

GRIVISH, I.Y.; KULIVAIZE, V.A.; PROZOROVNIY, Ye.A.; RYLSHCHEVA, N.P.

Thermodynamic functions of mono- and diatomic gases within  
a wide range of temperatures. Part 7: C, C<sup>+</sup>, CO, CO<sup>+</sup> in the  
ideal state up to 20 000<sup>0</sup> K. Trudy GIPKil no.49:61-83 '62.  
(MIRA 17:11)

L 12821-65 EWT(1)/EWT(1)/SPR(1)/SPR(1)-2/SEC(1)/T/EWP(1)/EWP(1)/EWA(1)-2  
Page 10/17-4 ID/44-SSD/ASD(a)-5/AFWL/ S/0048/64/028/009/1409/1410  
ACCESSION NR: AP4045290 ESD(gs)/ESD(t)

AUTHOR: Kvividze, V.A.; Mashkova, Ye.S.; Molchanov, V.A.

TITLE: Angular regularities evinced in the interaction of ion beams with the surface of a single crystal /Report, Tenth Conference on Cathode Electronics held in Kiev, 11-18 Nov 1963/

SOURCE: AN SSSR. Izvestiya. seriya fizicheskaya, v.28, no.9, 1964, 1409-1410

TOPIC TAGS: cathode sputtering, secondary emission, single crystal, copper, argon

ABSTRACT: The sputtering coefficients and ion-electron emission coefficients were measured for 30 keV argon ions incident on the (110) face of a single crystal of copper at angles from 0 to 76°. The experimental technique has been described elsewhere by V.A.Molchanov and various collaborators (Dokl.AN SSSR,136,801,1961; 151, 1074,1963; Fiz.tverdogo tela 5,3426,1963). Measurements were made both with the beam rotating about the [112] axis, and about the [111] axis, both of which lie in the target face. In both cases the curves for the two quantities measured were found to be very similar. Minima were found to occur when the incident beam was parallel to the [110], [113], [120], and [123] axes. Numerous methods for calcula-

L 12921-65.

ACCESSION NR: AP4045290

ting the dependence of the sputtering coefficient on the angle of incidence are discussed very briefly. A theoretical curve due to D.D. Odintsov (Fiz.tverdogo tela 4, 3426, 1963) is compared with the experimental curve obtained by rotating the beam about the [111] axis, and good qualitative agreement is found. Orig.art.has: 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Scientific Research Institute of Nuclear Physics, Moscow State University)

SUBMITTED: 00

ENCL: 00

SUB CODE: EC,SS

NR REP SOV: 007

OTHER: 005

2/2

L 38614-65 EWT(1)/EPA(sp)-2/EPF(c)/EPA(w)-2/EEC(t) Pab-10/Pr-4/Peб W7/AT  
ACCESSION NR: AP5005309 S/0181/65/007/002/0619/0621

AUTHOR: Kvlividze, V. A.; Mashkova, Ye. S.; Molchanov, V. A.

TITLE: Concerning the scattering of ions by metallic surfaces

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 619-621

TOPIC TAGS: ion scattering, metal sputtering, scattering angle, angular distribution, sputtering coefficient, copper

ABSTRACT: Results are presented of a numerical calculation of the dependence of the scattering angle on the impact parameter over a wide range of energies, using the potential of L. B. Firsov (ZhETF v. 33, 696, 1957). It is assumed in this approach that the incoming particle interacts with the lattice atoms like with free particles. The calculations, accurate to 5%, were made at the VTs MGU (Computation Center, Moscow State University). The number of fast sputtered particles in experiments on the angular distribution of scattered particles is estimated on the basis of this calculation. An estimate is also given of the sputtering coefficient of polycrystalline copper bombarded by 30 keV argon ions, using the for-

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L 38614-65

ACCESSION NR: AP5005309

mula of R. S. Pease (Rend. IFS v. 13, 158, 1959). A table of the scattering angles is presented. "The authors thank S. Ya. Sekerzh-Sen'kovich and I. A. Avurkina for the numerical calculations." Orig. art. has: 4 formulas and 1 table. 3

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

SUBMITTED: 10Jun64

ENCL: 00

SUB CODE: SS, HP

NR REF SOV: 006

OTHER: 007

Cards: 2/2 *llc*

KVLIVIDZE, V. I.

AUTHOR: Pomerantsev, N. M., and Kvlividze, V. I. 120-2-16/37

TITLE: A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals. (Chuvstvitel'naya Skhema dlya Nablyudeniya Signalov Yadernogo Magnitnogo Rezonansa).

PERIODICAL: Pribery i Tekhnika Eksperimenta, 1957, No.2, pp. 56 - 59 (USSR).

ABSTRACT: The main experimental problem in nuclear magnetic resonance work is how to increase the sensitivity (signal to noise ratio) of the apparatus. Besides the use of low noise installations it is usually necessary to apply other methods of increasing this ratio. In the present article the description is given of an arrangement incorporating the full compensation of the signal of the amplifying channel input (Ref. 4) as compared to the partial compensation method described in references 1 and 2. The "resistive voltage" as frequency carrier is introduced in this case after the amplification of a nuclear magnetic resonance signal. An improvement in the S/N ratio is obtained and although the relative noise cannot be reduced during the compensation process, its absolute value is made smaller, so that for a constant value of the magnetic resonance signal the S/N ratio is improved. If, for the

Card1/4

120-2-16/37

A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals.

partial compensation, the resistive voltage is of the order of mV, for a complete balance it may become of the order of one or a fraction of a microvolt. It is then smaller than the noise level and in principle the S/N ratio will be determined solely by the receiver noise and the pure absorption or dispersion observed. The resistive voltage of correct phase is fed into the mixer where detection occurs (as opposed to Reference 4.). The mixer is a multiplying circuit with integration. The integration constant is so chosen so as to pass low frequency components without distortion, the high frequency noise is reduced considerably in the same manner as in a high frequency phase sensitive detector with the frequency pass band reduced to the required value. The experimental arrangement consists of a generator with a power amplifier, the output voltage of which is fed into the compensator. The latter consists of a coil with a sample placed in its constant magnetic field. The signal of the magnetic nuclear resonance from the compensator is applied to a high frequency amplifier, then to a multiplier where it is multiplied by the generator voltage with a proper phase shift, obtained with a phase inverter (variable). After

Card 2/4

120-2-16/57

A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals.

multiplication and filtering of high frequency components, the signal is amplified and applied to the deflecting plates of an oscilloscope. The generator works at 12.938Mc/s, in Colpitts circuit, using a triode connected 6Zh1P (6) $\pi$  tube, the output voltage range is 0-12V. The compensating element is a double-T bridge network (Ref. 6). The high frequency amplifier has 11.8-14Mc/s band width and a gain of 80db. A valve volt-meter measures the output of the high frequency amplifier down to .01V. The multiplier is based on 6X6C tubes (Ref. 7). The constant magnetic field is 3,000 oersted. The modulating voltage is taken from the type 3G-10 (3J<sup>-</sup>-10) generator. The arrangement sensitivity was compared with that of an autodyne system. The latter gave the signal to noise ratio 1:1 for the same conditions for which the described instrument produced the oscillogram as shown in Figure 3. A block diagram of the apparatus, a circuit diagram of the amplifying circuit with inverters, phase shifters, differential amplifier and all the integrating network are given.

Card 3/4 There are 7 references, 2 of which are Slavic.



120-2-16/37

. . A Sensitive Arrangement for the Observation of Nuclear Magnetic Resonance Signals.

SUBMITTED: August, 8, 1956.

ASSOCIATION: Faculty of Physics of the Moscow State University  
imeni M. V. Lomonosov. (Fizicheskii Fakul'tet MGU im.  
M. V. Lomonosova.)

AVAILABLE: Library of Congress.

Card 4/4

33207

S/141/61/004/005/009/021  
E032/E114

24,7000 (1143, 1144, 1160)

AUTHORS: Iyevskaya, N.M., Kvlividze, V.I., and  
Umarkhodzhayev, R.M.

TITLE: On the observation of nutation in nuclear magnetic  
resonance experiments

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Radiofizika, v.4, no.5, 1961, 903-911

TEXT: The authors report a study of the form of the  
absorption and dispersion signals which are produced in a strong  
high-frequency magnetic field. Explicit expressions are derived  
for the z-component of the magnetization vector and the form of  
the absorption and dispersion signals in the special case of  
equal relaxation times. An approximate solution is also obtained  
for the case of linear modulation of the magnetic field.  
Conditions are derived for the appearance of the nutation of the  
magnetization vector. It is pointed out that the theoretical and  
experimental work carried out by the present authors indicates  
that great care must be exercised in distinguishing between fine  
structure of NMR signals and the nutation effect. The rate at  
Card 1/3

f

On the observation of nutation in ... <sup>33207</sup> S/141/61/004/005/009/021  
E032/E114

which resonance position is traversed must be such that  $|\lambda| \gg 1$   
where

$$\lambda = a/\gamma^2 H_1^2 \quad (2)$$

$a = |\gamma| dH_M/dt$ , and  $H_1$  is the amplitude of the high-frequency magnetic field. When  $|\lambda| < 1$  and the relaxation times are comparable or greater than the resonance value  $T_2$  the form of the signal is distorted and oscillations appear on passing through resonance. It is pointed out that the phenomenon of nutation can be used to determine the amplitude of the high-frequency magnetic field by measuring the period of the oscillations at resonance. The period is given by:

$$1/f_1 = 2\pi/|\gamma| H_1$$

There are 4 figures and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc. The English language references read as follows:  
Ref. 1: B.A. Jacobsohn, R.K. Wangsness,  
Phys. Rev., v. 73, 942 (1948).

Card 2/3



33207

On the observation of mutation ... S/141/61/004/005/009/021  
E032/E114

Ref.4: F. Bloch, Phys. Rev., v.70, 460 (1946).  
Ref.6: H.C. Torrey, Phys. Rev., v.76, 1059 (1949).  
Ref.9: A.G. Redfield, Phys. Rev., v.98, 1787 (1955).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet  
(Moscow State University)

SUBMITTED: September 16, 1960

+

Card 3/3

35065

S/195/62/003/001/006/010  
E071/E136

5.1115

AUTHORS:

Kvlividze, V.I., Iyevskaya, N.M., Yegorova, T.S.,  
Kiselev, V.F., and Sokolov, N.D.

