

The interaction of ...

S/194/62/000/011/031/062
D413/D308

circular waveguide. The results may be used in the development of a transition from a rectangular wave-guide to a septate one, and for solving other problems connected with discontinuities in septate waveguides. The author quotes results of calculations, experimental figures, graphs and transition schemes. 4 references. / Abstracter's note: Complete translation. /

Card 2/2

S/194/62/000/010/067/08A
A055/A126

AUTHOR: Tragov, A.G.

TITLE: Investigation of the parameters of the equivalent circuit of thick diaphragms for E_{01} waves

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962, 81, abstract 10-7-1621 (In collection: Uskoriteli, no. 3, M., Gosatomizdat, 1962, 161 - 173)

TEXT: The relations for the parameters of the equivalent circuit of a single diaphragm (diameter $2a$, thickness t) in a round waveguide are deduced by the Schwinger (Shvinger) variational method. The relations

$$r/a, (r/a)^3, r/\sqrt{a^2 - r^2}$$

are taken as comparison functions at the aperture ($r < a$). Calculation for a concrete case ($2b = 8.6$ cm, $t = 0.4$ cm, $\lambda = 10.66$ cm). for the three variants of the comparison function gave a satisfactory coincidence with experimental results. Graphs are reproduced for the determination of the diaphragm equivalent circuit

Card 1/2

Investigation of the parameters of the

S/194/62/000/010/057/024
A055/A126

parameters at $\tau/b = 2.5$ and various a/b and t/λ . A resonance method for measuring the diaphragm equivalent circuit parameters is described; this method implies essentially the determination of the resonant frequencies of two natural oscillations of a resonator consisting of a section (shorted on both sides) of a diaphragmed waveguide. There are 4 references.

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/011/042/061
A160/A101

4.11.10

AUTHOR: Tragov, A. G.,

TITLE: The interaction of diaphragms in septate waveguides

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1962, 38, abstract 11-3-75s
(In collection: "Uskoriteli", no. 3, Moscow, Gosatomizdat, 1962,
174 - 184)

TEXT: An investigation was carried out of the interaction of diaphragms in septate waveguides. The conditions were explained under which the rigorous theory of four-pole filters would be applicable to a septate waveguide. This investigation was conducted on the basis of a dispersion relation bearing a general character. By making comparisons with experimental data, it is shown that a determination of the characteristic admittance in relation to the field of the fundamental wave makes it possible to describe the reflections arising during the junction of a round and a septate waveguide - even in the presence of a strong interaction of the diaphragms. The accuracy of such a consideration suffices to match a septate waveguide with a round one by means of calculation.

Card 1/2

The interaction of diaphragms in septate waveguides

S/058/62/000/011/042/001
A160/A101

The results obtained may be used for developing a transition from a rectangular waveguide to a septate one, and for solving other problems connected with irregularities in septate waveguides. The results of calculations and experimental data, graphs and transition schemes are presented. There are 4 references.

V. L.

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/009/043/069
A006/A101

AUTHOR: Tragov, A. G.

TITLE: The interaction of diaphragms in diaphragmed waveguides

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 21, abstract 9Zh129
(In collection: "Uskoriteli", no. 3, Moscow, Gosatomizdat, 1962,
174 - 184)

TEXT: The author clears up conditions permitting the application of the strict theory of four-terminal filters to a diaphragmed waveguide. The investigation was carried out on the basis of the dispersion correlation which is of a general nature and is rigorous, independent of the fact whether or not there is an interaction of diaphragms. A comparison with experimental data shows that the determination of conductance characteristics through the basic wave field makes it possible to describe reflections arising during the coupling of a circular and a diaphragmed waveguide, even if there is a strong interaction of the diaphragms. The accuracy of such description is sufficient to achieve by calculations the matching of a diaphragmed and a circular waveguide. The results ob-

Card 1/2

The interaction of diaphragms in...

S/058/62/000/009/043/069
A006/A101

tained can be used to design a transitional section from a rectangular to a diaphragmed waveguide and to solve other problems connected with heterogeneities in diaphragmed waveguides.

G. Chekov

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/009/042/069
A006/A101

AUTHOR: Tragov, A. G.

TITLE: Investigating high-frequency properties of diaphragmed waveguides based on the concept of fields as normal waves

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 21, abstract 9Zh128
(In collection: "Uskoriteli", no. 3, Moscow, Gosatomizdat, 1962, 148 - 160)

TEXT: Dispersion of a circular diaphragmed waveguide is calculated. It is considered that the distribution $E(r)$ of a radial electric field at the inlet of the diaphragm aperture does not depend upon geometrical dimensions and frequency. At a given $E(r)$ the dependence of the phase shift upon frequency is represented as an explicit function. The assumption that $E(r)$ is the same as in a round aperture cut through in an infinite screen, yields high precision of the dispersion calculation. Parameters of a four-terminal network, equivalent to a waveguide section, were calculated. Currents and voltage are determined either through the full field or through the field of wave E_{01} of the circular

Card 1/2

Investigating high-frequency properties of...

S/058/62/000/009/042/069
A006/A101

waveguide in the central plane of the section. It is shown that at a great distance between the diaphragms, the waveguide characteristics are expressed in terms of the parameters of a single diaphragm.

I. Beluga

[Abstracter's note: Complete translation]

Card 2/2

TRAGOV, A.G.

Application of network theory to septate wave guides. Izv. vyz. ucheb. zav.; radiotekh. 3 no.6:644-651 H-D '60. (MIRA 14:8)

1. Rekomendovana kafedroy elektrofizicheskikh ustanovok Moskovskogo inzhenerno-fizicheskogo instituta.
(Wave guides)

S/759/62/000/003/015/021

AUTHOR: Tragov, A. G.

TITLE: Investigation of high-frequency properties of iris waveguides, based on representation of the fields in the form of normal waves

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3.1962. 148-160

TEXT: The high-frequency properties of iris waveguides are investigated using circuit-theory principles, by expanding the field in series of normal modes. Each cell of the iris waveguide is broken up into two cylindrical regions, one between the irises (diaphragms) and the other inside the diaphragm itself, which is considered of finite thickness. All the derivations are based on the assumption that the distribution of the transverse electric field is the same for the input and output openings of the thick diaphragms, and does not depend on the geometrical dimensions of the iris waveguide or the frequency. A dispersion equation is derived, and it is shown that a definite choice of the electric field distribution function ensures a sufficiently high accuracy in the calculation of the phase velocity of the wave. Two expressions are derived for the characteristic admittance of the iris waveguide, making it possible to describe the properties of such a waveguide on a circuit-theoretical basis. Although
Card 1/2

Investigation of high-frequency properties...

S/759/62/000/003/015/021

these expressions are in general approximate, they do go over into the exact ones when the distance between diaphragms is increased. The circuit-theory approach consists of expressing the unit cell of the waveguide by an equivalent two-port and obtaining the connection between the characteristic parameters of the two-port with the general characteristic of a the equivalent filter. There are two figures.

Card 2/2

S/759/62/000/003/016/021

AUTHOR: Tragov, A. G.

TITLE Investigation of the parameters of the equivalent circuit of a thick iris for the E_{01} mode

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3.1962.161-173

TEXT: Relations are derived for the parameters of the equivalent circuit of an iris, using the Schwinger variational method, and the dependence of the circuit parameters on the choice of the comparison functions is investigated. The junction of two round waveguides of round cross sections at frequencies not far from cutoff is investigated as a particular case of a thick iris. Plots are presented for the determination of the parameters of the iris equivalent circuit, and a measurement procedure is described. The equivalent circuit chosen is that of a symmetrical T-filter with reactive elements, with the electromagnetic fields in the vicinity of the iris represented as sums of normal modes. Good agreement is obtained between the calculations and the experimentally measured values, which are obtained using a resonance measurement method, based on measuring the natural frequency of a cavity containing the iris. There are 2 figures.

