

RUZINA, A. I.

✓ • Electrolysis of Salts of Bismuth. [---III.] M. T. Kimlovsky, T. I. Ivanov, and N. I. Ruzina (*Zh. Priklad. Khim.*, 1961, 34, 78), 282-283. *ibid.*, p. 840; *M. J.*, 23, 350. An investigation of the factors affecting electrode potentials in electrolysis with the Hg electrode. The effect of agitation was studied.—(J. V. K. T.)

CHINA, U. I.

N. T. KOSLOVSKI, Zaur Prih Kalm, v. 24, Aug. 1951, p. 682-886

RUSSIA, I. I.
I. I. BOMBOCHII, Zhur Prikl. Khim, v. 24, Aug. 1951, p. 832-836

GARF, M.E.; RUZINA, G.M.

Study of the scattering of strength characteristics in
cast crankshafts. Zav.lab. 28 no.6:717-719 '62. (MIRA 15:5)

1. Institut liteynogo proizvodstva AN USSR.
(Strength of materials)

RUZINA, YE. I.

USSR/ Chemistry - Electrolytic Refining of Metals Aug 51

"Electrolysis of Zinc Salts," M.T. Kozlovskiy, P.P. Tsyb, Ye. I. Tuzina, Kazakh U
imeni S.M. Kirov

"Zhur Prik Khim" Vol XXIV, No. 8, pp 882-886

In electrolytic deposition of Zn on Hg cathode, and in electrolytic decomn of
resultant amalgam at anode, established dependence of potentials of cathode and
anode in respective cases on (1) concn of Zn in amalgam, (2) concn of Zn ions in
electrolyte, (3) rate of agitation. Almost total electrolytic transfer of Zn
from amalgam to electrolyte is possible.

PA 190T33

RUZINA, YE. K. i GUSEV, N.M. i KHOROSHILOV, G.I.

24924. Gusev, N.M. Khoroshilov, G.I. i Ruzina, Ye. K. Noviye Printsipi
Normirovaniya Po Stroitu. Fizike. M.L., 1949, S. 4-24

S. Gornoye Dolo

A. Obshchiye Voprosi

So: Letopis' No. 33, 1949

MIKHAYLOVA, V. N., inzh.; RUZINA, Ye. K., inzh.

Effective and developed norms on electric lighting. Sveto-
tekhnika 9 no.2:26-28 F '63. (MIRA 16:4)

1. Gosudarstvennyy institut po proyektirovaniyu elektrooboru-
dovaniya dlya tyazheloy promyshlennosti i Vsesoyuznyy sveto-
tekhnicheskiy institut.

(Electric lighting--Standards)

MAGASI, P.; RUSZINKO, B.

On the surgical treatment of neurogenic urinary retention.
Acta chir. acad. sci. Hung. 6 no.3:333-343 '65.

1. Urologische Klinik (Direktor: Prof. Dr. A. Babics) der
Medizinischen Universität, Budapest. Submitted November 23,
1964.

RUZINOV, ~~A.~~^{L.B.}

Tomis, V.; Muterzans, F. G.; Isirunskii, A. I.; Ruzinov, L.B.; and Shubnikov, I.V.

Neutron absorption by boron and cadmium at low temperatures.

Nature, Vol. 138, 1936, p. 505

Chem. Abc., Vol. 30, p. 8006-2

RUZINOV, L.B.,
V. FOMIN, Nature 138, 505 (1936)

HUZINOV, L.B.,
V. POMIN, Nature 138, 505 (1936)

RUZINOV, L.D.; LEBEDEV, P.A., kand. tekhn. nauk, retsenzent;
VUL'FSON, I.I., kand. tekhn. nauk, retsenzent; VAL'KOVSKIY,
A.A., kand. tekhn. nauk, red. [deceased]

[Design of mechanisms based on geometric transformations]
Proektirovanie i raschet mekhanizmov na osnove geometri-
cheskikh preobrazovanii. Moskva, Mashinostroenie, 1964.
147 p. (MIRA 17:12)

RUZINOV, L.D. (Leningrad)

Designing cam mechanisms for frames. *Prykl. mekh.* 4 no.4:466-470
'58. (MIRA 11:12)

1. Leningradskiy zavod bumazhnogo proizvodstva.
(Eccentrics (Machinery))

RUZINOV, L.P.; BELOV, S.F.

Thermodynamics of zirconium and hafnium chlorides. Izv. vys.
ucheb. zav.; tsvet. met. 3 no. 6:104-113 '60. (MIRA 14:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii. Kafedra
khimii i tekhnologii redkikh i rasseyannykh elementov.
(Zirconium chloride--Thermal properties)
(Hafnium chloride--Thermal properties)

RUZINOV, I.P.; BELOV, S.F.

Thermodynamic calculations of the electrochemical characteristics of zirconium and hafnium chlorides. Izv. vys. ucheb. zav.; tsvet. met. 4 no. 1:106-111 '61. (MIRA 14:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii, kafedra khimii i tekhnologii redkikh i rassoyannyykh elementov. (Zirconium--Electrometallurgy) (Hafnium--Electrometallurgy)

S/032/62/028/002/007/037
B101/B110

AUTHORS: Ruzinov, L. P., and Alekseyeva, G. I.

TITLE: Determination of metallic zirconium and its low chlorides

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 165 - 166

TEXT: The analysis of the cathodic precipitate formed in the electrolytic production of Zr from salt melts is described. Metallic Zr is determined on the basis of the reaction of Zr with HF by measuring the liberated H₂.

A device suggested by S. F. Belov, D. N. Ivanova (Zavodskaya laboratoriya, v. 22, no. 12, 1414 (1956)) was used. The weighed portion is dissolved in 10% HCl. When the liberation of hydrogen has come to an end, a 2-2.5-fold NaF excess is added, and H₂ liberated now is measured. The zirconium content, x, is calculated from: $x = 0.2036 ak/d$. a = volume of eliminated H₂, ml; k = coefficient of reduction of the H₂ volume to standard temperature and pressure; d = weighed portion, g. The error was 1.8% with a confidence probability of 0.95. ZrCl₂ and ZrCl₃ are

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Determination of metallic zirconium... S/032/62/028/002/007/037
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determined on the basis of their reaction with H_2O , H_2 also being liberated. The content y of $ZrCl_2$ is calculated from $y = 0.407 ak/d$ (% by weight), the content of $ZrCl_3$ from $z = 0.814 ak/d$. If both chlorides are present, the following holds: $y = (0.814 ak - Cd)/d$; $z = (2Cd - 0.814 ak)/d$, C being the overall concentration of Zr determined by any method. If the sample at the same time contains $ZrCl_4$, the method cannot be applied. Reduction of $ZrCl_4$ to $ZrCl_3$ by alkali metal resulted in 88.6; 90.6% of $ZrCl_2$ with a theoretical content of 89.8%; reduction of $ZrCl_4$ to $ZrCl_3$ by Zr resulted in 35.6; 36.1% of $ZrCl_3$ with a theoretical content of 34.7%. There are 3 Soviet references. ✓

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskooy promyshlennosti (State Design and Planning Scientific Research Institute of the Rare Metals Industry)

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S/149/61/000/001/007/013
A006/A001

21,3000 (1565, 1138, 1496)

AUTHORS: Ruzinov, L.P., Belov, S.F.