TITLE:

NMR studies of water vapour adsorption on the surface  
of silica gel

PERIODICAL:

Kinetika i kataliz, v.3, no.1, 1962, 91-98

TEXT:

The mechanism of adsorption and the state of the adsorbed molecules on the surface of an adsorbent cannot be elucidated on the basis of purely adsorptive measurement. For this purpose some additional data on the system adsorbed substance - adsorbent obtained by physical methods are necessary. As a first stage in the investigations the authors studied signals of nuclear magnetic resonance from protons of hydroxyl groups of water adsorbed on the surface of silica gel. The results obtained were compared with adsorption properties of silica gel, with measurements of heats of adsorption and available spectroscopic data. Silica gels K-2 (K-2) and K-4 (K-4) obtained by the hydrolysis of  $SiCl_4$  and a purified sample of technical silica gel

Card 1/3

NMR studies of water vapour ...

S/195/62/003/001/006/010  
E071/E136

KCK-3 (KSK-3) were used for the investigation. The NMR measurements were carried out at room temperature on a sample of 0.2-0.3 g. The width of the lines was measured as the distance between maxima on the differential curve. The second moment was calculated from the differential curve of the signal absorption. Additions of water vapour in the ampule with silica gel for NMR and adsorption measurements were carried out by means of a spring balance. Heats of adsorption were determined either directly from calorimetric measurements or by the differentiation of the curve relating the heat of wetting and the amount of water adsorbed on the specimen. From the adsorption data and heat of wetting curves, differential curves of the changes in free energy and entropy of adsorption were calculated. It was shown that molecules of water are absent on the surface of the samples evacuated at 200 °C. In the initial stage of adsorption a sharp decrease in the width of the line of the second moment was observed. These changes in the NMR signals agree with the trends of the curves of differential heat and entropy of adsorption. The possibility of interaction of water molecules

Card 2/3

X

NMR studies of water vapour ...

S/195/62/003/001/006/010  
E071/E136

with the surface of silica gel through the coordination and  
hydrogen bonds is discussed.  
There are 5 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.  
M.V. Lomonosova, Fizicheskiy fakul'tet  
(Moscow State University imeni M.V. Lomonosov,  
Physics Division)

SUBMITTED: July 3, 1961

Card 3/3

X

KVLIVIDZE, V.I.; KRASIL'NIKOV, K.G.

State of water sorbed on calcium hydrosilicate studied by means of  
nuclear magnetic resonance. Dokl.AN SSSR 145 no.6:1305-1307  
Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavleno akademikom P.A.Rebinderom.  
(Water) (Sorpton) (Nuclear magnetic resonance and  
relaxation)



S/020/62/146/006/009/016  
B104/B186

AUTHORS: Kvlividze, V. I., Rashkovich, L. N.

TITLE: The magnetic nuclear resonance in some hydrosilicates and  
in calcium hydroxide

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 6, 1962; 1322-1325

TEXT: Synthetic  $\text{Ca}(\text{OH})_2$  crystals having an order of magnitude  $3\mu$  were dried for four hours in vacuo ( $\sim 1$  mm Hg) at a temperature of  $250^\circ\text{C}$  and then enclosed in glass ampoules. A spectrometer made in the Kafedra obshchey i khimicheskoy fiziki Moskovskogo gosudarstvennogo universiteta (Department of General and Chemical Physics of the Moscow State University) was used to observe the signals of the magnetic nuclear resonance of hydrogen. A permanent magnet produced the magnetic field strength of 2950 gauss, the inhomogeneity of which was less than 0.03 gauss. An analysis of the curves recorded showed that almost any of them can be described by a sum of three Gauss curves having respectively a wide, a mean and a narrow half-width. This implies

Card 1/3

The magnetic nuclear resonance in...

S/020/62/146/006/009/016  
B104/B186

that hydrogen nuclei in crystals are characterized by 3 different types of bond. Evidently, the narrow curves appertain to adsorbed water and the other two curves to protons bonded relatively strongly or weakly in the lattice of the hydrosilicates. The parameters of the unit cell given in Table 2 were calculated on the basis of the structure model (Fig. 2) proposed by J. D. Bernal and H. D. Megaw (Proc. Roy. Soc., A 151, 873, 384 (1935)). A comparison showed that the results agree with those obtained by D. M. Henderson and H. S. Gutowsky (Bull. Geol. Soc. Am., 67, 12/2, 1705 (1956)). There are 3 figures and 2 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov). Institut mestnykh stroitel'nykh materialov pri VSNKh RSFSR (Institute of Local Building Materials at the VSNKh RSFSR)

PRESENTED: March 24, 1962, by N. V. Belov, Academician

SUBMITTED: March 13, 1962

Card 2/3

KVLIVIDZE, V.I.; ZARIF'YANTS, Yu.A.; KISELEV, V.F.

Properties of a freshly cleft graphite. Part 6. Zhur. fiz.  
khim. 39 no.2:461-462 F '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonovova.

KVLIVIDZE, V.I.

Nuclear magnetic resonance of protons at 93°K in water  
adsorbed on silica gel. Dokl. AN SSSR 157 no.1:158-161  
Jl '64 (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavleno akademikom M.M. Dubininym.

L 35090-65 EEC(b)-2/EPF(c)/EPR/EWS(j)/EWP(j)/EWT(1)/EWT(m)/EEC(t)/EWP(b)/T/EWP(e)  
Pc-4/Pi-4/Pr-4/Ps-1 IJP(c) RM/WH/WW

ACCESSION NR: AP5006698

S/0076/65/039/002/0461/0462

42  
41  
B

AUTHOR: Kvividze, V. I.; Zarif'yants, Yu. A.; Kiselev, V. F.

TITLE: Surface properties of fresh cracks in graphite, VI. Nuclear magnetic resonance in polyethylene with a freshly cracked graphite filler

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 2, 1965, 461-462

TOPIC TAGS: cracked graphite, filled polyethylene, mobile hydrocarbon group, nuclear magnetic resonance, graphite filler, graphite surface

ABSTRACT: The influence of a filler on the NMR spectrum of natural and synthetic rubber was studied earlier by several researchers (see, e.g., I. Ya. Slonim, Usp. khimii, 31, 609, 1962). In the present work, the NMR signals from pure polyethylene were compared with those from polyethylene samples filled with freshly-cracked graphite. The results show that the active filler significantly modifies the shape of the NMR signals. The authors also found a widening of the narrow component of the NMR signal which indicates that the most mobile hydrocarbon groups of the amorphous part of the polymer are being braked. The introduction of graphite with oxidized surfaces results in less drastic changes in the structure of the NMR signals. To obtain deeper insight into the polymer-filler

Card 1/2

L 35090-65

ACCESSION NR: AP5006698

interaction, the authors are presently conducting tests at low temperatures.  
Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow state university)

SUBMITTED: 26Oct63

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 007

OTHER: 003

Card 2/2

KREJCI, Zdenek; KVOCH, Ladislav; SCHUSTER, Otto

Mechanical processing of data for establishment of output standards. Prace mzda 11 no.9:408-415 S'63.

1. Vyzkumny ustav vlnarsky.

KVOCH, Ladislav

How to improve technical standardization. Prace mzda 13 no.2:  
56-58 F '65.

1. Vlna Economic Unit, Brno.



BOCHEROVSKI, S.K., inzh.; KOLIFOV, K.D., inzh.; KIROVA, E.G., inzh.;  
PETEROV, A.S., inzh. tekh. nauk; SMIRNOVA, I.I., inzh.

Measurement of the parameters of lightning on the towers of  
two-circuit 220Kv. electric power transmission lines. Elek.  
sta. 35 no.6:47-51 Je '64. (MIRA 18:1)

KVOCHKIN, A.P.

KVOCHKIN, A.P.

Fastening copper tube grids to flange joints of heat exchangers and  
evaporators. Hidroliz. i lesokhim. prom. 10 no.8:22-23 '57.

(Heat exchanges)

(MIRA 10:12)

(Hydrolysis--Equipment and supplies)

KVOCHKIN, Fedor Abramovich

KAMYSHV, Sevast'yan Filippovich; QALIKHIN, Viktor Dmitriyevich; LARIN, Vasilii Il'ich; MIKHAYLOV, Leonid Leonidovich, FILONOVA, Lidiya Ivanovna; YASNITS, Mikhail Grigor'yevich; KVOCHKIN, Fedor Abramovich; LOZBYAKOVA, Ye.S., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Petroleum industry of Groznyy Province] Groznenskaia neftianaya promyshlennost'. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gornotoplivnoi lit-ry, 1957. 57 p. (MIRA 11:2)  
(Groznyy Province—Petroleum industry)

*KVOCHKIN, FEDOR ABRAMOVICH*

BASHILOV, Arseniy Aleksandrovich, kand.tekhn.nauk; STOLOV, Al'bert  
Izrailevich; KVOCHKIN, Fedor Abramovich; KOLESNIKOV, F.M.,  
red.; BABICHEVA, V.V., tekhn.red.

[Ways of reducing losses of petroleum products in refineries]  
Puti sokrashchenia poter' nefteproduktov na neftepereraba-  
tyvalushchikh zavodakh. [Groznyi] Grozenskoe knizhnoe izd-vo,  
1957. 125 p. (MIRA 12:1)

(Petroleum--Refining)

PHASE I BOOK EXPLOITATION

1094

*КВОЧКИН, ФЕДОР АБРАМОВИЧ*  
Bashilov, Arseniy Aleksandrovich, Kvochkin, Fedor Abramovich, and Stolov, Al'bert Izrailevich

Kompaundirovaniye motornykh topliv (Blending of Motor Fuels) Moscow, Gostoptekhi-zdat, 1958. 138 p. 2,500 copies printed.

Ed.: Sukhanov, V.P.; Exec. Ed.: Yefremova, T.D.; Tech. Ed.: Mukhina, E.A.

PURPOSE: This book is intended for the engineers and other technical workers employed in petroleum refining plants, commodity transportation offices, petroleum supply and storage enterprises of various branches of industry, automotive, water and air transportation, and in agriculture.

COVERAGE: This book gives theories and methods for blending fuels and the characteristics of basic components of automobile and aviation gasolines, tractor kerosenes, and diesel and reactive fuels. Problems of ethylating and inhibiting motor fuels, practical calculation and industrial examples of blended fuels obtained from slightly sulfurous and sulfurous petroleum, automation problems, and safety techniques during blending are also discussed.

Card 1/3

Blending of Motor Fuels 1094

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AVAILABLE: Library of Congress		

TM/sfm  
1-12-59

Card 3/3

KVOCHKIN, L.P.

FEVILOV, V.V.; KVOCHKIN, L.P.

Evaporation of solutions and drying of pyroligneous powder. Gidroliz.  
i lesokhim. prom. 11 no.2:15-16 '58. (MIRA 11:3)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.  
(Calcium acetate) (Drying apparatus)



KHAYKIN, Abram Borisovich; SHUMSKY, Edgar Pavlovich; DYADYUNOV, V.I.;  
inzh., retsenzent; YEVGENYEV, S.V., inzh., nauchn. red.;  
KVOCHKINA, G.P., red.

