TURANOVA, Ye.N., kand. med. nauk; NYUNIKOVA, O.I.; GOLUTVINA, A.N.; TSIVELEVA, Ye.S.

Study of the causes and characteristics of the clinical course of chronic gonorrhea in women. Akush. i gin. no.6:98-101 N-D '63. (MIRA 17:12)

1. Iz otdela gonorei (zav. - prof. I.M.Porudominskiy) TSentral'nogo kozhno-venerologicheskogo instituta (dir. - kand. med. nauk N.M. Turanov) Sverdlovskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (direktor A.V.Bakhireva) i Bol'nitsy imeni B.G. Korolenko (glavnyy vrach A.I.Pustovaya).

NYUNINA, Ye.P.

Dysentery in newborns. Vop.okh.mat. i det. 1 no.2:30-33 Mr-Ap '56. (MLRA 9:9)

1. Iz detskoy bol'nitsy, stantsiya Lyublino Moskovskoy oblasti.
(DYSENTERY)
(INFANTS (NEWBORN)--DISEASES)

NYUN'KO, L.I.

p. 3

SOV/77-4-2-15/18

23(4) 23 (5)

AUTHOR: Lyalikov, K.S.

TITLE: Successes of Soviet Electrophotography (Uspekhi sovetskoy elektrofotografii) A Scientific and Technical Conference on Questions of Electrography (Nauchno-tekhnicheskaya konferentsiya po voprosam elektrografii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 149-152 (USSR)

ABSTRACT: This is an account of a scientific and technical conference on electrography, the first to be held in the Soviet Union and evidently in the world. It was organized in Vil'nyus on December 16-19, 1958 by the Soviet narodnogo khozyaystva Litovskoy SSR (Council for National Economy of the Lithuanian SSR), the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta ministrov Litovskoy SSR (State Scientific and Technical Committee of the Council of Ministers of the Lithuanian SSR) and the Nauchno-issledovatel'skiy institut elektrografii (Scientific Research Institute of Electrography). The conference, attended by over 300 scientific workers, was opened by the Deputy Chairman of the Council for National Economy of the Lithuanian SSR P.A. Kul'vets, after which the director of the Institute for Electrography, I.I.Zhilevich, reviewed the state and prospects for development of electrography in the USSR. He stated that research in this field should be carried out along the following lines: a) a search for new photo-active materials with high dark resitance; b) physical research into the internal photoeffect; c) development of photosemiconductor layers; d) development of the theory of the electrophotographic process. K.S. Lyalikov (speaking also for O.G. Popova) gave a report in which he suggested determining the light sensitivity of electrophotographic layers in GOST units. N.Z. Plavina (speaking also for I.I.Zhilevich, L.I.Nyun'ko, S.M.Markevich, B.I. Kalinauskene and O.M. Suveyidis) reported on some research on the sensitization of a semiconductor in electrophotographic layers. V.[illegible] Pridkin gave a report on highly sensitive electrophotographic layers and an electrophotocopying device, and reviewed the formation process of the latent electrophotographic image on the basis of the zonal theory. He also described the design of an electrosensitometer for determining sensitivity by the relaxation period of a charge on the surface of the layer, and the circuit of an electrophotographic copying device. Anfilov finished describing the latter and then spoke on the mechanics and kinetics of the development of the latent electrophotographic image in liquid developers.

Card 3/10

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

K.N. Vinogradov described some of the features of the cascade and liquid methods of electrophotographic development. Yu.Ye. Karpeshko devoted his report to the criterion of light sensitivity of the elctrophotographic process. After the reports, a discussion took place on methods of determining the light sensitivity of electrophotographic layers. A.N. Chernyshev spoke on the prospects of developing polygraphic processes using electric and magnetic forces. O.V. Gromov (speaking also for I.I. Zhilevich, A.A. Sukhiy, V.A. Gordeyeva, A.S. Pauzha and Yu. I. Kevalaytis) reported on the development of elctrophotographic reproducing equipment. A.S. Pauzha (speaking also for I.I. Zhilevich, A.S. Borisovich, N.M. Gal'vidiks and M.I.Rautkauskas) reported on the use of electrographic methods in recording oscillographs and other recording instruments. V.I. Yurchenko (speaking also for L.N.Balin) spoke on the possibility of electrophotographically recording images from electron-beam tubes. L.S. Korol' (speaking also for M.K. Markevich, T.I. Kozlovskaya, B.I. Kalinauskene, M.K. Haynens, I.I. Zhilevich[redacted] and K.A. Montrimas) gave a detailed description of laboratory and machine methods of producing photosemiconductor papers (zinc oxide was used). A.A. Sukhiy (speaking also for I.I. Zhilevich, O.V. Gromov, V.A. Gordeyev , N.V. Fedotov and T.S. Ger) described a laboratory and industrial machine for producing photosemiconductor papers. T.A. Shishkina (speaking also for Ya.A. Oksman) reported on a method of examining electrophotographic materials using an a/c bridge. S.I. Khotyanovich (speaking also for A.I. Gikens and I.S. Shilevkena) spoke on developing materials for electrophotography and ferromagnitography, including developers giving a "reverse" image. B.I. Tikhonov reviewed methods of measuring the electrostatic potentials of electrophotographic layers, stressing that the oscillating electrode should not be placed above a layer with varying potential as this causes self-discharge. L.V. Krukovskis (speaking also for R.S.Jorevcy, A.I.Osipov and Ya. S. Kheyfets) spoke on the practice of producing velveteen papers in an electrostatic field, and showed samples produced by the Grigishkskaya paper factory. Ye.L. Nemirovskiy then gave a historical review of the development of electrographic methods in which he paid tribute to the work of the Scientific Research Institute of Electrography in Vil'nyus and the Institut poligraficheskogo mashinostroyeniya (Moskva)-(Polygraphic Machine-Building Institute (Moscow)). Debates were then held

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of charged electro-
on methods of measuring the pote.
photographic layers; the vibration pick-up most-used
was shown in B.I. Tikhonov's report to be not always
accurate. S.G.Granishin stated that the bad influence
of the oscillating electrode can be eliminated if the
electrode probe above its surface is fixed and the pick-
up is connected to it by a shielded cable. In the de-
bate on Ye.L. Nemirovskiy's report it was stated that
the research of Academicians A.N. Terenin and Ye.K.
Putseyko should be considered as the basis of all work
on electrophotographic papers with ZnO, as they were
the first to show the possibility of optical sensiti-
sation of the internal photoeffect in ZnO. N.M.Gol'
vidis then gave a report on the depositing of charges
by a corona discharge. A.I. Kaminskas and A.P.
Yanulis reviewed some of the results of the use of
electrographic methods in radiography. L.I. Nyun'ko
(speaking also for I.I. Zhilevich, I.... Plavin, Yu.K.
Vishchakas and Yu.A.Zibuts) reported on relaxation pro-
cesses in semiconductor layers, using a vibration electro-
meter. Yu.K.Vishakas gave a report of research on some
physical properties of the polycrystalline layers of
selenious cadmium. M.P. Mikalkyavichyus spoke on some
of the photoelectric properties of Sb_2S_3 and Sb_2Se_3: the
absorption maximum of the latter is about 900 mμ.
S.M. Nerman reported on methods of obtaining selenium
light-sensitive layers, including sublimation and ther-
mal treatment; it was also found that the sensitivity
of the layers increased after storage for 1.5 to 2 months
at room temperature. P.M. Podvigalkin (speaking also
for S.G.Grenishin) spoke on research into the elec-
trical properties of electrophotographic layers of
amorphous selenium and powdered zinc oxide. N.K.
Shiktorov (speaking also for A.S. Tauraytis) discussed
the production of selenium layers and some of their
properties. Finally the following reports on ferro-
magnetography were delivered; 1) B.Ya. Karnacheyev,
V.M.Zhogina, "Electrodeposition of Magneto-hard Alloys
with Given Magnetic Characteristics" 2) Z.T.Arutyunov,
"Visualization of Magnetic Oscillograms by the Ferro-
graphic Method" 3) V.T.Petrunov, "Ferrographic Recording
of Facsimile Images" 4) I.I.Zhilevich, I.I. Gikis, E.
Ye. Buchek, I.I. Naynise, A.K.Kizhis, "Mock Experiments
in Non-Pressure Ferromagnetic Printing". There was
also an exhibition showing the work of the Electro-
graphic Institute. The most important conclusion of
the conference was that a solid approach had been made
to the possibility of wide technical use of the methods
of electrography. It was considered that although work
in this field actually started only in 1955-56 it has covered as much ground
as the USA in 10 years. While admitting that it was
easier to reproduce results already achieved than to be
the first to arrive at them, the conference observed
that the Americans took good care that no important
information appeared in the literature available.

Card 10/10

89051
S/077/60/005/005/002/006
B019/B059

23,3000 1138

AUTHORS: Zibuts, Yu. A., Nyun'ko, L. I.

