

KLODA, Rudolf

Use of phenol-sugar-resol in making cylindrical cores in hot boxes. Slevarenstvi 13 no.4:147 Ap '65.

Production of cylindrical cores in nondivided core boxes by the hot-box process. Ibid.:150

1. Tatra National Enterprise, Koprivnice.

ZALESKI, M.; KRASSOWSKI, T.; KLODARSKI, K.

Attempts at bone induction by heterogenous grafts of urinary bladder mucosa. *Folia morphol* 22 no.141-48 '63.

1. Department of Histology and Embryology, Medical Academy, Warsaw. Head. Doc. dr K. Ostrowski; and 2d Obstetric and Gynecologic Clinic, Medical Academy, Warsaw. Head: Prof. dr I Roszkowski.

*

~~SECRET~~
KORNILIN, V.V., inshener; KLODIN, V.O., inshener.

Building an all-welded bridge. Avt.dor. 20 no.6:13-15 Ja '57.
(MIRA 10:10)
(Kustanay Province--Bridges, Iron and steel) (Electric welding)

KORNILIN, V.V., insh.; KLODIN, Y.O., insh.

Replacing small spans without removing rails. Transp.stroi.
8 no.12:30 D '58. (MIRA 12:1)
(Railroad bridges--Maintenance and repair)

KLODIN, V.O., kand. tekhn. nauk

Combined method for calculating pile gratings. Trans. stroi.
13 no.8:58-61 Ag '63. (MIRA 17:2)

KLODIN, V.O., insh.

Characteristics of the calculation of piling gratings by the
generalized method. Transp. stroi. 14 no.8:46-48 Ag '64. (MIRA 18:1)

KLODINTSKAYA, S.M.⁶

Etienne Burnette; on the 85th anniversary of his birth. Klin.
med. 38 no.6:3-5 Je '60. (MIRA 13:12)
(BURNETTE, ETIENNE, 1875-)

PRUSINSKI, Antoni; KLONICKA, Janina

Present problems of so-called collagen diseases with report of three cases. Neur. & polska 7 no.1:111-122 Jan-Feb 57.

1. z Kliniki Choro6 Nerwowych A. M. w Lodzi. Kierownik: prof. dr. H. Herman, Adres: Lodz, Klinika Choro6 Nerwowych, ul. Kopcińskiego 22.

(ACRODERMATITIS ATROPHICANS, case reports,

(Pol))

(COLLAGEN DISEASES,

(Pol))

KLONNICKA, Janina; RUCINSKA, Zofia; SZULC, Janina

2 Cases of so-called latent epilepsy. Polski tygod. lek. 14 no.10:
444-446 9 Mar 59.

1. (Z Kliniki Chorob Nerwowych A.M. w Lodzi; kierownik: prof. dr
B. Herman). Adres: Lods, ul. Kopcinskiego 22 Klin. Chorob Nerwowych
A.M.

(EPILEPSY, in inf. & child
latent, case reports (Pol))

KŁODNICKA, Janina; KROLIKOWSKA, Wiesława

Myasthenia in a 3-year-old girl. Neurol. neurochir. psychiat.
pol. 13 no.1:123-126 '63.

1. Z Kliniki Chorob Nerwowych AM w Łodzi i z Oddziału Neuro-
logicznego Szpitala im. J. Korczaka w Łodzi Ordynator: dr med.
Z. Kuberski.

(MYASTHENIA GRAVIS)

KUBERSKI, Zdzislaw; KLODNICKA, Janina

Apropos of the HBE syndrome and so-called lightning-fast flexion spasms. Neurol. neurochir. psychiat. pol. 13 no.6: 835-837 N-D'63

1. Z Oddzialu Neurologicznego Szpitala im. J.Korczaka w Lodzi; ordynator: dr.med.Z.Kuberski.

*

GHITESCU, D., ing.; KLODNISCHI, L., ing.

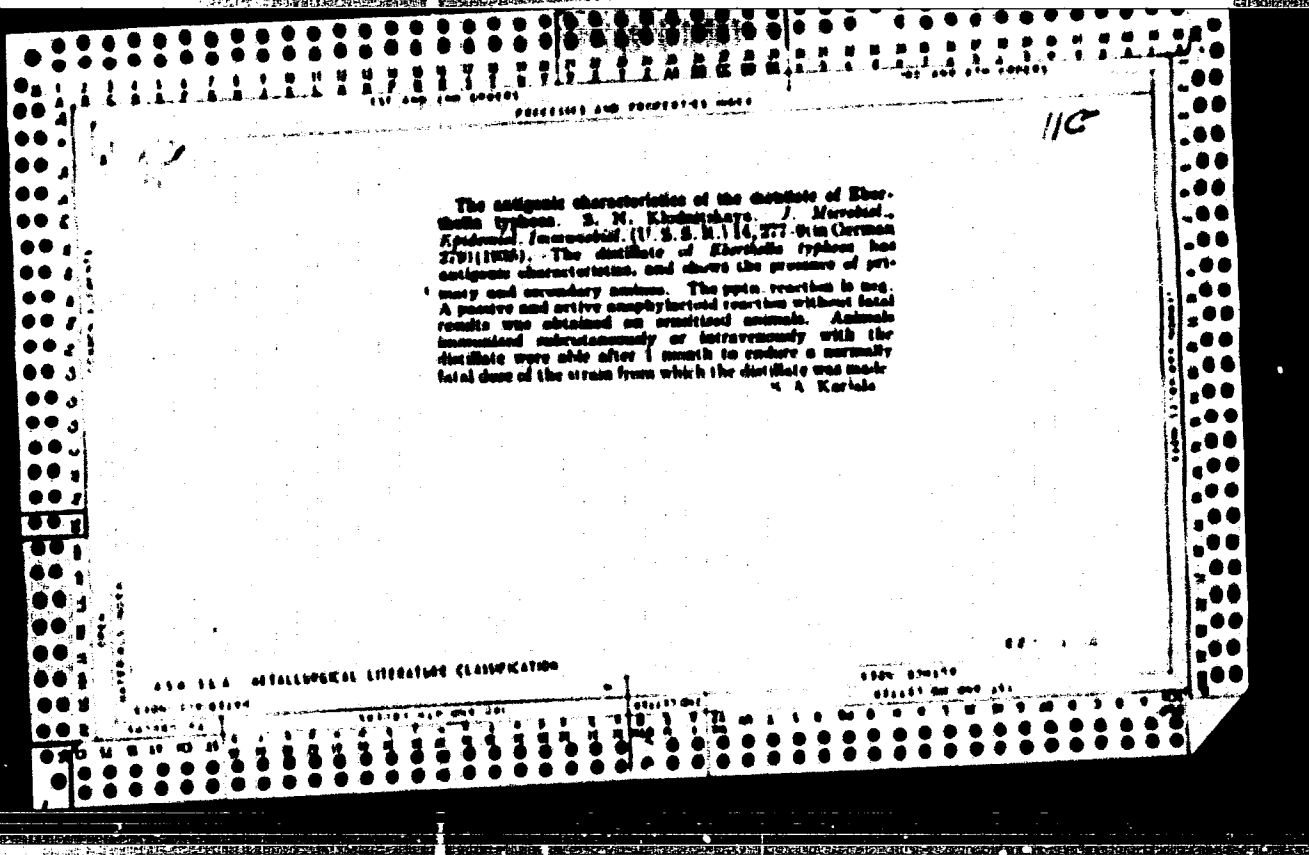
Contributions for determining a calculation method of the
wind effect on the necessary heat of buildings. Rev constr
si mat constr 15 no. 12: 634-638 D '63.

