

SOV/112-59-2-2326

Propagation of Electromagnetic Waves Over a Periodic Structure of Conducting

determined by superposing plane waves whose amplitudes are periodic functions of two coordinates. The dispersion equation set up in the article is solved graphically. Plots are presented of propagation and attenuation constants against the wavelength-to-structure-period ratio and also against the plate resistance per unit area.

V. Ye. B.

Card 2/2

KOLPAKOV, V.V.

Propagation of electromagnetic waves in a periodic structure of
conducting plates. Izv.vys.ucheb.zav.: radiofiz. 1 no.2:2-7 '58;
(MIRA 11:11)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom universitete.
(Radio waves)

КОЛПАКОВ, В.В.

Reflection of plane electromagnetic waves from a periodic structure
of conduction plates. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:8-12 '58.
(MIRA 11:11)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom universitete.
(Radio waves)

9.1912

S/194/62/000/005/108/157
D230/D308

AUTHOR: Kolpakov, V.V.

TITLE: Reflection of plane electromagnetic waves from a semi-limited periodic structure consisting of conducting plates

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, 24, abstract 5zh177 (Tr. Sibirsk. fiz.-tekh. in-ta pri Tomskom un-te, 1960, no. 39, 25-33)

TEXT: A study of the reflection of a plane monochromatic e.m. wave from a semi-restricted periodic structure consisting of thin plates with finite conductivity. The problem is solved using approximate boundary conditions for thin plates. [Abstractor's note: Complete translation].

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9,1300

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S/109/61/006/010/009/027
D201/D302

AUTHOR: Kolpakov, V.V.

TITLE: Diffraction of surface electromagnetic waves at the impedance discontinuity of a circular cylinder

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 10, 1961, 1658 - 1664

TEXT: The author analyzes the problem of diffraction of electromagnetic surface waves at the impedance discontinuity of an infinite impedance cylinder. Since this cylindrical system finds application in surface wave propagation systems, the solution of this problem is both of technical and practical interest. The problem consists of integrating the differential equation of an axially symmetric TM-wave for the sole component of its magnetic field with boundary conditions

$$E_z = ZH_\varphi \tag{1}$$

at the surface of the impedance cylinder and with conditions at in-
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finitly. In the plane $z = 0$

$$z = \begin{cases} z_1 = -iQ_1 & \text{for } z < 0 \\ z_2 = -iQ_2 & \text{for } z > 0 \end{cases} \quad (2)$$

and thus with $k = \omega/c = 2\pi/\lambda$ the inhomogeneous Wiener-Hopf integral equation

$$H(a, z) = H_1^{(1)}(av_1)e^{ih_1z} + 2\pi ak(Q_2 - Q_1) \int_0^{\infty} G(a, a, z, z') H(a, z') dz', \quad (9)$$

is obtained which is solved in the complex variable plane by the usual methods and results in

$$H(p, z) = H_1^{(1)}(pv_1)e^{hpz} + \frac{k(Q_2 - Q_1)}{2\pi i} H_1^{(1)}(av_1) \Psi_1(h_1) \int_{-\infty}^{+\infty} e^{-twz} \frac{H_1^{(1)}(pw) dw}{(w + h_1) \Psi_1(w) [vH_0^{(1)}(av) + kQ_2 H_1^{(1)}(av)]} \quad (18)$$

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which can be further processed and gives

$$H(\rho, z) = H_1^{(1)}(\rho v_1) e^{ih_1 z} + \frac{h_1 - h_2}{h_1 + h_2} \exp M(h_1) H_1^{(1)}(\rho v_1) e^{-ih_1 z},$$

$z < 0,$ (19a)

the first term of which represents an incident or the discontinuity surface wave, the second term representing the reflected wave. The field of the transmitted surface wave is derived as

$$H(\rho, z) = \frac{2h_1}{h_1 + h_2} \sqrt{\frac{[H_1^{(1)}(av_1)]^2 - H_0^{(1)}(av_1) H_2^{(1)}(av_1)}{[H_1^{(1)}(av_2)]^2 - H_0^{(1)}(av_2) H_2^{(1)}(av_2)}} \times$$

$$\times \exp \left[\frac{M(h_1)}{2} - \frac{M(h_2)}{2} \right] H_1^{(1)}(\rho v_2) e^{ih_2 z}, \quad z > 0.$$

(19b)

The power reflection coefficient R and transmission coefficient T are determined by

$$R = \left(\frac{\beta_1 - \beta_2}{\beta_1 + \beta_2} \right)^2 \exp 2X(\beta_1),$$

(20)

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$$T = \frac{4\beta_1\beta_2}{(\beta_1 + \beta_2)} \exp [X(\beta_1) - X(\beta_2)], \quad (20)$$

in which $\beta_1 = h_1/K$ and $\beta_2 = h_2/k$ - the delay factors at both sides of the impedance discontinuity. From the analysis of graphs of relevant expressions it is shown that R , T and η depend on a/λ only for small values of a/λ . For $a/\lambda > 1$, R/R_∞ , T/T_∞ and η/η_∞ differ little from unity and for the above values of a/λ the coefficients R , T and η may be evaluated from the approximate formulae

$$R = \frac{\beta_1^2 - 1}{\beta_1^2 (\beta_1 + \beta_2)^2} (V\beta_1^2 - 1 - V\beta_2^2 - 1)^2 \exp \left(\frac{3}{4a^2k^2} \frac{V\beta_2^2 - 1 - V\beta_1^2 - 1}{(\beta_1^2 - 1)V\beta_2^2 - 1} \right), \quad (22)$$

$$T = \frac{4V\beta_1^2 - 1 V\beta_2^2 - 1}{(V\beta_1^2 - 1 + V\beta_2^2 - 1)^2} \exp \left[\frac{3}{8a^2k^2} \frac{(V\beta_2^2 - 1 - V\beta_1^2 - 1)^2}{(\beta_1^2 - 1)(\beta_2^2 - 1)} \right].$$

For $a/\lambda \rightarrow 0$, the function $X(u)$ is zero and coefficients R , T and η may be evaluated from the approximate formulae

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tend to

$$R_0 = \left(\frac{\beta_1 - \beta_2}{\beta_1 + \beta_2} \right)^2, \quad T_0 = \frac{4\beta_1\beta_2}{(\beta_1 + \beta_2)^2}, \quad \eta_0 = 0;$$

the radiation field resulting from the diffraction of a surface wave at the impedance discontinuity is determined by going over to the new variable τ : $w = k \cos \tau$, $v = k \sin \tau$, and to the spherical system of coordinates and by evaluating the integral of Eq. (18) for large values of $k\tau$ (saddle point $\tau = \pi - \theta$). Thus

$$H(r, \theta) = \frac{1}{\pi i} \frac{e^{ikr}}{r} \times$$

$$\times \sqrt{2(Q_2 - Q_1) \frac{h_1^2 (h_1 - h_2)}{k^2 (h_1 + h_2)} ak \{ [H_1^{(1)}(av_1)]^2 - H_0^{(1)}(av_1) H_2^{(1)}(av_1) \} \exp\left[\frac{M(h_1)}{2}\right]} \times$$

$$\times \frac{1}{\sqrt{[\sin \theta H_0^{(1)}(ak \sin \theta) + Q_1 H_1^{(1)}(ak \sin \theta)] [\sin \theta H_0^{(1)}(ak \sin \theta) + Q_2 H_1^{(1)}(ak \sin \theta)]}} \times$$

$$\times \frac{k(k \cos \theta + h_2)}{\sqrt{(k^2 \cos^2 \theta - h_1^2)(k^2 \cos^2 \theta - h_2^2)}} \exp\left[-\frac{M(k \cos \theta)}{2}\right]. \quad (23)$$

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is found. The solution for a TE-wave is not given since all formulae as obtained for a TM-wave remain valid for a TE-wave, provided H_φ is substituted by E_φ ; E_ψ by $-H_\rho$; E_z by $-H_z$ and Z by $1/Z$. There are 5 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: A.F. Kay, Scattering of a surface wave by a discontinuity on reactance, IRE, IRE, Trans. 1959, AP-7, 1, 22.

SUBMITTED: January 18, 1961

Card 6/6

8/194/62/000/007/105/160
D271/D308

9.1912

AUTHOR: Kolpakov, V.V.