[Automatic control of the operation of ships with controllable-  
pitch propellers] Avtomatskoye regulirovaniye rezhimov ra-  
boty sudov s VRSh. Leningrad, Sudostroeniye, 1965. 197 p.  
(MIRA 18:12)

BELTSERKOVSKIY, Grigoriy Bentsionovich; KALANTAROV, M.N., inzh.,  
retsensent; FASOVSKIY, I.A., kand. tekhn. nauk,  
retsensent; OKUN', Ye.L., inzh., nauchn. red.; KVOCHKINA,  
G.P., red.

[Oscillatory circuits and filters] Kolebatel'nye kontory i  
fil'try. Leningrad, Sudostroenie, 1965. 135 p.  
(MIRA 18:8)

KURNOV, Anatoliy Ivanovich; YUDIN, Vladimir Vasil'yevich;  
ALFEROV, Zh.I., kand. tekhn. nauk, retsenzent;  
MITROFANOV, V.V., inzh., retsenzent; PASYNKOV, V.V.,  
prof., doktor tekhn. nauk, nauchn. red.; CHFAS, M.A.,  
red.; KVOCHKINA, G.P., red.

[Technology of the manufacture of semiconductor devices]  
Tekhnologiya proizvodstva poluprovodnikovyykh priborov.  
Leningrad, Sudostroenie, 1965. 247 p. (MIRA 18:8)

BEREZNIKOVSKIY Sergey Fedorovich. dots., kand. tekhn. nauk;  
BESEKERSKIY, V.A., doktor tekhn.nauk, retse'zent;  
VASIL'YEV, D.V., doktor tekhn. nauk, retsenzent;  
BLAZHKIN, A.T., prof., red.; KVOCHKINA, G.P., red.

[Automatic regulation and control of electrical machines;  
some theory problems and elements of control systems] Av-  
tomaticheskoe regulirovanie i upravlenie elektricheskimi  
mashinami; nekotorye voprosy teorii i elementy sistem up-  
ravleniia. Leningrad, Sudostroenie, 1964. 418 p.  
(MIRA 17:9)

KUDREVICH, Boris Ivanovich, zasl. deyatel' nauki i tekhniki RSFSR, prof., doktor tekhn. nauk[deceased]; FORMAKOVSKIY, S.F., doktor tekhn. nauk, otv. red.; RIVKIN, S.S., doktor tekhn. nauk, nauchnyy red.; OSTROMUKHOV, Ya.G., doktor tekhn. nauk, nauchnyy red.; SHAPIRO, M.V., kand. tekhn.nauk, nauchnyy red.; KVOCHKINA, G.P., red.; SHISHKOVA, L.M., tekhn. red.

[Theory of gyroscopic instruments] Teoriia giroskopicheskikh priborov; izbrannye trudy. Leningrad, Sudpromgiz. Vol.1. 1963. 327 p.

(Gyroscopic instruments)

(MIRA 16:5)

OKUN', Yevsey L'vovich; KALANTAROV, M.N., retsenzent; STREL'NIKOV,  
M.T., retsenzent; SHAL'NIKOV, G.I., nauchn. red.;  
NIKITINA, M.I., red.; KLIMINA, Ye.V., red.; SACHUK, N.A.,  
red.; KVOCHKINA, G.P., red.

[Radio transmitting devices] Radioperedaushchie ustroistva.  
Izd.2., perer. i dop. Leningrad, Sudostroenie, 1964. 539 p.  
(MIRA 17:5)

ZADONTSEV, Vladimir Ivanovich; KORSUNENKO, Anatoliy Afanas'yevich;  
NIKOLAYEV, Boris Nikolayevich; RYKOV, Mikhail Ivanovich;  
ZHIL'TSOV, I.F., kand. med. nauk, retsenzent; GORSHKOV,  
G.V., doktor tekhn. nauk, nauchm. red.; KVOCHKINA, G.P.,  
red.; NIKITINA, M.I., red.

[Isimetry of radioactive gases and aerosols on ships] Do-  
zimetriia radioaktivnykh gazov i aerazolei na sudakh. Le-  
ningrad, Sudostroenie, 1965. 202 p. (MIRA 18:4)

GAVRILOV, V.I.; YERSHOV, F.J.; BLYUMKIN, V.N.; KVOKOV, I.I.; LEVINA, D.S.;  
ZMIYEVA, R.G.

Characteristics of the morphogenesis of the cultures of the line of  
transplantable CA-SV40-63-1 cells. Vop. virus. 10 no.3:323-329 My-  
Je '65. (MIRA 18:7)

1. Institut virusologii imeni Ivanovskogo AMN SSSR, Moskva.



KVOKOV, K.G.

Disk relief of diamonds and its origin. Zap.Vses.min.ob-va 88 no.3:  
240-246 '59.

(Diamonds)

(MIRA 12:11)

KULIZADE, K.N.; SAIDOV, A.A.; KVCKOV, P.F.

Effect of the basic parameters of a hoisting mechanism on its dynamics.  
Izv. vys. ucheb. zav.; neft' i gaz 8 no.6:97-100 '65. (MIRA 18:7)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova.

KVOKOVA, I.M.; LAYNER, V.I.

Electrolytic rhenium plating of molybdenum and tungsten. Izv.  
vys. shch. zav.; tsvet. met. 7 no. 4:142-146 '64 (MIRA 19:1)

1. Moskovskiy institut stali i splavov, kafedra korrozii i  
zashchity metallov.

L 10696-66 EWT(m)/ETC/EPF(n)-2/EWG(m)/ENP(t)/EWP(z)/EWP(b) IJP(c) JD/HN/JG/WB/GS  
ACC NR: AT5027946 SOURCE CODE: UR/0000/65/000/000/0100/0107

AUTHOR: Kvokova, I. M.; Layner, V. I.

8.8  
85  
B+1

ORG: none 4:1 5:5

TITLE: Oxidation-resistant electroplated coatings on molybdenum and tungsten

SOURCE: Seminar po zharostoykim pokrytiyam. Leningrad, 1964. Zharostoykiye pokrytiya (Heat-resistant coatings); trudy seminara. Leningrad, Izd-vo Nauka, 1965, 100-107

TOPIC TAGS: molybdenum, tungsten, oxidation, molybdenum oxidation, tungsten oxidation, oxidation inhibition, chromium plating, nickel plating, oxidation resistant coating, chromium nickel coating

ABSTRACT: Experiments have been made to determine the best conditions for chemical and electrochemical deposition of oxidation-resistant chromium-nickel coatings on molybdenum and tungsten. The electrochemical preparation of the surfaces to be plated was more effective than the chemical. Both molybdenum and tungsten were pickled in 15% NaOH for 3-5 min at an alternating current density of 35-40 amp/dm<sup>2</sup> and a voltage of 15-20 v. Chromium plating was done in a standard electrolyte (250 g/l CrO<sub>3</sub>, 2/5 g/l H<sub>2</sub>SO<sub>4</sub>) at 70C and a current density of 30 amp/dm<sup>2</sup>, or in an electrolyte containing 250 g/l CrO<sub>3</sub> and 0.75-1.5 g/l H<sub>2</sub>SO<sub>4</sub> at room temperature and a current density of 30 amp/dm<sup>2</sup>. Under these conditions, a dense, fairly sound, tightly adhering, chromium coating without porosity or a crack network were obtained.

Card 1/2

L 10696-66

ACC NR: AT5027946

3  
Strong adhesion of nickel to chromium<sup>1</sup> was achieved by activation of the chromium coating in 50% HCl for 10-20 sec at room temperature. Nickel coating was deposited in two stages. The first coating, 4-5  $\mu\text{m}$  thick, was deposited in an electrolyte containing 250 g/l  $\text{NiCl}_2$  and HCl to the pH = 1, at room temperature and a current density of 2.5 amp/ $\text{dm}^2$ . The main nickel coating, 60-400  $\mu\text{m}$  thick, was deposited in a standard sulfuric acid electrolyte with a pH of 5.5 at 45C and a current density of 2.5 amp/ $\text{dm}^2$ . A nickel coating 180  $\mu\text{m}$  thick protects molybdenum from oxidation at 900C for 300 hr. Diffusion of molybdenum into nickel coating can be appreciably delayed by plating a 20-40  $\mu\text{m}$  thick layer of silver or gold on the chromium substrate, followed by chromium and nickel plating to a thickness of 30 and 60  $\mu\text{m}$ , respectively. Orig. art. has: 5 figures. [MS]

SUB CODE: 11, 13/ SUBM DATE: 20Jul65/ ORIG REF: 002/ OTH REF: 003/ ATD PRESS: 416

HW  
Card 2/2

KVOKOVA, I.M.; LAYNER, V.I.

Electrodeposition of compact layers of rhenium of considerable thickness.  
Zashch. met. 1 no.5:515-520 S-0 '65. (MIRA 18:9)

1. Moskovskiy institut stali i splavov.

L 17913-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 LJP(c)/ASD(m)-3/ASD(f)-2 JD/  
ACCESSION NR: AP4047493 JG S/0149/64/060/004/0142/0146

AUTHOR: Kvokova, I.H.; Layner, V.I.

TITLE: Electrolytic deposition of rhenium coatings on molybdenum  
and tungsten 27 14 27 18 27 B

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 4, 1964, 142-146

TOPIC TAGS: rhenium, molybdenum, tungsten, rhenium coating,  
rhenium coating deposition, electrolytic deposition

ABSTRACT: A number of rhenium-containing electrolytes were tested in an effort to obtain satisfactory-quality rhenium coatings on molybdenum and tungsten. The best results were obtained with electrolytes containing either 60 g/l HReO<sub>4</sub>, 40 g/l H<sub>2</sub>SO<sub>4</sub>, and 30 g/l (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> or 12 g/l KRO<sub>4</sub>, 60 g/l H<sub>2</sub>SO<sub>4</sub>, and 100 g/l (NH<sub>4</sub>)<sub>2</sub> at room temperature and a current density of 20 a/dm<sup>2</sup>. Molybdenum or tungsten surfaces had to be pickled prior to coating in 15% NaOH solution with alternating current at a current density of 30 a/dm<sup>2</sup>. Under these conditions, rhenium coatings, 2μ thick and sufficiently dense, with good adhesion to the base metal were obtained. Efforts  
Card 1/2

L 17943-65

ACCESSION NR: AP4047495

to obtain coatings with a thickness in excess of 2 $\mu$  failed; with prolonged electrolysis, the coating became nonuniform and began to peel off. Heavier coatings could be obtained only by depositing several layers, each 2 $\mu$  thick, with annealing of each layer in inert gas at 800 C or 1000 C for 20 or 10 min, respectively, prior to depositing the rest layer. Orig. art. has: 4 figures.