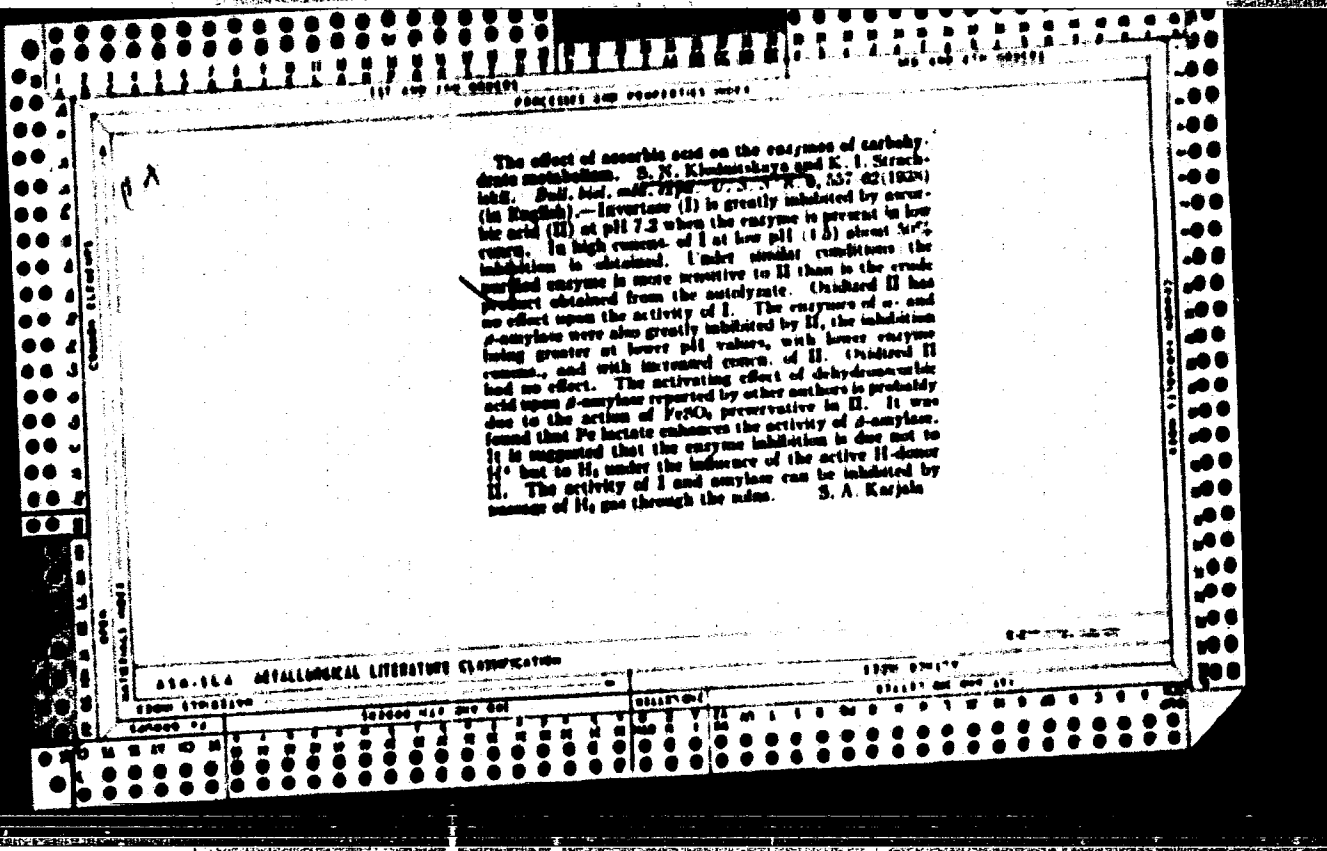
KLODNITSKAYA, N.S.

Etiology of scarlet fever. Report No.4: Isolation of the L-form of streptococcus from penicillin-treated patients with scarlet fever and the production of a ovohemoculture. Zhur.mikrobiol.epid.i immun. 33 no.5:31-35 My '62. (MIRA 15:8)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

(SCARLET FEVER--MICROBIOLOGY) (PENICILLIN)





KLODNITSKAYA, S.N.

"Scarlet fever." [professor] V.I.Ioffe. Reviewed by S.N.Klodnitskaya.
Zhur.mikrobiol.epid.i immun. no.11:76-79 N '53. (MLRA 7:1)
(Scarlet fever) (Ioffe, V.I.)

KLODNITSKAYA, S.N.

Pathogenesis and etiology of scarlet fever. Zhur.mikrobiol.epid.i
immun. no.8:90-95 Ag '54. (MIRA 7:9)
(SCARLET FEVER, bacteriology)

KLODNITSKAYA, Sofiya Nikolayevna; METELKIN, A.I., redaktor; ROMANOVA, Z.A.,
tehnicheskiiy redaktor

N.N.Klodnitskii, 1863-1939. Moskva, Gos. izd-vo med.lit-ry, 1956.
185 p. (MIRA 10:3)
(KLODNITSKII, NIKOLAI NIKOLAEVICH, 1868-1939)

KLODNITSKAYA, S.N.

**N.F. Gamaleia on the centennial of his birth (1859-1949). Zdrav.
Ros. Feder. 3 no.3:35-36 Mr '59. (MIRA 12:4)
(GAMALINIA, NIKOLAI FIEDOROVICH, 1859-1949)**

KLODNITSKAYA, S.N.

Hemocultures from children with rheumatism in the active phase.
Zhur.mikrobiol., epid. i immun. 32 no.11:56-61.N '61. (MIRA 14:11)

1. In Instituta epidemiologii i mikrobiologii imeni Gamalei AMN
SSSR.

(STREPTOCOCCAL INFECTIONS)
(RHEUMATIC FEVER)

(SEPTICEMIA)

KLODNITSKAYA, S.N.

In memory of Etienne Burnet (1873-1960). Zhur. mikrobiol. epid. i
immun. 32 no.7:146-147 Je '61. (MIRA 15:5)
(BURNET, ETIENNE, 1873-1960)

KLODNITSKAYA, S.N., kand.med.nauk; TAROMENKO, A.F., kand.med.nauk

Pathogenesis of streptococcal infections. Report No. 2:
Study of the pathogenicity of streptococcal forms in ovaemocultures
isolated from children in an active phase of rheumatism, during
an experiment on animals. Trudy MONIKI no.5:42-49 '62.
(MIRA 16:4)

(STREPTOCOCCAL INFECTIONS)

KLODNITSKAYA, S.H., kand. med. nauk; MAKIYEVSKAYA, S. Ye.; ODDIKOVA, V.A.;
PASECHNIK, S.A.

Nonspecific ulcerative colitis. Sov. med. 26 no.11:51-56 N'62
(MIRA 17:3)

1. Iz 1-y terapevticheskoy kliniki (zav. - doktor med. nauk
M.G. Malkina), bakteriologicheskoy laboratorii (zav. - S.H.
Klodnitskaya) i patologoanatomicheskogo otdela (zav. - kand.
med. nauk A.A. Naumova) Moskovskogo oblastnogo nauchno-issle-
dovatel'skogo klinicheskogo instituta imeni M.F. Vladimirovskogo.

LEVTOVA, K.Z.; KLODNITSKAYA, S.N.

Fiftieth anniversary of the discovery of the role of camels
in the epidemiology of plague. Zhur. mikrobiol. epid. i
immun. 40 no.5:154-156 My '63. (MIRA 17:6)

1. Iz I Moskovskogo ordena Lenina meditsinskogo instituta imeni
Sechenova i Moskovskogo oblastnogo nauchno-issledovatel'skogo
klinicheskogo instituta.

BELYAKOV, V.A.; VAN YUN-CHAN [Wang Yung-oh'ang]; VEKSLER, V.I.; VIRYASOV, N.M.; VRANA, I.; DU YUAN'-TSAY [Tu Yuan-ts'ai]; KIM KHI IN; KLODNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, E.; NGUYEN DIN TI; PATERA, I.; PENEV, V.N.; SOKOLOVA, Ye.S.; SOLOV'YEV, M.I.; KHOFMOKL', T.; CHEN LIN-YAN'; MIKHUL, A. [Mihul, A.]

Study of Λ -hyperon and K^0 -meson production in π^-p -interactions at an energy of 7 - 8 Billion Electron Volts. Zhur. eksp. i teor. fiz. 44 no.2:431-443 F '63. (MIRA 16:7)

1. Ob'yedinennyy institut yadernykh issledovaniy. 2. Sotrudnik Instituta atomnoy fiziki v Bukhareste (for Mihul).

BELYAKOV, V.A.; VEKSLER, V.I.; VIRYASOV, N.M.; VRANA, I.; KIM KHI IN;
KLODNITSKAYA, Ye.N.; KUZNETSOV, A.A.; MIKHUL, A.; NGUYEN DIN TY;
SOLOV'YEV, M.I.; KHOPMOKL', T.; CHEN LIN-YAN'

Production of Λ -hyperons by 7-8 Bev. negative π^- -mesons on
hydrogen. Zhur. eksp. i teor. fiz. 45 no.2:88-89 Ag '63.
(MIRA 16:9)

1. Ob'yedinennyy institut yadernykh issledovaniy.
(Hyperons) (Mesons)
(Nuclear reactions)

AKUTIN, G.K. [Akutin, G.K.]; GAIYVENKO, Yu.O. [Gaiyvenko, Yu.O.];
 DYACHENKO, M.Ya.; ZHAROV, M.F.; IVANOV, S.K.; KARNYUSHIN,
 L.B.; KLODNITSKIY, I.I. [Klodnyts'kiy, I.I.]; KOBUS, Yu.Y.
 [Kobus, Yu.Y.]; KOKLYU, V.Y. [Kosliak, V.I.]; KORYTSNIKOV,
 V.P.; KOROBKO, M.I.; KOSTOGRIZOV, V.S. [Kostohryzov, V.S.];
 LADYEV, R.Ya. [Ladiyev, R.IA.]; MARTYNYUK, G.F. [Martynuk,
 G.F.]; MEL'NIK, P.M.; kand.tekhn.nauk; NAVOL'NEV, S.Ya. . .
 [Navol'nev, S.IA.]; SIN'KOV, V.M.; SPIVU, G.O. [Spyva, G.O.];
 SHOYKHET, L.A.; SHUMILOV, K.A.; KORSAK, Yu.Ye. [Korsak, Yu.IB.],
 Fed.; LAUTIN, I.A. [Lautin, I.A.], tekhn.red.

[Automation in industry] Avtomatizatsiia v promyslovosti.
 Kyiv, Dersh.vyd-vo tekhn.lit-ry URSS, 1960. 288 p.

(MIRA 14:12)

(Automation) (Industrial management)

MACHER, Z.; KŁODZIANKA, B.

Diagnostic characteristics of *Digitalis ferruginea* and *Digitalis lanata*. Acta Poloniae pharm. 11 Suppl.:67-68 1955.

- 1. Zakład Botaniki Farmaceutycznej A. M., Poznań.
(DIGITALIS,
ferruginea & lanata, differentiation)**

Klodziejczak, K.