TITLE: Approximate boundary conditions for conducting plate

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7zh208 (Tr. Sibirsk. fiz.-tekh. in-ta pri Tomskom un-te, 1960, no. 39, 18-24)

TEXT: Approximate boundary relations between tangential components of electric and magnetic fields are derived for an infinite plate with a finite conductance. In a particular case when plate thickness is smaller than that of the skin layer, the approximate boundary conditions assume an especially simple form. The problem of reflection of a plane wave from a conducting film is considered as an example of application of the approximate boundary conditions. [Abstracter's note: Complete translation.]

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EWG(j)/EWP(g)/EPA(s)-2/EWT(m)/EPE(c)/EVE(i)/EVA(h)/EPR-EPA(w)-2/T/EWP(t)/
EPA(b) Pf-4, Pr-4/Ps-4/Pt-2/Pzb-10

AR5015168

17/0137/53.000/003/0038/0038

zh. Metallurgiya, Abs. 50226

74
72
C

ina, B. T.; Lebedeva, L. P.; Ignatov, I. N.; Volpakov, Ya. V.

data on the technology of manufacturing articles of friction
material, brand FMK-11 [Translator's note: original gives FMK-P.]

Tr. 7 Vses. nauchno-tekhn. konferentsii po somekh. metallurgii.
1977, 257-265

metal ceramic material, friction metal ceramic material, mechanical
and physical property, iron, powder metal, metal ceramic,
metal ceramic

An investigation has been made of the technological conditions of production of
metal ceramic material and friction properties of metal ceramic material.
The use of oxidized powders in the production of metal ceramic material
leads to an increase in the oxygen content of the material and to an increase in
wear of the material and the connected parts (CHINA cast iron).

AR5015168

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...ase in pressing pressure, the wear of the material and the cast iron
... The optimum pressing pressure is 6 to 8 MPa. Use of continuous
... sintering conditions permitted shortening the sintering time to 4.5-5 hrs and
... the technology of the process. Sintering was done under a pressure
... To avoid overbaking of disks, it is recommended to use
... paint (22-24% black graphite, 14-16% quartz sand, 2-04
... clay, remainder water). The paint is applied to the packed disks
... sintering without special preparation of the surface. V. Kras.

SUB CODE: MM

ENCL: 00

(1)/CH3(v)/
 AP501737
 621.325
 11/0118/0119
 71
 B

Koshenko, I. M.; Krysin, B. T.; Kolpakov, Ya. V.; Smirnov,
 Lyubovskiy, V. A.; Taytaenko, M. V.; Kozlova, M. P.; Vino-
 gradov, M. M.; Edel'man, M. I.

Method for producing friction parts from powder components.
 No. 171702

Bulletin' izobreteniy i tovarnykh znakov, No. 1, 1965,

aircraft brake, friction part, metalurgy

Author Certificate has been issued for method of pro-
 ducing parts (e.g., brake-unit parts) for aircraft from pow-
 der. To reduce wear, the mixture consists of 20-30% iron,
 3-10% barium sulfate, 3-7% graphite, 2-3% asbestos,
 and carbon oxide. The mixture is compacted at a pressure
 and sintered at a temperature of 1000°C and a pressure of
 [LB]

REF: AP501787

FROM: none

DATE: 10 May 63

NO: 000

ENCL: 00

OTHER: 000

SER: 10001 MM, AC

ATD PRESS: 4041

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212

L 00598-66 EMP(a)/EPF(b)-2/EPF(m)/EPF(c)/EMP(1)/ENA(d)/EPA(w)-2/T/EMP(t)/EMP(k)/
 ENP(z)/ENP(b) EN/ID/AN/JO/DJ/AN

ACCESSION NR: AR5018950

UI/0276/65/000/007/B047/B047
 6:11.762.3:621.81

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 7B333

AUTHOR: Krysin, B. T., Labeledava, I. P., Ignatov, I. N., Koipakov, Ya. V.

TITLE: New developments in the technology of part manufacture from FM-11 friction
 cermet

CITED SOURCE: Tr. VII Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii.
 Yerevan, 1964, 257-265

TOPIC TAGS: powder metallurgy, friction cermet, oxidized metal powder, process
 factor effect, anticorrosion compound, FM-11 cermet

TRANSLATION: The authors studied the effects of original material condition and
 sintering-compacting process factors on the physico-mechanical and friction
 properties of FMK-11 cermet. It is shown that use of oxidized Fe and Cu powders
 simplifies the technological process (i.e. eliminates reduction and crushing
 operations), reduces the manhours required and decreases the cost of a finished
 piece without lowering quality. The cermet is characterized by high strength and
 hardness, as well by minimal wear, when compacted at a pressure of about 6 t/cm².

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L 00598-66

ACCESSION NR: AR5018950

an effective pressure of 20 - 25 kg/cm² is optimal for the sintering process. The sintering period was reduced from 7 to 4.5 - 5.0 hours when temperature was increased steadily to assigned levels. The period required to preheat the workpiece to an assigned temperature was reduced from 4.5 to 2.0 - 2.5 hours. The authors recommend the use of an antiscorch coating composed of 22 - 24% black graphite, 14 - 16% quartz sand, 9 - 10% refractory clay and the balance in water. Use of the coating facilitates automation of the coating application process and an improved industrial hygiene environment. Two illustrations and 7 tables.

SUB CODE: ME

ENCL: 00

Card

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AP

Card: 1/2

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PROCESS AND PROPERTIES INDEX

Q-4

[Reaction with epinephrine mechanism in different species.] E. V. Kozlovskiy (*J. Med. Ukraine*, 1946, 26, 455-456).—A well developed mechanism was found in all species of Canidae (dog, wolf, jackal, fox), Mustelidae (marten and badger), and Ursidae (brown bear); not in domestic cats, and poorly developed in goats and swine. It was demonstrated by anaphylactic and histamine reactions.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

ALPHABETIC INDEX

Kolpakov, Ye.V.

KOLPAKOV, Ye.V., doktor biol.nauk

Comparative study of muscular sphincters of the hepatic veins.
Medych.zhur. 19 no.2:14-30 '49. (MIRA 10:12)

1. Z viddilu porivnyal'noi patologii (zav. viddilu - chlen-kor.
AN URSR M.M.Sirotnin) Institutu klinichnoi fiziologii im. akad.
O.O.Bogomol'tsya AN URSR (direktor - chlen-kor. AN URSR P.Ye.Kavets'-
kiy).

(HEPATIC VEINS)

KOLPAKOV, YE. V.

25957. Kelpakov, Ye. V. Sravnitel'noye issledovaniye myshechnykh shlyuzov pechen-
cchnykh von. Med. zhurnal, T. xix, Vyp. 2, 1954, s. 14-30.---Na ukr. yaz.---Rezyume
na rus. yaz- Bibliogr: 16 nazv.

SO: Knizhnaya Letopis', Vol. 1, 1955

KOLPAKOV, Ye.V.; RAYETS'KA, H.P.

Erroneous views on the mechanism which regulates blood circulation in the liver. Medych.zhur. 22 no.6:73-82 '52. (MLRA 6:10)

1. Instytut klinichnoyi fiziologiyi im. O.O.Bohomol'tsya Akademiyi nauk UESR. (Liver) (Blood--Circulation)

KOLPAKOV, Ye. V. & LAUER, N.V.

Effect of experimental hepatic insufficiency on conditioned reflex activity in dogs. Vop. fiziol. no.10:44-57 '54 (MLRA 10:5)

1. Institut fiziologii im. A.A. Bogomol'tsa Akademii nauk USSR.
(LIVER---DISEASES) (CONDITIONED RESPONSE)

KOL'BERT, Yu.V.

CHAGOVETS, Vasilii Yuri'yevich; BABSIIY, Ye.B., akademik, otvetstvennyy redaktor; KAVETSKIY, R.Ye., akademik, redaktor; ~~KOLPAKOV, Ye.V.~~ professor, redaktor; MAKARCHENKO, A.F., redaktor; FOL'BORT, Yu.V., akademik, redaktor; SHEZHIN, M.I., redaktor izdatel'stva; KOLOMIYCHUK, V.A., tekhnicheskiy redaktor.

