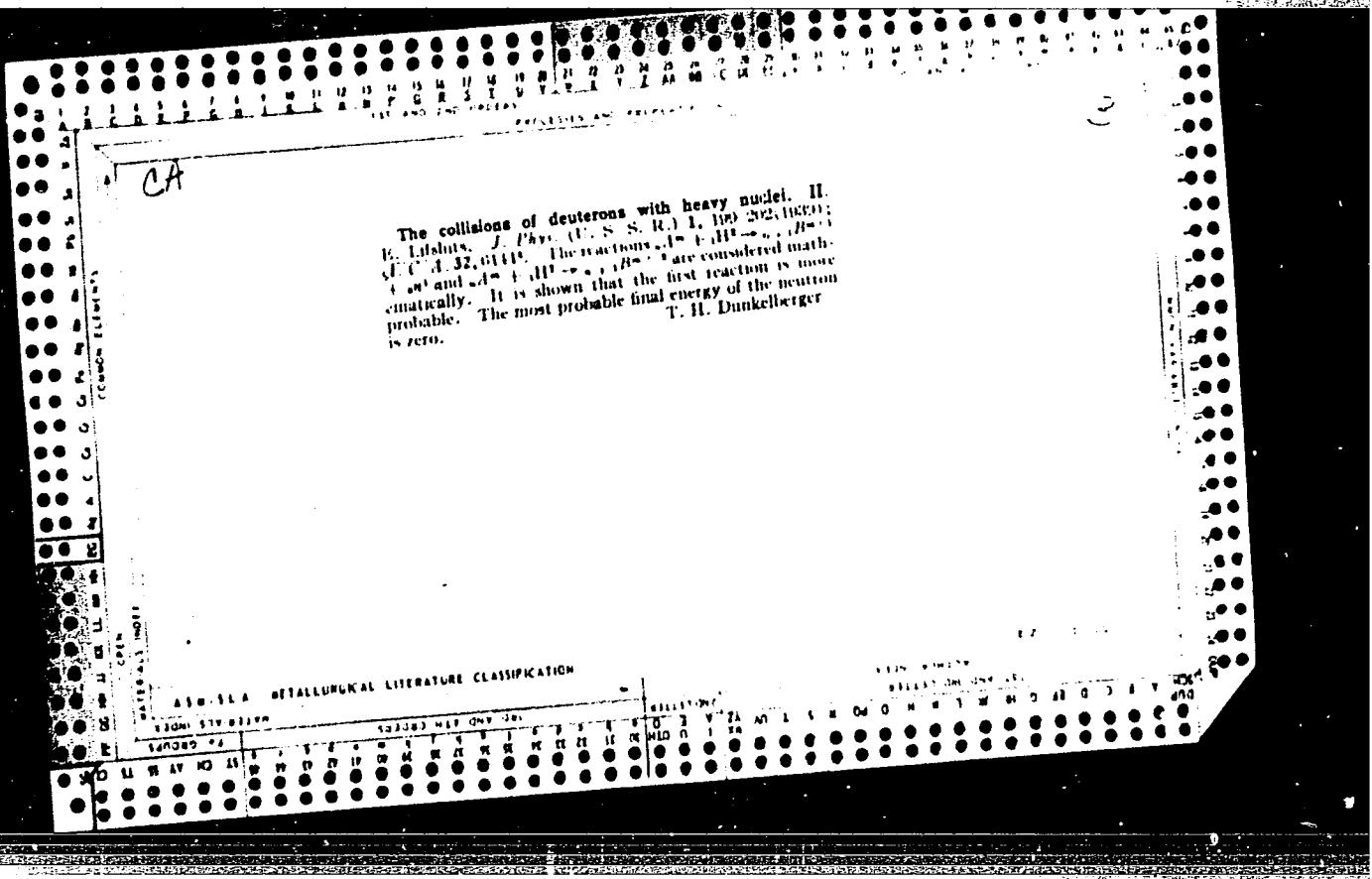
COMMON INTERMETALLICS COMMON ALLOYS

COMMON COMPOUNDS COMMON MIXTURES

COMMON SOLUTIONS COMMON POLYMERS

COMMON COMPOUNDS COMMON MIXTURES

COMMON SOLUTIONS COMMON POLYMERS



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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { | } ~

PROCESSES AND PROPERTIES INDEX

Neutron exchange in collisions of heavy nuclei. E. M. Lifshitz, *J. Exptl. Theoret. Phys. (U. S. S. R.)* 9, 237-9 (1930).--L. calc. the effective cross section of a collision for the transfer of a neutron from one heavy nucleus to another or the transition of one isotope to another. F. H. Rathmann

Kharkov Chemico-Technological Inst. im. S. M. Kirov.

ASB S.A. METALLURGICAL LITERATURE CLASSIFICATION

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LIFSHITS, Evgenii Mikhailovich, jt. au.

Landau, Lev Davidovich, 1908- The theory of the electromagnetic field Moskva,
Gos. izd-vo tekhniko-teoret, lit-ry 1941. 283 p. (Teoreticheskaja fizika, t.4)
(50-52232)

RPB

QC670.I3 1941

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

1ST AND 2ND ORDERS

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2

On the Theory of Second-Order Transformations. I.—The Change in the Elementary Crystal Cell with a Second-Order Transformation. II.—Second-Order Transformations in Alloys. E. M. Lifshits (Zhur. Eksp. Teor. Fiziki, 1941, 11, (2/3), 255-264, 269-281).—[In Russian]. [I.—] A theoretical consideration of phase changes which are not accompanied by evolution or absorption of heat and which are characterized by a sudden change in heat capacity, i.e. the so-called second-order transformations or Curie points. It is shown that such changes can occur only between phases having different degrees of symmetry, the symmetry of one phase being always lower than that of the other. All possible changes in the Bravais lattice that can take place at the Curie point have been investigated. In the majority of cases the transformation results in the duplication of one or other of the lattice units. [II.—] An investigation was made of the possibility of second-order transformations occurring in order-disorder transformations in alloys of the substitution type. Possible superstructures were considered for face-centred cubic, body-centred cubic, and hexagonal close-packed lattices in which second-order transformations may take place. Such transformations are possible in the ordering of CuPt, β -brass, Cu_3AlMn , and Fe_3Al . On the other hand, Curie points appear to be impossible in ordered alloys of the $CuAu$ and Cu_3Au type.—D. A.