3-3

COUNTRY : Poland
CATEGORY :

ABS. JOUR. : RZKhim., no. 14 1959, no. 48712

AUTHOR : Dorabialska, A. and Klodziejczak, K.
INSTR. : Not given
TITLE : A Microcalorimetric Dynamic-Adiabatic Method
for the Measurement of Variable Heat Effects

ORIG. PUB. : Zesz Nauk Politech Lodzkiej, no 22, 69-73 (1958)

ABSTRACT : A dynamic-adiabatic procedure is proposed for use with the Swietoslowski-Dorabialska micro-calorimeter (W. Swietoslowski and A. Dorabialska, Roczniki Chem., 7, 559 (1927)) in cases when the principal portion of the heat to be measured is released in a short period of time (1-3 min) and the remainder is given up slowly and at a decreasing rate. The method consists in the following: in the initial stage of the calorimetric experiment the temperature of the jacket

CARD: 1/3

3-28

Country : POLAND H 27
 Category : Chemical Technology. Fermentation Industry
 Abs. Jour : Klodzinski, E. Ref Zhur-Khimiya, No 14, 1959, No 51372
 Author : Klodzinski, E.
 Institute :
 Title : Modernization and Automation of Malt Producing Plants
 Orig Pub. : Przem. fermentacyjny, 1958, 2, No 4, 125-131
 Abstract : Automation of processes involved in the manufacture of malt were justified and possibilities of its application in practice were reviewed. Presented are preliminary flow diagrams covering the automation of process, conveying equipment and of grain treating; the centralization of mowers control and of blocking-out certain technological processes by remote control. It covers also the remote
 Card: 1/2
H-141

Ref. Jour. : 47513
 Author : Klodzinski, E.
 Title : Use of Remote Temperature Recording and Control in the Malt Industry
 Orig. Pub. : Przem. fermentacyjny, 1958, 2, No 5, 163-171
 Abstract : The significance is shown of remote recording and control of the temperature, in enhancing production quality of malt, and the necessity of improving the instruments available for this purpose in Poland, taking into consideration the specific features of the technological processes. -- G. Oshmyan.
 Card: 1/2

KŁODZINSKI, Stanisław (Kraków, Skawinska 8)

Adrenal hormone therapy of tuberculous pleurisy. *Oruslica* 26 no.5:
387-394 May 1958

1. Z Kliniki Fizjologicznej A.M. w Krakowie. Kierownik: prof. dr
St. Hornung.

(TUBERCULOSIS, PULMONARY, ther.

ACTH in pleurisy (Pol))

(ACTH, ther. use

tuberc. pleurisy (Pol))

EXCERPTA MEDICA Sec 15 Vol 12/8 Chest Dis. Aug 59

1912. PHYSICAL EXERCISE IN STUDENTS' NIGHT-SANATORIA - Cwiczenia fizyczne w studenckich pónianatoriach - Kłodziński S. and Piotrowska B. Zespólu Badawczego, Inst. Grułicy, i Pónianat. Przeciw-grułliczego dla Studentów, Krakow - GRUŻLIKA 1958, 26/10 (869-871)

Respiratory insufficiency is divided into alveolo-respiratory and ventilatory types. These cases are divided into 2 groups: the restrictive in which, by virtue of fibrosis, the lung is unable to inflate to an adequate degree, and the obstructive in which changes in the airway prevent either proper inflation or deflation. Pleural and lung changes need carefully planned muscular exercises as well as 3 various breathing exercises (15 min.): (1) part-physical introducing exercises; (2) part-physical forming exercises; (3) part-physical muscle relaxing exercises (increasing thoracic mobility). One should take into consideration the variations in the volume of functional residual air which may occur during exercise and which directly influences the quality of ventilation. Physiotherapy plays a prominent role in chronic medical conditions.

Dobrowolski - Warsaw (XV, 19*)

KLODZINSKI, Stanislaw; KRAKOWSKA, Maria; TURKANSKA, Wladyslawa

Indices of tuberculosis morbidity among university students in Krakow during 1945-1958 based on radiophotographic studies. *Gruslica* 27 no.11:1127-1133 N '59.

1. Z Kliniki Ftysjatrycznej A.M. w Krakowie. Zespola Naukowo-Badawczego Instytutu Gruslicy w Krakowie. Kierownik: prof.dr. St.Hornung.
Z Miejskiej Poradni Przeciwgrusliczej dla Studentow Szkol Wysszych w Krakowie. Kierownik: dr. M. Krakowska.

(TUBERCULOSIS PULMONARY epidemiol.)
(STUDENTS dis.)

L 31993-66 ENT(m)/ENP(t)/ETI IJD(c) ID
ACC NR: AP6019565 SOURCE CODE: UR/0080/66/039/006/1259/1266

AUTHOR: Chernyayev, V. N.; Zernov, V. B.; Povedskaya, L. G.; Yershova, S. A.;
Klofach, I. I.

55/8

ORG: none

TITLE: Deep purification of cadmium and zinc by rectification and zone refining

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 6, 1966, 1259-1266

TOPIC TAGS: cadmium, zinc, metal purification, metal zone refining, electric resistance, cadmium compound, zinc oxide

ABSTRACT: Deep purification of CdO commercial-grade cadmium and ZnO commercial-grade zinc by rectification and subsequent zone refining is described. Rectification was done in a h-f induction heated, graphite, shelf-type column with 26 plates, or in a quartz bubbling-type column with 10 and 20 plates. A single charge of metal was 9-11 kg. The purity of the metal fractions obtained with rectification was determined by measurement of the residual electric resistance at 4.2 K. Rectification alone lowered the total content of Al, Ni, Sn, Sb, Pb, Bi, Co, Mn, Ca, Ga and other impurities in cadmium to less than $1 \cdot 10^{-5}$ wt %. The yield was 60% of the charge. The lowest values of the residual electric resistance obtained with rectification was $0.9 \cdot 10^{-10}$ ohm-cm for zinc and $0.6 \cdot 10^{-10}$ ohm-cm for cadmium. Additional purification was done by 20-pass zone refining with a molten metal zone 4.5 cm wide

Card 1/2 UDC: 621.915.592:546.47'48

L 31993-66

ACC NR: AP6019565

and a zone speed of 4.5 mm/hr. With zone refining the residual electric resistance in zinc and cadmium decreased to $0.6 \cdot 10^{-10}$ and $0.48 \cdot 10^{-10}$ ohm-cm, respectively (the respective purity 99.99998%). From the data on cadmium rectification the coefficient of the separation for the Cd-Zn system with a low concentration ($1 \cdot 10^{-3} - 10^{-4}$ wt%) of the second component was calculated and found to be 2.0 ± 0.3 .
Orig. art. has: 6 figures and 4 tables. (MS)

SUB CODE: 11, 13/ SUBM DATE: 06May65/ ORIG REF: 015/ ATD PRESS: 5021

Card 2/2 ll

KORDIK, Evzen; DUMDR, Vladimir; FORST, Zdenek; KLOFEC, Miroslav; MICEK, Frantisek; ROCEK, Otto

Physical and chemical principles of the production of carbonate type combined fertilizer. Chem prum 12 no.12:641-645 D '62.

1. Vyskumny ustav anorganicke chemie, Usti nad Labem.

KLOFERA, J.

Sources of medical bibliography. Cesk. oftal. 21 no.5:428-431
S '65.

KLOFERA - V.

CZECHOSLOVAKIA/Cultivated Plants - Forage.

M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15658

Author : V. Klofera

Inst :

Title : Empirical and Agrobiological Findings in Grassland
Agriculture.
(Empiriya i agrobiologiya v travopol'noy sisteme).

Orig Pub : Sbor. Vysoke školy zemed. a Lesn. fak. Brno. 1956, A,
No 2, 75-82.

Abstract : The empirically derived mean correlations of grass mixture seed components, yellow alfalfa - couch grass and red clover + timothy, ordinarily utilized by weight in proportion of 2/3 peas to 1/3 grain, are critically evaluated. When the seed mixtures are empirically put together their condition is not always taken into consideration and, hence, the mixtures may not always yield the planned results in the composition of grassland

Card 1/2

KLOPFA, J.

Cholesteatoma verum orbitae. Cesk. ofth. 15 no.1:42-57 Feb 59.

1. Oční oddělení nemocnice v Buzperku, přednosta primar MUDr. Josef Harcuba.

(CHOLESTEATOMA, case reports,
orbit (Cs))

(ORBIT, cysts,
cholesteatoma (Cs))

KLOFUTAR, G.; KOSTAJI,

Determination of impurities in aluminum by the activation analysis; abstract. Glas Kem dr 27 no.9/10:519 '64

1. The Josef Stefan Institute, Ljubljana.

KLOFUTAR, Marija, dipl. chem.

Scale formation on the heated surfaces of boilers. Nova proisv
13 no.3:243-250 JI '62.

KLOHR, Olof, dr., prof.

Biology and ideology. Elvilag 8 no.1:26-30 Ja-F '63.

1. Jenai Egyetem Termesettudományok Filozofiaja Tanszékének vezetője, Nemet Demokratikus Köztársaság.

1. KLOK, A. K., KNO. ; MARKELOV, P. I., KNO.
2. USSR (600)
4. Apartment Houses
7. Advanced method in construction of apartment houses.
Blul. stroi, tekhn. No. 20. 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

L 51806-65 ENT(d) Pg-4 IJP(o)

ACCESSION NR: AR4040023

S/0271/64/000/004/B008/B008
518.5

SOURCE: Ref. zh. Avtomat., telemekh. vychisl. tekhn. Sv. t., Abs. 4853

AUTHOR: Klokachev, I. V.; Sobolev, G. A.