ASSOCIATION: Moskvskiy Institut stali i splavov. Kafedra korrosii i zashchity metallov. (Moscow Institute of Steel and Alloys. Department of Corrosion and Protection of Metals)

SUBMITTED: 17Dec63

ENCL: 00

SUB CODE: MM

NO REF SOV: 004

OTHER: 007

Card 2/2



L 19010-55 EMT(m)/EFF(m)-2/EWA(d)/EWP(t)/EWP(b) Pr-4 IJP(c)/SSD/AFTC(p)/  
ASD(T)-2/ASD(m)-3 JD/JD/WB

ACCESSION NR: AP5000143

S/0149/64/000/005/0129/0134

AUTHOR: Kvokova, I. N.; Layner, V. I.

TITLE: Protection of molybdenum<sup>7</sup> and tungsten<sup>7</sup> against high-temperature gas corrosion by the electrolytic deposition of coatings

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 5, 1964, 129-134

TOPIC TAGS: molybdenum, tungsten, electroplating, chromium, nickel, corrosion, corrosion prevention, oxidation, oxidation prevention

ABSTRACT: Experiments have been conducted to determine the most effective conditions of electroplating of molybdenum and tungsten with chromium and nickel to protect the base metals from oxidation and gas corrosion at 1100-1200C. Satisfactory-quality coatings were obtained by a thorough electrochemical cleaning of the molybdenum and tungsten specimens and by first depositing a chromium sublayer from an electrolyte containing 250 g/l CrO<sub>3</sub> and 2.5 g/l H<sub>2</sub>SO<sub>4</sub> at 70C with a current density of 30 amp/dm<sup>2</sup>. On this chromium<sup>7</sup> sublayer, which is free of porosity, is sufficiently ductile, and has a good adhesion to

Card 1/2

L 19040-65

ACCESSION NR: AP5000143

the base metal, a nickel coating is deposited in two stages: at first a thin nickel layer 4-5  $\mu$  thick is deposited in a chloride electrolyte (to prevent the passivation of chromium), then a heavier nickel layer 60-200  $\mu$  thick, in a conventional electrolyte. The procedure described ensures high-quality, dense, chromium-nickel coatings of molybdenum and tungsten, which adequately protect the base metals from oxidation and gas corrosion. Orig. art. has: 5 figures. <sup>2</sup>

ASSOCIATION: Moskovskiy institut stali i splavov, Kafedra korozii i zashchity metallov (Moscow Institute of Steel and Alloys, Department of Corrosion and Protection of Metals)

SUBMITTED: 10May63

ENCL: 00

SUB CODE: MM

NO REF SOV: 30Dec64

OTHER: 004

ATD PRESS: 3157

Card 2/2

L 1784L-65 EWT(m)/EPP(n)-2/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-l/Pad/Pu-l  
LJP(c)/ASD(f)-2/ASD(m)-3 JD/HW/JG/WB  
ACCESSION NR: AP4048367

S/0032/64/030/011/1363/1364

AUTHOR: Kvokova, I. M.; Layner, V. I.

TITLE: Method of oxidation testing coated molybdenum

SOURCE: Zavodskaya laboratoriya, v. 30, no. 11, 1964, 1363-1364

TOPIC TAGS: molybdenum, coated molybdenum, oxidation, resistance

ABSTRACT: A method has been introduced for testing the oxidation resistance of protective coatings on molybdenum specimens by heating the specimens with electric current. Uncoated molybdenum wires 2 mm in diameter withstood 20 min at 700C and 5 min at 800C, whereas specimens coated with chromium withstood 3-8 hr at 700C, depending on coating conditions. Nickel coating 180  $\mu$  thick protected molybdenum at 800C for more than 100 hr. During this time only Ni was oxidized. Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys).

Card

1/2

L 17844-65

ACCESSION NR: AP4048367

SUBMITTED: 00

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: MM

ATD PRESS: 3153

Card 2/2

L 2117-66 ENT(m)/EWP(w)/EWP(1)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG  
ACCESSION NR: AP5022659 UR/0365/65/001/005/0515/0520  
621.357.7

AUTHOR: Kvokova, I. M.; Layner, V. I.

TITLE: Electrolytic deposition of heavy solid-rhenium layers

SOURCE: Zashchita metallov, v. 1, no. 5, 1965, 515-520

TOPIC TAGS: rhenium, electrolytic deposition, rhenium electrolytic deposition, molybdenum, rhenium chromium alloy, alloy electrolytic deposition

ABSTRACT: Experiments have been conducted to determine why only very thin rhenium layers can be electrolytically deposited on molybdenum. Numerous attempts to deposit heavier layers in one step without intermediate annealing failed. It is believed that the low overvoltage of hydrogen on rhenium leads to the absorption of hydrogen, which in turn causes cracking of rhenium deposits whenever their thickness exceeds 2 μ. Due to cracks in the rhenium deposits, they loosen from the molybdenum base. Rhenium layers 6-8 μ thick are at present obtained under production conditions by gradual build up, with each layer, 1-2 μ thick.

Card 1/2

L 2117-66

ACCESSION NR: AP5022659

annealed after deposition at 800—1000C for 15—60 min in a protective hydrogen atmosphere. Experiments with the deposition of rhenium-chromium alloy revealed that chromium reduces the lattice parameters of rhenium, forms a substitutional solid solution with rhenium, and increases the dislocation density. Crystals of chromium-rhenium alloy deposits have a more regular shape and are larger than those of rhenium deposits. No cracks were observed in alloy deposits up to 10  $\mu$  thick. However, these deposits adhere tightly only to copper or nickel, and not to molybdenum. Orig. art. has: 4 figures and 2 tables. [ND]

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 29Jan65

ENCL: 00

SUB CODE: MM, 6c

NO REF SOV: 007

OTHER: 001

ATD PRSS: 4117

Card 2/2

IVANOV, M.Ye.; KVOKSHA, V.V.; VOYCHINSKIY, M.I., red.

[Power supply sources of electric and radio navigation devices] Istochniki pitaniia elektroradionavigatsionnykh priborov. Moskva, Transport, 1965. 218 p.  
(MIRA 18:5)

KVOLENKO, O. D.

"Dielectric properties of hydrophilic Highpolymers," a paper presented  
and the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-  
2 Feb 57, Moscow, KarpovInst.

B-3,004,395



FARNAS, Yu.; LAZUGA, K.; KOS'LYAK, A.; KVOL'SKIY, V.

Natural foci of rural leptospirosis. Trudy Inst.zool.  
AN Kazakh.SSR 12:11-14 '60. (MIRA 13:7)  
(Poland--Leptospirosis)  
(Animals as carriers of disease)

EVON, S. S. (Min. Eng.), FOMROVSKIY, V. A.

Mining Engineering

Application of the analytical method in mining. Gor. zhur. no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952, UNCL.

S.  
KVON, S.; LEVIN, N.F., otvetstvennyy redaktor; SHUSHKOVSKAYA, Ye.L.,  
redaktor izdatel'stva; NADEINSKAYA, A.A., tekhnicheskiy redaktor

[Problems in the opening and preparation of mines in the Karaganda  
Basin] Voprosy vskrytiia i podgotovki shakhtnykh polei Karagandin-  
skogo basseina. Moskva, Ugletekhizdat, 1956. 174 p. (MLRA 9:7)  
(Karaganda Basin--Coal mines and mining)

KVON, Sergey Syn-Guvich; SHUSHKOVSKAYA, Ye.L., otv.red.; VINOGRADOVA,  
G.V., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Tapping gently-sloping coal layers] Vskrytie ugol'nykh plastov  
pologogo padeniia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po  
gornomu delu, 1960. 125 p. (MIRA 14:6)  
(Coal mines and mining)

KAPUSTIN, Nikolay Georgiyevich; KVON, Sergey Syn-Guvich; BERLIN, A.Ye., inzh., retsenzent; KOVSH, B.I., inzh., retsenzent; BRODSKIY, I.A., inzh, retsenzent; CHECHKOV, L.V., ved. red.; BIRYUKOV, R.A., prof., otv. red.

[Principles of designing coal mines] Osnovy proektirovaniya ugol'nykh shakht. Moskva, Nedra, 1964. 267 p.  
(MIRA 18:2)

1. Vsesoyuznyy tsentral'nyy gosudarstvennyy institut po proyektirovaniyu i tekhniko-ekonomicheskim obosnovaniyam razvitiya ugol'noy promyshlennosti (for Berlin, Kovsh, Brodskiy).

ALEKHIN, F.K.; ALOTIN, L.M.; ALTAYEV, Sh.A.; ANTONOV, P.Ye.;  
BEVZIK, Yu.Ya.; BELEN'KIY, D.M.; BRATCHENKO, B.F.,  
gornyy inzh.; BRENNER, V.A.; BYR K., V.F.; VAL'SHTEYN,  
G.I.; YERMOLENOK, N.S.; ZHISLIN, I.M.; IVANOV, V.A.;  
IVANCHENKO, G.Ye.; KVON, S.S.; KODYK, G.T.; KREMENCHUTSKIY,  
N.F.; KURDYAYEV, B.S.; KUSHCHANOV, G.K.; MASTER, A.Z.;  
PREOBRAZHENSKAYA, Ye.I.; ROZENTAL', Yu.M.; RUDOY, I.L.;  
RUSHCHIN, A.A.; RYBAKOV, I.P.; SAGINOV, A.S.; SAMSONOV,  
M.T.; SERGAZIN, F.S.; SKLEPCHUK, V.M.; USTINOV, A.M.;  
UTTS, V.N.; FEDOTOV, I.P.; KHRAPKOV, G.Ye.; SHILENKOV, V.N.;  
SHNAYDMAN, M.I.; BOYKO, A.A., retsenzent; SUROVA, V.A.,  
ved. red.

[Mining of coal deposits in Kazakhstan] Razrabotka ugol'-  
nykh mestorozhdenii Kazakhstana. Moskva, Nedra, 1965. 292 p.  
(MIRA 18:5)

SVEHLA, Andrej, ins.; KVOPKOVA, Olga, ins.

Spectral determination of silicon, manganese, copper and tin in ferrotungsten. Hut listy 16 no.8:588-590 Ag '61.

1. Kovohuty Istebne.

KVORAK J.

CZECHOSLOVAKIA/Optics - Physical Optics

K-5

Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 6937

Author : Kvorak J., Majer J.