TITLE: Thermodynamical Calculation of Electrochemical Characteristics of Zirconium and Hafnium Chlorides

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1961, No. 1, pp. 106 - 111

TEXT: Data (Ref. 1) on the electro-refining of zirconium from gases do not mention the behavior of other impurities, such as hafnium, iron, aluminum etc. However, their joint elimination by a single process would simplify zirconium production and make it cheaper. The authors investigated some important factors in the evaluation of electrolytical refining of zirconium and calculated the dissociation voltages of zirconium and hafnium chlorides, their oxidation-reduction characteristics and the dissociation voltages of chlorides of some metals which might be present in the initial zirconium and the electrolyte. The investigation was based on American experimental data (Ref. 1, 2, 3). The dissociation voltage of chlorides was calculated with the aid of data given in Reference 4. The Temkin-Shvartsman method (Ref. 5) was used to determine changes in the isobaric-iso-

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thermal potential within a range of 700 - 1,400°K for the following processes:
 $\text{MeCl}_2 = \text{Me} + \text{Cl}_2$; $\text{MeCl}_3 = \text{Me} + 1.5 \text{Cl}_2$; $\text{MeCl}_4 = \text{Me} + 2 \text{Cl}_2$, from which temperature dependences of dissociation voltages were obtained (Table 1). The dissociation voltage of compounds which might be present in the electrolytic bath when refining zirconium, was calculated using literature data given in Reference 6 (Table 2). The dissociation voltages of hafnium chlorides at a concentration of 2 mol.% in commercial zirconium chloride were determined (Table 3). The oxidation-reduction processes of salt dissociation are characterized by "incomplete" dissociation voltage, i.e. the voltage, at which an element is deposited on one electrode and an oxidation-reduction process takes place on the other electrode. "Incomplete" dissociation was calculated using the law of Luter: an element K in a combination with A can show two valences n and m, whereby $m > n$. Then the oxidation-reduction process will be characterized by the reaction $\text{KA}_m = \text{KA}_n + (m-n)\text{A}$ (1), and the dissociation voltages will be calculated from the reaction $\text{KA}_m = \text{K} + m\text{A}$ (2) and $\text{KA}_n = \text{K} + n\text{A}$ (3). Changes in the isobaric-isothermal potential of the process (1) can be determined with the aid of (2) and (3) as follows:

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$\Delta Z_{m-n} = \Delta Z_{m-o} - Z_{n-o}$. The transition to dissociation voltages will produce $F(m-n) \cdot E_{m-n} = FmE_{m-o} - FnE_{n-o}$, and $E_{m-n} = \frac{mE_{m-o} - nE_{n-o}}{m-n}$ (4). (Tables 4 and 5).

The investigation shows that successful electrolytic refining of zirconium depends on the difference in the dissociation voltages of chlorides. It can be expected that electropositive elements will mainly remain in the anode slurry and electro-negative impurities in the electrolyte. Due to the closeness of dissociation voltages of zirconium chlorides and hafnium chlorides, zirconium refining from hafnium will be difficult. The greatest difference of dissociation voltages is observed between zirconium and hafnium tetrachlorides (0.20 at 900°K), however, due to high volatility the separation is difficult. The difference of dissociation voltages of trichlorides (0.160 at 900°K) and dichlorides (0.10 at 900°K) permits the assumption that hafnium separation in electrolytic refining may be successful, although full separation will hardly be achieved. The following recommendations are given: high concentration of zirconium chlorides, ensuring extended accumulation of hafnium on the electrolyte without its noticeable precipitation on the cathode, to maintain a higher difference of dissociation voltages; sufficiently

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high current efficiency, since oxidation-reduction processes will not occur on the anode but mainly take place on the cathode; lower chlorides can be obtained by using the interaction reaction of zirconium tetrachloride with zirconium metal directly in the bath. The initial tetrachloride should therefore be purified from Te, Fe, Al and other electropositive elements. It is concluded that zirconium metal is rather difficult to obtain from a chloride bath by electrolysis with tetrachloride, since zirconium reduction to the trivalent state will mainly occur on the cathode and oxidation to the tetravalent state will take place on the anode. This explains the failure of some authors (Ref. 8).

Table 1:

Хлорид Chloride	$-\Delta Z$, ккал/моль kcal/mole	E , в volts
ZrCl ₄	129,1-18,8·10 ⁻³ γ	2,79-0,406·10 ⁻³ γ
ZrCl ₃	189,1-33,5·10 ⁻³ γ	2,72-0,483·10 ⁻³ γ
ZrCl ₂	211,4-41,5·10 ⁻³ γ	2,32-0,448·10 ⁻³ γ
HfCl ₄	131,4-16,0·10 ⁻³ γ	2,84-0,345·10 ⁻³ γ
HfCl ₃	198,0-31,0·10 ⁻³ γ	2,85-0,447·10 ⁻³ γ
HfCl ₂	246,0-55,75·10 ⁻³ γ	2,66-0,66·10 ⁻³ γ

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Thermodynamical Calculation of Electrochemical Characteristics of Zirconium and Hafnium Chlorides

Table 2
Dissociation voltage
of chlorides

Хлорид Chloride	Decomposition Напряжение разложения, в voltage, v				
	900°K	1000°K	1100°K	1200°K	1300°K
KCl	3.60	3.50	3.39	3.25	3.18
NaCl	—	3.25	3.15	3.05	2.96
MgCl ₂	2.57	2.52	2.46	2.41	2.35
HfCl ₃	2.53	2.50	2.46	2.43	2.39
HfCl ₄	2.45	2.40	2.35	2.31	2.27
ZrCl ₃	2.12	2.06	2.00	1.94	1.88
ZrCl ₄	2.43	2.38	2.31	2.30	2.26
ZrCl ₅	2.29	2.24	2.19	2.14	2.09
TiCl ₃	1.92	1.87	1.83	1.78	1.74
TiCl ₄	1.91	1.87	1.84	1.76	1.72
TiCl ₅	1.76	1.70	1.64	1.58	1.63
AlCl ₃	1.5	1.57	1.53	1.49	1.45
MnCl ₂	1.83	1.78	1.73	1.68	1.64
FeCl ₂	1.80	1.76	1.71	1.67	1.63
FeCl ₃	1.18	1.15	1.12	1.08	1.05
	1.00	1.02	1.03	1.05	1.06

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Thermodynamical Calculation of Electrochemical Characteristics of Zirconium and Hafnium Chlorides

Table 3

Dissociation voltages of hafnium chlorides at a concentration of 2mol%

Хлорид Chloride	Decomposition Напряжение разложения, в voltage, v				
	900° K	1000° K	1100° K	1200° K	1300° K
HfCl ₂	2,68	2,67	2,65	2,63	2,61
HfCl ₃	2,60	2,57	2,55	2,51	2,49
HfCl ₄	2,27	2,23	2,19	2,14	2,10

Table 4

"Incomplete" dissociation voltage of zirconium chlorides

T, °K	Напряжение, в Voltage, v		
	ZrCl ₃ → ZrCl ₂	ZrCl ₄ → ZrCl ₂	ZrCl ₄ → ZrCl ₃
900	2,01	1,41	0,81
1000	1,96	1,36	0,76
1100	1,89	1,32	0,75
1200	1,82	1,26	0,70
1300	1,75	1,22	0,69

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Table 5:

"Incomplete" dis-
sociation voltage
of hafnium chlo-
rides

T, °K	Напряжение, в		
	HfCl ₃ → HfCl ₂	HfCl ₄ → HfCl ₃	HfCl ₄ → HfCl ₂
900	2,29	1,71	1,13
1000	2,20	1,62	1,04
1100	2,16	1,54	0,92
1200	2,07	1,45	0,83
1300	2,03	1,37	0,71

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Thermodynamical Calculation of Electrochemical Characteristics of Zirconium and Hafnium Chlorides

There are 5 tables and 8 references: 4 Soviet and 4 English.