[Selected works; in one volume] Izbrannye trudy; v odnom tome.
Kiev, Izd-vo Akad.nauk USSR, 1957. 513 p. (MIRA 10:11)

1. Akademiya nauk USSR (for Babskiy, Kavetskiy, Fol'bort).
2. Chlen-korrespondent Akademii nauk USSR (for Makarchenko).
(Electrophysiology)

KOLPAKOV, Ye.V.

Nikolay Nikolayevich Sirotinin; on his 60th birthday. Fiziol.zhur.
[Ukr.] 3 no.1:12-15 Ja-F '57. (MLRA 10:3)
(SIROTININ, NIKOLAI NIKOLAEVICH, 1896-)

KOLPAKOV, Ye.V. [Kolpakov, IE.V.]

Vascular reflexes of the liver as related to the action of the sphincters of liver veins. *Fiziol.zhur. [Ukr.]* 5 no.3:322-328 My-Je '59. (MIRA 12:10)

1. Institut fiziologii im. O.O.Bogomol'tsya AN URSS, laboratoriya porivnyal'noi i vikovoi fiziologii.
(LIVER--BLOOD VESSELS)

Complete

KOLPAKOV, Ye.V. [Kolpakov, IE.V.]

Charles Darwin; on the 150th anniversary of his birth. Fiziol.
zhur. [Ukr.] 5 no.3:295-300 My-Je '59. (MIRA 12:10)
(DARWIN, CHARLES ROBERT, 1809-1882)

KOLPAKOV, Ye.V. [Kolpakov, Ye.V.]

On the methodology used in creating an Ekx-Pavlov fistula.

Fiziol.zhur. 6 no.1:125-130 Ja-F '60.

(MIRA 13:5)

1. Institut fiziologii im. A.A. Bogomol'tsa AN USSR.
(FISTULA)

KOLPAKOV, Ye.V. [Kolpakov, IE.V.]

Comparative physiology of blood circulation in the liver. Fiziol.
zhur. [Ukr.] 7 no.3:395-408 My-Je '61. (MIRA 14:5)

K 1. Laboratoriya ^{COMPARATIVE} ¹⁹⁶¹ sravnitel'noy i vozrastnoy fiziologii Instituta
fiziologii im. A.A.Bogomol'tsa AN USSR, Kiyev.
(LIVER—BLOOD SUPPLY)

MAKARCHENKO, A.F., akademik, otv. red.; SIROTININ, N.N., zam. otv. red.;
KOLPAKOV, Ye.V., prof., red.; LAUER, N.V., doktor med. nauk,
red.; GUREVICH, M.I., doktor med. nauk, red.; KOLCHINSKAYA,
A.Z., kand. med. nauk, red.; YANKOVSKAYA, Z.B., red. izd-va;
BEREZOVSKAYA, D.N., tekhn. red.

"Oxygen deficiency; hypoxia and adaptation to it] Kislород-
naia nedostatochnost'; gipoksia i adaptatsia k nei. Kiev,
Izd-vo AN USSR, 1963. 609 p. (MIRA 17:2)

1. Akademiya nauk URSR, Kiev. Instytut fiziologii. 2. Akademiya
nauk Ukr. SSR (for Makarchenko). 3. Deystvitel'nyy chlen AMN
SSSR (for Sirotinin).

KOLPAKOV, Ye.V. [Kolpakov, IE.V.]

Volodymyr Ivanovich Vernads'kii; on the 100th anniversary of his
birth. Fiziol.zhur.[Ukr.] 9 no.1:3-5 Ja-F '63.

(MIRA 18:5)

LEBEDEVA, L.P.; KRYSIN, B.T.; KOLPAKOV, Ya.V.; IGNATOV, L.N.;
MIKHAYLOVSKIY, V.A.; SMIRNOV, G.G.; TSYTSENKO, M.V.

Experimental production of iron-base friction ceramic metals.
Porosh. met. 5 no.8:96-102. Ag '65. (MIRA 18:9)

GOLYSHEV, A.B., kand. tekhn. nauk; POLISHCHUK, V.P., inzh.; KOLPAKOV, Yu.A.,
inzh.

Solving a relaxation problem during the calculation of continuous
combined structures for the settling of supports. Sbor. trud. Inzh.-
stroit. fak. Chel. politekh. inst. no.3:31-41 '63. (MIRA 17:9)

1. Ural'skiy filial Akademii stroitel'stva i arkhitektury SSSR.

BERSENEV, A.P., kand.tekhn.nauk; KOLPAKOV, Yu.D., inzh.

Determining the moisture content of wood by its dielectric permeability. Der.prom. 9 no.12:13-14 D '60. (MIRA 13:12)
(Wood---Moisture)

S/081/61/000/024/010/086
B138/B102

AUTHORS: Skripov, V. P., Kolpakov, Yu. D.
TITLE: Scattering of light in carbonic acid along sub- and trans-critical isotherms
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1961, 73, abstract 24B522 (Sb. "Kritich. yavleniya i flyuktuatsii v rastvorakh". M., AN SSSR, 1960, 126 - 136)

TEXT: The scattering of light on carbonic acid is studied for five sub- (19.98 - 30.67°C) and five transcritical (31.20 - 49.90°C) isotherms. Intensity of scattered I' and of transmitted light I are measured for three lines of the mercury spectrum (5461, 4350 and 4060 Å). The measurements were made with high pressures (50 - 125 at) in the system. The extremum values of I' increase on approaching critical temperature, and the difference between I' for the liquid and the vapor becomes less. On the transcritical isotherms I' peaks are observed, which also increase on approaching critical point. With variable $p - t$, points for the I' peaks of transcritical isotherms plot very well into a straight line, merging
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Scattering of light in carbonic...

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B138/B102

with the saturated vapor pressure curve at critical point. The coordinates of the critical point are 31.00°C and 73.2 ± 0.5 at. The results are in good agreement with the Rayleigh scattering law $I' = 1/\lambda^4$, with the exception of the isotherm peak at 31.20° , which is closer to critical point, where $I' = 1/\lambda^{3.2}$. [Abstracter's note: Complete translation.] ✓

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KOLPAKOV, YU. D.

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PHASE I BOOK EXPLOITATION SOV/5469

Soveshchaniye po kriticheskim yavleniyam i flyuktuatsiyam v rastvorakh. Moscow, 1960.

Kriticheskiye yavleniya i flyuktuatsii v rastvorakh; trudy soveshchaniya, yanvar' 1960 g. (Critical Phenomena and Fluctuations in Solutions; Transactions of the Conference, January 1960) Moscow, Izd-vo AN SSSR, 1960. 190 p. 2,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova. Khimicheskiy fakul'tet.

Responsible Ed.: M. I. Shakhparonov, Doctor of Chemical Sciences, Professor; Ed. of Publishing House: E. S. Dragunov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE ; This collection of articles is intended for scientific personnel concerned with chemistry, physics, and heat power engineering.

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Critical Phenomena and Fluctuations

SOV/5469

COVERAGE: The book contains 24 of the 26 reports read at the Conference on Critical Phenomena and Fluctuations in Solutions organized by the Chemical Division of Moscow State University, January 26-28, 1960. The reports contain results of investigations carried out in recent years by Soviet physicists, chemists, and heat power engineers. The Organizing Committee of the Conference was composed of Professor Kh. I. Amirkhanov, A. Z. Golik, I. R. Krichevskiy (Chairman), V. K. Semchenko, A. V. Storonkin, I. Z. Fisher, and M. I. Shakhparonov (Deputy Chairman). References accompany individual articles.

