VEDENIKOV, G.S., dots., kand.tekhn.nauk

Most efficient structural shapes of prestressed steel girders. Nauch. dokl.vys.shkoly; stroi. no.1:126-134 '58. (MIRA 12:1)

1. Predstavlena kafedroy metallicheskikh konstruktsiy Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V. Kuybysheva.
(Steel, Structural) (Girders--Testing)

BELENYA, Yevgeniy Ivanovich, doktor tekhn. nauk, prof.; VEDENIKOV, G.S., kand. tekhn. nauk, retsenzent; PIMENOV, I.L., retsenzent; POPOV, S.A., kand. tekhn. nauk, naucim. red.; BORODINA, I.S., red.; GOL'BERG, T.M., tekhn. red.

[Supporting elements of prestressed metal] Predvaritel'no napriazhennye metallicheskie nesushchie konstruktsii. Moskva, Gosstroiizdat, 1963. 322p. (MIRA 17:1)

STRELETSKIY, Nikolay Stanislavovich, doktor tekhn. nauk, prof.; BELENYA, Yevgeniy Ivanovich, prof.; VEDENIKOV, Georgiy Stanislavovich, dots.; MUKHANOV, Konstantin Konstantinovich, dots.; LESSIG, Yevgeniy Nikolayevich, dots.; POPOV, S.A., kand. tekhn. nauk, nauchn. red.; LILEYEV, A.F., inzh., nauchn. red.

[Metal elements; a special course] Metallicheskie konstruktsii; spetsial'nyi kurs. Pod red. N.S.Streletskogo. Moskva, Stroiizdat, 1965. 366 p. (MIRA 19:1)

1. Chlen-korrespondent AN SSSR (for Streletskiy).

BELENYA, Yevgeniy Ivanovich, doktor tekhn. nauk, prof.; VEDENIKOV, G.S., kand. tekhn. nauk, retsenzent; PIMENOV, I.L., kand. tekhn. nauk, retsenzent; POPOV, S.A., kand. tekhn. nauk, nauchn. red.; BORODINA, I.S., red.

[Bearing structures of prestressed metal] Predvaritel'no napriazhennye metallicheskie nesushchei konstruktsii. Moskva, Gosstroiizdat, 1963. 322 p. (MIRA 17:5)

VEDENIKOV, G. S.

"Certain Problems of the Space Work of Beam Bridges." Thesis for degree of Cand. Technical Sci. Sub 6 Jun 49, Moscow Order of the Labor Red Banner Engineering Construction Inst imeni V. V. Kuybyshev

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949

VEDENIKTOV, A.F.

Case of recurrent rupture of the bladder. Urologiia 24 no.1:61-62 Ja-F '59.
(MIRA 12:1)
1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. A.G. Karavonov) Kalininskogo meditsinskogo instituta na baze urologicheskogo otdeleniya oblastnoy bol'nitsy.
(BLADDER, wds. & inj.
posttraum. spontaneous recur. rupt. (Rus))

ANTIMONOV, B.S., prof.; VEDENIN, N.N., kand. yurid. nauk; GENKIN, D.M., prof.; GRAVE, K.A., prof.; YEPANESHNIKOV, N.V., dots.; ZHUKOVA, L.F., dots.; KUNIK, Ya.A., dots.; L'VOVICH, Yu.Ya.; MARGOLIN, M.Z.; MOROVSKAYA, T.A., dots.; POLENINA, S.V., kand. yurid. nauk; SADIKOV, I.N.; FIALKOV, M.A., kand. yurid. nauk; YAZEV, V.A., kand. yurid. nauk; YAKHNINA, N.A., kand. yurid. nauk; KIRAKOZOVA, N.Sh., red.; EL'KINA, E.M., tekhn. red.

[Government trade regulation] Regulirovanie gosudarstvennoi torgovli. Moskva, Gostorgizdat, 1963. 339 p. (MIRA 16:7) (Commercial law)

MARCHENKO, Ya.V.; VEDENIN, P.S., brigadir elektromontazhnikov

Installing main cables of the interior electric wiring without using pipes during the construction of buildings. Suggested by IA.V. Marchenko, P.S.Vedenin. Rats.i izobr.predl.v stroi. no.13: 118-120 '59. (MIRA 13:6)

1. Nachal'nik uchastka Stroitel'no-montazhnogo upravleniya No.1 tresta No.27 Mytishchistroy Glavmosoblstroya, stantsiya Mytishchim Moskovskoy oblasti, Vodoprovodnaya ul., d.13 (for Marchenko).
2. Uchastok Stroiltel'no-montachnogo upravleniya No.1 tresta No.27 Mytishchistroy Glavmosoblstroya, stantsiya Mytishchim Moskovskoy oblasti, Vodoprovodnaya ul., d.13 (for Vedenin).
(Electric wiring, Interior)

VEDENIN, V.A.

Method for sending unprocessed material through the mail for laboratory examination. Lab.delo 4 no.3:56-59 My-Je '58 (MIRA 11:5)

1. Iz Bryanskogo oblastnogo kozhno-venerologicheskogo dispansera (glavny vrach F.V. Trufanov).
(BLOOD--ANALYSIS AND CHEMISTRY)

AUTHOR: [illegible]

ORG: [illegible]

V. I.; Vedenin, V. A. [illegible]

TITLE: The ideal working regimen and theoretical indicative diagrams of a two-rotor vacuum pump with partial internal compression

SOURCE: IVUZ. Mashinostroyeniye, no. 10, 1964, 119-132

TOPIC TAGS: vacuum pump, pump design, pump operation, rotary pump, two rotor pump, internal compression, gas distribution, pressure valve

ABSTRACT: The authors studied a twin-rotor vacuum pump from the points of view [illegible] indicative strength, and the [illegible] The basic definitions [illegible] scriptive functions were set up. Since, in general, there were 3 variables, one of them a construction variable, each variable was considered as a function of the other [illegible] A rotary pump with pressure [illegible] valves produces a significant [illegible] pumps without valves. The [illegible] increases with increasing intake [illegible]

Card 1/2

L 25690-65
ACCESSION NR: AP5000868

pressure and with decreasing m, this being a construction parameter reflecting a decrease in radius. Therefore, pressure valves increase the economy of operation of a vacuum pump. For $m \leq 0.721$ the indicative pressure curves show a maximum. For $m > 0.721$ the [illegible] maximum, but increases uniformly with decreasing pressure ratios. An increase in m increases the internal indicative pressure, but the maximum shifts toward lower pressures. Under various equivalent conditions, [illegible] of the [illegible] indicative pressure increases with [illegible]. [illegible] graphs.

ASSOCIATION: MVTU im. N.E. Baumana

SUBMITTED: 08Apr64 ENCL: 02 SUB CODE: IE, ME

GREBENNIKOV, N.P.; VEDENIN, V.I.

Drilling a deep well in salt-bearing sediments. Burenie no.1:13-17 '64. (MIRA 18:5)

1. Volgogradskiy nauchno-issledovatel'skiy institut nefti i gaza i trest "Volgogradneftegazrazvedka".

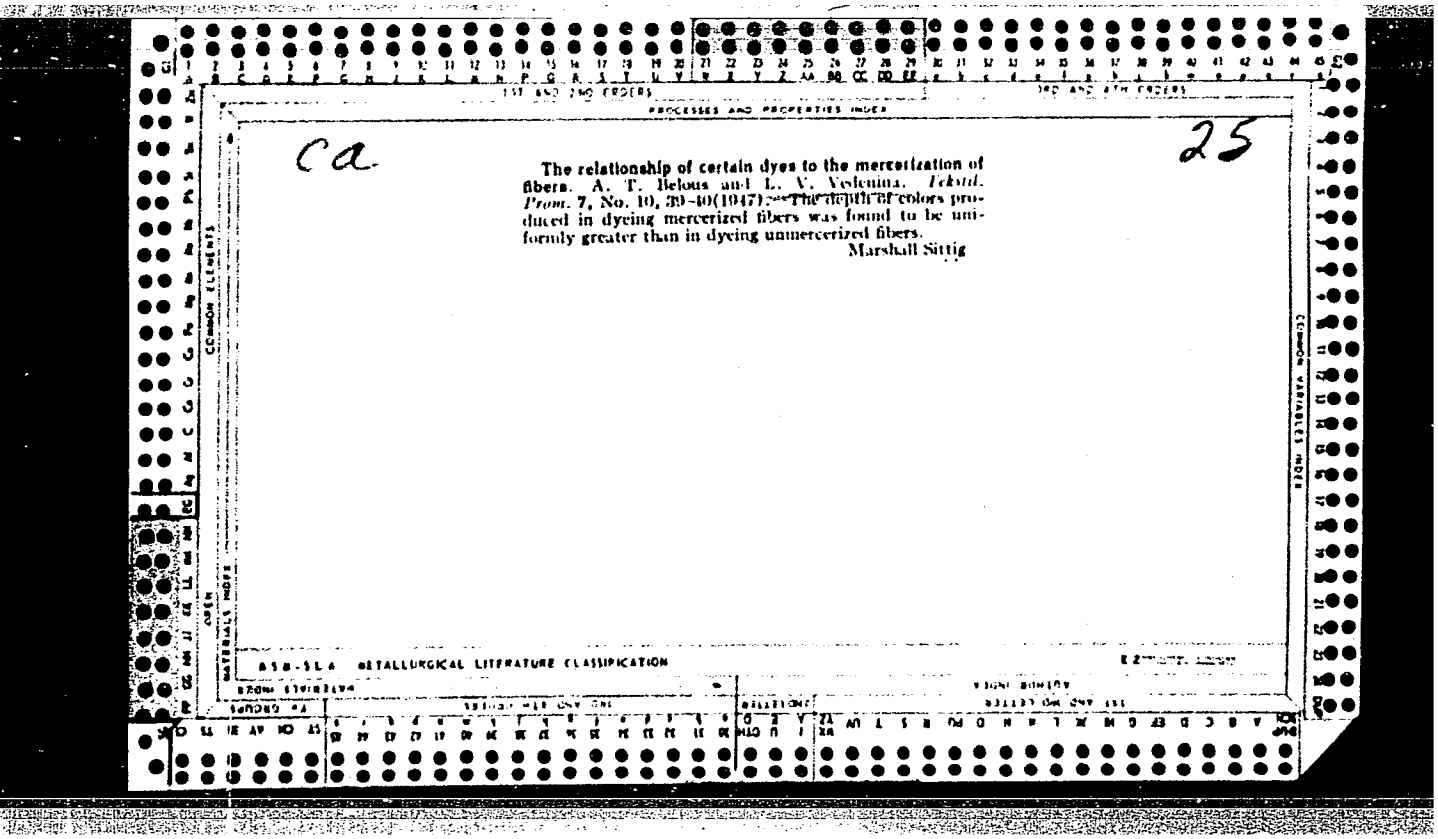
VEDENIN, V.I.

