KIRKHENSHETYN, A. M.

Kirkhenshetyn, A. M. "Evolutionary principle in classification of contagious diseases," Izvestiya Akad. nauk Latv. SSR, 1948, 10, p. 51-66 - In Latvian and Russian languages - Bibliog: 29 items

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Stately, No. 3, 1949)

KIRKHEINSHTEYN, A. M.

Ratsionalizatsiya vaktsinatsii i seroterapii.
(" Rationalization of vaccinations and serotherapy.")

Izvestiya Akad. Nauk Latvian SSR, No. 1, 1949, pp. 45-82 - In Latvian and Russian languages. - bibliog. 62 items.

So: 1949 Letopis' Zhurnal'nykh Statey, item 11919 Uncl

KIRKHENSHTEYN, A. M.

What one should know about the quality of food. Moskva, Pishchepromizdat, 1952. 134 p.

1. Food - Analysis. 2. Nutrition. 3. Vitamins.

KIRKHENSHTEYN, A. M.

USSR/Chemistry - Academy of Sciences Latvian SSR Jan 52

"Recent Work by Scientists of Soviet Latvia," Ya. V. Peyve, Pres Acad Sci Latvian SSR

"Priroda" No 1, pp 88-90

Outstanding achievements in work done by the Dept of Biol and Agr Sci, the largest subdivision of Acad Sci Latvian SSR, include improvement of alfalfa seed yields by 10-30% (cutting of tops before flowering and trace-element fertilization), use of Cu fertilizers (burned pyrite from Riga Superphosphate Plant), role of Co (particularly in animal feeding; addition of Co to food increased wt of hogs by 20%), planting of kok-saghyz on Latvian peat soils, study of morphology of various bacteria as well as rabies and smallpox viruses with the aid of the electron microscope (work by A. M. Kirkhenshteyn, Inst of Microbiol), effect of ascorbic acid on immunity, development of new technological processes for the synthesis of chemotherapeutic agents (A. I. Kalnin' Act Mem, Acad Sci Latvian SSR, and S. A. Giller, Corr Mem, Latvian SSR received Stalin Prizes for this work).

PA 211T37

KIRKHENSHTEYN, A. M.

KIRCHENSTEINS, Augusts, 1872- ; ZDRODOVSKIY, P.F., redaktor; REDIN, Ye.I., redaktor; KRASIL'NIKOV, N.A., redaktor BUKIN, B.N., doktor biologicheskikh nauk, redaktor; GAYSINOVICH, A.Ye., kandidat biologicheskikh nauk, redaktor; NEVRAYEVA, N.A., tekhnicheskiy redaktor

[Problems in microbiology and immunology; selected works] Problemy mikrobiologii i immunologii; izbrannye trudy. Moskva, Izd-vo Akad. nauk SSSR., 1954. 208 p. (MLRA 7:12)

1. Chlen-korrespondent AN SSSR (for Krasil'nikov). 2. Deystvitel'nyy chlen AMN SSSR (for Zdrodovskiy)
(Microbiology) (Immunity)

KIRKHENSHTEYN, A.M.

A-3

USSR/General Division - Scientific Institutions.

Abs Jour : Ref Zhur - Biologiya, No 1, 1957, 68.

Author : A.M. Kirkhenshteyn
Inst : Institute of Microbiology of the Academy of Sciences Latvian SSR.
Title : Institute of Microbiology.

Orig Pub : V kn.: 10 let raboty AN Latr SSR (1946-1956), Riga, Izd-vo AN Latv SSR, 1956, 3-15.

Abst : The Institute of Microbiology of the Academy of Sciences Latvian SSR organized in 1946 is working on problems of the morphology and physiology of microorganisms including pathogenic microorganisms, soil microbiology, and the fermentation of farm produce. In the fields of morphology and physiology of microorganisms considerable work on the investigation of the stimulating effect of vitamins on the growth and metabolism of microorganisms, and modifications in the morphology of the latter under

Card 1/2

IL'IN, V.K.; VASIL'YEV, V.S. [deceased]; MAYEVSKIY, V.V.; KHOLSHCHEVNIKOV, Ye.N.; KIRKHGOF, A.G.; LOGVINOVICH, S.L.; ABRAMOV, G.A.; MINAYEV-TSIPANOVSKIY, V.A., red.; RACHEVSKAYA, M.I., red.izd-va; VOLKOV, S.V., tekhn.red.

[Laundry equipment album] Al'bom prachechnogo oborudovaniia. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1958. 119 p. (MIRA 12:7)

1. Akademiya kommunal'nogo khozyaystva. Proyektno-konstruktorskoye byuro.
(Laundry machinery)

KIRKHDGLANI, V.D., arkhitektor; STREL'TSOV, M.B., insh.

Standard apartment houses of few stories. Biul.tekh.inform. 4 no.10: 17-19 O '58. (MIRA 11:11)
(Leningrad--Apartment houses)

KIRKILEVSKIY, I.L., starshiy tekhnik-leytenant

Breaks can be detected quickly and precisely. Vest.protivovozd. obor. no.2:70 F '61. (MIRA 14:2)
(Electric cables—Testing)

KIRKILEVSKIY, I.V. (Leningrad)

Shipworms. Priroda 53 no.4:89-92 '64. (MIRA 17:4)

SOKOLOV, N.I., kand.tekhn.nauk, dotsent; KIRKIN, B.I., inzh.

Determination of the frequency characteristics of synchronous machines. Elektrichestvo no.1:29-35 Ja '62. (MIRA 14:12)

1. Moskovskiy energeticheskiy institut.
(Electric machinery, Synchronous)

KIRKIN, B.I.

Experimental determination of the frequency characteristics of asynchronous motors. Elektrichestvo no.1:12-16 Ja '63. (MIRA 16:2)

1. Moskovskiy energeticheskiy institut.
(Electric motors, Induction)

KIRKIN, B.I.; LINDORF, L.S.

Determination of the start characteristics of synchronous motors. Elektrichestvo no.6: 63-68 Je'64 (MIRA 17:7)

1. Moskovskiy energeticheskiy institut (for Kirkin). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenegetiki (for Lindorf).

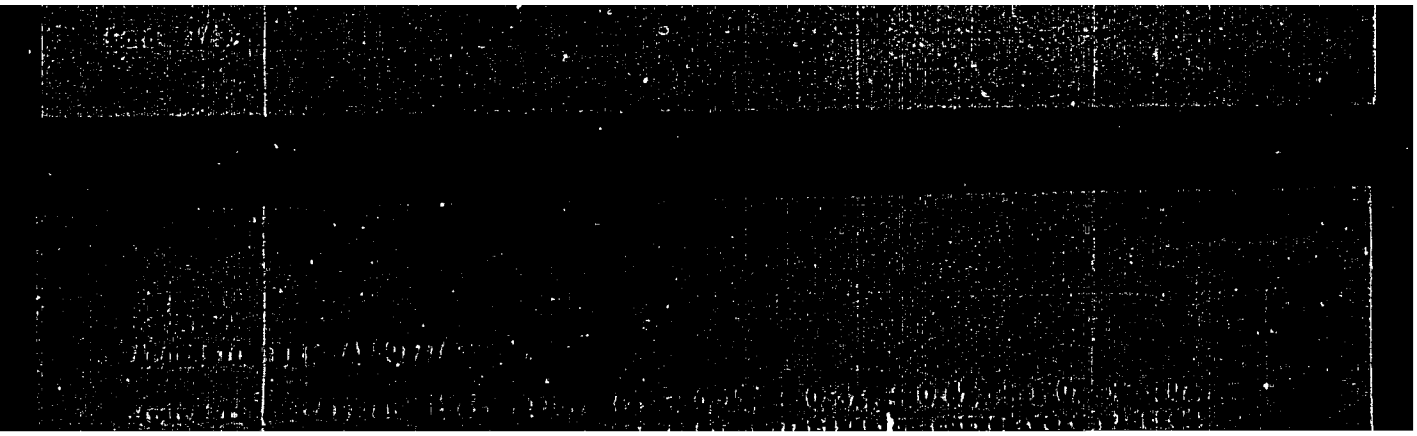
Korroziya i zashchita stali; sbornik statey (Corrosion and Protection of Steel: Collection of Articles) Moscow, Metallurgizdat, 1959. 233 p. 7,000 copies printed.

Eds.: N.D. Tomashov, Doctor of Chemical Sciences, Professor; Reviewers: A.A. Chakhovskiy, Doctor of Chemical Sciences, Professor, and L.S. Pomerantsev, Docent; Ed. of Publishing House: Ya.S. Alavердov; Tech. Ed.: S.M. Fogel'man; Managing Ed. for Literature on Machine and Instrument Construction: N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for scientific and technical personnel concerned with questions of the corrosion and protection of metals.