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Foreword

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Amirkhanov, Kh. I., A. M. Kerimov, and B. G. Alibekov [Laboratoriya molekulyarnoy fiziki, Dagestanskiy filial AN SSSR -- Laboratory of Molecular Physics, Dagestan Branch, AS USSR]. Thermophysical Properties of Matter at Critical Temperature

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Critical Phenomena and Fluctuations

SOV/5469

Akhadov, Ya. Yu., and M. I. Shakhparonov [Laboratoriya fiziko-khimiya rastvorov, Khimicheskiy fakul'tet, Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova -- Laboratory of the Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Dielectric Properties of Solutions in a Superhigh Frequency Field and Concentration Fluctuations

14

Beridze, D. K., and M. I. Shakhparonov [Laboratory of Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Light Scattering in Solutions Having a Critical Stratification Point

21

Vuks, M. F., and L. I. Lisnyanskiy [Laboratoriya molekulyarnoy optiki, Fizicheskiy fakul'tet, Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova -- Laboratory of Molecular Optics, Physics Division, Leningrad State University imeni A. A. Zhdanov]. Intermolecular Interaction and Light Scattering in Solutions of Pyridine and α -Picoline in Water

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Critical Phenomena and Fluctuations

SOV/5859

Zatsepina, L. P., and M. I. Shakhparonov [Laboratory of the Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Rayleigh Light Scattering in Nitrobenzene -- Cyclohexane and Ethyl Alcohol -
- Diethylamine Solutions

32

Kasimov, R. M., and M. I. Shakhparonov [Laboratory of the Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Dielectric Properties of Solutions in Electromagnetic Fields of the Millimetric Band and Concentration Fluctuations

37

Krichevskiy, I. R., and N. Ye. Khazanova [Laboratoriya vysokikh davleniy, GIAP -- Laboratory of High-Pressure [Studies], Moscow State Design and Planning Scientific Research Institute of the Nitrogen Industry]. Diffusion of Liquid and Gaseous Solutions in the Critical Region

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Krichevskiy, I. R., and Yu. V. Tsekanskaya [Laboratory of

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High-Pressure [Studies], GIAP]. Kinetics of Heterogeneous Processes in the Critical Region	54
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Makhov, N. V., and Ya. M. Labkovskiy [Kafedra eksperimental'noy fiziki, Dnepropetrovskiy gosudarstvennyy universitet -- Depart-	

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30

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ment of Experimental Physics, Dnepropetrovsk State University].
Investigation of Density Fluctuations in Ether and Benzene
Based on X-Ray Scattering at Narrow Angles

81

Mokhov, N. V., and I. V. Kirsh [Department of Experimental
Physics, Dnepropetrovsk State University] Variation in the
Sizes of Concentration Fluctuations in Relationship to Tem-
perature and Concentration in Binary Liquid Systems Having
an Upper Critical Dissolving Temperature

89

Nordrev, V. F., B. I. Kaliyanov and M. G. Shirkevich [Moskov-
skiy oblastnoy pedagogicheskiy institut -- Pedagogical Insti-
tute of the Moscow Oblast]. Hypersonic Investigation in
Organic Liquids at Constant Density in the Vicinity of the
Critical State

93

Rott, L. A. [Minskiy lesotekhnicheskiy institut -- Minsk
Forestry Engineering Institute]. Concerning the Diffusion in
the Critical Stratification Region

102

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Critical Phenomena and Fluctuations

SOV/5469

Roshchina, G. P. [Laboratoriya molekulyarnoy fiziki, Fizicheskiy fakul'tet, Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko -- Laboratory of Molecular Physics, Division of Physics, Kiyev State University imeni T. G. Shevchenko] Investigation of Fluctuations in Solutions by the Method of Light Scattering 109

Skripov, V. P. [Laboratoriya molekulyarnoy fiziki, Ural'skiy politekhnicheskiy institut im. S. M. Kirova -- Laboratory of Molecular Physics, Ural Polytechnic Institute imeni S. M. Kirov]. Special Structural Features of Matter in the Vicinity of the Critical Point and Transfer Phenomena 117

Skripov, V. P., and Yu. D. Kolpakov [Laboratory of Molecular Physics, Ural Polytechnic Institute imeni S. M. Kirov, and the Laboratoriya teplofiziki, Ural'skiy filial AN SSSR -- Thermophysics Laboratory, Ural Branch, AS USSR]. Light Scattering in Carbon Dioxide along Pre- and Post-Critical Isotherms 126

Smirnov, B. A. [Institut neftekhimicheskogo sinteza AN SSSR -- Card 7/9

30

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Institute of Petrochemical Synthesis, AS USSR (Moscow)] Visual Observations in the Critical Region 137

Fisher, I. Z., and V. K. Prokhoronko. Concerning the Fluctuations of Coordination Numbers in Liquids 142

Fisher, I. Z. [Beloruskiy Gosudarstvennyy Universitet -- Belorussian State University (Minsk)] Correlation Analysis of the Critical Point 148

Shakhparonov, M. I. [Laboratory of the Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Fluctuations in Solutions 151

Shimanskaya, Ye. T., and A. Z. Golik [Laboratory of Molecular Physics, Physics Division, Kiev State University imeni T. G. Shevchenko]. Investigation of the Critical State, Liquid-Vapor, of Solutions by Tepler's Method 161

Card 8/9

30

Critical Phenomena and Fluctuations

SOV/5469

Shimanskaya, Ye. T., Yu. I. Shimanskiy, and A. Z. Golik [Laboratory of Molecular Physics, Division of Physics, Kiyev State University imeni T. G. Shevchenko]. Investigation of the Critical State of Pure Substances by Topley's Method 171

Resolution of the Conference on Critical Phenomena and Fluctuations in Solutions 189

AVAILABLE: Library of Congress (QD545.S73)

JF/dfk/jw
10-28-61

Card 9/9

5.4100

80284
S/170/60/003/04/05/027
B007/B102

AUTHORS: Skripov, V.P., Kolpakov, Yu.D.

TITLE: An Investigation of the Interphase-region Transition in Carbonic Acid From Light Scattering

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 4, pp. 30-36

TEXT: In this paper experiments are described in which scattered as well as transmitted light was observed during isothermal change of the state of the substance. The experiments were made with carbonic acid. A section through the test chamber is shown in Fig. 1. The experimental arrangement consisted of this chamber, of a system for refilling the device with carbonic acid, a thermal pressure control and an optical system. The device is briefly described. Eight isothermal curves (6 transcritical and 2 subcritical) of the intensity of scattered and of transmitted light as depending on carbonic-acid pressure were taken. The entire temperature range of the measurements was 8°C. The dependence of height and position of the maxima of I' (intensity of scattered light) on the magnitude of the difference ΔT between testing temperature and critical temperature is very conspicuous in these curves (Fig. 2). The intensity rise of

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80284

An Investigation of the Interphase-region Transition in Carbonic Acid From Light Scattering

S/170/60/003/04/05/027
B007/B102

scattered light becomes weaker with growing distance from T_c (critical temperature). Vertical lines mark the points of condensation in the below-critical isothermal lines. Fig. 3 shows the dependence of the I' -maxima on ΔT for three spectral lines. The maximum of light scattering shifts towards higher pressure with rising temperature (Fig. 2). The relation between temperature and pressure at the I' -maxima is, near the critical point, a straight line with the inclination of $dp/dT = 1.50$ at/deg or, in reduced quantities, $dx/dt = 6.2$. The latter value is almost equal to that obtained by M.G. Kaganer (Ref. 6) for the critical isochoric curve of various nonpolar gases ($dx/dt = 6.0$). In the experiments described also the intensity I of the transmitted light was measured. The minima of transmittent light were obtained in the range of the scattering maxima. The results of earlier measurements made by one of the authors (V.P. Skripov) and G.P. Nikolayev (Ref. 11) have already been given. The qualitative dependence of light scatter on wavelength is shown in table 1 and Fig. 3. The light scattering observed had the character of a Rayleigh scattering, i.e. $I' \sim 1/\lambda^4$. The data of light scatter and formula (3) (Ref. 8) may be used for calculating elasticity $\gamma = -(dp/dv)_T$ or compressibility $\beta = \frac{1}{v} (dv/dp)_T$ of the substance

Card 2/3

KOLPAKOV, Yu.D.; SKRIPOV, V.P.; GORBUNOVA, E.N.

Scattering of light in carbonic acid and its relation to the
equation of state. Ukr.fiz.zhur. 7 no.7:787-792 J1 '62.

(MIRA 12:15)

1. Ural'skiy politekhnicheskiy institut i Ural'skiy filial AN
SSSR, g. Sverdlovsk.

(Light—Scattering) (Carbonic acid) (Equation of state)

L 11997-66 EWT(1)/EWT(m)/ETC(m) IJP(c)/RPL WW/JW/CG/RH

ACC NR: AP5022863

SOURCE CODE: UR/0051/65/019/003/0392/0402

AUTHOR: Skripov, V. P.; Kolpakov, Yu. D.