Inst. Physical Problems, AS SSSR, Moscow.

ASB-514 METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

LIFSHITS, Ye. M.

"Conference on the Low Temperature Physics," Zhur. Eksper. i Teoret. Fiz., 11,
No.5, 1941

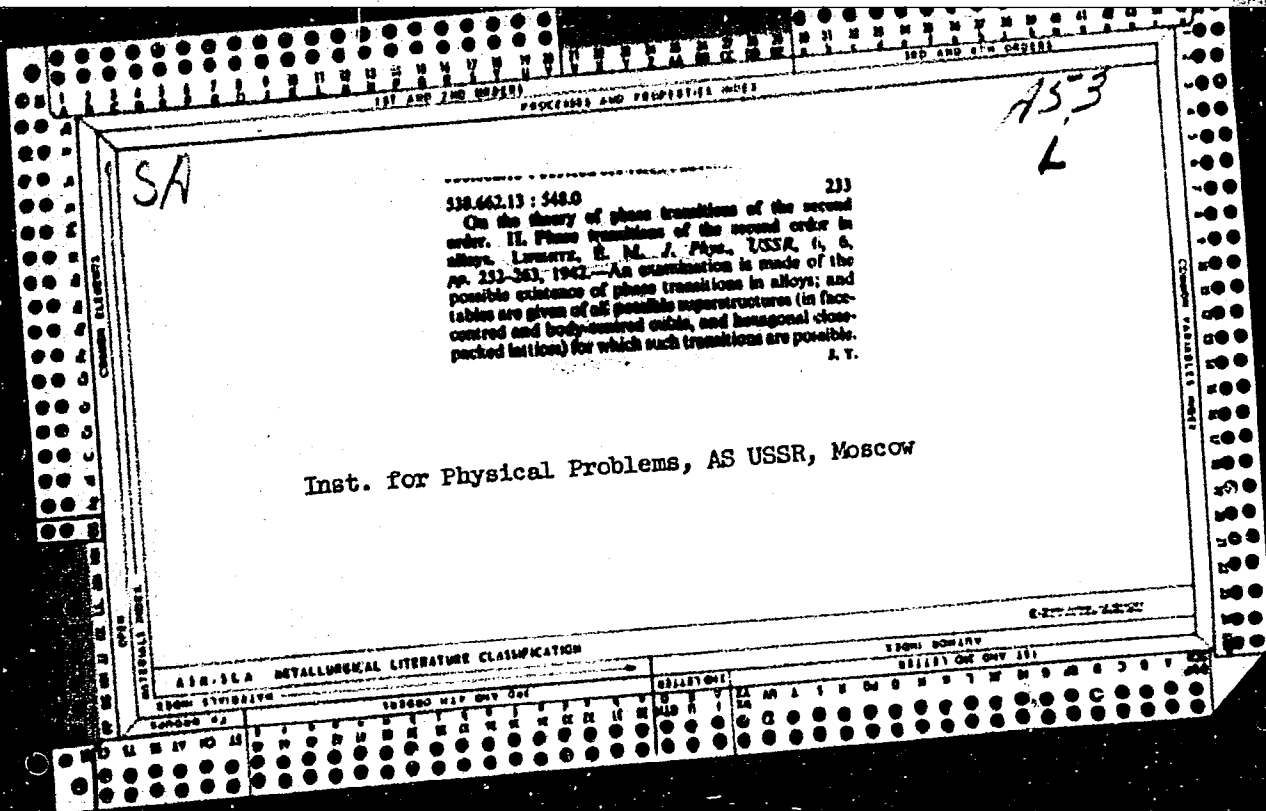
A53
J

1143 538.662.13 : 548
 On the theory of phase transitions of the second order. I. Changes of the elementary cell of a crystal in phase transitions of the second order. *LITERATURE*
 E. M. *J. Phys., U.S.S.R.*, 6, 1-2, pp. 61-74, 1942. —
 The possible changes in the symmetry of a crystal in phase transitions of the second order are essentially limited by the thermodynamic theory of these transitions. All possible changes of the elementary cell of a crystal in phase transitions of the second order are examined in this work.

Institute for Physical Problems, AS USSR, Moscow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



^[M]
LIFSHITS, Ye. and LANDAU, L.

Mekhanik a Sploshnykh Sred (The Mechanics of Continuous Media), Gostekhizdat, 1944, 407 p

SO: W-16125.

PROCESSIES AND PROPERTIES INDEX

A-1

BC

Radiation of sound in helium II. E. Lifschitz (*J. Physics U.S.S.R.*, 1944, 8, 110-114).—The ratios of the intensities and temp. and pressure amplitudes distant from various sources are determined for the normal and second sounds in He II. The sources considered are: (i) plane surface vibrating normal to itself (not favourable to second), (ii) vibrating sphere (intensity favourable at low frequencies), (iii) plane surface vibrating in its own plane (favourable to second), (iv) temp. fluctuations (very favourable to second). H. V. S.-R.