ASSOCIATIONS: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology); Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Department of Chemistry and Technology of Rare and Dispersed Elements)

SUBMITTED: November 27, 1959

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L 26469-66 EPF(n)-2/EWT(m)/EWA(d)/T/EWP(t)/ETC(m)-6 IJP(c) RM/JH/WW/JD/JW/JG

ACC NR: AP6017368

SOURCE CODE: UR/0363/66/002/003/0413/0417

AUTHOR: Veselaya, G. N.; Dubinin, G. N.; Ruzinov, L. P.; Starobina, T. M.

103

ORG: Moscow Aviation Institute (Moskovskiy aviatsionnyy institut); Giredmet

B

TITLE: Thermodynamics of the chemical reactions occurring during the surface saturation of metals with certain elements

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 3, 1966, 413-417

TOPIC TAGS: chemical reaction, thermodynamics, equilibrium constant, tungsten, rhenium, titanium, iron, silicon, aluminum, chromium, zirconium

ABSTRACT: At the present time the application of diffusion saturation is being principally developed in studies on gas saturation. This method of saturation permits the creation of initial conditions most suitable for the process, which are characterized by a high percentage yield of the diffusion element from its halogenide compound on a saturated surface.

Thus, the equilibrium constants for chemical reactions occurring during surface saturation of tungsten, rhenium, or titanium with iron, silicon, aluminum, chromium and zirconium from the gas phase were calculated.

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An analytic calculating method for the equilibrium transformation based on the Descartes theorem and McLauren method is proposed.

Data are recommended for conducting the diffusion saturation technical process.

Orig. art. has: 3 formulas and 1 table. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: 28Jun65 / ORIG REF: 005 / OTH REF: 004

Card 1/1 PB UDC: 66-971

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RUZINOV, L.P.; ALEKSEYEVA, G.I.

Determination of metallic zirconium and its lower chlorides. Zav.
lab. 28 no.2:165-166 '62. (MIRA 15:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
redkometallicheskey promyshlennosti.
(Zirconium chloride)

DUBININ, I.P.; DUBININ, G.N.

Use of the comparative calculation method for determining the activation energy and diffusion coefficients of elements in the solid state. Zhur. Fiz. Khim. 39 no.9:2294-2326, 1965. (NINA 18710)

1. Moskovskiy gosudarstvennyy nauchno-issledovatel'skiy i projektnyy institut reaktivnykh mashin i promyshlennosti.

RUZINOV, L.P.

Method of comparative evaluation for processing the
experimental data on diffusion coefficients of metals
in the solid state. Zhur.fiz.khim. 39 no.10:2567-2569
O '65. (MIRA 18:12)

1. Submitted June 16, 1964.

S/078/62/007/012/001/022
B144/B180

AUTHORS: Sklyarenko, S. I. (Deceased), Ruzinov, L. P., Samson, Yu. U.

TITLE: Thermodynamic calculation of electrochemical parameters of lower vanadium chlorides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 12, 1962, 2645-2652

TEXT: The decomposition voltage of the lower vanadium chlorides is calculated from their entropy, enthalpy, heat of phase transition, and heat capacity. The enthalpies of vanadium tri and tetrachloride were calculated by the methods of A. F. Kapustinskij (Izv. AN SSSR. ser. khim., 6, 568 (1948)), M. Kh. Karapet'yants (Dissertation, M., 1957), S. A. Shchukarev, M. A. Oranskaya (Zh. obshch. khimii, 24, 2109 (1954)), and V. P. Shishokin (Tr. Leningradsk. politekhn. in-ta im. Kalinina, 1955, p. 117, 180). $\Delta H_{VCl_3}^{298} = -143$ and $\Delta H_{VCl_4}^{298} = -145$ kcal/mole were found by

averaging the values obtained by the 4 methods, and used for the subsequent calculations. These only applied to VCl_2 and VCl_3 , since VCl_4 is probably

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Thermodynamic calculation of ...

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B144/B18C

not present in metal chloride electrolytes. Using the equations

$$\Delta H^T = \Delta H^{298} + \int_{298}^T \Delta C_{pd} T \text{ for the enthalpy, } S^T = S^{298} + \int_{298}^T C_{pd} T/T \text{ for the}$$

entropy, and $\Delta Z^T = \Delta H^T - T\Delta S^T$ for the changes in the decomposition potential of the relevant chlorides at constant temperature and pressure, the decomposition voltage was calculated from $E^T = \Delta Z^T/nF$. It was

(v, at T, °K) for VCl_2 : 1.40 at 1300, 1.28 at 1500, and 1.19 at 1700;

for VCl_3 : 1.32 at 1000, 1.22 at 1200, and 1.12 at 1400°K. The temperature

dependences derived from these values were: $E_{VCl_2} = 2.04 - 0.5 \cdot 10^{-3} T$;

$E_{VCl_3} = 1.68 - 0.383 \cdot 10^{-3} T$. Since under electrolysis conditions the

melting points of the lower vanadium chlorides are above the temperature of the solvent melts, a liquid state was assumed for the vanadium chlorides and the decomposition voltages at 600, 700, 800, 900 and 1000°C
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Thermodynamic calculation of ...

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were calculated (in v) for VCl_2 : 1.60, 1.55, 1.50, 1.45, 1.40; for VCl_3 : 1.35, 1.31, 1.27, 1.23, 1.19. The voltage for the incomplete decomposition was calculated from $E_{VCl_3 \rightarrow VCl_2} = 3E_{VCl_3} - 2E_{VCl_2}$. At the above temperatures it was: 0.85, 0.83, 0.81, 0.79, and 0.77 v. The electrolyte should not contain VCl_3 , since the metal is only deposited as a finely dispersed powder when a high concentration of V^{2+} ions is reached by reducing the trivalent V. There are 7 figures and 6 tables.

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SUBMITTED: May 14, 1962

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113000 (1496, 1515, 4016)

S/149/60/000/006/009/018
A006/A001

AUTHORS: Ruzinov, L.P., Belov, S.F.