Card 1/1

S/759/62/000/003/017/021

AUTHOR: Tragov, A. G.

TITLE: Interaction of irises' in iris waveguides

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3.1962. 174-184

TEXT: The conditions under which the rigorous theory of two-port filters can be applied to an iris waveguide are investigated on the basis of a general dispersion equation which is rigorously valid whether the irises interact with one another or not. It is shown further by comparison of the experimental data that by determining the characteristic admittance in terms of the field of the principal mode makes it possible to describe the reflections that arise when a round waveguide is joined with an iris guide, even in the presence of strong interaction between the irises. The accuracy of such a description is sufficient to allow an iris waveguide to be matched with a round one by computation. The results obtained can be used to develop a transition piece between a rectangular waveguide and an iris guide and to solve other problems connected with inhomogeneous and iris waveguides. There are 6 figures.

Card 1/1

S/759/62/000/004/015/016
D207/D308AUTHOR: Tragov, A. G.

TITLE: Calculation of the dispersion characteristics of diaphragm-type waveguides

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 127-146

TEXT: Theoretical formulas are derived for the phase velocity B_{ph} and the dependence of this velocity on the wavelength (the dispersion of $dB_{ph}/d\lambda$) in terms of the waveguide dimensions. The calculated values are compared with the experimental results for $dB_{ph}/d\lambda$ and are found to agree within 10%. Typical results are given for two waveguides with (1) $2b = 88.61$ mm, $l = 9.97$ mm, $t = 4$ mm, $a/b = 0.3710$, $a/\lambda = 0.16$ and (2) $2b = 84.96$ mm, $l = 21.82$ mm, $t = 4$ mm, $a/b = 0.3833$, $a/\lambda \approx 0.15$. Here a is the radius of the apertures in the diaphragms (corrugations), b is the inner radius of the waveguide itself, l is the distance between the diaphragms,

Card 1/2

Calculation of the ...

S/759/62/000/004/015/016
D207/D308

t is the thickness of the diaphragms, and λ is the wavelength.
There are 2 figures and 7 tables.

Card 2/2

S/759/62/000/004/016/016
D207/D308

AUTHOR: Tragov, A. G.

TITLE: Calculation of the accelerating field intensity in a diaphragm-type waveguide

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 147-158

TEXT: Electromagnetic fields in a waveguide of a linear electron accelerator are assumed to be normal orthogonal waves. An expression is obtained for the axial electric-field component E_z , allowing for the presence of higher harmonics. The value of E_z is averaged over each section of the waveguide; the final result contains some rapidly converging series. The field intensity increases with increase of the diaphragm thickness t . That is why W. Walkinshaw's formula (Proc. Phys. Soc., Pt. 3, 61, 2, 246, 1948; J. Appl. Phys., 20, 6, 634, 1949) for $t = 0$ gives values of the final electron energy lower than those found experimentally in

Card 1/2

Calculation of the ...

S/759/62/000/004/016/016
D207/D308

linear accelerators. A relationship between the power flux and the electric field is also derived. There are 1 figure and 2 tables.

Card 2/2

ZVEREV, B.V.; SOBEMIN, N.P.; TLAGOV, A.G.; SHCHEPIN, I.S.

Determination of attenuation in circular septate wave guides.
Uskoriteli no.6:21-28 '64. (MIRA 18:2)

TRAGOVA, L.A.

Thermal properties ~~characteristic~~ of petroleum (casinghead) gases.
Gas. delo. no.12:36-38 '63. (MIRA 17:10)

1. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii.

TRAGROVA, M.; ZAHOR, Zd.

Fatal pneumonia in vitamin A deficiency. Sborn. lek. 63 no.4:
108-114 Ap' 61.

1. Plicni klinika fakulty vseobecneho lekarstvi University Karlovy
v Praze, prednosta prof. dr. J.Jedlicka II. patologickoanatomicky
ustav fakulty vseobecneho lekarstvi University Karlovy v Praze,
prednosta prof. dr. V.Jedlicka.
(BRONCHOPNEUMONIA etiol) (VITAMIN A DEFICIENCY compl)

БАНКОВИ, М. И. ТЕМАТИКА, К. В. ВЪВЕДЕНИЕ.

Безопасность и эффективность при онкологической хирургии
спешных операций. М. Вестник 17 ноября 1962-1963 г.

1. Издательство "Докладов" онкологического института, София.

RUMANIA/Acoustics - Atmospheric Acoustics. Hydroacoustics.

Abs Jour : Ref Zhur - Fizika, No 6, 1959, 13956

Author : Tralitenberg, N.

Inst : -

Title : Magnetic Sound Track for 16 mm Film.

Orig Pub : Noutati tehn. cinematogr., Minister invatamint. si cult.,
(Bucuresti), 1958, 56-59

Abstract : No abstract.

Card 1/1

- 114 -

TRAHTMAN, J.

[The way to health] Tegi tervisele. Tartu, Vabariiklik,
Sanitaarkariduse Kaja, 1964. 133 p. [In Estonian]
(MIRA 17:6)

SPAIN, Y.

Preparations for central banking of military instruments.

TEHNIK PRAMISHLINOST. Vol. 5, No. 4, 1966

Sofiya, Bulgaria

So. East European Accessions List Vol. 5, No. 2 September, 1966

TRAIKOV, A.

"Light model mechanical spindle press."

p. 17 (Ratsionalizatsiia) Vol. 7, no. 4, Apr. 1957
Sofia, Bulgaria

SO: Monthly Index of East European accessions (LEMI) LC, Vol. 7, no. 4,
April 1958

TRAIKOV, E.

At Lom, Ikoliya unity between science and practice becomes stronger. p. 6.

Vol. 10, no. 6, June 1955
KOOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

TRAIAN, D.

Present stage of calculation methods for straight shafts and crankshafts.
METALURGIA SI CONSTRUCTIA DE M.SINI (Metallurgy and Machine Construction)

1:20:Jan 55

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420016-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420016-9"

TRAIAN, C.

Spinning. Arripile Patriei (The Wings of the Fatherland), #5:19:May '66

TRAIAN, G.

TRAIAN, G. Spiral flight. p. 19

Vol. 4, no. 9, Sept. 1955

ARIPIAL PATRIEL

TECHNOLOGY

Eucuresti

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, (EEAL), LC, Vol. 4, no. 9,
Sept. 1955, Uncl.

TRAIAN, I.

Contribution to the knowledge of the importance of the edges of a forest for problems connected with the protection of forest stock. p. 339.
REVISTA PADURILOR. Bucuresti. Vol. 70, no. 8, Aug. 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, No. 3, March 1956

TRAIANDAFILIDI, V.G. (Moskva)

Psoriasis. Fel'd. i akush. no.10:28-30 0 '54.
(PSORIASIS,)

(MLRA 7:11)

TRAIKOV, Grigor

Contractual fixed value in building, and its economic character.
Stroitelstvo 11 no. 2:2-4 Mr-Ap '64.

1. Member of the Board of Editors, "Stroitelstvo".

Trubnikov, Grigor

Guidelines for capital investments and tasks for construction industries in 1964. Stroitelstvo li no.191-3 Ja '64.

1. Chlen na Redaktsionnata kolegiia, "Stroitelstvo".

TRAIKOV, T.T.