COVERAGE: The articles in this collection deal with the corrosion of steels in corrosive environments, investigation of the effect of various factors on corrosion, and methods of protecting steels from gas and electrochemical corrosion. Special attention is given to new methods of investigation. A number of the articles give the results of studies made under operating conditions. New data, obtained by the Department of Metal Corrosion, [illegible] Metallurgical Institute of Steel], are published here for the first time. Four articles are the results of work conducted jointly at the laboratories of the Moscovskiy metallurgicheskiy zavod Serp i molot (Moscow Metallurgical Plant "Serp i molot") and the Chimkentskiy zavod tsvetnykh [illegible] (Chemical Plant [and] Ni. Kalinin). Most of the articles contain practical recommendations on the protection of metals from corrosion. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722710012-9"

KIRKIN, G.M.; ZHUK, N.P.

Effect of alloying with aluminum on the corrosion resistance of titanium in acetic and nitric acid solutions. Zashch.met. 1 no.6:648-651 N-D '65. (MIRA 18:11)

L 23895-66 EWT(m)/EWP(t) LJP(c) JD/WW/JW/WB/JH

ACC NR: AP6008620 SOURCE CODE: UR/0365/65/001/006/0648/0651

AUTHORS: Kirkin, G. M.; Zhuk, N. P.

53
B

ORG: none

27 27 18

TITLE: Effect of alloying titanium with aluminum upon the corrosion stability of titanium in acetic and nitric acid solutions

SOURCE: Zashchita metallov, v. 1, no. 6, 1965, 648-651

TOPIC TAGS: titanium base alloy, aluminum containing alloy, corrosion resistant alloy, aluminum, titanium, nitric acid, acetic acid

ABSTRACT: Behavior of Ti-Al alloys, containing 0.1, 0.3, 0.6, 1.0, 3.0, and 5.0% of Al, in solutions of acetic (from 5 to 80%) and nitric (from 5 to 56%) acids has been investigated at temperatures from 25 to 80C. Behavior of such alloys in sulfuric acid has been studied and reported upon earlier (G. M. Kirkin and N. P. Zhuk, Zashchita metallov, 1965, 1, 380). Degree of corrosion was determined gravimetrically after a 40-hour test. Electrochemical behavior of the metals and their alloys was studied by measuring stationary electrode potentials and by taking polarization curves by a potentiostatic method. It was established that Ti and its Al alloys are passivated in solutions of acetic and nitric acids. Ti, when alloyed with Al, loses some of its corrosion stability, as can be seen in Fig. 1. This can be due to the decrease in the protective properties of the passivating films on nonalloyed Ti.

Card 1/2 UDC: 669.018.8

L 23895-66
ACC NR: AP6008620

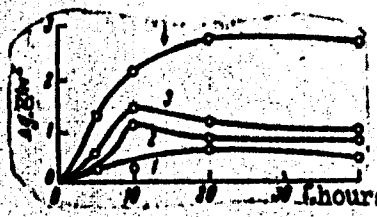


Fig. 1. Time-weight loss curves for titanium and its aluminum alloys in 56% nitric acid at 80C. 1 - Ti; 2 - Ti + 0.3% Al; 3 - Ti + 1.0% Al; 4 - Ti + 5% Al.

Orig. art. has: 1 table and 3 figures.

SUB CODE: 07/ SUBM DATE: 24Apr65/ ORIG REF: 005/ OTH REF: 001

Card 2/2

L 36056-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WB/JH

ACC NR. AP6014323 (A) SOURCE CODE: UR/0314/65/000/012/0033/0035

AUTHORS: Kirkin, G. M. (Engineer); Zhuk, N. P. (Doctor of chemical sciences) 57

ORG: none

TITLE: Corrosion stability of aluminum alloy of titanium in solutions of orthophosphoric acid

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 12, 1965, 33-35

TOPIC TAGS: titanium base alloy, corrosion rate, chemical kinetics, corrosion resistance, titanium, aluminum containing alloy

ABSTRACT: Corrosion kinetics of titanium and titanium alloyed with aluminum (0.1--5.0%) in solutions of 5 to 80% H_3PO_4 was determined at 25 to 80C by measuring weight loss of samples after 40-hour testing. Electrochemical behavior of the samples was studied by measuring equilibrium electrode potentials of metals and alloys and by plotting polarization curves using a potentiometric method. The destruction of the materials takes place in a uniform manner along the sample surface. The process is a function of H_3PO_4 concentration and may take place at constant, accelerated, and decelerated rates. Alloying of Ti with Al increases the corrosion rate, the maximum effect being observed at concentrations of 0.6 to 1.0% of Al. It is concluded that pure Ti, which is in a passive state in 20% H_3PO_4 at 25 and 40C, is converted to an active state when alloyed with 5% of Al. Orig. art. has: 6 figures.

SUB CODE: 07/11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 1/1 UDC: 620.193.41:669.295.001.5

VOROB'YEV, A.T., glav. red.; POLYAKOV, L.N., zam. glav. red.; BORISOV, Ye.G., red.; IVASYSHIN, S.N., red.; IMANALIYEV, Sh.I., red.; LYASHENKO, I.V., red.; OLEYNIK, A.K., red. Prinimali uchastiye: BEKBOYEV, D.B., spets. red.; KIRKIN, M.F., spets. red.; TETEVIN, G.P., spets. red.; YUDAKHIN, N.P., red.; YEFIMOV, N.A., tekhn. red.

[Agriculture of Kirghizistan] Sel'skoe khoziaistvo Kirgizii; kratkii spravochnik. Frunze, Ob-vo po raspr. polit. i nauchn. znanii Kirgizskoi SSR, 1961. 199 p. (MIRA 14:10)
(Kirghizistan—Agriculture)

KIRKIN, N. (Zelenodol'sk, Tatarskaya ASSR)

Those who do not want to be inactive. Pozh.delo 4 no.12:25 D '58. (MIRA 11:12)

(Firemen)

KIRKIN, N.

Medals for heroism in fire fighting. Pozh.delo 6:19 Mr '60.
(MIRA 13:6)

(Firemen)

KIRKIN, V.G., doktor tekhn.nauk, prof.

Variants in the mechanization of loading and unloading of piece freight packed in nonrigid containers. Trudy MIIT no.97: 3-19 '58. (MIRA 11:8)
(Railroads--Freight) (Loading and unloading)

KIRKIN, V.G., doktor tekhn.nauk, prof.

Effect of rigid construction of screw jacks on their efficiency.
Trudy MIIT no.97:20-30 '58. (MIRA 11:8)
(Lifting jacks)

KIRKIN, V.G.

BRAVICHEV, V.A., kandidat tekhnicheskikh nauk, dotsent; BRODOVICH, N.V., kandidat tekhnicheskikh nauk; VLASOV, V.I., kandidat tekhnicheskikh nauk, retsenzent, redaktor; YEGORNOV, A.N., professor, retsenzent, redaktor; ZOBNIN, N.P., doktor tekhnicheskikh nauk, professor,; IVANNIKOV, D.G., kandidat tekhnicheskikh nauk, dotsent; KIRKIN, V.G., doktor tekhnicheskikh nauk,professor; KOTOV, O.K. kandidat tekhnicheskikh nauk; MARIYENBAKH, L.M., doktor tekhnicheskikh nauk, professor; MASHONIN, P.A., inzhener, RUBINSHTEYN, S.A., inzhener, RUDOY, M.L. inzhener, YUDIN , D.L., kandidat tekhnicheskikh nauk, dotsent, redaktor; PETROV, N.I., inzhener, retsenzent; SIDOROV, S.I., inzhener, retsenzent; SOKOLOV, I.G., kandidat tekhnicheskikh nauk, retsenzent; BERESTOVA, Ye.I., inzhener, retsenzent; DOROKHIN, P.N., kandidat tekhnicheskikh nauk, retsenzent; RUSTEM, S.L., kandidat tekhnicheskikh nauk, dotsent, redaktor; LARIN, M.N., laureat Stalinskoy premii, professor, doktor tekhnicheskikh nauk, retsenzent; SOKOLOV, A.V., inzhener, retsenzent; GRUDOV, P.P., laureat Stalinskoy premii, dotsent kandidat tekhnicheskikh nauk, retsenzent;DONNER, L.L., inzhener, retsenzent; ZOBNIN, professor, doktor tekhnicheskikh nauk, retsenzent; BELAVENTSEV, N.V., inzhener, retsenzent; SYCHEV, B.P., dotsent, retsenzent; SHKOL'NIK, L.M., kandidat tekhnicheskikh nauk, retsenzent; LOBANOV, D.V., kandidat tekhnicheskikh nauk,dotsent, retsenzent, redaktor; MASHONIN, P.A., inzhener, retsenzent, redaktor; OBUKHOV, A.V., inzhener, redaktor; BELETSKIY, D.G., kandidat tekhnicheskikh nauk, dotsent, redaktor; ODING, I.A., redaktor; LEVITSKIY, kandidat tekhnicheskikh nauk, dotsent, redaktor; YUDSON, D.M., tekhnicheskiy redaktor

(Continued on next card)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722710012-9"

BRAVICHEV, V.A, kandidat tekhnicheskikh nauk, dotsent; & other: (Card 2)

[Railroad man's technical manual] Tekhnicheskii spravochnik zheleznodorozhnika. Red.kollegiia: V.I. Vlasov. A.N.Egornov, N.P. Zobnin, E.F Rudoi (Glav.red.) A.V.Sokolov. Moskva, Gos.transportnoe zhel-dor.izd-vo. Vol. 12 [Processing metals at railroad transport enterprises] Obrabotka metallov na predrpiiatiiakh zheleznodorozhnogo transporta. Otvet.red. N.P.Zobnin. 1954. 671 p.(MLRA 8:11)

1. Chlen-korrespondent, AN SSSR (for Oding)
(Mechanical engineering)

SOV/112-57-5-11215

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 5, pp 236-237 (USSR)

AUTHOR: Kirkin, V. Ye.