TITLE: On the problem of half-tone transmission in electrophotography

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 5, no. 5, 1960, 352 - 355

TEXT: It was the aim of the present work to estimate the transmission of half-tones according to the variation of the surface potential of a semiconductor layer on exposure, considering that intersubstitution is not fulfilled. The authors employed a semiconductor layer of zinc oxide, part of which was sensitized with eosin. The surface potential of the semiconductor layer was measured with a dynamic electrometer featuring a vibrating glass electrode coated by a thin conductive SnO_2 film. A low-frequency oscilloscope with the electron-beam deflection gauged in volts was used as a recording instrument. Exposure was brought about by means of a shutter from a "Zorkiy-4" camera supplying nearly rectangular pulses on exposure times of 1, 1/2, 1/5, 1/10, and 1/25 seconds. The dependence of the potential drop ΔV on the initial potential V_0 in the case of an exposure

Card 1/4

On the problem of half-tone...

with constant light pulses is shown in Fig. 1. As can be seen, ΔV increases linearly in the case of low V_0; saturation is reached when V_0 is high. Fig. 2 shows the dependence of ΔV on the exposure of an unsensitized layer for the case of a constant shutter aperture and an equal initial potential V_0. In Fig. 3, the same is shown for a sensitized layer. In the discussion of the results, the authors conclude that the potential drop arises from production of free charge carriers. It is further concluded that a correct transmission of half-tones by means of a potential relief forming upon the semiconductor layer on exposure is possible only if the potential drop depends linearly on the exposure time. This can only be obtained in the case of short exposures and high shutter speeds Sensitization of the semiconductor layer narrows that exposure range in which a correct transmission of half-tones is possible. Moreover, by this method a correct transmission of the half-tones in electrophotographic prints is possible only if the potentials of the various sections on the surface layer are exclusively in the range of linear dependence of the density of blackening on the surface potential. The Kaunasskaya bumazhnaya fabrika im. Yu. Yanonisa (Kaunas Paper Mill imeni Yu. Yanonis) is mentioned. There are 3 figures, 1 table, and 13 references: 10 Soviet-bloc and 3 non Soviet-bloc.

Card 2/4

89051
S/077/60/005/005/002/006
B019/B059

On the problem of half-tone...

ASSOCIATION: Vil'nyus NII Elektrografii (Vil'nius Scientific Research Institute of Electrography)

SUBMITTED: March 21, 1960

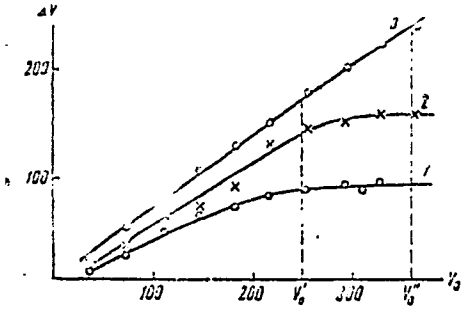

Рис. 1

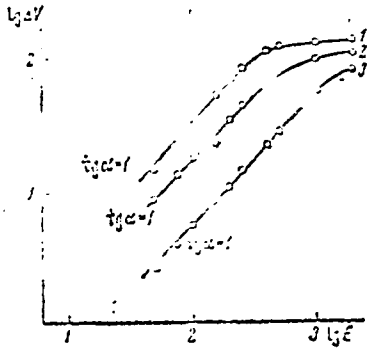

Рис. 2

Card 3/4

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On the problem of half-tone...

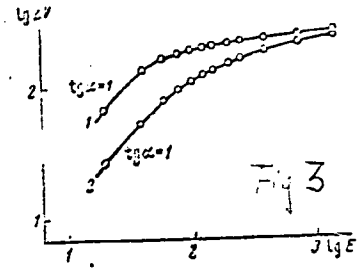


Fig 3

Card 4/4

NYUN'KO, L.I.

Problem of fatigue of electrophotographic layers. Zhur.nauch.i prikl.fot.i kin. 7 no.4:297-298 Jl-Ag '62. (MIRA 15:8)

1. Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus.
(Xerography)

NESVIT, S.M.; NYUN'KO, O.I.; SVISTUNOV, V.Ye., inzh., retsenzent;
SYTNIK, N.A., inzh., red.

[Horizontal forging machines and their automation] Gorizontal'no-kovochnye mashiny i ikh avtomatizatsiia. Moskva, Mashinostroenie, 1964. 322 p. (MIRA 17:10)

MYUN'KO,V.G.

Improved method of pre-calculating flood tides for prolonged periods. Meteor.i gidrol. no.5:51-55 My '53. (MLRA 8:9)

1. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut, Vladivostok.
(Floods)

NYUN'KO, V. G., and KHLOYEV, G. S.

Coastal Expeditionary Automatic Recorder of the Levels of the Sea Meteorol. i gidrologiya, No 10, 1953, pp 55-56

The authors describe a syphon sea scribe (mareograf) developed in the Far Eastern Scientific Research Hydrometeorological Institute. This instrument records heights to 9 meters (one-meter variations of the sea level correspond to 5 centimeters on the tape on the drum). It can be converted into a stationary instrument if the syphon tubes and site for the automatic recorder are heated. (RZhGeol, No 5, 1954)

SO: Sum. No. 568, 6 Jul 55

NYUN'KO, V.G.

Auxiliary tables for harmonic analysis of observations on high-water and low-water phenomena. Trudy GOIN no.30:184-194 '55. (MLRA 9:8)

1. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut.

(Harmonic analysis) (Tides)

NYUN'KO, V.G.

Variation of diagram four for computing harmonic constant tidal currents from two daily series of observations. Trudy GOIN no.30: 195-196 '55. (MLRA 9:8)

1. Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut.

(Tides)

AUTHOR: Nyun'ko, V. G. 50-58-3-13/22

TITLE: Auxiliary Tables for Processing Tidal Current Data (Vspomogatel'nyye tablitsy dlya obrabotki prilivo-otlivnykh techeniy)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 3, p. 50 (USSR)

ABSTRACT: In order to obtain the harmonic constants and to calulate in advance the tide, a number of laborious calculations have to be performed with intensive work. In the mass treatment of the material in the Far Eastern Scientific Research Institute for Hydrometeorology systematic tables were worked out for the division of the velocities and the direction of tidal currents into the components with regard to the meridian and to the parallels of latitude (table 1). In contrast to the existing tables the suggested table is represented on one sheet and the scheme of the distribution of values permits rapidly to find the sought values of the components in the table. In eight left columns of this table the direction from 0 to 360° and

Card 1/2

Auxiliary Tables for Processing Tidal Current Data 50-58-3-13/22
Currents

further to the right the velocity from 1 to 50 cm/sec is given. The components are represented in fractional numbers in the table. When the degree of the direction is underlined in the table or when it is printed in italics, the value of the components with regard to the meridian is in this case expressed by the numerator and with regard to the parallel by the denominator. But when the degree is not underlined, the determination of the sought values takes place in the opposite order. Thus e. g., when the values of the components of the tide regarding the meridian and the parallel are sought, the direction of flow is 131° and the velocity 47 cm/sec, the figure 131 is found on the left side of the table and on the right side - the column marked with the figure 47. Further the sought value 35 is found at the crossing of line 131 with column 47. As the figure 131 is underlined, the numerator of the fraction 31 will be the component onto the parallel, and the denominator - the component onto the meridian. Experience showed that such a representation of the table permitted to accelerate the process of calculation of the values of the components 2-3 fold.
There is 1 table.

1. Tides--Tables 2. Tides--Motion

Card 2/2

NYUN'KO, V.G.

New method of computing initial data (phases) for the calculation of tidal current tables. Trudy Dal'nevost. NIGMI no.13:80-83 '60. (MIRA 14:7)

(Tides--Tables)

S/050/60/000/05/13/020
B007/B017

AUTHOR: Nyun'ko, V. G.

TITLE: Simplified Scheme for the Computation of Semidiurnal and Diurnal Components of Tidal Currents

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 5, p. 42

TEXT: The harmonic analysis of around-the-clock series of tidal current observations requires extensive calculations of the semidiurnal and diurnal components of tidal currents. A calculation scheme is given, by means of which operations can be reduced by approximately 50 per cent.

Card 1/1

NYUN'KO, V.G.

Methodology of determining residual currents. Trudy Dal'nevost.
NIGMI no.17:101-107 '64. (MIRA 17:11)

NYUPENKO, O., pol'kovnik, kand.istoricheskikh nauk

How to guide a group studying the theme "The Bolshevik Party in the reactionary period from 1907 to 1910." Komm.Vooruzh.Sil 1 no.6:78-81 Mr '61. (MIRA 14:8)
(Russian Social Democratic Party)

ZHEMCHUZHINA, Ye.A.; NYURENBERG, G.Ya.

