FEDOROV, G.F., inzh.

Studying the kinematics of the wave resulting from the release of water
from the reservoir. Trudy TSNIIEVT no. 19:83-95 '60.

(MIRA 14:5)

(Hydraulics)

SOV/124-58-7-7630

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 43 (USSR)

AUTHOR: Fedorov, G.F.

TITLE: Local Deformations of the Translatory Wave Heading a Supplementary Water Flow Released From an Elevated Reservoir and the Effect of Said Wave on a River Bed (Mestnyye deformatsii volny popuska i yeye vozdeystviye na ruslo)

PERIODICAL: Tr. Tsentr. n.-i. in-ta ekon. i ekspluat. vodn. transp., 1957, Nr 12, pp 87-96

ABSTRACT: Bibliographic entry

1. Inland waterways--Physical properties   2. Water waves--Geophysical effects

Card 1/1

AUTHOR: Fedorov, G.F.   SOV/140-58-3-28/34

TITLE: Properties of the Matrices of Second Order and Their
             Application to the Quadrature of Some Systems of Differential
             Equations (Svoystva matrits vtorogo poryadka i ikh primeneniye
             k resheniyu v kvadraturakh nekotorykh sistem differentsial'nykh
             uravneniy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy : Matematika, 1958,
             Nr 3, pp 217-224 (USSR)

ABSTRACT: The paper is a generalization of former results of the author
             (Vestnik Leningradskogo universiteta Nr 11, 1953). In § 1 he
             explicitly considers the properties of the matrices of second
             order with vanishing determinant. In § 2 he gives with the aid
             of these properties three conditions under which the system

$$\frac{dY}{dx} = y\,(\bar{u}_0\,\varphi_0 + \bar{u}_1\,\varphi_1 + \bar{u}_2\,\varphi_2)$$

is integrable by quadratures. Here the u_j are constant matrices
of second order and the φ_j are scalar functions of x.

There is 1 Soviet reference.

Card 1/2

Properties of the Matrices of Second Order and Their   SOV/140-58-3-28/34
Application to the Quadrature of Some Systems of Differential Equations

ASSOCIATION: Leningradskiy institut kinoinzhenerov (Leningrad Institute
             for Cinema Engineers)

SUBMITTED: November 29, 1957

Card 2/2

FEDOROV G.G

FEDERAU, G.G.; GULIN, S.V.

Polarographic method of determining ferric oxide in cement
slurry. TSement 28 no.2:22 Mr-Ap '62.   (MIRA 15:8)

1. Semipalatinskiy tsementnyy zavod.
                    (Cement)   (Iron oxides)

FEDOROV, O. G. and GOLOVINA, E. S.

       "Influence of Physical and Chemical Factors in the Velocity of Flame Propa-
gation," a paper presented at the 6th International Conference on Combustion, New Haven,
19-24 August 1956

Candidates of Tech. Sci., Inst. of Energetics AS USSR, Moscow

A-52806, 9 July 56

FEDOROV, G. G., and GOLOVINA, Ye. S.,

"Effect of Physicochemical Factors on the Velocity of Flame Propagation." (Study of Combustion Processes; Collection of Articles on Work Done by the Power Institute imeni G. M. Krzhizhanovskogo AS USSR) Moscow Izd-vo AN SSSR, 1958, 123 p.

(Laboratory of Combustion Physics)

for Abstract see Khitrin, L. N.

ZARIF'YANTS, Yu.A.; KISELEV, V.F.; FEDOROV, O.G.

Chemical adsorption of oxygen on a freshly cracked graphite
surface. Zhur.fiz.khim. 35 no.8:1885-1886 Ag '61.
(MIRA 14:8)

1. Moskovskiy gosudarstvennyy universitet, fizicheskiy fakul'tet.
(Oxygen) (Adsorption) (Graphite)

27267

S/020/61/139/005/021/021
B103/B209

5.4400

AUTHORS: Fedorov, G. G., Zarif'yants, Yu. A., and Kiselev, V. F.

TITLE: Chemical and physical adsorption of oxygen on the surface of
freshly split graphite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 5, 1961, 1166-1169

TEXT: The authors studied the adsorption mentioned in the title by using
finely ground natural graphite which was pulverized in an argon atmosphere.
Studies of this kind are regarded as being important in the search for
new ways of surface modification, in order to obtain efficient adsorbents
and polymer fillers. One of the applied samples was specially purified.
The pulverized samples had a specific surface of 275 and 400 m^2/g. They
were put into the volumeter under exclusion of air. The specific surface
was determined after a cycle of absorption measurements with oxygen from
the low-temperature nitrogen adsorption by the БЭТ (BET) method. The
specific adsorption values of both samples were found to fit well single
isotherm. This indicates the good reproducibility of the surface proper-
ties for the grinding method applied. Control experiments showed that

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Chemical and physical....

17167   S/020/61/139/005/021/02;
B103/B208

the fine iron powder which is always present (some fractions of one per-
cent) in graphite thus ground adsorbs not more than 0.5% of the adsorbed
amount of graphite. The interaction of oxygen with the fresh cleavage
plane of graphite at room temperature is a typical case of activated
chemical adsorption. The physical adsorption is extremely low at these
temperatures. Adsorption equilibrium is quickly attained in the initial
stage, which indicates the low activation energy of the process. With
further pressure increase the adsorption increases very slowly. The
graphite surface is thought to be inhomogeneous. It consists of sites
with different adsorption activity. The surface is saturated with
chemisorbed oxygen already at a pressure close to the atmospheric one.
Desorption measurements disclosed that all the oxygen adsorbed was irre-
versibly bound to the surface. No further adsorption takes place on an
oxidized sample. The adsorption activity of samples kept at room temper-
ature in an argon atmosphere for 1, 10, and 30 days did not change.
Specific adsorption was reduced by about 20% by heating an ampul with non-
oxidized graphite at 300°C for 50 hr. This may be due to partial satura-
tion of the surface by gas molecules which escaped from the glass during
heating. Graphite roasted at 800°C for 24 hr in an ampul which had

Card 2/4

27267

Chemical and physical....

S/020/61/139/005/021/021
B103/B208

previously been degassed, lost only 10% of its adsorption. Such a high stability of free radicals on the surface makes graphite a suitable test object of the elementary interactions of various molecules with the surface radicals. Pulverization of graphite in dry air destroys the crystals in all crystallographic directions. The large surface thus formed has a high content of ruptured π or σ bonds which form centers of chemical O_2 adsorption on the surface. On the other hand, the activity of π-electrons may be increased by lattice deformations in the basal plane which also contributes to an increase in adsorption activity. By measuring the adsorption isotherms at $-196^\circ C$, the authors proved that the chemisorption of oxygen at these temperatures is insignificant. The isotherms have hysteresis loops both on the initial and on the oxidized graphite sample. The authors believe that this loop which extends to the range of low relative pressures, is due to a certain swelling of the sample. The O_2 molecules may penetrate into the interplanar spaces of the graphite crystals which were largely destroyed during grinding. In the high pressure range, the hysteresis is obviously due to capillary condensation in the pores and gaps between the particles. The desorption isotherm shows a

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17167

S/020/61/139/005/021/02
B103/B208

Chemical and physical...

break at P/P_S = 0.25. This break may be related to the clearing of some
pores which were filled at high vapor tensions This break did not
appear at low pressures. The adsorption isotherm of nitrogen shows no
hysteresis phenomena in this pressure range. This is explained by a
higher penetrability of O_2 at low temperatures. For this reason, the
specific surface of fine-disperse graphite which was calculated from the
low-temperature N_2 adsorption, may be a little too low, as compared with
the surface accessible to O_2 molecules. This fact is however negligible
for the authors' conclusions. There are 3 figures and 6 references:
4 Soviet-bloc and 2 non-Soviet-bloc. The reference to English language
publications reads as follows: T. Koutezký, H. Tomášek, Phys. Rev. 120.
1212 (1960).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im M. V. Lomonosova
            (Moscow State University imeni M. V. Lomonosov)

PRESENTED: March 15, 1961, by M. M. Dubinin, Academician
SUBMITTED: March 13, 1961
Card 4/4

ZARIF'YANTS, Yu.A.; KISELEV, V.F.; LEZHNEV, N.N.; NOVIKOVA, I.S.; FEDOROV, G.G.

Synthesis and functional analysis of oxygen complexes on a sur-
face of freshly cleft graphite. Dokl. AN SSSR 143 no.6:1358-
1361 Ap '62.   (MIRA 15:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i
Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
Predstavleno akademikom M.M.Dubininym.
 (Graphite) (Surface chemistry) (Oxygen compounds)

37521
S/020/62/144/001/021/024
B124 B101

5.4400

AUTHORS: Zarif'yants, Yu. A., Kiselev, V. F., and Fedorov, G. G.