TITLE: Thermodynamics of Zirconium and Hafnium Chlorides

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
1960, No. 6, pp. 104-113

TEXT: Thermodynamical constants (heat content, entropy, heat capacity) required for thermodynamical calculations of many zirconium and hafnium compounds are not available in literature. Therefore the authors investigated the calculational determination of technologically important thermochemical constants of some zirconium and hafnium chlorides. The graphical determination of heat content in lower hafnium chlorides was made using methods developed by V.P. Shishokin (Ref. 9), O. Kubashevskiy and E. Evans (Ref. 6); M.Kh. Karapet'yants (Ref. 13) and A.F. Kapustinskiy's rule of thermochemical logarithmics (Ref. 10), employing the modified formula

$$\frac{\Delta H}{W N} = A \lg Z + B$$

where W is the valence, N is the number of the group or series; Z is the number of element, A and B are constants. The solution of the equation is given in

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Thermodynamics of Zirconium and Hafnium Chlorides

Figure 2. The following data are considered to be reliable values for the heat content of hafnium chlorides: 150 kcal/mole for HfCl_2 ; 220 kcal/mole for HfCl_3 and 225 kcal/mole for HfCl_4 . Since only the entropy of hafnium tetrachloride is available in literature, lacking entropies were calculated and entropies available were made more precise using the following methods: a) V.A. Kireyev's method (Ref. 14) based on the summarizing of atomic entropies by taking into account changes in the entropies during the reaction of the formation of a substance from atoms; b) a method developed by the same author (Ref. 15) using for calculation the entropies in hypothetical state of an ideal gas with subsequent transition to a natural state; c) V.Lattimer's method (Ref. 16) determining the entropy of compounds by summing up the conditional entropy of atoms, taking into account their valence; d) K.B. Yatsimirskiy's method (Ref. 17) connecting entropy with the charge and radius of ions; e) P. Drossbakh's method (Ref. 18) showing the dependence of entropy of chlorides on the molecular weight. The results are given in Table 2. Heat capacity of lower zirconium and hafnium chlorides was calculated using N.A. Landiya's method (Ref. 20) based on the connection of heat capacity with entropy. According to Reference 4, the following melting points were considered: $1,000^\circ\text{K}$ for ZrCl_2 and 900°K for ZrCl_3 and analogously $1,100^\circ\text{K}$ for HfCl_2 and $1,000^\circ\text{K}$ for HfCl_3 . The calculations for 500, 700 and 900°K and the solution of equations

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Thermodynamics of Zirconium and Hafnium Chlorides

yielded the following relations for heat capacities (cal/mole . degree):

$$C_{p, \text{ZrCl}_2} = 15.52 + 7.8 \cdot 10^{-3} T - 0.25 \cdot 10^{-6} T^2;$$

$$C_{p, \text{ZrCl}_3} = 21.04 + 9.5 \cdot 10^{-3} T + 0.625 \cdot 10^{-6} T^2;$$

$$C_{p, \text{HfCl}_2} = 16.62 + 5.1 \cdot 10^{-3} T + 1.25 \cdot 10^{-6} T^2;$$

$$C_{p, \text{HfCl}_3} = 20.8 + 10.1 \cdot 10^{-3} T$$

For the purpose of investigating the possibility of separating hafnium from zirconium, by the interaction of metals and chlorides (Ref. 21, 22), the changes in the isobaric-isothermal potential (ΔZ) of various possible reactions were calculated by a method suggested by M.I. Temkin and L.A. Shvartsman (Ref. 23) using the formula:

$$\Delta Z^* = \Delta Z - RT \ln C_{\text{HfCl}_4}^n \cdot C_{\text{Hf}}^m$$

where n and m are the stoichiometric coefficients. It was found that the process of separation will successfully proceed at a temperature above 900°K (627°K). The Card 3/6

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A006/A001

Thermodynamics of Zirconium and Hafnium Chlorides

calculations show that reactions can proceed which promote the separation of zirconium and hafnium (20 reactions out of 23) but that reactions are also possible preventing the separation, i.e. reactions causing the reverse effect. Therefore the possibility of single-stage separation of zirconium and hafnium is not very probable and the process of separation must consist of several stages or a combination of several known methods. The conclusions drawn are in a sufficient agreement with experimental data.

Table 1: Heat content of hafnium chlorides

Calculation method	Heat content ($-\Delta H_{298}$), kcal/mole		
	HfCl ₂	HfCl ₃	HfCl ₄
Shishikin	164	242	-
Kapustinskiy	148	220	252
Kubashevskiy and Evans	156	220	-
Karapet'yants	-	-	256,5
Literature values	-	-	320; 250; 255
Frobabel extremal values	145-150	208-228	235-293

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86937

Thermodynamics of Zirconium and Hafnium Chlorides

S/149/60/000/K 16/009/010
A006/A001

Table 2: Entropy of Zirconium and Hafnium Chlorides

Method	Entropy, cal/mole . degree				
	ZrCl ₂	ZrCl ₃	HfCl ₂	HfCl ₃	HfCl ₄
a	25,9	32,7	30,2	36,3	48,3
b	29,4*	32,4	31,0	34,0*	-
c	28,3*	32,8	31,0	35,5	47,2
d	26,5	-	30,2 ⁴	-	-
e	25,	32,1	31,7	36,0	-
Literature values	27,2	40,0	-	-	45,6; 48,0
Probable values	26,4	32,5	31,0	36,1	48,0

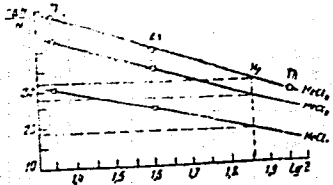
86937

S/149/60/000/006/009/018
A006/A001

Thermodynamics of Zirconium and Hafnium Chlorides

Figure 2:

Graphical determination of the heat content of Hafnium chlorides by the modified equation of thermochemical logarithmics



There are 4 figures, 4 tables and 25 references: 15 Soviet, 9 English and 1 German.

ASSOCIATIONS: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology); Kafedra khimii i tekhnologii redkikh i rasseyannykh elementov (Department of Chemistry and Technology of Rare and Dispersed Elements)

SUBMITTED: November 27, 1959

Card 6/6

L-13524-65 EWI(m)/EPE(n)-2/EPR/ENP(t)/ENP(b) Ps-4/Pu-4 AFIC(p) JD/
ACCESSION NR: AP1020248 JW/JG 8/0129/64/000/003/0044/0048

AUTHOR: Dubin, G. N.; Ruzinov, L. P.

TITLE: The reaction occurring during impregnation of a metal surface with elements from the gaseous phase and the thermodynamics of this process

SOURCE: Metalleniye i termicheskaya obrabotka metallov, no. 3, 1964, 44-48

TOPIC TAGS: metal coating, metal impregnation, metal diffusion coating, diffusion impregnation, gaseous phase impregnation

ABSTRACT: The diffusion impregnation of a metal surface with metals or metalloids is currently developing in the direction of gas impregnation. Diffusion coating with aluminum, zirconium, molybdenum, silicon, boron, etc., can be cited as examples of this trend. Diffusion impregnation is often done in gaseous chlorides of the diffusing element mixed with hydrogen. Knowledge of the interaction between the diffusing element and the base metal will allow determination of the initial conditions on the metal surface preceding the diffusion process and thus will be of value in establishing the technological procedure. Chlorides of lower valency are apparently formed during the reaction of a metal with hydrogen chloride. For instance, with HCl and Nb:

Card 1/3

L 13524-65

ACCESSION NR: AP4020248



The use of dichlorides, which form a gaseous phase richer in metal and which also simplify the process, is of interest. In this process, the formation of metal chloride occurs in a reducing atmosphere (with hydrogen participation). Thus, the formation of dichlorides can be expected. The formation of higher chlorides is not too probable because the hydrogen shifts these reactions toward the products according to the scheme



On the basis of available data, the equilibrium constants for the chlorination reaction of diffusing elements and the equilibrium constants for reactions occurring during impregnation from the gaseous phase were calculated. These constants can also be used in an examination of the reaction for impregnation of metals and metalloids from the liquid and vapor phases. Orig. art. has: 1 table and 10 formulas.

Card 2/3

L 13524-65			
ACCESSION NR: AP4020248			2
ASSOCIATION: MAI; GIREDMET			
SUBMITTED: 00			INCL: 00
SUB CODE: MM, IS		NO REF SOVI 008	OTHER: 007
Card 3/3			

SAMSON, Yu.U.; RUZINOV, L.P.; RECHETNIKOVA, N.S.; BARU, V.Ye.