TITLE: On the Problem of Centimeter-Wave Propagation Through Building Materials (K voprosu rasprostraneniya santimetrovykh voln cherez stroitel'nyye materialy)

PERIODICAL: Izv. Voronezhsk. gos. ped. in-ta, 1955, Vol 17, pp 51-83

ABSTRACT: Experiments with propagation of centimeter waves in various building materials are described. Wave attenuation and reflection have been investigated depending on the thickness, moisture content, and chemical composition of various bricks, sand, concrete, cinder-concrete blocks, and wood. Bibliography: 6 items.

N.A.U.

Card 1/1

KIRKINA, D. F.

KIRKINA, D. F. --"Thermal and X-Ray PhaseAnalysis of the System BaF_2--BeF_2." * (Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Moscow Order of Lenin and Order of Labor Red Banner State U imeni M. V. Lomonosov, Chair of Inorganic Chemistry, Moscow, 1955

SO: Knizhnaya Letopis', No. 25, 18 Jun 55

* For Degree of Candidate in Chemical Sciences

KIRKINA, D.F.; NOVOSELOVA, A.V.; SIMANOV, Yu.P.

Study of the system BaF_2 -- BeF_2. Zhur.neorg.khim. 1 no.1:125-132 '56. (MLRA 9:10)
(Barium fluoride) (Beryllium fluoride)

KIRKINA, D. F.

AUTHORS: Simanov, Yu. P. and Kirkina, D. F. 78-3-31/35

TITLE: On a New (High-Temperature) Modification of Na_2SO_4. (O Novoy (Vysokotemperaturnoy) Modifikatsii Na_2SO_4.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 699-700. (USSR)

ABSTRACT: The existence of a high temperature modification of Na_2SO_4 has been confirmed by X-ray photograph at 720°C of the powdered material deposited on a 0.5 mm-dia. platinum wire in a high temperature "Unicam" camera and a copper anode. Other evidence on this modification is briefly reviewed. There is 1 table and 7 references, of which 1 is Slavic.

ASSOCIATION: Moscow State University imeni Lomonosov ., Chair of Inorganic Chemistry. (Moskovskiy Gosudarstvennyy Universitet im. Lomonosova, Kafedra Neorganicheskoy Khimii.)

Card 1/2

KIRKINA, D.F.

AUTHORS: Reshetnikova, L. P., Novoselova, A. V., Kirkina, D. F. 78-2-19/43

TITLE: Investigations on the System $CaSO_4$-$BeSO_4$-H_2O (Issledovaniye sistemy $CaSO_4$-$BeSO_4$-H_2O)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2, pp. 378-382 (USSR)

ABSTRACT: The purpose of the present paper was an investigation of the solubility of the system $CaSO_4$-$BeSO_4$-H_2O and the explanation of the influence exerted by these sulfates upon each other. The solubility was investigated at 25 and 75° C. In the system $CaSO_4$-$BeSO_4$-H_2O the eliminated solid phase at 25 and 75° C is pure $CaSO_4$ and neither double salts nor solid solutions could be determined. The $CaSO_4$, eliminated at 25° C crystallizes with 2 Mol of water. The $CaSO_4$ eliminated at 75° C represents calcium-sulfate anhydrite. Chemically pure beryllium sulfate and calcium sulfate were used as initial substances. $CaSO_4$ was produced by way of calcium chloride and sulfuric acid. The determination of beryllium in the solution is performed volumetrically. But the determination of calcium is performed with the aid of the radioactive

Card 1/2

Investigations on the System $CaSO_4$-$BeSO_4$-H_2O

indicator Ca^{45}. For the separation of beryllium and calcium, calcium oxalate is first precipitated with the aid of ammonium oxalate in a neutral solution, whereas beryllium stays in the solution as a soluble complex. On addition of beryllium sulfate to the calcium-sulfate solution at 2% of beryllium sulfate a minimum of the solubility of $CaSO_4$ occurs, then the solubility again increases to 5% of beryllium sulfate, and then it again decreases. Crystallographic analyses also showed that the solid phase only contains calcium sulfate and that neither double salts nor solid solutions occur between $CaSO_4$ and $BeSO_4$. It was found that the solubility of calcium sulfate at an addition of beryllium sulfate at 25° C in comparison with the solubility in water is almost reduced six times (209 mg/100 g solution in water as compared to 31 mg/100 g solution) and that it is 13 times reduced at 75° C (200 mg as compared to 15 mg/100 solution). There are 4 figures, 3 tables, and 16 references, 2 of which are Slavic.

SUBMITTED: April 27, 1957
AVAILABLE: Library of Congress

Card 2/2

KIRKINA, D.F.

USSR/ Physical Chemistry - Crystals B-5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10941

Author : Kirkina D.F., Novoselova A.B., Simanov Yu.P.
Inst : Academy of Sciences USSR
Title : On Polymorphism of Beryllium Fluoride

Orig Pub : Dokl. AN SSSR, 1956, 107, No 6, 837-838

Abstract : Tetragonal BeF_2 (I) formed on thermal decomposition of ammonium fluoro-beryllate and having the structure of low-temperature christobalite, is endothermally transformed at 130° into cubic form (face centered lattice, a 6.78, kX), analogous to the high-temperature form of christobalite. In a number of instances on heating of I endothermal effect is observed at 400°, but transformation into new form is not revealed roentgenographically. I begins to melt at 545° but main bulk of I melts at 740°; stepwise melting of I indicates slow transformation of its modifacations.
I must be regarded as a pseudo single-component system.

Card 1/1

KIRKINA, L.I.; SIMIGIN, P.A.

Protection of cellulose materials against destruction by microorganisms in tropical climates. Tekst.prom. 21 no.7:58-62 Jl '61. (MIRA 14:8)

(Cellulose)

KORSHAK, V.V.; KIRKINA, L.I.; MOZGOVA, K.K.; YEGOROVA, Yu.V.

Change of the mold resistance of graft copolymers of wool and silk. Khim. volok. no.4:28-29 '63. (MIRA 16:8)

1. Institut elementoorganicheskikh soyedineniy.

KIRKINA, T.S.

Effect of using forceps and of Cesarean section on newborns.
Pediatriia 39 no.5:80 S-O '56. (MLRA 10:1)

1. Iz kafedry akusherstva i ginekologii lechebnogo fakul'teta Kazakhskogo meditsinskogo instituta imeni V.M.Molotova.
(CESAREAN SECTION) (FORCEPS, OBSTETRIC)

KIRKINSKAYA, V.N.

SMEKHOV, Ye.M.; KIRKINSKAYA, V.N.

"Stratigraphy of Tertiary deposits of Sakhalin" by S.N. Alekseichik, I.N. Kuzina, I.I. Ratnovskii. Reviewed by E.M. Smekhov, V.N. Kirkinskaia. Biul.MOIP. Otd.geol. 31 no.4:81-84 Jl-Ag '56. (MLRA 9:12)

(Sakhalin--Geology, Stratigraphic)
(Alekseichik, S.N.) (Kuzina, I.N.)
(Ratnovskii, I.I.)

KIRKINSKAYA, V.N.

New data on the composition of rocks in the crystalline basement of the Irkutsk amphitheater and their bitumen potential. Dokl. AN SSSR 161 no.2:444-446 Mr '65. (MIRA 18:4)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut. Submitted August 13, 1964.

CHOCHIA, N.G.; EMLYAKOVA, Ye.Ye.; BOROVSKAYA, I.S.; VOLKOV, A.M.; GRAYZER, M.I.; IL'INA, Ye.V.; KAZAKOV, I.N.; KIRKINSKAYA, V.N.; KISLYAKOV, V.N.; KRASIL'NIKOV, B.N.; MAYMINA, L.G.; OSIPOVA, N.A.; RADYUKEVICH, L.V.; ROMANOV, F.I.; KULIKOV, M.V., red.; DOLMATOV, P.S., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Geology, and oil and gas potentials of the Minusinsk Lowland] Geologicheskoe stroenie Minusinskikh mezhgornykh vpadin i perspektivy ikh nefte-gazonosnosti. Leningrad, Gos.nauchn. tekhn.izd-vo neft. i gorno-toplivnoi lit-ry Leningr. otd-nie, 1958. 288 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy, no.120) (MIRA 12:5)

(Minusinsk Lowland--Petroleum geology)
(Minusinsk Lowland--Gas, Natural--Geology)

KIRKINSKAYA, T. A.