Cement slurry with additives for cementing wells at high temperatures and pressures. Trudy MINKHiGP no.29:31-38 '60. (MIRA 13:12)
(Oil well cementing)

VEDENIN, V.N.

New design of cable conveyers. Bum.prom. 35 no.10:21-22 O '60.
(MIRA 13:10)

(Conveying machinery)



ca

25

The relationship of certain dyes to the mercerization of fibers. A. T. Belous and L. V. Velenina. *Tekstil. Prom.* 7, No. 10, 39–40(1947).—The depth of colors produced in dyeing mercerized fibers was found to be uniformly greater than in dyeing unmercerized fibers.
Marshall Sittig

SAVICHEVSKAYA, L.I. (Sverdlovsk); VEDENINA, O.M. (Sverdlovsk); LUKANIN, V.P., professor, zaveduyushchiy.

Atresia of the aortic isthmus. Klin.med. 31 no.7:73-75 Jl '53. (MLRA 6:9)

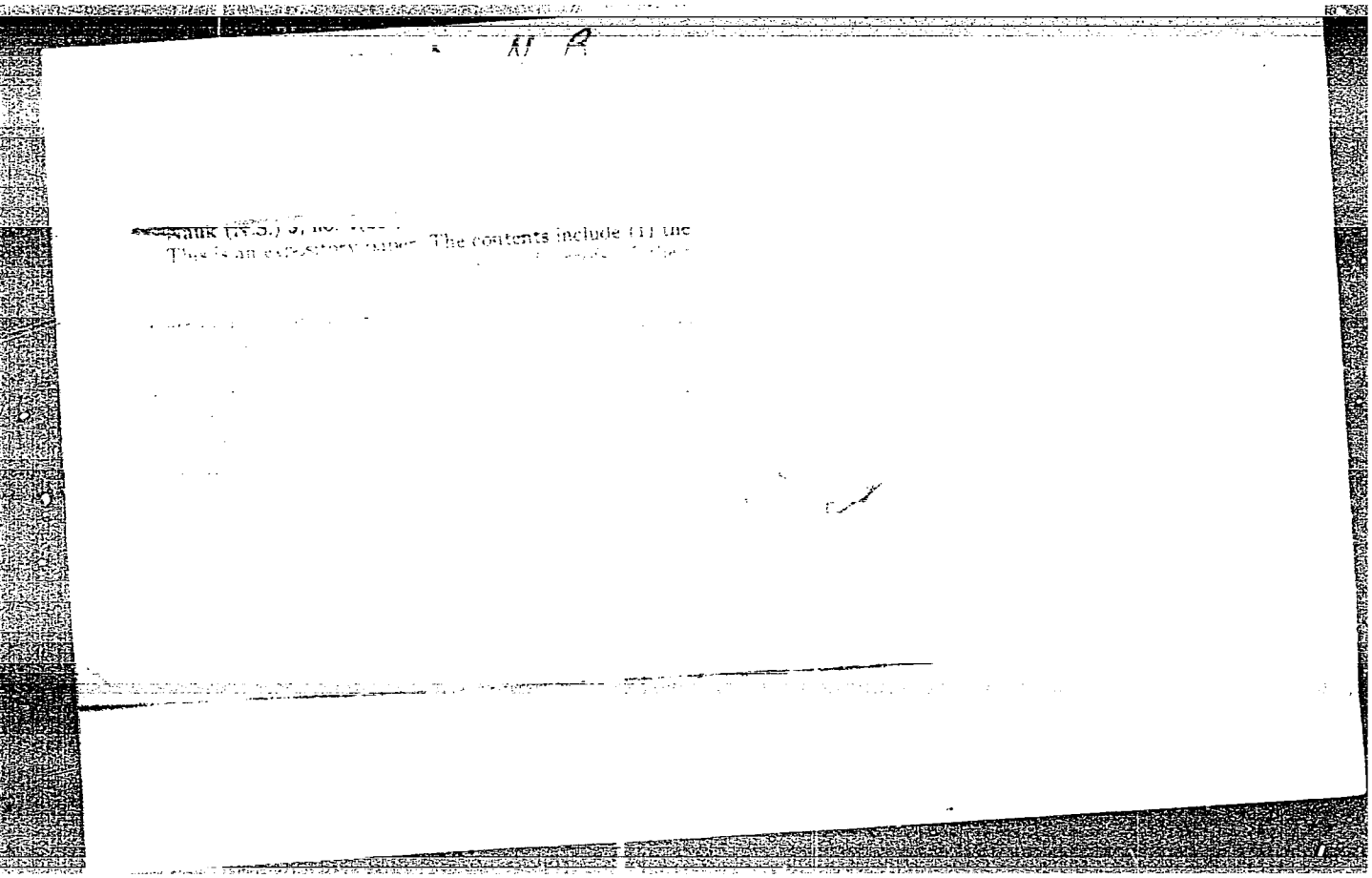
1. Propedevticheskaya terapevticheskaya klinika Oblastnoy klinicheskoy bol'nitsy (for Lukanin). 2. Patologoanatomicheskoye otdeleniye Oblastnoy klinicheskoy bol'nitsy. (Aorta--Abnormities and deformities)

VEDENISOV, B. I Dr.

Povyshenie Skorosti Dvizhenila, Vesa Sostavov, Moschnosti i Effektivnosti Tiagovykh Sredstv Transporta (Increasing Speed of Motion - Weight of Rolling Stock, Power and Efficiency of Traction Equipment)

266 p. 1.50

SO: Four Continent Book List, April 1954



The contents include [illegible]

VEDENKIN, D.P., inzh., red.; ZASLAVSKIY, Ye.I., inzh., red.; KOVAL'SKIY, L.Ya., inzh., red.; VOYTOVA, V.P., inzh., red.; SHELIKHOV, S.N., inzh., red.; NEUDAKIN, K.A., red.

[Price list for the assembly of equipment] TSennik na montazh oborudovaniia. Moskva, Stroiizdat. No.11. 1965. 104 p. (MIRA 18:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosstroy SSSR (for Vedenkin). 3. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva Gosstroya SSSR (for Zaslavskiy, Koval'skiy, Voytova). 4. Proyektno-konstruktorskoye byuro No.12 Glavmontazhavtomatiki (for Neudakin). 5. Vsesoyuznyy bank finansirovaniya kapital'nykh vlozheniy SSSR (for Shelikhov).

VEDENISOV, N. B.

Zamechaniya o nepreryvnykh funktsiyakh v topologicheskikh prostranstvakh. M., Uchen zap. ped. in-ta, ser. fiz.-matem., 2(1938), 47-54

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.
Markushevich, A. I.
Rashevskiy, P. K.
Moscow, Leningrad, 1948

OSTROVSKIY, I.I., inzh., red.; GRIGOROV, I.I., inzh., red.; MURASHEV, A.G., inzh., red.; PECHURCHIK, S.A., inzh., red.; VEDENKIN, D.P., inzh., red.; KUDINOV, M.P., inzh. red.; YELISEYEVA, Ye.Ye., inzh., red.; PETRUNIN, I.S., inzh., red.; TURIANSKIY, M.A., inzh., red.; POZDNYAKOVA, L.V., inzh., red.; KOKOV, K.V., inzh., red.

[Collections Nos.5, 6, 14, 43 of standard district uniform estimates for construction work] Sborniki No.5, 6, 14, 43 edinykh raionnykh edinichnykh rastsenok na stroitel'nye raboty. Moskva, Stroiizdat, 1965. 86 p. (MIRA 18:8)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosstroy SSSR (for Ostrovskiy, Vedenkin, Kudinov). 3. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva Gosstroya SSSR (for Grigorov, Murashev, Petrunin, Yeliseyeva, Turianskiy, Pozdnyakova). 4. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for Pechurchik). 5. Gosudarstvennyy proyektnyy institut po proyektirovaniyu predpriyatiy tekstil'noy promyshlennosti (for Kokov).

VEDENKIN, G.S., prof.; MIKHAYLOVA, L.M.

Comparative study of the corrosion and corrosion-mechanical characteristics of open-hearth and converter steel. Trudy TSNII MPS no.252:96-109 '63. (MIRA 16:8)
(Steel, Structural--Testing)

VEDENKIN, S. G., prof.