METALLURGICAL LITERATURE CLASSIFICATION

RESEARCH ONE

PROCESSES AND PROPERTIES INDEX

MAGNETIC STRUCTURE OF IRON

BC

Magnetic structure of iron. E. Lifschitz. (*J. Physics U.S.S.R.*, 1944, 8, 337-346).—Theoretical. The shape and dimensions of the regions of spontaneous magnetisation in Fe crystals have been calculated. These regions are in the form of layers, and their width in small crystals is obtained by using the principle of free energy. Results agree with experiment. In larger crystals it is to be expected that the layers will become branched. In the case of crystals bounded by {111} planes with the layers in the {110} planes, branching of the layers should occur when the crystals are quite small and this is particularly so for Co crystals. A. J. M.

Zhur
Also: Eksper. 1. Teoret. Fiz., 15, No. 3, 1945.
Inst. for Physical Problems, AS USSR.

METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

CA

2

Phase transitions in unimolecular films. E. M. Lifshits. *J. Exptl. Theoret. Phys. (U.S.S.R.)* 14, 353-63 (1944).—According to Landau (*C.A.* 33, 415) the phase transitions can be of two kinds; one is a real change of phase, such as melting, and the other is a change of symmetry and is possible only under definite conditions (e.g., a gradual transition of a symmetry of the 2nd order into that of the 4th order is, but into that of the 3rd order is not, possible). This idea is developed systematically. When transition results in a more sym. system, the compressibility of the new system is less than that of the old. Hence, the intermediate phase is more anisotropic than the liquid-expanded, and the liquid-condensed phase more anisotropic than the solid phase. Probably intermediate and liquid-condensed phases are in reality only one phase the behavior of which appears irregular because of the slow attainment of the equil. It should be possible to det. the anisotropy of uniform unimol. films by measuring the ellipticity of the reflected light if the incident light is polarized in the plane of incidence or normal to it. Also in *Acta Physicochim. U.R.S.S.* 19, 248-65.

J. J. Hilkerman

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 1ST AND 6TH ORDERS

CF

2

Phase transitions in unimolecular films. E. Lifshitz. *Acta Physicochim. U.R.S.S.* 19, 248-65(1944) (in English).—Math. and theoretical. On the basis of Landau's (C.A. 31, 6076^a) general theory all possible types of symmetry changes occurring in 2nd-order phase transitions in monolayers are established for the point groups designated as C_2 and C_{2v} . In addn., all possible types of intersection of the curves of 2nd-order phase transitions with each other and with first-order transition curves are examd.
T. H. Dunkelberger

ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION

FROM DOMINANT

1ST AND 2ND ORDERS 1ST AND 6TH ORDERS

534.22 : 536.48 1255

Two velocities of sound in helium-II. LIFSHITZ, E. M., AND PITAEV, V. P. *Vestn. Akad. Nauk (No. 4) 117 (1945). Summary in Nature, Lond., 157, 200 (Feb. 16, 1946).*—The phenomenon predicted by Landau's theory [see Abstr. 2985 (1945)] has been demonstrated as follows: A method of exciting the "abnormal" sound waves by temperature fluctuations was adopted, as analysis showed that the amplitude of pressure oscillation in these waves is low, and all the usual methods of sound excitation only produce the normal sound waves. Stationary waves were set up in a closed tube 25 cm long with a steel piston at one end whose temperature was varied rhythmically by heating with alternating current. For detector, a resistance thermometer of very fine phosphor-bronze wire, which could be moved up and down the tube, was used with a $10^4 \times$ amplifier. The velocity of the "abnormal" sound waves was found to be 19.5 mm/sec at -1.35°K , rising to 20.4 m/sec at -1.65°K and then rapidly falling to zero at the λ -point (-2.19°K). No "dispersion" was found over the frequency range 100-10 000 c/s. The speed of normal sound at these temperatures is 250 m/sec.

Common Element

Common Variable

Metallurgical Literature Classification

GROUP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YY	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ
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"Second Sound in Liquid Helium," a report submitted at General Assemblies of OFI in 1944.

IAN-Ser Fiz, Vol 9, No 3, 1945

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"On the Magnetic Structure of Iron," Zhur. Eksper. i Teoret. Fiz., 15, No.3,
1945

Lifshitz, E. [M.]

2

Lifshitz, E. On the gravitational stability of the expanding universe. Acad. Sci. USSR. J. Phys. 10, 116-129 (1946).
The metric of the expanding universe of general relativity is of the form $ds^2 = -c^2 dt^2 + a(t)^2 d\Sigma^2$, where

$$d\Sigma^2 = dx^2 + \sin^2 \chi (\sin^2 \theta d\phi^2 + d\theta^2)$$

for the closed model, with a corresponding form for the open model. (The "parabolic" model is not discussed here.) The stability of this universe is examined by considering those small perturbations which correspond to small deformations of the spatial part $a(t)^2 d\Sigma^2$. This deformation is arbitrary except that pressure is assumed to remain isotropic. Writing h_{ij} for the variation δg_{ij} in the fundamental tensor of space-time, $h_{\alpha\beta}$ is assumed to be zero, and $h_{\alpha\beta}$, $\alpha, \beta = 1, 2, 3$, is a tensor under spatial transformations. The general equations connecting $h_{\alpha\beta}$, their derivatives and the variations of density and pressure are obtained and expressed in tensor form, referring to the 3-space with metric $d\Sigma^2$.