Cand Med Sci - (diss) "Morphology of blood and brain in intra-osteal fixation of fractures by metallic rods. (Experimental study)." Irkutsk, 1961. 28 pp with diagrams; (Irkutsk State Medical Inst); 200 copies; price not given; (KL, 5-61 sup, 203)

KIRKINSKAYA, T.A., kand.med.nauk; GOLOVNYKH, L.L., kand.med.nauk

Disability following injuries incurred in Irkutsk, Bratsk District, and Yuzhno-Sakhalinsk. Vop. travm. i ortop. no.13: 72-75 '63. (MIRA 18:2)

1. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut travmatologii i ortopedii.

KIRKINSKAYA, T.A., kand.med.nauk; GINZBURG, R.D., kand.med.nauk

Working methods of the staff of the Irkutsk Scientific Research Institute of Traumatology and Orthopedia visiting adjacent provinces. Vop. travm. i ortop. no.13:76-83 '63. (MIRA 18:2)

1. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut travmatologii i ortopedii.

KIRKINSKIY, V.A.; MAKAROV, Ye.S.

UO_2 - PbO_2 system. Zhur.neorg.khim. 10 no.8:1872-1876 Ag '65. (MIRA 19:1)

1. Submitted September 17, 1964.

KIRKINSKIY, V.A.; RYAPOSOV, A.P.

Melting curve for antimonite up to a pressure of 15,000 kg/cm^2.
Pis'. v red. Zhur. eksper. i teoret. fiz. 2 no.8:361-362 O '65.
(MIPA 18:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
Submitted August 3, 1965.

KIRKINSKIY, V.A.

Polarity of isomorphism. Geokhimiia no.2:122-131 F '63.
(MIRA 16:9)

1. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.

KUZNETSOV, L.M.; KIRKINSKIY, V.A.; MAKAROV, Ye.S.

Interaction of uranium dioxide with lead monoxide. Zhur. neorg. khim. 9 no.5:1187-1196 My '64. (MIRA 17:9)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR.

KIRKINSKIY, V. A.

Effect of pressure on the limits of solid solutions. Geokhimiia no.5:534-543 My '65. (MIRA 18:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

KIRKINSKIY, V.A.

Polymorphic modifications of lead dioxide. Zhur. neorg. khim. 10 no.9:1966-1970 S '65. (MIRA 18:10)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR.

KIRKINSKIY, V.A.

Effect of pressure on isomorphic miscibility. Geol. i geofiz. no.3:39-50 '65. (MIRA 18:6)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

KIRKINSKIY, V.A.

Effect of temperature on the boundaries of isomorphic miscibility. Geokhimiia no.4:406-413 Ap '65. (MIRA 18:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

L 11891-66 EWT(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/HW
ACC NR: AP5028013 SOURCE CODE: UR/0386/65/002/008/0361/0362

AUTHOR: Kirkinskiy, V. A.; Ryaposov, A. P.

ORG: Institute of Geology and Geophysics, Siberian Department, Akademy of Sciences SSSR (Institut geologii i geofiziki Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Melting curve of antimonite up to 15,000 kg/cm² pressure

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu (Prilozheniye), v. 2, no. 8, 1965, 361-362

TOPIC TAGS: antimony compound, high pressure research, melting, superhigh pressure

ABSTRACT: In view of the connection between melting under pressure and recent discovery of extremal points on the melting curves of several metals, the authors investigated the melting of antimonite (stibnite, Sb_2S_3) in a superhigh-pressure multiplicator with double mechanical support, based on a multiplicator design described earlier (Butuzov, Shakhovskiy, and Gonikberg, Tr. In-ta kristallografii AN SSSR v. 11, 233, 1955). The pressure-transmitting medium was a siloxane liquid. The pressure was measured with a manganin resistance manometer accurate to ±100 kg/cm². A heater with a titanium container for the investigated substance and for the standard was placed inside a channel 25 mm in diameter. The melting temperature at hydrostatic pressure up to 15,000 kg/cm² was determined by differential thermal analysis. The emf from a set of ordinary and differential chromel-alumel thermocouples was registered with automatic recorders. The temperature measurement accuracy was ±3C.

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L 11891-66

ACC NR: AP5028013

The measurement results (Fig. 1) show that the melting point rises almost linearly with the pressure (dT/dP = 8 deg/katm) up to 6000 kg/cm^2. This corresponds to a volume effect of 3.5%. An interesting fact is the observed maximum on the melting point, at 7000--7500 kg/cm^2. The maximum melting temperature for Sb_2S_3 is 602°. With further increase in the pressure, a very slow decrease in the melting point to 593° is observed at 14,300 kg/cm^2.

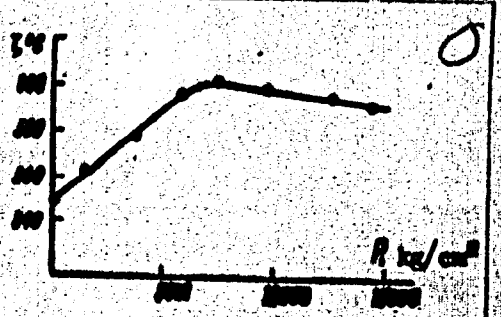

Fig. 1. Melting point of Sb_2S_3 vs. pressure.

SUB CODE: 20/ SUBM DATE: 03Aug65/ ORIG REF: 002/ OTH REF: 004

BC

Card 2/2

KIRKITADZE, N. A.: Master Agric Sci (diss) -- "The soils of Vanskiy Rayon and their productivity characteristics for grape production". Tbilisi, 1959, published by the Acad Sci Georgian SSR. 19 pp (Min Agric USSR, Georgian Order of Labor Red Banner Agric Inst), 150 copies (KL, No 13, 1959, 109)

KIRKIYANOV, V.I.

KIRKIYANOV, V.I., inzh.

Using electroacoustic method for adjusting compressors and turbocompressors. Nov. tekh. i pered. op. v stroi. 20 no.3:28 M '58. (Electroacoustics) (Compressors) (MIRA 11:3)

KIRKLIS, Z.A. (Vil'nyus)

Use of punched cards for card catalogs of translations.
NTI no.2:34-35 '63. (MIRA 16:11)

KIRKO, E. K., Cand Med Sci (diss) -- "Local intraosteal novocaine blockade in ear infections". Moscow, 1960. 17 pp (Second Moscow State Med Inst im N. I. Pirogov), 250 copies (KL, No 14, 1960, 137)

KIRKO, E. K.

Local intradermal novocaine block in ear diseases. Vest. otorin. no.4:72-80 '61. (MIRA 15:2)

1. Iz kliniki bolezney ukha, nosa i gorla (zav. - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. B. S. Preobrazhenskiy) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(NOVOCAINE) (EAR--DISEASES)

25603

S/197/61/000/006/003/007
B104/B201

21.5210

AUTHORS: Kirko, I., Reznikovich, K., Todes, O., Filippov, M.

TITLE: Circulation of materials during exposure in an atomic reactor (in loops). I. Schemes of circulation lines

PERIODICAL: Akademiya nauk Latviyskoy SSR, Izvestiya, no. 6(167), 1961, 27 - 32

TEXT: The production of short-life radioactive isotopes necessitates installing closed circulation systems in order to subject these substances to repeated exposure. As depending on phase and form of the material subjected to irradiation, one has to distinguish between loops through which as a whole the portionated material to be irradiated flows, and loops through which the thoroughly mixed material is pumped. On the scheme shown in Fig. 1, the irradiation of a solid substance transported in portions through the closed loop, is studied first. Transport from irradiation chamber (C) to emission chamber (H) is performed by a band conveyor or a similar appliance. A quantitative analysis of the circulation line is independent of the structural details, and can be

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performed in a general form. The balance equation of the atoms activated by neutron irradiation per unit length of the irradiation chamber reads: $dn/dt = \alpha - \lambda n$. Here, $\alpha = A/a = J_0 S/a$, where A is the neutron flux, a the irradiation chamber length, J_0 the neutron flux density in the irradiation zone, and S the absorption surface. The term λn characterizes the decay rate of the activated atoms in the irradiation chamber itself. The following balance equation holds for the emission chamber: $dn^*/dt = -\lambda n^*$. For the total number of activated atoms in the emission chamber the authors obtain

$$N^* = \int_{x=0}^{x=a^*} n^* \cdot dx = w^* \int_{(\tau^*)} n^* \cdot dt, \quad \ldots \qquad (1.6)$$

where $\tau^* = a^*/w^*$ denotes the time spent in the emission chamber, a* is the emission chamber length. When the material subjected to irradiation is liquid, the mathematical study can, as is shown here, be conducted in the same manner, if suitable parameters are introduced. If the material irradiated consists of small solid particles, it will be advisable to

Circulation of materials ...

convey it in a liquid or gas flow. The production of "boiling bed" apparatus (Fig. 3) for the transport of such materials is of special interest. The equations $\frac{dN}{dt} = A - \lambda N - \frac{N}{\tau} + \frac{N^*}{\tau^*}$ (2.1) and $\nu\frac{dN}{dt} = -\lambda N^* - \frac{N^*}{\tau''} + \frac{N}{\tau}$ (2.2) are given for these apparatuses, where N is the total number of atoms activated in the irradiation chamber, τ is the mean time spent in the irradiation chamber. The symbols with asterisks refer to analogous quantities in the emission chamber. Another scheme discussed is shown in Fig. 4. In systems of this type the agent is moved together with the particles to be transported. Only in the irradiation chamber there is a "boiling bed" with complete mixing of the material without any longitudinal displacement. The material irradiated is continuously conveyed to the emission chamber. The balance equation $\partial n^*/\partial t = -\lambda n^* - w^*\partial n^*/\partial x$ is given for the emission chamber, where n^* is the concentration of active atoms per unit length of the emission chamber, w^* the velocity of the material passing through. The balance equation for the irradiation chamber reads $dN/dt = A - \lambda N - N/\tau + n_H^* w^*$. Here, n_H^* is the concentration of particles

Card 3/4

25603

S/197/61/000/006/003/007
B104/B201

Circulation of materials ...

at the exit of the emission chamber. There are 4 figures and 2 Soviet-bloc references.