Electric conductivity of vanadium dichloride solutions in a molten equimolecular mixture of sodium and potassium chlorides. Zhur. fiz. khim. 38 no.2:481-483 F '64.

(MIRA 17:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskey promyshlennosti.

DUBININ, G.N.; RUZINOV, L.P.

Reaction taking place during the saturation of metal surfaces by elements from the gaseous phase and the thermodynamics of this process. Metalloved. i term. obr. met. no.3:44-48 Mr '64.

(MIRA 17:

1. Moskovskiy aviatsionnyy ordena Lenina institut im. S.Ordzhonikidze i Gosudarstvennyy nauchno-issledovatel'skiy proyektnyy institut redkometallicheskooy promyshlennosti, Moskva.

S/156/62/000/009/001/002
E195/E383

AUTHORS: Ruzinov, L.P. and Belov, S.F.

TITLE: Enthalpy and dissociation pressure of the lower chlorides of hafnium

PERIODICAL: Tsvetnyye metally, no. 9, 1962, 85

TEXT: Following the publication (H. Schäfer, K. Kahlenberg, Zs. anorg. allg. Chemie, 291, no. 5-6, 1960 p. 305) of more accurate data on thermodynamical properties of the lower chlorides of several metals, the present authors revised their earlier calculations (Tsvetnyy metally, no. 12, 1959; Izv. vuzov, - Tsvetnaya metallurgiya, no. 6, 1960, 104; no. 1, 1961, 106) and obtained the following values for the enthalpy and dissociation pressures of chlorides of hafnium and zirconium:

$$\Delta H_{298} = -131 \pm 8 \text{ kcal/mole for HfCl}_2;$$

$$\Delta H_{298} = -195 \pm 8 \text{ kcal/mole for HfCl}_3;$$

$$E_{\text{ZrCl}_2} = 2.535 - 0.525 \cdot 10^{-3}T;$$

$$E_{\text{HfCl}_2} = 2.390 - 0.500 \cdot 10^{-3}T;$$

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Enthalpy and

S/136/62/000/009/001/002
E193/E383

$$E_{\text{HfCl}_2} = 2.550 - 0.400 \cdot 10^{-5}T ;$$
$$E_{\text{HfCl}_3} = 2.950 - 0.866 \cdot 10^{-5}T .$$

(The expressions for the dissociation pressures relate to the
100 - 1400 °K temperature range.)

[Abstractor's note: Abridged translation]

Card 2/2

RUZINOV, L.P.; BELOV, S.F.

Enthalpy and stress in the decomposition of lower zirconium
and hafnium chlorides. TSvet. met. 35 no.9:85 S '62.

(MIRA 16:1)

(Heat of decomposition)

SKLYARENKO, S.I. [deceased]; RUZINOV, L.P.; SAMSON, Yu.U.

Thermodynamic calculation of the electrochemical characteristics
of lower vanadium chlorides. Zhur.neorg.khim. 7 no.12:2645-
2652 D '62. (MIRA 16:2)

(Vanadium chloride)
(Vanadium--Electrometallurgy)

RUZINOV, P., kand. sel'skokhoz. nauk; POPOV, Kh., kand. ekonom. nauk

Principles of material incentive in plant protection. Zashch. rast.
ot vred. i bol. 10 no.2:12-13 '65. (MIRA 18:4)

1. Donskoy sel'skokhozyaystvenny institut.

RUZINOV P.G.
AM

PROCESSES AND PROPERTIES OF CERTAIN DISEASES OF CEREALS
ROUZINOV (P. G.). Исследование вредности некоторых болезней хлебных злаков в полевых условиях. [Investigation of the degree of injury caused by certain cereal diseases in the field.]—Bull. Pl. Prot. Leningr., Ser. II (Phytopath.), 1934, 4, pp. 5-30, 1934. [English summary.]

From a cursory review and discussion of the methods usually employed for estimating the injury caused by parasitic diseases to cultivated crops the author concludes that the only method capable of giving reliable results under field conditions is that of a direct comparison of the yields of healthy and of diseased plants in the same field. His preliminary experiments in the droughty steppe region of south-western Russia and in moist regions of the Russian Far East indicated the existence of a distinct direct relationship between the height of the culms of cultivated cereals and their yield in grain, on the one hand, and the intensity of the attack on them by certain diseases, on the other, the relationship in this case being either direct or inverse, according to the disease. For this reason he suggests a method consisting in collecting separately randomized samples of healthy, and of slightly, moderately, and heavily infected plants from the whole field, each class being then subdivided into five to seven sections according to the length of the culms, and the reduction in yield of each subsection determined in percentages of the yield of the longest healthy culms. The actual working formulae for obtaining the relative and total figures of the

over

COMMON ELEMENTS
COMMON VARIABLE NOTES
OPERATIONAL NOTES
MATERIALS INDEX

ASB-31A METALLURGICAL MICROSCOPE CLAMPING
ALUMINUM
STEEL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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lesions are indicated). In determining rust injury, however, the length of the culms should be measured only from the basal node to the node bearing the topmost leaf, since observations indicated that the portion above this (including the ear) is considerably more stunted by rust attack than the rest of the plant, and since no correlation could be determined in rusted plants between the length of the culm to this point and the length of the apical portion.

This method is amply illustrated by concrete examples of the damage done in 1932 and 1933 by four cereal rusts, chiefly in the Far East. The greatest injury was caused by the linear [yellow] wheat rust [*Puccinia glumarum*] which attacked particularly severely hard wheats which are usually considered to be resistant. This rust, as well as brown rust [*P. triticea*], affected shorter culms more heavily than the longer ones, while in 1933 the taller culms of oats appeared to be more heavily infected by crown rust [*P. lolii*] than the shorter, presumably owing to the peculiar climatic conditions of that year.

The investigation was also extended to some other cereal diseases usually considered to be of minor importance, such as, for instance, leaf spots caused by *Helminthosporium* and *Septoria* spp., the results indicating that the damage done by them is more important than commonly assumed. In general, it is stated that the economic effect of a complex of diseases affecting a crop cannot be determined by simply adding up the yield reduction attributable to each disease individually.

BUDINOV, F.G., kand. sel'skokhoz. nauk; CHASNOKOV, N.S., kand. sel'skokhoz. nauk

Control of vegetable rot during storage. Zashch. rast. ot vred.
1 vol. 9 no. 7-8: 33 '64. (MIRA 18:2)

1. Donskoy sel'skokhozyaystvennyy institut.

USSR/Weeds and Weed Control.

N

Abs Jour : Ref Zhur Biol., No 22, 1958, 100544

Author : Ruzinov, P.G.

Inst :

Title : On the Chemical Means of Controlling Greater Dodder
(*Cuscuta campestris*)

Orig Pub : Sb. nauchno- issled. rabot. Azovo-Chernomorsk. s.-kh.
in-t, 1957, 15, 237-243

Abstract : For effective control of dodder on alfalfa, dinitrophenolate of ammonium (I), and preparation No 125 (II) in a concentration of 4% (1300 liters/ha of the solution) should be applied. Treatment should be performed on the mowed breeding places. Alfalfa sprouted 10-12 days after spraying. Sodium trichlorophenolate (III) proved to be more effective than (I). A good effect was produced by the spraying with 8% emulsion (4.8% with entiracene oil) of anthrol (stable 60% emulsion of anthracene

Card 1/3

USSR/Weeds and Weed Control.