Effect of the presence in the electrolyte of aluminum metal and salt additives on the stability of cathode blocks during the electrolysis of cryolite-alumina melts. Izv. vys. ucheb. zav.; tsvet. met. 8 no.1:90-95 '65. (MIRA 18:6)

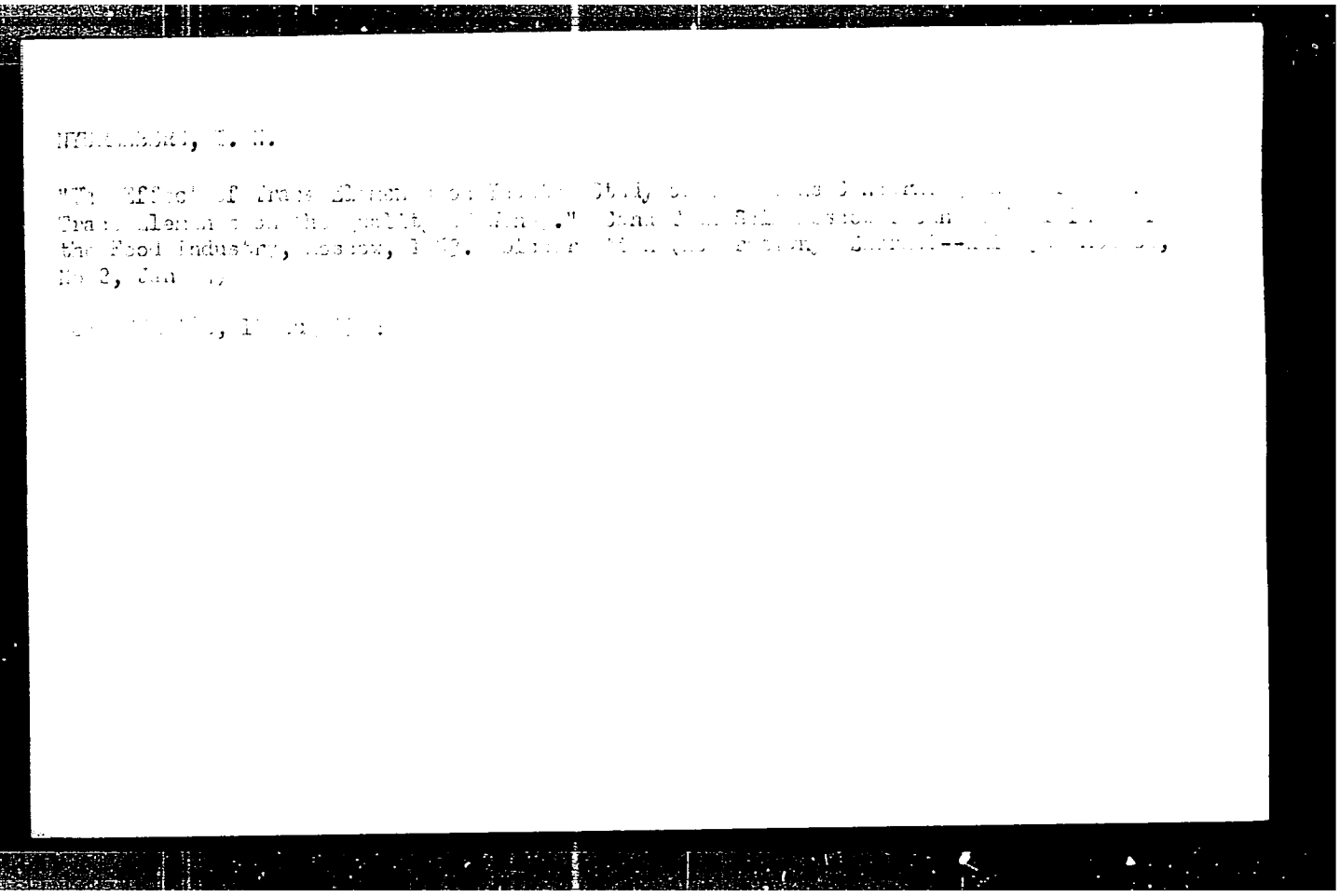
1. Moskovskiy institut stali i splavov, kafedra proizvodstva chistykh metallov i poluprovodnikovykh materialov.

NYURENBERG, G.Ya.; ZHELEZNOV, V.A.; KRAVTSOV, I.M.

Application of mathematical statistics in assessing operational parameters of aluminum electrolytic cells. TSvet. met. 38 no.5: 53-56 My '65. (MIRA 18:6)

BESSHTANOV, A.I.; NYGRENBERG, [illegible], GAVRIN, I.M., [illegible], KRAVTSOV, I.M.

Improving the performance of electrolytic cells as a result of an efficient positioning of auxiliary [illegible] and anode pins. Tsvet. met. 38 no.2:[illegible] Ap '65.



NYURENBERG, L.V., dotsent

Functional changes in the pancreas in Botkin's disease. Vrach.delo no.9:907-911 S '57. (MIRA 10:9)

1. Kafedra infektsionnykh bolezney (zav. - prof. B.Ya.Palatkin) Kiyevskogo meditsinskogo instituta
(PANCREAS--DISEASES) (HEPATITIS, INFECTIOUS)

PADALKA, B.Ya., prof., NYURENBERG, L.V., dotsent

Recurrent cases of typhus. Vrach.delo no.4:411-412 Ap '58 (MIRA 11:6)

1. Kafedra infektsionnykh bolezney (zav. - prof. B.Ya. Padalka) Kiyevskogo meditsinskogo instituta.
(TYPHUS FEVER)

USSR/Human and Animal Physiology - Digestion. T-7

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31861

Author : Nyurenberg, L.V.
Inst :
Title : Functional Changes of the Pancreas in Botkin's Illness.

Orig Pub : Brachebn. delo, 1957, No 9, 907-912.

Abstract : No abstract.

Card 1/1

AUTHOR: Nyurenberg, M.M., Engineer SOV-128-58-7-11/20

TITLE: Casting a Pouring Machine Bushing (Otlivka vtulki razlivochnoy mashiny)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 7, p 26 (USSR)

ABSTRACT: About 90% of the bushings cast from high-manganese steel "G13L" in cores developed hot cracks on the transition of the cylindrical portion into the square flange. The cracks were completely eliminated by the use of studs (serving as chills) in the mold and a green upper core made of 64% quartz sand 5% clay, 1-2% sulphide lye, 29-30% bearned mold mix and 4% water. There is 1 diagram.

1. Bushings---Casting 2. Manganese steel--Fracture

Card 1/1

NYURENBERG, M.M.

New procedure for casting flasks. Lit. proizv. no.4:42 ap '62.
(MIRA 15:4)

(Molding (Founding))

NYURENBERG, M.M., inzh.; [illegible]VICH, I.I., inzh.

Replacing cast [illegible]-axles of pouring machine chains by cast and welded ones. Ovar. proizv. no.3:34-35 Mr '64. (MIRA 17:7)

1. Irkutskiy zavod tyazhelogo mashinostroyeniya im. Kuybyshева.

YUROV, S.G.; NYURENBERG, M.D.

Night and daylight vision; report by the Secretariat 1.4.1 of the International Commission on Illumination. Svetotekhnika 5 no.3:1-14 Mr '59. (MIRA 12:3)

(Vision)

NYURENBERG, V.

USSR/Radio - Wired Radio Centers
Power Supply

Nov 51

"Supply of Wired Radio Centers From Telephone Lines," V. Nyurenberg

"Radio" No 11, pp 23-26

Describes a method, developed in the MGRS (Moscow City Wired Radio Network), of redesigning the receiving-amplifying equipment of the KRU-2 kolkhoz wired radio center so that it can be supplied from intra-rayon telephone lines. This change also provides for increasing the output power of the KRU-2 to 10 va by replacing the 1N3S (1N1) twin triodes of its output stage by 6P3S beam tetrodes.

208T68

NYURENBERG, V.

Radio Measurements

Voltage leval measuring instruments. Radio No. 4, 1952

9. Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

NYUREN, V.A.; YEFIMOVA, O.V., otvetstvennyy redaktor; MARTSINKEVICH, T.M., redaktor; VEYNTRAUB, A.B., tekhnicheskiy redaktor.

[Remote measurement control of radio-wire communication lines] Distantsionnye izmereniia traktov provodnogo veshchaniia. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1954. 33 p. [Microfilm]
(Radio measurements) (MLRA 7:11)

NYURENBERG, V.

Measurements in wire communication systems. Radio no.11:20-22 N '54.
(MLRA 7:12)

(Electric measurements) (Telecommunication)

HYURENBERG, V.A., inzhener.

Remote control measurement of radio broadcasting channels. Vest. sviazi 16 no.11:4-6 N '56. (MIRA 10:1)
(Radio measurements)

NYURENBERG, V. A.

STATIONS & COMMUNICATION SYSTEMS

"Automatization of Control of the Operation of a Broadcast Channel," by V. A. Nyurenberg, Engineer. Vestnik Svyazi, No 4, August 1957, pp 7-9.

This project deals primarily with automatic level control in wired-broadcast networks such as are extensively used in Russia.

The control method is based on comparison of signals on both ends of the channel.