Legend to the figures: ① pump

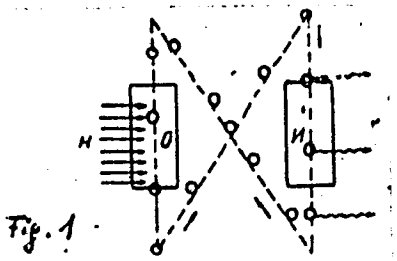

Fig. 1

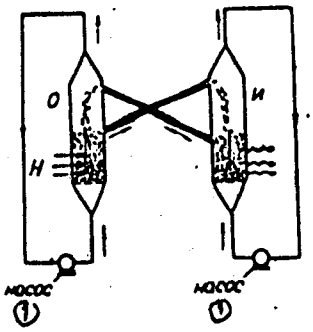

Рис. 3. Fig. 3

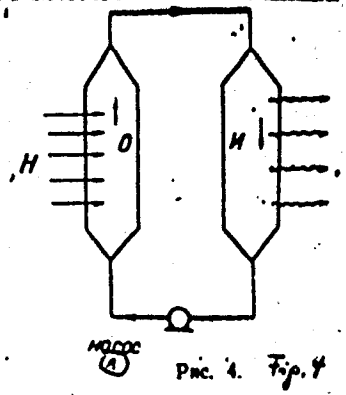

Рис. 4. Fig. 4

Card 4/4

KIRKO, I.

On a mission to the Czechoslovak Socialist Republic. Vestis Latv
ak no.6:165-168 '61.

(Czechoslovakia--Technical education)

KIRKO, I.

New stage in the development of scientific research. Vestis Latv ak no.7:139-140 '61.

(Latvia--Research)

L 00937-66 EWT(d)/EWT(l)/EWP(m)/EPA(s)-2/EWT(m)/EPA(sp)-2/EPF(n)-2/EWG(v)/EWP(t)/EPA(w)-2/T/EWP(b)/EWA(m)-2/EWP(l)/ETC(m) LJP(c) JD/WW/JG

ACCESSION NR: AP5019686 UR/0197/65/000/007/0022/0026

AUTHOR: Kirko, I. (Corresponding member AN LatSSR) 87

TITLE: Magnetohydrodynamics of condensed media 72 B

SOURCE: AN LatSSR. Izvestiya, no. 7, 1965, 22-26

TOPIC TAGS: MHD, electromagnetic pump, flow research, liquid metal, traveling magnetic field, induction pump

ABSTRACT: After briefly sketching the history, scope, and application of magnetohydrodynamics, the author lists the contributions of Soviet and particularly Latvian scientists in this field. The Laboratoriya magnitnoy gidravliki Instituta fiziki AN Latviyskoy SSR (Magnetic Hydraulics Laboratory, Institute of Physics, AN Latvian SSR), headed by O.A. Livelaugis, has studied flow phenomena of liquid metals in magnetic fields, and the effect of the latter on flow around bodies. The laboratory headed by Ya. Liyelpeter is studying phenomena in a traveling magnetic field as a medium for exerting a noncontact influence on liquid metals. The SKB Instituta fiziki (SKB of the Institute of Physics) and TsKTBMiA Latviyskogo sovnarkhoza (TsKTBMiA of the Latvian Council of National Economy) have con-

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L 00937-66
ACCESSION NR: AP5019586

15

structed a series of modern electromagnetic pumps. Several inventions have been made in the field of induction pumps by researchers at the "VEF" plant. Yu. Birzvalk is directing major research in the field of conduction MHD machines for liquid metals. Inventions pertaining to noncontact methods of measuring the velocity of a liquid metal are mentioned together with the inventors names. Work on applications in ferrous and nonferrous metallurgy, casting, chemical, and semiconductor industry is being carried out at the TsKTEMiA Latviyskogo sovnarkhoza in Riga. Studies in the field of simulation of MHD phenomena are being conducted at the Riga Polytechnic Institute. An important role in the development of MHD is played by the Vychislitel'nyy tsentr Latviyskogo gosudarstvennogo universiteta (Computer Center of the Latvian State University).

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: ME

NO REF SOV: 000 OTHER: 000

Card 2/2

KIRKO, I. M.

USSR/Physics 11 Jan 1948
Ferromagnetism
Magnetic Fields

"Heterogeneity of the Surface of a Ferromagnet and Fields of Magnetic Dispersion," I. M. Kirko, Latvian State Pedagogical Inst, Riga, 3 pp

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

To explain decrease of the magnetic permeability with period of the magnetic field, V. K. Arkad'yev offered hypothesis on possible influence of the surface of heterogeneous ferromagnet, obstructing the passage of magnetic current with strong skin effect. To confirm this hypothesis, author measures

43599

USSR/Physics (Cont'd) 11 Jan 1948

the longitudinal permeability of smooth bars and bars covered with screw threads in alternating field. Submitted by Academician S. I. Vavilov, 11 Nov 1947.

43599

KIRKO, I. M.

Kirko, I. M. "On certain physical peculiarities in the passage of electromagnetic waves through the layer of a bi-complex substance," Izvestiya Akad. nauk Latv. SSR, 1949, No. 2, p. 53-64 (Resume in Latvian), - Biblio: 5 items

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949)

KIRKO, I.

Use of a short-circuited secondary winding for assessing the systematical errors of measurements of complex magnetic permeability. Latv. PSR Zinat. Akad. Vestis, '51, No.12, 1937-43. (MLRA 6:1)
(KRA 56 no.667:2867 '53)

KIRKO, I.

Development of magneta hydrodynamics and related sciences in the Latvian S.S.R. Vestis Latv. ak no.8:37-43 '61.

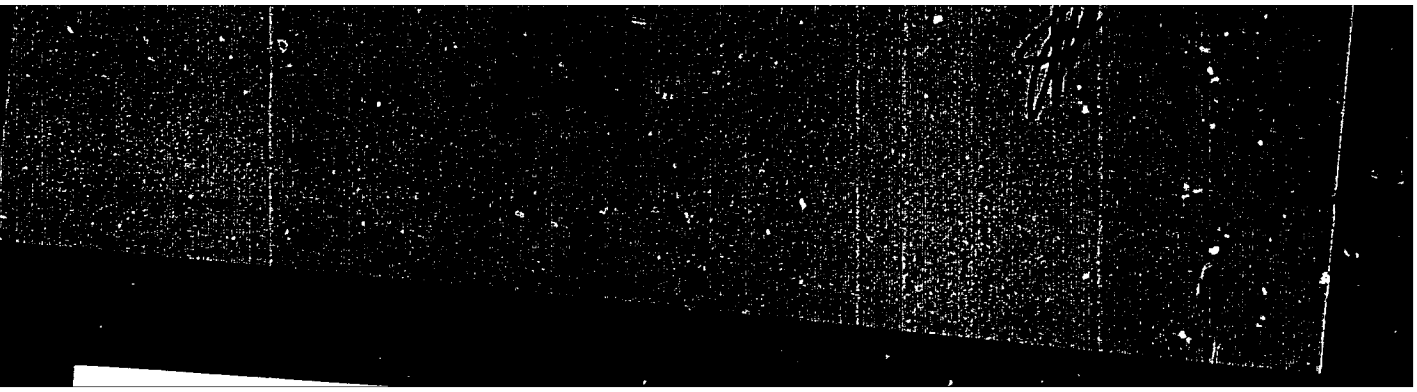
1. Akademiya nauk Latviyskoy SSR, Institut fiziki.

KIRKO, I. M.