TITLE: Differential adsorption heats of oxygen and water vapor on the surface of graphite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 151-154

TEXT: Fine-disperse graphite with a specific surface $S = 350 \ m^2/g$, which had been obtained from natural graphite crushed in a ball mill in an argon atmosphere, was used in the experiments. Adsorption heats were measured using an automatic calorimeter with constant heat exchange; oxygen adsorption was determined by a volumetric method, and by water vapor adsorption with magnesium perchlorate. These methods were described in Ref. 7 (ZhFKh, No. 6 (1962)). The initial adsorption heats of oxygen were very high (110 kcal/mole). With a surface coverage of about 0.5 $\mu M/m^2$ of oxygen, the differential adsorption heat begins to decrease, and with 1 $\mu M/m^2$, its value is only $\sim$50 kcal/mole. The results obtained show a high degree of reproducibility on fresh cleavage areas of graphite. The high initial adsorption heats are due to the formation of carbonyl groups,

Card 1/3

Differential adsorption heats of ...

radicals, and groups of the types $- - C\!\!\diagdown\!\!{}^{O}_{O} - O$ (157 kcal/M),

$- C - O - O - C\diagup - $ (111 kcal/M) or $-\overset{O}{\underset{}{C}} - \overset{O}{\underset{}{C}} - $ (105 kcal/M) which probably appear prior to the formation of the peroxide radicals R-O-O· on the surface. Some of them are successively converted to yield saturated oxygen-containing complexes. Chemisorption phenomena could not be observed. The adsorption heats of water vapor on oxidized graphite surfaces were also measured. The graphite sample previously used for the adsorption of oxygen was evacuated down to 10^{-5} mm Hg and contacted with water vapor. The high initial adsorption heats (40 kcal/M), which exceed the physical adsorption heat of water considerably, are due to the formation of hydroxyl groups on the graphite surface. The adsorption heats decrease with increasing coverage, and approach condensation heats when the coverage is 0.5 to 0.6 $\mu M/m^2$. The adsorption heats on oxidized and hydrated graphite were very close to the condensation heats. On an average, water molecules form two hydrogen bonds with oxygen-containing groups and hydroxyl groups on the surface. The probability of adsorption on single hydroxyl groups is small. There are 2 figures.

Card 2/3

L 17720-63   EPR/EPF(c)/EWP(q)/EWT(m)/BDS   AFFTC/ASD   Ps-4/Pr-4   WW/WH

ACCESSION NR: AP3004073   S/0076/63/037/007/1619/1622

AUTHORS: Fedorov, G. G.; Zarif'yants, Yu. A.; Kiselev, V. F.

TITLE: Analysis of the surface properties of a fresh fracture in graphite

SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 7, 1963, 1619-1622

TOPIC TAGS: graphite, oxygen, oxygen adsorption, heat of adsorption.

ABSTRACT: Authors analyzed the reaction capability of the surface of a fresh
graphite fracture with respect to oxygen. A specially-purified, natural graphite
was used in the experiments. A thin grist was obtained in a laboratory-type steel
vibratory mill with an overpressure of purified argon. The powder was then
poured into a glass ampule which was then soldered to the adsorption apparatus.
After prolonged evacuation and deaeration of the apparatus to a vacuum of 1×10^{-5}
mm mercury column, the diaphragm was broken, the ample was evacuated and the
oxygen adsorption was measured. Differential heats of oxygen adsorption were
determined. The inhibiting effect of the reaction products on the oxidation
process of a fresh fracture was demonstrated. Assumptions concerning a possible
mechanism of oxidation of the graphite surface were pointed out. Orig. art. has:
2 figures.   ASSOCIATION: Moscow state university.
Card   1/2

L 18307-63   EPR/EPF(c)/EWP(q)/EWT(m)/BDS   AFFTC/ASD   Ps-4/Pr-4
ACCESSION NR: AP3004981   WH/K   s/0076/63/037/008/1846/1849

AUTHORS: Zarif'yants, Yu. A.; Kiselev, V. F.; Fedorov, G. G.

TITLE: Investigation of the surface properties of the freshly splitted graphite

SOURCE: Zhurnal fiz. khimii, v. 37, no. 8, 1963, 1846-1849

TOPIC TAGS: heat adsorption by graphite, water vapor heat adsorption

ABSTRACT: Authors studied the adsorption of water vapors on a fresh surface of
graphite. Measurement of the water vapor adsorption shows that the physical
adsorption isotherm is complicated by a chemical reaction. The value of the
irreversible adsorption measured after the adsorption cycle on the surface of
fresh graphite, kept for a period of 48 hrs. in saturated water vapors, consists
of 0.53 μ mole/m^2. The differential of heat adsorption in the region of small
surface area is almost four times greater than the heat of physical adsorption
for the usual oxidizing hydrocarbon adsorptions. Apparently, the first traces
of water adsorb chemically on the valence-saturated carbon atoms. The graphite
was left for 12 hrs. to be exposed to atmospheric oxygen before the desorption
was measured. Almost all adsorbed oxygen was irreversibly bound with the graphite
surface and its value was 1 μ mole/m^2. Thus, the retention of fresh graphite in

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L 18307-63
ACCESSION NR: AP3004981

saturated water vapors does not result in full passivation of the surface. The
adsorption of oxygen on its surface is accompanied by the release of a large
amount of heat which indicates chemical adsorption. Orig. art. has: 4 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet fizibheskiy facul'tet (Mos-
cow state university, physics faculty)

SUBMITTED: 19Sep62	DATE ACQ: 06Sep63	ENCL: 00
SUB CODE: PH, CH	NO REF SOV: 006	OTHER: 001

Card 2/2

FEDOROV, G.G.; ZARIF'YANTS, Yu.A.; KISELEV, V.F.

Properties of the surface of a freshly cleft graphite. Part 3. Zhur.
fiz.khim. 37 no.10:2344-2346 O '63.   (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet.

DOBROVOL'SKIY, N.N.; ZARIF'YANTS, Yu.A.; KISELEV, V.F.; LEZHNEV, N.N.;
    FEDOROV, G.G.

Properties of the surface of a freshly left graphite. Part 4.
Zhur. fiz. khim. 38 no.2:506-509 F '64.   (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet Nauchno-issledovatel'-
skiy institut shinnoy promyshlennosti.

FEDOROV, G.

CA

PROCESSES AND PROPERTIES INDEX

Preparation of rubicene from fluorenone with the aid of
metallic calcium. V. I. Khmelevskii and G. I. Fedorov.
J. Gen. Chem. (U. S. S. R.) 9, 1421-5 (1939); cf. C. A. 33,
7777.—The substitution of Ca for Mg turnings in the
method described in an earlier paper produced 13% rubi-
cene. Similar reaction of 10 g. Ph₂CO with 2 g. Ca turn-
ings yielded 30% ms-diphenylanthracene, m. 219°.
                                        Chas. Blanc

Lab. Org. Chem., Ural Indust. Inst. in .Kirov

A10-SLA METALLURGICAL LITERATURE CLASSIFICATION

FEDOROV, G.I.; ZHUKOV, A.I.

We discuss the article "Possibilities for mechanizing the work on communication lines." Avtom., telem. i sviaz' no.4:37 Ap '57.
(MIRA 11:4)

1. Starshiy elektromekhanik Liskinskoy distantsii signalizatsii i svyazi Yugo-Vostochnoy dorogi (for Fedorov). 2. Zamestitel' nachal'nika sluzhby signalizatsii i svyazi Odesskoy dorogi (for Zhukov).
(Railroads—Communication systems)

POSVYANSKIY, Aleksandr Davydovich; FEDOROV, G.I., nauchnyy red.;
SHELKOV, N.I., red. izd-va; YEZHOVA, L.P., tekhn. red.

[Brief course in descriptive geometry] Kratkii kurs nacherta-
tel'noi geometrii. Moskva, Gos. izd-vo "Vysshaia shkola,"
1961. 270 p.   (MIRA 15:3)
        (Geometry, Descriptive)

FEDOROV, G.I.; KONSTANTINOVA, A.F.

Transmission of light through plates made from uniaxial optically
active crystals of the acial classes. Part 1: General solution.
Opt. i spektr. 12 no.3:407-411 Mr '62.   (MIRA 15:3)
                        (Crystals--Optical properties)

GEL'BERG, L.A., kand.tekhn.nauk; FEDOROV, G.I., kand.tekhn.nauk

Present-day state housing construction and ways of improving it.
Izv.ASiA 4 no.1:47-56 '62.   (MIRA 15:11)
                              (Building research)

IZMAYLOV, R.I.; OKRUZHNOV, A.M.; FEDOROV, G.I.; VIROBYANTS, R.A.