Card 1/1 - 35 -

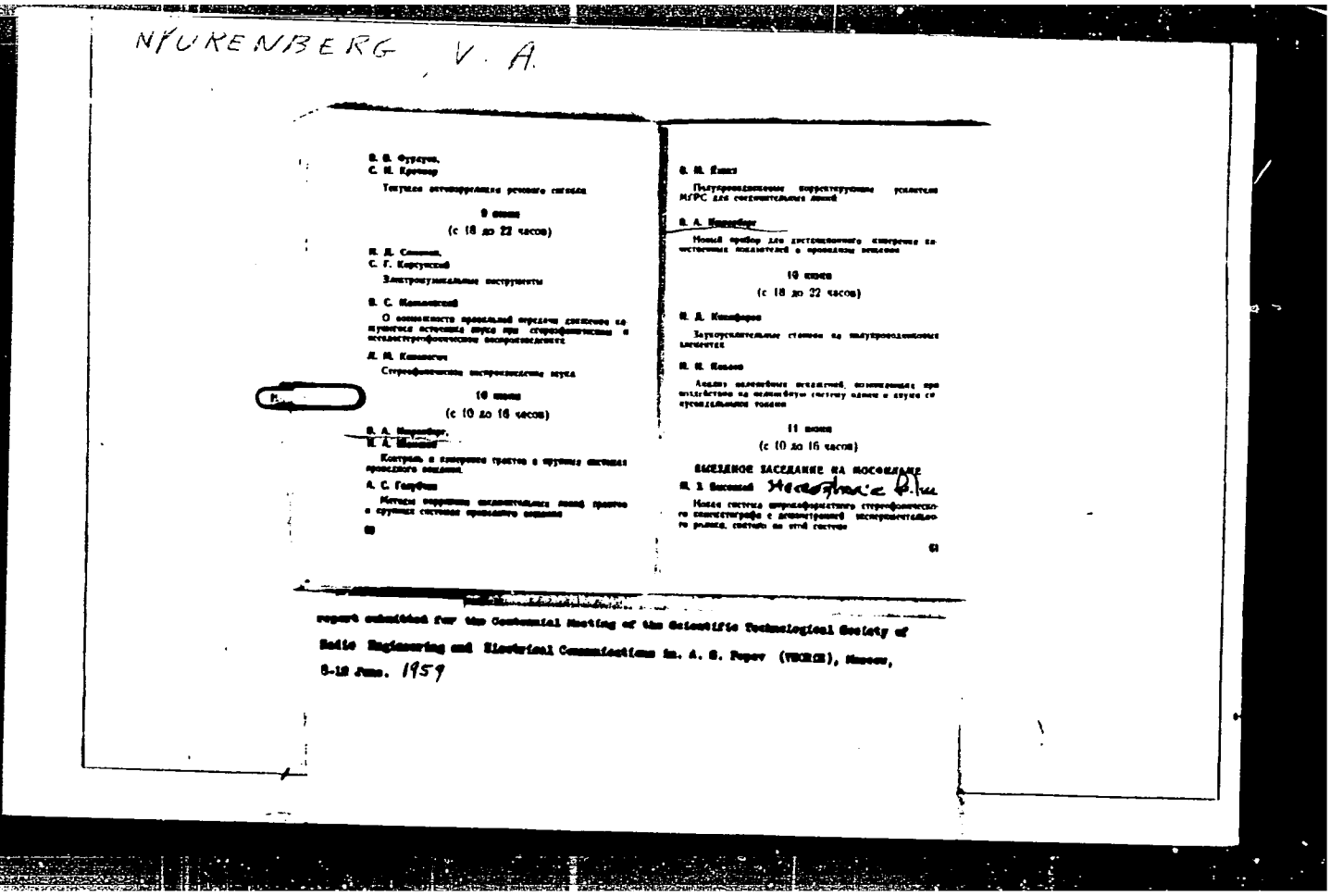
KLYUCHEV, inzh.; PAVLOV, N.N., inzh. (Leningrad); PAPERNOV, L.Z., kand.tekhn. nauk (Moskva); NYURENBERG, V.A., dots. (Moskva)

Urgent problems in standardizing the qualitative indices of wire-broadcasting channels; responses to I.A. Shamshin's article published in no.4, 1958 of this periodical. Vest.sviazi 18 no.12:8-10 D '58. (MIRA 11:12)

1. Laboratoriya Glavnoy direktsii radiotranslyatsionnykh setey (for Klyuchev).

(Wire broadcasting)

NYUKENBERG V. A.



report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (NTORES), Moscow, 8-12 June. 1959

SOV/111-59-2-9/27

6(4)

AUTHOR: Nyurenberg, V.A., Engineer

TITLE: A Device for the Automatic Control of the Operation of Broadcasting Installations (Ustroystvo dlya avtomaticheskogo kontrolya raboty veshchatel'nykh ustanovok)

PERIODICAL: Vestnik svyazi, 1959, Nr 2, pp 12-14 (USSR)

ABSTRACT: The article is a description of an apparatus for the automatic control of the operation of broadcasting installations, by means of the comparison of signals from two sections of the transmitting channel, as well as a description of the component parts of the device and their operation and characteristics. The author decides on the use of an electronic ratiometer, utilizing the operating principle of a level limiter, in which case the difference in the voltages at the outputs of the two limiters used is in direct dependence on the ratio of the input voltages, throughout the limiting range. The use of two limiters, however, presents technical difficulties in the field, especial-

Card 1/4

A Device for the Automatic Control of the Operation of Broadcasting Installations

ly in regard to matching of non-linear elements (e.g. tubes, transistors) in the limiters, and so a system using one limiter, with synchronous electronic switching of input and output, was perfected. The switching frequency is 50 cps. The author discusses the speed of operation of the circuit in reacting to unbalance in the compared voltages for various sensitivities of the circuit. The electronic ratiometer consists of the level limiter-compressor, the electronic relays for input and output switching, and the "executing" mechanism, illustrated in a circuit diagram (fig 4). Each circuit and its operation are discussed in some detail. The limiter-compressor circuit employs a 6K4P pentode, one half of a 6N1P dual triode, a 6Kh2P dual diode, and 2 DGTs-22 contact diodes, one of which controls voltage surges at the limiter output. The input-switching electronic relay uses six DGTs-22 diodes, but the output-switching relay employs four 6Kh2P dual triode, working as a DC amplifier, a two

A Device for the Automatic Control of the Operation of Broadcasting Installations

coil telephone relay, and a voltmeter. The relay coil voltages are in balance so that the relay operates only under conditions of unbalance of the compared voltages in the limiter. The meter registers the amount and direction of unbalance in Db. The limiting range is 34 db, flat within 2 db, and frequency response of the unit is flat within 2 db from 50-10,000 cps. The high sensitivity of the ratiometer to unbalance in the compared voltages (1.0-1.25 db), and to noises during transmission breaks (50 db below maximum signal) suits the apparatus well for control of broadcasting installations. The ratiometer also allows checking of frequency distortion. The author believes that the ratiometer could be used in controlling a number of technological and operational processes, and in measuring apparatuses as a calibrater. Work in this direction is now in progress at the MGRS laboratories. Engineer T.Ya.Bukshpan and the author worked together (at the MGRS Laboratory) in developing the electronic ratiometer. There are 3 diagrams and 1 circuit diagram.

Card 3/4

SHAMSHIN, I.A.; NYURENBERG, V.A., dots.

Measurment of fading in distributing transmission lines by the use of a method which involves storing of the signal. Vest.sviazi 20 no.1:8-10 Ja '60. (MIRA 13:5)

1. Glavnyy inzhener Moskovskoy gorodskoy radiotranslyatsionnoy seti (for Shamshin). 2. Moskovskiy elektrotekhnicheskiy institut svyazi (for Nyurenberg).
(Electric lines) (Electric measurements)

NYURENBERG, V.A., dotsent

Telemetering in wire broadcasting systems. Vest. sviazi 21 no.7:11-13 Jl '61. (MIRA 16:7)

1. Moskovskiy elektrotekhnicheskiy institut svyazi.
(Wire broadcasting) (Telemetering)

NYURENBERG, Vladimir Arkad'yevich; MLODZEYEVSKAYA, Irina Aleksandrovna; YEFIMOV, A.P., otv. red.; FUFAYEVA, M.N., red.; CHURAKOVA, V.A., tekhn. red.

[Fundamental principles of the design of automatic broadcast level regulators] Osnovnye polozheniia po raschetu avtomaticheskikh reguliatorov urovnia veshchatel'nykh peredach. Moskva, Sviaz'izdat, 1963. 52 p. (MIRA 16:10)
(Radio--Transmitters and transmission)

NYURENBERG, Vladimir Arkad'yevich; PAVLOV, N.N., otv. red.; KONDRAT'IEVA, V.P., red.; CHURAKOVA, V.A., tekhn. red.

[Technological control in sound broadcasting] Tekhnicheskii kontrol' v zvukovom veshchanii. Moskva, Sviaz'izdat, 1963. 119 p. (MIRA 16:8)

(Wire broadcasting)
(Sound—Recording and reproduction)

NYURENBERG, Vladimir Arkad'yevich; RIVKIS, I.G., otv. red.; TSEYTLIN, F.G., red.

[Fundamentals of wire broadcasting] Osnovy tekhniki provodnogo veshchaniia. Moskva, Sviaz', 1964. 86 p. (MIRA 17:11)

NYURIN-VERTSBERG

ORLOV, V.P., kand.sel'skokhoz.nauk. Prinimali uchastiye: AVROV, N.N.; BASENKO, P.V.; VARLAMOV, D.A.; VASIL'YEV, I.I.; VLASOV, V.N.; VYLEGZHANINA, V.A.; ZHIVET'YEV, V.G.; ZAVADSKIY, I.S.; ZALESSKIY, Ye.Ya.; ZAKORYUKIN, D.S.; ISMCHENKO, I.N.; KACHIBAYA, I.D.; KISE-LEV, Ye.S.; KOZHEVNIKOV, I.Z.; LISITSYN, V.I.; MESHCHERYAKOV, V.F.; NYURIN-VERTSBERG, R.L.; PEREPELITSA, V.M.; RYABKOV, A.D.; SKURIKHIN, I.P.; SOLOV'YEV, N.A.; YAS'KO, N.G.. GREBTSOV, P.P., red.; ZUBRILINA, Z.P., tekhn.red.