On sanatorium-health resort therapy of diabetes in Khisaria.
Suvr. med. 14 no.7:12-19 '63.

(DIABETES MELLITUS) (HEALTH RESORTS)

TRAIKOV, T.P.; GUNCHIN, L. A.; KARAMOZOV, S. A.

Synthesis by modeling the qualitative system of automatic control
satisfying the principle of invariance. Godishnik mash elect 13 no.2:
9-22 '63. [publ. '64]

TRAIKOV, F.P.; SIMONOV, S.P.

Possibility of the extremal solution of the cutting speed of a heavy drill. *Soviet Mach. Const.* 1963, no. 2:23-34. 163 [publ. 164]

ARGIROVA, D., arkh.; TRAIKOVA, M., arkh.

The Khaskovo and Asenovgrad substations. Tekh delo 467:1 9 Mr '63.

ROMANIA

GLIGORE, V., Professor; BACIU, Tr., MD; GHERMAN, Gr., MD;
DEMITRESCU, I., MD; GHEORGHIIEV, I., MD; FLOREA, E., MD;
BILJAN, St., MD; SAVA, E., MD; TRAILA, P., MD; LAPUSAN, M.,
Hospital attendant; PETEANU, H., MD.

1. Medical Clinic II, Cluj (Clinica a II-a medicala Cluj) - (for
first five); 2. Polyclinic No. 1, Cluj (Policlinica Nr. 1,
Cluj) - (for next five); 3. Bontida Precinct (for
Peteanu).

Bucharest, Viata Medicala, No 8, 15 Apr 63, pp 513-518.

"The Role of Certain Occupational Factors in the Aetiopathogeny
of Ulcerous Diseases of Tractor Operators and Car Drivers."

(11)

TRAILINA, Ye. P.

Gand Chem Sci - (diss) "Study in the field of inner-complex compounds formed by Mannich bases." Moscow, 1961. 11 pp; (Moscow Order of Lenin and Order of Labor Red Banner State Univ imeni M. V. Lomonosov, Chemistry Faculty, Chair of Inorganic Chemistry); 150 copies; price not given; (KL, 6-61 sup, 200)

TRAILINA, Ye.P.; SAVICH, I.A.; ZELENTOV, V.V.

Synthesis of inner-complex compounds of some cations with Mannich
bases. Zhur. neorg. khim. 5 no.8:1902-1904 Ag '60. (MIRA 13:9)
(Mannich bases) (Complex compounds)

TRAILINA, Ye.P.; ZELENTSOV, V.V.; SAVICH, I.A.; SPITSYN, Vikt.I.

Solubility products of inner-complex compounds of copper, nickel,
and uranium with 8-hydroxyquinoline. Zhur.neorg.khim. 6 no.9:
2048-2051 S '61. (MIRA 14:9)
(Organometallic compounds)

TRAILINA, Ye.P.; SAVICH, I.A.; SPITSYN, V.I.

Investigating inner-complex compounds of a number of cations
formed by Mannich bases. Trudy LMI 14138-142 '62
(MIRA 17:1)

TRAILINA, Ye.P.; ZELEN'SOV, V.V.; SAVICH, I.A.; SPITSYN, Vikt.I., akademik

Spectrophotometric determination of the molecular weights of some
inner-complex compounds. Dokl.AN SSSR 134 no.4:848-849 0
'60. (MIRA 13:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Molecular weights) (Complex compounds)

TRAILINA, Ye.P.; ZELENTSOV, V.V.; SAVICH, I.A.; BYLYNA, E.A.;
YEVDOKIMOV, V.B.

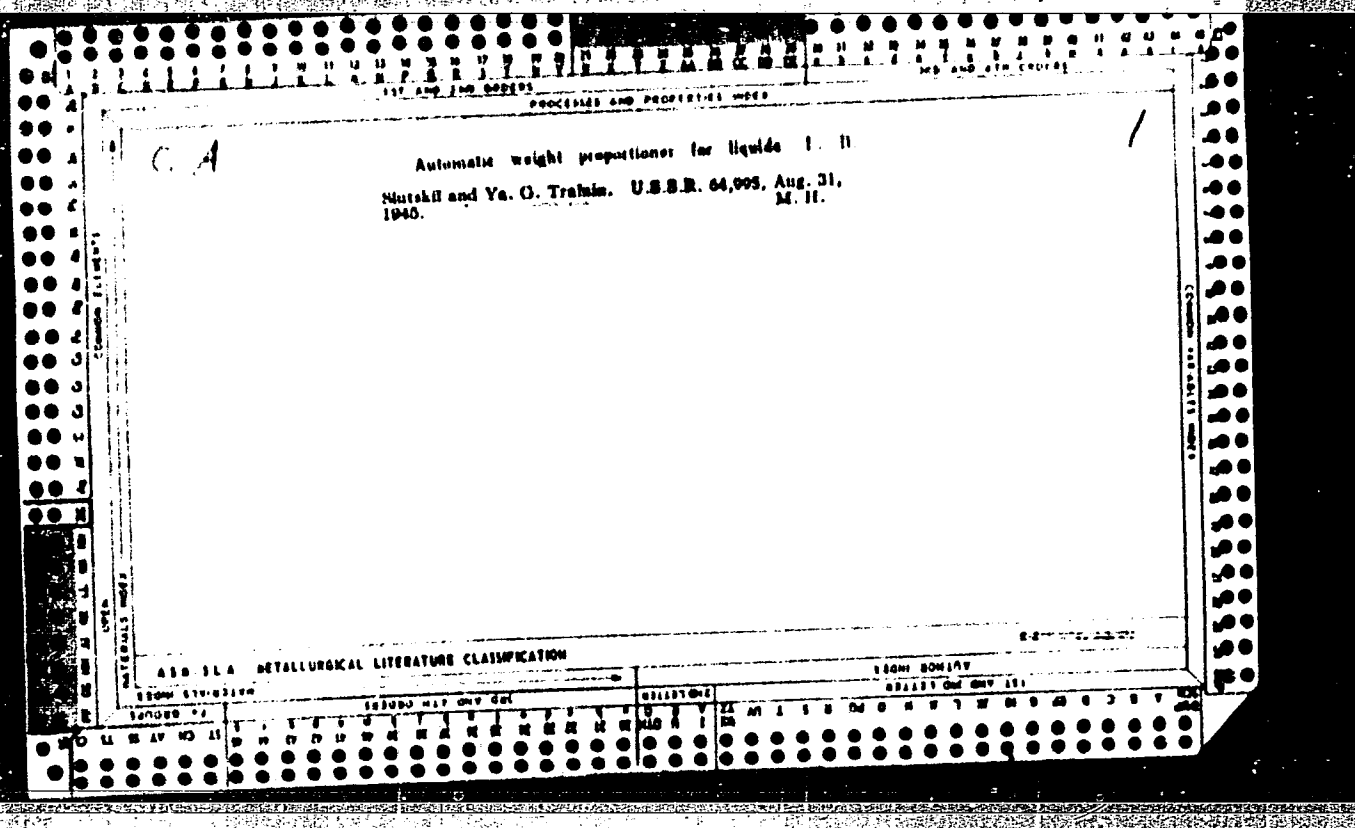
Magnetic susceptibility of the chelate compounds of divalent copper,
nickel, and cobalt with Mannich bases. Zhur. fiz. khim. 35
no. 4:960-962 Ap '61. (MIRA 14:5)