Thermocatalytic conversions of hydrocarbons of a petroleum C_6-fraction on Al_2O_3-Pt catalyst. Neftekhimiia 1 no.4:505-508 Jl-Ag '61.   (MIRA 16:11)

1. Institut organicheskoy khimii AN SSSR, Kazan'.

FEDOROV, G.L.

GEL'BERG, L.A., kandidat tekhnicheskiy nauk, starshiy nauchnyy sotrudnik;
KATS, Ye.A., inzhener; FEDOROV, G.L.; PORFIR'YEV, M.M., kandidat
tekhnicheskiy nauk; SIGAYEV, A.V., kandidat tekhnicheskiy nauk;
KRYUCHKOV, N.V., kandidat tekhnicheskiy nauk, redaktor; PEVZNER,
A.S., redaktor; PERSON, M.N., tekhnicheskiy redaktor

[Comparative technical and economic evaluation of apartment houses
having different numbers of stories] Sravnitel'naia tekhniko-ekono-
micheskaia kharakteristika zhiloi zastroiki razlichnoi etazhnosti.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1954. 68 p.
(MIRA 8:3)

1. Akademiya arkhitektury SSSR, Moscow. Nauchno-issledovatel'skiy
institut arkhitektury zhilishcha. 2. Institut arkhitektury zhilishcha
(for Gel'berg, Kats, Fedorov) 3. Institut gradostroitel'stva (for
Porfir'yev)
          (Apartment house)

GEL'BERG, L.A.,kandidat tekhnicheskikh nauk; KATS, Ye.A.,
      inzhener; KOLOTILKIN, B.M.,kandidat tekhnicheskikh nauk;
      FEDOROV, G.I.,inzhener; KUTSENOVA, A.A.,redaktor izdatel'stva;
      TOKER, A.M.,tekhnicheskiy redaktor

[Designs of four- and five-story apartment houses; a technical
and economic analysis]Planiroovochnye resheniia chetyrekh-
piatietazhnykh zhilykh domov; tekhnikoekonomicheskii analiz.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1956.
152 p.   (MLRA 10:4)
            (Apartment houses)

FEDOROV, G.I., kand.tekhn.nauk; ZAREMBA, B.V., inzh., red.; MORSKOY, K.L., red.izd-va; OSENKO, L.M., tekhn.red.

[Economic aspects of planning foundation and underground areas of 2-5-story apartment houses] Ekonomika proektnykh reshenii tsokol'nykh i podzemnykh chastei zdanii v 2-5-etazhnoi zhiloi zastroike. Sost. G.I.Fedorov. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960.   73 p.
(MIRA 14:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut zhilishcha.

(Underground construction)

FEDOROV, G. I. Cand Sci -- (diss) " Methods of ~~cost reduction in the~~ construction (costs reducing through the rational layout of ground floors and basements in) ~~of~~ four- or five-story residential buildings by means of rational layouts of ~~ground floors and basements~~" Mos, 1957. 16 pp 21 cm. (Acad of Construction and

Architecture USSR), 110 copies

(KL, 7-57, 107)

46

FEDOROV, G.I., kand.tekhn.nauk

Estimated and actual costs of apartment houses. Zhil. dom no.1:60-
63 '60.   (MIRA 14:1).
              (Apartment houses)
              (Construction industry—Costs)

GEL'BERG, L.A., kand.tekhn.nauk; FEDOROV, G.I., kand.tekhn.nauk

Changing the estimated cost of apartment houses when adapting
them to local building conditions. Izv. ASiA no.2:89-93 '61.
(MIRA 15:1)

(Apartment houses—Cost of construction)

124-57-2-2356

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 123 (USSR)

AUTHOR: Fedorov, G. K.

TITLE: To the Investigation of Three-dimensional Frames (K issledova-
           niyu prostranstvennykh ferm)

PERIODICAL: Issled. po teorii sooruzheniy, 1954, Nr 6, pp 335-346

ABSTRACT: Presentation of an analytical method for the investigation of
             three-dimensional systems of bars. An equation is derived to
             express the projections of a generic vector on four arbitrary
             radii that are given in terms of their respective direction cosines
             in some system of coordinates. A number of examples serves to
             illustrate the application of that equation in the stability analysis
             and the construction of the influence surfaces for plane and
             three-dimensional frames.

                                                    Yu. P. Grigor'yev

             1. Structures--Theory   2. Structures--Stability   3. Mathematics

Card 1/1

FEDOROV, G.K., kandidat tekhnicheskikh nauk.

Kinematic investigation of plane and space mechanisms by the
projection method. Trudy Khab.IIT no.7:37-97 '54. (MIRA 8:1)
(Kinematics) (Mathematical physics)

SOV/124-57-7-7465

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 3 (USSR)

AUTHOR: Fedorov, G. K.

TITLE: Special Cases of the Resolution of a Sliding Vector Into Its Components
            (Osobyye sluchai razlozheniya skol'zyashchego vektora na sostavlya-
            yushchiye)

PERIODICAL: Tr. Khabarov. in-ta inzh. zh.-d. transp., 1956, Nr 9, pp 174-181

ABSTRACT: The author examines the resolution of a sliding vector along n
             prescribed directions in space.
                                        Reviewer's name not given

Card 1/1

SVICHINSKIY, Nikolay Nikolayevich; YATSENKO, Mikhail Yakovlevich;
    FEDOROV, G.K., red.; FEDOROV, V.P., red.izd-va; LAVRENOVA,
    N.B., tekhn.red.

    [Preparation of ships for their inspection by the Register
    of the U.S.S.R.] Podgotovka sudov k osvidetel'stvovaniiu
    Registrom SSSR. Moskva, Izd-vo "Morskoi transport," 1960.
    96 p.   (MIRA 13:11)
            (Ships--Registration and transfer)

FEDOROV, G.K.

Use of stereomodels in location surveys of railroads.   Geod. i kart.
no.11:41-46 N '61.

(Railroads--Surveying)   (MIRA 15:1)

FEDOROV, G.K., assistent

Location of railroads without the use of topographic plans.
Trudy LIIZHT no.180:12-18 '61.   (MIRA 15:7)
                    (Railroads—Location)

FEDOROV, G.K., dotsent, kand. tekhn. nauk; DORONIN, V.I., starshiy pre-
podavatel', kand. tekhn. nauk

Construction of velocity and acceleration plans using a pro-
jection method. Trudy Khab. IIT no.16:235-249 '64

(MIRA 18:2)

GEL'BERG, L.A.; FEDOROV, G.I.; ZAL'TSMAN, A.N.; KAPUSTYAN, Ye.D.;
BAYAR, O.G.; DELLE, V.I.; SHERENTSIS, A.A.; MAKLAKOVA, T.G.;
MONFED, Yu.B.; KOLOTILKIN, B.M.; GLADKOV, B.V.; GAVALOV,
O.V., red.; GOLOVKINA, A.A., tekhn. red.

[Housing construction in the U.S.S.R.; present state and
prospects for development]Zhilishchnoe stroitel'stvo v SSSR;
sostoianie i perspektivy razvitiia. Moskva, Gosstroiizdat,
1962. 202 p.   (MIRA 15:11)
    (Apartment houses) (Construction industry)

FEDOROV, G. M.

"Toxic-Hygiene Characteristics in the Manufacture of Lead-Containing Chromatic Chromate Pigments." Cand Med Sci, Odessa State Med Inst, Odessa, 1953. (RZhKhim, No 6, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

FEDOROV, G.M.

Method for determining porphyrin in urine. Lab. delo 5 no.3:35-36
My-Je '59.   (MIRA 12:6)

1. Kafedra gigiyeny truda (zav. - prof. Ya. B. Reznik) Odesskogo
meditsinskogo instituta im. N.I. Pirogova.
            (PORPHYRIN AND PORPHYRIN COMPOUNDS)
                 (URINE--ANALYSIS)

FEDOROV, G.M.

Modernization of Francke's needle (scarificator needle) by means of
a movable blade and limitation of the depth of the puncture. Lab.delo
5 no.4:60-61 Jl-Ag '59.   (MIRA 12:12)

1. Iz Odesskogo meditsinskogo instituta imeni N.I. Pirogova (dir. -
prof. I.Ya. Deyneka).
                (SURGICAL INSTRUMENTS AND APPARATUS)

FEDOROV, G.M., kand.med.nauk; LEPYAVKO, A.G., kand.med.nauk

Simple methods of moistening oxygen inhaled from an air pillow.
Vrach.delo no.7:743 Jl '59.   (MIRA 12:12)

1. Gospital'naya terapevticheskaya klinika (ispolnyayushchiy obya-
zannosti zaveduyushchego - dotsent P.L. Ginzburg) Odesskogo medi-
tsinskogo instituta.
                    (OXYGEN--THERAPEUTIC USE)

SAVEL'YEV, I.A.; FEDOROV, G.M.