[Our farms in 1965] Nashi khoziaistva v 1965 godu. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1959. 230 p. (MIRA 13:2)
(Agriculture)

KAZAKOV, A., inzh.; NYURKIN, I., inzh.

Using pack-forming machines in the transportation of cement in bags. Rech. transp. 24 no.7:21-22 '65. (MIRA 18:8)

1. Gor'kovskiy institut inzhenerov vodnogo transporta.

NYURKIN, I., inzh.

Improve the technology of stowage and the removal of the residues of bulk cargoes. Rech. transp. 21 no.8:14-15 Ag '62. (MIRA 18:9)

NYURKIN, I. G.

Nyurkin, I. G.

"Problems of increasing the productivity of cranes in the complex mechanization of cargo unloading from river boats." Min River Fleet USSR. Gor'kiy Inst of Water Transport Engineers. Chair of the Organization and Mechanization of Loading Work. Gor'kiy, 19 .. (Dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'
No. 25, 1956, Moscow

NYURKIN, I.G.

Certain deficiencies of the diesel electric crane "Staryi Bu:lak."
Rech.transp. 15 no.12:17 D '56.
(Cranes, derricks, etc.) (MLRA 10:2)

MYURKIN, I.G., inzh.

Cycle length of clamshell cranes. Mech.transp. 18 no.3:16-18 Mr '59.
(MIRA 12:4)
(Cranes, derricks, etc.)

NYURKIN, I.G., inzh.; YUNIN, K.A., inzh.

Mechanization of reloading operations in the Gorkiy Harbor.
Mekh.i avtom. proizv. 15 no.6:30-33 Je '61. (MIRA 14:6)
(Gorkiy--Harbor)
(Loading and unloading--Technological innovations)

NYURKIN, N.S., veterinarnyy vrach (Tugulymskiy rayon, Sverdlovskoy oblasti

Treatment of horses with petechial fever. Veterinariia 41 no.6:83 Je '64. (MIRA 18:6)

NYURKIN, P. S. (Veterinary Doctor, Zavodouspenskii Lestrankhoz Kombinata "Sverdles").

"Treatment of cattle that were stung by poisonous snakes"...

Veterinariya, vol. 39, no. 8, August 1962 pp. 52

YA[illegible]MEDOVA, Z.Sh.; NYUROVA, R.Kh.; SUMAROKOVA, T.N.

Conductometric titration of some solutions containing NH_4^+, Na^+, Cu^{2+}, Ni^{2+}, and SO_4^{2-} ions. Izv. AN Kazakh. SSR.Ser.khim.nauk 15 no.3:22-30 [illegible] '65.

(MIRA 18:12)

1. Submitted February 9, 1965.

NYUSHKO, F. K.; OVRUTSKIY, G. D.

Teeth

Effect of water with high fluorine content on teeth. Stomatologiia. No. 2 1952

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

Nyuton, G. G.

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics F-2

Abs Jour : Referat Zhurn - Biol. No 16, 25 Aug 1957, 68479

Author : Abraam, E.P., Nyuton, G.G.
Title : Some Chemical and Biological Properties of New Antibiotics of the Penicillin Group.

Orig Pub : Khim. Nauka i Prom-st, 1956, 1, No 4, 394-405

Abstract : No abstract.

Card 1/1 - 37 -

NYVIT, J.

"A contribution to a discussion of the article 'Plans for the Exploitation of Stone Quarries' in Stavba, no. 8, 1956."

p. 204 (Stavba) Vol. 4, no. 7, July 1957
Prague, Czechoslovakia

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

CZECHOSLOVAKIA / Physical Chemistry. Solutions. Acid and Base Theory. B

Abs Jour: Ref Zhur-Khimiya, No 17, 1958, 56840.

Author : Erdoes Emerich, Nyvlt Jaroslav.
Inst : Not given.
Title : Diffusion Coefficients of Phenol in Water.

Orig Pub: Chem. listy, 1957, 51, No 9, 1618 - 1624.

Abstract: The diffusion coefficients of phenol in water was investigated on a stokes device with diaphragm in a concentration range of 1 - 15 grams per liter and at 20 -50°C. The concentration of phenol was determined by the permanganate method. The values of the integral diffusion coefficient $\bar{D}$, D versus concentration (c), the temperature-dependence of D_o and λ were calculated by the least square

Card 1/2 24

NYVLT, Jaroslav

Diffusion coefficients of the cresols in water. Jaroslav Nývlt and Emerich Erdos (Vysoká škola chem.-technol., Prague). *Chem. Listy* 51, 1626-31(1957).—Diffusion coeffs. of *o*-cresol (I), *m*-cresol (II), and *p*-cresol (III) in H_2O, detd. by the method and in the temp. and concn. range given above (cf. preceding abstract), may be expressed by the equation $D \times 10^5 = D_0 - \alpha c$, where for I $D_0 = 10^{(\text{[illegible]})}$, $\alpha = 0.00402 - 9 \times 10^{-6} T$; II $D_0 = 10^{(\text{[illegible]})}$, $\alpha = 0.0250 - 0.26 \times 10^{-4} T$; III $D_0 = 10^{(\text{[illegible]})}$, $\alpha = 0.02184 + 6.44 \times 10^{-5} T$ with the mean deviation approx. 0.3%. E. Erdos

Country : Czechoslovakia
Category : Physical Chemistry--Solutions. Theory of acids and bases.
Pub. Jour : Collect Czech Chem Commun, Vol 33, 1968, [illegible]
Author : Nyvlt, J.; Sohnel, O.
Institut. : Not given
Title : Approximate Methods for the Determination of the Coefficient of Diffusion of Electrolytes in Water
Orig Pub. : Chem Prumysl, [illegible]

Abstract : [illegible] more reliable literature data on the diffusion coefficients of the binary mixtures investigated the suitability of a number of correlation equations for the approximate calculation of their solutions of nonelectrolytes of different degrees of polarization and containing components of different molecular weights. For the calculation of D in dilute solutions, the authors recommend the utilization of the nomograms and equation developed by Wilke (C. R. Wilke and Pin Chang, Am Inst Chem Engr J, 1, 264 (1955)). For the calculation of D in more concentrated solutions, the authors propose formu-

Card: 1/2

Country : Czechoslovakia
Category : Phys. Chem. - Solutions. Theory of Acids and Bases.
Abs. Jour : RZhKhim., No 13, 1959 [illegible]

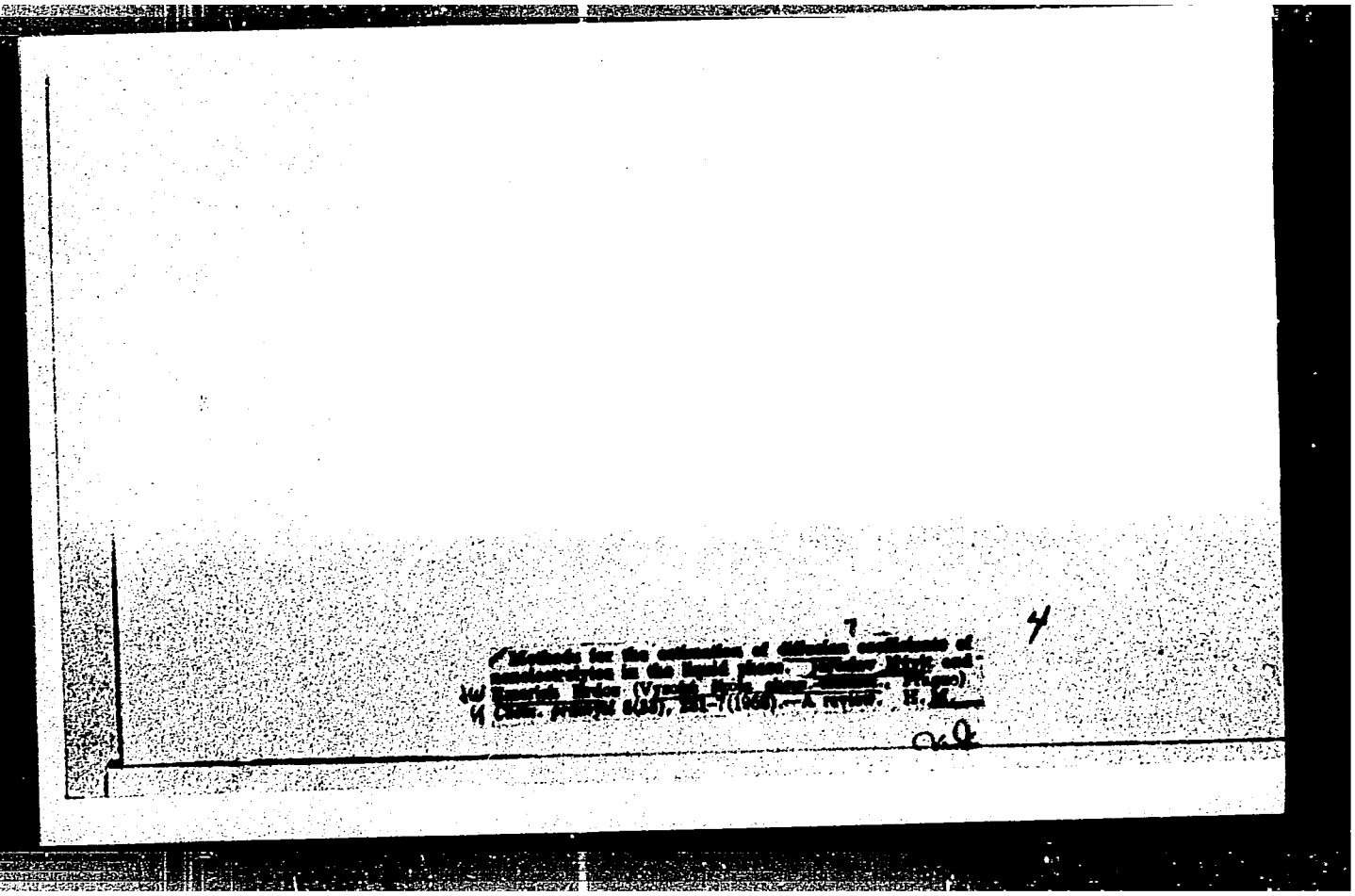
Author :
Institut. :
Title :