TITLE: Standard program for the numerical integration of a set of first-order ordinary differential equations by the Runge-Kutta method with an automatic step selection, developed for the BESM-2 machine

CITED SOURCE: Sb. Resheniye inzh. zadach na elektron. vychisl. mashinakh. L., 1963, 44-56

TOPIC TAGS: numerical integration, numerical integration program

TRANSLATION: A program is presented which is intended for the numerical integration within a specified interval $[x_0, x_1]$ of a set of ordinary differential equations of this form:

$$y'_i = f_i(x, y_1, y_2, \dots, y_n) \quad (i=1, 2, \dots, n)$$

with the initial conditions, $y_i(x_0) = y_{i0}$, according to the fourth-order Runge-

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ACCESSION NR: AR4040023

Kutta formulas. The integration is carried out with an automatic selection of the step whose value is varied in the program in such a way that this step, at each point of the interval, is the greatest possible for specified tolerable errors. In developing the program, a special emphasis was placed on the algorithm of the optimal-step selection, on the selection of the optimal accuracy estimators at each step of the integration, and on the control matters. The algorithm included in the program enables one to integrate the differential equations whose right-member functions are piecewise continuous.

SUB CODE: DP

ENCL: 00

Card 2/2

ACCESSION NR: AR4039846

8/0044/6/000/004/B124/B124

SOURCE: Ref. zh. Matematika, Abs. 4B552

AUTHOR: Klokachev, I. V.; Sobolev, G. A.

TITLE: A standard program for the numerical integration of a system of first-order ordinary differential equations by the Runge-Kutta method, with automatic selection of steps, for the BESM-2 computer.

CITED SOURCE: Sb. Resheniye inzh. zadach na elektron. vy* chisl, mashinakh, L., 1963, 44-56

TOPIC TAGS: numerical integration, differential equation, ordinary differential equation, first order differential equation, Runge Kutta method, computer

TRANSLATION: The paper presents a program intended for the numerical integration, on a given interval $[x_0, X]$, of a system of ordinary differential equations of the form $y_1' = f_1(x, y_1, \dots, y_n)$ $i = 1, 2, \dots, n$, with initial conditions $y_1(x_0) = y_{10}$, by the fourth-order Runge-Kutta formulas. The integration is performed with automatic selection of the step, the magnitude of which is modified by the program depending

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ACCESSION NR: AR4039846

on the behavior of the solution obtained, in such a way that at each point of the interval of integration, the step might be maximum for the given allowable error. The constructed program is a standard one: it may be included into any working program, and arbitrary programs may also be included into it. The program allows several schemes of integration and output of the results. The choice of points for which the results are printed out allows one to obtain the solution at the end-point X of the integration interval $[x_0, X]$; at all points at which the integration step is increased; at any points generated according to a rule, which may be arbitrary, specified in advance by the programmer (output at constant intervals, given table of output points, etc...) If desired, the initial data may also be printed out. The program may be used with a compiling and interpreting system. It occupies (0527)8 memory cells, is self-resetting, and has a series of [sub-program] blocks. Bibliography, with 5 titles. I. Shelikhova

DATE ACQ: 15May64

SUB CODE: MA, DP

ENCL: 00

Card 2/2

KLOKACHEV, I.V. (Leningrad)

Refinement of the normalized writing of numbers with a floating
point in digital computers. Zhur. vych. mat. i mat.fiz. 4 no.1:
192.194 Ja-F '64. (MIRA 17:6)

KLOKAR, F.K., sootekhnik

Machines make the work of stock raisers easier. Mekh.sil'hozp.
9 no.12:27-28 D '58. (MIRA 12:1)

1. Kolkhoz "Ukraina," Novo-Ukrainskogo rayona, Kirovogradskoy oblasti.
(Agricultural machinery) (Stock and stockbreeding)

KLOKVA, N.P.; KOVALENKO, A.D., akademiik, retsenzent;

[Strain gauges for measurements at high temperatures]
Tenzodatchiki dlia izmereni pri povyshennykh tempera-
turakh. Moskva, Mashinostroenie, 1965. 118 p.
(MIRA 18:4)

1. Akademiya nauk Ukr.SSR (for Kovalenko).

Kloklov, V. I. Gen Col.

Chief of Academy, of Lenin and Suvorov)ia.
Dzerzhinskiy.

On - Artillery Academy (of Lenin and Suvorov)
in, Dzerzhinskiy.

Soviet Source: N; Oudok No. 136, Moscow, 10 Nov, '47
Abstracted in USAF "Treasure Island" Report No, 44369, on file in
Library of Congress, Air Information Division.

BC A-1

Heat capacity of aqueous solutions of potassium permanganate and calcium permanganate, A. P. Kapustin and V. N. Klozma (Dokl. Acad. Sci. U.R.S.S., Cl. Sci. Chem., 1943, 220-263). -- C_p at 20° is measured for solutions of $KMnO_4$ (0.05-0.37*M*) and of $Ca(MnO_4)_2$ containing 0% of $Ca(OH)_2$ (0.8-1*M*). The apparent molar heat capacity is a linear function of the molality. If C_p of H_2O is taken to be zero, the heat capacity of MnO_4^- at infinite dilution is -36.3 ± 0.5 g.-cal. per degree per mol. J. J. H.

ASD SLS METALLURGICAL LITERATURE CLASSIFICATION

KLOKMAN, V. R.

PA 29/49T94

USSR/Nuclear Physics - Radium
Chemistry - Radium

Mar 49

"Distribution of Radium Between Fusion and Crystals
of Nonisomorphic Salts," V. R. Klokman, Acad V. G.
Kilopin, 4 pp

"Dok Ak Nauk SSSR" Vol LIV, No 1 p. 33

Results obtained in this experiment show that an external absorption system sometimes forms during the distribution of radium between fusion and crystallization, i.e., a coprecipitation of exactly the same type as that occurring in the crystallization of nonisomorphic salts from a solution. Submitted 27 Dec 48.

29/49T94

SECRET

C.A

2

Mechanism of attainment of equilibrium in the distribution of a microcomponent between a solid crystalline isomorphous phase and a melt. V. G. Khibin, V. B. Khibyan, A. N. Murin, and V. D. Nokolov. *Izv. Akad. Nauk S.S.S.R., (Ind. Chem. Sect. 1966, 127-32).*

The distribution coeff. K of Ra between a melt of $\text{Ba(NO}_3)_2 + \text{Ra(NO}_3)_2$ 12.5 mol. %, kept at 315° , and crystals of initially inactive $\text{Ba(NO}_3)_2$, in an amt. corresponding to 40-60% of the total $\text{Ba(NO}_3)_2$ present, was detd. with crystals of a definite nearly uniform size. With crystals of an av. diam. of 2.9×10^{-4} cm., the equil. K was detd. to be 0.48, and the rate of attainment of the equil. distribution was independent of the rate of stirring; the same K value was attained in 4 hrs. with and without stirring. If, on that basis, it is concluded that the distribution process of Ra between the melt and the crystals is detd. mainly by diffusion of Ra in the solid, the diffusion coeff. of Ra in $\text{Ba(NO}_3)_2$ crystals of the given size is calcd. to 1.08×10^{-10} sq. cm./24 hrs. In another series with crystals of av. diam. 3.6×10^{-4} cm., i.e. 100 times as coarse as in the 1st series, equil. was attained in 5 hrs., i.e. required only twice as much time. This casts considerable doubt on the rate-detg. rule of the diffusion of Ra in the solid phase. With crystals of the av. diam. 5.4×10^{-4} , grown slowly in order to ensure as nearly perfect a surface as possible, equil. was attained in 14 hrs., i.e., in a time only 2.5 longer than with crystals 10 times finer, and the diffusion coeff. is calcd. to 1.2×10^{-10}

sq. cm./24 hrs., in hopeless disagreement with the value found with the finest crystals. The true value of the diffusion coeff. of Ra in $\text{Ba(NO}_3)_2$ was, on the other hand, obtained by direct detn. by the emanation method. A known amt. of Ra was adsorbed on the crystals and the amt. of Ra measured at definite time intervals. The emanating ability of the prepn. decreases with time as a result of slow diffusion of Ra from the surface into the interior of the crystals. From these detns., the diffusion coeff. at 315° is calcd., for rather imperfect crystals with an initial emanating capacity of only 20%, to 2.3×10^{-10} , and for 5 samples of more perfect crystals with an initial emanating capacity of 41.2% (i.e. close to Ra^{226}), to 2.8×10^{-10} and 1.2×10^{-10} sq. cm./24 hrs. Similar detns. made with Th X, by emanation of thoron, gave a diffusion coeff. of Th X in $\text{Ba(NO}_3)_2$ somewhat higher than that of Ra, with the ratio of the diffusion coeff. of Ra and of Th X = 0.74. The deviation from unity is accounted for by exper. uncertainties. The true rate of diffusion of Ra in solid $\text{Ba(NO}_3)_2$ being as low as 10^{-10} , this process cannot be detg. for the attainment of the distribution equil. The rate-detg. process is rather the crystallization of the solid phase in contact with the melt.

N. Thon

KLOKMAN, V. R.