Simple method for sharpening hypodermic needles. Med.sestra 19
no.8:34-35 Ag '60.   (MIRA 13:7)

1. Odesskiy meditsinskiy institut imeni N.I. Pirogova.
                    (HYPODERMIC NEEDLES)

FEDOROV, G.M., kand.med.nauk

Method of taking air samples for dust determinations in the field.
Gig.i san. 25 no.8:40-41 Ag '60.   (MIRA 13:11)

1. Iz kafedry gigiyeny truda Odesskog meditsinskogo instituta imeni
N.I.Pirogova.
                        (AIR—POLLUTION)

FEDOROV, G.M., kand.med.nauk

Needle-scarificator with removable lances and its correct use. Vrach.
delo no.10:118-119 O '60.   (MIRA 13:11)

1. Odesskiy meditsinskiy institut.
       (SURGICAL INSTRUMENTS AND APPARATUS)

FEDOROV, G.M.

Vacuum method for taking blood from guinea pigs. Lab. delo 7
no.1:51 Ja '61.   (MIRA 14:1)

1. Odesskiy meditsinskiy institut imeni N.I.Pirogova.
          (BLOOD—COLLECTION AND PRESERVATION)

FEDOROV, G.M.

Rapid fluorescent method for the quantitative determination of coproporphyrin in urine. Lab. delo 7 no.3:13-14 Mr '61. (MIRA 14:3)

1. Odesskiy meditsinskiy institut imeni N.I.Pirogova.
(COPROPORPHYRIN)   (FLUORESCENCE)

FEDOROV, G.M.

Effective use of Franke's scarificator. Vrach. delo no.8:135-136
Ag '61.
(MIRA 15:3)

1. Odesskiy meditsinskiy institut.
(SURGICAL INSTRUMENTS AND APPARATUS)

FEDOROV,G.M., inzhener

Efforts made by the testing department to obtain higher productivity of equipment. Tekst.prom.15 no.8:47-48 Ag'55.   (MLRA 8:11)

1. Smennyy master Glukhovskogo kombinata
        (Textile industry--Equipment and supplies)

FEDOROV, G.M.

Centralized automatic lubrication of spinning and twisting
spindles. Tekst. prom. 21 no.10:80-81 0 '61. (MIRA 14:10)

1. Nachal'nik pryadil'nogo tsekha bumagopryadil'noy fabriki
Glukhovskogo khlopchatobumazhnogo kombinata.
(Spinning machinery--Lubrication)
(Automatic control)

ZHARZHEVSKIY, I.L.; FEDOROV, G.M.

Assembling the ash collector system. Energ.stroi. no.24:77-83
'61.   (MIRA 15:4)

1. Glavnyy inzh. montazhnogo uchastka tresta "Sevzapenergomontazh"
(for Zharzhevskiy). 2. Proizvoditel' rabot montazhnogo uchastka
tresta "Sevzapenergomontazh" (for Fedorov).
    (Narva region--Electric power plants--Design and construction)

FEDOROV, G.N., aspirant kafedry parosilovykh ustanovok.

History of the development of Soviet uniflow boilers. Trudy GIIVT
10:149-162 '51.   (MIRA 10:1)
                          (Boilers)

KHARITONOV, Leopol'd Georgiyevich, dots., kand. tekhn. nauk;
SHPALENSKIY, M.A., inzh., retsenzent; FEDOROV, G.N.,
inzh., retsenzent; FRID, L.I., inzh., red.; BODROVA,
V.A., tekhn. red.

[Shipbuilding materials] Sudostroitel'nye materialy.
Moskva, Izd-vo "Rechnoi transport," 1963. 260 p.
                                        (MIRA 16:6)
          (Shipbuilding materials)

LAKHANIN, Vladimir Vladimirovich; ZAKHAROV, Yuriy Vasil'yevich;
     LEBEDEV, Oleg Nikolayevich; FEDOROV, G.N., retsenzent;
     MIGICHEV, B.S., red.; SHLENNIKOVA, Z.V., red.

[Use of atomic energy in water transport] Ispol'zovanie
atomnoi energii na vodnom transporte. Moskva, Transport,
1965. 187 p.   (MIRA 18:4)

VILENTS, Semen Borisovich; FEDOROV, G.P., red.; FEDOROV, B.M., red.izdatel'stva;
    BRATISHKO, L.V., tekhn.red,

[Making woodpulp] Proizvodstvo drevesnoi massy. Moskva, Goslesbum-
izdat, 1957. 295 p.   (MIRA 10:12)
                              (Wood pulp)

FEDOROV, G.P.

50

Reclaiming rubber. G. Ya. Meller, G. P. Fedorov, B. M. Ikati and O. A. Treiman. Russ. 47,070, May 31, 1936. Old rubber is heated under pressure with dil. H_2SO_4 and steam to decomp. textile material and devulcanize the rubber simultaneously.

USSR/Engineering
    Rubber - Reclaiming   Jul 48
    Efficiency, Industrial

"Technological Changes in the Production of Reclaimed Rubber," A. L. Parusov, P. A. Reshetnikov, G. P. Fedorov, Moscow Reclaimed Rubber Factory, 1 p

"Prom Energet" No 7

Suggestion was awarded a third prize in 1947 All-Union Contest. Operation formerly required 250 kw electricity and 1.4 Cal steam per ton of reclaimed rubber. Authors designed special machine (sketch given) for pulverizing rubber.

PA 6/49T28

FEDOROV, G. P.

USSR/Mining - Machines

Card 1/1

Authors   : Fedorov, G. P., and Sochinskiy, V. P.

Title   : Mechanization of the Excavation of Coal with Cutting and Loading Machines, and Taking Into Account All Basic Processes

Periodical   : Mekh. Trud. Rab. Ed. 3, 38 - 39, Apr - May 1954

Abstract   : A comprehensive review is presented on problems related to the mechanized excavation of coal with cutting and loading machines, type UKMG. The author takes into account various technological processes involved in the above operations, and suggests improvements which, in his opinion, would result in saving time and increased coal production. Drawings.

Institution   : ....

Submitted   : ....

FEDOROV, G.P., polkovnik meditsinskoy sluzhby, kandidat meditsinskikh nauk

Problems in medical climatology and climatological therapy in
sanatoria. Voen.-med. zhur. no.5:45-51 My '56.   (MLRA 9:9)
    (WEATHER—MENTAL AND PHYSIOLOGICAL EFFECTS)
    (HEALTH RESORTS, WATERING PLACES, ETC.)

FEDOROV, G.P.

Medical rating of weather. Vop.kur.fizioter. i lech.fiz.kul't. 21 no.
3:23-27 Jl-S '56.   (MIRA 9:10)

1. Iz Yaltinskogo klinicheskogo sanatoriya no.1.
   (WEATHER--MENTAL AND PHYSIOLOGICAL EFFECTS)

YEVDOKIMOV, I.I.; ALEKSEYEV, V.D.; ASHIKHMIN, A.K.; BAYEV, N.V.; BEGLAR'YAN,
P.A.; BYCHKOV, I.A.; VESLOVA, Ye.T.; VYZHEKHOVSKAYA, M.F.; GURETSKIY,
S.A.; DEMIDOV, I.M.; YESIPOV, Ye.P.; ZHUKOV, V.D.; ZELINSKIY, M.G.;
ZOL'NIKOV, F.T.; ZOLOTOVA, L.I.; KIVIN, A.N.; KOMARNITSKIY, Yu.A.;
KONSTANTINOV, A.N.; KUL'CHITSKAYA, A.K.; MAKSIMENKO, I.I.; MELENT'YEV,
A.A.; MOROZOV, I.G.; MURZIHOV, M.I.; OZEMBLOVSKIY, Ch.S.; OSTRYAKOV,
K.I.; PANINA, A.A.; PAVLOVSKIY, V.V.; PERMINOV, A.S.; PERSHIN, B.F.;
PRONIN, S.F.; PSHENNYY, A.I.; POKROVSKIY, M.I.; RASPONOMAREV, Ye.A.;
SEMIN, I.N.; SKLYAROV, Yu.N.; TIBABSHEV, A.I.; FARBEROV, Ya.D.;
FEDOROV, G.P.; SHUL'GIN, Ya.S.; YAKIMOV, I.A.; VERINA, G.P., tekhn.red.