Inst : Not Given

Title : Time Dependent Birefringence of Macromolecular Substances

Orig Pub : Sb. chekosl. khim. robot, 1957, 22, No 2, 379-389

Abstract : See Referat Zhur Fizika, 1957, 21103

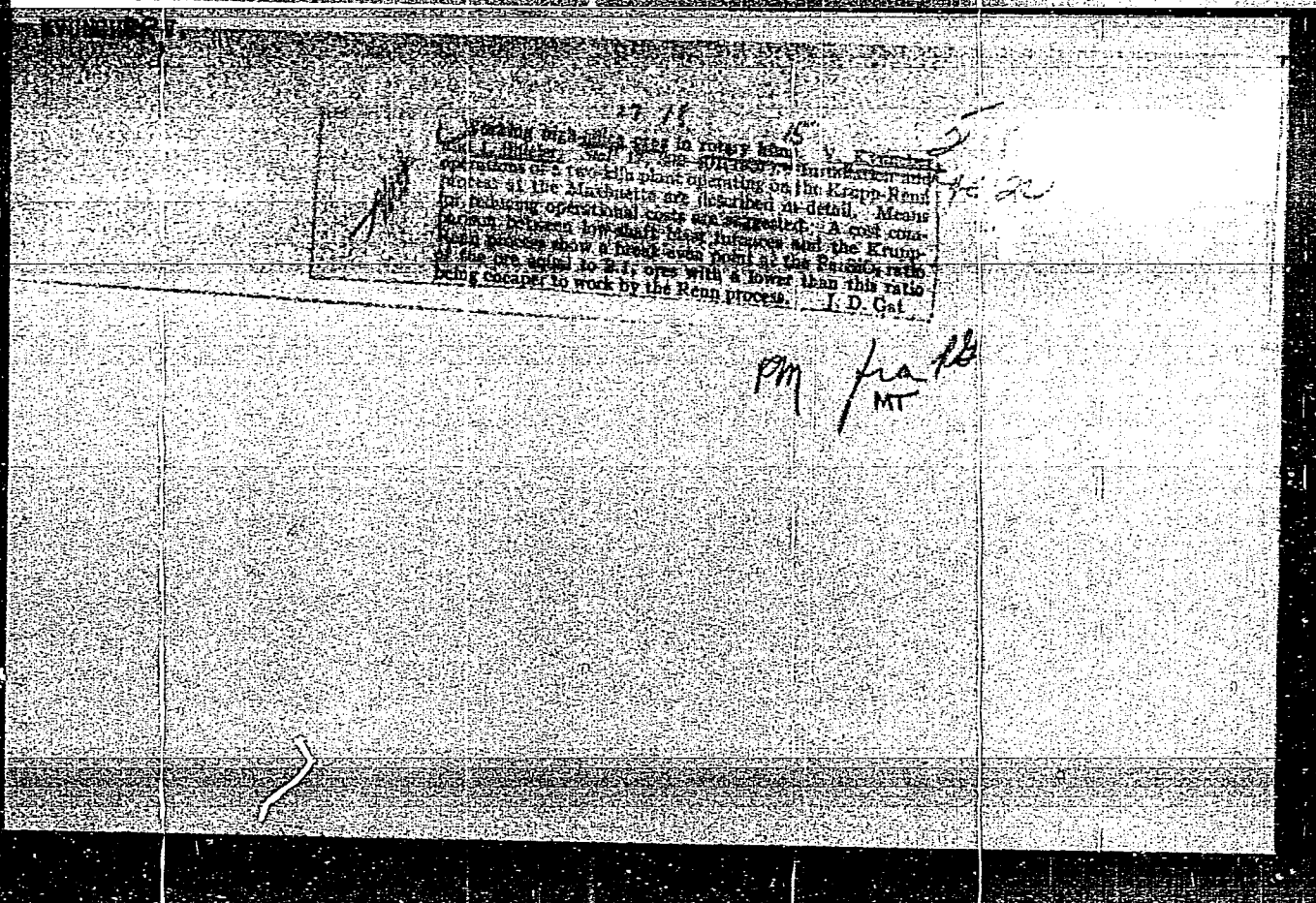
Card : 1/1



TINYAKOV, G.G.; KVOSTOVA, V.V.

Histological characteristics of the udder of cows at various periods  
of pregnancy and lactation. Dokl.AN SSSR 106 no.6:1096-1098 F '56.  
(MLRA 9:7)

1. Predstavleno akademikom I.I. Shmal'gausenom.  
(UDDER)



FISHER, A.Ya.; Prinsipalni uchastiye: ALFER'YEVA, N.A., inzh.; KVURG, O.S.,  
inzh.; ZARETSKIY, Ye.I., inzh.; YEVSEYEV, M.S., master

Liquation refining of lead by means of aluminum. Trudy  
Giprotsvetmetobrabotka no.20:305-315 '61 (MIRA 15:2)  
(Lead—Metallurgy)

KVURT.O.S.  
SMIRYAGIN, A.P., kandidat tekhnicheskikh nauk; VYSOTSKAYA, V.N.;  
KVURT, O.S.

Research on antifriction alloys for use at high specific pressures  
and for shock loads. Issl. splav. tsvet. met. no.1:59-65 '55.  
(MLRA 9:10)

(Bearing metals) (Copper-lead-manganese alloys)

KVURT, O.S.

137-58-5-10444

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 222 (USSR)

AUTHORS: Smiryagin, A.P., Kvurt, O.S.

TITLE: Effect of Silicon, Iron, and Beryllium on the Rate of Diffusion of Iron in Aluminum (Vliyanie kremniya, zheleza i berilliya na skorost' diffuzii zheleza v alyuminiu)

PERIODICAL: Tr. Gos. n.-i. i proyekt. in-ta po obrabotke tsvetn. met., 1957, Nr 16, pp 90-115

ABSTRACT: An investigation is made of the diffusion (D) of radioactive Fe<sup>59</sup> in Al-base alloys (99.996% pure Al). The following alloys are studied: Al-Si(0.57-3.54% Si), Al-Fe(0.58-1.16% Fe), Al-Si-Fe(0.55-1.87% Si, 0.60% Fe), and Al-Be(0.25-0.50% Be). The specimens were annealed at 500°C to attain states of equilibrium, and the layer of Fe<sup>59</sup> was applied to the surfaces of the specimens by electrolysis. The diffusive anneal was run in a vacuum of 10<sup>-4</sup> to 10<sup>-5</sup> mm Hg at temperatures of 500-600° and holding times of 1 to 6 hours. Measurement of the coefficient of D was done by the method of Kryukov and Zhukhovitskiy (Dokl. AN SSSR, 1953, Vol 90, Nr 3). The speed of reactive D of Fe in Al alloys was studied metallographically by measurement of

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137-58-5-10444

Effect of Silicon, Iron (cont.)

layer thickness. It is shown that Fe and Be have no significant effect on the rate of D of Fe in Al either in the formation of a solid solution or in reactive D. Si has a very powerful effect on the process of reactive D. Formation of an intermediate layer of chemical compound in the boundary zone ceases at Si contents in the Al of up to 1% and annealing temperatures to 550°. This effect is due to the formation of an Al-Fe-Si complex in the form of a very thin film interfering with D. As the Si content of the alloy rises, a fusible eutectic appears (m. p. 577°). Acceleration of D at 600° in this case is due to a reaction between the solid and liquid phases. Bibliography: 19 references.

L. M.

1. Iron--Diffusion    2. Aluminum--Metallurgical effects    3. Silicon--Metallurgical effects  
4. Beryllium--Metallurgical effects

Card 2/2

KVURT, O.S.

137-58-4-8036

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 236 (USSR)

AUTHORS: Smiryagin, A.P., Kvurt, O.S.

TITLE: Effect of Copper and Silicon on the Rate of the Diffusion of Iron in Nickel (Vliyaniye medi i kremniya na skorost' diffuzii zheleza v nikel')

PERIODICAL: Tr. Gos. n. -i. i proyekt. in-ta po obrabotke tsvetn. met., 1957, Nr 16, pp 116-126

ABSTRACT: The diffusion (D) of Fe in Ni-Cu alloys with 1.26, 2.16, and 5.1% Cu and in Ni-Si alloys with 0.1, 0.13, 0.45, and 0.80% Si was studied by means of the radioactive isotope Fe<sup>59</sup> which was applied electrolytically as an 0.4 micron layer on samples 40-80 microns thick. The specimens were annealed at 900, 950, 1000, 1025, and 1050°C for 1 to 5 hours. The coefficient of D was determined from the slope of its linear relationship  $\log \frac{(J_1 - J_2)(J_1 + J_2)}{t}$  to the annealing time ( $J_1$  and  $J_2$  being the intensity of irradiation of the specimen on the two sides) by the Kryukov and Zhukhovitskiy method of thin specimens (Kryukov, S.N., and Zhukhovitskiy, A.A., Dokl. AN SSSR, 1953, Vol 90, Nr 3, p 379). Cu brings about a negligible increase in the D rate of Fe

Card 1/2

137-58-4-8036

Effect of Copper and Silicon on the Rate of the Diffusion of Iron in Nickel  
in Ni; an Si content of 0.1-0.5% cuts the rate of D to 1/3 or 1/4, while the  
heat of activation almost doubles.

1. Nickel alloys--Iron diffusion--Analysis      I. D.  
--Applications      2. Iron isotopes (Radioactive)  
3. Iron--Diffusion

Card 2/2



SMIRYAGIN, A.P.; KVURT, O.S.

Research of efficient alloys based on copper with utilization  
of secondary metals. Biul.TSIIN tsvet.met. no.10:26-31 '58.

(Copper alloys--Metallography)

(NIRA 11:9)

SHIRYAGIN, A.P.; KVURT, O.S.

Research of efficient copper base alloys with utilization of  
secondary metals (conclusion). Biul. TSIIN tsvet. met. no. 11:23-  
28 '58. (MIRA 11:7)

(Copper alloys--Metallography)

SMIRYAGIN, A.P.; KVURT, O.S.; ARKHIPOV, I.P.

Recrystallization of commercial titanium. Issl.splav.tsvet.  
met. no.2:92-95 '60. (MIRA 13:5)  
(Titanium--Metallography)

18.1285

29472  
S/137/61/000/008/037/037  
A060/A101

AUTHORS: Smiryagin, A. P., Arkhipov, I. P., Kvurt, O. S.