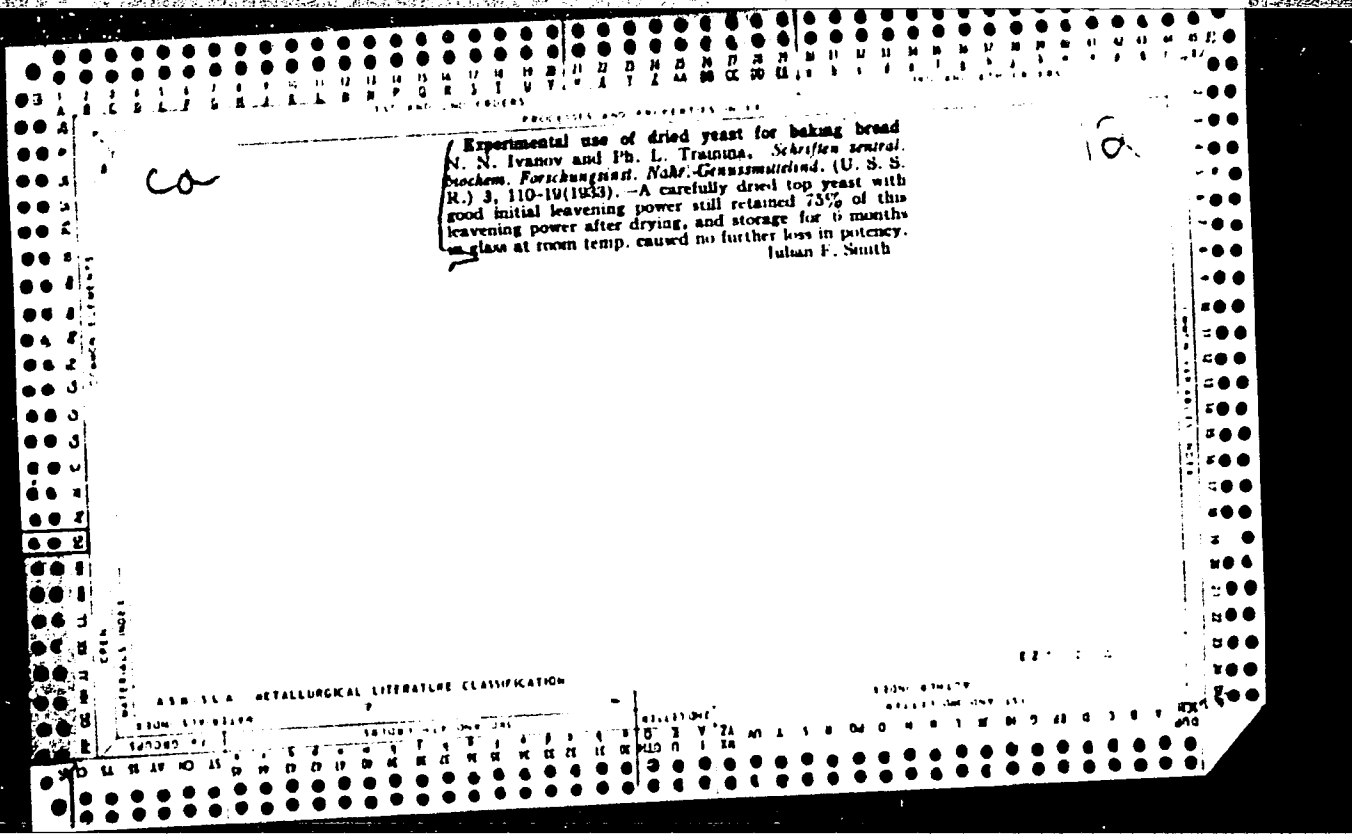
1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Chelates—Magnetic properties)

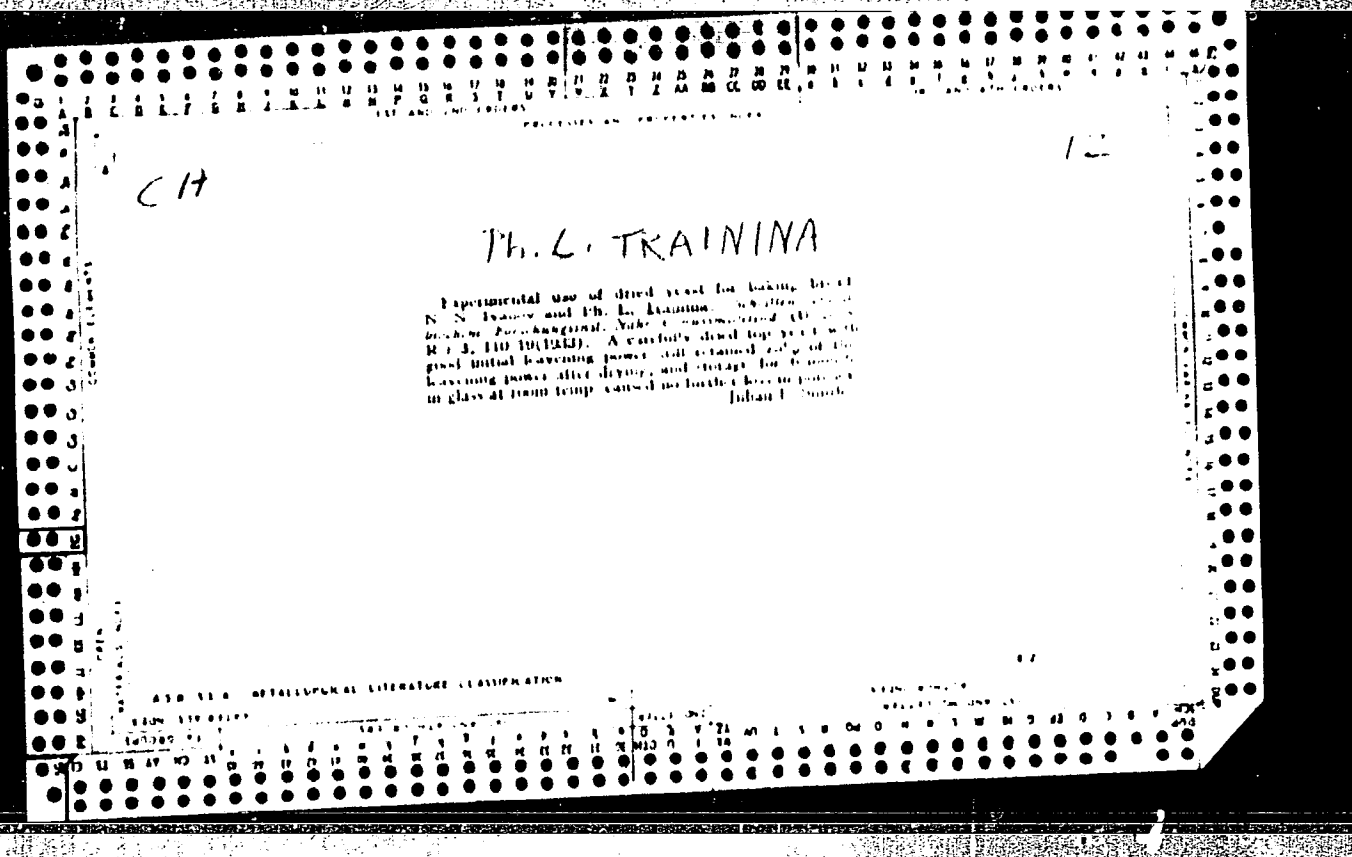
ZELENTSOV, V.V.; TRAILINA, Ye.P.; GLUSHKO, Yu.V.; SAVICH, I.A.; SPITSYN,
VIKT.I.