N

Abs Jour : Ref Zhur Biol., No 22, 1958, 100544

led to a rapid (3 days) and complete destruction of the breeding places of dodder among weeds (2400-3000 liters/ha of the herbicide). (V) can be replaced by herbicide (5-6% of the amount of the liquid). Spraying of dodder among weeds (on untilled lands) can be performed with 10% solution of herbicide (VIII) with an addition of 0.4-0.5% of 2, 4-D. The work was conducted in 1953-1956 at the Moldavian Vegetable and Potato Station (Tiraspol') and on the field of Azovo-Chernomorskiy Agricultural Institute.-- L.D. Stonov

Card 3/3

USSR/Plant Diseases. Diseases of Cultivated Plants. 0

Abs Jour: Ref Zhur-Diol., No 5, 1958, 20696.

found around the fruit stems or in the lower part of the fruit. In wet weather a velvet deposit forms on the spots. Rot develops on the infected areas. It is recommended that great care be taken to sow the vegetables correctly, that remnants of stalks be removed after the harvest, that seed be taken exclusively from healthy fruit, that the plants be transplanted between the 45th and the 60th day, that irrigation be done in time, that the area be sprinkled with a 1% Bordeaux mixture before transplanting, and also that the plants be sprinkled after hail, storms, and heavy rains. When the incidence of infection is reduced

Card : 2/3

RUBINOV, P.G., kand. biologichesk. nauk

Controlling double in genetics. Moscow, Inst. of Genet. 1964,
9 no.6333 '64 (1964 1967)

RUZINOV, P.G., kand.sel'skokhozyaystvennykh nauk

Anthracene oil against dodder. Zashch. rast. ot vred. i bol. 3
no.4:31 J1-Ag '58. (MIRA 11:9)

1. Azovo-Chernomorskiy sel'skokhozyaystvennyy institut.
(Dodder) (Anthracene oil)

RULINOV, P. G.

Ruzinov, P. G., and Shchupak, K. L. "Effect of Iarovization on the Appearance of Diseases of Agricultural Crops," Iarovizatsia, no, 2(11), 1937, pp. 111-112. 20 Ia7

So: SIRA SI - 90-53, 15 Dec., 1953

RUZINOV, P. G.

Ruzinov, P. G. "Investigation of the Degree of Injury Caused by Certain Diseases in the Field," Trudy po Vashchite Rastenii, Seria 2, no. 4, 1934, pp. 5-30. 423.92 L54P

So: SIRA SI - 90-53, 15 Dec., 1953

RUSSIAN, I. V.

RUSSIAN, I. V. "Chemical Method of Disinfecting Seed-bed Soil," Bulleten'
Zhenskogo Nauchno-Issledovanijskogo Instituta Khimicheskoi i Mikrobiologicheskoi
Biologii, no. 1, 1953, pp. 37-41. 1953

Br.: 154, 11-10-53, 15 Dec. 1953

RUZINOV, I. G.

Ruzinov, I. G., "Some Data on the Physiology of Potato Leaf Roll," Bolezni Rastenii, Vestnik Otdela Fitopatologii Glavnogo Botanicheskogo Sada SSSR, vol. 19, no. 3-4, 1930, pp. 148-159. 464.8 Z6

24

Use of *Fusarium* sp. in the control of *Orobanche ramosa* L. on tobacco. P. G. RYKOVA, R. G. Nikolaeva and A. I. Kulish. *Vestnik Nauch.-Issledovatel. Inst. Tabach. i Malhorosh. Prom.* No. 141, 130-57 (1940) -- Application of *Fusarium* sp. purpure was to reduce the infection of tobacco with *Orobanche ramosa* L. When the purpure is applied under the roots of the tobacco at the time of planting one g. per plant was sufficient. B. Z. Kamich

RUZINOV, P. G.
S. E. GRUSHNEVOI, Vsesoyuz. Nauch.-Issledovatel. Inst. Tabach. i
Makhoroch. Prom. No. 141, 30-41, 1940

RHZINOV, P. G.

S. E. GRUSHEVOI, Vsesoyuz. Nauch.-Issledovatel. Inst. Tabach. i
Makhoroch. Prom. No. 131, 30-41, 1949

BARYSHNIKOV, F.A.; RUZINOVA, I.L.

Prospects for metal recovery from ores without mines or strip
mines. Fiz.-tekh. probl. razrab. pol. iskop. no.4:122-125 '65.
(MIRA 19:1)

1. Institut gornogo dela Sibirskogo otdeleniya AN SSSR, Novo-
sibirsk. Submitted April 20, 1965.

RUZINOVA, I.L.; FEDOSOVA, V.Ya.

Colorimetric method for determining tin in tin ores. Izv. SO
AN SSSR no.11 Ser.khim.nauk no.3:56-60 '63. (MIRA 17:3)

1. Institut gornogo dela Sibirskogo otdeleniya AN SSSR, Novosibirsk.

BARYSHNIKOV, F.A.; RUZINOVA, I.I.; FEDOSOVA, V.Ya.

Method for determining germanium in black coal. Izv.Sib.otd.AN
SSSR no.5:75-80 '59. (MIRA 12:10)
(Germanium--Analysis) (Coal)

RUZINOVA, Yu.G.; MAYDANIK, F.E.

Glycolytic processes in patients with demyelinating diseases
of the nervous system. Vrach. delo no.10:85-89 0 '63.
(MIRA 17:2)

1. Klinika nervnykh bolezney (zav. - prof. S.N. Savenko)
Chernovitskogo meditsinskogo instituta.

RUZINOVA, Yu.G. (Chernovtsy)

Involvement of the nervous system in hemorrhagic diathesis.
Vrach.delo no.3:243-246 Mr '59. (MIRA 12:6)

1. Kafedra nervnykh bolezney (zav. - prof.S.N.Savenko)
Chernovitskogo meditsinskogo instituta.
(HEMOPHILIA) (NERVOUS SYSTEM--DISEASES)

T-4

USSR/Human and Animal Physiology. Blood

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65095

Author : Ruzinova Yu.G.

Inst :

Title : The Functional State of Myeloid Tissue in Organic Diseases of the Nervous System

Orig Pub : Vracheb. delo, 1956, No 9, 911-914

Abstract : A study was performed upon 80 patients with damage of the brain and spinal cord, peripheral and autonomic nervous systems. Sternal puncture in cases of organic damage to the central and peripheral nervous systems revealed an increase in the number of primitive cells (hemocytoblasts and myeloblasts) and a reduction in more mature elements (myelocytes, bands), an increase in the number of polychromatophile erythronormoblasts, hyperchromia of erythrocytes, a plasmocytic reaction (up to 11.23%), many mitotic figures, a large number of Turk cells, megakaryocytes in the stage

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T-4

USSR/Human and Animal Physiology. Blood

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65095

of phagocytosis, and Gumprecht's shadows. These changes are considered as a manifestation of a disturbance in the trophic function of the nervous system. Specific changes characteristic of any particular localization of lesions failed to be demonstrated. The most marked disturbances in hematopoiesis were seen in diseases which are frequently associated with other forms of nervous dystrophy--I.I. Yurovskaya

Card : 2/2

RUZINCVA, YU. G.

33605 K Voprosu C Pervichnykh Rasseyannykh Entsefalomielitakh. Soobshch. I
Vchen. Zapiski (Chernovits. Gos. Med. In-t), T. 1, 1949, C. 139-48

SC: Letopis'nykh Statey, Vol. 45, Moskva, 1949

RUZJNOVA, Yu. G.