Magnetic Measurements

Dispersion of magnetic permeability of ferromagnetic materials in the sound frequency range, Izv. AN SSSR Ser. fix. 16 No. 5, 1952

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722710012-9"

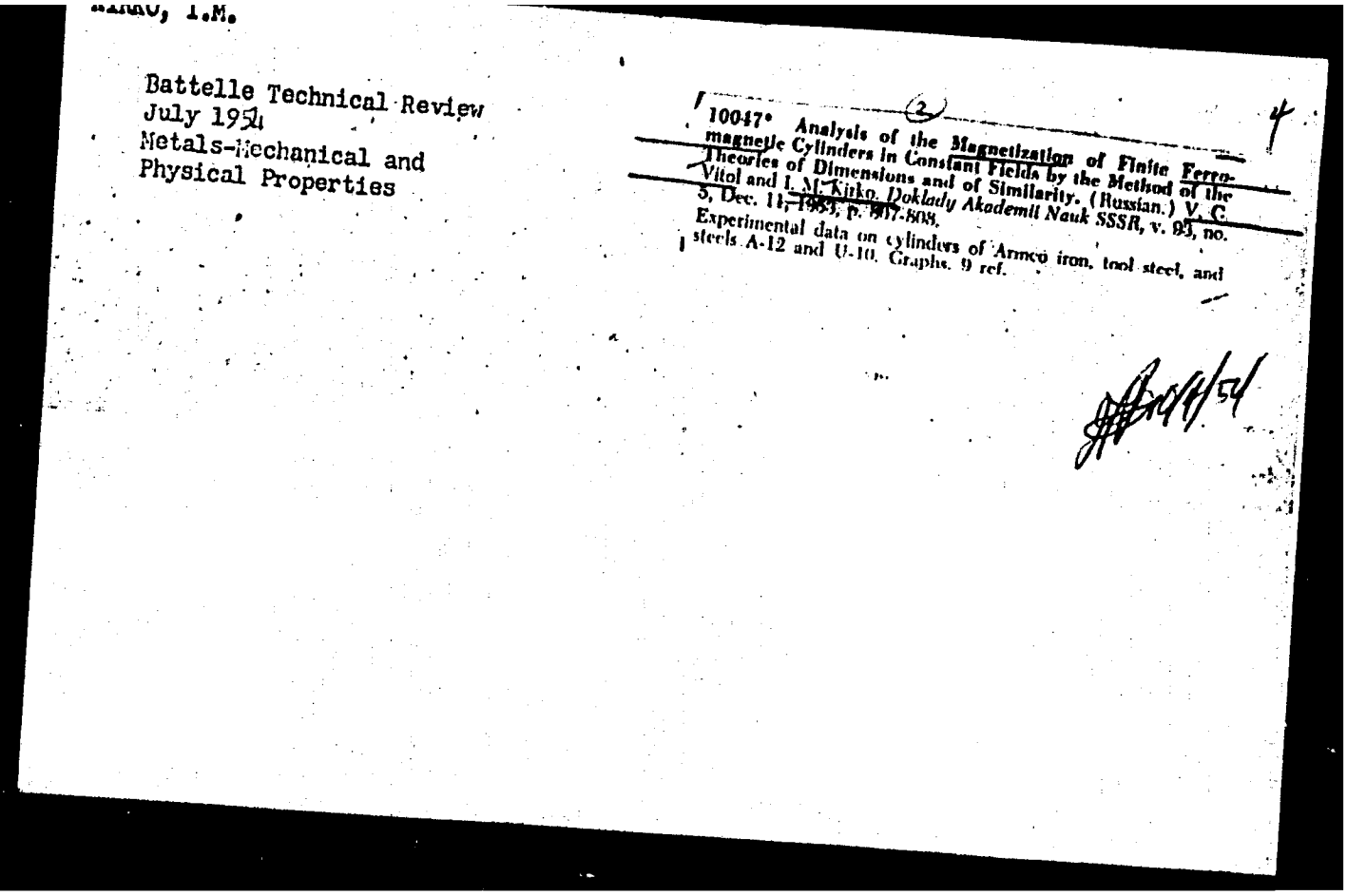
KIRKO, I. M.

VITOL, V. O., and KIRKO, I. M.

"Magnetization of Finite Ferromagnetic Cylinders in Alternating Fields," Tr. In-ta fiziki AN LatvSSR, No 6, pp 39-55, 1953

Magnetic permeability at various frequencies of the alternating field measured on specimens of the same material but of different shapes by the bridge method was studied. Results confirmed assertions by Vanushkovskiy and Kirko on lowering the demagnetization rate of the terminals of the specimen with higher field frequency. (RZhFiz, No 1, 1955)

SO: Sum, No 636, 5 Aug 55



[illegible], I.M.

Battelle Technical Review
July 1954
Metals-Mechanical and
Physical Properties

10047* Analysis of the Magnetization of Finite Ferromagnetic Cylinders in Constant Fields by the Method of the Theories of Dimensions and of Similarity. (Russian.) V. C. Vitol and I. M. Kitko. *Doklady Akademii Nauk SSSR*, v. 93, no. 5, Dec. 11, 1953, p. 807-808.

Experimental data on cylinders of Armco iron, tool steel, and steels A-12 and U-10. Graphs. 9 ref.

KIRKO, I. M.

B. T. R.
Vol. 3 No. 4
Apr. 1954
Metals-Mechanical and Physical Properties

5349. Criteria of Similarity of Phenomena of the Surface Effect in Ferromagnetic Bodies. (Russian.) I. M. Kirko. *Doklady Akademii Nauk SSSR*, v. 93, no. 6, Dec. 21, 1953, p. 1029-1031.

Discusses effects of weak and strong fields on magnetic permeability. Graphs. 9 ref.

Kirko, I. M.

USSR / Magnetism. Ferromagnetism

F - 4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9517

Author : Kirko, I.M.
Inst : Institute of Physics, Academy of Sciences Latvian SSSR, Riga.
Title : Similarity of Magnetization of Ferromagnetic Bodies in Constant Fields.

Orig Pub : Latvias PSR Zinatniu Akademigas Vestis, Izv. AN Latv SSR, 1954, No 7, 69-82

Abstract : The author considers the problems of the physical similarity of magnetization of ferromagnetic bodies in the case of nonlinearity of the magnetization curve. Five definitive similarity criteria are established for homogeneous and isotropic bodies placed in a homogeneous medium and in a homogeneous external field: (1) Geometrical similarity. (2) Same orientation in the external magnetic field. (3) Same ratio of permeabilities of the media. (4) Identity of the

