

L 62515-65

ACCESSION NR: AP5018200

ENCLOSURE: 01

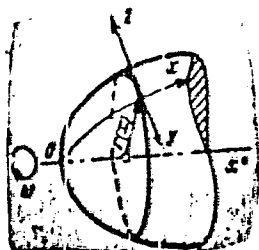


Fig. 1

Card <sup>NC</sup> 4/4

L 51706-65 EWT(d)/EWT(1)/EWP(m)/EWT(m)/EWP(w)/EWA(d)/EER/EWP(k)/FCS(k)/EWA(h)/EWA(1)

ACCESSION NR: AP5016272 Rd.1/Pf.4/Pg.4/Peb/Pi.4 UR/0258/65/005/0013/0560/0562  
LJP(a) WW/EM 532.526.2

40  
39  
B

AUTHOR: Dorfman, L. A. (Leningrad)

TITLE: Integration of equations of a boundary layer formed by rotation of an axisymmetric body in an unbounded fixed medium

SOURCE: Inzhenernyy zhurnal, v. 5, no. 3, 1965, 560-562

TOPIC TAGS: differential equation, boundary layer

ABSTRACT: The author proposes a method for solving a system

$$\begin{aligned} \frac{\partial \psi}{\partial r^2} \frac{\partial \psi}{\partial z^2} - \frac{v^2}{r} \frac{dr}{dz} - \frac{1}{r} \frac{\partial(\psi r)}{\partial z^2} \frac{\partial^2 \psi}{\partial z^2} &= v_0 \frac{\partial^2 \psi}{\partial z^2}, \\ \frac{\partial \psi}{\partial r^2} \frac{\partial(rv)}{\partial z^2} - \frac{1}{r} \frac{\partial(\psi r)}{\partial z^2} \frac{\partial(rv)}{\partial z^2} &= v_0 \frac{\partial^2(rv)}{\partial z^2}, \\ \frac{\partial \psi}{\partial z^2} \frac{\partial i}{\partial z^2} - \frac{1}{r} \frac{\partial(\psi r)}{\partial z^2} \frac{\partial i}{\partial z^2} &= \frac{v_0}{P} \frac{\partial^2 i}{\partial z^2} + v_0 \left[ \left( \frac{\partial \psi}{\partial z^2} \right)^2 + \left( \frac{\partial v}{\partial z^2} \right)^2 \right]. \end{aligned} \tag{1}$$

of equations of a boundary layer in the case of an axisymmetric surface of revolution in a fixed medium. As  $v_0$  and  $\rho_0$  one may choose the values of kinematic viscosity and density outside the boundary layer; the Prandtl number P for the gas

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I. 61706-65

ACCESSION NR: AP5016272

may be assumed everywhere constant. The boundary conditions of the problem have the form

$$v = ar, \quad \psi = 0, \quad \frac{\partial \psi}{\partial z^2} = 0, \quad t = t_w = \text{const for } z^0 = 0, \quad (2)$$

$$v \rightarrow 0, \quad \frac{\partial \psi}{\partial z^2} \rightarrow 0, \quad t \rightarrow t_0 \quad \text{as } z^0 \rightarrow \infty.$$

The problem is solved for a body with meridional profile

$$r = r(x) \quad (3)$$

having smooth blunting in the front part, i.e.,  $r = x$  near  $x = 0$ . The solution is accomplished by means of expansion of the desired functions into a series in parameters, using a technique similar to that of Skadov. Orig. art. has: 16 formulas.

ASSOCIATION: none

SUBMITTED: 02Jan64

ENCL: 00

SUB CODE: MA

NO REF SOY: 003

OTHER: 000

Card 2/2

L 29848-66

ENT(1)/ENP(m)/ENT(m)/T

IJP(c)

HW/DO/RI

ACC NR: AP6013202

SOURCE CODE: UR/0421/66/000/002/0086/0091

73  
72

AUTHOR: Dorfman, L. A. (Leningrad)

B

ORG: none

TITLE: Flow of a viscous fluid between a fixed disk and a rotating disk with injection

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 2, 1966, 86-91

TOPIC TAGS: fluid viscosity, fluid flow, Navier-Stokes equation

ABSTRACT: The article considers the problem of the movement of an incompressible fluid in the space between a rotating infinite plane and a fixed plane parallel to it, through which additional fluid is injected at a constant rate. The problem requires the solution of a system of Navier-Stokes equations. For a steady state regime, taking into account axial symmetry in a cylindrical system of coordinates  $r, \phi, z$ , have the following form:

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L 29848-66

ACC NR: AP6013202

$$\begin{aligned}
 v_r \frac{\partial v_r}{\partial r} + v_z \frac{\partial v_r}{\partial z} - \frac{v_\phi^2}{r} &= -\frac{1}{\rho} \frac{\partial p}{\partial r} + \nu \left( \frac{\partial^2 v_r}{\partial r^2} + \frac{1}{r} \frac{\partial v_r}{\partial r} - \frac{v_r}{r^2} + \frac{\partial^2 v_r}{\partial z^2} \right) \\
 v_r \frac{\partial v_\phi}{\partial r} + v_z \frac{\partial v_\phi}{\partial z} + \frac{v_\phi v_r}{r} &= \nu \left( \frac{\partial^2 v_\phi}{\partial r^2} + \frac{1}{r} \frac{\partial v_\phi}{\partial r} - \frac{v_\phi}{r^2} + \frac{\partial^2 v_\phi}{\partial z^2} \right) \quad (1.1) \\
 v_r \frac{\partial v_z}{\partial r} + v_z \frac{\partial v_z}{\partial z} &= -\frac{1}{\rho} \frac{\partial p}{\partial z} + \nu \left( \frac{\partial^2 v_z}{\partial r^2} + \frac{1}{r} \frac{\partial v_z}{\partial r} + \frac{\partial^2 v_z}{\partial z^2} \right)
 \end{aligned}$$

Here  $v_r$ ,  $v_\phi$ , and  $v_z$  are the radial, peripheral, and axial components of the velocity, respectively;  $p$  is the pressure;  $\rho$  is the density;  $\nu$  is the kinematic viscosity of the fluid. Calculated results are shown in graphic and tabular form. In particular, one table gives the effect of the injection rate and the Reynolds number on the components of the friction stress on the walls and on the pressure. It is evident here that, with an increase in the Reynolds number, it is necessary to increase the injection rate to prevent draining out of the medium along the fixed wall. Orig. art. has: 15 formules, 7 figures and 2 tables.

SUB CODE: 20/ SUBM DATE: 12Sep64/ ORIG REF: 005

Card 2/2 FV

L 07895-67 EWT(1) WW

ACC NR: AP6012673

SOURCE CODE: UR/0170/66/010/004/0452/0458

AUTHOR: Dorfman, I. A.

ORG: Central Boiler and Turbine Institute im. I. I. Polzunov, Leningrad (Tsentral'nyy kochloturbinnyy institut, Leningrad)

TITLE: Comparison of radial and frontal flow around a rotating screened disk

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 4, 1966, 452-458

TOPIC TAGS: turbine design, turbine disk, gas flow, GAS TURBINE, TURBINE COOLING

ABSTRACT: There are a number of ways of cooling the disks of gas turbines, such as, radial flow of the cooling medium in the gap between the disk and the screen, frontal flow of the medium around the disk, or a combination of these methods with water ... cooling of the screen. The present article constitutes a comparison of these cooling methods, based on solution of the Navier-Stokes equation and the energy equations, for a relatively small gap  $s/r_0$  between the disk and the screen. At small values of  $s/r_0$ , which corresponds to actual constructions, in the flow and energy equations the predominating viscous terms will be those containing derivatives with respect to  $z$ , and the equations can be written in the form:

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UDC: 533.6

L 07895-67

ACC NR: AF6012673

$$\text{Re}^3 u \frac{\partial u}{\partial x} + w \frac{\partial u}{\partial y} - \frac{v^2}{x} = -\frac{d\pi^0}{dx} + \frac{\partial^2 u}{\partial y^2}; \quad (1)$$

$$\text{Re}^3 \left( u \frac{\partial v}{\partial x} + \frac{uv}{x} \right) + w \frac{\partial v}{\partial y} = \frac{\partial^2 v}{\partial y^2}; \quad (2)$$

$$\text{Re}^3 \left( \frac{\partial u}{\partial x} + \frac{u}{x} \right) + \frac{\partial w}{\partial y} = 0; \quad (3)$$

$$\text{Re}^3 \text{Pr} u \frac{\partial \theta}{\partial x} + \text{Pr} w \frac{\partial \theta}{\partial y} = \frac{\partial^2 \theta}{\partial y^2}; \quad (4)$$

The pressure in the gap is constant,  $\partial \pi^0 / \partial y = 0$ .