[Labor feats of railway workers; stories about the innovators]
Trudovye podvigi zheleznodorozhnikov; rasskazy o novatorakh. Moskva,
Gos.transp.zhel-dor.izd-vo, 1959.   267 p.   (MIRA 12:9)
  (Railroads)   (Socialist competition)

FEDOROV, G.P., kand.tekhn.nauk

      Use of scrapers for gobbing in wide work entry driving.
      Ugol' Ukr. 6 no.2:29-31 F '62.   (MIRA 15:2)

      1. Dnepropetrovskiy gornyy institut.
                             (Mine filling)

AUTHOR: Fedorov, G.S., Candidate of Economic   Sciences   3-1-5/32

TITLE: The Force of Convincing Examples (Sila ubeditel'nykh primerov)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 1, pp 22-26 (USSR)

ABSTRACT: The article states that the capitalistic system is ex-
            periencing at the present time a general crisis which does
            not only extend to economy and politics but also to ideology.
            It speaks of the means and methods applied by the theorists
            of capitalism in order to lead astray the masses, to regenerate
            confidence in capitalism and to caluminate the socialistic
            order. The so called "people's capitalism", which has been
            raised in the USA to the level of an official state doctrine,
            is one of these means. The Political Economy Chair of the
            Military Academy of the Rear and Transport (Voyennaya akademiya
            tyla i transporta) is endeavoring to use every kind of
            instruction - lectures, seminars, consultations, conversations,
            and reports as well as the press - in order to disclose the
            theory of "people's capitalism" which aims to retouch the
            facade of monopolistic capitalism. The article then quotes
            several examples from lectures of the academy's instructors,
Card 1/2   naming A.I.Vilionskiy, Candidate of Economic Sciences,

The Force of Convincing Examples   3-1-5/32

A.V.Meleshchenko and V.F.Stel'mashchuk. The first one spoke
on the "Slave Holding Method of Production" and referred to
the plantation slavery in the South of the USA, mentioning
also the indecencies in Little Rock and other towns, and the
statement of James J. Patton, President of the USA National
Farmers' Union, that since 1952 about 250,000 farmers have
been ruined thereby reinforcing the ranks of the
working class and the unemployed. The author further speaks
about the noisy propaganda in connection with the "revolution
in income" which has allegedly taken place in the USA and of
other economic subjects, trying to degrade the American way
of life.
     There are 2 German and 2 Russian references.

ASSOCIATION: Military Academy of Logistics and Transportation (Voyennaya akade-
              miya tyla i transporta)

AVAILABLE: Library of Congress

Card 2/2

BARSUKOV, N.I., kand.sel'skokhozyaystvennykh nauk; KIZYURIN, A.D., doktor
    sel'skokhozyaystvennykh nauk; BORINEVICH, V.A., kand.sel'skokhozyay-
    stvennykh nauk; BORMUSOVA, S.N., agronom; VERMENICHEVA, M.D., kand.
    sel'skokhozyaystvennykh nauk; GESHELE, E.E., doktor biol. nauk;
    GOROKHOV, G.I., kand.sel'skokhozyaystvennykh nauk; GUBKIN, S.M.,
    kand. veterinarnykh nauk; YELYKOVA, L.I., kand.sel'skokhozyaystven-
    nykh nauk; KOTT, S.V., doktor biol. nauk; KOCHKINA, V.A., agronom;
    LAMBIN, A.Z., doktor biol.nauk; LEBEDEVA, Ye.M., agronom;
    MALAKHOVSKIY, A.Ya., doktor sel'skokhozyaystvennykh nauk; MAYBORODA,
    N.M., kand. sel'skokhozyaystvennykh nauk; MAYDANYUK, A.E., zootekhnik;
    OVSYANNIKOV, G.Ye., kand.sel'skokhozyaystvennykh nauk; PETROV, F.A.,
    kand.biol.nauk; POGORELOV, P.F., agronom; POLKOSHNIKOV, M.G., dotsent;
    RENARD, G.K., kand. sel'skokhozyaystvennykh nauk; RUCHKIN, V.N.,
    prof.; SADYRIN, M.M., kand.sel'skokhozyaystvennykh nauk; TOBOL'SKIY,
    V.YA., vetvrach; TYAZHEL'NIKOV, S.D., kand.sel'skokhozyaystvennykh
    nauk; UKHIN, I.I., kand.sel'skokhozyaystvennykh nauk; FEDOROV, G.V.,
    kand.sel'skokhozyaystvennykh nauk; CHIRKOV, D.I., zootekhnik;
    TSINGOVATOV, V.A., prof.; SHVETSOVA, A.N., kand.sel'skokhozyaystven-
    nykh nauk; SHEVLYAGIN, A.I., kand.sel'skokhozyaystvennykh nauk;
    SEMENOVSKIY, A.A., red.; GOLUBINSKAYA, Ye.S., red.; NECHAYEVA, Ye.G.,
    red.; PERESYPKINA, Z.D., tekhnicheskiy red.

[Siberian agronomist's reference manual] Spravochnaia kniga agronoma
Sibiri. Moskva, Gos. izd-vo sel'khoz. lit-ry, Vol.2. 1957. 839 p.
        (Siberia--Agriculture)   (MIRA 11:3)

FE DO ROV, G. V.

112-2-3512

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957,
Nr 2, p.146 (USSR)

AUTHOR: Fedorov, G.V.

TITLE: Experience in Operating Electrical Equipment on the Moscow
Subway Rolling Stock of the "Г" and "Д" Types and
Prospects for Modernizing it (Opyt ekspluatatsii
elektrooborudovaniya podvizhnogo sostava Moskovskogo
Metropolitena tipa "G" i "D" i perspektivy ego moderni-
zatsii)

PERIODICAL: In Sbornik: Materialy nauch.-tekhn. soveshchaniya po
tyagovomu elektrooborudovaniyu. Noyabr' 1953, Riga, 1955,
pp. 56-60

ABSTRACT: Thirty four train pairs every hour traverse the double-
track sections of the 45 km long Moscow subway; carrying
2.3 million passengers daily, the schedule of train move-
ments is adhered to 99.99 per cent of the time. The high
quality of the equipment and careful maintenance ensure that
the schedule is kept. The cars pass a 20 to 40 minute
inspection every six to eight hours, and a routine inspection
every three days. Current repairs are carried out every

Card 1/3

112-2-3512

Experience in Operating Electrical Equipment (Cont.)

        seven days, and regular overhauling every two and one
half to three months. Maintenance repairs are performed
after a run of 160,000 to 200,000 kilometers, and average
repairs after a run of 320,000 to 400,000 kilometers.
The old type A and 6 car models have a number of defects
such as bakelite-shoe braking and other imperfections.
The type T cars have been considerably improved. They
have electric brakes. Their traction motors ensure
rheostatic braking at speeds as high as 60 km/hr without
arcing on the commutator and without throw-over on the
commutator and without throw-over on the car chassis.

Card 2/3

Experience in Operating Electrical Equipment (Cont.) 112-2-3512

Stamped parts instead of rolled parts are used for the mechanical structure of the car. The development of cracks of the wheel-pair shackles and elsewhere has been arrested. The Δ type car is better than other cars in that it has a Cardan shaft, support-chassis traction motor suspension, improved operating conditions of rotors, undercarriage and rails. It also weighs 17 per cent less than the other subway cars. In conclusion, the following ways of improving cars are indicated: further reducing car weight by using alloy steel, etc.; replacing rheostatic braking by regenerative braking and correcting the minor defects which still remain in the Γ and Δ cars. [The Moscow subway imeni V.I. Lenin]

I.V.I.

Card 3/3

FEDOROV, Georgiy Vasil'yevich; MIZIKOV, S.M.; SERGEYEV, D.V.; SOKOLOV, L.S.,
inzhener, redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor

[Subwqy rolling stock; type D cars] Podvizhnoi sostav metropolitena
vagony tipa D. Moskva, Gos.transp.zhel-dor.izd-vo, 1957. 251 p.
        (Subways--Rolling stock)   (MLRA 10:9)

RODIGIN, Nikolay Mikhaylovich; RODIGINA, Emiliya Nikolayevna; FEDOROV,
G.V., otv.red.; BANKVITSER, A.L., red.izd-va; LEBEDEVA, A.A.,
tekhn.red.

[Chemical step reactions; mathematical analysis and computations]
Posledovatel'nye khimicheskie reaktsii; matematicheskii analiz
i raschet. Moskva, Izd-vo Akad.nauk SSSR, 1960. 137 p.
(MIRA 14:2)

(Chemical reaction, Rate of)

Fedorav . G. V.

USSR/Magnetism - Ferromagnetism

P-4

Abs Jour   :   Referat Zhur - Fizika, No 5, 1957, 11997

Author   :   Volkenshteyn, N.V., Fedorov, G.V.