Card : 1/2

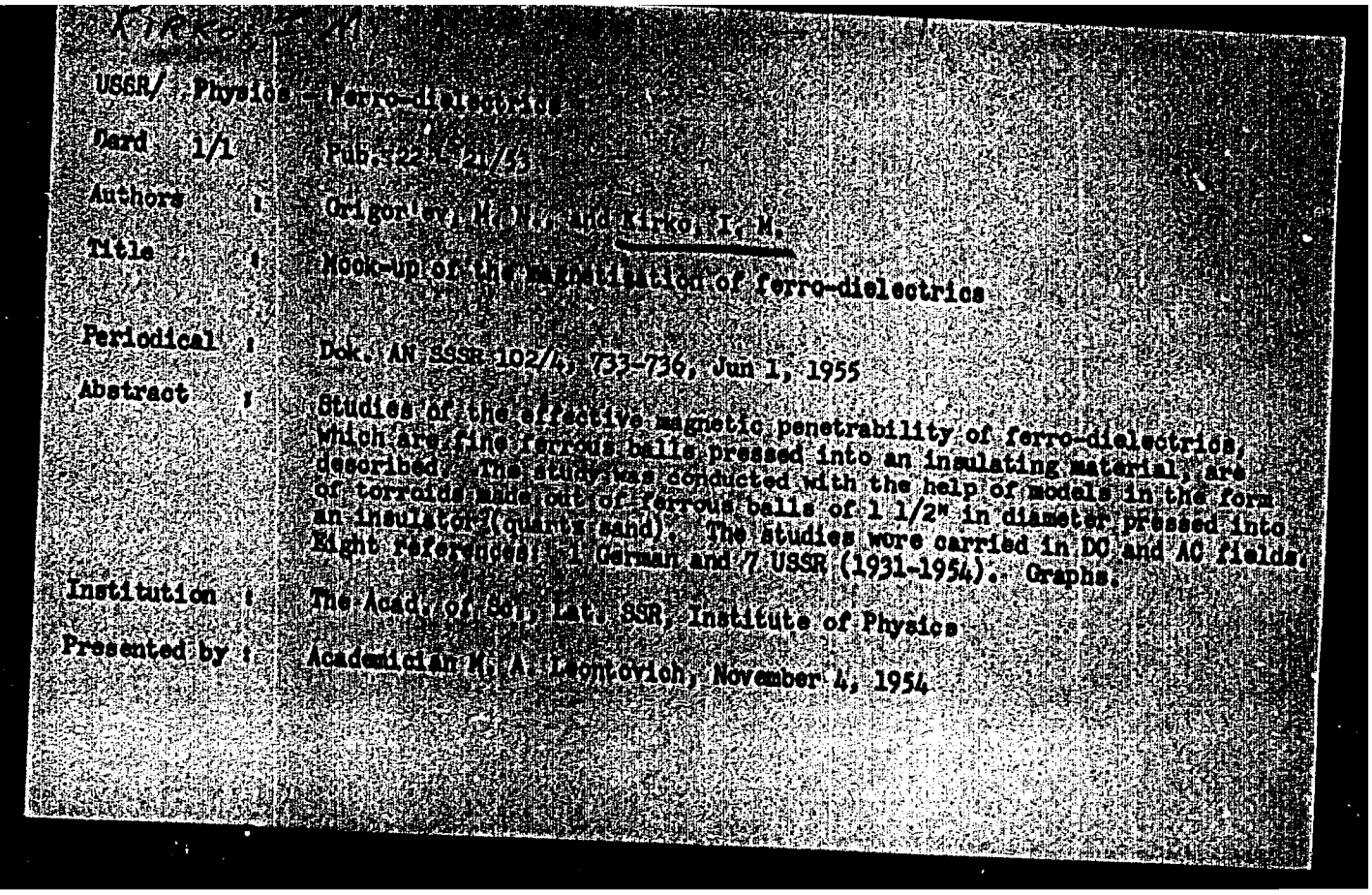
USSR / Magnetism. Ferromagnetism

F-4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9517

Abstract : relative magnetization. (5) Similarity of the "magnetic history". The problem of similarity of magnetization of bodies made of magnetically-hard materials is considered, and an affin ity coefficient is derived, as are the conditions for conservation of similarity upon assembly and disassembly of magnetic systems.

Card : 2/2



USSR/ Physics - Ferro-dielectrics

Card 1/1 Pub. 22 - 21/53

Authors : Grigor'ev, M. N., and Kirko, I. M.

Title : Mock-up of the magnitization of ferro-dielectrics

Periodical : Dok. AN SSSR 102/4, 733-736, Jun 1, 1955

Abstract : Studies of the effective magnetic penetrability of ferro-dielectrics, which are fine ferrous balls pressed into an insulating material, are described. The study was conducted with the help of models in the form of toroids made out of ferrous balls of 1 1/2" in diameter pressed into an insulator (quartz sand). The studies were carried in DC and AC fields. Eight references: 1 German and 7 USSR (1931-1954). Graphs.

Institution : The Acad. of Sci. Latv. SSR, Institute of Physics

Presented by : Academician M. A. Leontovich, November 4, 1954

..Kirko, I.M.

AUTHORS: See Table of Contents Call Nr: AF 1141779

TITLE: Applied Magneto-hydraulic Dynamics; (Prikladnaya magnitogidrodinamika (Trudy instituta fiziki, VIII)

PUB.DATA: Izdatel'stvo Akademii nauk Latviyskoy SSR, Riga, 1956, 131 pp. 800 copies

ORIG. AGENCY: Akademiya nauk Latviyskoy SSR, Institut Fiziki

EDITORS: Editorial Board: Ed.-in-chief, Tyutin, I.A., Candidate of Technical Sciences, Kirko, I.M. Candidate of Physical and Mathematical Sciences, Vitol, V.G. Candidate of Physical and Mathematical Sciences, and Varchenya, S.A.; Tech.Ed.: Bokman, R.

PURPOSE: See Table of Contents

Card 1/5

Applied Magneto-hydraulic Dynamics (Cont.) Call Nr: AF 1141779

COVERAGE: See Table of Contents

TABLE OF CONTENTS:

Card 2/5

Applied Magneto-hydraulic Dynamics (Cont.) Call Nr: AF 1141779

3. Tyutin, I. A. Introduction to the Theory of Induction Pumps. 49-58

There are 8 references, of which 5 are USSR, 2 American, 1 Danish.

4. Birzvalk, Yu.A., Tyutin, I. A. Speed Distribution and Magneto-hydraulic Pressure Losses in a Rectangular Channel. 59-63

There are 2 references, both USSR.

Card 3/5

Applied Magneto-hydraulic Dynamics (Cont.) Call Nr: AF 1141799

8. Yankop, E. K. Single-phase a.c. pumps (Faraday a.c. pumps) 107-121

No references are given

9. Krumin', Yu.K. A Conduction Ball Situated in a Traveling Magnetic Field. 123-131

There are 4 references, 3 of which are USSR, 1 French.

AVAILABLE: Library of Congress

Card 5/5

Kirko, I.M.

USSR/ Physical Chemistry - Liquids and Amorphous Bodies. Gases. B-6

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7379

Author : Kirko, I.M. and Liclausis, O.A.
Title : On the Application of the Analogy Method to the Determination of the Parameters of Liquid Metals

Orig Pub : Fiz. metallov i metallovedeniye, 1956, Vol 2, No 3, 563-564

Abstract : The total pressure and the angular velocity of the vanes at the center of a cylindrical vessel completely filled with mercury have been measured in a rotating magnetic field at frequencies of 50, 100, and 200 cps. A geometrical similarity to the form of a liquid was observed during all the experiments since the mercury did not have a free concave surface. When the magnetic field was turned off, the rotation of the liquid ceased after a time t_1. Some simple relations were found between the analogy criteria. On the basis of these relations, the

Card 1/2

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 35 (USSR) SOV/137-57-11-20885

AUTHOR: Kirko, I. M.

TITLE: ~~Analog~~ Simulation of Magnetohydrodynamic Phenomena in Molten Metals (O modelirovanii magnitogidrodinamicheskikh yavleniy v zhidkikh metallakh)

PERIODICAL: Tr. In-ta fiz. AN LatvSSR, 1956, Vol 8, pp 3-23

ABSTRACT: Magnetohydrodynamic phenomena are described by a nonlinear system of Maxwellian equations for moving mediums, the Navier-Stokes equations, and the equations of continuity. In view of the difficulties inherent in the analytical integration of these equations, the author examines the possibility of application of the methods of similarity and analog simulation thereto. Questions of the analog devices of the following types are examined: 1) Devices with constant electrical and magnetic boundary fields; 2) devices with fields constituting harmonic time functions; 3) devices with a given traveling magnetic-wave field. Also analyzed is the question of the behavior of molten metal in the phenomena of heat transfer in forced flow, the phenomena of convection due to the presence of gravity and thermal expansion of the metal being ignored.

N. V.

Card 1/1

KIRKO, I. M.

USSR / Magnetism. General Problems. F-1

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6824

Author : Grigor'yev, M.M., Kirko, I.M.
Title : Investigation of the Magnetization of a Structure Modeling a Magnetodielectric.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 7, 1501 - 1508

Abstract : An experimental verification of the theoretical calculations of the magnetic properties of magnetodielectrics was carried out with models prepared of spherical particles 12.5 and 6.25 mm in diameter, and cylindrical particles 1 and 1.2 mm in diameter, made of material having a known magnetic permeability. The model particles were mixed in various proportions with quartz sand and the mixture was formed into toroidal specimens. The measurements were carried out with a constant magnetizing field and with an alternating field at frequencies from 0.1 to 20 kc. The experimental results have shown that best agreement between the experiment and the calculations is obtained when the demagnetizing factor of the structure is

Card : 1/2

USSR / Magnetism. General Problems.

F-1

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6824

Abstract : determined from the following equation: $N = \frac{N_0}{1 + 39v}$ (No is the demagnetizing factor of an isolated particle, and v the volume concentration). Thus, N depends nonlinearly on the concentration of the ferromagnetic particles and is independent of the permeability of the material of the particles. The Ollendorf formula gives results that are in agreement with the data of the experiment only for $v < 0.3$. The Lichtenecker formula gave no agreement between the calculated and experimental values of the permeability of the structure. The measurements in the alternating fields made possible an investigation of the dispersion of the permeability of the structure and a calculation of the permeability of the spherical particles. The application of the methods of similarity theory to magnetization in an alternating field makes it possible, first, to determine the permeability and losses in a ferrodielectric at one frequency or at one concentration from measurements made at another frequency or at another concentration and secondly they lead to an estimate of the permeability of the particles used in actual ferrodielectrics.

Card : 2/2

8 (0)

SOV/112-59-1-86

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 7 (USSR)

AUTHOR: Kirko, I. M., and Vitol, V. G.

TITLE: Simulating the Skin Effect in a Ferromagnetic Metal

PERIODICAL: V sb.: Mezhvuz. konferentsiya po primeneniyu modelirovaniya v elektrotekhn. zadachakh i matem. modelirovaniya. M., 1957, pp 162-164

ABSTRACT: Penetration of a plane electromagnetic wave into a ferromagnetic half-space can be simulated by a one-dimensional circuit consisting of non-linear inductors and resistors. Each component of the circuit comprises a saturable ferromagnetic-core reactor, a resistor in series with the reactor, and a leakage resistor.

L.V.N.