ORG: none

TITLE: ^{21,44,55} ~~44,55~~ Light scattering in the vicinity of the critical liquid-vapor point. I. Apparatus. Experiments with carbon dioxide and sulfur hexafluoride

SOURCE: Optika i spektroskopiya, v. 19, no. 3, 1965, 392-402

TOPIC TAGS: carbon dioxide, sulfur compound, light scattering, phase transition, critical point

ABSTRACT: This is a continuation of earlier work by the authors (Ukr. fiz. zh. v. 7, 787, 1962 and earlier), where particular attention was paid to the connection between scattered light and the nature of supercritical transitions in carbon dioxide. In the present investigation improved equipment was used, and greater attention was paid to methods of investigating opalescence. In addition, measurements were made for the first time on sulfur hexafluoride. The light scattering was determined from the isotherms in a broad region near the critical points of CO₂ and SF₆ using a pressure-regulated thermostatic chamber. The lines 5780, 5461, 4358, and 4046 Å from the mercury spectrum were used as sources, and the transmitted (unpolarized) and scattered light was recorded photoelectrically. The apparatus and procedure are described in detail. The critical parameters of the carbon dioxide and sulfur hexafluoride were found to be 31.06 and 45.55°C (critical temperature) and 73.1 and 37.7 atms (critical

Card 1/2

UDC: 535.36

52
B

L 11997-66

ACC NR: AP5022863

pressure), respectively. These agree well with data by others. The scattering abilities of CO_2 and SF_6 are compared and the ratio of the maximum intensity of the scattered light of SF_6 is found to exceed that of CO_2 by a factor 1.77, which compares well with the calculated average value 1.83. Orig. art. has: 7 figures, 4 formulas, and 6 tables. 0

SUB CODE: 20/ SUBM DATE: 10Jun64/ ORIG REF: 010/ OTH REF: 005 /

Card 2/2

KOLPAKOV, YU. G.

Kolpakov, YU. G. "Track automobile roads of constant type
(Investigation of the operation of the thoroughfare portion
of automobile roads)." Min Higher Education Ukrainian SSR.
Kiev Automobile and Road Inst. Kiev, 1956. (Dissertations
for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

KOLPAKOV, Yu.G., kand.tekhn.nauk

Using granite chippings from stone quarries for bituminous pavements. Avt.dor.i dor.stroi. no.1:185-192 '65.

(MIRA 18:11)

~~6954R~~ 6954RS/078/60/005/05/27/037
B004/B016

5.2200(A)

AUTHORS: Filinov, F. M. (Deceased), Tekster, Ye. N., Kolpakova, A. A.,
Panteleyeva, Ye. P.TITLE: Investigation of the Solubility of Thorium Pyrophosphate²¹ in Acids,
and Investigation of the Equilibrium Between Solid Phase and
Solution in the Systems $\text{ThP}_2\text{O}_7 - \text{Na}_4\text{P}_2\text{O}_7 - \text{H}_2\text{O}$ and $\text{ThP}_2\text{O}_7 - \text{Th}(\text{NO}_3)_4 - \text{H}_2\text{O}$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 5, pp. 1149 - 1156

TEXT: The solubility of ThP_2O_7 was studied in HCl , HNO_3 , and H_2SO_4 in the concentration range 0.1 - 0.5 N by means of the radiochemical indicator UX_1 . The method is described in a paper by F. M. Filinov and V. F. Budanova (Ref. 1). The activity of the solutions was measured on the B-apparatus by means of a B-1 β -counter. Fig. 1 shows the vessel applied. Data on solubility are presented in Fig. 2, and for comparison, also the data of Ref. 8 are given. The solubility of ThP_2O_7 in solutions of $\text{Na}_4\text{P}_2\text{O}_7$ in the concentrations range 0.02 - 0.2 M was also determined

Card 1/2

REF ID: A3000643
AFFIC: ASL, SSD

S/0020/63/036 003/0530/0536

Belicakova, A. A., Markovskiy, L. Ya.

54
52

TITLE: Luminescent properties of BaO-SiO sub 2 systems activated by cerium and manganese

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 3, 1963, 530-536

TOPIC TAGS: Ba-silicates, cerium, manganese, luminescence, luminophores

ABSTRACT: An investigation of the luminescent properties of Ba silicates activated by the combined action of trivalent Ce and Mn showed luminescence dependent upon the compositions of the silicate. Ba sub 3 SiO sub 5 and Ba sub 2 SiO sub 4 are luminescent; Ba sub 3 SiO sub 3 has a very weak, and Ba sub 2 Si sub 3 O sub 8 a strong light blue, Lambda = 440-millimicron emission; and BaSi sub 2 O sub 5 and systems richer in SiO sub 2 (BaSi sub 2 O sub 5 admixed with SiO sub 2) give a white luminosity, Lambda = 400 and Lambda = 500 millimicrons. X-rays of Ce or Mn silicates were formed. In the transition phases from Ba sub 3 SiO sub 5 to BaSi sub 2 O sub 5 where x-rays showed BaSi sub 2 O sub 5 - the luminosity prevailed; this was explained by the greater intensity of the former by traces, not detected by x-rays of Ba sub 2 Si sub 3 O sub 8 - Ce, Mn, as confirmed by mechanical mixtures of the former with 5-10% of the latter

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12675-63
ACCESSION NR: AP3000643

silicate. Extensive study was made to determine the optimum roasting temperature, effect of BaF sub 3 and BaCl sub 2 as flux, and concentration of activators for the preparation of these luminophores: 1100° with 3% BaCl₂ flux and 10% CeO₂ plus 1.4% Mn. The emission of the luminophore Ba sub 2 Si sub 3 O sub 8 - Ce, Mn is not more than 35% than emission from ZnS - Ag and 30% greater than from MgWO sub 4. In conclusion the authors express their appreciation to Yu. P. Kondrashev for conducting x-ray structural analyses of test specimens. Orig. art. has: 3 tables, 6 figures. 2

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii (State Institute of Applied Chemistry)

SUBMITTED: 27 Jul 62

DATE ACQ: 12 Jun 63

ENCL: 00

SUB CODE: CE

NO REF SOV: 007

OTHER: 013

Card 2/2

ACCESSION NR: AT4044998

S/3110/64/000/051/0102/0106

AUTHOR: Kolpakova, A. A., Markovskiy, L. Ya.

TITLE: Luminescent properties of the magnesium silicate system after activation with cerium and manganese

SOURCE: Leningrad. Gosudarstvennyy Institut prikladnoy khimii. Trudy*, no. 51, 1964. Khimiya i tekhnologiya lyuminoforov (Chemistry and technology of luminophors), 102-106

TOPIC TAGS: luminophor, magnesium silicate, activated magnesium silicate, silicate luminescence, cerium, manganese, luminescence spectrum, absorption spectrum

ABSTRACT: The phase composition of the $MgO-SiO_2$ system, which is important in the manufacture of ceramics and refractory materials, has been studied in detail, but its luminescent properties are insufficiently understood. The authors therefore studied the relationship between phase composition and luminescence in the $MgO-SiO_2$ system after activation with CeO_2 (5 wt. %) and/or $MnCl_2 \cdot 4 H_2O$ (1%) by x-ray and spectroscopic analysis of samples with varying composition (in steps of 5 mol. %). In order to achieve equilibrium, the luminophor was heated for 20 hrs. at 1200C in the presence of MgF_2

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ACCESSION NR: AT4044998

before activation. The effect of the activating elements on the luminescence and absorption spectra are shown in Fig. 1 of the Enclosure. The experimental data show that the Mg_2SiO_4 phase does not show luminescence when activated with Ce alone, and produces only a very faint dark-red light in the presence of Mn. The $MgSiO_3$ phase also produces very faint luminescence when activated with either Mn (red light) or Ce (blue light) alone, but in the presence of both Mn and Ce the luminescence shows two peaks (390 and 670 $m\mu$). The strongest luminescence was produced by activated lumino-phors containing excess SiO_2 , which apparently facilitates the formation and activation of protoenstatite. "Yu. D. Kondrashev participated in the x-ray studies." Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii, Leningrad (State Institute of Applied Chemistry)

SUBMITTED: 00

ENCL: 01

SUB CODE: IC

NO REF SOV: 007

OTHER: 010

Card 2/3

KOLPAKOVA, A.A.; PEKERMANN, F.M.