Subsequent discussion is simplified by the introduction of surface harmonics in flat 4-space, analogous to spherical harmonics in Euclidean space. The tensor $h_{\alpha\beta}$ is expressible in terms of surface harmonics of three kinds, scalar, vector and tensor, and each kind gives rise to a particular form of perturbation. From scalar harmonics there arise perturbations accompanied by changes of density, vector harmonics give rise to rotational perturbations and the perturbations corresponding to tensor harmonics are gravitational waves. In all cases the perturbations ultimately decrease in time and the expanding universe is therefore stable under the assumed conditions.

A. G. Walker (Liverpool).

SMW

Source: Mathematical Reviews,

Vol. . No. 3

PA40T85

LIFSHITS, YE

USSR/Physics
Gravity
Stability

Aug 1946

"The Gravitational Stability of the Expanding Universe," Ye. Lifshits, Institute of Physical Problems, Academy of Sciences of USSR, 16 pp

"Zhur Eksper i Teoret Fiz" Vol XVI, No 7

Gravitational stability is investigated on nonstationary isotropic models of the universe. It is shown that arbitrary small perturbations of the gravitational field and of the distribution of matter in an expanding universe either decrease with time or increase so slowly that they cannot serve as centers of formation of separate nebulae or stars. Submitted, 2 Jun 1945. LC 40T85

Also: Journal of Physics, No. 2, Vol. 10, 1946.
Inst. for Physical Problems, Academy of Sciences for the USSR.

LIFSHITS, Ye. [m]

*Landau, L., and Lifshitz, E. *Kvantovaya Mehanika. Chast' I. Nerelyativistskaya Teoriya.* [Quantum Mechanics. Part I. Nonrelativistic Theory.] UGIZ, Moscow-Leningrad, 1948. 567 pp.

This book is more nearly a definitive text than an introductory one. Its rather extensive length is devoted strictly to the nonrelativistic theory, so that even spin-orbit coupling is treated only schematically and without presenting the exact form of the operator. The authors have not used the space at their disposal for detailed belaboring of elementary points, mathematical or experimental; their presentation is usually quite adequately clear for readers of suitable background, but is never prolix. They are thus able to cover rather thoroughly all of the main methods and applications of nonrelativistic quantum mechanics, with the single exception of the theory of solids. This is represented only by a half-dozen pages on Bloch's theorem regarding the motion of electrons in periodic fields.

Subjects treated with unusual thoroughness are the quasi-classical case (phase-integral methods), the theory of collisions, and, in particular, the applications of group theory to the discussion of polyatomic molecules. Also, in other parts of the book, there is generally to be found material not usually incorporated in textbooks; for example, in the chapter on spin there is an account of nonrelativistic (three-dimensional) spinors and a proof of Kramers' theorem on degeneracy in electric fields. Only in questions of basic principle, for example, the theory of measurement, is the treatment likely to be less thorough and adequate.

There does not seem to exist in English a book providing the particular values which this one provides for Russian students.

W. H. Furry (Cambridge, Mass.)

W-16125

Source: Mathematics

LIFSHTS, YE. M.

PA 6/49T102

USSR/Physics

Jun 48

Quantum Theory
Radiation - Damping

"Decelerating Radiation During the Collision of
Electrons," Ye. M. Lifshits, Inst of Phys Problems,
Acad Sci USSR, 4 pp

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 6

Calculates effective cross section for retarding
radiation on collision of electrons in nonrelativis-
tic quantum case ($c \gg v \gg e^2/h$, where v is
velocity of electrons). Spectral and angular dis-
tributions of radiation are determined.

6/49T102

LIFSHITS, YE.

PA 9/49T80

USSR/Nuclear Physics - Deutrons Aug 48
Nuclear Physics - Neutrons, Cross-Sections

"The Theory of Energy Transmissions Through Col-
lisions. III," L. Landau, Ye. Lifshits, Inst of
Phys Prob, Acad Sci USSR, 9 pp

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 8

Evolution of method which permits exact calculation
of actual cross section of a deuteron fission into
neutrons and protons, while transversing a Coulomb
field. Determines distribution of departing
particles by energies as well as their angular dis-
tribution.

9/49T80

LIFSHITS, Ye. M.

HA 12/49T105

Apr 48

USSR/Physics
Low Temperature Research
Helium

"Theory of the Superfluidity of Helium II," Ye. M. Lifshits, 38 pp

"Uspekhi Fiz Nauk" Vol XXXIV, No 4

Treats subject under following headings: Helium II - a quantum liquid; energy spectrum of a quantum liquid and of an almost ideal Bose-Einstein gas; calculation of thermodynamic characteristics of Helium II; superfluidity of Helium II; C_p/C_v ; heat transference; thermomechanical effect and behavior

12/49T105

Apr 48

USSR/Physics (Contd)

of atoms of impurities in Helium II; hydrodynamic equations of Helium II; propagation of sound and dispersion of light in Helium II; viscosity of Helium II; work of I. Tisza on the subject.

12/49T105

LIFSHITS, YE. M.

PA 62T92

USSR/Nuclear Physics - Electrons - Annihilation Apr 1948
Nuclear Physics - Positrons - Annihilation

"Tri-Photon Annihilation of Electrons and Positrons,"
Ye. M. Lifshits, Inst Phys Problems, Acad Sci USSR,
2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Mathematical formulas for calculating the subject
annihilation. Submitted by Academician L. D. Landau,
5 Feb 1948.

Theoretical Physics Div. of Inst. of Physical Problems

62T92

LIFSHITS, Ye.

капые

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Mathematical Physics.

*Landau, L., and Lifšic, E. Statističeskaya fizika (klas-
sičeskaya i kvantovaya). [Statistical physics (classical
and quantum)]. Gosudarstv. Isdat. Tehn.-Teor. Lit.,
Moscow-Leningrad, 1951. 479 pp. 14.75 rubles.