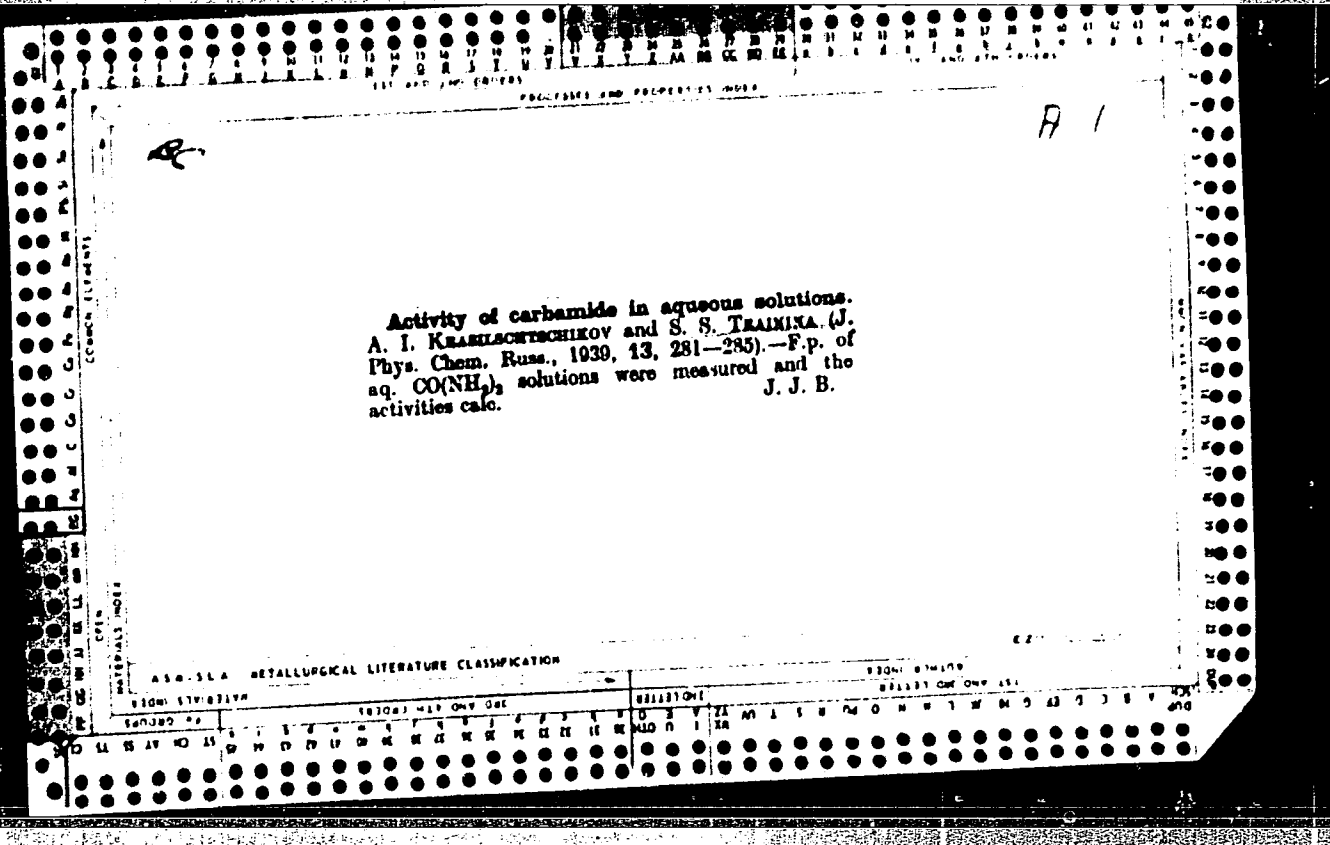
Inner-complex uranyl compounds with derivatives of 8-hydroxyquino-
line of the type of Mannich bases. Zhur.neorg.khim. 6 no.5:1063-
1065 My '61. (MIRA 14:4)

(Uranyl compounds)









PROCESSES AND PROPERTIES INDEX

9

CA

Comparative tests for corrosion of aluminum containing various amounts of impurities. M. N. Rozov and T. A. Trainina. *Tekhn.-Informatsionnyi Bibliograficheskiy Byull. Vsesoyuz. Nauch.-Issledovatel. Inst. Tsvetnitsyuzh. Proektirovaniya Aluminiumov i Elektroliz Prom.* 1930, No. 67-8, 31-6; *Khim. Referat. Zhur.* 1940, No. 8, 130. The most effective methods for protecting Al alloys are plating with pure Al or with a more stable Al alloy and electrolytic oxidation followed by painting or impregnation. Articles formed by pressing are best plated with an Al-Mg alloy contg. 7-9% of Mg. Magnalium can be rolled if the Al used for the alloy contains a min. amt. of Si. Addns. of Bi and Ca to these alloys have a favorable effect. W. R. Henn

ASM-SEA METALLURGICAL LITERATURE CLASSIFICATION

TRAISSAC, F.I.

Fat metabolism in alcoholic cirrhosis. Notes on steatosis. Cesk.
gastroent. vyz. 16 no.3/4:316-319 Ap '62.

1. Hopital Saint-Andre, Bordeaux.
(ALCOHOLISM) (LIVER CIRRHOSIS) (SPRUE)

TRAISTARU, I. (Cluj)

Correlations between investments, fixed assets, social product,
and Rumanian income. Probleme econ 18 no.2:3-17 F '65.

TRAISTARU, I. (Cluj)

Reduction of the cost price at the Fortelanel Enterprise, Cluj.
Problema econ 17 no.7:117-121 JI '64.

TRAITER, M.

Royal jelly. Cesk. farm. 13 no.1:29-32 Ja'64.

1. Katedra analytickej chemie Chemickej fakulty SVST, Bratislava.

*

TRAITER, M.

CZECHOSLOVAKIA / Analytic Chemistry. Analysis of Organic Substance. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60705.

Author : Mojmir Traiter.

Inst : -

Title : Paper Chromatography of Non-Volatile Organic Acids.

Orig Pub: Chem. zvesti, 1957, 11, No 10, 583-589.

Abstract: The possibility of separating oxalic (I), tartaric (II) citric (III), malic (IV) and succinic (V) acids by paper chromatography using various mixtures of ethanol, n-propanol (VI), pyridine (VII) and 25%-ual ammonia has been studied and the cor-

Card 1/3

CZECHOSLOVAKIA / Analytic Chemistry. Analysis of Organic E
Substances.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60705.

Abstract: responding magnitudes of Rf are presented. Micro-drops of acids are put on chromatographic paper "x. 85/285" made in Czechoslovakia and chromatographed 24 hours by the ascending method, and the chromatogram is developed by a solution of 0.5 g of Bromocresol Blue in 1 liter of 96%-ual alcohol (yellow spots). For the quantitative determination, 0.002 ml of the acid solution (5 to 80%) is put on the paper and chromatographed with the mixture of VI + H₂O + VII (75 : 20 : 5) (Rf is 0.35 for I, 0.23 for II, 0.47 for III, 0.59 for IV and 0.95 for V), the areas of separate spots are measured with a planimeter and the acid contents are computed using the calibrating curves of the dependence of the area size of a spot (y) on the

Card 2/3

94

CZECHOSLOVAKIA / Analytic Chemistry. Analysis of
Organic Substances.

E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60705.

Abstract: amount of acid (x) described by the equation $y =$
 $= a \ln x + b$ (a and b are constants depending on
the experimental conditions).

Card 3/3

TRAITER, M.