Luminophors with a silicate base and radiation in the ultra-violet
band of the spectrum. [Trudy] GIPKH no.51:88-96 '64. (MIRA 18:5)

AP5017771 UR/0080/65/038/007/032/1426
535.37+546.42/31-546.284

24
22
B

Polpakova, A. A.; Markovskiy, L. Ya.

luminescent properties of the SrO - silicate system doped by cerium and

Anna. prikladnoy khimii, v. 38, no. 7, 1965, p. 1122-1124.

strontium silicate, luminopher, cerium, luminescence

Phase transformations in the SrO - SiO₂ system and the associated
luminescent properties. Variation of the luminescence
intensity at the Sr₃SiO₈ phase does not depend on the phase
composition of the luminopher. The luminescence of the phase
having a whitish-pink color is due to the presence of cerium (λ_{max}
= 550 m μ). To determine the concentration of the activators
(cerium) during the luminescence measurements, the absorption
was measured without the activators, with the same time,
and with the activators. It was found that cerium does not activate

L-63051-65

ACCESSION NR: AP501771

2

...icates. In $SrSiO_3 \cdot (e \cdot Mn)$ luminophors ... science takes
 addition to the blue glow of certain ... with $\lambda_{max} = 400 \text{ m}\mu$),
 transfer of energy to the manganese ... the appear-
 ... band with $\lambda_{max} = 550 \text{ m}\mu$ possibility of
 ... intensity of $SrSiO_3 \cdot (e \cdot Mn)$ luminophors,
 ... concentrations of the activators and ... temperature and
 ... ing were established. ... thank
 ... for carrying out the x-ray ... samples."
 ... 2 figures and 2 tables.

ORIGINATOR: Gosudarstvennyy institut prikladnoy khimii (State Institute of
 Chemistry)

06 May 63

ENCL: 00

ATTN: IC, OP

004

OTHER: 004

KOLPAKOVA, A.A.; MARKOVSKIY, L.Ya.

Luminescent properties of the $MnO-SiO_2$ system in case of its activation by cerium and manganese. [rudy] GIPKH no.51:102-106 '64.
(MIRA 18:5)

L 16792-66 EWT(1) IJP(c)

ACC NR: AP6002534

SOURCE CODE: UR/0286/65/000/023/0037/0037

AUTHORS: Kolpakova, A. A.; Markovskiy, L. Ya.

ORG: none

20
8

TITLE: A method for obtaining a luminophor based on strontium orthosilicate. Class 22, No. 176651 [announced by State Institute of Applied Chemistry (Gosudarstvennyy institut prikladnoy khimii)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 37

TOPIC TAGS: luminophor, strontium compound, cerium

ABSTRACT: This Author Certificate presents a method for obtaining a luminophor based on strontium orthosilicate. The process calls for the use of an activator and for heating the charge. To obtain a luminophor radiating in the violet region of the spectrum and with a high temperature resistance of radiation, trivalent cerium is used as the activator.

21, 44, 55

SUB CODE: 07/ SUBM DATE: 20Mar63

Card 1/1 SM

UDC: 621.3.032.35:661.843

2

ACC NR: AP7007595

SOURCE CODE: UR/0104/66/000/008/0095/0096

26

AUTHOR: Chuprakov, N. M.; Borovoy, A. A.; Postnikov, N. A.; Malychev, A. A.;
Magidson, E. M.; Sin'chugov, F. I.; Zeylidzon, Ye. D.; Barchaninov, G. S.;
Yermolenko, V. M.; Vasil'yev, A. A.; Sokolov, N. I.; Ul'yanov, A. S.;
Fedoseyev, A. M.; Sarkisov, M. A.; Rokotyan, S. S.; Azar'yev, D. I.; Arson,
G. S.; Dubinskiy, L. A.; Zhulin, I. V.; ~~Kolpakova, A. I.~~; Antoshin, N. N.
Krikunchik, A. B.; Kuchkin, M. D.; Preobrazhenskiy, N. Ye.; Reut, M. A.;
Kheyfits, M. E.; Sharov, A. N.; Yakub, Yu. A.; Gorbunov, N. I.; Shurmukhin,
V. A.; Beschinskiy, A. A.

ORG: none

TITLE: Boris Sergeyovich Uspenskiy (on his 60th birthday)

SOURCE: Elektricheskiye stantsii, no. 8, 1966, 95-96

TOPIC TAGS: hydroelectric power plant, electric engineering personnel.

SUB CODE: 10

ABSTRACT: B. S. Uspenskiy was born in June 1906. He graduated from
the State Electric Machine Building Institute in 1928 as an electric
installation engineer. He worked in the State Electro-Technical Trust
for four years, then in the All-Union ElectroTechnical Union, where he
planned power construction units. Plans which he made up at that time
for the electrical portion of electrical stations and sub-stations are
still being used. He was involved in planning and installation of the
electrical portion of hydro-electric power stations and powerful pumping
stations in the Moscow-Volga Canal. During the war, he was in charge in
installation of the Krasnogorskaya Heat and Electric Power Station, the
planning of the Ural's Hydro-Electric Power Station and other projects. Ho

Card 1/2

0928 1534

STEPANOVA, Ye.I.; KOLPAKOVA, A.S.; SOKOLOVA, G.A.

Using the phage titer growth reaction for the check of disinfection effectiveness. Report No.1. Zhur. mikrobiol., epid. i immun. 33 no.12:107-112 D.'62 (MIRA 16:5)

1. Iz Tsentral'noy kontrol'no-issledovatel'skoy laboratorii Moskovskoy gorodskoy dezinfektsionnoy stantsii.
(DYSENTERY) (BACTERIOPHAGE)

KOLPAKOVA, A. V., LEVINSTEYN, M. L., and SLAVIN, G. A.

"Recovery Voltages During Fault Clearing on Long Transmission Lines With Series Capacitors", paper presented at International Conference on Large Electric Systems (CIGRE), 16th Session, Paris, 30 May-9 June 1956.

KOLPAKOVA, A. I., BOGDANOVA, N. B., GERTSYK, A. K. , YEMELIANOV, N. P., MARKOVICH, I. M.,
POPKOV, V. I., SOVALOV, S. A., and SLAVIN, G. A.

Results of Some Researches, Carried out in the USSR on 600 kV long-distance
Power Transmissions.

paper submitted for presentation at the Intl. Conf. on Large Electric Systems (CIGRE)
17th Biennial Session, Paris, France, 4-14 June 1958.

Electra, No. 30, Nov 57, periodical news letter issued by the CIGRE, Paris France.

ACC NR: AP6035702

(N)

SOURCE CODE: UR/0413/66/000/019/0048/0048

INVENTORS: Azovtsev, A. A.; Bolkhovitinov, V. K.; Ivanova, V. A.; Kolpakova, G. A.; Kyun, Ye. V.; Saval'yev, Yu. F.; Drozdov, A. I.; Byunau, A. E.

ORG: none

TITLE: A device for automatically controlling the movement of ship models on deeply immersed underwater vanes. Class 21, No. 186547 [announced by Central Scientific Research Institute imeni Academician A. N. Krylov (Tsentral'nyy nauchno-issledovatel'skiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 48

TOPIC TAGS: shipbuilding engineering, model test, simulation test facility, automatic control system

ABSTRACT: This Author Certificate presents a device for automatically controlling the movement of ship models on deeply immersed underwater vanes, with the use of a tow device and of a measuring arm. The design makes it possible to accomplish the programmed changes of the model, conforming to angles of trim difference, of heeling, and of yaw. It also makes it possible to measure the instantaneous values of all these angles and the magnitudes of the vertical displacement of the model. The lower end of the measuring arm is mounted on a Cardan ball joint. The upper end of the arm is set in a control housing which is the inner frame of a second Cardan joint.

Card 1/2

UDC: 621.501.72:629.12.014.5

ACC NR: AP6035702

The outer frame of this second Cardan joint is rigidly fastened to the frame of the tow device.

SUB CODE: 13, 14/ SUBM DATE: 06Aug64

Card 2/2

LASTOVSKIY, R.P.; KOLPAKOVA, I.D.; IVANOVA, N.I.

Cyclohexylamine-N,N-diacetic acid. Met. poluch. khim.
reak. i prepar. no.6:60-62 '62.

Benzylamine-N,N-acetoacetic acid. Ibid.:62-63

(MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

LASTOVSKIY, R.P., doktor.khimich.nauk; KOLPAKOVA, I.D., kand.khimich, nauk;
DYATOLOVA, N.M., känd.khimich.nauk; TEMKINA, V.Ya., kand.khimich.
nauk

Use of complexons in analytical chemistry. Zhur.VKHO 9 no. 2:
138-145 '64. (MIRA 17:9)

LASTOVSKIY, R.P.; KOLPAKOVA, I.D.; MIRONOVA, Ye.I.