The present volume (the 4th in a series on Theoretical
Physics) contains the revised and considerably enlarged
material of an earlier book of the authors published under
the same title [Oxford, 1938]. Whereas the first edition
contained a unified theory of thermodynamics and classical
statistical mechanics following to a large extent the ideas
of Gibbs, the present volume includes also quantum sta-
tistics. Frequently, a classical result is immediately followed
by the quantum statistical reformulation. Elegant but ap-
proximate mathematical methods make it possible to cover
a large number of applications in comparatively small space.
The problems connected with the macroscopic electric and
magnetic properties of matter are left for another volume.
A selection of topics follows: Gibbs distributions leading to
thermodynamics, increase of entropy, a fact asserted to
present a paradox, thermodynamic transformations by
means of Jacobians. Thermodynamic inequalities, Nernst
theorem, rotating bodies, relativistic generalizations, per-
turbation methods in the partition sum, various types of
ideal gases, solids, phonons, superfluidity on the basis of
phonon and Bose-type energy spectrum of quantum liquid.
(It is emphasized that the Bose-type spectrum may not be
necessarily connected with the statistics of the constituent
particles.) The two-fluid model is not treated. Negative

ABG/25

(OVER)

temperatures. Classical and quantum non-ideal gases, second virial coefficients, Coulomb interaction, Debye-Hückel theory. Phase equilibrium, critical points. Solutions, types of equilibrium curves. Chemical equilibrium. Properties of matter at high temperatures and densities with astrophysical applications. Fluctuations, Gaussian distributions, Poisson formula, correlation of fluctuations, fluctuations at the critical points (the theory is based on the "capillary" effect of Rocard rather than on Ornstein-Zernicke's correlation effects). Radial distribution functions in ideal quantum gases. Correlations in time. Onsager type thermodynamics of irreversible phenomena, dissipation function. The role of symmetry in solids, crystal classes. Phase transitions of the second kind are treated only on the basis of Landau's expansion of the Gibbs function around the critical point. Ehrenfest type discontinuities are found for the specific heat rather than singularities as in more rigorous theories. The latter cast doubt on the validity of Landau's expansion, since the Gibbs function is presumably singular at the critical point [cf., e.g., Smoluchowski, Mayer, and Weyl, *Phase transformations in solids*, Wiley, New York, 1951, p. 1]. Surface effects in fluids and crystals. The average length of long-chain molecules. There are a large number of solved problems. Bibliography is almost completely absent.

L. Tisza (Cambridge, Mass.).

2

CA

Heat capacity of liquid helium. E. M. Lifshitz (Inst. Phys. Problems Acad. Sci. U.S.S.R., Moscow). *Zhur. Eksp. Teor. Fiz.* 21, 689-91(1951).—If the exptl. data of Abraham, et al. (C.A. 43, 409a) are plotted as μ/R (where μ = chem. potential of the liquid) as a function of T^3 , the plot can be extrapolated below 1.5°K. as a straight line, described between 1.5 and 1.0°K. by $\mu = -2.8 R - 0.38 RT^3$. Exptl. points above 1.5°K. can be fitted by adding a term $-0.017 T^3$. From the portion linear in T^3 , the heat of evap. at $T = 0$ is 5.5 cal./mole, and the heat capacity $C = 0.76 RT = 1.5 T$ cal./mole/degree. A degenerate Fermi gas of particles of the same mass and the same sp. vol. (~ 38 cc./mole) would have $C = 1.0 RT$. N. Thon

1952

LIFSHITS, Ye. M.

USSR/Physics - Superconductors

11 Aug 51

"Intermediate State of Superconductors," Ye. M. Lifshits, Yu. V. Sharvin, Inst of Phys Problems imeni Vavilov, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIX, No 5, pp 783-786

Considers a model of a plane-parallel plate (in a transverse magnetic field) with completely non-branching layers. Poses the problem of finding the "characteristic" value of the dimension L whose comparison will det the character of the existing structure of superconductors. Thanks Acad K. L. Landau for his interest. Submitted by Landau 13 Jun 1951.

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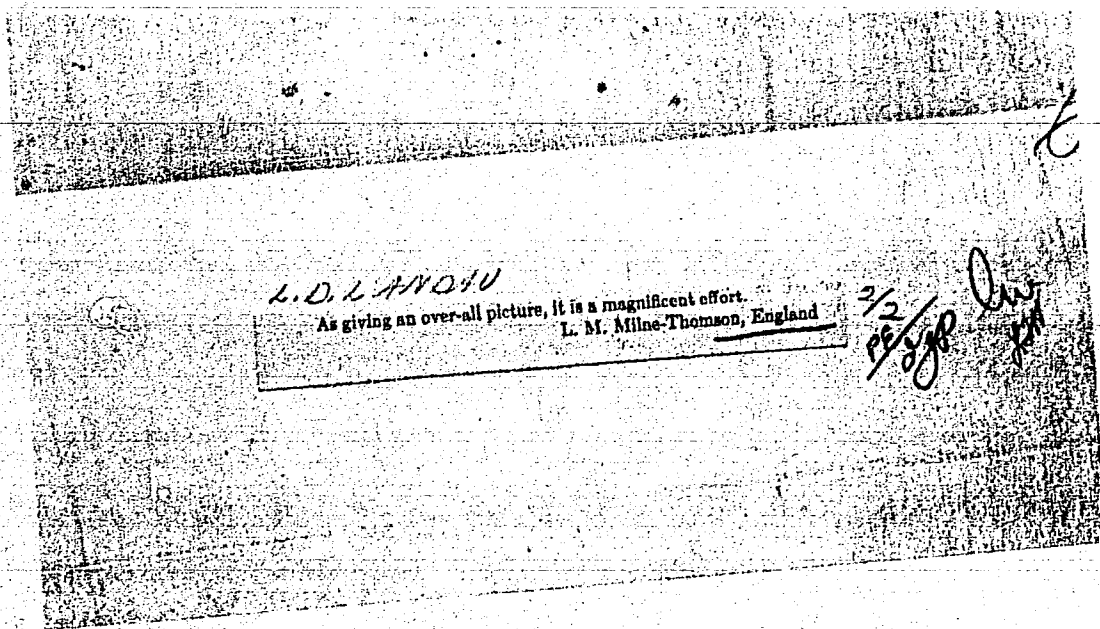
LIFSHITZ, E.M.