TITLE: Study of the effect of the degree of deformation, temperature and duration of annealing upon the mechanical properties and recrystallization of commercial titanium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1961, 24, abstract 8I188 ("Tr. Gos. n.-i. i proyektn. in-ta po obrabotke tsvetn. met.", 1960, no. 18, 7-29)

TEXT: An investigation was carried out on the effect of the degree of deformation, temperature and duration of annealing upon the structure and characteristics of a sheet of commercial titanium with composition (in %): Ti 99.2, W 0.16, C 0.04, Si 0.13, Fe 0.21, O 0.002, H 0.0097. At annealing of slightly deformed Ti one obtains an inhomogeneous structure, which is a deleterious factor in the subsequent working (stamping and the like) of semifinished articles from commercial Ti. The critical degree of deformation of commercial Ti lies between the limits of 2.5 - 5% cold hardening. The optimal annealing temperature in air for commercial Ti deformed up to 30% and above is 600°C.

Card 1/2

Study of the effect of the degree ...

29472  
S/137/61/000/008/037/037  
A060/A101

This ensures high-grade mechanical characteristics, homogeneity of the structure, and minimum oxidation of the commercial Ti, and the annealing time at such a temperature has no great effect upon the quality of the semifinished products and the commercial Ti. There are 8 references. X

T. Rummyantseva

[Abstracter's note: Complete translation]

Card 2/2

187500

28550  
S/137/61/000/009/025/087  
A060/A101

**AUTHORS:** Smiryagin, A.P., Kvurt, O.S.

**TITLE:** Influence of manganese and chromium on the diffusion rate of iron in nickel

**PERIODICAL:** Referativnyy zhurnal. Metallurgiya, no. 9, 1961, 2, abstract 9Zh9  
("Tr. Gos. n.-i. i proyekt. in-ta po obrabotke tsvetn. met.", 1960, no. 18, 58 - 70)

**TEXT:** By means of the radioactive isotope Fe<sup>59</sup> the influence of 1.07-4.96% Mn, or of 0.5-5.7% Cr upon the diffusion rate in Fe-Ni alloys was investigated. The 0.4 μ thick layer of radioactive Fe was electrolytically deposited on specimens with dimensions 10 x 5 mm, whereupon they were subjected to diffusion-annealing at 900, 950, 1,000, 1,050 and 1,100°C for periods of 1, 2, 3, 4 and 5 hours in a vacuum of 10<sup>-4</sup> - 10<sup>-5</sup> mm Hg. It was established that an admixture of Mn or Cr notably retards the diffusion process of Fe in Ni. Under the influence of Mn the activation heat and the value of the pre-exponential factor rise sharply. For Fe-Ni alloys containing 1.07 or 4.96% Mn the respective values of pre-exponential factor are 1.9 · 10<sup>-2</sup> or 2.5 · 10<sup>-2</sup> cm/sec; activation energy 52,000

Card 1/2

X

Influence of manganese ...

28550

S/137/61/000/009/025/087  
A060/A101

and 59,657 cal/g-atom, for alloys containing 0.5, 2.6, or 5.7% Cr the respective values of pre-exponential factor are  $1.6 \cdot 10^{-6}$ ,  $6.0 \cdot 10^{-6}$  cm<sup>2</sup>/sec, and activation energies of 28,024; 31,833, and 27,643 cal/g-atom were found. There are 12 references.

V. Srednogorska

[Abstracter's note: Complete translation]

Card 2/2

SMIRYAGIN, A.; YELIN, I., nauchnyy sotrudnik; KVURT, O.,<sup>S.</sup> nauchnyy sotrudnik;  
ZHUR, N. ^

New alloy made of secondary nonferrous metals. Mor. flot 22  
no.2:37-38 F '62. (MIRA 15:4)

1. Nachal'nik laboratorii tsvetnykh splavov Gosudarstvennogo nauchno-issledovatel'skogo i proyektного instituta obrabotki tsvetnykh metallov (for Smiryagin).
  2. Laboratoriya tsvetnykh splavov Gosudarstvennogo nauchno-issledovatel'skogo i proyektного instituta obrabotki tsvetnykh metallov (for Yelin, Kvurt).
  3. Nachal'nik otdela Tsentral'nogo nauchno-issledovatel'skogo instituta morskogo flota (for Zhur).
- (Nonferrous alloys)



L 18848-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AT6006469

SOURCE CODE: UR/2680/65/000/024/0017/0025

AUTHOR: Smirvagin, A. P.; Kvurt, O. S.

52  
B+1

ORG: State Scientific-Research Planning Institute of Alloys and the Processing of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov)

TITLE: The Cu-rich portion of the Cu-Ni-B system

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy, no. 24, 1965. Metallovedeniye i obrabotka tsvetnykh metallov i splavov (Metal science and the treatment of nonferrous metals and alloys), 17-25

TOPIC TAGS: copper, nickel, boron, phase analysis, phase diagram, thermal analysis, metallographic examination, chemical composition

ABSTRACT: A phase analysis was made of the Cu-rich portion of the Cu-Ni-B ternary. Alloys with up to 4% Ni and 1% B were melted in a Tamman furnace, slowly cooled to obtain the critical points (thermal analysis) and finally hot and cold rolled with

Card 1/2

L 18848-66

ACC NR: AT6006469

intermediate annealing at 850°C. Chemical compositions and critical points were given for 22 different alloys. The alloys were next annealed at different times and temperatures and tested for specific electrical conductivity, hardness and microstructure. For constant B levels and increases in Ni content, the conductivity and hardness rose while at constant Ni the effect of increased B was similar except for initial deviations. The temperature dependence of conductivity and hardness was a function of the change in solubility of the precipitated phase, decreasing with lower annealing temperatures. Microstructures were primarily  $\alpha$  and  $\beta$  mixtures where  $\alpha$  is the ternary solid solution of B in a cupronickel alloy and  $\beta$  is the Cu-Ni solid solution. Various microstructures for different compositions and heat treatments are given. Data are presented on polythermal phase diagrams (temperatures to 1100°C) for constant B contents (B = 0.12, 0.2 and 0.5%) as a function of Ni content (to 3.0%). At B = 0.12%, the first solid phase to crystallize was  $\alpha$  containing 0.65% Ni and at lower temperatures the solubility of Ni decreased sharply as a result of  $\beta$  precipitation; above 0.65% Ni, the eutectic reaction  $\text{liq} \rightleftharpoons \alpha + \beta$  occurred. At higher contents, the single  $\alpha$  phase region disappeared from the polythermal sections and the three phase region  $\alpha + \beta + \text{liq}$  expanded. At room temperature, all alloys consisted of ( $\alpha + \beta$ ). Isothermal sections at 1050, 1000, 950 and 900°C were also given. Orig. art. has: 13 figures, 4 tables.

SUB CODE: 11/ 07/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2 vmb

L. 18849-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AT6006470

SOURCE CODE: UR/2080/65/000/024/0026/0037

AUTHOR: Smiryagin, A. P.; Kvart, O. S.

53  
8+1

ORG: State Scientific-Research Planning Institute of Alloys and the Processing of Nonferrous Metals (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov)

TITLE: The Cu-rich portion of the Cu-Si-Zr system  
27 27 27

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy, no. 24, 1965, Metallovedeniye i obrabotka tsvetnykh metallov i splavov (Metal science and the treatment of nonferrous metals and alloys), 26-37

TOPIC TAGS: copper, chromium, zirconium, phase analysis, phase diagram, thermal analysis, metallographic examination, chemical composition, intermetallic compound

ABSTRACT: A phase analysis was made of the Cu-rich portion of the Cu-Si-Zr ternary. The Zr and Si contents were each varied to 4% (wt) and the pseudobinary section Cu-Zr<sub>6</sub>Si<sub>5</sub> was studied to 6% Zr<sub>6</sub>Si<sub>5</sub>. Thermal analysis was made of alloys of different

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L 18849-66

ACC NR: AT6006470

compositions and the critical points were given as a function of composition. Some samples were homogenized by cold working and annealing from 2 to 240 hrs and at temperatures from 1050 to 400°C. Hardness and electrical conductivity were studied as functions of annealing temperature and Si and Zr content. While hardness inevitably increased with alloying, the conductivity of alloys containing up to 1% Si decreased upon addition of Zr. This was explained by the formation of  $Zr_6Si_5$  and the consequent depletion of the solid solution. The temperature dependence of conductivity and hardness indicated a lowering in the solubility of  $Zr_6Si_5$  with decreases in temperature. Microstructures of various alloys and heat treatments are given and on the basis of these data isothermal sections were drawn (Zr and Si to 4%) at 1050, 1000 and 700°C. The region of ternary solid solubility ( $\alpha$ -phase) was insignificant and at 700°C was bounded at 0.4% Si and 0.1% Zr. A thermal analysis was also made of the Cu- $Zr_6Si_5$  system. Conductivity and hardness were given as functions of quench temperature and  $Zr_6Si_5$  content. From a microstructural analysis, a pseudobinary diagram was constructed which showed a eutectic point at 1045°C and 5%  $Zr_6Si_5$ . The solubility limit of  $Zr_6Si_5$  was about 0.7% at the eutectic and decreased to about 0.1% at 700°C. Orig. art. has: 16 figures, 3 tables.

SUB CODE: 11, 07      SUBM DATE: 00/      ORIG REF: 003/      OTH REF: 007

Card 2/2      vmb

L 21140-66 EWI(m)/EWA(d)/EWP(t) IJP(c) JD/JG

ACC NR: AT6006467

SOURCE CODE: UR/2680/65/000/024/0007/0011

AUTHOR: Smiryagin, A. P.; Kvurt, O. S.

33

ORG: none\*

BH

~~TITLE~~ Copper-boron phase diagram

SOURCE: \* Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy, no. 24, 1965. Metallovedeniye i obrabotka tsvetnykh metallov i splavov (Metal science and the treatment of non-ferrous metals and alloys), 7-11

TOPIC TAGS: copper base alloy, boron containing alloy, alloy phase diagram

ABSTRACT: The authors study the phase diagram of the Cu-B system using grade MO cathodic copper and amorphous boron containing 0.4% SiO<sub>2</sub>, 0.65% Al, 0.2% Fe, 1.9% Mg and small quantities of oxygen, nitrogen and hydrogen. The boron was added to the copper in the form of a copper-boron alloy produced by melting in a vacuum arc furnace. The boron content in this alloy was 2.3-2.6%. Tables are given showing the chemical composition, results of thermal analysis and resistivities of the various alloys studied. Photomicrographs are given showing the structures of slowly

Card 1/2

L 21140-66  
ACC NR: AT5006467

cooled copper-boron alloys in the cast state. A linear relationship is observed between % boron concentration and alloy hardness. This is typical of eutectic alloys. The addition of boron increases the resistivity of copper, although this increase is slight and depends on the quenching temperature. Alloys quenched from a temperature close to the eutectic melting point have the maximum resistivity. A reduction in the quenching temperature results in a slight decrease in resistivity. This indicates a low absolute solubility of copper boride in copper which is weakly dependent on temperature. The phase diagram of the Cu-B system is of the eutectic type. The eutectic is made up of a weakly doped  $\alpha$ -solid solution of boron in copper and  $\text{CuB}_{22}$ . The eutectic horizontal is located at  $1021 \pm 2^\circ\text{C}$  with a eutectic concentration of 2% boron. Boron has a solubility of approximately 0.05% in copper at the eutectic temperature. Boron solubility in copper at room temperature is close to 0.01%. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11/      SUBM DATE: 00/      ORIG REF: 000/      OTH REF: 004

Card 2/2 *ULR*

L 21141-66 EWT(m)/EWA(d)/EWP(t) IJP(c) JD/JG/JXT(CZ)  
ACC NR: AT6006468 SOURCE CODE: UR/2680/65/000/024/0012/0016

AUTHOR: Smiryagin, A. P.; Kvurt, O. S.