Inst   :   Institute of Physics of Metals, Ural' Branch, Academy of
                Sciences, Sverdlovsk.

Title   :   Measurement of the Hall-Kikoin Effect.

Orig Pub   :   Fiz. metallov i metallovedeniye, 1956, 2, No 2, 377-378

Abstract   :   Description of a new method for measuring the Hall effect
                in ferromagnets, a method that does not require the prepa-
                ration of a specimen in the form of a long rod, and conse-
                quently, which permits a measurement in an electromagnet.
                The specimen, made in the form of a thin plate, is com-
                pressed between two halves of an ellipsoid, made of the
                investigated substances, with insulation of mica. The
                ellipsoid and the specimen are placed in the magnetic

Card 1/2

Card 2/2

FEDOROV, G.V.

USSR/Nuclear Physics - Penetration of Charged and Neutral   C-6
                Particles Through Matter.

Abs Jour   : Ref Zhur - Fizika, No 4, 1957, 8850

Author   : Orlov, A.N., Fedorov, G.V.
Inst   : Ural' Branch, Academy of Sciences, USSR.
Title   : Absorption of Bremsstrahlung of the Betatron in a
              Two-Layer Absorber.

Orig Pub   : Zh. tekhn. fiziki, 1956, 26, No 9, 1991-1993

Abstract   : It is shown that when radiation passes through a couble-
              layer absorber the intensity of the transmitted radiation
              depends on the selected sequence of absorbers: the atte-
              nuation will be greater if the heavy absorber is ahead of
              the light one. Experiments carried out with a betatron
              with a maximum energy of 20 Mev and absorbers made of
              steel and water confirm this conclusion.

Card 1/1

FEDOROV, G. V.

AUTHORS: Palatnik, L. S. and Fedorov, G.V. (Khar'kov). 24-9-18/33

TITLE: Graphical calculation of the local composition in three-component alloys of variable concentration. (Graficheskiy raschet lokal'nogo sostava v trekhkomponentnykh splavakh peremennoy kontsentratsii).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp. 119-120 (USSR)

ABSTRACT: A description is given of a graphical method of calculation of the local composition in three-component alloys of variable concentration using experimental distribution curves for each of the components. The method is applied for calculating the concentrations of systems produced by means of a method developed by S. A. Vekshinskiy (Ref.1). An alloy of variable composition obtained by evaporating various metals from two evaporators represents a binary field of concentrations and in such a field it is possible to calculate a family of circles along which the composition of the alloy remains constant. A three-component system forms a ternary field of concentration and the calculation is correspondingly more complex; families of curves of equal composition no longer exist but families of curves of another type do exist, one representing the lines along

Card 1/3

24-9-18/33

Graphical calculation of the local composition in three-component
alloys of various concentration.

which the concentration ratio of two components remains
constant and the other lines along which the concentration
of one component remains constant. In a real collector
these families of curves correspond to a family of
analogous straight lines on the concentration triangle
of Gibbs. By photometering of a semi-transparent layer
of metal deposited on a glass collector which is
perpendicular to the crucible axis, the distribution was
studied of the density as a function of various parameters
(speed of evaporation of the metal etc.) and,following
that,the most suitable conditions of evaporation were
chosen. The distribution of the condensate represents
a mound with a circular symmetry whereby the symmetry axis
of the mound coincides with the crucible axis; Fig.1
shows the distribution of a condensate on the collector
for Sb, Bi and Ag. From these distribution curves,
curves of equal thicknesses for each metal are plotted,
finally, a coordinate network is obtained which permits
solving the following two basic problems: to determine the
composition of the condensate at a given point of the
Card 2/3 collector and to determine on the collector a point having

24-9-18/33

Graphical calculation of the local composition in three-component
alloys of various concentration.

> a given composition. For illustrating the method, the
> results are included of the calculation of a collector of
> a real system of Ag-Bi-Sb, Fig.2.   The here described
> method is applicable for any evaporator with a known
> distribution.
> There are 2 figures and 2 Slavic references.

SUBMITTED: April 19, 1957.

AVAILABLE: Library of Congress.

Card 3/3

FEDOROV, G. V.

24-11-29/31

AUTHORS: Komnik, Yu. F., Palatnik, L.S. and Fedorov, G. V. (Khar'kov)

TITLE: Distribution of the condensate on a plane in the case of
          evaporation of metal from a cylindrical crucible.
          (Raspredeleniye kondensata na ploskosti pri isparenii
          metalla iz tsilindricheskogo tiglya).

ABSTRACT: The authors assume that when using a cylindrical crucible
          as an evaporator, distribution of the condensate of the
          molecular flow does not necessarily depend on the level
          of the metal in the crucible, provided this level is
          sufficiently distant from the opening of the crucible.
          They studied the dependence on the metal level in the
          cylindrical crucible of the condensate distribution on a
          plane collector for the purpose of verifying their
          assumptions. They also studied the influence of the
          temperature on the distribution of the condensate and
          the influence of the location of the metal level in the
          crucible on the speed of evaporation of the metal. The
          condensate distribution on a plane transparent base was
          studied by photometering of semi-transparent metallic
          layers. The experiments were effected by means of a

Card 1/2

24-11-29/31

Distribution of the condensate on a plane in the case of evaporation metal from a cylindrical crucible.

vacuum set-up containing apparatus as shown in Fig.1, p.194.   Cylindrical porcelain crucibles 4.5 and 8 mm dia. and about 30 mm deep were used as evaporators; these were heated by 1 mm dia. nichrome wire. The metal was fed into the system in the form of balls,whereby the charging apparatus was inside the vacuum system. Fig.2 shows the obtained curves of condensate distribution for various levels of metal (tin) in the crucible. The dependence was studied of the distribution of the condensed metal on the evaporation temperature as well as on the metal level in the crucible. The existence was detected of a range of depths of the metal in the crucible within which the distribution of the condensate on the collector and the speed of evaporation of the metal remained constant. This indicates that cylindrical crucibles can be applied as evaporators for making preparations of three component systems of thicknesses up to 0.1 mm according to the method of S. A. Vekshinskiy. There are 4 figures and 7 references, all of which are Slavic.

Card 2/2

SUBMITTED: April 19, 1957.
ASSOCIATION: Khar'kov Polytechnical Institute. (Khar'kovskiy Politekhnicheskiy Institut)
AVAILABLE: Library of Congress.

Fedorov, G.V.

AUTHOR   PALATNIK L.S., FEDOROV G.V.   PA - 2658
TITLE   A photometric determination of the thickness of semitransparent
         metal layers.
         (Fotometricheskoye opredeleniye tolshchiny poluposrachnykh metalliches-
         kikh sloyev, -Russian)
PERIODICAL Doklady Akademii Nauk SSSR, 1957,Vol 113, Nr 1, pp 1oo-1o3, (U.S.S.R.)
         Received 5/1957   Reviewed 6/1957

ABSTRACT   The present work discusses a microphotometric method for the measuring
            of the absolute density of semitransparent metal layers obtained by eva-
            poation in the vacuum and the density distribution of the condensate of
            the transparent vitreous base on the occasion of the employing of vapori-
            zers of any type.
            The method of photometrizing semitransparent layers:
            The symmetry axis of the evaporator must be placed vertical to the col-
            lector plane. The density distribution o the condensed layers then forms
            a circular mound.with the maximum of density and thickness on the symmet-
            ry axis. Apparently the height of the maximum is proportionalto the dura-
            tion of precipitation. If the metal layers are precipitated on several
            collectors, the dependence of the blackening S of the collector can be ob-
            tained from the duration γ of precipitation. Thus, also the dependence
            S = S(h) is obtained, because for the thickness of the layer h = kγ,
            applies, where k denotes a proportionality factor. If now one of the col-
            lectors is photometrized along a straight line passing through the ma-
Card 1/2   ximum, the dependence of the blacking S on the distance up to a given

A Photometric Determination of the Thickness of   PA - 2658
Semitransparent Metal Layers.

point of the collector can be determined. The corresponding dependences
S ($\mathcal{T}$) and S ($\mathcal{f}$) are shown in form of a diagram. From these two depen-
dences the dependence $\mathcal{T}(\mathcal{f})$ is then determined, which is equivalent to
the dependence $h_{rel}(\mathcal{f})$ in relative unities on the ordinate axis.
Experimental Part: Experiments were carried out in a vacuum chamber. A
cylindrical ferfort crucible served as evaporator and heating took pla-
ce by means of a nichromium spiral. At a distance of about 40mm from
the crucible an immobile metal screen with a long narrow gap was fitted
vertical to the crucible axis. Then a glass collector was fitted on to
this metal screen. The here discussed photometric method was tested on
bismuth films. Bismuth was vaporized on at 600°and 680°, and vaporizing-
on velocity was changed 6 to 7 times. On this occasion the authors noti-
ced no influence exercised by condensation velocity on the dependence of
the blackening of the thickness of the film.From data obtained from some
experiments a diagram was determined for the dependence of S on the thick-
ness h of the bismuth layer; this method is well suited for the determina-
tion of the thickness of semitransparent metal layers. (2ill.)