✓ Q2960. Landau, L. D., and Lifshitz, E. M., The mechanics of continuous media [Mekhanika sploshnykh sred], 2nd ed., Moscow, Gosud. Izdat. Tekh. Teor. Lit., 1953, 788 pp. 15.35 rubles.

① Book treats the theory of motion of fluids and gases (hydrodynamics) and solid material (elasticity). The chapters on hydrodynamics are: (1) Ideal fluids; (2) Viscous fluids; (3) Turbulence; (4) Boundary layer; (5) Heat conduction; (6) Diffusion; (7) Surface phenomena; (8) Sound; (9) Shock waves; (10) One-dimensional gas flow; (11) Surfaces of discontinuity; (12) Plane gas flow; (13) Flow about a finite body; (14) Combustion; (15) Relativistic hydrodynamics; (16) Superfluidity; in all, 628 pages. Elasticity is confined to infinitesimal strain and comprises: (1) Basic equations; (2) Equilibrium of rods and plates; (3) Elastic waves; (4) Heat conduction; in all, 156 pages.

To cover such a vast field the treatment has to be concise. Nevertheless, the exposition is a model of clarity. Approximate and empirical methods are not treated and, to the authors' credit, they never seem to lose sight of the physical background. The book is clearly intended for physicists, but, in spite of the number of worked problems, it is difficult to see to what class of worker the book will appeal. In any one division there is too little for the specialist, while the whole could prove indigestible to the tyro.

6



LIVSHITS, YE. M.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Landau, L. D. <u>Livshits, Ye. M.</u>	"Theory of Fields" "Quantum Mechanics" "The Nonrelativity Theory" "Statistical Physics" "The Mechanics of Uniform Media. Hydrodynamics and the Theory of Elasticity"	Institute of Physical Problems, Academy of Sciences USSR

SO: W-30604, 7 July 1954

LIFSHITS, Ye.M.

SOMMERFELD, Arnold; LIFSHITS, Ye.M. [translator]; MARGULIS, U.Ya., redaktor; KORNILOV, B.I., tekhnicheskiy redaktor.

[Mechanics of deformable bodies. Translated from the German] Mekhanika deformiruemyykh sred. Perevod s nemetskogo E.M.Lifshitsa. Moskva, Izd-vo inostrannoi lit-ry, 1954. 486 p. (MIRA 7:10)
(Elasticity)

LANDAU, L.D.; LIFSHITS, Ye.M.; ALEKSEYEV, D.M., redaktor; TUMARKINA, N.A.,
tekhnicheskiy redaktor

[Mechanics of continuous media] Mekhanika sploshnykh sred. Izd.
2-os, perer. i dop. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry.
1954, 795 p. (MLRA 10:3)
(Elasticity) (Hydrodynamics)

LIFSHITS, E. M.

USSR/Physics - Shock waves

Card : 1/1

Authors : Landau, L. D., Academician; and Lifshits, E. M.

Title : Investigation of flow characteristics with the aid of the Euler-Tricomi equation

Periodical : Dokl. AN SSSR, 96, Ed. 4, 725 - 728, June 1954

Abstract : Analysis of an application of the Euler-Tricomi equation to various problems dealing with shock and sound waves. Graphs illustrating the test. One reference. Graphs.

Institution : ...

Submitted : April 13, 1954

Lifshits, E.M.

539.13
✓ 6277. THE THEORY OF MOLECULAR ATTRACTIVE FORCES BETWEEN SOLIDS, E.M. Lifshits.

Zh. eksper. teor. Fiz., Vol. 29, No. 1(1), 94-110 (1955). In Russian. English translation in: Soviet Physics JETP (New York), Vol. 2, No. 1, 73-83 (Jan., 1956).

A macroscopic theory is developed for the interaction of bodies whose surfaces are brought within a small distance of one another. The interaction is considered to come about through the medium of the fluctuating electromagnetic field. The limiting cases of separation's small and large compared with the wavelengths of the absorption bands of the solid are studied. Upon going to the limiting case of rarefied media, the van der Waals forces of interaction between individual atoms are obtained. The effect of temperature on the interaction of the bodies is considered.

A.

Inst Phys. Problems, AS USSR

LIFSHITS, E. M.

USSR/Physics - Helium II

Card 1/1 : Pub. 22 - 16/60

Authors : Landau, L. D., Academician; and Lifshits, E. M.

Title : About the rotation of liquid helium

Periodical : Dok. AN SSSR 100/4, 669-672, Feb 1, 1955

Abstract : An explanation of the laminar structure of rotating helium II liquid is given from the point of view of the thermodynamic equilibrium theory. Formulas are derived for calculating the thickness of the rotating layers for fast and slow rotations. Four references: 1 British and 3 USSR (1941-1951).

Institution : Acad. of Scs., USSR, The S. V. Vavilov Institute of Physical Problems

Submitted :

LIFSHITS, YE. M.