"Contribution to the paper chromatography of nonvolatile organic acids."

p. 583 (Chemicke Zvesti) Vol. 11, no. 10, Oct. 1957
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) IC. Vol. 7, no. 4,
April 1958

TRAITSKIY, V.L.

USSR/The Pathophysiology of Infectious Process.

U-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, 22099

Author : Traitskiy, V.L.

Inst :

Title : The Effect of Ionizing Radiation on Infection and Immunity.

Orig Pub : V sb.: Tr. Vses. konferentsii po med. radiol. Eksperim. med. radiol. M., Medgiz, 1957, 11-17

Abstract : No abstract.

Card 1/1

TRAJAN, Ion (Bucuresti)

Interesting contribution to the knowledge of vegetative hybridization. *Natura Biologie* 15 no.5:79-82 S-0'63.

TRAJAN, I., ing. (Bucuresti)

Practical work on the evaluation of the cereal harvest.
Natura Biologie 16 no.3:48-49 Ky Je '64.

TRAJANOVSKI, D.

Organizing cooperation within defensive infantry regiment. p. 11.

VOJNI GLASNIK. (Jugoslavenska narodna armija) Beograd, Yugoslavia
Vol. 9, no. 8, Aug. 1955

Monthly List of East European Accessions (EFAI) LC, Vol. 8, no. 9, Sept. 1959

Uncl.

TRAJANOVSKI, M., ing.

Reconnection on the 150 kV transmission line Bitola-Ptolomais. Elektro-
provreda 14 no.7/8:385-386 J1-Ag '61.

TRAJDOS-WROBEL, TADEUSZ.

Wstep do analizy wektorowej.

Warszawa, Poland. Panstwowe Wydawn. Naukowe, 1959. 196 p.

Monthly List of East European Accessions, (SEAI) LC, Vol. 9, No 1, Jan. 1960
Uncl.

16(0)

PHASE I BOOK EXPLOITATION

POL/3424

Trajdos-Wróbel, Tadeusz

Wstęp do analizy wektorowej (Introduction to Vector Analysis)
Warsaw, Państwowe wyd-wo naukowe, 1959. 196 p. 5,200 copies
printed.

Ed.: Wanda Malesińska.

PURPOSE: This book is intended for mathematicians and scientists interested in the field of vector analysis. It will be of interest to students taking advanced courses in mathematics.

COVERAGE: The book is divided into three parts. The first part treats the algebra of vectors and discusses: basic properties of vectors, scalar multiplication of vectors, linear transformations of coordinate systems, product of two and more than two vectors, and applications and equations of vector algebra. The second part treats vector analysis and discusses: differentiation of a vector with respect to a parameter of the

Card 1/11

Introduction to Vector Analysis

POL/3424

vector equation, vector fields, double and triple line integrals, vector field flow and Ostrogradskiy's statement concerning it, circulation and Stoke's statement, Green's theorems, and vector potential fields. The third part treats vectors expressed in terms of curvilinear coordinates and discusses various coordinate systems other than Cartesian. It also briefly discusses tensor analysis. No personalities are mentioned. No references are given.

TABLE OF CONTENTS:

Introduction	5
PART ONE	
ALGEBRA	
Ch. I. Preliminary Information	7
1. Scalar and vector	8
2. Rectangular Cartesian system of coordinates	

Card 2/11

Introduction to Vector Analysis

POL/3424

Ch. II. Vectors and Their Basic Properties	12
3. Definition of a vector	13
4. Representation of a vector by a straight line and the coordinates of a vector with respect to the axes	15
5. Cartesian coordinates of a vector	16
6. Length, direction, and rotation of a vector expressed by means of the Cartesian coordinates of a vector	17
7. The direction cosines of a vector and the relation between them	18
8. The dependence of vector coordinates on the coordinates of its end and origin	18
9. Null vector	18
10. Multiplication of a vector by a number	19
11. Colinearity of two vectors	20
12. Equality and parallelism of two vectors	21
13. Unit vector of a vector (versor)	23
14. Addition of vectors	25
15. Subtraction of vectors	25

Card 3/11

POL/3424

Introduction to Vector Analysis

- 16. The triangle law for the sum and difference of vectors 25
- 17. Coplanar vectors 25
- 18. Vector as the sum of components 26
- 19. Linear combination and linear dependence of vectors 27
- 20. Vector coordinates with respect to the axes 29

Ch. III. Scalar Multiplication 30

- 21. Work
- 22. Definition of the scalar multiplication of two vectors 30
- 23. Scalar multiplication expressed by means of the coordinates of vectors 31
- 24. Angle between vectors and the condition of perpendicularity of vectors 32
- 25. Decomposition of a vector into three given directions 33
- 26. Orthonormalization of a system of vectors 34

Ch. IV. Linear Transformations of a Cartesian System

- 27. Kinds of linear transformations of a system 37
- 28. Parallel translation of a system of coordinates 37
- 29. Rotation and reflection of a system of coordinates 38

Card 4/11

Introduction to Vector Analysis

POL/3424

30. Direction of a coordinate system (right-handed or left-handed coordinate systems)	40
31. Linear transformations of a coordinate system	41
32. Transformation of the coordinates of a vector	42
33. Invariant linear transformations	42
Ch. V. Vector Product of a Pair of Vectors	
34. Definition of the vector product of a pair of vectors	45
35. Computing the vector product by means of the coordinates of the vectors	48
36. Kinematic interpretation of a vector product	51
37. Lagrange's theorem	53
38. Sine of the angle between vectors and the condition of parallelism of the vectors	53
Ch. VI. Product of More Than Two Vectors	
39. Volume of a parallelepiped spanning three vectors	55
40. Mixed product of three vectors (coplanarity)	55

Card 5/11

POL/3424

Introduction to Vector Analysis

- 41. The Gram determinant 57
- 42. Decomposition of a vector in three directions 58
- 43. Mixed product as a relative invariant 60
- 44. Multiple product 61

- Ch. VII. Applications of the Algebra of Vectors 62
- 45. Applications in analytic geometry of space 76
- 46. Applications in plane analytic geometry 77
- 47. Objects of higher degree

- Ch. VIII. Equations of Vector Algebra 79
- 48. Component of a directed vector 80
- 49. Reciprocal base of vectors 82
- 50. Vector equations

PART TWO

ANALYSIS

- Ch. IX. Derivative of a Vector With Respect to a Parameter 87
- 51. Line directed to a point in space 87
- 52. Vector field along a curve

Card 6/11

Introduction to Vector Analysis

POL/3424

53. Vector derivative with respect to a parameter	88
54. Geometric meaning of a derivative of a vector	90
55. Rule for differentiating the results of operating on vectors	90
56. Derivative of a vector of constant length	91
57. Decomposition of the derivative of a vector in two directions	92
Ch. X. Vector Field	
58. Definition of a region and connection (singly-multiply connected regions)	93
59. Scalar field	96
60. Vector field	97
61. Curves of a vector field and kinds of fields	98
62. Directional derivative of a scalar function	99
63. Gradient of a scalar field	101
64. Transformation of the coordinates of a gradient	103
65. Properties of the gradient of a scalar field	103
66. Vector potential field	104

Card 7/11

Introduction to Vector Analysis

POL/3424

Ch. XI. Double and Triple Line Integrals and the Connection Between Them	
67. Surface integral of a vector field	105
68. Ostrogradskiy's statement	108
69. Line integral	113
70. Green's statement	116
71. Stoke's statement	118
Ch. XII. Flow of a Field Vector and Ostrogradskiy's Statement	
72. Flow of a field vector through a surface	123
73. Ostrogradskiy's statement on a vector	124
74. Hydromechanical interpretation of Ostrogradskiy's statement	126
75. Divergence properties of a vector field	128
Ch. XIII. Circulation and Stoke's Statement	
76. Circulation in a vector field	131
77. Stoke's statement on a vector	133
78. Properties of the curl of a vector field	135
79. Kinematic interpretation of curl	136
80. Vector statement of Green (on the plane)	136