250724

USSR/Chemistry - Radium

Mar/Apr 53

"Determination of the Coefficient of Distribution of Radium and of Its Isotope ThX Between the Melt and Crystals of Calcium Nitrate." V.G. Khlopin (deceased), V.R. Klokman, Ye.G. Pekel'naya, Radium Inst, Acad Sci USSR

Iz Ak Nauk SSSR, OZhN, No 2, pp 250-252

The coef of the distribution of Ra and of its isotope ThX between the melt and the crystals of calcium nitrate was determined. It has been shown that in this system there is no enrichment of Ra in the solid phase. It has been

256724

shown further that Radium nitrate readily forms mixed crystals with the nitrates of Ca and Pb, but not with those of Sr and Ba. There is enrichment of Ra on crystals of the nitrates of Sr and Ba, but not on the nitrates of Ca and Pb.

K LOR III

✓ Determination of the conditions of crystallization of
refined in the case of its distribution between the melt and
crystals of barium chloride and lead chloride
P11
K. L. LOR, A. M. MELNIKOV, and
M. M. R. U.S.S.R. Div. Chem. S
Acad. Sci. U.S.S.R. (1954) - see C.A. 48, 14630A

KLOKMAN, V.R.

USSR/ Chemistry - Inorganic chemistry

Card 1/1 Pub. 40 - 1/27

Authors : Klokman, V. R.; Melnikova, A. A.; and Kryupina, N. I.

Title : The crystallization coefficients of Ra during its distribution between fusion and BaCl₂ and PbCl₂ crystals

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 953-957, Nov-Dec 1954

Abstract : The crystallization coefficients of Ra during its distribution between the fusion and BaCl₂ and PbCl₂ crystals was experimentally determined. A greater proximity between the Ra and Ba properties was observed only at high temperatures. The enrichment of the solid phase by the Ra was not observed in the systems investigated. It was found that RaCl₂ crystallizes in the fusion in the form of an anhydrous chloride and demonstrates the very same characteristics as BaCl₂. Nine references: 6 USSR and 3 German (1879-1953). Tables.

Institution : Acad. of Sc. USSR, The V. O. Khlopin Radium Institute

Submitted : February 12, 1954

KLOKMAN, V.R.

4

✓ Determination of the coefficient of crystallization of
 barium B (lead) on its distribution between the melt and
 the crystals of isomorphous salts. V. R. Klokman, V. K.
 Zhelezovskii, and I. A. Izrael'skiĭ. *Dokl. Akad. Nauk S.S.S.R.*
 S.R., *Chem. Abstr.* 1953, 800-4. The coeffs. of crystn.
 D were detd. for Th B that is distributed between the melt
 and the crystals of (1) BaCl₂ in the system BaCl₂-Ba(NO₃)₂,
 (D = 0.80 ± 5%); (2) Ba(NO₃)₂ in the systems Ba-
 (NO₃)₂-NaNO₃ and Ba(NO₃)₂-BaCl₂ (D = 0.06 ± 0.02).
 It was shown that at 500° equil. between the melt and the
 solid phase is established after 1 hr. J. Rortig Leach. (2)

KLOKMAN, V.R.

STARIK, I.Ye.; BATHUR, A.P. [deceased]; GROSHEV, G.V.; MURIN, A.M.;
STARIK, A.S.; OSMENSHCHIKOVA, V.I.; KLOKMAN, V.R.; KUPCHENOV, V.D.;
LUR'YE, B.G.; ISHINA, V.A.; SMIRNOV, L.A.; YEFIMOVA, Ye.I.;
TOROPOVA, M.A.; SIMONIYAK, Z.N.; FRENKLIKH, M.S.; SHCHEMELEVA, Ye.V.,
redaktor; VODOLADINA, S.D., tekhnicheskiy redaktor

[A collection of practical studies in radio chemistry] Sbornik
prakticheskikh rabot po radiokhimi. [Leningrad] 1956. 210 p.
(MLA 10:1)

1. Leningrad. Universitet.
(Radiochemistry)

KLICKMAN, V. R.

KHLOPIN, V.G.; VINCORADOV, A.P., akademik, redaktor; GRINBERG, A.A., redaktor;
ORNBENSHCHIKOVA, V.I., kandidat khimicheskikh nauk, redaktor; ~~KLICKMAN~~
~~V.R.~~, kandidat khimicheskikh nauk, redaktor; NIKITIN, B.A., redaktor
[deceased]; PASVIK, M.A., kandidat khimicheskikh nauk, redaktor,
[deceased]; RATNER, A.P., doktor khimicheskikh nauk, redaktor [deceased];
STARIK, I.Ye., redaktor; BROTTMAN, Ya.A., redaktor izdatel'stva;
FYZNER, R.S., tekhnicheskij redaktor

[Collected works] Izbranye trudy. Moskva, Izd-vo Akad. nauk SSSR.
Vol.2. [Works on inorganic and analytic chemistry and on geochemistry]
Trudy po neorganicheskoj i analiticheskoj khimii i po geokhimii. 1957.
306 p. (MLBA 10:8)

1. Chlen-korrespondent Akademii nauk SSSR (for Grinberg, Starik,
Nikitin)
(Chemistry, Analytic) (Chemistry, Inorganic) (Geochemistry)

KLOKMAN, V. R.

KHLOPIN, V.G.; NIKITIN, B.A. [deceased] otvetstvennyy redaktor; RATHER, A.P. [deceased] doktor khimicheskikh nauk, otvetstvennyy redaktor; VINCORADOV, A.P., akademik, redaktor; ORINBERG, A.A., redaktor; ORNENSHCHIKOVA, V.I., kandidat khimicheskikh nauk, redaktor; ~~KLOKMAN, V.R.~~ kandidat khimicheskikh nauk, redaktor; PASVIK, M.A. [deceased] kandidat khimicheskikh nauk, redaktor; STARIK, I.Ye., redaktor; BROTTMAN, Ya.A., redaktor izdatel'stva; PIVZNER, R.S., tekhnicheskij redaktor

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad. nauk SSSR.
Vol. 1 [Works in the field of radiochemistry] Trudy v oblasti radiohimii. 1957. 370 p. (MIRA 10:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Nikitin, Orinberg, Starik)
(Radiochemistry)

KLOKMAN, V. R., MELNIKOVA, A. A. and POLJANSKY, V. N.

"Investigation of the Various Factors Influencing the Crystallization Coefficient of Radium in Its Distribution between Fused and Crystalline Lead Chloride"

Isotopes and Radiation in Chemistry, Collection of Papers of 2nd All-Union Sci.Tech. Conf. on Use of Radioactive and Stable Isotopes and Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 300pp.

This volume publishes the reports of the Chemistry Section of the 2nd All-Union Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation in Science and the National Economy, sponsored by Acad. Sci. USSR and Main Agency for Utilization of Atomic Energy under Council of Ministers USSR, Moscow, 9-12 April 1957.

KLOKMAN, V. R.

AUTHOR: Klokman, V. R. 78-1-7/43

TITLE: Distribution of the Micro-Component Between the Melt and the Crystalline Phase (Raspredeleniye mikrokomponenta mezhdurasplavom i kristallicheskoj fazoy).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 33-35 (USSR)

ABSTRACT: The behavior of the micro-component in the melt is in some respect analogous to that in the solution. The mechanism of its compensation of concentration results in the process of recrystallization (reference 2). The velocity of the commencement of equilibrium at high temperatures, however, is much higher. With the separation of the solid phase from the melt, the same cases of a coprecipitation of the micro-component with the non-isomorphous solid phase are observed, as is the case in solutions. Abnormal mixed crystals are formed. The latter were proved with radium- and lanthanum fluoride (table 2, reference 3). Radium crystallizes commonly with crystals of the non-isomorphous potassium sulphate. (reference 4) Yet there is a certain difference in the behavior of the micro-component in the solution and in the melt: 1) The solid phase is not separated from the melt

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Distribution of the Micro-Component Between the Melt and the Crystalline Phase 78-1-7/43

according to the logarithmic law, 2) In the case of crystallization of the solid phase from the melt, no analogous coprecipitation of micro-quantities of lead with the halides of the alkali metals, which have a lattice of the type NaCl (reference 3), was achieved, as is the case with solutions. No change of D (D is the coefficient of crystallization which characterizes an equilibrated distribution) took place in binary systems with BaCl₂ in which LiCl were replaced by NaCl and KCl, as shown in table 1. The author subsequently selected CdCl₂ and ZnCl₂ in systems with BaCl₂ and PbCl₂ as second component and determined the coefficients of crystallization at various temperatures (table 3, reference 5). The following conclusions can be drawn from the results obtained: 1) The replacement of the halide of an alkali metal by CdCl₂ and ZnCl₂ in the systems with BaCl₂ and PbCl₂ has substantially decreased the value of the coefficient of crystallization of radium.

2) No common crystallization of RaCl₂ and PbCl₂ took place

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below 410°C. The latter phenomenon was explained by the author by a polymorphous transformation of PbCl₂ between 410 and 420°C. This assumption was confirmed (according to reference 6), at 422°C. This crystalline modification is apparently not isomorphous with RaCl₂. The author explains the reduction of the coefficient of crystallization of radium as follows: Cadmium and zinc have a great ability of forming complexes. The constancy of the complexes increases in the melts with the decrease of the radius of the central ion which is located in the exterior sphere. Here are the central ions, those of Cd and Zn. Ba-, Pb- and Ra-ions can participate at the exterior sphere of the complex. Radium has the largest radius among them and the complexes formed with it are therefore the most constant ones. This must result in a reduction of the activity of the ions of the micro-component. The coefficient of crystallization of radium decreases with the transition of the systems BaCl₂-NaCl and PbCl₂-NaCl, with which the existence of solid complexes was not proved, to the systems BaCl₂ - CdCl₂, PbCl₂ - CdCl₂ and PbCl₂ - ZnCl₂ (table 1 and 2).