Here

$$x = r/r_0, \quad y = z/s, \quad v = v_0/r_0 \omega, \quad w = v_0 s/v, \quad u = v_0/(r_0 \omega \text{Re}), \quad (5)$$

$$\pi^0 = p/\rho (r_0 \omega)^2, \quad \theta = (T - T_0)/(T_A - T_0), \quad \text{Re} = s^2 \omega/v, \quad \text{Pr} = \mu c_p/\lambda.$$

In the energy equations, dissipation is not taken into account. Results, calculated with the aid of a digital computer, indicate that heat transfer conditions are better with frontal blowing than with radial blowing. "The author must express his indebtedness to A. Z. Serazetdenov and L. N. Ponomarev for programming the problem on the electronic digital computer." Orig. art. has: 12 formulas, 4 figures and 1 table.

SUB CODE: 21/ SUBM DATE: 28Jun65/ ORIG REF: 008/ OTH REF: 001  
Card 2/2

ACC NR: AP6033954

SOURCE CODE: UR/0294/66/004/005/0683/0688

AUTHOR: Dorfman, L. A.

ORG: Central Boiler-Turbine Institute im. I. I. Polzunov (Tsentrul'nyy kotloturbinnyy institut)

TITLE: Heat exchange during the flow of a viscous fluid between a stationary screen and a rotating disc perpendicular to the flow

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 5, 1966, 683-688

TOPIC TAGS: fluid mechanics, viscous flow, viscous fluid, ~~viscous fluid~~ heat exchange, *HEAT TRANSFER*

ABSTRACT: The results are presented of a numerical solution of the energy equation for the case of isothermal surfaces of a rotating disc and of a stationary screen during variations in the intensity of the uniform flow and at various Re numbers. Orig. art. has: 5 figures, 1 table, and 17 formulas.

SUB CODE: 20/ SUBM DATE: 01Jun65/ ORIG REF: 004/

Card 1/1

UDC: 536.24.01



ACC NR: AP6034540 (N) SOURCE CODE: UR/0421/66/000/005/0063/0009

AUTHOR: Dorfman, L. A. (Leningrad); Romanenko, Yu. B. (Leningrad)

ORG: None

TITLE: Flow of a viscous fluid in a cylindrical vessel with a rotating lid

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 5, 1966, 63-69

TOPIC TAGS: viscous fluid, motion mechanics, fluid flow

ABSTRACT: The net-point method is used on a digital computer for solving the problem of flow of a viscous fluid in a closed space adjacent to a rotating plane surface. Results of the calculations are tabulated and analyzed for nets of various density. These data show nearly identical solutions for  $f = \psi / \omega s r^2$  when  $\xi = r/s = 0, 1.376, 1.875$  ( $R/s=2, N_{Re} = \omega s^2 / \nu = 25$ ). The calculated values of  $f$  are compared with those of  $G = v_\theta / \omega r$  (where  $v_\theta$  is the peripheral component of velocity) when  $R/s = 2.5, 3.0$  and  $N_{Re} = 49, 100$ . This comparison indicates that the calculation gives accurate results even on comparatively coarse nets ( $1^\circ, 2^\circ$ ). When  $N_{Re}$  is increased past 100, the divergences on these nets may reach high values. The cylindrical casing has a considerable effect on the nature of the flow when  $R/s$  is small. When  $R/s$  is increased while  $N_{Re}$  is held

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ACC NR: AP6034540

constant at 144, the secondary flow nucleus is broken up and a second nucleus appears. At the same time, the angular velocity  $\omega'$  of the secondary flow in the nuclei increases. When  $R/s$  and  $N_{Re}$  are increased, the peripheral velocity component  $v_{\theta}$  becomes more uneven. A figure is given showing the variation in vorticity  $\eta^0 = \eta/\omega$  at various  $N_{Re}$  for  $R/s=1.5$ . Vorticity reaches a maximum on the rotating disc at approximately  $3/4$  of its radius. Orig. art. has: 7 figures, 2 tables, 16 formulas.

SUB CODE: 20/ SUBM DATE: 13Feb66/ ORIG REF: 002/ OTH REF: 002

Card 2/2

DORFMAN,

L. G.

Составить отчеты о работе распределительного пункта

А. В. Яковлев,  
В. Ф. Губов

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

А. В. Яковлев,  
Г. М. Слободкин,  
И. В. Лавинин

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

(с 12 до 16 часов)

А. Ф. Виттман

Об изучении работы системы радиотелеграфной связи при радиотелеграфном приеме

И. А. Иванов

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

9 часов  
(с 18 до 21 часов)

С. И. Давыдов (Член комиссии)

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

А. Г. Дорфман

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

А. В. Яковлев

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

10 часов  
(с 10 до 16 часов)

А. И. Иванов

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

В. В. Шибанович

Г. С. Шибанович

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

И. В. Туров

Изучение работы системы радиотелеграфной связи при радиотелеграфном приеме

report submitted for the Confidential Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in. A. S. Popov (VSEVE), Moscow,  
8-12 June, 1959

DORFMAN, L.G.

Eigenvalues of the matrices of symmetrical  $2n$ -terminal networks.

Elektrosviaz' 17 no.10:74-75 0 '63.

(MIRA 17:1)

DORFMAN, L.G.

Contribution to the theory of three-dimensional 12-terminal networks  
with symmetry. Elektrosviaz' 17 no.12:23-32 D '63. (MIRA 17:2)

L 3773-66 EWT(m) DIAAP GS

ACCESSION NR: AT5007950

S/0000/64/000/000/0791/0791

37  
37  
67

AUTHOR: Davydov, M. G.; Dorfman, L. G.; Yekimov, V. V.; Zalmanzon, V. B.; Zeytlin, G. A.; Levin, V. M.; Malyshev, I. F.; Petelin, I. G.; Petrushin, V. I.; Popov, V. A.; Trushin, N. Kh.; Umanskiy, I. G.; Finkel'shteyn, I. I.

TITLE: Deflecting system of 5-Gev antiproton channel

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 791-794

TOPIC TAGS: antiproton, high energy particle, particle beam, high energy accelerator

ABSTRACT: Specific requirements flowing from the applied principle of particle resolution have determined the choice of the type of deflecting system. During development of the device the requirements were also considered from the viewpoint of the high-frequency power supply system. The creation of a high-power 150-megahertz frequency generator that operates with pulses of several milliseconds duration is a technically complex task. Therefore, special attention was given during the development of the deflecting system to its economy and efficiency. Taking these considerations into account, computations were carried out of a number of

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L 3773-66

ACCESSION NR: AT5007950

alternate deflecting systems--in the form of a waveguide or band line operating in the energy recuperation regime, or in the form of a system of many-cavity or single-cavity volume resonators. As shown by the computations, it is most expedient to make the deflecting system in the form of a set of independently phased resonators of the quasitoroidal type, which operate in the fundamental mode of the electric oscillations, with the use of high-frequency electrical field for deflecting the particles. The report discusses the resonators employed in the deflecting system and their arrangement in the system. The chosen resonator form permits one to obtain a specific homogeneity of the deflecting field in the cross section of a beam by selection of suitable dimensions. The report discusses the characteristics of the developed system. The linear dimensions of the apertures in the resonators for channeling the beam are commensurable with the operating wavelength, which fact leads to the radiation of electromagnetic energy and to the appearance of a strong bond among the resonators. In order to eliminate this phenomenon and preserve complete transparency of the channel for the beam of deflected particles among the resonators, the waveguide segments are provided with limiting wavelength much lower than the operating one, and feedback is introduced in the magnetic field. As shown by investigations, the bond among the resonators is almost completely eliminated. Considerable attention was paid to the electric transparency of the resona-

Card 2/3

L 3773-66

ACCESSION NR: AT5007950

tors. The field strength in the resonator gaps which corresponds to a given magnitude of the deflecting pulse was determined on the basis of the field pictures that were taken in an electrolytic tank. Corrections were made for the variation in the high-frequency field during the particles' flight time through a resonator and for the difference between the static and high-frequency pictures of the field in a gap. Measures were also taken to eliminate in the resonators the secondary electron resonance discharge. Orig. art. has: 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury imeni P. V. Yefremova GKAE BSSR (Scientific-Research Institute of Electrophysical Equipment, GKAE SSSR)

SUBMITTED: 26May64

ENCL: 00

S UB CODE: NP

NO REF SOV: 000

OTHER: 000

FC

Card 3/3



L 19551-65 ESD(c)

ACCESSION NR: AP4018448

S/0106/64/000/010/0047/0055

AUTHOR: Dorfin, L. G.