Card 8/11

POL/3424

Introduction to Vector Analysis	138
81. Hamilton "nabla" operator	138
82. Differentiation of a vector equation by means of the Hamilton operator	139
83. Successive differentiation and application of the operator	139
Ch. XIV. Green's Theorems	144
84. Green's theorem in space	145
85. Green's theorem on the plane	145
Ch. XV. Vector Potential Field	147
86. Total differential	148
87. Tangential component of a vector potential field	148
88. Line integral of a potential field vector	148
89. Conditions causing a vector field to be weakly potential	150
90. Finding the potential of a field	151
91. Quasi-potential field	153
92. Finding the vector potential of a solenoidal field	155

Card 9/11

Introduction to Vector Analysis

POL/3424

Ch. XVI. Finding Vector Fields Defined by Differential Operations	158
93. Kinds of problems	
94. Certain differential problems and the single-valuedness of its solution	158
95. Exceptional cases of vector fields	160

PART THREE

VECTORS IN CURVILINEAR COORDINATES

Ch. XVII. Curvilinear Coordinates	163
96. Curvilinear coordinates	163
97. Local system of coordinates	167
98. Reciprocal basis (dual)	169
99. Differential operation in orthogonal systems	174
100. Cylindrical system	175
101. Spherical system	
Ch. XVIII. Vectors and Tensors	
102. Contravariant and covariant coordinates of a vector	177
103. Transformation of vectors of two bases	178
Card 10/11	

Introduction to Vector Analysis

POL/3424

104. Transformation of contravariant and covariant coordinates of a vector	181
105. Relation between contravariant and covariant coordinates of a vector	182
106. Transformation of a contravariant and covariant vector	183
107. Elements of tensor calculus	184
108. Rectangular cartesian system	187
Index	191

AVAILABLE: Library of Congress

Card 11/11

AC/jmr
4-27-60

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Warszawa Pol no.2:9-13 '64

1. Department of Geometry, Technical University, Warsaw.

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1. Seizmoloski zavod, Beograd-Tasmajdan.

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TRAJIC, D. N.

Yugoslavia, (430)

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Microseismic yearbook for 1940. p. 7. . Annuaire
Microseismique et macroseismique, Vol. 20, 1950.

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Yugoslavia (430)

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Should measles be considered an anergic disease? Tuberkuloza
15 no.1:98-109 Ja-Mr '63.

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(STATISTICS)

5

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Diffusion of zinc and cadmium into antimony. p. 670.

HUTNICKE LISTY, Brno, Czechoslovakia, Vol. 11, no. 8, Aug. 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 10,
Oct. 1959.
Uncl.

Z/034/61/000/003/005/011
E073/E335

AUTHOR: Trajkov, Stevo. Engineer. Candidate of Technical Sciences

TITLE: Diffusion Accompanied by the Formation of an Intermetallic Phase

PERIODICAL: Hutnické listy, 1961, ¹⁶No. 3, pp. 198 - 205

TEXT: The aim of the work described in the paper is to investigate the conditions of formation of intermetallic phases during diffusion in the system Cu-Zn, the time and temperature dependence and the sequence of the formation of phases in the binary systems where two or more intermetallic phases form side-by-side. The diffusion coefficients and the activation energies of the individual phases were measured and a method of producing eccentrically-placed specimens was evolved. In the first part a theoretical analysis is made of the formation of intermetallic phases during diffusion, the sequence of formation of the phases and the mutual influence of the phases during their growth. In the second part, experimental results are described. As the base metal

Card 1/6

Diffusion Accompanied by ...

Z/034/61/000/003/005/011
E073/E335

electrolytic copper of 99.82% purity (which was in the form of 8 mm diameter, 10 mm long cylinders or 12 mm long, 6 mm high and 4 mm wide prisms) was used. The surface of the copper cylinders and prisms was degreased in benzene and methyl alcohol. Oxidation was removed by a 65% phosphoric acid; after 15 min etching the specimens had the bright colour of metallic copper. They were then stored in ether and removed immediately prior to the diffusion tests. The zinc used in the experiments was chemically pure and free of arsenic. The diffusion media were prepared as follows: a) zinc was melted in small crucibles, 10 mm dia. and 15 mm high, and the temperature of the zinc was maintained at 440 °C; colophony was used to protect the surface of the melt from oxidation. The copper specimens were submerged into the melt and the entire content was cooled very rapidly, in 2-3 sec, to prevent too-early diffusion, b) the diffusion medium was zinc in powder form and zinc dust; to prevent sticking of the individual particles pulverised charcoal was added, which also acted as a reducing medium. This diffusion medium enabled diffusion

Card 2/6

Diffusion Accompanied by ...

2/034/61/000/003/005/011
E073/E335

experiments also at temperatures above the melting temperature of zinc; c) a layer of copper 40-50 μ thick was electrolytically deposited on 8 mm dia., 10 mm high zinc cylinders; d) at temperatures above the melting point of zinc, diffusion was directly by submerging the copper specimen into molten zinc, removing the specimens at certain time intervals; e) the diffusion medium "rejection phase ϵ " was produced by adding 15% copper to the molten zinc, heating at 600 °C under the charcoal protective layer. After cooling the formed phase could easily be crushed into powder, the diffusion was carried out on the one hand, by placing the copper cylinder into the powder - on the other hand, by submerging it into the melt; f) the diffusion medium "rejection phase γ " was produced by adding 35% copper to the molten zinc, heating at 750 °C under the protective layer of charcoal; g) eccentric location of copper cylinders into the diffusion medium was achieved by deoxidizing zinc in a glass, porcelain or quartz tube which was sealed from one side and then submerging the copper cylinder in such a way that it should be in close contact with the tube wall, which was then

Card 3/6

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Diffusion Accompanied by ...

Z/034/61/000/003/005/011
E073/E335

rapidly cooled. The chemical compositions of the diffusion layers formed side-by-side are plotted in Fig. 7 (zinc in %, copper in %, versus depth in mm). During diffusion in the temperature range 250-410 °C in the media a) and c), the phases β , γ and ϵ form side-by-side. They can be easily distinguished without etching. During diffusion in the media b) and e) only the γ and β phases form; during diffusion in the medium a) the phases β , γ and ϵ form side-by-side; the crystals of the ϵ -phase tear away from the surface layer and move into the melt. Diffusion in the medium f) produces only the β -phase. Diffusion in the medium g) produces all the three phases simultaneously. Identification was by chemical and microscopic analyses. A method was evolved of quantitative measurement of the mutual influence of the ϵ , γ and β phases in the system Zn-Cu. It was established that during Zn-Cu diffusion, β is a primary phase formed, then γ forms and finally the phase ϵ . The effective values of the diffusion coefficient for the ϵ , γ and β phases were established as follows:

Card 4/6

Z/034/61/000/003/005/011
E073/E335

Diffusion Accompanied by

$$D(T)_\epsilon = 1.58 \cdot 10^{-4} \exp. (-15\,700/RT) (295 - 496 \text{ }^\circ\text{C})$$

$$D(T)_\gamma = 2.57 \cdot 10^{-3} \exp. (-16\,200/RT) (295 - 496 \text{ }^\circ\text{C})$$

$$D(T)_\beta = 8.71 \cdot 10^{-1} \exp. (-20\,800/RT) (300 - 700 \text{ }^\circ\text{C})$$

There are 19 figures, 1 table and 6 references: 1 Czech
and 5 non-Czech.