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KLODAN, V.R.; GARMASHEV, Yu.M.

Crystallisation coefficient of radium in nitrate systems. Radio-
khimii 1 no.1:26-31 '59. (MIRA 12:4)
(Radium—Crystals) (Nitrates)

KLOIDMAN, V.R.

Relationship between the crystallization coefficient D and the
distribution constant K in fused systems. Radiokhimiya 1 no.1:
32-35 '59. (MIRA 12:b)
(Crystallisation) (Systems (Chemistry))

RATNER, A.P. [deceased]; KLOKMAN, V.R.; NIKOL'SKIY, A.B.

Adsorption of zinc and cerium on precipitates of barium and
lead sulfates. Radiokhimiya 1 no.2:174-180 '59.
(MIRA 12:8)

(Zinc) (Cerium) (Adsorption)

KLOKMAN, V.R.; MEL'NIKOVA, A.A.

Formation of abnormal mixed $\text{BaF}_2 - \text{LaF}_3$ crystals in the crystallization
of lanthama fluoride melt. Radiokhimiia 1 no.3:241-246 '59.
(MIRA 12:10)
(Lanthama fluoride) (Crystals--Growth)

KLOKMAN, V.R.; LOVTSYUS, O.P.; MEL'NIKOVA, A.A.

Distribution of the radioactive isotopes of lead, ^{210}Pb , between
the melt and crystals of alkali metal halides. Radiokhimiya 1
no.3:247-252 '59. (MIRA 12:10)
(Lead--Isotopes) (Alkali metal halide crystals)

KLOKMAN, V.R.; MEL'NIKOVA, A.A.

Effect of the chemical nature of the second component of a binary
system on the coprecipitation of radium with barium chloride.
Radiokhimiia 1 no.5:514-520 '59. (MIRA 13:2)
(Radium) (Barium chloride)

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E071/E433

214200

AUTHORS: Klokman, V.R., Myakishev, K.G. and Smirnov, V.S.

TITLE: A study of the influence of the formation of complexes in the molten state on the coefficient of crystallization in the systems $PbCl_2-ThXCl_2-KCl$ and $CaCl_2-CdCl_2-KCl$

PERIODICAL: Radiokhimiya, 1960, Vol.2, No.2, pp.175-182

TEXT: In previous works on the influence of the nature of solvents on the coefficient of crystallization of radium in nitrate and chloride systems, the authors expressed a supposition (Ref.2: Radiokhimiya, 1, 1, 26 (1959)) that in melts, as in solutions, the formation of complex ions of a macrocomponent in the liquid phase should lead to an increase in the coefficient of crystallization of a microcomponent. In order to confirm this supposition it was necessary to investigate systems in which the existence of complex ions in the liquid state was proved by other methods. For this purpose the authors chose two systems $PbCl_2-KCl$ and $CaCl_2-KCl$. A review is given of literature on the dependence of physico-chemical properties on the composition of melts of the above two systems, proving the existence of complex compounds. In the present work the coefficients of crystallization (D) of $ThXCl_2$ in Card 1/4

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the system $PbCl_2-KCl$ and $CdCl_2$ in the system $CaCl_2-KCl$, at various temperatures and compositions of the liquid phase were determined in order to prove the dependence of D on the presence of a complex compound of the macrocomponent in the melt. Specially purified starting salts ($PbCl_2$, KCl , $CaCl_2$) and radium isotope ThX and radioactive $Cd115$ (the purity of which was checked by the decay curves) were taken for the experiments. The experimental procedure was described earlier (Ref.2 and Ref.4: Radiokhimiya, 1, 5, 514 (1959)). The coefficient of crystallization of radium was determined at 430 and 450°C with the composition of melts 80 and 85 mole % of $PbCl_2$ respectively. It was found that at a constant temperature and composition of the melt, the coefficient of crystallization D is independent of the amount of separated solid phase. With decreasing temperature and correspondingly with increasing content of potassium chloride in the liquid phase, the coefficient of crystallization increases from 0.93 at 450°C to 1.31 at 430°C, i.e. with a change in the temperature of 20°C the value of the coefficient changed by 40%. The determination of the coefficient of crystallization of cadmium chloride was done at 650, 667 and 685°C. Blank experiments were

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carried out in order to correct for the volatilization of CdCl_2 . At a constant temperature and composition of the melt the crystallization coefficient of CdCl_2 is independent of the amount of the precipitated solid phase. With decreasing temperature, i.e. with increasing content of potassium chloride in the solid phase, the coefficient of crystallization increases from 0.30 at 685°C to 0.39 at 650°C , i.e. by 30% for 35°C . The authors also attempted to determine the coefficient of crystallization of KCdCl_3 in the system $\text{KCaCl}_3\text{-KCl}$ at temperatures 663 and 717°C . The coprecipitation of the cadmium compound with the corresponding calcium compound was not observed. The absence of cocrystallization of KCaCl_3 with KCdCl_3 could be explained either by the fact that the above two compounds are not isomorphic or that at the experimental temperature, which was about 270°C above the melting temperature of KCaCl_3 , the latter was completely decomposed. However, the possibility that the cocrystallization had occurred, but the coefficient of crystallization was so small that it was beyond the limit of the accuracy of measuring methods used, is not excluded. It is concluded that on the basis of the above results

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on the distribution of ThXCl_2 and CdCl_2 between the melt and crystals of PbCl_2 and CaCl_2 respectively, it was demonstrated that in the same way as for solutions, the formation of a complex compound of a macrocomponent in the liquid phase leads to an increase in the value of the coefficient of crystallization. There are 2 figures, 5 tables and 26 references: 18 Soviet-bloc and 8 non-Soviet-bloc. Four of the references to English language publications read as follows: H.Bloom and E.Heymann, Proc.Roy.Soc., A, 188, 392 (1947); F.Duke and R.Fleming, J.Electrochem.Soc., 106, 2, 130 (1959); B.Harrap and E.Heymann, Trans.Far.Soc., 51, 2, 268 (1955); N.Boardman, F.Dorman and E.Heymann, J.Phys.Chem., 375 (1949).

SUBMITTED: June 24, 1959

Card 4/4

KLOKMAN, V.R. ; MEL'NIKOVA, A.A. ; MYAKISHEV, K.O. ; SMIRNOV, V.S.

Effect of complex formation in the melt on the crystallisation coefficient of rubidium chloride in the systems KCl - LiCl, KCl - BaCl₂, KCl - CaCl₂. Radiokhimiya 2 no.4: 386-392 '60.

(MIRA13'9)

(Rubidium chloride)

(Crystallisation) (Chlorides)

KLOKMAN, V. R. ; AYDULOV, G. I.

Effect of the radius of the microcomponent ions on crystallization
in the systems $PbCl_2 - SrCl_2 - CdCl_2$ and $PbCl_2 - SrCl_2 - KCl$.
Radiokhimiya: 1960. 4: 397-399. (NIRA 13:9)
(Crystallization) (Chlorides)

20649

S/186/60/002/005/002/017
A051/A130

5.1150 1043, 1273, 1145, 1418

AUTHORS: Klokman, V. R.; Payusov, A. P.

TITLE: A study of the effect of the nature of the solvent and size of the radius of the cation of the microcomponent, on the crystallization coefficient value

PERIODICAL: Radiokhimiya, v. 2, no. 5, 1960, 521 - 530

TEXT: A comparison was made of the crystallization coefficients of $SrCl_2$ and $RaCl_2$ in their distribution between the melt and crystals of $PbCl_2$ in the same binary systems which showed that the crystallization coefficient (CC) of $SrCl_2$ is much higher than that of $RaCl_2$. The assumption made by the authors in Ref. 1 (V.R. Klokman, G. I. Avdulov, Radiokhimiya, 2, 4, 393, 1960), that all other conditions being equal, the absolute value of CC depends on the ratio of the radii of the cations of the micro- and macro-components, was confirmed in other systems, namely in the systems with $BaCl_2$, with which the $SrCl_2$ and $RaCl_2$ co-crystallize isomorphically, the

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A study of the effect of the nature of

same as with $PbCl_2$. A study was also made of the effect of the nature of the solvent on the value of the CC of the microcomponent. The subjects of the experimental investigations were binary systems, formed by chlorides of alkaline metals Li, Na, K, Cs and barium chloride. $SrCl_2$, labelled with Sr^{90} , was used as the microcomponent. The measurements of the Sr^{90} were carried out from the accumulation of its allied product Y^{90} , first separated from the Sr^{90} . Phase diagrams were made of the corresponding systems prior to the experiments on CC determination (Figure 1). Data showed that in the system $BaCl_2-CsCl$ the formation of four compounds takes place, which melts incongruently. The determination of the $SrCl_2$ CC was carried out according to the method described by the author in Ref. 3 (V. R. Klokman, A. A. Mel'nikova, Radiokhimiya, 1, 5, 514, 1959). The Sr^{90} content was calculated from the accumulation formula of the allied product of decay. The results of the CC determination of the strontium chloride in the system $BaCl_2-LiCl$ are given in tables 2 and 3. The results of the $SrCl_2$ CC determination for