USSR/Medicine - Virus Diseases Mar/Apr 51

"Clinical Aspects and Histopathology of a Disease of the Hemorrhagic Fever Type That Occurs in the Bukovina," Prof S. N. Savenko, Yu. G. Ruzhova, Clinic Nervous Diseases, Chernovitsy Med Inst

"Revropatol i Psikhiat" Vol XX, No 2, pp 56-60

In summer seasons 1947 and 1948 neurotropic disease with hemorrhagic syndrome (hemorrhagic rash, bleeding gums and from the nose, edemas) occurred in Bukovina. Infection usually followed sojourn in the woods with resulting tick bites. Neurol and virusol institutes established that

186r85

USSR/Medicine - Virus Diseases Mar/Apr 51
(Contd)

the disease, which resembles the Crimea and Omsk hemorrhagic fevers, but is distinct from them in some respects, is caused by virus. The disease may take fatal form. Diffuse meningoencephalitis strongly affecting the cortex, subcortical neurons, and the trunk [spine?] occurs in such cases.

186r85

RUZINOVA, Yu.G.; ALEYEV, L.S.

Blood protein fractions in demyelinating diseases of the nervous system. Vrach. delo no.9:41-44 S '60. (MIRA 13:9)

1. Klinika nervnykh bolezney (zav. - prof. S.N. Savenko) Chernovitskogo meditsinskogo instituta.

(BLOOD PROTEINS)

(NERVOUS SYSTEM—DISEASES)

RUZITSKA, L.

History of the Tisza railroad bridge at Szeged.

p. 165 (Melyepitestudományi Szemle. Vol. 7, no. 5/6, May/June 1957. Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

S/193/61/000/012/005/005
A004/A101

AUTHOR: Ruzhitskiy, V. O., Candidate of Geological-Mineralogical Sciences

TITLE: On the state and development prospects of the scientific activities of the Branches and Institutes of the Academy of Sciences SSSR turned over to the Committee

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 12, 1961, 80-83

TEXT: In September, 1960, the Gosudarstvennyy komitet Soveta Ministrov RSFSR po koordinatsii nauchno-issledovatel'skikh rabot (State Committee on the Coordination of Scientific Research Work at the Council of Ministers RSFSR) discussed the state and development prospects of the seven Branches of the Academy of Sciences which were turned over to the Committee, viz. the Bashkir, Dagestan, Kazan', Karelian, Kola, Komi and Ural Branches with a total of 60 scientific institutions and three independent Institutes, employing more than 5,000 people including some 2,000 scientific workers, 605 of which with an academic degree. The author presents a survey on the scientific works and achievements in the fields of Geology, Technical Sciences, Physical-Mathematical Sciences, Chemical Sciences, Biology, Economic Sciences, Social Sciences and the

Card 1/2

On the state and development ...

S/193/61/000/012/005/005
A004/A101

Humanities, and points out that some 50 scientific research works carried out by the Branches and Institutes mentioned are closely connected with the development of various fields of the RSFSR national economy. At present 636 scientific research works have been introduced or are in the stage of experimental industrial tests, and the Branches and Institutes have concluded 114 so-called "Contracts of Creative Cooperation" with various enterprises, trade scientific research institutions and other organizations. A great number of new processes, the introduction of which yielded considerable savings, have been introduced in industry as a result of theoretical and experimental investigations carried out by the scientists of these Branches. Concluding the author enumerates the most important scientific problems which have to be solved by the mentioned Branches and Institutes within the near future.

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L 25927-66 EWT(d)/EWT(m)/T/EWP(h)/EWP(l) DJ

ACC NR: AM5027776

Monograph

UR/ 36
34
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Ruzhitskiy, YEvgeniy Ivanovich (Candidate of Technical Sciences)

Air-cushion vehicles (Vozdushnyye vvezdekhody) Moscow, Izd-vo "Mashinostroyeniye" 1964. 176 p. illus. (part fold.), biblio. 29,000 copies printed.

TOPIC TAGS: ground effect machine, air cushion vehicle, gas bearing, gas jet, flying platform, annular jet

PURPOSE AND COVERAGE: This book will be of interest to a great number of readers and may serve as a textbook for students in the departments of aviation and automobile engineering at schools of higher education and technikums, and also for engineers and technical personnel in aviation and other transportation industries. It contains a general description of various types of air cushion vehicles (ACV) likely to move over land water, snow, and marshes. It also contains a presentation of the basic concepts of ACV with the intention of giving the reader some understanding of both the extent of research efforts and current status of development. Advantages and disadvantages of ACV with respect to other modes of transportation are discussed. Basic characteristics of all existing types of ACV and flying platforms, foreign and Soviet, are given in a table.

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ACC NR: AM5027776

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SUB CODE: 01, 201 SUBM DATE: 14 May 64/ ORIG REF: 019/ OTH REF: 007/

0

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4/4 FW

NAJDANOVIC, Borislav; RUZIC, Aleksandar, dr.; BABIC, Dragoljub

Prevalvular stenosis of the aorta with hypoplasia of the kidney and chronic nephritis. Srpski arh. celok. lek. 89 no.6:741-747 J1 '61.

1. Interno odeljenje Bolnice "Dr Dragisa Misovic" u Beogradu. Sef: dr Aleksandar Ruzic.

(KIDNEYS abnorm) (AORTA abnorm)

CUPIC, Vukan; RUZICIC, Radmila; MARJANOVIC, Ljiljana

A case of heart block with Adams-Stokes syndrome in a 2 and half year old child. Srpski arh. celok. lek. 89 no.2:225-230 F '61.

1. Pedijatrijska klinika Medicinskog fakulteta Univerziteta u Beogradu.
Upravnik: prof. dr Matija Amrozić.

(HEART BLOCK in inf & child)

RUZINOVA, Yu.G.; TAUBER, I.N.

Disturbances of phosphorus metabolism in patients with funicular
myelosis. Vrach. delo no.4:90-93 Ap '61. (MIRA 14:6)

1. Kafedra nervnykh bolezney (zav. - prof. S.N.Savenko) Chernovit-
skogo meditsinskogo instituta i nevrologicheskoye otdeleniye
Chernovitskoy psikhonevrologicheskoy bol'nitsy.
(SPINAL CORD—DISEASES) (PHOSPHORUS METABOLISM)

BOCHAROV, V.I., kand.tekhn.nauk; RUZIYEV, B.T., inzh.; YAKOVLEV, V.A., inzh.

Automatic device for controlling humidity in cloth. Trudy Frunz.
politekh. inst. no. 6:85-88 '62. (MIRA 17:9)

USSR/Zooparasitology - General Problems.

G-1

Abs Jour : Ref Zhur - Biol., No 16, 1958, 72249

Author : Ruziyev, Kh.Kh.

Inst : -

Title : Control of Parasitic Diseases in the Kirgiz SSR in the Last 10 Years.

Orig Pub : Med. parazitol. i parazitarn. bolezni, 1957, 26, No 6, 684-687

Abstract : The disease rate and the susceptibility to malaria of the population in the republic decreased more than 700 times in the last 10 years. Before 1949, were applied quinacrine and plasmodicide for cure and chemoprophylaxis; from 1949, treatment with bigural [paludrine] was begun. Mass treatment with bigural in combination with quinacrine and plasmodicide permitted the complete liquidation of tropical malaria. In the control of the transmitters of malaria before 1949, the aviochemical method and manual surface

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- 4 -

HUZIYEV, Kh.Kh.