Category : USSR/Atomic and Molecular Physics - Physics of the Molecule

D-2

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3404

Author : Lifshits, Ye.M.

Title : Effect of Temperature on the Molecular Attraction Forces Between Condensed Bodies

Orig Pub : Dokl. AN SSSR, 1955, 100, No 5, 879-881

Abstract : An equation in which the temperature T is taken into account is derived for the molecular attraction forces between condensed bodies. The equation for the attraction forces, derived in an earlier work (Referat. Zh. Fizika, 1955, 18112) disregards T , which is assumed to be zero. Such an approximation is possible in the case of small distances $l \ll \lambda$, where λ is the fundamental wavelength. In the case of large distances, T does not play a role provided $kT \ll hc/l$. The condition $l \ll hc/kT$ and $l \gg \lambda$ are compatible at small values of T . In the case of room temperature it may turn out that one cannot consider the interaction at distances $l \gg \lambda$ by assuming $T=0$. An equation for the molecular forces, with allowances for T , is obtained by using the fluctuation method as previously (see above reference). The expression

Card : 1/3

Category : USSR/Atomic and Molecular Physics - Physics of the Molecule

D-2

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3404

second limiting case, when \underline{l} is large, F is given with sufficient accuracy by

$$(kT/8\pi l^3) [(\epsilon_0 - 1)/(\epsilon_0 + 1)]^2$$

where ϵ_0 is the dielectric constant. In this case the next terms of the general equation for F diminish exponentially. It follows therefore that at distances that are great or small compared with F diminishes as $1/l^3$, with the proportionality coefficient being dependent on T and on ϵ_0 .

Card : 3/3

Lifshits, E.M.

3

The theory of molecular attraction forces between solid
bodies. E. M. Lifshits. Soviet Phys., JETP 2, 73-83
(1956) (English translation). See C.A. 49, 16333b.
B. M. R.

RAW
JBL

~~LIFSITS, Yel.~~~~LIFSITS~~

CARD 1 / 2

PA - 1859

SUBJECT USSR / PHYSICS
 AUTHOR STIL'BANS, L.S., BOK, B.I., LIFSIC, E.L.
 TITLE On the Mechanism of the Scattering of Carriers in Lead Telluride.
 PERIODICAL Dokl. Akad. Nauk, 111, fasc. 5, 1011-1013 (1956)
 Issued: 1 / 1957

According to the usual theory it is true for the temperature dependence of mobility in atomic and ion-semiconductors that $u \sim T^{-3/2}$ and $u \sim T^{-1/2}$ respectively. However, in the case of some substances discovered some time ago it holds within a wide temperature range that $u \sim T^{-5/2}$, and at low temperatures this law goes over into $u \sim T^{-3/2}$. Such substances are, above all, lead telluride, lead selenide, and sulphur lead. From $l \sim \frac{\epsilon^r}{T}$ (l - free length of path of the electron, ϵ - energy, T - temperature) there follows with $u \sim T^{-5/2}$ $r = -1$ although the theory for atomic and ion semiconductors furnishes $r = 0$ and $r = +1$. With respect to the exponent r in the above formula it is possible to draw conclusions also from other phenomena. The present work deals with this problem on the basis of the results obtained from investigating lead telluride. Two diagrams illustrate the dependence of the differential thermoelectromotive force on the number of carriers for a number of samples in lead telluride (with a wide range of concentration, which comprises the range of application of classical statistics and that of degeneration), as well as the dependence of mobility on the number of carriers. The curve for $r = -1$ equals the experimental curve if it is shifted by 0,3 on the abscissa axis, i.e. if one puts

ЛИФШИЦ, Я.Е. и Л.Д. ЛАНДАУ. ЭЛЕКТРОДИНАМИКА СПЛОШНЫХ СРЕД.

203

Landau, Lev Davydovich and Lifshits, Yevgeniy Mikhaylovich
Elektrodinamika sploshnykh sred (Electrodynamics of Continuous
Media) Moscow, Gostekhizdat, 1957. 532 p. (Their:
Teoreticheskaya fizika)

Ed: Rynik, V.I.; Tech. Ed: Murashova, N.Ya.

PURPOSE: This study is intended for advanced students and specialists with an excellent knowledge of mathematical analysis and electrodynamics.

COVERAGE: The present volume of the "Theoretical Physics" series is devoted to the theory of electromagnetic fields in material media and to the theory of macroscopic electric and magnetic properties of matter. The authors consolidate, clarify, and correct the literature existing on these theories. As in the case of their classic Mekhanika sploshnykh sred (Mechanics of Continuous Media) they suggest in their investigation of the phenomena of very diverse fields of science an integrated approach which they think capable of fruitful applications. Personalities mentioned include: Ginzberg, V.L., Professor, who contributed many valuable suggestions and read the manuscript; Dzyaloshinskiy, I.Ye., and Pitayevskiy, L.P., who assisted in proofreading. There are no references.

Card 1/9

LIFSHITS, E. M.

9
1-454c

NO. 4
NEW WORKS IN PHYSICS. Vestnik Akad. Nauk S.S.S.R.
27, No. 4, (10-11(1967) Apr. (In Russian)

A review is given of reports presented to the Physics and Mathematics Conference, Feb. 23, 1967. The relationship of atoms of various elements to electrons and the effects of such relationship on the outer structure of the electro shell was discussed by V. N. Lukel'skiĭ; investigations of new semiconductors of complexes with sphalerite and wurtzite were described by S. A. Goryunova; the theory of molecular forces attractive between solid bodies, and the theory of magnetic properties of superconducting alloys not based on macroscopical heterogeneities were discussed by E. M. Lifshits and A. A. ABRIKOSOV, respectively. (R.V.J.)