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the system $\text{BaCl}_2\text{-NaCl}$, at a temperature of 715°C are given in Table 4. The SrCl_2 CC determination in the system $\text{BaCl}_2\text{-KCl}$ was made at three different temperatures, shown in Tables 5-7. Finally, Table 8 gives the results of the determination made for the system $\text{BaCl}_2\text{-CsCl}$. The authors point out that the data obtained showed that the CC of SrCl_2 in its distribution between the melt and crystals of BaCl_2 in all the investigated systems remains a constant value with a change in the amount of the solid phase, temperature and melt composition. It was further shown that the absolute value of the SrCl_2 CC in the system KCl , is twice as low as its value in the system with LiCl and with NaCl . With a shift over to the system with CsCl a further drop is noted of the CC value of the SrCl_2 . The drop in the CC of the SrCl_2 is explained by the formation in the melt of more stable complex ions of the microcomponent as compared to the complex ions of the macrocomponents. The SrCl_2 and BaCl_2 form simple eutectic systems with the Li and Na chlorides, in which, in the case of the absence

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of a complex-forming agent in the liquid phase, the state of the micro- and macro-component should not change with a replacement of the solvent. A study of the distribution of the microcomponent between the solution and isomorphic solid phase, showed that a lowering of the ion activity of the macrocomponent as a result of the formation of the complex compound, causes a drop in the CC, and a drop of the ion activity of the microcomponent leads to an increase of it, (Ref. 8; V. G. Khlopov, Izbr. tr., 1, 196, Izd. AN SSSR, M-L, 1957). Thus, a comparison of the CC values of the SrCl_2 and BaCl_2 in the same systems showed that the absolute value of the CC of the microcomponent is that much greater the closer the ion radii of the micro- and macro-components are (Table 9). The authors point out that if it is assumed that the state of the micro- and macro-components does not change in the melt with a shift over to the system with KCl, then one can conclude that the compound $\text{BaCl}_2 \cdot 2\text{KCl}$ is completely disassociated in the melt. The process of distribution is said to be characterized by two constants: the CC (ν) and distribution constant K. The latter two were investigated and K was calculated in the systems BaCl_2 - SrCl_2 -KCl and BaCl_2 - SrCl_2 -LiCl, where it was shown that the value of K, just as in

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solutions, decreases with an increase of the content of the macrocomponent in the liquid phase, whereas, D , the CC, remains a constant value. The calculations made for determining the value of K for the given system was based on formulae derived in previous works, (Ref. 12: W. Klemm, W. Tilke, S. V. Müllenheim, Z. an. allg. Chem., 176, 13, 1, 1928; Ref. 11: I. S. Peake, M. R. Bothwell, I. Am. Chem. Soc., 76, 10, 2653, 1954). The densities of the melts and the volume of the solid phase were estimated, leading to the determination of the liquid and solid phase volumes and K , as the ratio of the volumetric concentrations of the microcomponent in the solid and liquid phase. (Table 10). One of the authors was able to show that K can be calculated for any system when working in the melts, if the concentration of the microcomponent in the liquid and solid phases is expressed in molar parts (Ref. 13: A.I. Belyaev, Fizicheskaya Khimiya rasplavlennykh soley. Metallurgizdat., M., 1957). Then $K = \frac{D}{N}$, where N is the molar part of the macrocomponent in the liquid phase (Table 11). In conclusion the author stresses the fact that the phase diagram of the system $BaCl_2-CaCl$ was plotted for the first time. There are 11 tables, 1 graph (phase diagram) and

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A study of the effect of the nature of

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13 references; 11 Soviet-bloc, 2 non-Soviet-bloc. The English language publication reads as follows: (Ref. 11) I. S. Peake, M. R. Bothwell, I. Am. Chem. Soc., 76 10, 2653, 1954.

(1) CaCl (in mol. %)	Температура появления первых кри- сталлов (in °C)	(3) CaCl (in mol. %)	Температура появления первых кри- сталлов (in °C)	(5) CaCl (in mol. %)	Температура появления первых кри- сталлов (in °C)	(7) CaCl (in mol. %)	Температура появления первых кри- сталлов (in °C)
0	981	50	881	88.5	577	80.0	850
5	918	55	842	70.0	579	82.5	552
10	900	58.2	812	71.25	577	85.0	550
15	878	60.0	803	72.5	572	87.0	571
20	854	62.5	582	73.75	568	85.0	579
25	825	64.0	579	75.0	562	85.0	611
30	812	65.0	578	76.25	580	100.0	835
35	782	66.25	572	77.5	562		
40	750	66.75	570	78.75	558		
45	722	67.5	572				

Table 1: (1) CaCl (in moles %), (2) temperature of appearance of the first crystals (in °C), (3) CaCl (in mol %), (4) temperature of appearance of first crystals (in °C), (5) CaCl (in mol. %), (6) Temperature of appearance of first crystals (in °C), (7) CaCl (in mol %) (8) temperature

of appearance of first crystals (in °C).

Card 6/16

KLOKMAN, V.R.; MYAKISHEV, K.O.; SMIRNOV, V.S.

Effect of complex formation in the melt on the crystallization
coefficient in the systems $PbCl_2 - ThCl_2 - KCl$ and $CaCl_2 - CaCl_2 -$
 KCl . Radiokhimiia 2 no.6:175-182 '60. (MIRA 14:4)
(Systems (Chemistry))
(Crystallization)

S/186/60/002/006/025/026
A051/A129

AUTHORS: Klokman, V. R.; Mel'nikova, A. A.

TITLE: The effect of the difference in radii of the cations of micro- and macrocomponents on the crystallization coefficient D value. KCl-NaCl-BaCl₂ system.

PERIODICAL: Radiokhimiya, v. 2, no. 6, 1960, 753 - 754

TEXT: The authors point out that in previous works (Ref. 1: V. R. Klokman and G. I. Avdulov, Radiokhimiya, 2, 4, 393, 1960; Ref. 2: V. R. Klokman, S. A. Payusov, Radiokhimiya, 2, 3, 521, 1960; Ref. 3: V. R. Klokman, Yu. M. Garmashev, Radiokhimiya 1, 1, 26, 1959) it was shown that the less the difference in the radii of micro- and macrocomponent cations, the greater the value of the crystallization coefficient D. In this work a different system was studied namely, the crystallization coefficient for NaCl labeled with Na²⁴ was determined with its distribution between the melt and the crystals of KCl in the binary system KCl-BaCl₂. The data submitted show that the crystallization coefficient of NaCl is less than that of RbCl (Ref. 4: V. R. Klokman, A. A. Mel'nikova, K. O. Myakishov

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The effect of the difference in radii of

S/186/60/002/006/025/026
A051/A129

and V.S. Smirnov, Radiokhimiya, 2, 4, 286, 1960) at the same temperatures. Thus, it is concluded that the relation noted previously between the crystallization coefficient and the radii difference of the micro- and macro-component cations was proven to be valid for other systems also. It is pointed out that in this case, similar to that of (Ref. 4) the crystallization coefficient of the micro-component was found not to depend on the composition, nor on the melt temperature, in spite of the presence of a congruently melting compound in this system. There is 1 table and 4 Soviet-bloc references.

SUBMITTED: July 1, 1960.

Card 2/2

72400

S/186/61/003/003/009/018

E071/E435

21,3100

AUTHOR: Klokman, V.R.TITLE: On the Types of Liquidus Diagrams of Binary Systems
Formed by Chlorides of Radium and Alkali Metals

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.3, pp.302-308

TEXT: Since radioactive properties of radium make the direct experimental study of liquidus diagrams of systems containing weighable quantities of salts of this element difficult, and indirect methods often are also inapplicable, the author made an attempt to give a quantitative evaluation of the possibility of formation of compounds in binary systems, formed by radium and alkali chlorides by comparison of liquidus diagrams of the systems $Me(I)Cl - Me(II)Cl_2$ and the ratios of the generalized moments of the corresponding bi- and monovalent cations. The concept (generalized ionic moment) was introduced by V.K.Semenchenko in 1934 for estimating the ability of an ion to form complexes (generalized ionic moment, also called ionic potential, equals the charge divided by the radius). By comparing the types of liquidus diagrams of binary systems formed by chlorides of alkali and

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22488

S/186/61/003/003/009/018
E071/E435

On the Types of Liquidus ...

alkali earth elements and the ratios of the ionic potentials (generalized ionic moments) of cations of these metals in the corresponding systems, a critical value of $(\mu_{Me^{2+}}) / (\mu_{Me^+})$ was determined. Above this critical value the formation of compounds does take place and below it no compounds are formed. On the basis of the critical ratio of ionic potentials of corresponding ions the types of liquidus diagrams of binary systems formed by chlorides of radium and alkali metals are predicted. It is shown that the critical value of the ratio of ionic potentials for binary chloride systems, formed by alkali metals and the metals of the zinc group is lower than for the corresponding systems of chlorides of alkali and alkali earth metals, which is explained by changes in the nature of the bonds in the compounds. It is shown that the critical value of the potentials of forming a compound depends on the type of the compound, i.e. on the type of coordinated ions. There are 4 figures, 3 tables and 20 Soviet-bloc references.