ASSOCIATION   Polytechnical Institute KHAR'KOV
PRESENTED BY   Member of the Academy S.A.VEKSHINSKIY
SUBMITTED   24.11.1956
AVAILABLE   Library of Congress
Card 2/2

FEDOROV, G.V., Cand Tech Sci -- (diss) "Application of the method of *models* of *varying* composition to the study of *tri*-component alloys." Khar'kov, 1958, 16 pp with diagrams (Min of Higher Education UkSSR. Khar'kov Polytechnic Inst im V.I. Lenin) 150 copies (KL, 29-58, 133)

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AUTHORS: Palatnik, L. S., Fedorov, G. V., Kosevich, V. M.   32-24-6-31/44

TITLE: On Methods of Measuring the Microhardness in Thin Layers
                (K metodike izmereniya mikrotverdosti v tonkikh sloyakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 6, pp 759 - 761
                (USSR)

ABSTRACT: Metallic layers of various thickness were investigated which
                had been evaporated on various bases in a vacuum. The thick-
                ness of the layers was measured by a microinterferometer
                according to Linnik, while the microhardness was determined
                by means of the apparatus PMT-3. The latter had been equipped
                with two special devices by the mechanic V. V. Gordienko:
                an automatic load mechanism, and a coordinate table which
                makes possible the observation of the exact position of the
                investigated point at the collector in polar coordinates.
                The apparatus was standardized by means of rock salt; the
                selection of the metals to be investigated was made in such
                a way that various combinations occurred: soft layer-hard
                basis, hard layer-soft basis. The results obtained are given
Card 1/2   in a table. From the mode of operation mentioned may be

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seen that the metal layer was condensed on glass, that the
structure was fine disperse and the surface completely plane.
Graphical representations with the corresponding explanations
are given. From the results obtained may be seen that with
soft layers on hard bases the value for n is lower than for
hard layers on soft bases which must be taken into account
in the determination of the microhardness of various coat-
ings; besides it was observed that the value n is greater
with small load. Therefore the microhardness can be determin-
ed at the samples obtained according to the method by S. A.
Vekshinskiy (Ref 4); the thickness of the sample should be
10 μ and the material of the bases should be harder than
that to be investigated. There are 2 figures, 2 tables, and
8 references, 8 of which are Soviet.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina
(Khar'kov Polytechnical Institute imeni V. I. Lenin)

1. Metal films--Mechanical properties   2. Metal films---Test methods

Card 2/2   3. Metal films--Physical properties   4. Interferometers---Performance

AUTHORS: Volkenshteyn, N. V., Fedorov, G. V.,   SOV/56-35-1-11/59
            Vonsovskiy, S. V.

TITLE: The Hall Effect of Pure Nickel Within the Range of
            Helium Temperatures (Effekt Kholla chistogo nikelya v oblasti
            geliyevykh temperatur)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
            Vol 35, Nr 1, pp 85 - 88 (USSR)

ABSTRACT: The present paper deals with the investigation of the
            temperature dependence of R_1 and R_0 in the temperature
            range of between room temperature and $4,2^\circ K$; according to
            reference 1 the following holds for the Hall field:
            $e = R_0 H_2 + R_1 J$ (J = magnetization, R_0 ordinary Hall constant),
            and $R = A \rho^2$ (Ref 6) (A = constant, ρ specific electric resistance).
            The first data concerning the temperature dependence of
            Ni within the range of from room temperature to Curie
            (Kyuri) point were supplied by Kikoin (Ref 2); Jan and
            Gijsman (Yan, Giysman)(Ref 3) investigated R_0 and R_1 for Ni
            and Fe, and found an unsharp minimum in the ranges of
            $30-50^\circ$ (Ni) and $50-70^\circ$ (Fe). R_1 decreased from
Card 1/3 $T = 300^\circ K \longrightarrow T = 14^\circ K$ to a twentieth part of its value.

The Hall Effect of Pure Nickel Within the Range of   SOV/56-35-1-11/59
Helium Temperatures

The authors of this paper investigated the Hall effect
in pure Ni(99,99%). Size of sample: 9.4.0,3 mm, H = 5000 Oe
B in the sample: 22 000 G; sensitivity of the potentiometer
2.10^{-8}V; measurements were carried out at room temperature,
0°C, as well as in baths of liquid N, liquid H, and liquid
He; specific resistances: $\rho_{20,4^{\circ}}/\rho_{293^{\circ}}$ = $12,36.10^{-3}$ and
$\rho_{4,2^{\circ}}/\rho_{293^{\circ}}$ = $10,28.10^{-3}$.

The measuring results are given in figures 1-4 in form of
diagrams. R_1 decreases sharply with reduced temperature
and has a minimum at 20 - 30°K; $R_1(T=300^{\circ}K) \sim 100.10^{-12}$V.cm/A.G,
$R_1(T=14^{\circ}K) \sim 5.10^{-12}$V.cm/A.G. R_0 decreases from 300° to
$4,2^{\circ}$K to about $1/3(0,6 \rightarrow 0,2.10^{-12}$V.cm/A.G) and has no
minimum. In conclusion the authors (Refs 10-16) discuss the
theory of the Hall effect and the possibility of calculating
R_1 according to Patrakhin (Ref 15) within the framework
of the (s-d) exchange model of ferromagnetism(Vonsovskiy,Ref 16).
There are 4 figures and 17 references, 10 of which are Soviet.

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The Hall Effect of Pure Nickel Within the Range of   SOV/56-35-1-11/59
Helium Temperatures

ASSOCIATION: Institut fiziki metallov Ural'skogo filiala Akademii nauk SSSR
                (Institute of Metal Physics, Ural Branch AS USSR)

SUBMITTED: February 11, 1958

Card 3/3

AUTHORS: Palatnik, L. S., Fedorov, G. V.   SOV/2o-12o-1-2o/63

TITLE: The Application of the Method of Samples of Varying Composition
             to the Investigation of Three-Component Alloys (Primoneniye
             metoda obraztsov peremennogo sostava dlya issledovaniya trekh-
             komponentnykh splavov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 12o, Nr 1,
             pp. 79 - 82 (USSR)

ABSTRACT: A particular feature of this method is the considerable deviation
             of the samples under investigation from equilibrium because of
             the rapid dissipation of the heat of condensation by a collector.
             The thinner the layer and the higher its thermal diffusivity, the
             more will the system depart from the thermodynamical equilibrium.
             At certain conditions a protracted stabilization of non-equilibrium
             conditions takes place. This is based upon the maintenance of
             the internal stress in the condensed layer, on the degree of
             colloidal dispersion of the monocrystals and of the metastable
             structures, on the considerable oversaturation and inhomogeneity
Card 1/3   of the solid solutions etc. The following alloys of a varying

The Application of the Method of Samples of Varying   SOV/2o-12o-1-2o/63
Composition to the Investigation of Three-Component Alloys

composition were investigated in connection with the development
of a method for the computation of the concentrations of ternary
systems: Pb- Bi- Cu, Pb- Bi- Ag, Pb- Bi - Sb. The metals were
evaporated from crucibles and condensed on glass plates, which
were heated up to 100 - 120°. The denotations used in the diagram
are explained. A common basis of all three diagrams given is the
binary system Pb - Bi, in which an intermetallic β phase is formed.
Lead and bismuth are practically insoluble in copper. The authors
give some numerical data on the mutual solubility of the afore-
mentioned metals. The experimental results obtained show that the
method of preparing and investigating samples of varying compo-
sition employed is fully efficacious, at least for a preliminary
examination of the phase diagrams of ternary systems. An advantage
offered by the method developed is the considerable reduction of
the work necessary for the determination of the topological (semi-
quantitative) structure of the phase diagrams. There are 4 figures
and 8 references, 6 of which are Soviet.

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The Application of the Method of Samples of Varying   SOV/2o-12o-1-2o/63
Composition to the Investigation of Three-Component Alloys

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina (Khar'kov
               Polytechnical Institute imeni V.I.Lenin)

PRESENTED: January 27, 1958, by S.A.Vekshinskiy, Member, Academy of
               Sciences, USSR

SUBMITTED: January 24, 1958

               1. Alloys--Sampling   2. Alloys--Thermodynamic properties
               3. Alloys--Composition   4. Alloys--Test results

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L 38398-66   EWT(1)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/JG

ACC NR: AP6018556   SOURCE CODE: UR/0181/66/008/006/1895/1898

AUTHOR: Volkenshteyn, N. V.; Fedorov, G. V.