TITLE: Symmetrical 12-pole coaxial bridge

SOURCE: *Elektronvyan'*, no. 10, 1964, 47-55

TOPIC TAGS: 12 pole bridge, microwave bridge, SHF bridge

ABSTRACT: A 12-pole (6-arm) microwave star-type bridge, in which quarter-wave transmission-line sections form 3 squares having one common side, is theoretically investigated. The elements of symmetry in the bridge are identified, which makes applicable the author's method of investigation published earlier (*Elektronvyan'*, 1964, no. 4). Relations between characteristic admittances of individual sections that make up the bridge are found, conditions of equal power division among output arms are determined, and curves of the power-transmission factor, cross attenuation, and phase angle plotted against

Card 1/2

L 19551-65  
ACCESSION NR: AP4148448

normalized frequency are presented. Orig. art. has: 8 figures and 15 formulae. <sup>0</sup>

ASSOCIATION: none

SUBMITTED: 05Nov63

SUB CODE: EC

NO REF SOV: 005

ENCL: 00

OTHER: 001

Card 2/2

DOEFMAN, L.G.

Electric properties of three-dimensional 12-terminal networks with  
symmetry. Elektrosviaz' 18 no.4:36-42 Ap '64. (MIRA 17:6)

L 2188-66 ENT(1)/IWA(h)

ACCESSION NR: AP5020760

UR/0108/65/020/008/0011/0022  
621.372.6

AUTHOR: Dorfman, L. G. (Active member)

TITLE: The theory of some symmetric eight-terminal networks

SOURCE: Radiotekhnika, v. 20, no. 8, 1965, 11-22

TOPIC TAGS: communication network, matrix element

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B

25

ABSTRACT: Eight-terminal networks made of transmission lines and wave guides are presently in wide use in various branches of UHF and SHF technology. They belong mostly to the class of  $2n$ -terminal units, and their theoretical analysis reduces to the establishment of an arbitrary electrical matrix associated with their electrical circuitry. In general, the theoretical analysis is quite complex unless the system possesses various types of symmetries which allow the splitting of the problem into an internal and an external one. The present author investigates the external problem of reversible eight-terminal loss-less networks with various types of symmetry. In spite of differences in symmetry, all such eight-terminal networks possess matrices with identical structure. The paper presents relationships connecting the elements and eigenvalues of electrical matrices and describes a procedure for the determination of their eigenvalues from the electrical eight-

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L 2188-66

ACCESSION NR: AP5020760

terminal network circuits. Orig. art. has: 21 formulas, 8 figures, and 1 table.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi  
(Scientific-Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 15Oct63

ENCL: 00

SUB CODE: EC

NO REF SOV: 005

OTHER: 001

DOREMAN, L.G.; FILATOV, V.V.

Leakage factors due to stepwise variation of the electrical properties of a narrow wall of a rectangular waveguide.  
Radiotekh. i elektron. 11 no. 2:202-210 F '66 (MIRA 19:2)

1. Submitted October 23, 1964.

L 27538-66

ACC NR. AP6007497

SOURCE CODE: UR/0109/66/011/002/0202/0210

AUTHOR: Dorfman, L. G.; Filatov, V. V.

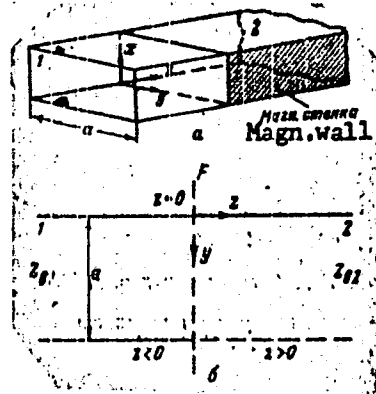
ORG: none

TITLE: Dispersion factors due to step change of electric characteristics of the narrow wall of a rectangular waveguide

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 202-210

TOPIC TAGS: waveguide, electromagnetic wave dispersion

ABSTRACT: This is a further development of E.L. Johansen's problem (IRE Trans., 1962, MTT-10, 1, 26) of the electromagnetic-wave dispersion at the junction of two waveguides whose walls have different impedances. The present article gives an exact solution of the problem of discontinuity caused by a junction between two waveguides (see figure), one narrow wall of one of them being made from a magnetic material. The Wiener-Hopf method is used for solving the problem.



Junction between two waveguides

29  
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Card 1/2

UDC: 621.372.822.09:519.21

L 27538-66

ACC NR: AP6007497

0

One practical application of the problem is the waveguide slit bridge. It is found that the moduli of reflection and transmission factors depend only on the dominant-mode propagation constants in each waveguide; higher modes affect only the phases of the dispersion factors. This fact permits using two uniform transmission lines (with characteristic impedances equal to the respective impedances of the waveguides) as an equivalent circuit for solving the problem. Orig. art. has: 7 figures, 38 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: 23Oct64 / ORIG REF: 004 / OTH REF: 002

Card 2/2

BLS



DORFMAN, L.I.; KUZHAVSKIY, A.N.

Testing the vertical cylindrical VGD-40 boilers equipped with a  
prechamber medium-pressure injection burner. Gaz. prom. 9 no.5;  
23-25 '64. (MIRA 17:6)

DORFMAN, L.I., inzh.; TORCHINSKIY, Ya.M., inzh.

Methods for determining the profitableness of the installation  
of regenerators in industrial furnaces operating on natural gas.  
Prom. energ. 19 no.8:37-39 Ag '64.

(MIRA 17:11)

DORFMAN, I.I.; KUZHAVSKIY, A.N.

Investigating prechamber injection burners. Gaz.prom. 10 no.5:24-28  
'65. (MIRA 18:6)

DORFMAN, L.I.; TORCHINSKIY, Ya.M.

Prechamber medium pressure injector gas burners for vertical  
cylindrical and sectional heating boilers. Gaz. prom. 10  
no.7:24-28 '65. (MIRA 18:3)

DORFMAN, L.I.

Combustion of natural gas in cast iron sectional boilers of the  
Strel and Strebel type. Gaz.prom. 10 no.11:43-45 '65.  
(MIRA 19:1)

DOEFMAN, L. L.

USSR/Medicine .. Thrombophlebitis, Diagnosis Aug 48  
Medicine .. Thrombophlebitis, Therapy

"The Problem of Diagnosis and Surgical Therapy of  
Posttraumatic Septic Thrombophlebitis," L. L.  
Dorfman, Cand Med Sci, Sr Sci Collaborator,  
Second Surg Clinic MONIKI, 8 3/4 PP

"Khirurgiya" No 8

General discussion of diagnosis and treatment of  
septic thrombophlebitis due to gunshot wounds.

14/49152

*Transmitted to the Clinical Dept.*

DORFMAN, L. L.

Doc Med Sci

Dissertation: "Septic Thrombophlebitis After Wounds"

22 March 49

Central Inst for the Advanced Training of Physicians

SO Vecheryaya Moskva  
Sum 71

DORFMAN, L.L., kandidat meditsinskikh nauk; NIKIFOROVA, Ye.I.

Partial relaxation of the right dome of the diaphragm simulating  
echinococcosis. Vest.risnt. i rad. 31 no.4:71-74 J1-Ag '56.  
(MIRA 9:10)

1. Iz khirurgicheskogo otdel. (zav. - kandidat meditsinskikh nauk  
L.L.Dorfman) bol'nitsy medsanchnosti Khlopchatobumazhnogo kombinata g.  
Orekhovo-Zuyevo (nach. medsanchnosti Ye.N.Orlova)

(LUNG DISEASES, differ. diag.  
echinococcosis form partial relaxation of right side of  
diaphragm)

(ECHINOCOCCOSIS, differ. diag.  
lung. differ. diag. from partial relaxation of right  
side of diaphragm)

(DIAPHRAGM, dis.  
partial relaxation of right side, differ. diag. from  
echinococcosis of lung)



KONDRAT'YEVA, Ye.N.; DORFMAN, L.L.; YELISEYEVA, N.V.

Use of amino acids by green bacteria *Chloropseudomonas ethylicum*.  
Vest. Mosk.un. Ser. 6: Biol., pochv. 20 no.5:38-44 S-0 '65.  
(MIRA 18:11)

1. Kafedra mikrobiologii Moskovskogo universiteta. Submitted  
August 26, 1964.

GUR'YEV, S.V., kand.tekhn.nauk; GCSTEV, V.I., inzh.; KUREPIN, M.H.,  
kand.tekhn.nauk, retsenzent; DORFMAN, L.S., otv.red.; ORLOV,  
Ye.I., red.isd-va; ANDREYEV, G.G., tekhn.red.