SUBMITTED: January 18, 1960

Card 2/2

L 14960-63

BDS

ACCESSION NR: AP3003479

2/0184/43/000/000/0004/0000

46

AUTHORS: Kleiman, Y. R.; Kolesnikova, N. S.TITLE: Study of the behavior of Sr sup 90 in melts in the systems PbO₂sub₂-SrO₂ sub₂-LiCl and PbO₂sub₂-SrO₂sub₂-NaCl by isomorphous co-crystallization.

SOURCE: Radiokhimiya, v. 5, no. 3, 1963, 284-290

TOPIC TAGS: Sr sup 90, Pb sub 2, SrO₂ Sub 2, LiCl, NaCl, co-crystallization

ABSTRACT: This study presents the experimental results obtained from the study of distribution of SrO₂ in the crystalline melt of PbO₂ in simple eutectic systems of PbO₂-LiCl and PbO₂-NaCl. The study showed that the coefficient of crystallization of SrO₂ remains constant not only at the time of change in quantity of the solid phase, but also during the change of the composition of the melt and the change of temperature in the PbO₂-LiCl system. The coefficient of crystallization of SrO₂ in this system is 2.5. In the system PbO₂-NaCl, the coefficient of crystallization of SrO₂ remains practically constant during the change of temperature and composition of the melt. However, it differs from the SrO₂ coefficient obtained in the PbO₂-LiCl system. The coefficient of crystallization

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L 14960-63

ACCESSION NR: AFS008679

of the latter is 2,0. It was shown that by isomorphous co-crystallization in the simple eutectic systems $PbCl_2-LiCl$ and $PbCl_2-NaCl$, the composition of $SrCl_2$ taken in a microquantity does not depend on the nature of the solvent, however, the activity of the lead ions in the $NaCl$ fusion decreases on account of the formation of complex lead ions. Orig. art. has: 5 tables;

ASSOCIATION: none

SUBMITTED: 22Sep68

DATE ACQ: 07Aug68

INCL: 00

SUB CODE: CH, ML

NO REF SOV: 018

OTHER: 004

Card 2/2

MYAKISHEV, K.O.; KLOKMAN, V.R.

Formation of anomalous mixed crystals of CaF_2 - CeF_3 and CaF_2 ,
 YF_3 during the crystallization of calcium fluoride from a melt.
Radiokhimiya 5 no.4:401-411 '63. (MIRA 16:10)

(Calcium fluoride) (Rare earth fluorides)
(Crystallization)

MYAKISHEV, K.G.; KLOKMAN, V.R.

Effect of a gaseous medium on the coprecipitation of cerium and
yttrium with CaF_2 crystallising from a melt of the binary system
 $\text{CaF}_2 - \text{NaF}$. Radiokhimiia 5 no.5:527-536 '63. (MIRA 17:3)

ACCESSION NR: AP4009945

S/0186/63/005/006/0649/0655

AUTHORS: Myakishev, K.G.; Klokman, V.R.

TITLE: Influence of the flux nature on the formation of abnormal mixed CaF sub 2- CeF sub 3 and CeF sub 3- YF sub 3 crystals

SOURCE: Radiokhimiya, v. 5, no. 6, 1963, 649-655

TOPIC TAGS: mixed crystals, calcium fluoride, cerium fluoride, yttrium fluoride, calcium chloride, lithium fluoride

ABSTRACT: The present article is a development of earlier work by Klokman et al. (*ZhNKh*, 3, 1, 33 (1958), *Radiokhimiya* 2, 5, 521 (1961), *ibid.* 2, 2, 175 (1960), *ibid.* 1, 3, 241 (1959) treating the same subject as applied to other similar compounds. The new series of tests substituting LiF for NaF in the binary melt with CaF_2 showed no substantial change in the crystallization coefficients with respect to time and temperature. On the other hand, substitution of CaCl_2 for NaF showed a marked difference in this respect.

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ACCESSION NR: AP4009945

The following conclusions are made. In a $\text{CaF}_2\text{-CaCl}_2$ system, unlike the purely fluoride systems $\text{CaF}_2\text{-NaF}$ and $\text{CaF}_2\text{-LiF}$, the distribution of Ce and Y fluorides follows Khlopkin's law, i.e., crystallization coefficient D remains constant independently of the amount of solid phase formed, of experimental conditions and time. The distribution of Ce and Y fluorides among the CaF_2 melt and crystals in a $\text{CaF}_2\text{-CaCl}_2$ system is uninfluenced by gas environment because of poor gas solubility in the melt of this system. Rising crystallization coefficients of Ce and Y fluorides in $\text{CaF}_2\text{-CaCl}_2$ at decreasing temperatures can be explained by the attenuated activity of macrocomponent ions because of decreasing dissociation of the complex $\text{CaF}_2\text{-CaCl}_2$ compound. The general rule is formulated that crystallization coefficient D remains unchanged despite changes in the liquid phase if the concentration ratio of active macro- and microcomponent ions is unchanged. On the other hand, if a change in the liquid phase results in decreased activity of macrocomponent ions - then D increases; conversely, D decreases if the activity of microcomponent ions decreases. Orig. art. has: 2 figures, no formulas, 5 tables.

Card 2/2

ACCESSION NR: AP4020034

S/0186/64/006/001/0011/0018

AUTHOR: Klokman, V. R., Kolesnikova, N. S.

TITLE: A study of complexing in fusions by the isomorphic crystallization method in the systems $PbCl_2$ sub 2-Sr sup * Cl sub 2-RbCl and $PbCl_2$ sub 2-Sr sup * Cl sub 2-CaCl

SOURCE: Radiokhimiya, v. 6, no. 1, 1964, 11-18

TOPIC TAGS: complexing, fusion, isomorphic crystallization method, $PbCl_2$ sub 2-Sr sup * Cl sub 2-RbCl, $PbCl_2$ sub 2-Sr sup * Cl sub 2-CaCl, SrCl sub 2, LiCl, NaCl, KCl

ABSTRACT: Study of the coprecipitation of Sr^{90} with crystals of lead chloride, precipitated from fusions of lithium and sodium chloride, which, with $PbCl_2$ and $SrCl_2$, provide systems with a simple eutectic, led to an interest in comparing results obtained on the behavior of Sr^{90} in more complex systems in which there is a formation of complex compounds. From the fusibility curve for the binary system $PbCl_2$ -MeCl₂ and $SrCl_2$ -MeCl, where Me is an alkali metal, complex compounds of lead and strontium precipitating in a separate solid phase begin to develop in systems with potassium chloride. The number of compounds and their stability are

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ACCESSION NR: AP4020054.

different during conversion from one alkali chloride to another, both for the system with $PbCl_2$ and the system with $SrCl_2$. Coefficients of crystallization of $SrCl_2$ in systems $PbCl_2-RbCl$ and $PbCl_2-CaCl$ are determined. Higher values are obtained in systems $PbCl_2-RbCl$ and $PbCl_2-CaCl$ as compared with the systems formed by lead chloride with $LiCl$, $NaCl$ and KCl . This is explained by the increased stability of complex compounds of the macrocomponent with an increase of ionic radii of alkali metals. It was established that the stability of complex compounds of $PbCl_2$ with chlorides of alkali metals, under the conditions in question, is greater than the stability of the corresponding complex compounds of strontium. Using an isomorphic method of cocrystallization, it is possible to establish the presence of complex compounds in the fusion, not only in the area of crystallization of complex compounds but also in the area of precipitation in the solid phase of the pure component. Orig. art. has: 9 tables, 4 figures.

Card 2/2

DO NOT WRITE BELOW THIS LINE

RODIONOV, Yu.I.; KLOMAN, V.R.

Effect of a diluent on the solubility of metallic cadmium in
fused cadmium chloride - alkali metal chlorides. Radiokhimiia
7 no.2:159-166 '65. (MIRA 18:6)

VERNOV, Yu.S.; KLOKMAN, V.R.

Dependence of D on recrystallization time in the case of the arbitrary dependence on the probability time for transition of microcomponents from one phase to another. Radiokhimiia 7 no.4:488-492 '65. (MIRA 18:8)

KLOKNER, F.

0154. Belost, Ed. Klokner, F. and Hrubec, K. Structural analysis (Statika strukturna i strojitel'skaya), Technical handbook, 4 (Technicheskij Spravochnik 4), Praha, Svitel, Nakladatelství Technické Literatury, 1963, xvi + 680 pp., 670 figs. 70 Kcs.

One of 22 volumes of the Technical Handbook, published as 7th edition (1st ed. in 1917, 6th ed. in 1960). Due to great progress in many fields of this subject, all sections have been carefully scrutinized and rewritten, especially sec. II (Loading conditions, by Klokner), sec. III, 1. (Continuous and multiple-story frame structures, by P. Šustl), and sec. III, 2 (Shell structures, by Hrubec). Material has been added to many other sections of this way through handbook which presents not only a compact treatise of the most important part of structural engineering but also various simplified methods of analysis, demonstrated by numerical examples. Postscript and bibliography in each section furnish valuable references.

Introductory chapter on procedures in engineering practice and standards is written by F. Klokner. J. J. Potters, USA

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JJP

KLOKNER, F.

NALANT, M., KLOKNER, F., and HAVRAN, K., *Řada metod-
ních konstrukcí (Series of Constructive Methods 4)*, Praha, Národní Nak-
ladatelství Technické Literatury, 1982, xvi + 620 pp., 670 figs.
70 Kčs.