Orig Pub. :

Abstract : las which they have derived and which assure an accuracy of 5-10%.

N. Khomutov

Card: 2/2



NYVLT, J.

TECHNOLOGY

PERIODICAL: CHEMICKY PRUMYSL, VOL. 8ll, no. 3, 1958

Nyvlt, J. Nomograms with a decomposed scale.
p. 528

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 5, May 1959, Unclass.

NYVLT, J.

Ohmmeters, apparatus for shooters.

P. 23. (STAVIVO) (Praha, Czechoslovakia) Vol. 36, No. 1, Jan. 1958

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 7, 1958

NÝVLT, Jaroslav

Some physicochemical properties of 3,4-dimethylphenol. II. Diffusion and solubility in water. Jaroslav Nývlt and Emerich Erdos (Vysoká škola chem.-technol., Prague). *Chem. listy* 52, 375-81(1958); cf. *C.A.* 49, 14668f.—The temp. and concn. dependencies of the diffusion coeff. of 3,4-dimethylphenol were detd. in the ranges 20-50° and 0-5 g./l. and the mutual soly. of 3,4-dimethylphenol and water between 20 and 60°. E. Erdős

Distr: 4E2c(j)/4E3d

CZECHOSLOVAKIA/Physical Chemistry - Molecule. Chemical Bond. B

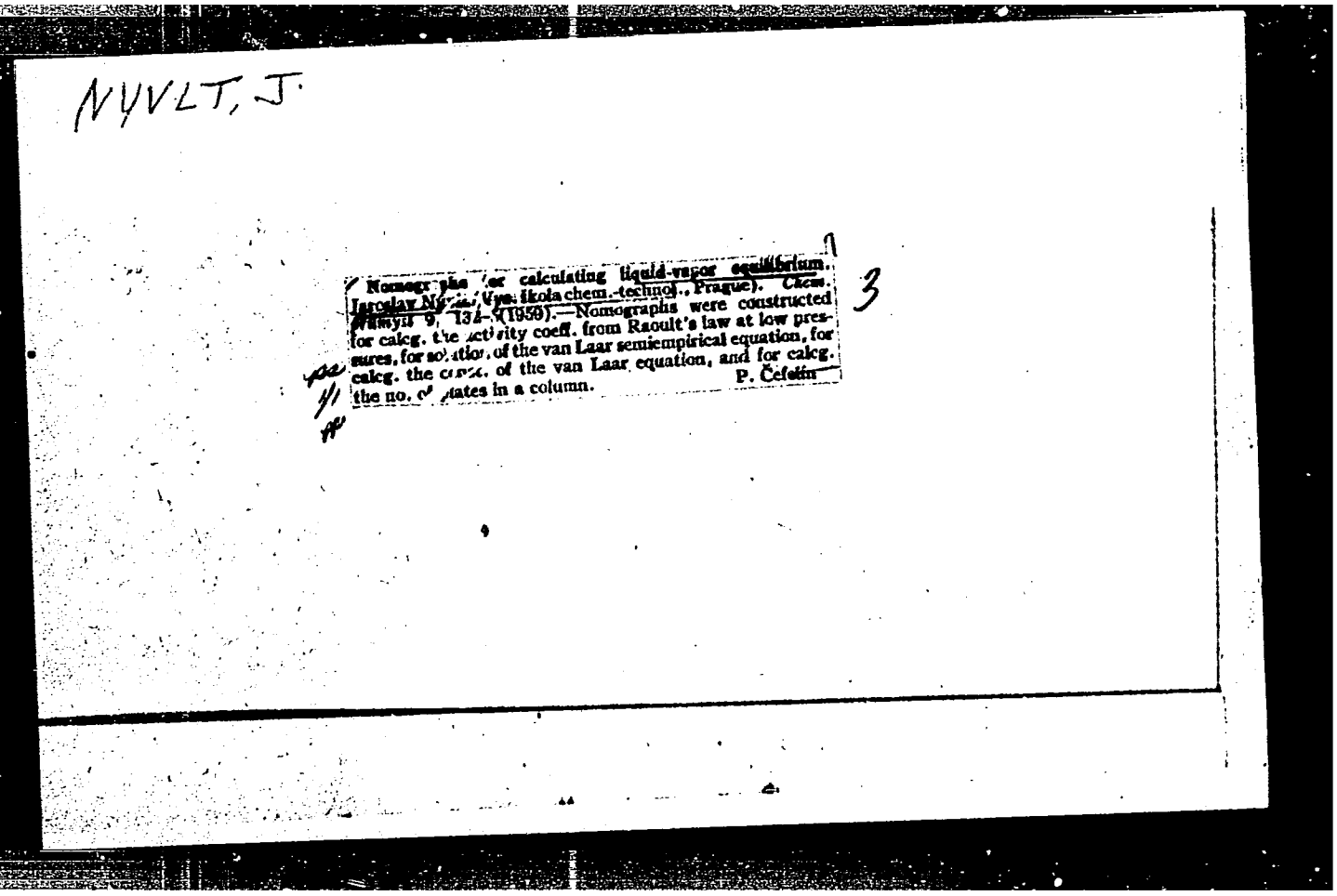
Abs Jour : Ref Zhur Khimiya, No 19, 1959, 67092

Author : Nyvlt, Jaroslav
Inst : -
Title : Nomogram for Calculating Molar Refractions.

Orig Pub : Chem. prumysl, 1959, 9, No 1, 25-26

Abstract : A nomogram was constructed which permitted rapid calculation of molar fractions by the Lorenz-Lorentz [?] formula. -- From author's summary.

Card 1/1



NYVLT, J.

Nomogr. for calculating liquid-vapor equilibrium. Jaroslav Nyvlt, Vys. skola chem.-technol., Prague). Chem. Průmysl 9, 134–5 (1959).—Nomographs were constructed for calcg. the activity coeff. from Raoult's law at low pressures, for solution of the van Laar semiempirical equation, for calcg. the const. of the van Laar equation, and for calcg. the no. of plates in a column. P. Čefelín

3

NYVLT, J.

Modification of the correlation coefficient method. p. 468.

CHEMICKY PRUMYSL. (ministerstvo chemickeho prumyslu) Praha, Czechoslovakia, vol. 9, no. 9, Sept. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 11, Nov. 1959 Uncl.

B-11

COUNTRY : Czechoslovakia
CATEGORY : Physical Chemistry - Solutions. Theory of Acids and Bases.
ABS. JOUR. : RZKhim., No. 24 1957, No. 79433

AUTHOR : Nyvlt, J.; Ernst, K.
INST. :
TITLE : Certain Physico-Chemical Properties of 3,4-Dimethylphenol. II. Solubility and Diffusivity in Water.
ORIG. PUB. : Collect. Czechosl. Chem. Commun., 21[illegible], No. 5, 908-915
ABSTRACT : [illegible] Khim., 1956, No. 4, 1114.