Benzhydrylamine-N,N-diacetic acid. Met. poluch. khim.
reak. i prepar. no.6:63-65 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

LASTOVSKIY, R.P.; KOLPAKOVA, I.D.; KOZHELENKO, L.I.

Aniline-N-N-diacetic-o-arsonic acid. Met. poluch. khim.
reak. i prepar. no.6:65-67 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

LASTOVSKIY, R.P.; KOLPAKOVA, I.D.; IVANOVA, N.I.

m-Phenylenediamine-N,N,N', N'-tetraacetic acid. Met.
poluch. khim. reak. i prepar. no.6:72-73 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BYKOV, A.M.; TOTSKIY, A.M.; KOLPAKOVA, L.D.

Vibratory burr removal from machine parts. Mashinostroitel'
no.7:14-15 J1 '64. (MIRA 17:8)

LASTOVSKIY, R.P.; KOLPAKOVA, I.D.

α, α' -Triaminedibenzylidiphenylmethane-N,N,N', N'',N''-
hexaacetic acid. Met. poluch. khim. reak. i prepar.
no.6:73-74 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistykh khimicheskikh veshchestv.

New Complexons .

75-1-4/26

Information 3. Benzylaminodiacetic Acid and $\alpha, \alpha', \alpha''$ -Triaminodibenzyl-diphenylmethanehexaacetic Acid

was carried out polarographically. The displacement of the half-wave potentials for a number of cations at different p_H were also determined. In this connection it was found that benzylaminodiacetic acid at p_H 2,5 forms complex compounds with the ions

Cu^{2+} , Bi^{3+} , Ni^{2+} and Sb^{3+} , at p_H 4,4 with the ions Cu^{2+} , Co^{2+} and $Mo(V)$, at p_H 9,35 with the ions Pb^{2+} , $La(III)$ and at p_H 12,4 with the ions Cu^{2+} , $La(III)$ and Sb^{3+} .

A comparison between methylamine-, benzylamine- and benzhydryl amine-diacetic acid showed that an increase in molecular weight under certain conditions causes an increase in the complex-forming properties. The polarographic investigation of $\alpha, \alpha', \alpha''$ -triaminedibenzyl-diphenylmethanehexaacetic acid (4) showed that this compound at p_H 2,5 forms complex compounds with the ions

Pb^{2+} , Cu^{2+} , $As(III)$, Ni^{2+} , Co^{2+} and $Mo(VI)$, at p_H 4,4 with the ions Co^{2+} , $Mo(VI)$, Fe^{3+} , at p_H 9,35 with the ions Pb^{2+} ,

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New Complexons.

75-1-4/26

Information 3. Benzylaminodiacetic Acid and $\alpha, \alpha', \alpha''$ -
-Triaminedibenzylidiphenylmethanehexaacetic Acid

any more occurs. This phenomenon may be explained by the presence of 3 complex-forming groups in $\alpha, \alpha', \alpha''$ -triaminedibenzylidiphenylmethanehexaacetic acid which form intermediary complexes which one after another enter into the reaction. For a more complete characterization of the investigated new complexones the dissociation constants of the formed complex compounds were determined in a polarographic way. For benzylaminodiacetic acid the dissociation constants of the complexes with copper and bismuth were determined, for the disodium salt of benzhydrylaminediacetic acid the dissociation constants of the complexes with copper, cobalt, nickel, lanthanum and cadmium, and for $\alpha, \alpha', \alpha''$ -triaminedibenzylidiphenylmethanehexaacetic acid the dissociation constants of the complexes with copper, lanthanum and cadmium. The results of the polarographic investigations of the disodium salt of benzhydrylaminediacetic acid had already been published previously (ref. 1). The synthesis of benzylaminodiacetic acid and $\alpha, \alpha', \alpha''$ -triaminedibenzylidiphenylmethanehexaacetic acid are accurately described. There are 2 tables, and 3 references, all of which are Slavic.

~~Card 4/5~~

S#075/60/015/004/009/030/XX
B020/B064

AUTHORS:

Lastovskiy, R. P., Kolpakova, I. D., and Dyatlova, N. M.

TITLE:

New Complexons. Information 4. Synthesis and Study of the
Complexons of the Triazine Series

PERIODICAL:

Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4,
pp. 419 - 423

TEXT: Continuing their study of the synthesis of new complexons (Refs. 1-3), the authors investigate here the effect of nitrogen in the triazine cycle upon its capability of forming complex compounds. The introduction of atoms capable of coordinating with metals into the complexon molecule increases its capability of forming complexes and, in many cases, increases the selectivity of complexons for several metal cations. It was of interest to study the effect of heteroatoms in cyclic compounds. For this purpose, the following complexons containing a 1,3,5-triazine cycle were prepared: 2-oxy-4,6-diamino-1,3,5-triazine- N,N,N',N' -tetraacetic acid (I) and 2,4,6-triamino-1,3,5-triazine- N,N,N',N',N'',N'' -hexaacetic acid (II) by condensing cyanur chloride with

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New Complexons. Information 4. Synthesis and Study of the Complexons of the Triazine Series B020/B064 S/075/60/015/004/009/030/XX

imino diacetic acid. The complex-forming properties of the new compounds were polarographically studied by shifting the half-wave potential and determining the instability constants of the complexons of a number of cations. Table 1 indicates that the synthesized complexons form a number of compounds with metal ions, among which the following are of special interest; At pH 2.5, I reacts with Pb²⁺, Cu²⁺, Bi³⁺, Cd²⁺, Ni²⁺, Mo^{VI}, and Ti^{IV}; at pH 4.4, apart from these ions, with As^{III} and Mn²⁺; at pH 9.35 with Pb²⁺, Cu²⁺, Cd²⁺, As^{III}, Co²⁺, and Mo^{VI}; and at pH 12 with Cu²⁺, Cd²⁺, Zn²⁺, Ni²⁺, and Bi³⁺. At pH 4.4, II reacts with Pb²⁺, Cu²⁺, Mn²⁺, Mo^{VI}, and Ti^{IV}; at pH 2.5, apart from these ions, with La^{III}, Tl⁺, and Zn²⁺; at pH 9.3 with Pb²⁺, Cu²⁺, As^{III}, Mn²⁺, Mo^{VI}, and La^{III}; and at pH 12 with Cu²⁺, Cd²⁺, Ni²⁺, and Mo^{VI}. To determine the influence of nitrogen atoms in the hetero-cycle upon the stability of the complexes being formed, the properties of compounds I and II were compared with one another and with m-phenylene diamine-N,N,N',N'-tetraacetic acid, which were synthesized and

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New Complexons. Information 4. Synthesis and S/075/60/015/004/009/030/XX
Study of the Complexons of the Triazine Series B020/B064

polarographically examined for the purpose. The instability constants of some complexes formed by the complexons examined with several metals were determined polarographically (Table 2). The half-wave potential shifts of the ion complexes with I and II are in all cases greater than with III, while the tendency toward forming stable complexes with I is greater than with II. I and II are characterized by the presence of the same group capable of forming complexes with metal cations, i.e.,
 $(\text{HOOC-CH}_2)_2\text{N} - \overset{\text{O}}{\parallel}{\text{C}} - \text{N} = \overset{\text{O}}{\parallel}{\text{C}} - \text{N}(\text{CH}_2\text{COOH})_2$. The increased capability of II of forming complexes may be ascribed to the presence of a symmetrical molecule (three iminodiacetic acid groups). Finally, the synthesis of I and II is described in detail. There are 2 tables and 6 references: 4 Soviet, 1 Swiss, and 1 German. ✓

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov, Moskva (All-Union Scientific Research Institute for Chemical Reagents, Moscow)

SUBMITTED: April 14, 1959

Card 3/3

KOLPAKOVA, I. D.