ORG: Institute of Physics of Metals, AN SSSR, Sverdlovsk (Institut fiziki metallov AN SSSR)

TITLE: Hall effect in holmium

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1895-1898

TOPIC TAGS: holmium, Hall effect, temperature dependence, rare earth metal

ABSTRACT: In view of the lack of data on the temperature dependence of the Hall effect in holmium, the authors measured it in the interval 4.2 - 300K. The holmium purity was 99.9% ($\rho_{300K}/\rho_{4.2K} = 12$). The inductions used in the sample reached 20 kG. The procedure used for the measurements was the same as in an earlier paper (FMM v. 2, 377, 1956). The data-reduction procedure was also described elsewhere (FMM v. 18, 26, 1963). The dependence of the specific Hall emf on the induction for different temperatures and on the temperature for different inductions are plotted, and the effective Hall coefficient is calculated. The temperature dependence of the specific Hall emf exhibits a minimum at 100C, and the Hall coefficient consists of two components, the ordinary one, which does not depend on the temperature (found to be -2.8×10^{-12} ohm-cm/G), and a component inversely proportional to the temperature, which includes the anomalous Hall coefficient connected with the paramagnetic magnetization. The latter is likewise independent of the temperature and is found to be -2.2×10^{-12} ohm-cm/G. The results are compared with those obtained for dysprosium and erbium,

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ACC NR: AP6018556

and are found to be quite similar. It is concluded that measurements with polycrystal-line samples disclose the connection between the singularities of the Hall effect and the characteristics of the magnetic structures, but do not yield complete information on the connection between them. Orig. art. has: 1 formula.

SUB CODE: 20   SUBM DATE: 30Nov65/   ORIG REF: 008/   OTH REF: 008

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SOV/126-8-3-9/33

AUTHORS: Palatnik, L.S., Fedorov, G.V. and Gladkikh, N.T.

TITLE: Study of Aluminium Alloys of the System Al-Cu-Mg on Specimens of Variable Composition

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 3, pp 378-386 (USSR)

ABSTRACT: Specimens of variable composition were prepared in vacuum by simultaneous evaporation and condensation of the constituents from three cylindrical evaporators (Ref 9 and 10) situated at distances of 70 mm from the collector at the corners of an equilateral triangle inscribed in a circle of 60 mm diameter. The processes of evaporation of the constituents were chosen so that a summary concentration range of copper and magnesium between 0.5 and 16% were ensured on the collector. By means of a photometric method (Ref 11) distribution functions for each of the metals were determined for the chosen evaporation process on the basis of which a calculation of the concentration by graphic methods was carried out (Ref 12). After establishing the required vacuum in the apparatus (approximately 10^{-5} mm Hg) for the removal of adsorbed gases, the collector was heated to a temperature of

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approximately 100°C, then cooled by running water and condensation of the film was brought about. During the condensation of this system on a polished steel collector, which was previously cleaned by treatment with boiling alkali, the specimen was seen to fracture as a certain thickness was attained, which was accompanied by exfoliation due to internal stresses which arise during condensation. At a sufficiently deep etch of the collector with concentrated nitric acid, specimens were obtained in which the junction between the film and the base was increased (probably due to condensation developed as a result of surface etching) and was sufficient for measuring the microhardness. However, the relatively uneven surface made microhardness testing somewhat difficult. In order to rectify this shortcoming a number of experiments was carried out on the application of polished and passivated aluminium as collector. Aluminium was chosen as base for the following reasons: the closeness of the coefficients of thermal expansion of aluminium and the condensate should bring about a decrease

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Variable Composition

in internal stresses in the layer and a thick aluminium
oxide layer ought to resist mutual diffusion between the
condensate and the base. As aluminium oxide is closely
adherent to the metal it can be expected that the
condensed layer will also be firmly adherent to the
aluminium oxide. Specimens of variable composition were
investigated by microhardness and X-ray structural phase
analysis methods. The microhardness was measured with the
PMT-3 instrument at loads of 20 and 40 g. X-ray pictures
were taken in the irradiation of an iron anode in a 85 mm
diameter camera. The variable composition specimens were
annealed in vacuum at various temperatures. Specimens
obtained by deposition on the cooled steel collector
were investigated by the microhardness method in the
concentration range of 0.5 to 6% Mg and 0.5 to 6% Cu
through 0.3 to 1% Cu and Mg along the C_{31} sections
(Fig 1), along which the ratio between the concentration
of copper and that of aluminium was kept constant (0.005,
0.010, 0.015 etc). Parallel with the microhardness testing

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a qualitative X-ray phase analysis was carried out.
Microhardness was tested two weeks after preparing the
specimens. X-ray structural data for an alloy
containing 3.3% Cu and 2.4% Mg are shown in Table 1.
In Fig 6, comparative curves for the microstructure
along the section Cu + Mg = 2% show: (1) literature
data (Ref 7); (2) experimental results. Fig 7 shows
similar curves along the section Cu + Mg = 5%.
X-ray data for alloys condensed on a hot collector
(200°C) are given in Table 2. Similar data for alloys
condensed on a hot collector at 400°C are given in
Table 3. The authors arrive at the following conclusions:
A condition close to equilibrium for aluminium alloys of
the system Al-Cu-Mg is attained either by annealing at
approximately 250°C by mutual heterodiffusion or in the
preparation process - condensation on a hot base
(approximately 200°C) by surface heterodiffusion.
Diagrams for the microhardness of the aluminium corner of
the three-constituent system Al-Cu-Mg, after condensation
Card 4/5   and natural ageing, have been constructed; microhardness
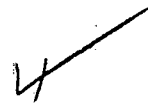
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Study of Aluminium Alloys of the System Al-Cu-Mg on Specimens of
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curves after annealing at 150 and 200°C for the sections
C_{31} = 0.025 and 0.035, and after annealing at 250°C for
the sections C_{31} = 0.015, 0.025, 0.035 and 0.050, have
been plotted. By means of the microhardness methods
metastable compounds of the Al_xCuMg_2 and Al_xCuMg type
have been found to exist which are responsible for the
great hardness of the condensed alloys. There are
7 figures, 3 tables and 14 references, 12 of which are
Soviet, 1 English and 1 German.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet;
Khar'kovskiy politekhnicheskiy institut (Khar'kov
State University; Khar'kov Polytechnic Institute)

SUBMITTED: June 28, 1958

Card 5/5

4 (3), 18 (7)

AUTHORS: Komar, A. P., Academician, AS UkrSSR,   SOV/20-125-3-17/55
              Volkonshteyn, N. V., Fedorov, G. V.

TITLE: The Change of the Sign of the Constant of Hall in the
              Ordering of Atoms in an Alloy (Izmeneniye znaka postoyannoy
              Kholla pri uporyadochenii atomov v splave)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3,
              pp 530-531 (USSR)

ABSTRACT: The authors first mention   some previous papers on this
              subject. The alloy Ni_3Mn is characterized by a dependence of
              its electric and galvano-magnetic properties on the
              spontaneous magnetization I_s and on the degree of the long-
              range order η. This dependence discerns this alloy from
              pure ferromagnetic metals and also from binary alloys of
              similar structure and composition. The Hall electromotive
              force E_H of the alloys Ni_3Mn was investigated for the cases
              of different heat treatment of the used samples in a wide
              temperature range down to the temperature of liquid helium.
              According to these investigations, E_H strongly depends

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The Change of the Sign of the Constant of Hall in the   RCV/20-175-3-17/53
Ordering of Atoms in an Alloy

on the manner of fixing the investigated state of the alloy.
Even in the case of fixing the non-ordered state (in reducing
from high temperatures), the different rate of hardening
exerts a great influence. If the alloy is quickly cooled
from 800° to room temperature, the alloy is paramagnetic
at this temperature. The Hall constant of this sample was

positive and equal to $R_o = + 0.09.10^{-12}$ v. cm/a. gauss.

In the case of ferromagnetics, v_H (it seems to denote the

Hall potential) is calculated according to the formula

$$v_H = \frac{R_o Bi}{d} + \frac{R_s \cdot 4\pi I_s i}{d}.$$ R_o denotes the ordinary Hall constant

and R_s the Hall constant connected with the spontaneous

magnetization I_s. R has an unusual, non-classical, positive

sign. This fact agrees also with the results of American
authors (Ref 7). The Hall electromotive force, which is due
to the existence of I_s, was found only at low temperatures.

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