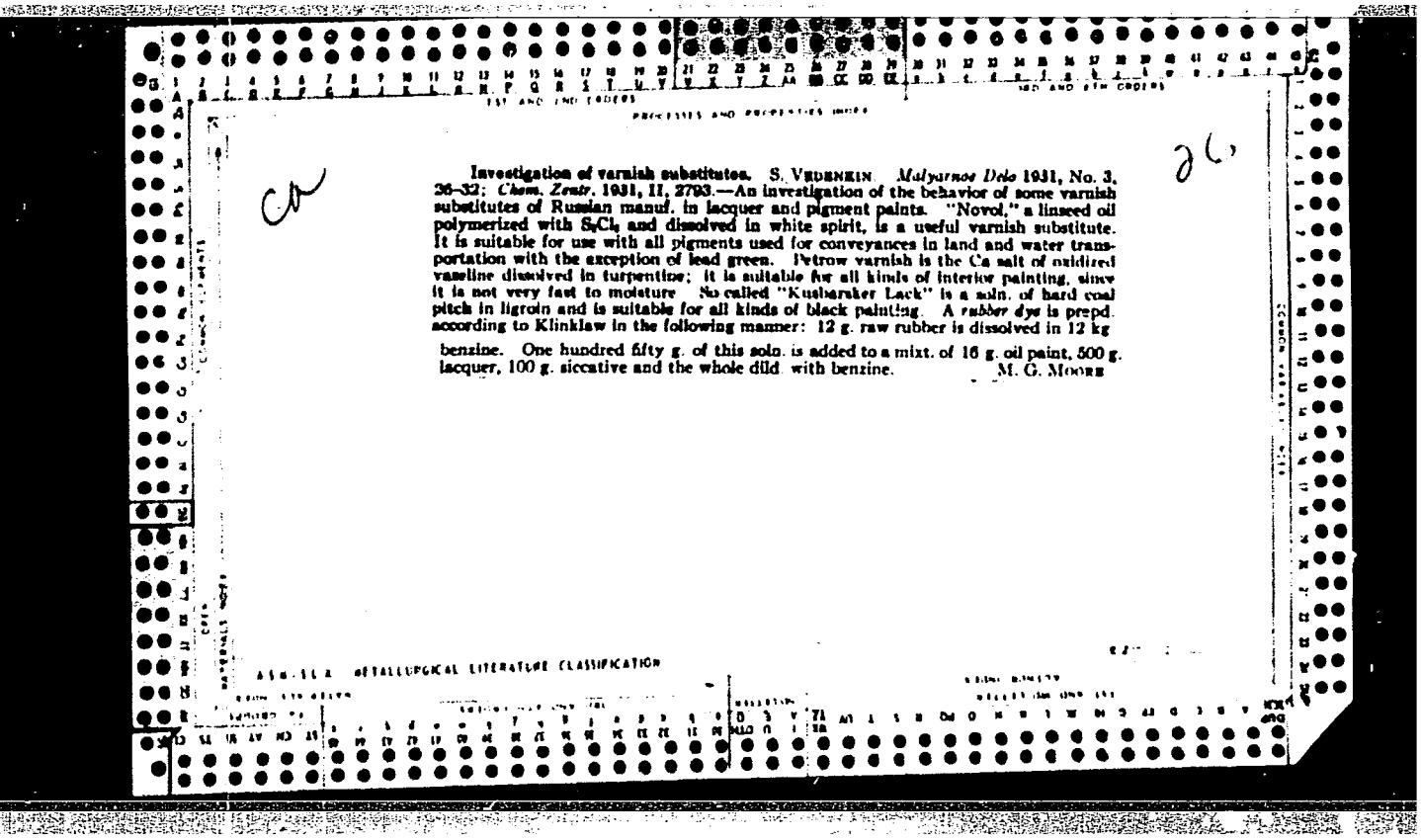
Chemistry at the service of railroad transportation. Khim. v shkole 17 no.4:14-24 Jl-Ag '62. (MIRA 15:10)

(Railroad research) (Chemistry, technical)

VEDENOV, A.A.; RUDAKOV, L.I.

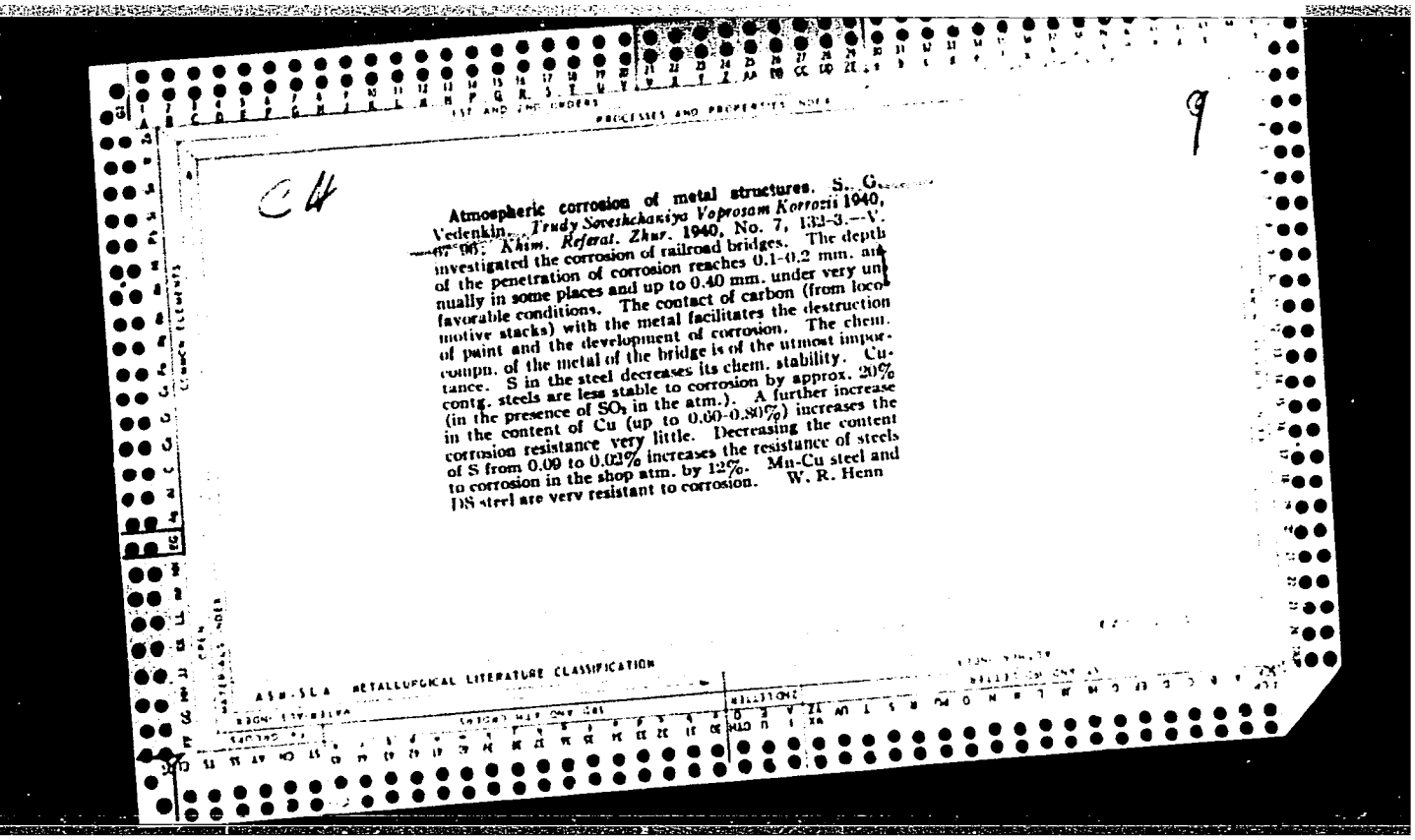
Wave interaction in continuous media. Dokl. AN SSSR 159 no.4: 767-770 D '64 (MIRA 18:1)

1. Predstavleno akademikom M.A. Leontovichem.



Investigation of varnish substitutes. S. VRDENKIN. *Malyarnoe Delo* 1931, No. 3, 26–32; *Chem. Zentr.* 1931, II, 2793.—An investigation of the behavior of some varnish substitutes of Russian manuf. in lacquer and pigment paints. "Novol," a linseed oil polymerized with S_2Cl_2 and dissolved in white spirit, is a useful varnish substitute. It is suitable for use with all pigments used for conveyances in land and water transportation with the exception of lead green. Petrow varnish is the Ca salt of oxidized vaseline dissolved in turpentine; it is suitable for all kinds of interior painting, since it is not very fast to moisture. So-called "Kusbarker Lack" is a soln. of hard coal pitch in ligroin and is suitable for all kinds of black painting. A *rubber dye* is prepd. according to Klinklaw in the following manner: 12 g. raw rubber is dissolved in 12 kg benzine. One hundred fifty g. of this soln. is added to a mixt. of 16 g. oil paint, 500 g. lacquer, 100 g. siccative and the whole dild. with benzine.

M. G. Moore



C4

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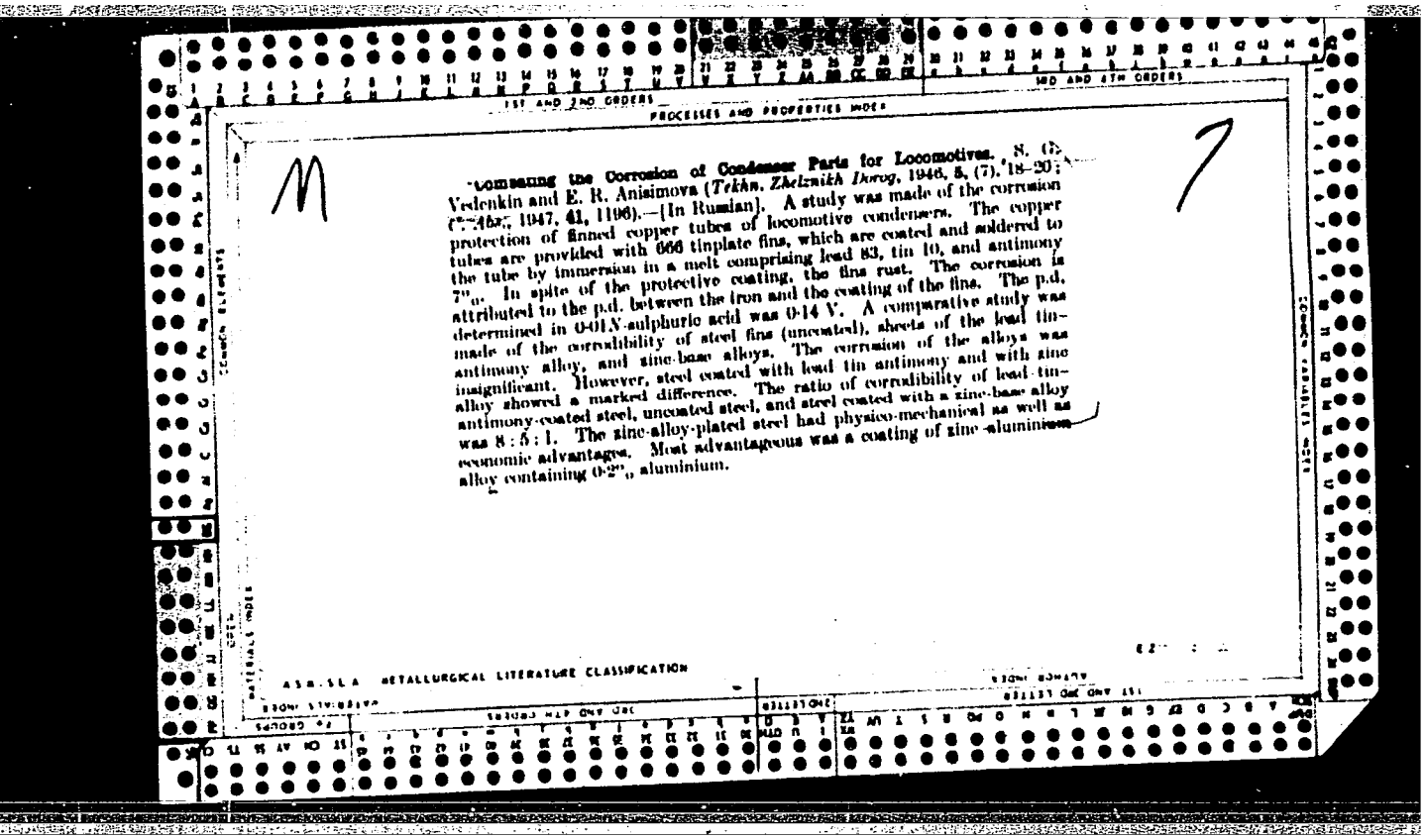
Atmospheric corrosion of metal structures. S. G. Vedenkin. *Trudy Soveshchaniya Voprosam Korrozii* 1940, 90; *Khim. Referat. Zhur.* 1940, No. 7, 133-3.—V. investigated the corrosion of railroad bridges. The depth of the penetration of corrosion reaches 0.1-0.2 mm. and nually in some places and up to 0.40 mm. under very un favorable conditions. The contact of carbon (from loco motive stacks) with the metal facilitates the destruction of paint and the development of corrosion. The chem. compn. of the metal of the bridge is of the utmost impor tance. S in the steel decreases its chem. stability. Cu contg. steels are less stable to corrosion by approx. 20% (in the presence of SO_2 in the atm.). A further increase in the content of Cu (up to 0.60–0.80%) increases the corrosion resistance very little. Decreasing the content of S from 0.09 to 0.02% increases the resistance of steels to corrosion in the shop atm. by 12%. Mn-Cu steel and DS steel are very resistant to corrosion. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