ORG: none\*

TITLE: Nickel-boron phase diagram

SOURCE: Moscow. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov. Trudy, no. 24, 1965. Metallovedeniye i obrabotka tsvetnykh metallov i splavov (Metal science and the treatment of nonferrous metals and alloys), 12-16

TOPIC TAGS: alloy phase diagram, nickel base alloy, boron containing alloy

ABSTRACT: The authors study the phase diagram of the Ni-B system using grade NO nickel and amorphous boron containing 0.4% SiO<sub>2</sub>, 0.65% Al, 0.2% Fe, 1.9% Mg and small quantities of oxygen, nitrogen and hydrogen. The boron was added in the form of a nickel-boron alloy containing 16% boron. The chemical compositions and data from thermal analysis of the various alloys studied are tabulated. Analysis of the cooling curves shows that crystallization of the eutectic, particularly on the right side of the diagram, takes place with considerable supercooling. This may be

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L. 21172-56  
ACC NR: A76006468

due to the difficulty in formation of  $\text{Ni}_2\text{B}$  crystals from the melt with a complex body-centered tetragonal lattice with parameters  $a = 4.980 \text{ \AA}$ ,  $c = 4.236 \text{ \AA}$  and  $c/a = 8.51$ . Microscopic analysis of the alloys in the cast state showed that the addition of 0.1% boron to the nickel produces a component whose eutectic nature is clearly apparent in alloys with higher boron concentration. The quantity of eutectic increases with boron concentration up to 1.75-1.85%. This is close to the eutectic concentration. A liquid phase is observed in the structure when alloys containing 0.1 and 0.5% boron are quenched from  $1000^\circ\text{C}$ . This confirms the eutectic nature of the horizontal at  $980^\circ\text{C}$ . A phase diagram is given for the nickel-boron system for boron concentrations up to 6%. This diagram may be considered as made up of two independent diagrams of the eutectic type. The first diagram (on the nickel side) forms a eutectic at a boron concentration of approximately 1.8% with a melting point of approximately  $980^\circ\text{C}$ . This eutectic is made up of an  $\alpha$ -solid solution based on nickel and  $\text{Ni}_3\text{B}$  crystals. The second eutectic diagram corresponds to  $\text{Ni}_3\text{B}$ - $\text{Ni}_2\text{B}$  with a eutectic concentration of 4% boron and a melting point of  $1080^\circ\text{C}$ . Orig. art. has: 4 figures, 1 table.

SUB CODE: 11/

SUBM DATE: 00/

ORIG REF: 002/

OTH REF: 006

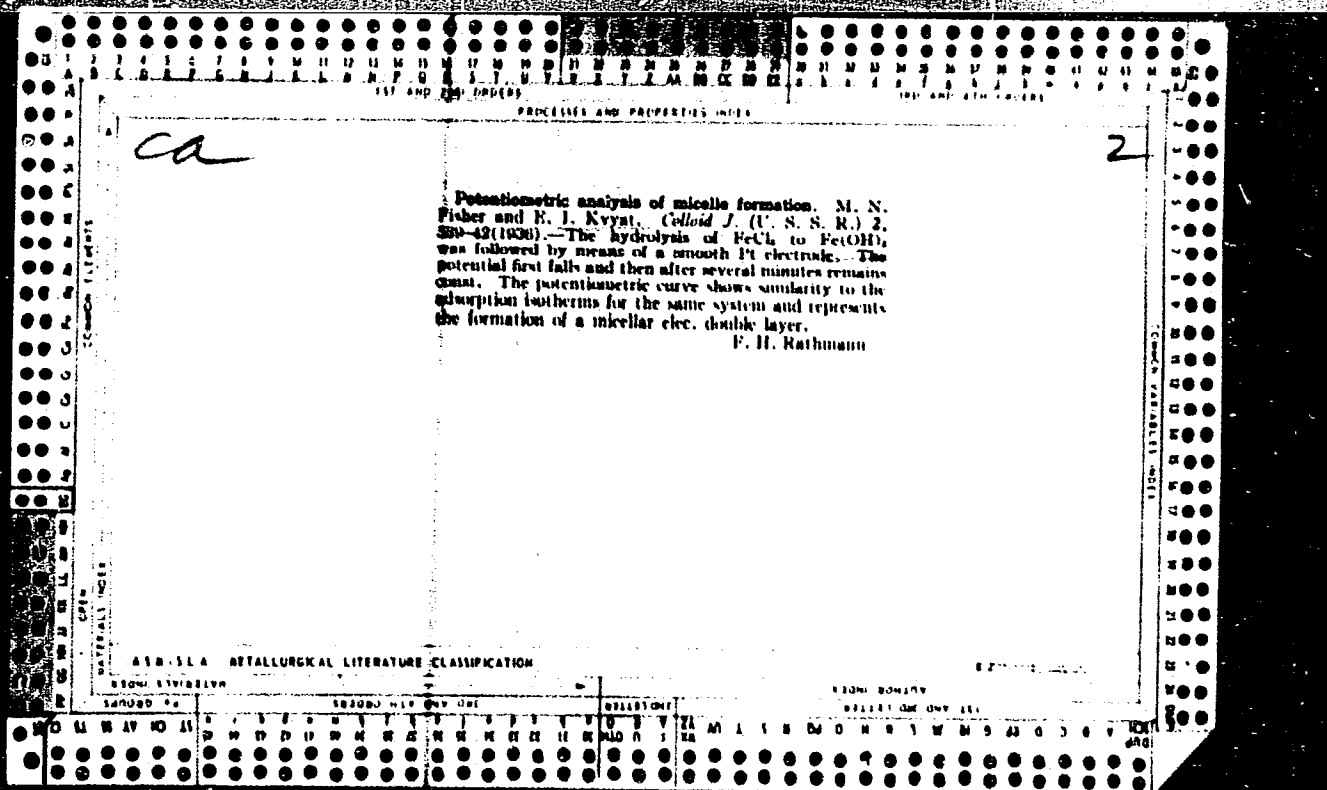
Card 2/2 *VLK*



KVYAP, A. I.

"Study of the Process of the Electrolytic Precipitation of Rhodium and the Methodology of Preparing Rhodium Mirrors With an External Reflecting Layer." Cand Tech Sci, State Order of Lenin Optical Instrument S. I. Vavilov, Leningrad, 1954. ( KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational SO: Sum. No. 598, 29 Jul 55



157 AND 750 CODES

PROCESSES AND PROPERTIES INDEX

157 AND 750 CODES

6-1

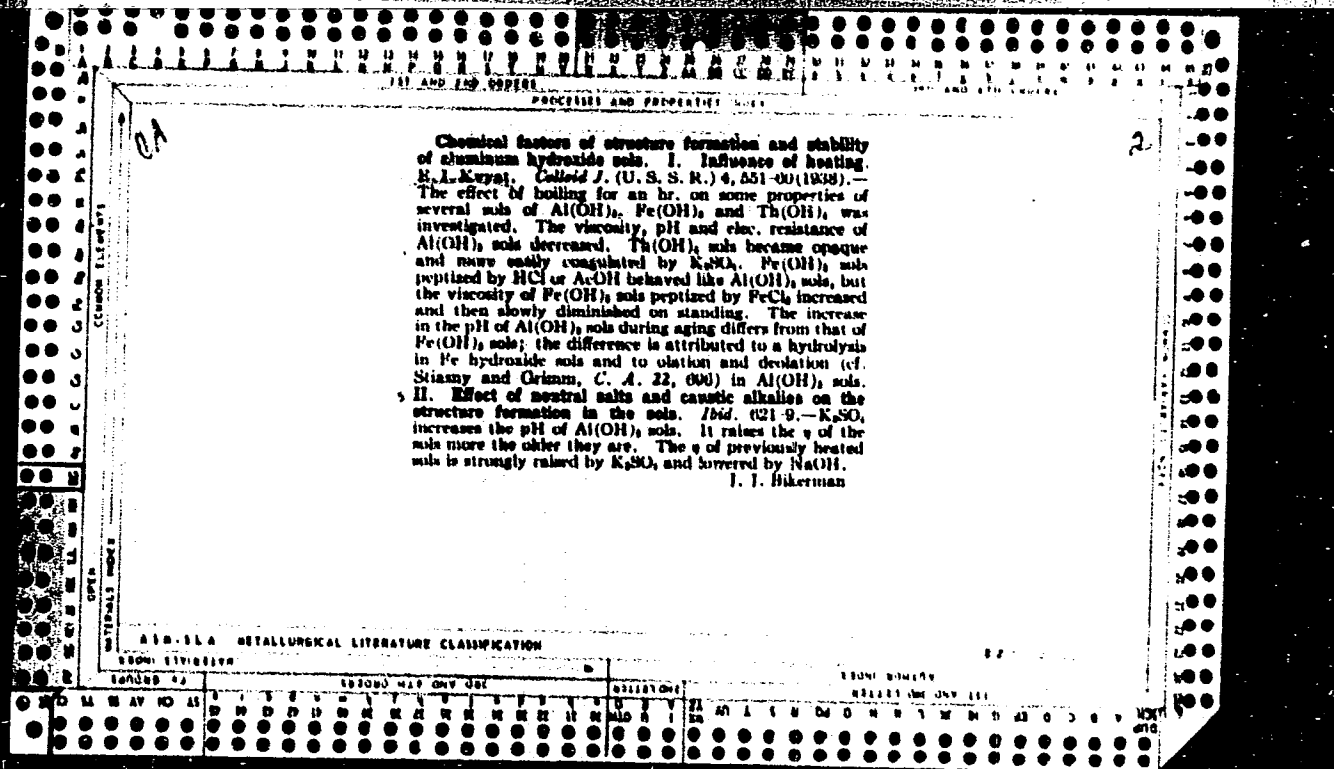
Change of the aggregation equivalent "A" and of the chlorine aggregation equivalent "B" of a ferric hydroxide sol with dilution. E. L. Kyrka. *Colloid J. (U. S. S. R.)* 4, 317-39(1962).—Elec. cond. of the sol and the ultrafiltrate, transport no. of Fe and activity of H ions in the sol (by the quinhydrone electrode) and of Cl ions in the ultrafiltrate (potentiometrically) were measured. The results are used for calcg. the aggregation and the Cl aggregation equiv. according to Wintgen (*C. A.* 17, 1743). A diln. of Fe(OH)<sub>3</sub> sols slightly raises their equiv. cond. and the activity of Cl in the ultrafiltrate and slightly lowers the equiv. cond. of micelles and the aggregation equivs., while the mobility of the colloid particles does not change. It is concluded that the diln. increases the dissocn. of the micelle without affecting its size. J. J. Hikerman