Handwritten initials or signature

LIFSHITS, Y.E.M.

PA - 2990

AUTHOR: LANDAU, L.D., LIFSHITS, E.M.
 TITLE: On Hydrodynamic Fluctuations. (O gidrodinamicheskikh fluktuatsiyakh, Russian)
 PERIODICAL: Zhurnal "Ksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 3, pp 618-619 (U.S.S.R.)
 Received: 6 / 1957

Reviewed: 7 / 1957

ABSTRACT:

The general Theory of hydrodynamic fluctuations can be constructed by the introduction of additional "foreign" terms into the equations of motion of the liquid. (Similar to the method used by RYTOV for fluctuations of the electromagnetic field in continuous media by the introduction of corresponding "foreign fields" into the MAXWELL equations).

The introduction of such additional terms can be realized by various equivalent methods. The greatest advantage, however, is offered by such a form in which the fluctuations of the "foreign quantities" in the various points of the liquid are not correlated with each other. This is obtained by the introduction of a "foreign voltage tensor" s_{ik} into the equation by NAVIER-STOKES and of a vector of the "foreign heat current" \vec{g} into the equation of heat transfer. (The continuity equation remains unchanged). The system of hydrodynamic equations then takes the following form:

Card 1/3

On Hydrodynamic Fluctuations.

PA - 2990

$$\rho \frac{\partial \rho}{\partial t} + \text{div}(\rho \vec{v}) = 0, \rho \frac{\partial v_i}{\partial t} + \rho (\vec{v} \Delta) v_i = -\partial \rho / \partial x_i + \partial \sigma'_{ik} / \partial x_k;$$

$$\rho^T ((\partial s / \partial t + \vec{v} \Delta s) = (1/2) \sigma'_{ik} (\partial v_i / \partial x_k + \partial v_k / \partial x_i) - \text{div} q, \quad q = -\alpha \Delta T + g.$$

$$\sigma'_{ik} = \eta ((\partial v_i / \partial x_k) + (\partial v_k / \partial x_i) - (2/3) \delta_{ik} \partial v_l / \partial x_l) + \zeta (\partial v_l / \partial x_l) \delta_{ik} + s_{ik}$$

The denotations are here the same as those in the authors' well-known textbook. Relations have yet to be added to these equations, which determine the average value of the products of the components s_{ik} and g_i .

The authors do so, at first assuming the fluctuations to be classical and the viscosity and heat conductivity of the liquid as being not dispersing.

For the velocity of the modification of the total entropy S of the liquid the following expression applies

$$S = \int \left\{ \frac{\sigma'_{ik}}{2T} \left(\frac{\partial v_i}{\partial x_k} + \frac{\partial v_k}{\partial x_i} \right) - \frac{q \nabla T}{T^2} \right\} dV$$

The final formulae have the following form:

Card 2/3

On Hydrodynamic Fluctuations

PA - 2990

$$s_{ik}(\vec{r}_1, t_1) s_{lm}(\vec{r}_2, t_2) = 2kT [\eta (\delta_{il} \delta_{km} + \delta_{im} \delta_{kl}) + (\zeta - 2\eta/3)] \delta(\vec{r}_2 - \vec{r}_1) \delta(t_2 - t_1) g_i(\vec{r}_1, t_1) g_k(\vec{r}_2, t_2) = 2kT^2 \delta_{ik} \delta(\vec{r}_2 - \vec{r}_1) \delta(t_2 - t_1),$$

$$g_i(\vec{r}_1, t_1) s_{lm}(\vec{r}_2, t_2) = 0$$

These results can easily be generalized for the case in which a dispersion of the viscosity coefficient or the thermal conductivity coefficient exists or that the fluctuations are quantum-like.

ASSOCIATION: Institute for Physical Problems of the Academy of Science of the U.S.S.R.

PRESENTED BY:

SUBMITTED: 29.11.1956

AVAILABLE: Library of Congress

Card 3/3

LIFSHITS, Ye. M.

AUTHORS

Lifshits, Ye.M., Pitayevskiy, L.P.

56-2-35/47

TITLE

On the Absorption of the Second Sound in Rotating Helium II.

(O pogloshchenii vtorogo zvuka vo vrashchayushchetsya gellii II)

PERIODICAL

Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 2(8), pp 535-537 (USSR)

ABSTRACT

The authors are inclined to look upon the good qualitative agreement of theory with the experiment, which was obtained by H.E. Hall and W.F. Vinen (Proc. Roy. Soc., Vol. A, 238, pp. 204, 215) as largely due to chance. Besides, an indefinite empirical constant occurs in this calculation.

The authors computed the scattering of rotons by the vortex threads in quasiclassical approximation. For the force acting upon the unit of length of the thread the following result is obtained (the method of denotation being the same as with H.E. Hall and W.F. Vinen):

$$\vec{F} = D (\vec{v}_R - \vec{v}_L) + D' [\vec{\omega}, \vec{v}_R - \vec{v}_L] / \omega, D \sim 1, 2$$

$$\sqrt{\omega} k T / p_0, D' = \alpha q_R.$$

CARD 1/3

On the Absorption of the Second Sound in Rotating Helium II. ^{56-2-35/47}

of the vortex, which corresponds to the transmission of the total roton impulse to the vortex. The determination of further experimental data would be desirable.

There is 1 figure and 1 Slavic reference.

ASSOCIATION:

Institute for Physical Problems AN USSR.

SUBMITTED:

(Institut fizicheskikh problem Akademii nauk SSSR)
May 10, 1957.

AVAILABLE:

Library of Congress.

CARD 3/3