CARD:

NYVLT, Jaroslav

Z/008/60/000/02/014/015
E034/E416

AUTHORS: Jaroslav Nývlt and Karel Šolc

TITLE: Theory of Non-Electrolyte Solutions. \ Low Molecular Solutions

PERIODICAL: Chemické listy, 1960, Nr 2, pp 171-216

ABSTRACT: This long review is arranged as follows: Introduction (p 171) (Ref 335,7,336,92,153,229,230, 236,275,74,102,60,96,336,148,110,275,245,346,82,58,18,97, 74,75,154,220,109,277,207,118,120,148,60,158,334,254,95, 124,125,26,336,237,85,329,304,344,151,117,270). 1. Intermolecular forces (p 173): The structure and properties of solutions are a result of intermolecular forces in liquids which depend on the form and intensity of strong particle fields. The fields are formed either by strong attraction or strong repulsion. Both are dealt with. Forces of attraction: (Ref 336,209,210,95, 154,174) - Orientation effect: Eq (1.1) and Ref 166 to 168. Induction effect: Eq (1.2) and Ref 63,64,80. Dispersion effect: Eq (1.3) and Ref 209 to 213,192,154, 219. Forces of repulsion: Eq (1.4) and (1.5) and

Card 1/11

Z/008/60/000/02/014/015
E034/416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

Ref 336,44,131,328,140,243,145,212,142,54,240,241,307, 355. Complete potential functions: Eq (1.6) to (1.26) and Ref 154,278,200 to 203,188,324,341,336,111,170,297, 154,18,127,47,340,9,10,114,242,217,352,156,327,246. Fig 1: Rigid sphere model. Fig 2: Point centre repulsion model; Fig 3: Right-angle potential. Fig 4: Sutherland potential. Fig 5: Lennard-Jones potential. Fig 6: Original Buckingham potential. Fig 7: Corrected Buckingham potential.
2. Thermodynamic description of solutions (p 178): Eq (2.1) to (2.17) and Ref 248,277,95,148,95,73,124.
2.1 Ideal solutions (p 180): Eq (2.18) to (2.28) and Ref 206,207,254,287,358,157,205,70,119,122.
2.2 Non-ideal solutions: Eq (2.29) to (2.47) and Ref 204,158,73,124 to 126,288 to 290,336,95,318,206, 315,319,133,148,267,50,221,195,197,118,228,225,364,119, 121,123,365. Fig 8: Graphic determination of partial molar volumes of dimensions $\overline{AC} = \overline{X}_2$, $\overline{BD} = \overline{X}_1$.

Card 2/11 Fig 9: Concentration dependence of additive function

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

for benzene-cyclohexane mixtures. Fig 10: Concentration dependence of additive function for benzene-methanol mixtures. Fig 11: Concentration dependence of additive function for chloroform-ethanol-mixtures.
3. Thermodynamic theory of solutions.
3.1 Dolezalek chemical theory (p 183): Eq (3.1) to (3.4) and Ref 65,247,148,66,148,357,336,137,148,81,343.
3.2 Physical theory (p 184): Eq (3.5) to (3.14) and Ref 350,85,95,336,351,28,29,146,194 to 198,33,148,199,148.
3.3 Theory of regular solutions (p 185): Eq (3.15) to (3.42) and Ref 138,139,141,143,145,148,149,322,346,316, 317,68,315,319,32,367,5,6,330,331,258,321,95,2,360, 33,148,69,326,366.
4. Structure and statistical description of liquids (p 188): Ref 335,336,190,336,103,67,190,95,61,62,169, 239,368,145,27. Fig 12: Typical curves for X-ray scattering. (a) gaseous state of aggregation; (b) liquid state of aggregation; (c) crystalline substances. Statistical description of set of particles - partition function (p 189). Eq (4.1) to (4.23) and

Card 3/11

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

Ref 275,37,336,260,93,110,346,336,84,48.
5. Theorem of corresponding states (p 191).
Eq (5.1) to (5.6) and Ref 261,262,148,263,293,362,158,298.
6. Theory of conformal solutions (p 192): Eq (6.1) to
(6.12) and Ref 214,46,56,336,275,45,295,216,215,12.
7. Lattice theory of solutions (p 193). Ref 148.
7.1 Theory of one dimensional solutions: Ref 89,132,
173,171,281,282,347,116,160,187,337.
7.2 Rigorously regular solutions: Eq (7.1) to (7.5) and
Ref 336,71,346,110,148,106,120,104,106,110,320. (a) Null
approximation: Eq (7.6) to (7.12) and Ref 107,110,104,
107,129,198,267. (b) Quasichemical manipulation (first
approximation) and Bethe's method (Ref 110): Eq (7.13)
to (7.21) and Ref 250,110,104,303,30,105,257,325.
(c) Higher approximations and Kirkwood's method of
moments: Eq (7.22) to (7.26) and Ref 110,112,113,180,
306,31,52,180,353,14,134,135,136,159,171,172,191,193,
256,356,57,115,108,162 to 164. (d) Effect of molecular
orientation: Ref 345,252,13,15,16,21,22,336.
7.3 Cellular theory (p 197): Eq (7.28) to (7.54) and

Card 4/11

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

Ref 291,89,1(1,201,325,18,51,275,77,78,202,17,19,59, 98,101,130,275,292,341,200,181,275,294,363,150,154, 278,359,203,34,299,226,227,279,283,285,295,145,218,148, 86 to 88,72,265,18,280,181,34,53,79,90,91,155,175,176, 235,255,259,299,339,354,36,55,99,20,4,173,276,338,266, 272,279,283,296,308,309,311 to 313. Fig 13: Scheme for derivation of potential energy in a cellular model. Fig 14: Scheme of cell for rigid sphere m(1.
8. Average potential model (p 202): Ref 74. Conde approximation: Eq (8.1) to (8.17) and ef 275. Refined version: Eq (8.18) to (8.22) and Ref 275,272 to 274,322,189,223,224,253,269,24.
9. Molecular distribution function method (p 205): Eq (9.1) to (9.18) and Ref 244,38 to 41,98,100,151,152, 154,165,174,177,179,182 to 186,208,233,234,237,238,275, 301,302,305,314,332,185,35,314,48,310,1,161.
10. Globular molecules (p 207): Eq (10.1) to (10.3) and Ref 275,262,298,300,8,295,128,296,342,11,348,349,264, 349. Conclusion (p 208): The review is said to be an attempt to give a critical survey of the most important

Card 5/11

z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

theories of solutions of low molecular non-polar non-electrolytes. The approach is historical dealing with the simplest theories first and finally with markedly complicated ones developed in the last few years. The review shows that the situation is unsatisfactory at present: this results from the complexity of the models of liquid solutions. Where the theory has been worked out, only the simplest molecules conform to theory (Ar, Ne, N_2, CO etc and in certain cases C_6H_6, cyclohexane, CCl_4 etc) - the more complicated systems are still interpreted on essentially a semi-empirical basis. In the mutual comparison of individual theories it is necessary to remember that the simplest theories, despite their semi-empirical character and insufficient molecular explanation of parameters have, on the whole, the greatest practical significance and, precisely because of their simplicity, are partially utilized in the correlation of experimental data and in the description of solution behaviour (except P-V-T relationships). On the other hand newer,

Card 6/11

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

more exact theories give a complete description of a system, including volume behaviour, with disproportionately better results. However, because of its complexity and mathematical difficulty it has been, so far, only occasionally used in practice. At the present time, it has more of a theoretical significance because it results in detailed relationships between macroscopic and molecular properties and not only allows description but explanation of the behaviour of solutions. Symbols used: a van der Waal's constant calculated for 1 mol; a' constant; A coefficient; b van der Waal's constant calculated for 1 mol; b constant; b distance from centre of molecule to centre of cell; b' constant; c molarity; c,c' constants; c_{rr} density of cohesive energy; d average distance from centre of two molecules; d geometrical parameter for globular molecule; e Euler number; E molar internal energy; f fugacity; f energy parameter of theory of conformal solutions; F molar free energy; g dimensional parameter in theory of conformal solutions; g_k statistical weight;

Card 7/11

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

$g(\underline{r})$ radial distribution function; G molar free enthalpy; G_{rs} integral; $\underline{h}$ Planck constant; H molar enthalpy; i designation of molecules; I intensity of light rays; j designation of molecules; j constant for Lennard-Jones potential; $\underline{k}$ Boltzmann constant; k constant for Lennard-Jones potential; K_H Henry constant; K_r equilibrium constant of solvation; L length; m number of peripheral atoms of globular molecule; n number of moles; n exponent in repulsing term; $\underline{N}$ Avogadro number; N number of molecules; p thermodynamic probability; p_r vapour tension of r-th component above solution; p_r^o vapour tension of pure r-th component at same temperature; P pressure; P_{int} internal pressure; $p^{(h)}(\underline{r}_1,\ldots,\underline{r}_N)$ specific distribution function; q_r effect molar volume; q_r partition function of molecular type r; Q molar partition function; r component designation; r distance; r^* length coordinate of minima of Lennard-Jones potential; $\underline{r}$ space coordinate; $\underline{R}$ gas constant;

Card 8/11

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

$R^{(h)}(\underline{r}_1,\ldots,\underline{r}_N)$ generic distribution function; s component designation; S molar entropy; T absolute temperature; u molecular potential energy; u^M energy coordinate of minima of Lennard-Jones potential; $\underline{u}(r)$ potential function; $\overline{u}(b)$ $z\overline{u}(b)$ = average potential energy of particle at distance b from the cell centre; U molar potential energy; v molecular volume (= V/N); v_f free volume; V molar volume; x space rectangular coordinate; x_r molar fraction of r-th component; X extensive dimension; X^+ apparent molar properties; X zX = number unhomogeneous pairs in lattice; y rectangular space coordinate; z rectangular space coordinate; z coordination number of lattice; z_r effective volume fraction; α polarizibility; α thermal expansibility; β parameter; β isothermal compressibility; γ geometric lattice factor; γ_r activity coefficient; Γ parameter; δ_r solubility parameter; ϵ energy parameter;

Card 9/11 ϵ Bethe parameter; ϑ angle; Θ energy parameter;

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

Θ polar coordinate; λ wave length; λ_r absolute activity; μ dipole moment; μ_r chemical potential; ν_o basic frequency; Ξ large partition function; Π osmotic pressure; ϱ molecular dimensional parameter; $\varrho^{(h)}(\underline{r}_1,\ldots,\underline{r}_h)$ generic distribution function in large canonical set; σ average spherical molecular; φ_r volume fraction of r-th component; Φ universal reducer of partition functions; χ lattice potential energy allocated to one particle; Ψ universal potential function in the theorem of corresponding states; ω exchange energy; ∇ operator; X without index dimension concerned with solution; X_r concerned with pure r-th component; X_{ij} concerned with molecular pair i-j; X_o concerned with reference substances; $\overline{X}_r$ partial molar dimension; $\overline{X}$ eccentricity value; $\tilde{X}$ reductor parameter; $\langle X \rangle$ average interaction parameters or reduced dimensional in solution; X^M mixed function; X^E additive function;
Card 10/11 X^o in standard state; X^V evaporation value;

Z/008/60/000/02/014/015
E034/E416

Theory of Non-Electrolyte Solutions. Low Molecular Solutions

X_k summation index; X_x critical size; X_{konf} configuration dimension; X_1 concerned with liquids.
There are 14 figures and 368 references, 4 of which are Czech, 12 Soviet, 58 German, 6 French, 8 Japanese, 2 Swiss, 2 Swedish, 6 Belgian, 1 Dutch and 269 English.