[Organization and operation of railroad transportation in open-  
pit mining] Organizatsiia i ekspluatatsiia kar'ernogo zhelezno-  
dorozhnogo transporta. Moskva, Ugletekhizdat, 1951. 239 p.  
(MIRA 13:3)

(Mine railroads) (Strip mining)

1. DORFMAN, L. S., Eng.; UDODOVSKIY, A. N.
  2. USSR (600)
  4. Shoe Industry
  7. Functional type of industrial building for shoe factory, Leg. prom., 12, No. 11, 1952.
- 
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

S/196/62/000/014/034/046  
E194/E155

AUTHORS: Dorfman, L.Ya., and German, M.I.

TITLE: Design of hearth burners

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no.14, 1962, 11, abstract 14 G 70. (Gaz. prom-sti, no.1, 1962, 23-27).

TEXT: It is recommended that the slots in the fire-resistant lining of hearth burners should be made straight and up to 200 mm high; for water-heating boilers the dimensions of the gas apertures arranged symmetrically about a vertical axis should not exceed 90-100°. The gas aperture diameter is determined from the following formula:

$$d = \sqrt{\frac{Q_{nom} \cdot S \cdot 10^6}{m \cdot \ell \cdot \cos \eta \cdot Q_H^c \cdot 1.574 \cdot \sqrt{2gh/\gamma \cdot 3600}}}$$

where:  $Q_{nom}$  - the nominal thermal rating of the boiler, kcal/hour;  
 $S$  - the aperture pitch, mm;  
 $m$  - the number of burner tubes on the boiler;

Design of hearth burners

S/196/62/000/014/034/046  
E194/E155

$l_{con}$  - the conventional length of the perforated part of the burners;

$\eta$  - boiler efficiency;

$Q_H^c$  - the calorific value of the gas, kcal/m<sup>3</sup> (at n.t.p.)

$\mu$  - a flow factor taken as 0.5-0.7;

$g$  - 9.81 m/sec<sup>2</sup>;

$h$  - gas pressure, mm water;

$\gamma$  - specific weight of gas, kg/m<sup>3</sup> (at n.t.p.).

The number of gas apertures is determined from the formula  
 $n = 2 l_{con} / S$ . Nomograms are given to determine the parameters of hearth burners, with a worked example. ✓

[Abstractor's note: Complete translation.]

Card 2/2

DOFFMAN, L.Ya.; GERMAN, M.I.

Designing hearth burners. Gaz.prom. 7 no.1:23-27 '62.  
(MIRA 15:1)  
(Gas burners)

~~DORFMAN, M.A.~~

For further introduction of progressive repair methods. Mekh. sil'.  
nos. 9 no.4:3 of cover Ap '58. (MIRA 11:5)

1. Khersons'ke oblasne upravlinnya sil'skogo gospodarstva.  
(Kherson Province--Agricultural machinery--Maintenance and repair)

DORFMAN, M.D.

Precipitation of opal from water solutions in a mine of the  
Kukisvumchorrskoye apatite-nepheline deposit in the Khibini  
Mountains. Trudy Min.muz. no.10:142-143 '59. (MIRA 16:8)  
(Khibini Mountains--Opals)



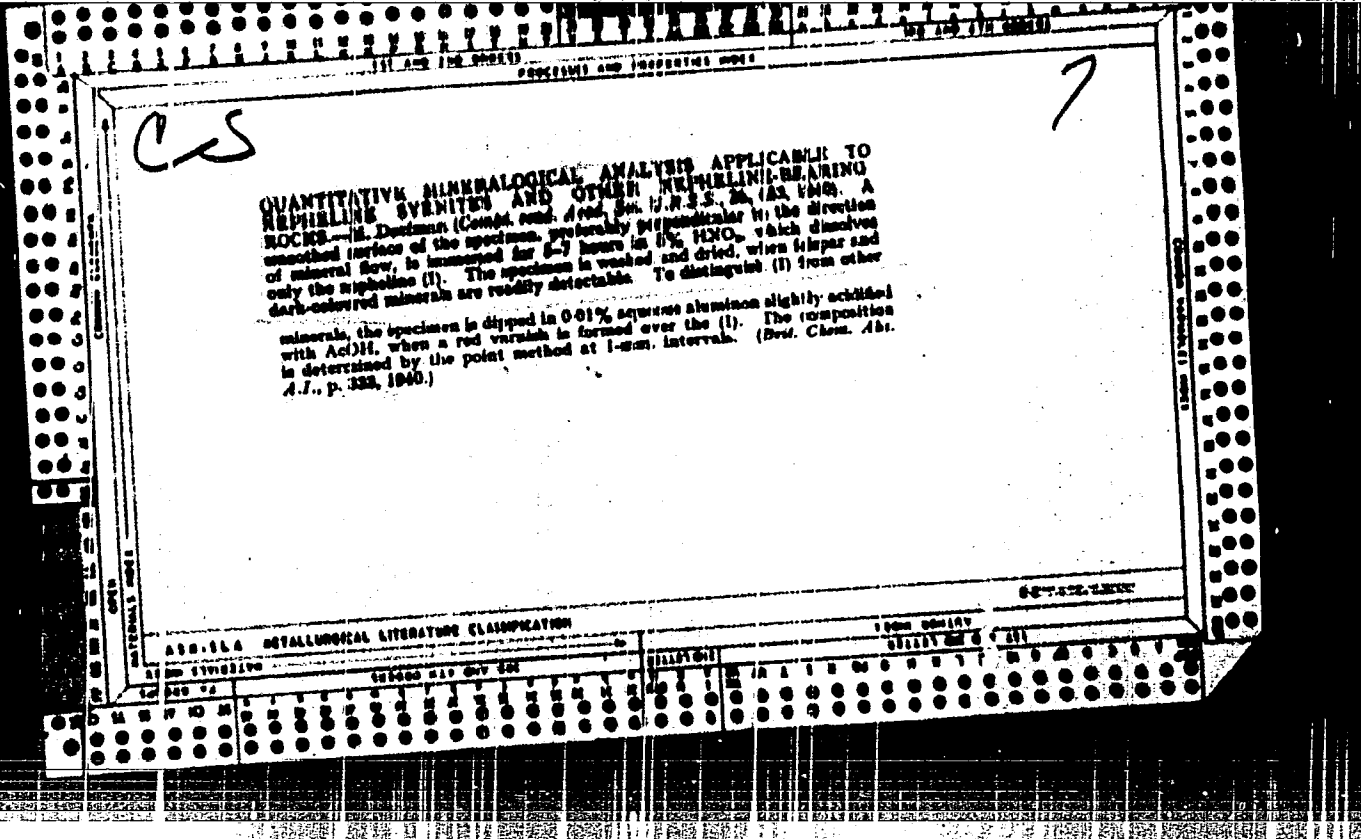
Genesis of wolframite deposits of Transbaikal (Siberia)  
M. P. Filyag and M. D. Dorfman, *Tsvetnyye Metally*, 1938,  
No. 10, 24-6. The Nemren and Bukuka W ore deposits  
are situated among Post-Middle Jurassic granitobites

and quartz dykes near the contact zone with Jurassic  
clay slates and sandstones. The formation of the ores is  
the result of six phases of mineralization. The W minerals  
are wolframite and scheelite. Part of the deposits is now  
being worked commercially. B. N. Daniloff

AS 334 METALLURGICAL LITERATURE CLASSIFICATION

The petrography of the alkaline formations in Khodzha-Achkan. M. G. Durlman and V. D. Fimolev. *Izv. Inst. Petrog. i Met. R. S. S. No. 16, 15, 1953, 1954. Khim. Referat. Zhur. 1959, No. 7, 19.* A detailed geo- petrographic study of the formations of the alk. rocks in Khodzha-Achkan indicated 2 phases of intrusion. The argentine-augite nephelite syenites; and the red nephelite syenites. A considerable change of the rocks by auto- metamorphic processes with a sup. of K and an addn. of the alk. earths and Na and F is characteristic. The for- mations come in contact with limestones, which fact pre- suppresses the origin of the alk. rocks at the expense of the limestones. The veins of the formations contained lan- phrophyllite. W. R. Hunt