M

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-concerning the Corrosion of Condenser Parts for Locomotives. , S. (Mrs.) Vedenkin and E. R. Anisimova (*Tekhn. Zheleznikh Dorog*, 1946, 5, (7), 18–20; (*C.-Abstr.*, 1947, 41, 1196).—[In Russian]. A study was made of the corrosion protection of finned copper tubes of locomotive condensers. The copper tubes are provided with 666 tinplate fins, which are coated and soldered to the tube by immersion in a melt comprising lead 83, tin 10, and antimony 7%. In spite of the protective coating, the fins rust. The corrosion is attributed to the p.d. between the iron and the coating of the fins. The p.d. determined in 0·01*N*-sulphuric acid was 0·14 V. A comparative study was made of the corrodibility of steel fins (uncoated), sheets of the lead tin-antimony alloy, and zinc-base alloys. The corrosion of the alloys was insignificant. However, steel coated with lead tin antimony and with zinc alloy showed a marked difference. The ratio of corrodibility of lead-tin-antimony-coated steel, uncoated steel, and steel coated with a zinc-base alloy was 8 : 5 : 1. The zinc-alloy-plated steel had physico-mechanical as well as economic advantages. Most advantageous was a coating of zinc-aluminium alloy containing 0·2% aluminium.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VEDENKIN, S. G.
USSR/Locomotives 4602.0401

Dec 1947

"Combatting Loss and Frothing of Water in Locomotive Boilers" ¼ p

"Zh-d Transport" No 12

At plenary session of Scientific-Technical Council of Ministry of Transportation, F. I. Fridman reported on measures for combatting frothing and loss of water from locomotive boilers and S. G. Vedenkina spoke on protection of locomotive boilers from corrosion. Decision reached to pursue studies in these fields and to apply practical results.

13G68

LC

VEDENKIN,S.G., professor

Causes and mechanism of crack development in metals. Tekh.zhel. dor.7 no.7:15-18 Jl'48. (MLRA 8:11)
(Metals--Fatigue)

VEDENKIN, S. G. and NIKIFOROVA, V. M.

"Corrosion of Metals Under Stress and Methods of Protection," Mashgiz, Moscow, 1950.

VEDENKIN, S. G.

RT-1567 (The study of corrosion stability of boiler steels under the action of high temperature steam) Izuchenie korrozionnoi stoikosti kotel'nykh stalei pod vozdeistviem para vysokikh temperatur. Pages 62-76 from:
KORROZIIA METALLOV POD NAPRIAZHENIEM I SPOSOBY ZASHCHITY. Moscow, 1950 (Orginal Russian source unavailable for review)

VEDENKIN, S. G.

"Atmospheric Corrosion of Metals," Metallurgizdat, Moscow, 1951.

VEDENKIN, S. G. (Prof.)

"Atmospheric Endurance of Low-Alloy Steels," p. 161 of Problems of Sea Corrosion, 1951.

Book W-22365, 14 Apr 52

VEDENKIN, S.G., professor.

Resistance of low-alloy steels to atmospheric corrosion.
Trudy kom. po bor'. s korr.met. no.1:161-174 '51. (MLRA 10:8)
(Steel alloys--Corrosion)
(Steel, Structural--Testing)

VEDENKIN, S G

Korrozionnyye Svoystva Metallov i Splavov (Corrosive Characteristics of Metals and Alloys) Moskva, Metallurgizdat, 1952.

77 p. tables (Korroziya i Zashchita Metallov, Razdel 2)
"Literatura": p. 77-(78)

VEDENKIN, S. G. (Prof) and MIKHEOROVA, V. M. Cand Tech Sci

"Causes of Boiler Damage," one of eight articles appearing in the book: "Investigation of the Stress Corrosion of Metals," edited by G.V.Akimov, Mashgiz, Moscow, 1953.

Central Scientific Research Inst. of Technology and Machine Bldg.

Translation M-31506, 15 Dec 55

USSR

Causes of boiler failure. V. M. Nikiforova and S. G. Vedenkin. *Issledovanie Korrozii Metal. pod Napryazheniem*, Moscow (Mashgiz) 1953, 21–48; *Referat. Zhur., Khim.*, 1954, No. 35973.—A no. of marine boilers damaged by corrosion and cracking was studied. In all cases but one the compn. and mech. properties of the steel were in accordance with the requirements. In the one case the S content was too high (0.09%). In another case decompn. of perlite and formation of cementite indicated overheating of the metal caused by a thick layer of scale. The cracks were intercryst., indicating alk. brittleness as well as intracryst. analogous to cracks formed by corrosion fatigue. Corrosion damage was both on the water side and fire side of the boiler. To prevent corrosion and cracking it is suggested to use a plate of greater corrosion resistance and improve the construction of the boiler to reduce strains and stresses. It is further recommended to deaerate the feed water and add to the boiler water corrosion and cracking retardants as well as to prevent scale formation.

M. Hosch

VEDENKIN, S.G., professor; KUZNETSOV, V.G., inzhener; KAZARNOVSKIY, S.N., inzhener.

Improving lacquers and paints. Standartizatsiia no.2:12-17 Mr-Ap '54. (MLRA 7:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut Ministerstva putey soobshcheniya. (Paint materials--Standards)

SOV/124-58-2 2369

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 115 (USSR)

AUTHOR: Vedenkin, S.G.

TITLE: On the Stress Corrosion of Metals (O korrozii metalla pod napryazheniyem)

PERIODICAL: Korroziya metallov i metody bor'by s neyu. Moscow, Oborongiz 1955, pp 3-25

ABSTRACT: Excerpts from a report on stress corrosion presented at a scientific-technical meeting. Results of some investigation in that field are described. From the résumé

Card 1/1

VEDENKI, S.G., professor; KAZIMIROVSKAYA, Ye.L., inzhener.

Effect of gaseous media on the corrosion of alloys at high temperatures. (Review of foreign literature, 1951-1954). Metalloved.i obr.met. no.5:55-63 My '56. (MLRA 9:8)
(Metals at high temperatures) (Steel alloys--Corrosion)

VEDENKIN, S.G.

KUK, F. [Cook, F.E.]; PREYZER, Kh. [Preiser, H.S.]; MILLS, Dzh. [Mills, J.F.]; YAKUBOVSKIY, V.A. [translator]; VEDENKIN, S.G., professor, redaktor; IVANOV, K.A., redaktor izdatel'stva; TIKHONOVA, Ye.A., tekhnicheskiy redaktor

[Electrical method of rust removal from tanker ship compartments. Translated from the English] Katodnyi sposob ochistki sudovykh tankov ot tzhavchiny. Perevod s angliiskogo. Moskva, Izd-vo "Morskoi transport," 1956. 41 p. (MLRA 10:9)
(Tank vessels) (Corrosion and anticorrosives)

Vedenkin, S. G.

J

USSR/Corrosion. Protection from Corrosion.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10541

Author : Vedenkin, S. G. and Kazimirovskaya, Ye. L.
Inst : Not given
Title : On the Effect of Gaseous Media on the Corrosion of Alloys at High Temperatures

Orig Pub: Metallovedniye i obrabotka metallov, 1956, No 5, 55-63

Abstract: A survey of the foreign literature from 1951-1954. The authors list methods for corrosion testing; data on the effect of the composition of the gaseous media on the corrosion of alloys; on the effect of Va and of its oxides on the heat resistance of alloys, and on the corrosion resistance of highly alloyed alloys and materials used in high-pressure steam boilers are also given.

Card 1/1

VEDENKIN, S.G., professor; KHLEBNIKOV, G.K., kandidat tekhnicheskikh nauk; CHURILIN, N.S., kandidat tekhnicheskikh nauk.

Using sulfurous diesel fuels in TE2 diesel locomotives. Vest.TSNII MPS no.1:13-18 F '57. (MLRA 10:3)
(Locomotives--Fuel consumption)

KRYAWIN, Ivan Romanovich; VEDENKIN, S.G., prof., retsenzent; KULIKOV, F.V., inzh., red.; EL'KIND, V.D., tekhn.red.

[Hydroturbine vanes; cavitation collapse, research and study of data] Lopasti gidroturbin; kavitatsionny razrusheniia, izyskanie i issledovanie materialov. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958, 206 p. (MIRA 11:3)
(Cavitation) (Hydraulic turbines--Blade)

14(5) PHASE I BOOK EXPLOITATION SOV/1882

Vsesoyuznoye soveshchaniye po korrozii i zashchite metallov. 6th, Moscow, 1956

Teoriya i praktika protivokorrozionnoy zashchity podzemnykh sooruzheniy; trudy soveshchaniya (Theory and Application of Anti-corrosion Measures of Subterranean Installations; Transactions of the 6th All-Union Conference on Corrosion and Protection of Metals) Moscow, 1958. 273 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut fizicheskoy khimii. Komissiya po bor'be s korroziyey metallov.