Control of parasitic diseases in the Kirghiz S.S.R. during the last ten years. Med.paraz.i paraz.bol. 26 no.6:684-687 N-D '57.

(MIRA 13:4)

1. Iz parazitologicheskogo otdela Kirgizskoy respublikanskoy sanitarno-epidemiologicheskoy stantsii.

(KIRGHIZISTAN--PARASITOLOGY)

RUZIYEV, ^{Kh. Kh.}~~N. N.~~

"Successful Control of Malaria in the Kirghiz SSR," paper presented at the Joint Scientific Session held by AMS USSR and Min. of Pub. Health SSR on Problems of Regional Pathology, 20-25 Sept 54, Tashkent, page 44.

Attachment to B-98525, 30 Jul 56

In U. of Cal. Library

RUZIYEV, T.; SAVEL'YEV, Yu.

Under the iron heel of SEATO AND CENTO. Sov. profsoiuzy 20
no.4:40-41 F '64. (MIRA 17:3)

USSR/Medicine - Virology

Jul/Aug 52

"Systematization of Viruses in Contemporary Literature," V. L. Ruzkov, Inst of Microbiol, Acad Sci USSR

"Microbiologiya" Vol 21, No 4, pp 458-474

PA 228T23
A lengthy discussion on the evolution of viruses, their classification, and their family tree. The materials are based on Soviet and foreign literature. Author draws the conclusion that systematization of viruses should be made on a phylogenetic basis and that such a procedure is imperative for

228T23

systematic research, leading to the recognition of the basic stages in the evolution of viruses. The author discards the symptomatic theories of F. O. Holmes as unscientific and impractical, contests that Holmes' division of viruses into those affecting animals, higher plants, and bacteria is meaningless, contradicts the principles of systematization, and does not reflect the evolution of viruses. States that the classification of viruses into Eurytallinae, Pseudocrytallinae, Gamaleyae, etc, classes is the last step toward a scientific segregation. Recommends that in further research of the phylogenetic aspects of viruses, paleontology and biochemistry should be used as well as biogeography and other applied sciences.

228T23

RUZKOV, V. L.

KOIMAN, Samuel; HUB, Miloslav; RUZKOVA, Sona

Familial occurrence of phosphatase deficiency. Cesk. pediat. 17
no.5/6:518-523 Je '62.

1. Detske oddeleni okresni nemocnice v Pardubicich, prednosta doc.
dr. J. Ringel Patologickoanatomicke oddeleni okresni nemocnice v
Pardubicich, prednosta dr. M. Hub.

(PHOSPHATASE defic) (ABNORMALITIES genetics)

1.1200

#6173
S/145/61/000/005/008/009
D221/D306

AUTHOR: Ruzleva, N.P., Assistant

TITLE: The problem of forming an involved surface by the method of rolling with a revolution surface

PERIODICAL: Izvestiya vysshykh uchebnykh zavedeniy. Mashino-stroyeniye, no. 5, 1961, 151 - 156

TEXT: Machining complicated surfaces by a wide tool having the form of a revolution body is more efficient than the method of passes with a thin disc. This procedure is limited due to the absence of a general theory on profiling these surfaces. The author describes briefly the latter's geometry. The movable tool is bounded by a revolution surface α . It is assumed that the machined surface skirts all positions of α , and is designated by γ . Both surfaces are in contact along the characteristic or contact line s . At each point of s , surfaces α and γ have a common tangent plane, and their normals are colinear. The characteristic is also a line of intersection of two infinitely close positions of the surface as

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The problem of forming an ...

described by A.P. Norden (Ref. 1: Teoriya poverkhnostey (Theory of Surfaces), Mashgiz, 1956). The motion of surface α generally consists of infinitely small helical displacements, that can be decomposed into two rotations. One has its axis coinciding with axis OO of surface α . The other axis is then defined by a single sign, according to A.F. Nikolayev (Ref. 2: Slozheniye dvizheniy tverdogo tela (Composition of Mot on of Solid Body) M., 1948). Rotation of surface α around its axis does not affect the position or form of characteristic s , i.e. the form of surface γ . The form of the skirting surface γ determines the motion of OO , which can be considered as being constituted of small rotations around instantaneous axes PP . The position of PP determines the shape of γ at a given instant. It is assumed that PP is given (Fig. 1). Speed vector V_m at M on α is square to plane $\mu(PP; M)$. If M is on s , then V_m is at a tangent plane, and normal n_m on α at point M is at right angles to V_m .

Consequently, normals on α along s form a line surface γ with OO and PP as guides. Distribution of normals along the meridian of α form the third guide. Characteristic s coincides with meridian of

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The problem of forming an ...

α only when γ is a plane. Motion of OO around PP must be coplanar with it. The stationary axoid of PP is a certain truncated surface, around which plane $\sigma(PP; OO)$ rolls without slip (Fig. 2). A surface γ^0 can be presented as the skirting surface of all positions of rotation by α so as to maintain the characteristic as its meridian, s if the former (γ^0) has a family of plane congruent curves, as well as a family of their orthogonal trajectories. The totality of generatrices of the development line surface have a skirt - rib of return, and are assumed to be a family of plane congruent curves s. The total of involutes of the return rib form a family of orthogonal trajectories of generatrices. The author formulates a condition which must be met by the geometric locus of all positions of OO of the cylinder that rolls a certain developing line surface. In order to ensure that during the motion of the rotation cylinder, the characteristic remains its straight line meridian, it is necessary and adequate that axis OO describes a developing line surface. When a drawing is given of developing line surface β , the latter is then considered a locus of consecutive positions of OO axis of the moving rotation cylinder α , with a given radius r, then a full image

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RELTS

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D221/D306

The problem of forming an ...

of developing surface γ^0 , skirting all positions of cylinder α is obtained. There are 5 figures and 3 Soviet-bloc references.

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

SUBMITTED: June 10, 1960

UX

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RUZLOVSKIY, A.A.; LOMOVSKIY, V.I.

Amalgam methods in nucleonics. Atom. energ. 10 no.3:299-300 Mr '61.
(MIRA 14:3)

(Nuclear fuels)
(Amalgams)

RUZDANOV, S.

PHASE I BOOK EXPLOITATION

SOV/5740

Akademiya nauk SSSR. Institut mineralogii, geokhimi i kristallokhimii redkikh elementov

Voprosy mineralogii, geokhimi i genezisa mestorozhdeniy redkikh elementov
(Problems in Mineralogy, Geochemistry, and Deposit Formation of Rare Elements)
Moscow, Izd-vo AN SSSR, 1960. 253 p. (Series: Its: Trudy, vyp. 4) Errata
printed on the inside of back cover. 2,200 copies printed.

Chief Ed.: K. A. Vlasov, Corresponding Member, Academy of Sciences USSR;
Resp. Ed.: V. V. Lyakhovich; Ed. of Publishing House: L. S. Tarasov;
Tech. Ed.: P. S. Kashina.

PURPOSE: This book is intended for geologists, mineralogists, and petrographers.

COVERAGE: This is a collection of 23 articles on the formation, geology,
mineralogy, petrography, and geochemistry of deposits of rare elements in
Siberia and [Soviet] Central Asia. The distribution and characteristics of
rare elements found in these areas as well as some quantitative and qualitat-
ive methods of investigating the rocks and minerals in which they are found,

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