AS I. S. A. METALLURGICAL LITERATURE CLASSIFICATION



17

CA

PROCESSES AND PROPERTIES INDEX

Anotreatment of water reservoirs with copper sulfate.  
 H. M. Yasnov and P. A. Dufman. *Vostochnaya Sibir*  
*Vokh. 10, No. 1, 75 (1951).* Most of the phytoplank-  
 ton is distributed in the epilimnion, down to 1-1.5 m.  
 from the surface. The sprinkling of the surface with powdered  
 $CuSO_4$  from an airplane is effective, economical and is  
 carried out in the quiet early morning hrs. *Microcystis*  
*sergiensis*, *Cedrodinium* species and *Arctonema* species  
 were completely absent on the 2nd day, from 20,000,000,  
 10,000 and 13,000, resp., after surface treatment with  
 0.51 g./cu. m., equiv. to 0.182 g./cu. m. on the total vol.  
 of water. H. (1951)

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBOLS

SECTION SYMBOLS

SECTION SYMBOLS

S. B.  
1957

Mineralogical and  
Chemistry

**Helyankite, a new Al Ca fluoride mineral** M. D. Baidal  
*Doklady Akad. Nauk S.S.S.R.* 75, 151 (1971)  
 The new mineral, of empirical formula  $Ca_2Al_2F_{10}(OH)_2$ , occurs in  
 Ca-saturated granites and quartz-topaz greisen rocks of Cen-  
 tral Kazakhstan associated with lenses of kaolinite, CaF<sub>2</sub>, and  
 fine-grained pyrite. It is colorless, prismatic, monoclinic  
 crystals. Elementary cell dimensions:  $a_0 = 11.17 \pm$   
 $0.10$ ,  $b_0 = 8.16 \pm 0.05$ ,  $c_0 = 9.90 \pm 0.15$  Å,  $\beta = 91^\circ$   
 $41'$ . Hardness 2; fracture conchoidal, uneven, d 2.729;  
 $d_{100} = 1.483$ ;  $\rho = 4.08$ ;  $\mu - \alpha = 0.015$ ;  $n_g = 1.61$ .  
 Chem. analysis: Al(2) 21.88; Ca(2) 24.00; F 49.01; H(2)  
 15.35, H<sub>2</sub>O = 0.30%. The heating curves show strong  
 endothermic peaks at 430 and 700° and weak exothermic  
 effects at 570 and 600°. X-ray powder data are given.  
 W. Kittel

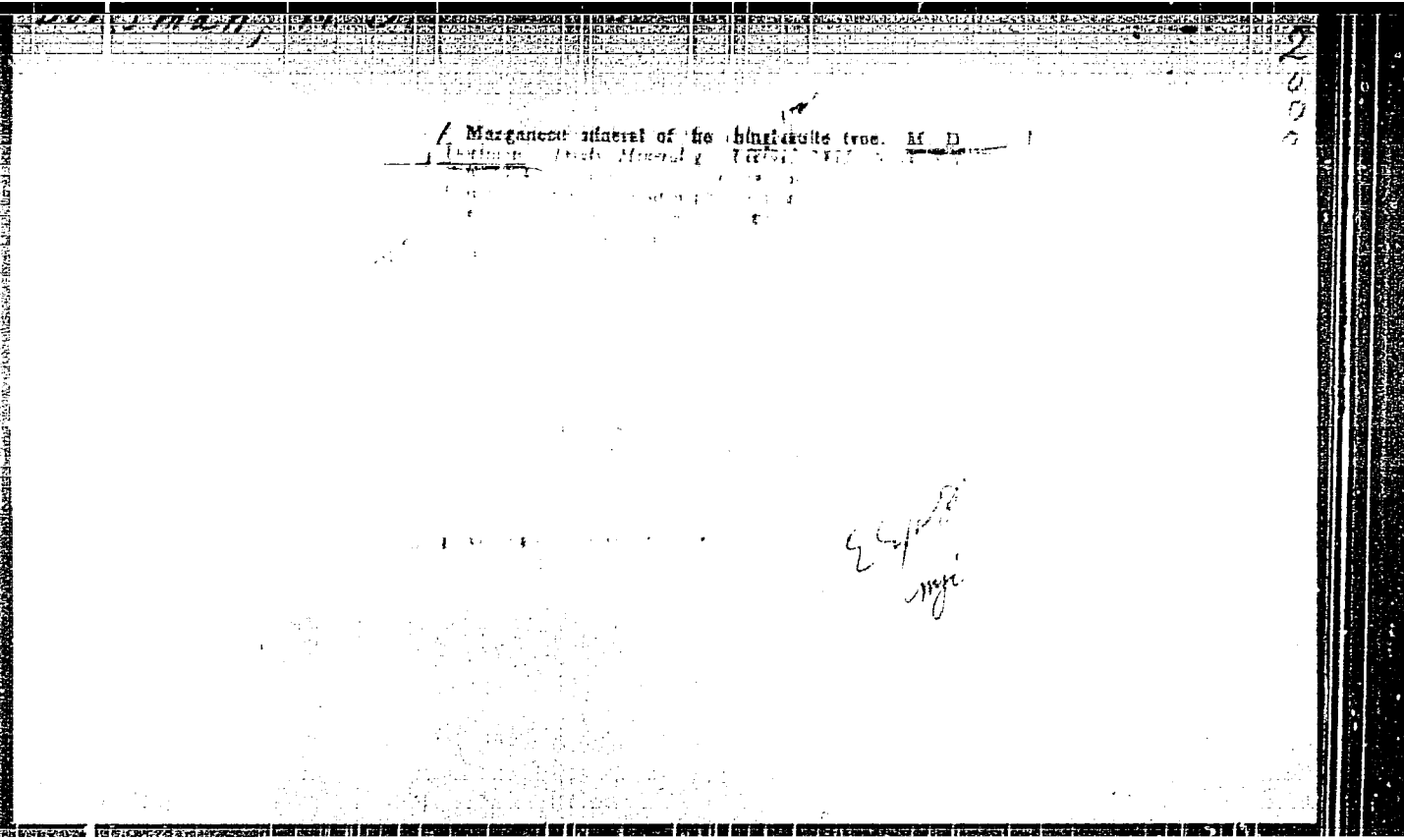
V New calcium-aluminum fluorides. M. D. Dorfman.  
Trudy Mineralog. Akad. Nauk SSSR, No. 3,  
 07-10(1961); S. C. I. 7, 11736. —D. discovered earthy  
 gearksutite in deposits of Kazakhstan, in assocn. with topaz  
 and fluorite, in gneiss rock. It is easily fusible, decompd.  
 CH by hot HCl;  $n = 1.410$ . The chem. analysis corresponds  
 to  $CaAl(F, OH)_2$ . D. describes from Kazakhstan the new  
 mineral belyankite (cf. C.I. 45, 8M6a). The existence of  
 "parabelyankite" as an independent mineral species is  
 doubtful. All of the Ca-Al fluoride minerals have the same  
 secondary genetic type; probably, the  $H_2SO_4$  solns. origi-  
 nating from oxidized sulfide ores of the primary topaz-  
 fluorite paragenesis have mobilized the F content of these  
 minerals. This F was fixed in the hydrothermal facies in the  
 Ca-Al fluoride minerals, in the immediate neighborhood of  
 the primary formation. There is evidently a chem. rela-  
 tion in the compn. of these minerals, namely in the regular  
 increase in Al and F<sup>-</sup> or OH<sup>-</sup> contents: gearksutite is  
 $CaAl(F, OH)_2$ ; belyankite,  $Ca_2Al_2(F, OH)_4 \cdot H_2O$ ; proso-  
 pite,  $Ca_3Al_3(F, OH)_6$ ; the mineral  $Ca_2Al_2(F, OH)_4$ , however,  
 is unknown; gearksutite is  $Ca_2Al_2(F, OH)_4 \cdot 2H_2O$ . W. Fite!

2

Handwritten initials or signature.

DORFMAN, M.D.

Determination of the genesis of beryl. Doklady Akad.Nauk S.S.S.R.  
82, 623-4 '52. (MLRA 5:3)  
(CA 47 no.17:8596 '53)





DORFMAN, M.D.

New data on the mineralogy of Yukspor of the Khibiny Mountains.  
Vop. geol. i min. Kol'. polnos. no.1:146-164 '58. (MIRA 11:10)  
(Yukspor Mountain--Mineralogy)

DORFMAN, M.D.

Francolite from Khibiny tundras. Izv.Kar. i Kol'.fil.AN SSSR  
no.4:32-39 -'58. (MIRA 12:5)

1. Institut geologii Kol'skogo filiala AN SSSR.  
(Khibiny Mountains--Apatite)

AUTHOR: Dorfman, M. D.