Editorial Board: I.M. Yershov, Candidate of Technical Sciences; A.F. Lunev, Candidate of Chemical Sciences; Yu.N. Mikhaylovskiy, Candidate of Chemical Sciences, I.V. Strizhevskiy, Candidate of Technical Sciences; N.D. Tomashov, Professor, Doctor of Chemical Sciences; and P.V. Shchigolev, Candidate of Chemical

Vedenkin, S.G.

Card 1/7

Sciences; Resp. Ed.: N.D. Tomashov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: A.L. Bankvitser; Tech Ed.: P.S. Kashina.

PURPOSE: The book is intended for chemists, engineers, and metallurgists concerned with the problem of metal corrosion in underground installations.

COVERAGE: The book contains the papers read at the All-Union Conference of the Committee on the Control of Corrosion of the Academy of Sciences, USSR, held in May, 1956. The following scientific and technical problems discussed at the conference received particular attention: 1) theory of metal corrosion underground (N.D. Tomashov and S.I. Kuznetsov); 2) theory, calculation, and practical application of cathodic and anodic protection of underground installations (A.F. Lunev, I.M. Yershov, V.G. Kotik, V.V. Krasnoyarskiy, and A.N. Tsekun); 3) study of the anticorrosive properties and the improved technology in manufacturing and applying protective coatings to subterranean metallic installations (L. Ya. Taikerman, V.I. Zhukov, M.D. Dzhafarov, and V.S. Artamonov); 4) prevention of stray current corrosion (I.V. Strizhevskiy, D.K. Tomlyanovich, P.G. Doroshenko, and

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A.I. Gordyukhin; 5) development of methods for determining the corrosion activity of soils (Yu. N. Mikhaylovskiy, N.D. Tomashov, N.S. Trifel', and V.V. Krasnoyarskiy); 6) concrete examples of corrosion and protection of underground installations (S.G. Vedenkin and V.S. Artamonov, V.A. Pritula, and S.S. Popov). There are 161 references, 128 of which are Soviet, 30 English, and 3 German.

TABLE OF CONTENTS:

[illegible] (Cont.) SOV/1882

SINYAVSKIY, V.S., inzh.; VEDENKIN, S.G., prof.

Aluminum alloys used in railroad car construction. Vest. TSNII MPS 17 no.8:30-34 D '58. (MIRA 12:1)
(Railroads--Cars--Construction) (Aluminum alloys)

18(7) PHASE I BOOK EXPLOITATION SOV/2296

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Korroziya i zashchita metallov v mashinostroyenii (Corrosion and Protection of Metals in the Machine-building Industry) Moscow, Mashgiz, 1959. 347 p. (Series: Its: [Sbornik] kn. 92) 5,500 copies printed.

Ed.: A. V. Ryabchenkov, Doctor of Chemical Sciences, Professor; Ed. of Publishing House: A. I. Sirotin, Engineer; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for designers, technologists, and industrial and research workers concerned with corrosion and corrosion protection of metals.

COVERAGE: This collection of articles deals with problems of corrosion and metal protection under investigation at TsNIITMASh during the past two years. The articles discuss stress corrosion, intergranular corrosion, scale and heat resistance of austenitic steels in gaseous media, protective coating, fretting corrosion, and resistance of metals to cavitation. No personalities are mentioned. References follow each article.

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(12)

28(5) SOV/32-25-4-32'71

AUTHORS: Lapin, A. A., Sinyavskiy, V. S., Vedenkin, S. G.

TITLE: Testing Metals for Corrosion Fatigue on an Electromagnetic Machine of the Natural-vibration Type (Ispytaniye metallov na korrozionnuyu ustalost' na elektromagnitnoy mashine avtokolebatel'nogo tipa)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 461-463 (USSR)

ABSTRACT: For studying the corrosion-fatigue resistance of aluminum alloys, new testing methods were developed which permit the kinetics of cracking to be determined. The machine suggested represents, in principle, an electromechanical generator with reverse coupling (Fig 1). The load frequency is determined by the fundamental frequency of the sample and can be changed in the range of from 30 to 200 cycles. The sample itself practically acts as a dynamic damper for the elastic element between the electromagnets. The sketch of the machine shows that selenium rectifiers VSA-5, an electromechanical counter SB-1 M-100, computing devices BK-3 with cathodes MTKh-90, as well as a microscope MPV-1 (for measuring the oscillation amplitude) and microscope MBS-2 (for observing the sample) are used. On the

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Testing Metals for Corrosion Fatigue on an Electromagnetic Machine of the Natural-vibration Type

machine described, samples of the aluminum-magnesium alloy AMG-6T (5.87% Mg, 0.60% Mn, 0.22% Si, 0.01% Cu, 0.14% Fe and 0.12% Ti) with the mechanical characteristics: $\sigma_{0.2}$ = 19 kg/mm^2, σ_B = 38 kg/mm^2 and δ = 22% were tested. A comparison of the destruction occurred was made by means of the standard generator ZG-12; a beam tube of the oscillograph EO-6 was used here. The samples were tested in air, distilled water and 3% NaCl solution. Satisfactory results were obtained (Fig 3) and - according to the character of the curves obtained (Fig 4) - it was stated that the fatigue process in air can be divided into three stages. The propagation of cracks occurs mainly transcrystallitically according to the position of the β phase (Al_3Mg_2). There are 4 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (All-Union Scientific Research Institute of

MAKSIMOV, A.I., inzh.; SOROKIN, P.V., inzh.; DAVIDOVSKAYA, Ye.A., kand. tekhn.nauk; VEDENKIN, S.G., prof.

Long-time strength of austenite steels in fuel combustion products and in superheated steam. [Trudy] TSNIITMASH 100:70-89 '59. (MIRA 13:7)
(Heat-resistant alloys)

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S/123/60/000/017/001/016
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1960, No. 17, p. 19, # 91441

AUTHORS: Vedenkin, S.G., Sinyavskiy, V.S.

TITLE: Investigation of Aluminum Alloys for Car Building

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1959, No. 171, pp. 5-66

TEXT: The authors review the properties of the Al-Alloys applied to car building in the various countries, and they give an account of the methods and results of investigation of the fatigue strength and the corrosion fatigue of the magnalium alloys AMr 3 (AMg3) and AMr 6T (AMg6T). The specimens were tested on an electromagnetic stand of the resonance type assuring the specimen natural vibrations of 30-200 cps frequency. At $N = 10^5 - 10^8$ cycles, the fatigue strength of the AMg6T alloy in air and in 3%-aqueous solution of NaCl is higher than the properties of AMg3, but hereat the decrease of the fatigue strength of the latter in a corrosion medium is relatively greater. The conventional limit of the corrosion fatigue of AMg6T amounts to $0.45\sigma_{-1}$ of this alloy in air, and for AMg3

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Investigation of Aluminum Alloys for Car Building

to 0.30 g. The mechanism of the corrosion fatigue was investigated, the variations of the electrode potential of the Al-alloys are presented and discussed depending on the time and the stress state, the kinetics of formation and development of the corrosion-fatigue cracks were studied in their interaction with the stresses and the electrode potential, and it is shown that the corrosion media increase the rate of plastic deformation. The corrosion stability of the Al-alloys was investigated in solutions of chlorides and some acid media; the possibility is shown of using Al-Mg alloys in isothermal cars without paint and construction of tanks for transporting concentrated acids. Corrosion tests of Al-alloys were performed at statical stresses. The preliminary plastic deformation intensifies the corrosion cracking of the magnalium alloys, and their sensitivity to the latter increases with increased content of Mg in the Al-alloy. There are 86 references.

F.P.A.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

LEBEDEVA, L.S., nauchnyy sotrudnik; VNDENKIN, S.G., prof.

Use of inhibitors for protecting rolling stock parts against corrosion in a water medium. Trudy TSNII MPS no.171:91-106 '59. (MIRA 13:1)

(Corrosion and anticorrosives)
(Railroads--Rolling stock).

83418
S/081/60/000/012(II)/001/010
A006/A001

26.2120

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 12 (II), p. 433, # 47993

AUTHORS: Vedenkin, S.G., Kovalev, Ye.A.

TITLE: Vanadium Corrosion of Gas-Turbine Alloys

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1959, No. 171, pp. 143-164

TEXT: The authors studied the effect of V (and Na) admixture in mazut of the Ural-Volga deposits, on corrosion and strength features of 2 heat-resistant alloy grades. The investigation was made on experimental laboratory installations. Furthermore, the possibility was studied of protecting parts of gas turbine installations from vanadium corrosion. It was established that ЭИ-417 (EI-417) steel exposed to the contact with artificial fuel "ash" containing V_2O_5, corroded at 730°C several hundred times faster than in air atmosphere. Endurance of ЭИ-481 (EI-481) steel at 700°C decreased by over a factor of 3 within a stress range of 20-27 kg/mm^2. Holding the EI-417 and EI-481 steel specimens in contact with artificial ash for 300 hours at 730°C, entails considerable loss of static strength and ductility. Cyclic strength of EI-481 steel, determined subsequently at room

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Vanadium Corrosion of Gas-Turbine Alloys

temperature, decreased by a factor of 2. The authors believe that the considerable effect of V_2O_5 + Na_2SO_4 on the corrosion rate at 730°C is caused by the chemical interaction of V_2O_5 with the metal. As a result V_2O_5 is deoxidized to V_2O_3 which is easily reoxidized to V_2O_5 by the air oxygen. Oxidation is accelerated when SO_2 is present in the fuel combustion product. In this case the high rate of scale formation in the combustion products of vanadium fuel is caused by the combined effect of V_2O_5 and SO_3. Kaolin and CaO reduce sharply the corrosion effect of vanadium mixtures at 730°C and a 3:1 weight ratio (the weight of the admixture to the weight of the mixture with ash).

A. Mamet

Translator's note: This is the full translation of the original Russian abstract.

VEDENKIN, S.G.

PHASE I BOOK EXPLOITATION SOV/4373

Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova

Ustalost' metallov; materialy soveshchaniya po ustalosti metallov 22-24 sentyabrya 1958 g. (Fatigue of Metals; Materials of the Conference on Fatigue of Metals, September 22-24, 1958) Moscow, 1960. 157 p. 3,500 copies printed.

Resp. Ed.: I.A. Oding, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: A.N. Chernov; Tech. Ed.: I.N. Dorokhina.