Card 1/1

KIRKO, I. M.: Doc Phys-Math Sci (diss) -- "Investigation of electromagnetic phenomena in metals, using the method of dimensions and similarity". Riga, 1958. 39 pp (Phys-Tech Inst Acad Sci USSR), 200 copies (KL, No 5, 1959, 142)

KIRKO, I.M.; KLYAVIN', Ya.Ya.; TYUTIN, I.A. [deceased]; UL'MANIS, L.Ya.

Model of an infinitely long channel containing liquid metal exposed to a traveling magnetic field. Nauch.dokl.vys.shkoly; energ. no.3:203-210 '58. (MIRA 12:1)

1. Rekomendovano Institutom fiziki AN Latviyskoy SSR.
(Magnetohydrodynamics--Models)

AUTHORS: Vitol, V. G., Kirko, I. M. SOV/57-28-9-29/33

TITLE: Modelling of Surface Effect in a Ferromagnetic Metal (Modelirovaniye poverkhnostnogo effekta v ferromagnitnom metalle)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol 28, Nr 9, pp. 2055-2061 (USSR)

ABSTRACT: The magnetization of a ferromagnetic metal in an alternating field is a complicated and non-linear process. It is very hard to describe it in mathematical terms. One of the authors (Kirko in Ref 3) suggested a tentative analog computor for these processes with a multiple unit circuit diagram incorporating reactive coils with saturating ferromagnetic cores and with constant resistances permitting to perform analog computations. This is a description of the analog computer. It incorporated 10 reactive coils, resistances preventing a leakage to ground and resistances ganged with the reactive coils. The model described is an analog computer, which permits to compute the magnetization or the resistance of a ferromagnetic metal in the alternating field with varying field strength. This accurate equipment also permits to carry out such computations at surface field strengths where the maximum permeability is reached

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at the surface of the ferromagnetic substance. The method by L. R. Neyman (Ref 1) did not permit this. By measuring the voltage drop $\Delta V'$ at each of the reactive coils the space distribution of magnetic permeability within a ferromagnetic substance under skin-effect conditions can be determined, using formula (14). Measurements made on the model permit the derivation of the law governing the shift of the maximum of magnetic permeability as a function of the magnetic field strength at the surface: formula (15). This method can also be applied in more complicated cases. There are 7 figures, 2 tables, and 5 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziki AN Latviyskoy SSR (Institute of Physics, AS Latviyskaya SSR)

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Kirko, I.M.

PHASE I BOOK EXPLOITATION SOV/3762

Konferentsiya po magnitnoy gidrodinamike. Riga, 1958.

Voprosy magnitnoy gidrodinamiki i dinamiki plazmy; trudy Konferentsii. (Problems in Magnetohydrodynamics and Plasma Dynamics; Transactions of a Conference) Riga, Izd-vo AN Latviyskoy SSR, 1959. 343 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Latviyskoy SSR. Institut fiziki.

Editorial Board: D.A. Frank-Kamenetskiy, Doctor of Physics and Mathematics, Professor; A.I. Vol'dek, Doctor of Technical Sciences, Professor; I.M. Kirko, Doctor of Physics and Mathematics; V.Ya. Veldre, Candidate of Physics and Mathematics; V.G. Vital, Candidate of Physics and Mathematics; Yu.M. Krumin'; and V.Ya. Kravchenko.

Ed.: A. Reytel'bauma Tech. Ed.: A. Klyavinya

PURPOSE: This book is intended for physicists working in the field of magnetohydrodynamics and plasma dynamics.

COVERAGE: This volume contains the transactions of a conference held in Riga, June 1958, on problems in applied and theoretical magnetohydrodynamics. The objects of the conference were the investigation of the basic trends in theoretical and applied magnetohydrodynamics, establishing contact between the people doing research in different branches of magnetohydrodynamics, and promoting the participation of theoretical physicists in problems in applied magnetohydrodynamics. More than 160 persons from different parts of the Soviet Union took part in the conference, and 55 papers were read. Similar conferences are to be held regularly in the future; the next such conference is scheduled to be held in Riga in June 1960. In this present collection of the transactions of the conference, most of the papers and comments on papers are presented by the authors themselves in an abridged form. The book is divided into two parts: the first part deals with problems in theoretical magnetohydrodynamics and plasma dynamics, and consists of 35 articles on such aspects of the problem as the application of magnetohydrodynamics in astrophysics (D.A. Frank-Kamenetskiy), magnetohydrodynamics and the investigation of cosmic-ray variations (L.I. Dorman), acceleration of plasma in a magnetic field (S.V. Gordeyev and R.I. Oshanov), stability of shock waves and magnetohydrodynamics (A.I. Akhiyezer). The second part, consisting of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (I.M. Kirko) and the development of electromagnetic pumps (P.G. Kirillov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic crucibles, electromagnetic stirrers for molten metals, and their application in the metallurgical industry including schematic diagrams of their power-supply systems. References are given at the end of most of the articles.

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PHASE I BOOK EXPLOITATION SOV/3753

Akademiya nauk Latviyskoy SSR. Institut fiziki

Elektromagnitnyye protsessy v metallakh (Electromagnetic Processes in Metals) Riga, Izd-vo AN Latviyskoy SSR, 1959. 200 p. (Series: Its: Trudy, No. 11) Errata slip inserted. 1,000 copies printed.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya; Editorial Board: V.G. Vitol, T.K. Kalnyn', I.M. Kirko (Resp. Ed.), and Ya. Ya. Klyavin'.

PURPOSE: This book is intended for physicists interested in electromagnetic processes in metals.

COVERAGE: This is a collection of fifteen articles by various authors on the investigation of electromagnetic processes in metals by modeling. Individual articles treat the following: conditions necessary for modeling particular phenomena; modeling the magnetization of ferromagnetic metals in a variable field on an iterated network consisting of choke coils with saturable reactors and constant resistances; external fields produced by ferromagnetic tubes which have been magnetized in a constant uniform field oriented along the axis; the possibility of using galvanic baths and other models for investigating fields with

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continuously distributed electromagnetic forces, particularly turbulent fields; the magnetization of a system of interacting cylindrical particles; determination of the criterion relationships for the motions of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period of rotational oscillations around a point of equilibrium and attenuation ratio) when the slip is close to unity; the problem of computing the ponderomotive forces acting on a cylindrical conducting body placed in the traveling magnetic field of a cylindrical inductor; the motion of a sphere in magnetic hydrodynamics; the reflection and refraction of hydromagnetic waves of arbitrary polarization on the boundary of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the operating principle of d-c pumps and the computation of their electromagnetic and hydraulic characteristics; abbreviating computations in designing linear induction pumps as suggested by I.A. Tyutin; nomographic computation of functions $\varphi(k', h)$ and $\psi(k', h)$; and the construction of heaters producing thermal energy by an induced current. No personalities are mentioned. References accompany the articles.

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PHASE I BOOK EXPLOITATION SOV/3792

Kirko, Igor' Mikhaylovich

Issledovaniye elektromagnitnykh yavleniy v metallakh metodom razmernosti i podobiya (Investigation of Electromagnetic Phenomena in Metals by the Methods of Dimensional Analysis and Similarity) Riga, Izd-vo AN Latviyskoy SSR, 1959. 182 p.(Series: Akademiya nauk Latviyskoy SSR. Institut fiziki) Errata slip inserted. 1,000 copies printed.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya.

PURPOSE: This book is intended for physicists interested in electromagnetic processes in metals.

COVERAGE: The book deals with the application of the methods of similarity and dimensional analysis to the study of nonlinear electromagnetic processes in metals. The basic principles of these methods and their use in the investigation of various forms of electromagnetic fields are presented. The magnetization of ferromagnetic bodies in a constant field and in a variable field is discussed, as are the phenomena of the nonlinear skin effect in ferromagnetic metals. In conclusion the author says that the results of his

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investigation have demonstrated that the methods of similarity and dimensional analysis may be used in a broader range of electromagnetic phenomena in metals than has been customary up to this time. He suggests new practical fields of application for these methods, and emphasises that the difficulties of their use in the study of nonlinear electromagnetic phenomena make it expedient to apply a "new method" of dimensional groups as similarity criteria. No personalities are mentioned. References follow each chapter.

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Investigation of Electromagnetic Phenomena (Cont.) SOV/3792

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KIRKO, I. M. (Riga)

"Magnetohydrodynamic Phenomena in Liquid Metals."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

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AUTHORS: Kirko, I. M. and Filippov, M. V.

TITLE: Characteristics of a Suspended Layer of Ferromagnetic Particles in a Magnetic Field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9, pp. 1081-1084

TEXT: The suspension and pseudoliquefaction of iron particles (0.1-0.248 cm) in water under the action of an alternating field was carried out with the aid of the experimental arrangement shown in Fig. 1. The particles were placed in a vertical glass tube through which the water was pressed from below. A magnetic coil was arranged around this glass tube, and a small periscope served for the visual observation. It was shown that suspension and pseudoliquefaction of the layer in a magnetic field differ from the same processes in the absence of a magnetic field. The authors thoroughly discuss the observations made, and then construct a phase diagram for the state of the suspended layer of ferromagnetic

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