SOV/7-58-5-3/15

TITLE: The Geochemical Peculiarities of the Weathering Processes in the Nephelin Syenites of the ~~Khibinskiye~~ Tundras (Geokhimicheskiya osobennosti protsessov vyvetrivaniya v nefelinovykh siyenitakh Khibinskikh tundr)

PERIODICAL: Geokhimiya, 1958, Nr 5, pp. 424 - 434 (USSR)

ABSTRACT: The author deals with the following subject: Short petrographical survey. Line-shaped weathering crust (Lineynaya kora vyvetrivaniya). Some informations on the conditions of the formation of minerals in the weathering crust. Geochemical characteristics of the weathering process.  
a) Weathering processes in steep fracture zones.  
b) The weathering process in inclined fracture zones.  
Peculiarities in the development of the line-shaped weathering crust in nephelin syenites.  
Results: It was found that in the Khibinskiy massif the nephelin syenite mostly forms a line-shaped weathering crust.  
1) This weathering crust forms according to tectonic zones.  
2) In the direction of these zones the weathering processes may penetrate to a depth of 500 m.

Card 1/4

The Geochemical Peculiarities of the Weathering Processes in the Nephelin Syenites of the Khibinskiye Tundras SOV/7-58-5-3/15

3) Two types of the weathering crust of the same age are formed: steep, and inclined crusts.

4) As nephelin easily hydrolyzes in water the pH of the solution increases quickly.

5) Characteristic mineral associations develop due to the different physical and chemical conditions:

In the steep zone: potassium hydromica, nontronite, hydrohematite, limonite, anatase, chalcedony, quartz.

In the inclined zone: montmorillonite, saponite, beydellite, zeolite (phillipsite, thomsonite, natrolite) gibbsite, chalcedony, francolite.

6) Every type of the weathering crust has its typical zonality which is dependent on the origin sequence of the mineral forms in the course of their change. (A scheme of the change of the most important rock forming minerals in the course of their weathering is enclosed.

7) The inclined weathering crust is located deeper than the apatite-nephelin rocks. The fact that francolite occurs only in the former tends to show that the phosphorus was washed out by the water from the apatite enrichments of the rocks.

Card 2/4

The Geochemical Peculiarities of the Weathering Processes in the Nephelin Syenites of the Khibinskiye Tundras SOV/7-58-5-3/15

- 8) The hypergenic formation of the zoolites (phillipsite, thomsonite, natrolite) is proved by their close paragenetic bond with beydellite, montmorillonite, francolite.
- 9) At the place where the inclined weathering crust intersects a natrolite vein of hydrothermal formation a contact zone is formed in which the natrolite is displaced by montmorillonite.
- 10) In contrast to the weathering process in acid and basic rocks the feldspar always remains fresh in the weathering process in ijolites-urtites and their pegmatites. There are 4 figures and 13 references, 13 of which are Soviet.

ASSOCIATION: Mineralogicheskiy muzey Akademii nauk SSSR, Moskva (Moscow Mineralogic Museum, AS USSR)

SUBMITTED: February 24, 1958

Card 3/4

The Geochemical Peculiarities of the Weathering Processes in the Nephelin Syenites of the Khibinskiye Tundras SOV/7-58-5-3/15

Card 4/4

DORFMAN, M. D. *Dokl. Akad. Nauk SSSR* -- (diss) "Linear ~~areas~~ <sup>forms</sup> of erosion in nepheline syenites of the Khibiny tundras according to the example of the Yukspor mountain." Mos, 1959. 27 pp with graphs; 1 sheet of tables. (Mineralogical Museum of the Acad Sci USSR), 150 copies. List of author's works at end of text (KL, 47-59, 113)

ARMAND, A.D.; DORFMAN, M.D.

Origin of negative forms of relief of the Khibiny alkaline  
massif. Izv. Kar. i Koz. fil. AN SSSR no.1:59-66 '59.  
(MIRA 12:9)

1. Geologicheskii institut Kola'skogo filiala AN ASSR.  
(Khibiny Mountains--Physical geography)



DORFMAN, M.D.; ROGACHEV, D.L.; GOROSHCHENKO, Z.I.; USPENSKAYA, Ye.I.

Canacite, a new mineral. Trudy Min.muz. no.9:158-166 '59.  
(MIRA. 12:6)

(Khibiny Mountains--Calcium silicates)

DORFMAN, M.D.; BUSSEN, I.V.; DUDKIN, O.B.

Selective dissolving of minerals. Trudy Min.muz. no.9:167-171  
'59. (MIRA 12:6)

(Mineralogy)

BUSSEN, I.V.; DOEFMAN, M.D.; DUDKIN, O.B.

Application of the mineralogical quantitative rational analysis  
to perovskite ores. Vop. geol. i min. Kol'. polnos. no.2:154-170  
'60. (MIRA 13:10)

(Perovskite)

DORFMAN, H.D.

Linear (parting) weathered surface in nepheline syenites in the Khibiny Mountains. Kora vyvetr. no. 3:219-245 '60.

(MIRA 13:12)

1. Mineralogicheskiy muzey AN SSSR im. A. Ye. Fersmana.  
(Khibiny Mountains--Nepheline syenite)

DOEFMAN, Moisey Davydovich; BEUS, A.A., doktor geol.-mineral. nauk,  
otv. red.; SHENGER, I.A., red. izd-va; ZENDEL', M.Ye.,  
tekhn. red.

[Mineralogy of pegmatites and weathering zones in ijolite-  
urtites of Yukspor Mountain in the Khibiny massif] Mineralogiia  
pegmatitov i zon vyvetrivanii v ijolit-urtitakh gory Yukspor  
Khibinskogo massiva. Moskva, Izd-vo Akad. nauk SSSR, 1962. 167 p.  
(MIRA 15:4)

(Yukspor Mountain—Pegmatites)  
(Yukspor Mountain—Weathering)

~~DORFMAN~~, M.D.; BUROVA, T.A.

Supergene barite in the Khibiny alkali massif. Trudy Min. muz.  
no.14:219-225 '63. (MIRA 16:10)

(Khibiny Mountains—Barite)

DORFMAN, M.D.; ABRASHEV, K.K.

Supergene sodium phosphate in nepheline syenites of the Khibiny  
Mountains. Trudy Min. muz. no.14:226-230 '63. (MIRA 16:10)

(Khibiny Mountains--Sodium phosphate)  
(Khibiny Mountains--Nepheline syenite)

DOEFMAN, M.D.; ILYUKHIN, V.V.; BUROVA, T.A.

New mineral "barsanovit." Dokl. AN SSSR 153 no.5:1164-1167  
D '63. (MIRA 17:1)

1. Mineralogicheskiy muzey AN SSSR. Predstavleno akademikom  
N.V. Belovym.



DOEFMAN, M.D.; MARSHAL, G.M.

Weathering of rinkolite. Trudy Min. muz. no.15:119-122 '64.  
(MIRA 17:11)

SOKOLAEV, A.I.; DORFMAN, M.D.

Structure of the roentgenamorphic minerals of the chinglusite-  
h:singerite group. Trudy Min. muz. no.15:167-175 '64.

(MIRA 17:11)

DORFMAN, N.D.; SENDEROVA, V.M.

Galenite and the products of its oxidation from a pegmatite of the  
Khibiny alkali massif. Trudy Min. muz. no.15:203-207 '64.

(MIRA 17:11)

BALASHOV, Yu.A.; DOIFMAN, M.D.; TURANSKAYA, N.V.

Separation of cerium from rare-earth elements in the weathering  
of eudialite. Trudy Min.muz. no.16:205-208 '65.

(MIRA 18:8)

DOEFMAN, M.D.; ILYUKHIN, V.V.; BUROVA, T.A.

New data on "barsanovite." Trudy Min.muz. no.16:219-224 '65.  
(MIRA 18:8)

DORFMAN, M.D.; GORSHKOV, A.I.; TELESHOVA, R.L.

Celadonite from the Khibiny Mountains. Trudy Min.muz. no.16:225-232  
'65. (MIRA 18:8)

DORFMAN, M. E.

Wood-fed gas producers for low-horsepower engines. Moskva, Zagotizdat, 1945. 73 p.  
(50-40761)

TP762.D6

DORFMAN, M. I., polkovnik

Save time in briefing. Vest.Vosd.Fl. no.2:37-42  
F '60. (MIRA 13:7)  
(Airplanes--Piloting)



DORFMAN, Mendel' Khaymovich; KNEZER, V.A., red.; GOLUBEKOVA, L.A., tekhn.  
red.