PURPOSE: This collection of articles is intended for mechanical engineers, metallurgists, and scientific research workers.

COVERAGE: The collection contains discussions relating to fatigue failure of metals, fatigue in finished parts, and methods for testing endurance. Included are a critical review of existing theories on metal fatigue, some data on physical regularity patterns, and features of steel failure caused by fatigue. Possibilities for applying a new criterion to the notch sensitivity of metals and high-strength steels are investigated. The mechanism of failure due to corrosion fatigue of metals is discussed along with pertinent experimental data. Also presented are the results of testing the fatigue strength of such metal parts as large-size plates and various parts of machines used in the petroleum industry. Problems involved in testing metals for fatigue are examined. No personalities are mentioned. Each article is accompanied by bibliographic references, most of which are Soviet.

PROBLEMS OF ENDURANCE-TESTING METHODS

ENDURANCE TESTING OF PARTS

AVAILABLE: Library of Congress (TA460.A577)

Card 4/4

VK/wrc/mas
11-9-60

ROZENFEL'D, Iosif L'vovich; GOLUBEV, A.I., doktor tekhn.nauk, otv.red., retsenzent; IOFA, Z.A., prof., doktor khim.nauk, retsenzent; VEDENKIN, S.G., prof., retsenzent; BANKVITSER, A.L., red.izd-va; MAKUNI, Ye.V., tekhn.red.

[Atmospheric corrosion of metals] Atmosfernaia korroziia metallov. Moskva, Izd-vo Akad.nauk SSSR, 1960. 371 p. (MIRA 14:1)

(Corrosion and anticorrosives)

VEDENKIN, S.G., prof.; ZOLOTARSKIY, A.F., kand.tekhn.nauk

Basic methods for the control of metal corrosion in railroad equipment. Vest. TSNII MPS 17 [i.e. 19] no.7:3-7 '60. (MIRA 13:11)

(Railroads--Equipment and supplies)
(Corrosion and anticorrosives)

VEDENKIN, S. prof., doktor tekhn.nauk

Fighting against a bitter enemy. NTO 3 no.2:12-15 F '61.
(MIRA 14:3)

1. Predsedatel' Komiteta Vsesoyuznogo soveta nauchno-tekhnicheskikh obshchestv po korrozii i zashchite metallov i orgkomiteta tematicheskoy vystavki "Sredstva bor'by s korroziyey metallov i stroitel'nykh materialov v narodnom khozyaystve" pri Vystavke dostizheniy narodnogo khozyaystva SSSR.
(Corrision and anti-corrosives)

VEDENKIN, S.G., prof.; MOISEYEV, I.A., kand.tekhn.nauk; SINYAVSKIY, V.S., kand.tekhn.nauk

Make wider use of aluminum alloys in manufacturing railroad equipment. Zhel.dor.transp. 43 no.8:26-30 Ag '61. (MIRA 14:8)
(Aluminum alloys) (Railroads—Cars—Construction)

ACCESSION NR: AR3005579 S/0276/63/000/006/B081/B082

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 6 B444

AUTHOR: Vedenkin, S. G.; Sinyavskiy, V. S.

TITLE: Studies in the field of corrosive metal fatigue

CITED SOURCE: Tr. Vses. mezhvuz. nauchn. konferentsii po vopr. bor'by* s korroziyey. M. Gostoptekhizdat, 1962, 30-39

TOPIC TAGS: corrosive fatigue, metal fatigue

TRANSLATION: The paper contains the results of studies of corrosive fatigue on electromagnetic and other machines with the aid of chemical, metallographic, and roentgenographic methods. It was established that the deterioration of metal potential upon the application of cyclic stresses is not a cause by the results of the formation of a corrosive fatigue crack and that the protective action of the cathode current under conditions of corrosive fatigue is related first of all to the appearance of an alkaline medium at the cathode (tested sample) sufficient to passivate the metal and prevent the reduction of fatigue strength

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ACCESSION NR: AR3005579

under the action of the corrosive medium. It is shown that at the metal surface under conditions of application of cyclic stresses and the action of the aggressive medium, the following processes can occur simultaneously: metal corrosion; formation of surface films; disruption of continuity of these films (as a result of the simultaneous action of stresses and the aggressive medium); adsorption at the metal surface with damaged film of the surrounding surface- or corrosive-active medium facilitating the deformation of the metal; the formation of vacancies and their coagulation (as a result of the free movement of dislocations to this surface). Depending on actual conditions to which the test sample or machine parts are subjected (character of the surrounding medium,, size of acting loads, frequency of their application), as well as depending on the quality of the metal, the relative value of the above factors (corrosive, adsorptive lowering of strength and the effect of dislocations) can vary in the mechanism of the appearance and development of corrosive fatigue cracks.

DATE ACQ: 24Jul63 SUB CODE: ML ENCL: 00

Card 2/2

ACCESSION NR: AT4010279 S/3053/62/000/000/0030/0039

AUTHOR: Vedenkin, S. G.; Sinyavskiy, V. S.

TITLE: Studies in the field of the corrosive fatigue of metals

SOURCE: Trudy* Vsesoyuznoy mezhvuzovskoy nauchnoy konferentsii po voprosam bor'by* s korroziyey, Baku, 1962. Moscow, 1962, 30-39

TOPIC TAGS: corrosion, corrosion fatigue, crack, aluminum alloy, mechanical fatigue, fatigue, electromagnetism, resonator, fissure, vibration frequency stress, cyclic stress, cathode current, alkaline, microspore, spore, adsorption, corrosion passivation, corrosive cracking

ABSTRACT: The development of cracks on aluminum alloys and steel, due to mechanical and corrosive fatigue, was studied by conventional methods and also by the use of an electromagnetic resonance machine. This machine was used to find the time of appearance of the fissure and the rate of its increase by measuring the frequency of vibration. The potential of the metal becomes less positive when cyclic stresses are applied to it. This fact is believed to be not the cause, but the result of the formation of fissures due to corrosive fatigue. The protective action of the cathode current in the prevention of corrosive fatigue results from the

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ACCESSION NR: AT4010279

alkalinity of the cathode of the tested specimen. The alkalinity is sufficient for the passivation of the metal and prevents further corrosive action. The authors suggest that if the metal is exposed to an aggressive environment, the distortion of the surface layer occurs in the places at which the stresses are concentrated. The dislocations move to these distortion places and create vacancies. The coagulation of these vacancies creates microspores that, in turn, grow into microfissures. The adsorption of the different surface-active substances occurs mostly on the deformed parts of the metallic surface and favors the forma tion and development of the microfissures. The presence of these fissures makes the metal more active and corrosive processes develop. There is a difference of oxygen content in the solution on the metallic surface and on the bottom of the fissure (aeration effect) that contributes to the corrosion rate, but does not appear to be the deciding factor in the corrosion process. Orig. art. has: 10 figures.

ASSOCIATION: TSNII MPS

SUBMITTED: 00	DATE ACQ: 28Jan64	ENCL: 00
SUB CODE: MM	NO REF SOV: 011	OTHER: 001

Card 2/2

VEDENKIN, S.G., prof.; SINYAVSKIY, V.S., kand. tekhn. red.;
MOISEYEV, I.A., kand. tekhn.nauk; POPOV, A.V., red.;
DROZDOV, N.D., tekhn.red.

[Aluminum alloys for the rolling stock] Aliuminievye splavy dlia podvizhnogo sostava. Pod red. S.G.Vedenkina. Moskva, Transzheldorizdat, 1962. 41 p. (MIRA 16:3)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta.
(Railroads--Rolling stock) (Aluminum alloys)

VEDENKIN, S.G.; SINYAVSKIY, V.S. (Moscow)

Mechanism of corrosion-fatigue failure. Zhur.fiz.khim. 36 no.10: 2209-2214 O '62. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.

VEDENKIN, S.G., prof.

Struggle against metal corrosion. Znan.dor.transp. 40 no. [illegible] 33 N '62.
(MIRA 15:3)

SOURCE: Ref. zh. Khimiya, Abs. 6K57

AUTHOR: Vedenkin, S.G.; Sarycheva, G.S.; Komissarova, V.S.; Chicherina, Ye.A.

TITLE: Corrosion fatigue resistance of aluminum alloys

CITED SOURCE: Sb. Korrozion. ustalost' metallov. L'vov, Kamenyar, 1964, 194-202

TOPIC TAGS: aluminum base alloy, corrosion fatigue, fatigue strength, corrosion fatigue resistance, corrosion resistance, notch sensitivity, bending stress

TRANSLATION: Results are given of a determination of the fatigue strength of various Al-alloys with continuous and periodic immersion of the sample in 3.0% and 4% NaCl solutions. In the 4% solution the fatigue strength of the investigated alloys decreases by 40 to 70%, as compared with tests made in air. In the 0.001% NaCl solution the decrease is considerably less. Shot peening increases the fatigue and the corrosion fatigue resistance of the alloys and can be considered as [illegible] the fatigue strength of V92

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ACCESSION NR: AR5011410

creases by 75%. The relative notch sensitivity of the investigated alloys (round notch, R = 0.75 mm, n = 10^7 in the ratio σ_{-1}/σ_{-1n}) in tests in 3% NaCl solution was 1.2 - 2.5 (cantilever-type test and 1.5 - 1.7 (direct flexure test). From author's resume.

SUB CODE: MM, 48

Card 2/2

VEDENKIN, Sergey Grigor'yevich, prof.; VINITSKIY, Lazar' Yefimovich kand. tekhn. nauk; LUK'YANCHIKOV, Ivan Kuz'mich, inzh.; RYZHOVA, Zinaida Alekseyevna, kand. tekhn. nauk; SITKOVSKIY, Il'ya Pavlovich, inzh.; BRATCHIK, Ye.I., red.

[Polymers in railroad transportation] Polimery zheleznodorozhnomu transportu. [By] S.G.Vedenkin i dr. Moskva, Transport, 1964. 91 p. (MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta, otdeleniye polimerov (for Ryzhova). 2. Glavnyy konstruktor Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Sitkovskiy). 3. Rukovoditel' otdeleniya polimerov Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Luk'yanchikov). 4. Rukovoditel' laboratorii korrozii otdeleniya ispytaniya materialov i konstruktsiy Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Vedenkin). 5. Rukovoditel' laboratorii reziny otdeleniya polimerov Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Vinitskiy).

VEDENKIN, S.G.; DOBROLYUBOV, V.V.

Corrosion and protection of rails in tunnels. Zashch.met. 1 no.1:84-90 Ja-F '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta.