Cand Chem Sci - (diss) "Synthesis of several new complexes and a study of their properties as a function of structure." Moscow, 1961. 7 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Chemical Technology Inst imeni D. I. Mendeleev); 150 copies; price not given; (KL, 6-61 sup, 198)

LASTOVSKIY, R.P. (Moscow, Bogorodskiy val.d.3); DYATLOVA, N.M. (Moscow, Bogorodskiy val.d.3); KOLPAKOVA, I.D. (Moscow, Bogorodskiy val.d.3); TEMKINA, V.Ya. (Moscow, Bogorodskiy val.d.3); LAVROVA, O.Yu. (Moscow, Bogorodskiy val.d.3)

New complexones and possibilities of their application in analytical chemistry. Acta chimica Hung 32 no.2:229-233 '62

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.

KOLPAKOVA, L.L.

Changes in the plasma volume and protein composition of the
blood serum in late pregnancy toxemias. Akush. i gin. no.1:
130-133 '65. (MIRA 18:10)

1. Kafedra akusherstva i ginekologii (zav.-- prof. A.M. Mazhbits)
Novokuznetskogo instituta usovershenstvovaniya vrachey.

KOLPAKOVA, N.P.

Some problems in the theory of controlled systems. Priborostroenie
no.1:9-11 Ja '64. (MIRA 17:2)

SECRET-2/SECRET(d)/SECRET(1) Pg-4/Pk-4/Pl-4/Pr-4/Pq-4/Pr-4/Pu-4/Paa-2 IJP(c)

AT5004116

5/0000/64/000/000 0144/0154

AKOVA, N. P.

1+1

Theory of systems with several regulatable coordinates

...soveshchaniye po teorii invariantnosti i yeye primeniyu v ... sistemakh, 2d, Kiev, 1962. Teoriya invariantnosti v sistemakh ... upravleniya (Theory of invariance in automatic control systems); ... Nauka, Moscow, 1964, 144-151

control system, control theory, system stability, linear system, invariant system, connected system

The present work treats a variety of questions relating to the positions of a system which make its channels autonomous and invariant. Such forces impinge on improperly regulated coordinates or in which cross-connections are called "connected systems." Part 1 considers systems with connections made according to improperly regulated coordinates. Part 2 considers cross-connected, connected systems. In each case, the relationship between the system being autonomous and invariant is studied. Part 3 considers systems with connections according to perturbations. Part 4 con-

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REF: AT5004116

ability properties of connected systems. Part 5 examines the de-
the character of a dynamic connection on the properties of the re-
and on the quality of the transition processes in each of the
channels. Part 6 considers the problem of the synthesis of systems with
variable coordinates. Orig. art. has: 4 figures and 33 formulas.

None

24sep64

ENCL: 00

SUB CODE: DP, IX

000

OTHER: 000

KOLPAKOVA, N.P., kand. tekhn. nauk

Choice of the structure of coupled control systems. Trudy MAI
No. 155:21-56 '64. (MIRA 17:11)

ROGATINA, Nina Prokof'yevna; POPOVA, Zinaida Fedorovna; ARTMANIS, Stella
Andreyevna; MEL'NIKOVA, Nina Ivanovna; AVDEYEVA Yekaterina Semenovna;
KUZNETSOVA, Irina Pavlovna; ZHEREBINA, Anna Semenovna; VOYEVODINA,
Aleksandra Dmitriyevna; KOLPAKOVA, Ninel' Yevgrafovna; KHAYEVA,
Aleksandra Afanas'yevna; DUNDUKOVA, Valentina Petrovna; LAUSTEN, A.G.,
nauch. red.; GABOVA, D.M., red.; VINOGRADOVA, G.A., tekhn. red.

[Women's and children's light dress] Zhenskoe i detskoe legkoe plat'e.
Moskva, Gostekhizdat, 1962. 493 p. (MIRA 15:7)
(Dressmaking)

KOLPAKOVA, O.V.

36866 . Kozhnyye sosudistyye reaktsii u bol'nykh s sindromom boley v oblasti serdtsa raelichnogo proiskhozhdeniya. Trudy Med. in-ta (Izhev. gos. med. in-t) t. IX, 1949, s. 233-41

SO: Letopis' Zhurnal'Nykh Statey, Vol. 50, Moskva, 1949

1. KOLPAKOVA, P. F.
2. USSR (600)
4. Fire Clay-Charysh Region
7. Geology and mineral resources of the eroded surface of the Charysh region in the Altai Territory. Izv. Glav. upr. geol. fon. no. 2 1947.
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

BREGETOVA, N.G.; KOLPAKOVA, S.A.

Gamasoidea, parasites of the water rat (*Arvicola terrestris* L.) and inhabitants of its nests in the Volga delta. Paraz, sbor. 14:56-70 '52.
(MLRA 6:6)

1. Zoologicheskiy institut Akademii Nauk SSSR. Saratovskiy institut "Mikrob."
(Parasites--Water rats) (Volga Delta--Mites)

BREGETOVA, N.G.; KOLPAKOVA, S.A.

Gamasid mites (Parasitiformes, Gamasoidea), parasites of small
murine rodents and inhabitants of their nests in the Volga Delta.
Parazit.uber.16:184-197 '56. (MIRA 9:7)

1. Zoologicheskiy institut Akademii nauk SSSR i Saratovskiy institut
"Microb".
(Volga Delta--Mites) (Parasites--Rodentia)

KOLPAKOVA, S.A.

USSR/Zooparasitology - Acarina and Insect-Vectors of Disease
Pathogens. G-2

- Abs Jour : Ref Zhur - Biol., No 5, 1958, 19670
- Author : Kolpakova, S.A.
- Inst : _____
- Title : Ecology of Fleas *Ceratophyllus* (*Nosopsyllus*) *Mokrzeckyi* Wagn.
- Orig Pub : Materialy k poznaniyu fauny i flory SSSR, Otd. zool.,
1956, No 34(49), Ektoparazity, No 3, 149-161
- Abstract : In the Volga bottom lands and delta and in the hillock
sands 11,606 fleas were collected from 5567 rodents
(chiefly house mice) and 1133 nests. On house and field
mice, on common field mice, and in nests, *C. mokrzeckyi*
predominated. The abundance of fleas on animals and in
nests was increased in the fall (which corresponded
with the growth of animal numbers), remained high until
the beginning of spring, and markedly decreased in summer.

Card 1/2

KOLPAKOVA, T. A.

"Certain Conditions of Formation of Nuclei in Bacteria," Arkhiv biol. nauk
(Archives of the Biological Sciences), 25, 1-3, 100-110, 1945

KOLPAKOVA, T.A.; GOLIYENBIYEVSKAYA, Z.I.; SHEVTSOVA, N.I.; RYBINA, M.I.;
NIKITINA, N.N.; RYBAKOVA, L.F.; SHIPSHINA, N.D.; KORN, A.N.; KO-
ROVKIN, B.F.; KOSYAKOV, K.S.; STEPNEYA, A.A.

Suggestions made at the September 29, 1963, conference of "La-
boratornoe delo" readers, members of the Leningrad Society of Phy-
sicians and Laboratorians. Lab. delo-10 no.4:256 '64. (MIRA 17:5)

1. Predsedatel' pravleniya Leningradskogo obshchestva vrachey-la-
borantov (for Kolpakova). 2. Chleny pravleniya Leningradskogo ob-
shchestva vrachey-laborantov (for all except Kolpakova).

KOLEAKOVA, T.A.; SUDAKOV, V.P.

Hydraulic turbopump units for machine irrigation.
Trudy TIIMSKH no.8:3-15 '57. (MIRA 15:5)
(Soviet Central Asia--Irrigation)
(Pumping machinery)

S/064/60/000/007/008/010
B020/B054

AUTHORS: Kolpakova, T. D. and Barannik, V. P.

TITLE: Improvement of the Properties of ПБ (PB) Corrosion Inhibitors

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 7, pp. 68 - 70

TEXT: The authors describe the shortcomings of the PB-5 inhibitor which consists of water-soluble condensation products of aniline and has a molecular weight of about 400-600; its most important shortcomings are the low stability of acid solutions of the inhibitor in the presence of Fe^{3+} , and its pure solubility in dilute HCl. Instead of aniline, the inhibitor ПБ-8 (PB-8) contains ethanol amine which is soluble in dilute acids, water, and lyes, but has a much lower protective action against strong HCl than the inhibitor PB-5. The authors investigated the properties of inhibitors formed with partial substitution of aniline by ethanol amine, i.e., which contained phenyl and ethanol groups alternatingly. They made nine preparations with aniline contents decreasing

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