[Pneumatic transportation of grain and cereal products] Pnev-  
matischeskii transport zerna i produktov ego obrabotki. Moskva,  
Isd-vo tekhn.i ekon.lit-ry po voprosam khleboproduktov, 1960.  
231 p. (MIRA 14:5)  
(Grain) (Cereal products) (Pneumatic-tube transportation)

DORFMAN, M. V. (Kiyev)

Congenital esophageal-bronchial fistula in an adult. Grud. khir.  
no.5:112 '61. (MIRA 15:2)

(FISTULA, BRONCHIAL)

DORFMAN, M.V. (Leningrad, K-156, prospekt Engel'sa, 28, kv.128)

Azygography as a method of determining the degree of spreading of bronchial cancer. Vop. onk. 10 no.9:17-22 '64.

(MIRA 18:4)

1. Iz II khirurgicheskogo (zav. - chlen-korrespondent AMN SSSR prof. A.I.Rakov) i rentgenologicheskogo (zav. - doktor med. nauk A.P.Lazareva) otdeleniy Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

DORFMAN, M.V. (Leningrad, K-156, prospekt Engel'san, d.28, kv.128)

Contrast examination of the azygos vein system and its use in pulmonary cancer. Vop. onk. 10 no.5:112-117 '64. (MIRA 18:8)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

KAL'NITSKIY, Ya.B., doktor tekhn. nauk, prof.; DORFMAN, P.D., gornyy inzh.

Reviews and bibliography. Gor. zhur. no.2;78-79 F '65. (MIRA 18:4)

1. Nauchno-issledovatel'skiy i proyektnyy institut "Gipro-nikel",  
Leningrad (for Kal'nitskiy). 2. Dokuchayevskiy gornyy tekhnikum  
(for Dorfman).

USSR/Medicine - Spectral analysis

Card 1/1 Pub. 43 -- 90/97

Authors : Dorfman, G. I., and Shiditsyn, S. A.

Title : Quantitative determination of certain elements in human brains

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 296, Mar-Apr 1954

Abstract : A method was developed for quantitative spectral determination of Ca, Cu, Fe, Hg, Mn, Pb, and Si in various parts of the human brain. Most reliable concentrations of elements were discovered in the hypophysis cerebri, cerebellum and in the cerebral cortex. The considerable differences in the concentrations are connected with the different structures and functions of these organs.

Institution : State Medical Institute, Irkutsk

Submitted : .....

DORFMAN, S. I.

DORFMAN, S. I. -- "Spectrochemical Studies of Cerebrospinal Fluid, Blood,  
and Brain Under Normal and Pathological Conditions.'  
\*(Dissertations For Degrees In Science and Engineering  
Defended At USSR Higher Educational Institutions)(30)  
Irkutsk State Medical Inst, Irkutsk, 1955

SO: KNIZHNAYA LETOPIS' No 30, 23 July 1955

\* For the Degree of Candidate of Medical Sciences

DORFIAN, S.I.: SHIPITSYN, S.A.

Quantitative determination of certain metals in the brain in man.  
Biokhimiia 20 no.2:136-139 Mr-Apr '55. (MLRA 8:8)

1. Kafedra nervnykh bolezney i kafedra fiziki Irkutskogo gosudar-  
stvennogo meditsinskogo instituta.  
(BRAIN, metabolism,  
metals, determ.)  
(METALS, metabolism,  
brain, determ.)



~~DORFMAN, S. I.~~ (Nikolaya", ul. Pushkinskaya, d. 18, kv. 2)

Case of atresia ani urethralis in newborn. Nov.khir.arkh. no.3:80  
My-Je '57. (MIRA 10:8)  
(ANUS--ABNORMITIES AND DEFORMITIES)

*ZOGA F. MAN, S. M.*

VINTER, A.V.; NEKRASOV, A.M.; SYROMYATNIKOV, I.A.; VOZNESENSKIY, A.N.;  
VASILENKO, F.I.; LAUPMAN, P.P.; TERMAN, I.A.; VINOGRADOV, N.P.;  
ANTOSHIN, N.N.; ALEKSANDROV, B.K.; USPENSKIY, B.S.; KLASSON, I.R.;  
KHRYFITS, M.N.; DRUTSKIY, V.F.; KRACHKOVSKIY, N.N.; POPOV, P.A.;  
CHELIDZE, I.M.; FILARETOV, S.N.; KOZLOV, M.D.; BRELIN, V.Ya.;  
SARADZHEV, A.Kh.; GORDZIYEVICH, I.S.; PAK, V.P.; ~~TERMAN, S.M.~~  
DUBINSKIY, L.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; KUVSHINSKIY, N.N.;  
ERMOLENKO, V.M.

Mikhail Mikhailovich Karpov. Elek.sta. 27 no.10:62 0 '56. (MLRA 9:12)  
(Karpov, Mikhail Mikhailovich, d.1956)

SOV/112-59-17-35846

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 17, p 16 (USSR)

AUTHORS: Smirnova, M.A., Dorfman, S.Ye.

TITLE: A New Method of Enameling Resistance Alloys

PERIODICAL: Inform.-tekhn. sb. M-vo elektrotekhnich. prom-sti USSR, 1956, Nr 4 (88), pp 4-6

ABSTRACT: The enameling of thin wires made of resistance alloys presents considerable technological difficulties. At the "Sevkabel" Plant was proposed to enamel these wires with a thick varnish (ML-1, base contents 60 - 70%). The application of the varnish must be carried out by means of felt pressers, the varnish being heated to 50°C. With such a heating the properties of the varnish remain stable for a long time. At heating the varnish to a higher temperature its properties change markedly. With the application of the new technology the amount of spoilage and waste decreased considerably.

V.A.P.

Card 1/1

S/138/60/000/010/007/008  
A051/A029

AUTHORS: Zuyev, Yu.S., Bukhanova, N.N., Dorfanan, T.I.

TITLE: An Automatic Instrument for the Investigation of Creep and Static Fatigue of High Polymers Under a Constant Tension

PERIODICAL: Kauchuk i Rezina, 1960, No 10, pp.44-45

TEXT: Instruments for testing the deformation of high polymers under a constant tension of either expansion or compression, designed both in the USSR and abroad, are classified into four groups according to their design: 1) Devices in the form of a shaped load submerged into the liquid with the expansion of the sample (Ref 1,6). 2) Devices changing the direction of the applied force with the expansion of the sample (Ref 3,7,10-12). 3) Lever device of the scale type (Ref. 9,13-15). 4) Devices in the shape of an oblique plane (Refs. 4,5,8) along which the load moves, which expands the sample (in the expansion of the sample the angle of the inclined plane changes). The shortcomings are listed as follows: the instruments described in Ref. 1,6,7,9-12,15 are designed for a deformation of 50-100%, but the deformation of high-elastic polymers reaches 1,000%. Instruments listed in Ref. 4,5,8,13,14 do not maintain the given tension constant automatically. The "Ulitka" (Ref. 3,7,11,12) is suggested as being the most appropriate in large deformations, where the constant

Card 1/6

S/138/60/000/010/007/008  
AO51/A029An Automatic Instrument for the Investigation of Creep and Static Fatigue of High Polymers Under a Constant Tension ✓

tension is maintained automatically. The shortcomings in this device designed at the Leningradskiy fizik-tekhnicheskii Institut (Leningrad Physico-Technical Institute) are: larger dimensions (0.4 x 0.4 x 1.5 m); the need of each sample for an automatically-recording and thermostatic device. The authors further describe the two design variants which they developed: a compact instrument (40 cm in diameter), where one automatic recorder and one thermostatic device serves four samples in the first variant and eight samples in the second variant. The basic instrument shown in Fig. 1 is described as having a body consisting of an upper (1) and lower (2) disk fastened with metal rods (3). The disk (1) is a panel for the attachment of four working units with the same design and one rod (4) with a platform (5), on which the four lower clamps (6) are placed. Disk (2) serves as the base of the instrument; three spheres are fitted onto the base which enables the instrument to be moved about easily. Stands (7) are fastened to the disk with bearings pressed into them (8). An axle (9) rotates inside the bearings on which the "Ulitka" is attached (10), also a dial graduated in degrees (11), a roller (12) for the counterweight (13) and a flywheel (14). The stress from load (15) suspended from the "Ulitka" is

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S/138/60/000/010/007/008  
A051/A029