L 1347-66 EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EWA(d)/EWP(j)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) RM/DS/MJW/JD/WW/JG/WB

ACCESSION NR: AP5022665 UR/0365/65/001/005/0601/0603

AUTHOR: Vedenkin, S.G.

TITLE: Work of the metal corrosion section of the Inter-VUZ Conference on Electrochemistry

SOURCE: Zashchita metallov, v. 1, no. 5, 1965, 601-603

TOPIC TAGS: metallurgic conference, solution property, electrochemistry, chemical conference, corrosion

ABSTRACT: The Inter-VUZ scientific conference on electrochemistry, held 31 May—2 June 1965 at the Novocherkassk Polytechnic Institute, was divided into five sections, one of which was devoted exclusively to metal corrosion. More than one-half of the 250 reports presented dealt with corrosion inhibitors. S. A. Balezin, V. I. Rodinova, and Ye. S. Bulavina (Moscow Pedagogic Institute) found that PB-5, I-1A, and BA-6 inhibitors, and especially Katapin K, effectively lower the corrosion rate of EI-432 [AISI317T], EI-448 [AISI316T], and SKhL-4 alloy steels in 5—30% HCl at 25—80C, but only

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under static conditions. At a flow rate of 0.5—2.5 m/sec, the effectiveness of the inhibitors decreases and the corrosion rate of EI-448 increases.

A. P. Brynsa (Dnepropetrovsk State University) stated that the anionic and molecular-type substances containing groups capable of being reduced (nitroderivatives of aniline, sulfoacids of naphthalene, and others) are effective inhibitors of titanium corrosion in acid media. Ye. A. Yakovleva and V. V. Andreyeva (Institute of Physical Chemistry, AN SSSR) found that titanium corrosion in H_2SO_4 and HCl solutions can be slowed down or completely eliminated by introducing tetravelent titanium or NO_3^- ions.

I. K. Burtseva and A. I. Krasil'shchikov (GIAP) found that the intercrystalline corrosion of stainless steels in nitric acid develops mainly at high positive potentials when steel is in the overpassivated state.

A. I. Glukhova and V. V. Andreyeva (Institute of Physical Chemistry, AN SSSR) reported on the high corrosion resistance of Nb-Ti alloys in oxidiz-

ing media. The alloys also resist corrosion in KOH solutions with a concentration of up to 20% and temperatures up to 40C. At higher alkali concentrations and temperatures the corrosion resistance decreased.

V. P. Grigor'yev and V. V. Kuznetsov (Rostov State University) found that various ketones slow down the corrosion of aluminum in HCl and H_2SO_4 only when the aluminum surface has an oxide layer whose dissolution is slowed down in the presence of cations. T. N. Smirnova and co-workers reported on the effect of some technological factors on the corrosion resistance, electrochemical characteristics, and structure of AMG-6 alloy. They also established optimum aging conditions for V-92 aluminum alloy which ensure good corrosion resistance and high mechanical properties (4 hr at 60C + 3 hr at 200C) or improve the resistance to stress corrosion in the weld and weld-adjacent zone.

Yu. P. Khranilov and V. S. Poroykova (Ivanovsk Chemical Technology Institute), in their report on the corrosion resistance and anodic behavior of

L 1347-66
ACCESSION NR: AP5022665

Mg-Li and Mg-Al-Li alloys in concentrated H_2SO_4 and in solutions of various salts, associated corrosion behavior of the alloys in these solutions with the phase composition and structure of the surface layers. L. N. Yagupol'skaya (Electric Welding Institute im. Ye. O. Paton) reported that high-purity Zr is ten times more resistant to corrosion in HCl than commercial-grade Zr and that vacuum annealing at 600C increases the corrosion resistance still further.

The conference demonstrated the high-level scientific research in the field of electrochemistry and corrosion of metals conducted by numerous ung scientists at many peripheral institutions of higher learning.

ASSOCIATION: none
SUBMITTED: 00
NR REF SOV: 000
ENCL: 00
OTHER: 000
SUB CODE: MM, GC
ATD Press:4086-F

Card 4/4

VEDENKIN, S.G.

Research by the section on metal corrosion reported at the inter-university conference on electochemistry. Zashch. met. 1 no.5:601-603 S-O '65. (MIRA 18:9)

VEDEN'KOV, [illegible]

Problem number one. Prof.-tekh. obr. 21 no.11:16-17 N '64
(MIRA 18:2)

1. Zaveduyushchiy uchebno-metodicheskim kabinetom Chelyabinskogo oblastnogo upravleniya professional'no-tekhnicheskogo obrazovaniya.

ZUYEV, I.; VEDEN'KOV, S.

Experimental showed good results. Prof. tekh. obr. 21 no.1:27-28 Ja '64. (MIRA 17:3)

1. Direktor TSentral'nogo uchebnogo kombinata Yuzhno-Ural'skogo soveta narodnogo khozyaystva (for Zuyev). 2. Zaveduyushchiy metodicheskim kabinetom Chelyabinskogo oblastnogo upravleniya professional'no-tekhnicheskogo obrazovaniya (for Veden'kov).

Ye.

VEDEN'KOV, ~~K.~~ P., Cand Agric Sci -- (diss) "Experience of the artificially heated hotbeds Construction and Utilization of ~~Hot Houses in Technical Warm-Ups~~ on Farms of the ~~Moscow~~ Moskovskaya and Leningrad Oblasts." Leningrad Len-Pushkin, 1956. 30 pp (Min Higher Ed USSR. Len ~~Farm Economics~~ Inst); 120 copies. ~~Printed on a multiplying machine~~ Mimeographed (KL 40-58, 114)

25

KUDRYAVTSEV, V.A.; VEDENEYEV, Ye.P.; LOSKUTOVA, Zh.L.

Aftereffects of a temporary reduction in light intensity in tomatoes. Izv. AN Kazakh. SSR. Ser. biol. nauk 2 no.6:30-38 N-D '64. (MIRA 18:3)

LUBENETS, V.D., kand. tekhn. nauk, dotsent; VASIL'YEV, V.I., inzh.; VEDENIN, V.A., inzh.

Perfect operating process and theoretical indicator diagrams of a two-rotor vacuum pump with partial internal pressure. Izv. vys. ucheb. zav.; mashinostr. no.10:119-132 '64 (MIRA 18:1)

1. Moskovskoye vysshaya tekhnicheskoye uchilishche imeni N.E. Baumana.

VEDENOV, A.

Use of wide-angle and long-focus objectives. Sov.foto 18 no.10:53-58 O '58. (MIRA 11:11)

(Cameras)

VEDENOV, A.

About sharpness and lack of sharpness of pictures (to be continued).
Sov.foto 22 no.3:36-37 Mr '62. (MIRA 15:2)
(Photography)

VEDENOV, A.

How to determine the correct exposure. Sov. foto 23 no.4:33-35 Ap '63. (MIRA 16:5)

(Photography--Exposure)

VEDENOV, A.

Sharpness and blurry in photography. Sov.foto 22 no.4:34-36 Ap '62. (MIRA 15:4)

(Photography)

VEDENOV, A.

How to determine the best exposure. Sov. foto 23 no.5: 32-33 My '63. (MIRA 16:10)

VEDENOV, A. A.

USSR/Electronics - Amplifiers

Card : 1/1 Pub. 118 - 3/15

Authors : Lopukhin, V. M. and Vedenov, A. A.

Title : An amplifier based on absorption

Periodical : Usp. fiz. nauk 53/1, 69 - 86, May 1954

Abstract : An amplifier, designed on a new idea in which the phenomenon of absorption is utilized, is described. The coefficient of amplification is about 30 db. and the band pass about 70 - 120% with respect to the carrier. Three references. Diagrams; graphs; illustrations.

Institution : ...

Submitted : ...

Translation D 415987

VEDENOV, A.A.

Nonlinear phenomena in traveling wave amplifier tubes. Radiotekh. i elektron. 1 no.10:1377-1378 O '56. (MLRA 10:1)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.
(Amplifiers, Electron-tube)

VEDENOV, A.A.

SUBJECT USSR / PHYSICS CARD 1 / 2 [illegible] 1957
AUTHOR VEDENOV, A.A.
TITLE On the Theory of the Decay of Pions.
PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.2, 347-348 (1956)
Issued: 10 / 1956 reviewed: 11 / 1956

Here the problem of the decay $\pi \to \mu + \gamma + \nu$ is investigated under the assumption that the myon has the abnormal magnetic moment $\mu_a = \mu' + e/2M$. Here M denotes the mass of the myon. Mesonic interaction is assumed to be scalar. (Pseudoscalar interaction leads to the same results, see B.L.IOFFE and A.P.RUDIK, Dokl.Akad. Nauk, 82, 359 (1952): $H_{\pi,\mu\nu} = g(\varphi_\nu \varphi_\mu) \Psi_\pi$ + conjugated complex terms. The interaction of the myon with the γ-quantum is given by the following expression: $H_{\mu,\gamma} = -ie\hat{A} - (1/2)i\mu' \gamma_i \gamma_k F_{ik}$, $F_{ik} = \partial A_k/\partial x_i - \partial A_i/\partial x_k$. The matrix element of this process is equal to $M = \frac{2\pi e g}{\sqrt{E_\pi |k|}} \bar{u}_\mu \left[\hat{e} - \frac{i}{2e} \mu' (\hat{k}\hat{e} - \hat{e}\hat{k})\right] (i\hat{p} + i\hat{k} - M)^{-1} u_\nu$

Here u_μ and u_ν are the unit-bispinors of the wave functions of the myon and of the neutrino, $k(\vec{k}, |k|)$ - the four-momentum of the photon, $p = (\vec{p}, M)$ - the four-momentum of the myon, e - the unit vector of the polarization of the photon. By averaging over polarizations and spins the decay probability dw is obtained. The rather voluminous expression for dw is explicitly given. By integration with respect to the emission directions of the photon the probability of the decay with emission of one myon with the momentum p is obtained. (Here it is assumed that $m = 0$). Also this expression is rather voluminous and is explicitly given.