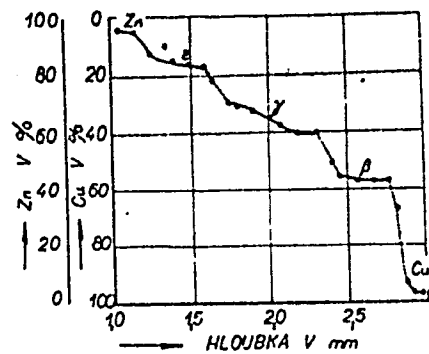
SUBMITTED: August 7, 1959

Card 5/6

Diffusion Accompanied by

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E073/E335

Fig. 7:



Card 6/6

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E197/E535

AUTHOR: Trajkov, St.

TITLE: Planar and cylindrical diffusion in multiphase systems

PERIODICAL: Československý časopis pro fysiku, ¹²no.1, 1962, 12-22
+ 3 plates

TEXT: In another paper the author solved the problem of planar diffusion in a two-component system with three phases α , β and γ and found an exact solution of the problem in a differential form. In this paper the planar and cylindrical diffusion are calculated for the type I system with four phases and the calculation of diffusion for n-phases is derived in a similar manner. The problem is formulated as follows: consider a binary system A-B with n-phases of type I. The definition of the system by means of weight fractions is expressed by:

$$1 = x_{A\alpha} > x_{A\beta} > x_{A\delta} \dots > x_{A\gamma} = 0,$$

$$x_{A\beta_1} > x_{A\beta_2} > x_{A\delta_2} > x_{A\delta_3} \dots$$

Card 1/4

Planar and cylindrical ...

Z/037/62/000/001/002/007
E197/E535

At a given temperature and pressure the system will form n -solid phases α, β, \dots of non-stoichiometric composition. The phase boundaries are planar or cylindrical and the individual phases are homogeneous and compact. At the phase boundaries, thermodynamic equilibrium is established and the partial diffusion coefficients of the substances in the individual phases do not depend on the concentration of the components. One of the extreme phases may have any grouping, whilst the other phases must be solid, since otherwise convection is not excluded. The concentration gradient of the material and the mass balance are considered and expressed by a set of differential equations which are then solved by approximation, replacing integrals by linear expressions and assuming parabolic dependence of diffusion on time. Circular boundaries are reduced to linear boundaries. For both cases equations are given for a binary system of n -phases and $n-1$ boundaries. The planar and cylindrical diffusion were experimentally determined for an interface of Cd-Cu, using 99.99% purity, thoroughly degreased and cleaned, copper (0.2 to 0.5 mm thick sheet or 0.2 to 0.5 mm diameter cylinders) and

Card 2/4

Planar and cylindrical ...

Z/037/62/000/001/002/007
E197/E535

99.95% purity cadmium. The cadmium was perfectly deoxidised with colophony and over the molten cadmium a layer of molten colophony was maintained. The copper specimens were submerged through the colophony into the molten cadmium and then the whole system was intensively cooled. Thus, perfect contact was achieved between the copper and the cadmium. The specimens thus produced were subjected to metallographic investigation to make sure that no diffusion layer formed during the process. Following that, the specimens were sealed into glass ampoules with an inert atmosphere and furnace annealed at a temperature of 200-310°C. The system Cd-Cu differs from the defined type I system by the fact that cadmium is partly soluble in copper, which is ignored in this paper. By means of fractions this system can be defined as follows:

$$0.997 = X_{Cu\alpha} > X_{Cu\gamma} > X_{Cu\epsilon} > X_{Cu(in Cd)} = 0.$$

$$X_{Cu\gamma_1} X_{Cu\gamma_2} X_{Cu\epsilon_2} X_{Cu\epsilon_3}$$

The diffusion coefficient versus time went very nearly through the origin. Two diffusion layers were found both by microscopic Card 3/4

Planar and cylindrical ...

Z/037/62/000/001/002/007
E197/E535

inspection and chemical analysis: phase γ on the boundary with copper, Cu_5Cd_8 , and phase ϵ on the boundary with cadmium, CuCd_2 . Intermetallic phase ϵ forms first, phase γ follows. Microphotographs taken by the authors show that the ϵ -layer grows faster on a cylindrical than on a flat specimen. The dependence of the thickness of the layers is parabolic with time, and exponential with temperature. For cylindrical specimens the diffusion coefficients are obtained by graphical differentiation of the experimental curves. The partial diffusion coefficients dependent on temperature are summarised as follows:

$$D_{\text{Cd}\epsilon} = 2.52 \cdot 10^{-3} \cdot \exp - (16400/RT),$$

$$D_{\text{Cu}\epsilon} = 7.10 \cdot 10^{-3} \cdot \exp - (18400/RT),$$

$$D_{\text{Cd}\gamma} = 6.32 \cdot 10 \cdot \exp - (27200/RT),$$

$$D_{\text{Cu}\gamma} = 7.95 \cdot 10 \cdot \exp - (30800/RT).$$

There are 12 figures and 1 table.

ASSOCIATION: Hutnický ústav ČSAV, Praha (Institute of Mining, ČSAV, Prague)

SUBMITTED: October 13, 1960
Card 4/4

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Treating low-grade manganese ores by sulfidation roasting. Hut listy
18 no.4:254-261 Ap '63.

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NIKODIJEVIC, B.; TRAJKOV, T.

Mechanism of the ulcerogenic effect of serotonin in rats. Acta
med. iugoslavl. 14 no.4:476-481 '60.

1. Farmakologij institut Medicinskog fakulteta u Skopju.
(PEPTIC ULCER exper) (SEROTONIN toxicol)

TRAJKOV, Trajko
SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: Dr.

Affiliation: Skoplje

Source: Belgrade, Galenika, No 3, July-September 1961, pp 94-96.

Data: Article Reviews: "Treatment of Inorganic Mercury Poisoning with N-Acetyl-D, L-Penicillamine," by Smith, A. D. M., and Miller J. W. (Lancet); "A New Anthelmintic with Unusual Properties," by Proome, A. W. J., and Greenhalgh, N. (Nature); "The Use of Sulfinpyrazone in the Treatment of Gout," by Robert H. Persellin and Frank Schmid (JAMA); "Nisalamide alone and in Combination with Thiazide Derivates in the Treatment of Essential Hypertension," by Albert N. Brest, Ryuichi Kodama, Leonard Driefus, Alan Weber, and John H. Moyer (The Am. Journal of Med. Sci).

//

LAEIC, Vasilije, sanitetski kapetan I klase, dr.; STAJCEVIC, Miroslav, sanitetski pukovnik, prof. dr.; LATIFIC, Safet, pukovnik, prof. dr.; TRAJKOVIC, Borivoje, sanitetski potpukovnik, dr.

Diagnosis of dental focal infection using Lessner's and Haneck's tests. Vojnosanit. pregl. 22 no.1:23-27 Ja 1965.

1. Vojnomedicinska akademija u Beogradu, Klinika za bolesti usta, zuba i vilica.

SABALIN, N.N., kandidat technických ved (Bryansk, SSSR);
~~TRAJKOVIC, L., inz. (Bryansk, SSSR); KUCERA, Vaclav, inz.~~
[translator]

Radio communication increases the efficiency of marshalling yards. Zel dop tech 10 no.9:578 '62.