ASSOCIATION: Katedra fysikální chemie VŠCHT a Ústav makromolekulární chemie ČSAV, Praha (Chair of Physical Chemistry, Faculty of Chemical Technology and Institute for Macromolecular Chemistry, Czechoslovak Academy of Sciences, Prague)

SUBMITTED: July 9, 1959

Card 11/11

NÝVLT, J.

Z/009/60/000/009/002/005
E112/E453

AUTHOR: Jaroslav Nývlt

TITLE: Prediction of Properties of Multicomponent Systems From Binary Data

PERIODICAL: Chemický průmysl, 1960, No.9, pp.463-465

TEXT: The author has submitted in a previous paper (this journal, 1959, 9, 579) a method for the prediction of properties of ternary systems from binary data. The present paper is an extension of his studies to the prediction of properties of multicomponent systems, particularly to that of quaternaries. The following expressions were used to solve the properties of ternary systems from binary data:

$$f_S = f_{23} + \frac{x_1}{x_1 + x_2} (f_{13} - f_{23}) + x_1 (f_{12} - f_{oi}) + x_2 (f_{12} - f_{o2})$$

in which the symbols denote:

f_{oi} property of pure i-th component

f_{12} property for a binary mixture of component 1 and 2 of composition $z_1 \frac{x_1}{x_1 + x_2}$

Card 1/4

Z/009/60/000/009/002/005
E112/E453

Prediction of Properties of Multicomponent Systems from Binary Data

f_{13} for a mixture of 1 and 3 where $z_1 = (1 - x_3)$

f_{23} for mixture of 2 and 3 where $z_2 = (1 - x_3)$

x_i molar, weight or volume proportion of component in ternary

z_i proportions in binary system.

The above expressions were now modified for a quaternary system which can be visualized as a tetrahedron, at the apexes of which are located the pure components, the edges corresponding to the binaries and the surface planes representing the ternaries. The procedure to apply the previous data for the solution of the tetrahedral shape was as follows. Three cross-sections are taken through the tetrahedron: Section 1 is taken through apexes 4, 3 and point S, where the properties of the system have to be evaluated. Section 2 is taken through apex 4 and point S and is parallel to the axis 1-2 of the binary. Finally, Section 3, also taken through S, is parallel to the plane of the ternary 1-2-3. The value for S can then be found from the above given

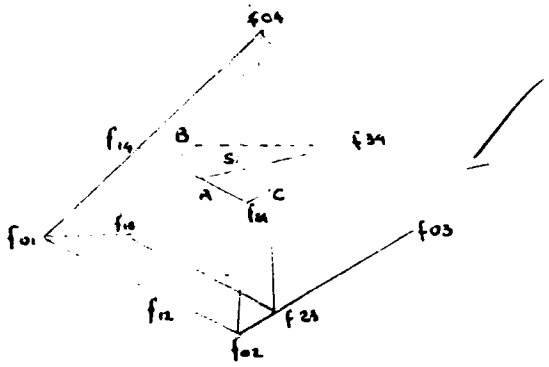
Card 2/4

Z/009/60/000/009/002/005
E112/E453

Prediction of Properties of Multicomponent Systems from Binary Data

equations from the triangle $f_{14} - f_{24} - f_{34}$. The necessary values at A, B and C are determined by an analogous procedure from the triangles 1-2-4, 1-3-4 and 2-3-4.

The author submits practical applications of his method to predict the properties of a quaternary system for which he has chosen an alloy from bismuth, cadmium, lead and tin. The densities and melting points respectively were predicted. In the case of density prediction, a good agreement with theory was achieved. A considerable deviation resulted, however, in the melting point derivation where



Card 3/4

Z/009/60/000/009/002/005
E112/E453

Prediction of Properties of Multicomponent Systems from Binary Data

according to theory m.p. 115°C was expected and the experimentally determined m.p. gave only 65.5°C. It is explained by the fact that densities are additive properties whereas in the case of melting point deviations from theory are to be expected because of the components forming eutectic mixtures. There are 1 figure, 1 table and 3 references: 1 Czech, 1 Soviet and 1 German.

ASSOCIATION: Výzkumný ústav anorganické chemie, Ústí n. L.
(Research Institute of Inorganic Chemistry, Ústí nad Labem)

SUBMITTED: February 26, 1959

Card 4/4

NYVLT, JAROSLAV

Estimation of properties of multicomponent systems from binary data. Jaroslav Nývlt. (Výzkumný ústav anorg. chemie, Ústí nad Labem, Czech.). *Chem. průmysl* 10, 463–5(1960); cf. *CA* 54, 2916f.—In the previous paper relations for estg. properties of ternary systems from known binary data were derived and verified. The method was applied to quaternary systems in a way similar to that used by Gromakov (*CA* 51, 13548h) who obtained equations inconvenient for development to systems with more compds. Equations are derived for calcn. of quaternary data. The method was examd. for estn. of the d. and the m.p. of the alloy Bi 50, Cd 11, Pb 25, and Sn 14%. The calcd. d. was 9.666, exptl., 9.685; the calcd. m.p. is 115°, exptl. 65.5°, a deviation of 17% related to the av. m.p. of the pure components.

P. Cerella

NYVLT, J.; ERDOS, E.

P-V-T relations in solutions of liquid nonelectrolytes. I.Compressibility. Coll Cz chem 26 no.2:485-499 F '61. (EEAI 10:9)

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(Compressibility) (Solutions)

NYVLT, J.; ERDOS, E.

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(Expansion of liquids) (Solutions)

NYVLT, J.

Diffusion in non-electrolyte solutions. Coll Cz Chem 26 no.9:2103-2109 '61.

1. Research Institute of Inorganic Chemistry, Usti nad Labem.

(Diffusion)

NYVLT, Jaroslav; VACLAVU, Vladimir

Determining the parameters for ammonium sulfate crystallization. Chem prum 12 no.2:63-66 F '62.

1. Vyzkumny ustav anorganicke chemie, Usti nad Labem.

MYVLT, Jaroslav

Effect of additions upon ammonium sulfate crystallization. Chem prum 12 no.4:170-174 Ap '62.

1. Vyzkumny ustav anorganicke chemie, Ustinad Labem.

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Sedimentation in suspensions. Chem prum 12 no.8:440-443 Ag '62.

1. Vyzkumny ustav anorganicke chemie, Usti nad Labem.

NYVLT, Jaroslav

Indirect measurement of crystallization kinetics. Chem prum 12 no.11: 606-608 N '62.

1. Vyzkumny ustav anorganicke chemie, Usti nad Labem.

NYVLT, J.; ERDOS, E.

P-V-T-relations in solutions of liquid nonelectrolytes. Part 3: mixture volumes and molecular refraction. Coll Cz Chem 27 no.5:1229-1241 My '62.

1. Forschungsinstitut fur anorganische Chemie, Usti nad Labem und Institut fur physikalische Chemie, Tschechoslowakische Akademie der Wissenschaften, Prag.

NYVLT, Ya. [Nyvlt, J.]; MICHEK, F. [Micek, F.]; GAAS, K. [Haas, K.]

Freezing out of calcium nitrate obtained in the decomposition of apatite by nitric acid. Zhur.prikl.khim. 35 no.7:1424-1434 Jl '62. (MIRA 15:8)

1. Issledovatel'skiy institut neorganicheskoy khimii, Usti nad Labem, Chekhoslovakiya.
(Calcium nitrate) (Apatite)

CZECHOSLOVAKIA

NYVLT, J.

Research Institute of Anorganic Chemistry (Forschungs-institut für anorganische Chemie), Usti nad Labem

Prague, Collection of Czechoslovak Chemical Communications, No 9, 1963, pp 2269-2279

"On Crystallization. IV. On Growing Crystals in Solution."

NYVLT, Jaroslav

Modification of the correlation coefficient method. Chem prum 13 no.1:26-27 Ja '63.

1. Vyzkumny ustav anorganicke chemie, Usti nad Labem.