Žurn.eksp.i teor.fis,31,fasc.2, 347-348 (1956) CARD 2 / 2 PA - 1487

In the nonrelativistic case $p \ll M, E_\pi$ it is true that $E = M + p^2/2M$. If the range R of the myon is put proportional to p^4, the following is obtained for the number of myons with a range $< R$:

$$w = \int_0^{p=p_0(R/R_0)^{1/4}} dw = \left[1+\tau\right] w_{\mu+\nu+\gamma} + \frac{e^2 g^2}{2\pi} \frac{M^2}{E_\pi} (p_0/M)(R/R_0)^{1/4} \left[\frac{\tau^2}{2}\left(\frac{E_\pi}{M} - 1\right)x^2 + \frac{8\tau}{3}\left(-\frac{M}{E_\pi} + \frac{E_\pi}{M}\right) \frac{x^4}{(E_\pi/M - 1)^2 - x^2}\right]_0^{} dx$$

Here p_0 and R_0 denote momentum and range respectively of the meson on the occasion of the decay $\pi \to \mu + \nu$. Furthermore, it is true that $\tau = \mu'/(e/2M)$, $w_{\mu+\nu+\gamma}$ denotes the decay probability for $\tau = 0$ and $W_{\mu+\nu} = (g^2/2)(1 - M^2/E_\pi^2)p_0$ - the probability of the decay $\pi \to \mu + \nu$.

A comparison with the results obtained by IOFFE and RUDIK (see above) shows that the occurrence of abnormal magnetic moment in the myon may lead to an increase of the number of mesons, particularly in the case of short ranges. Similar results may probably be expected also for the case in which the spin of the myon is greater than 1/2.

INSTITUTION: Moscow State University.

VEDENOV, A.A.

56-6-31/47

AUTHOR: Vedenov, A. A.

TITLE: On Some Solutions of the Equations of the Hydrodynamics of Plasma (O nekotorykh resheniyakh uravneniy gidrodinamiki plazmy)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957, Vol. 33, Nr 6 (12), pp. 1509 - 1511 (USSR)

ABSTRACT: The present report investigates some accurate solutions of the hydrodynamic equations of a cold plasma with and without the presence of an exterior magnetic field. The ions are here considered to be at rest for reasons of simplicity; this is not a restriction in principle. With a one-dimensional flow in the plasma the solution of the equations $\frac{\partial v}{\partial t} + v\frac{\partial v}{\partial x} = \frac{e}{m}E$; $\frac{\partial E}{\partial x} = -4\pi e(n-n_+)$ $\frac{\partial n}{\partial t} + \frac{\partial (nv)}{\partial x} = 0$; $v = e^{-t/t_o} v_o(z)$; $\frac{e}{m} x_o E = e^{-t/t_o}\xi_o(z)$; $z = -\frac{x}{x_o} e^{t/t_o}$ can be set up. Here v denotes velocity, n - the density of electrons, n_+ - the density of ions, E - electric field strength, and x_o - and t_o - random constants. In order to explain the character of this solution the author substitutes y = ln z and

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On Some Solutions of the Equations of the Hydrodynamics of Plasma

inserts the above ansatz into the above equations. In this system of equations y is then developed in series and a term is disregarded. The system obtained in this way then describes a wave which is propagated with the velocity V. Next, the equations are written down in consideration of a homogeneous and constant exterior field, and also for this case the solution is given. A similar solution is obtained also for a motion in which only v_x, v_y, E_x are different from zero, and in which all quantities depend only upon x, t. Also this system has wave-shaped solutions which depend on the difference x - Vt. At $|1 - n/n_{\pm}| \ll$ the solution of this system becomes harmonic. There is 1 Slavic reference.

ASSOCIATION: Moscow State University
(Moskovskiy gosudarstvennyy universitet)

SUBMITTED: July 4, 1957

AVAILABLE: Library of Congress

VEDENOV, A. A. and SAGDEEV, R. Z.

"Some Properties of the Plasma with Anisotropic Distribution of the Velocities of Ions in the Magnetic Field." (Work carried out in 1957); pp. 278-284.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. III. M 1958, published by INst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library

VEDENOV, A. A. and RUDAKOV, L. I.

"The Motion of a Charged Particle in the Rapidly Alternating Electro-Magnetic Fields." (Work carried out in 1958); pp. 43-48.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. IV. 1958, publsihed by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

VEDENOV, A. A. Cand Phys-Math Sci -- (diss) " Problems of the statistical physics of systems with coulomb interaction." Mos, 1959. Cover, 4 pp (Mos Order of Lenin State Univ im M. V. Lomonosov. Phys Faculty), 120 copies (KL, 45-59, 142)

VEDENOV, A. A.

21(0) PHASE I BOOK EXPLOITATION SOV/2081

International Conference on the Peaceful Uses of Atomic Energy, 2d., Geneva, 1958

Doklady sovetskikh uchenykh; yadernaya fizika (Reports of Soviet Scientists; Nuclear Physics) Moscow, Atomizdat, 1959. 552 p. (Series: Its: Trudy, Vol. 1) 8,000 copies printed.

Eds. (Title page): A.I. Alikhanov, Academician; V.I. Veksler, Academician; and N.A. Vlasov, Candidate of Physical and Mathematical Sciences; Ed. of this volume: S.I. Brezdov and D.F. Zaretskiy, Candidates of Physical and Mathematical Sciences; Ed. (Inside book): G.L. Smolyan; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This collection of articles is intended for scientific research workers and other persons interested in nuclear physics. The volume contains 43 papers presented by Soviet Scientists at the Second Conference on Peaceful Uses of Atomic Energy, held in Geneva in September 1958.

COVERAGE: It is divided into two parts. Part I contains 17 papers dealing with plasma physics and controlled thermonuclear Reactions, and Part II contains 26 papers on nuclear physics, including problems of particle acceleration and of cosmic ray physics. The first paper by L.A. Artsimovich presents a review of Soviet work on controlled thermonuclear reactions. The remaining papers in Part I deal with particular problems in this field. papers in Part II deal in detail with various problems in nuclear physics, such as the fission of heavy atoms and their isotopes, and with the study of cosmic radiation by means of artificial earth satellites and rockets, described in a paper by S.N. Vernov. The Russian-language edition of the proceedings of the conference is published in 16 volumes. The first 6 volumes contain all the papers presented by Soviet scientists as follows: Volume (1), Yadernaya fizika (Nuclear Physics); Volume (2), Yadernyye reaktory i yadernaya energetika (Nuclear Reactor and Nuclear Power); Volume (3), Yadernoye goryucheye metally (Nuclear Fuel and Reactor Metals), Volume (4), Khimiya radioelementov i radiatsionnykh prevrashcheniy (Chemistry of Radioelements and of Radiation Transformations); Volume 5, Radiobiologiya i radiatsionnaya meditsina (Radiobiology and Radiation Medicine); Volume (6) Poluchenfye i primeneniye izotopov (Production and Use of Isotopes). The other 10 volumes contain selected papers presented at the Conference by non-Soviet scientists. In the present volume discrepancies between the English and Russian language! edition of the proceedings have been noted in three articles where the texts are not identical; viz; Andrianov, et al, "High Current Pulsed Discharge"; Akhiyezer, et al, "High Frequency Plasma Oscillation"; and Bogolyubov, "Investigations of the Many-body Problem". The serial numbers of reports 2302 and 2504 are reversed in the English edition. Report 2211, by Sinelnikov, et al, is numbered 2536 in the English edition.

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Reports of Soviet Scientists; Nuclear (Cont.) SOV/2081

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SOV/56-36-2-57/63

24(8)
AUTHOR: Vedenov, A. A.

TITLE: Thermodynamic Properties of a Degenerated Plasma (Termodinamicheskiye svoystva vyrozhdennoy plazmy)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 641-642 (USSR)

ABSTRACT: The author calculates the correction (which is due to the interaction) to the thermodynamic potential Ω of a fully ionized hydrogen plasma for the case in which the electrons of the plasma have to be considered as a Fermi gas and the nuclei form a Boltzmann (Bol'tsman) gas. These calculations are carried out according to the diagram technique developed by Matsubara (Ref 1) for the statistical Green's (Grin) functions of quantum statistical physics. The ratio between the averaged scattering amplitude in the Coulomb (kulon) field $e^2/\bar{E}$ and the average distance R between the particles is assumed to be small: $e^2/R\bar{E} \equiv \alpha \ll 1$. The author investigates the case in which the chemical potential μ and the temperatures T are of the same order of magnitude. Moreover, it holds that $\bar{E} \sim T$. Under such conditions, the plasma is highly compressed. Under the above-discussed conditions the thermodynamic potential Ω

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Thermodynamic Properties of a Degenerated Plasma

of the plasma represents an expansion with respect to the small parameter α; the corresponding formula for Ω is given explicitly:

$$\Omega = \Omega_0 - \int V_q n_p^e n_{p+q}^e \, d\vec{p}d\vec{q} - \frac{2}{3}\sqrt{\pi}e^3 \left(2\frac{\partial n_e}{\partial \mu_e} + \frac{\partial n_i}{\partial \mu_i}\right)^{3/2}$$

$$n_p = \left[1 + \exp(p^2/2m - \mu)/T\right]^{-1}, \quad n = \int n_p d\vec{p}$$

Ω_0 denotes the thermodynamic potential of the ideal gas consisting of electrons and nuclei, $V_q = 4\pi e^2/q^2$ - the Fourier (Fur'ye) component of the potential of the Coulomb interaction $e^2/|\vec{x}|$, μ_e and μ_i - the chemical potentials of the electrons and nuclei respectively. The second term in the above-given formula denotes the exchange energy of the electrons and the third term is due to the self-consisting interaction of the particles. According to the author's opinion, a result

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obtained by Landau and Lifshits is incorrect. The author thanks L. D. Landau for a discussion. There are 2 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: November 13, 1958

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SOV/56-36-3-56/71

24(3)

AUTHOR: Vedenov, A. A.

TITLE: The Free Energy of Strong Electrolytes (Svobodnaya energiya sil'nykh elektrolitov)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 3, pp 942 - 943 (USSR)

ABSTRACT: By employing the diagram technique for the calculation of the pair correlation function in classical theoretical physics, which was developed by the author (Ref 1), a formula is given by the present paper ("Letter to the Editor") for the calculation of free energy in strong electrolytes. In this connection it is assumed that the radius of the close-range action repulsive forces r_0 and the neutralized scattering amplitude e'^2/T in the Coulomb field e'^2/r are considerably smaller than the average distance between the particles $\bar{r} = \nu^{-1/3}$. The system under investigation is thus near an ideal state, i.e. the interaction-dependent corrections to the free energy are small in comparison to the free energy of the perfect gas. It is further assumed that the electrolyte consists of two kinds of particles with the charges

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