An Automatic Instrument for the Investigation of Creep and Static Fatigue of High Polymers Under a Constant Tension

transmitted by the flywheel to a steel band or wire (16) and further through the upper clamp (17) to the sample (18). The lower part of the sample is fastened to the stationary clamp, the initial position of which is regulated by a screw. The samples are placed into the thermostatic container, filled with a specific medium. The system of counterweights is used for maintained the working unit in a state of indifferent equilibrium. The counterweight (19) balances the "Ulitka". The counterweight (13,20) balances the upper clamp and the nib. The recording device consists of an exchangeable drum (21) rotating by means of a clock mechanism or by the motor on the axis which is the continuation of the rod (4) and the nib (22). Drums with different rates of rotation are used depending on the length of the experiment. The "Ulitka"-type is designed for a length of the working rectangular section of the sample equal to the distance between the clamps. Samples in the form of two spades are suggested for use instead of samples of rectangular shape, since the latter tear the clamps when working in the region of large deformations. The authors checked the constancy of the tension during the deformation process using a dynamometer and determined the strength transferred to the sample at various positions of the Ulitka. The results of the check showed that a constant

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tension is upheld in the deformation process for the selected form of the samples when using self-tightening clamps. The mean square error in determining the constancy of the tension value produced from loads of 500, 1,000, and 1,500 (up to deformations of about 1,000% on the "Ulitkas" determined for a distance of 20 mm between the clamps) is equal to 2.2% and from loads of 300, 500 and 700g (to a deformation of about 450% on the "Ulitkas" determined for a distance of 40 mm between the clamps) 1%. There is one diagram and 15 references: 5 Soviet, 10 English.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry).

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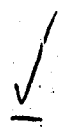
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Fig. 1: Diagram of an instrument for the investigation of creep and static fatigue of high polymers:

- 1) upper disk 2) lower disk 3) metal rods 4) rod 5) platform 6) lower clamps 7) stand 8) bearing 9) axle 10) Ulitka 11) scale graduated in degrees 12) roller 13) 19) 20) counterweights 14) flywheel 15) loads 16) steel band 17) upper clamps 18) sample 21) exchangeable drum 22) nib 23) level

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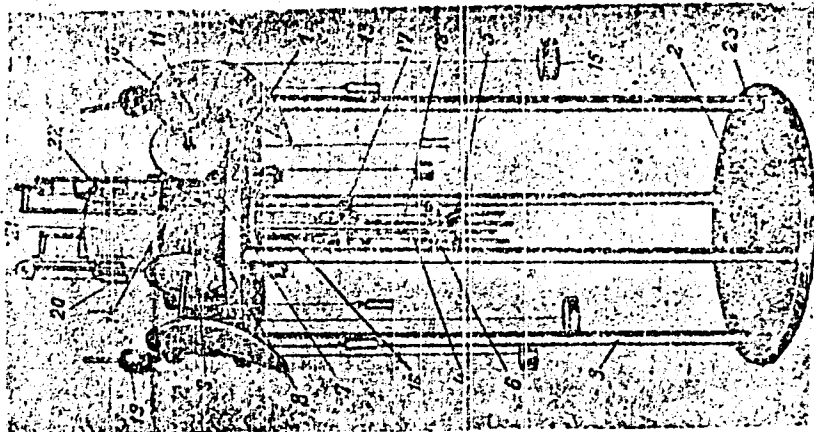




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Figure 1



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ACC N: AP6021205

(A)

SOURCE CODE: UR/0138/66/000/003/0021/0024

AUTHOR: Zuyev, Yu. S.; Dorfman, T. I.ORG: Scientific Research Institute of the Rubber Industry (Nauchno-issledovatel'skiy institut resinovoy promyshlennosti)

TITLE: Influence of defects on the life of rubbers

SOURCE: Kauchuk i rezina, no. 3, 1966, 21-24

TOPIC TAGS: natural rubber, butadiene styrene rubber, filler

ABSTRACT: The life  $\tau$  of a rubber acted upon by a steady tensile stress  $\sigma$  is described by the empirical formula  $\tau = B\sigma^{-b}$ , where  $b$  and  $B$  are constants characterizing the life of the rubber. The extent to which defects affect constants  $b$  and  $B$  was studied. Defects of various types (punctures, cuts, fissures, inert filler, molecular microdefects) qualitatively influence constants  $b$  and  $B$  and also  $\sigma_1$  ( $\sigma_1 = B^{-1/b}$ , i. e., the stress at which the specimen tears in 1 sec) to the same extent. An active filler affects constants  $b$  and  $B$  to the same degree as an inert one. Constants  $b$  and  $B$  of filled vulcanizates decrease as do those of an unfilled rubber. The value of  $\sigma_1$  increases sharply upon introduction of an active filler, and decreases when an inert one is introduced. Owing to the change of  $b$  upon introduction of fillers, standard short-time strength tests give an idea of the comparative effect of fillers and defects.

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UDC: 678.063:679.019:539.43

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ACC NR: AF6021205

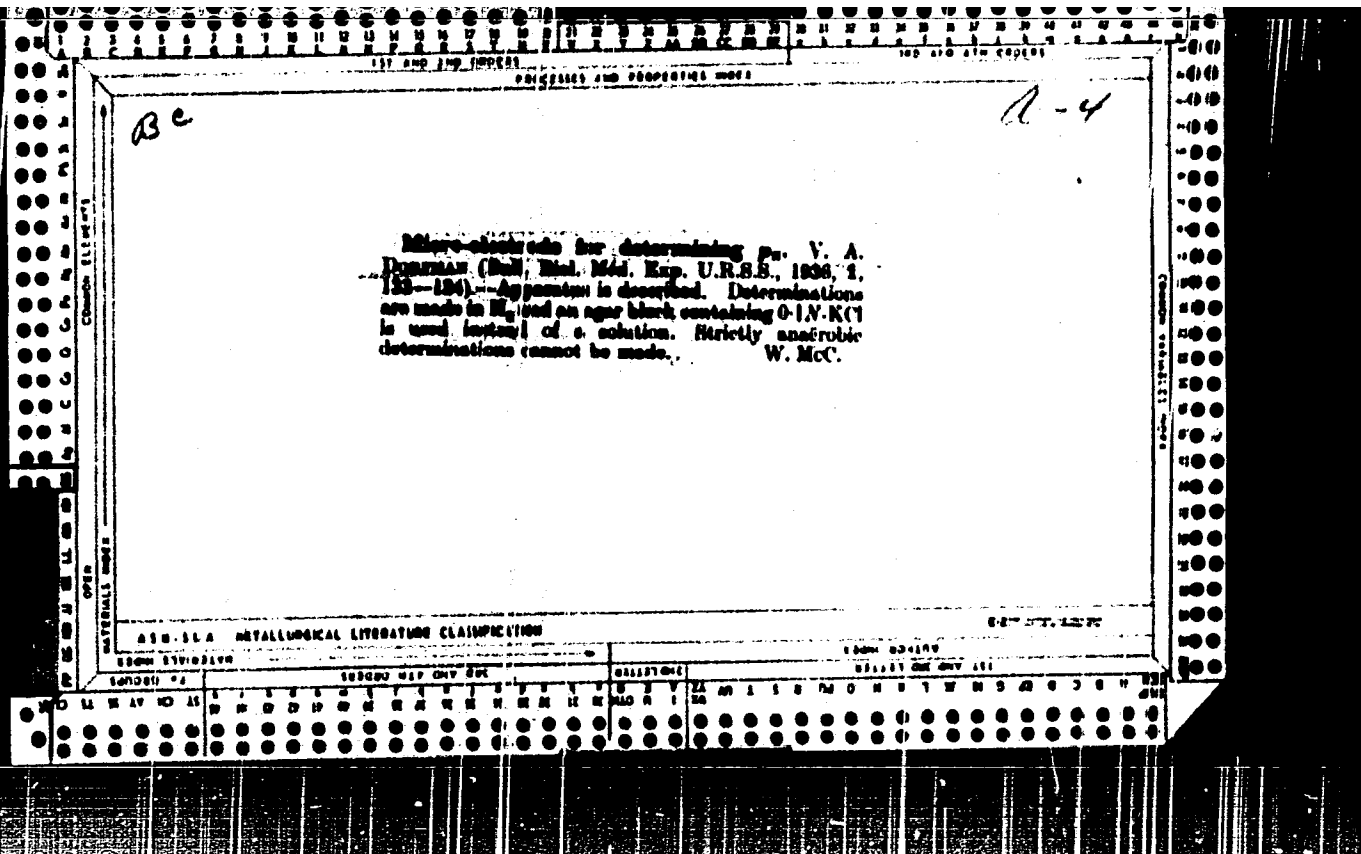
Orig. art. has: 4 figures, 1 table, and 4 formulas.

SUB CODE: 11/ SUM DATE: 28Dec63/ ORIG REF: 011/ OTH REF: 002

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