A 18.11A METALLURGICAL LITERATURE CLASSIFICATION

E 2

157 AND 750 CODES

157 AND 750 CODES



PROCESSING AND PROPERTY INDEX

2

*ca*

**Effect of freezing on colloid structure formation of basic aluminum salts.** K. I. Kvyat. *J. Phys. Chem.* (U. S. S. R.) 12, 634-6 (1958). Basic Al salt sols were obtained by peptizing freshly pptd. Al(OH)<sub>3</sub> with 0.05 N HCl and 0.5 N CH<sub>3</sub>COOH at 100°. During freezing, the resulting increased concn. of the electrolyte in the micelle always produces coagulation of the sols. The viscosity may increase owing to structure formation or decrease owing to transformation from an extended to a compact structure. Dialysis or addn. of electrolyte (0.005-0.02 N K<sub>2</sub>SO<sub>4</sub>) decreases the stability of the sols, leading to compact structure formation or eventually to pptn. On remelting, either pptn. or reformation of the sols takes place, but the new gelatinization process is less intense. Effect of freezing on structure formation in colloidal basic iron salts. *Ibid.* 660-7. The viscosity of gels of basic ferric chloride and phosphates alone increases up to 5-fold on freezing; after longer freezing coagulation again leads to a decrease in  $\eta$ . Addn. of electrolytes (K<sub>2</sub>SO<sub>4</sub>) before freezing fosters formation of a compact structure and decreased values of  $\eta$ . These processes are partially reversible on thawing of the frozen gels. F. H. Rathmann

ASS-514 METALLURGICAL LITERATURE CLASSIFICATION

FROM BOWLING

MATERIALS INDEX

COMMON ELEMENTS

COMMON VALENTS INDEX

OPEN

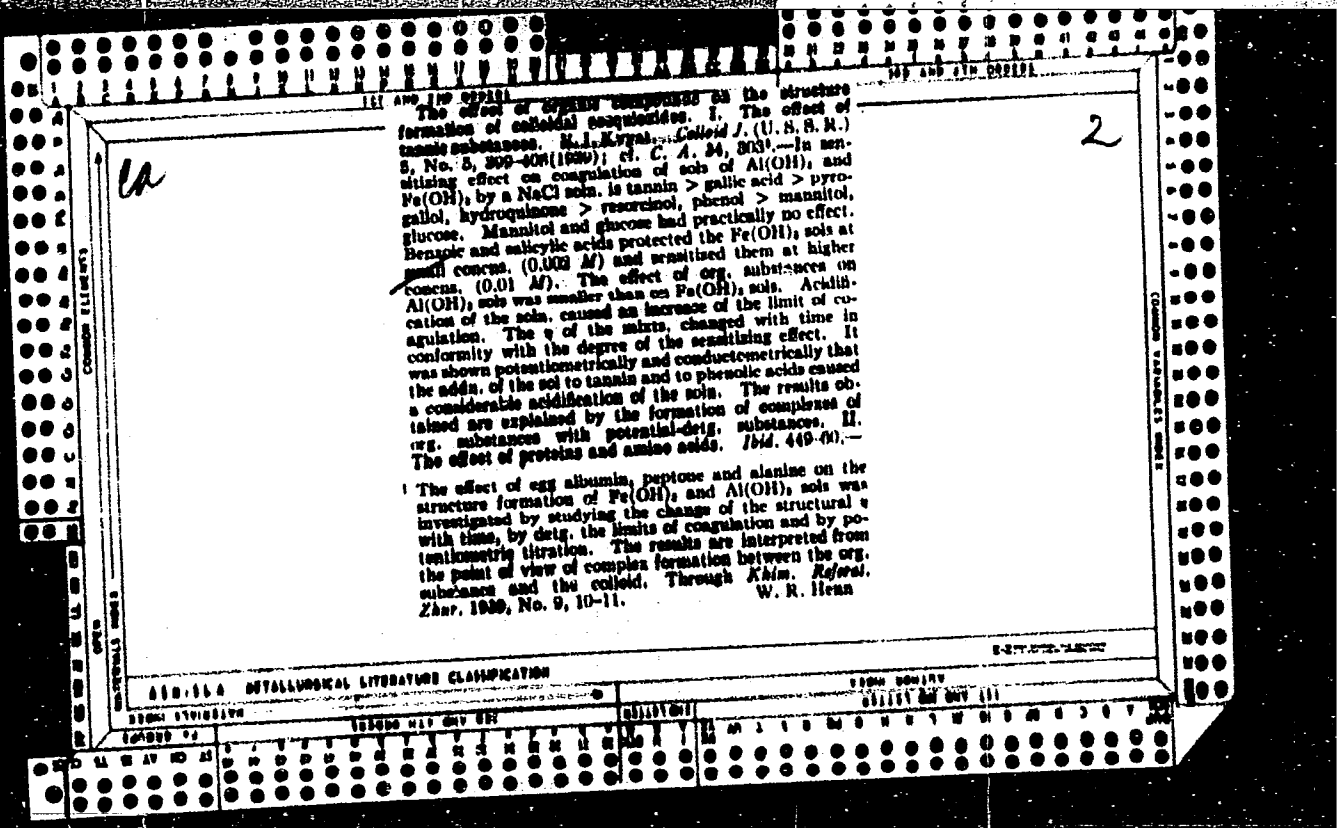
FROM STATION

RELATIONS

FROM ONE ONLY

FROM ONE ONLY





KVYAT, E. I.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 12/21

Authors : Mishchenko, K. P., and Kvyat, E. I.

Title : Solvation of ions in electrolyte solutions. Part 3.- Drop in potential on the aqueous solution - gaseous phase boundary.

Periodical : Zhur. fiz. khim. 8, 1451-1457, Aug 1954

Abstract : The real free-energies of solvation of numerous ions in aqueous solutions were computed on the basis of a critical analysis. By comparing the real free solvation-energies with the chemical free solvation-energies, the authors calculated the drop in potential on the aqueous solution, gaseous phase boundary, which is  $-0.3 \pm 0.1$  v. Thirty-two references: 12-USSR; 12-USA; 6-German; 1-Australian and 1-French (1919-1953). Tables.

Institution : The Leningrad Technological Institute, Leningrad

Submitted : November 13, 1953



BARON, N.M.; KVIAT, E.I.; PODGORNAYA, Ye.A.; PONOMAREVA, A.M.; RAVDEL', A. A.  
TIMOFEEVA, Z.N.; MISHCHENKO, K.P., redaktor; LEVIN, S.S., tekhnicheskii redaktor; FOMKINA, T.A., tekhnicheskii redaktor.

[Concise reference book of values in physics and chemistry] Kratkii spravochnik fiziko-khimicheskikh velichin. Sost. N.M. Baron, i dr. Leningrad, Gos.nauchno-tekhn. izd-vo khim cheskoii lit-ry, 1955. 86 p. (Chemistry--Tables, etc.) (Physics--Tables, etc.) (MLRA 8:8)

KVIAT, E. I.

BARON, N.M.; KVIAT, E.I.; PODGORNAYA, Ye.A.; PONOMAREVA, A.M.; RAYDEL', A.A.;  
TIMOFEYEVA, Z.H.; MISHCHENKO, K.P., redaktor; LOBINA, N.K., redaktor;  
LEVIN, S.S., tekhnicheskij redaktor; POMKINA, T.A., tekhnicheskij  
redaktor

[Concise manual of physical and chemical measures] Kratkii spravochnik  
fiziko-khimicheskikh velichin. Pod red. K.P.Mishchenko i A.A.Raydelia.  
Izd. 2-oe, dop. Leningrad, Gos.nauchno-tekhn.izd-vo khim.lit-ry,  
1957. 111 p. (MLRA 10:9)  
(Weights and measures--Tables, etc.)

5(4)

PHASE I BOOK EXPLOITATION

SOV/1428

Baron, N.M., Ye. D. Volova, I.M. Yegorov, E.I. Kvyat, K.P. Mishchenko, A.M. Ponomareva, A.A. Ravidel', and G.I. Semenov

Prakticheskiye raboty po fizicheskoy khimii (Practical Work in Physical Chemistry) Leningrad, Goskhimizdat, 1957. 263 p. 11,000 copies printed.

Eds. (Title page): K.P. Mishchenko, Professor, and A.A. Ravidel', Docent;  
Ed. (Inside book): N.K. Lobina; Tech. Ed.: Ye. Ya. Erlikh.

PURPOSE: This textbook was approved by the Ministry of Higher Education as a manual for students of vuzes specializing in chemistry.

COVERAGE: The text covers the theoretical and practical aspects of experimental physical chemistry. It is the aim of the authors to aid the student in his laboratory work by preceding each experiment with a theoretical introduction, a description of the apparatus, and the order of the determination and computation of results. Much attention is given to the fundamentals of chemical thermodynamics, reaction kinetics, and equilibrium. The basic techniques of

Card 1/14

## Practical Work in Physical Chemistry

SOV/1428

experimentation and the treatment of experimental data are presented so as to enable the student to work independently. The text was prepared jointly by the staff of the Department of Physical Chemistry, Leningradskiy tekhnologicheskii institut imeni Lensoveta (Leningrad Technological Institute imeni Lensovet) with K. P. Mishchenko and A.A. Ravidel' as editors, and N. M. Baron and A.M. Ponomareva as coeditors. The book was reviewed by Professors V.A. Kiryeev, B.P. Nikol'skiy, corresponding member of the AS USSR, and by the staff of Professor Nikol'skiy. There are no references.

## TABLE OF CONTENTS:

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Estimate of the accuracy of instrument readings	10
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