KOTORLENKO, L. A.

"Viscosity and Electrical Conductivity of Non-aqueous Solutions of Electrolytes", a paper presented at the second conference on the Liquid State of Matter, Kiev, 30 May to 3 June 1955, Usp. Fiz. Nauk, 1955

KOTORLENKO, L.A.

Viscosity and the molecular structure of nonaqueous electrolytic solutions. Nauk povid. KDU no.1:49 '56. (MIRA 11:4)
(Electrolytes)

KOTORLENKO, L.A.

SHEKA, Z.A.; KOTORLENKO, L.A.

Stability of zinc cathodic deposits in electrolytes. Ukr. khim. zhur. 22 no.5:691-696 '56. (MLRA 10:6)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk USSR.
(Zinc) (Electrolytes)

KOTORLENKO, L.A.; GOLIK, A.Z.; KOVNERISTAYA, A.S.

Viscosity and electric conductivity of lithium chloride solutions in alcohols. Ukr.khim.zhur. 24 no.5:618-625 '58. (MIRA 12:1)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G. Shevchenko.
(Lithium chloride) (Solution (Chemistry))

SHEKA, Z.A.; KHEYFETS, I.M.; KOTORLENKO, L.A.

Treatment of cobalt xanthogenate cakes. Ukr. khim. zhur. 26 no.6: 776-780 '60. (MIRA 14:1)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Cobalt compounds) (Xanthic acid)

KOTORLENKO, L. A.

Viscosity and density of solutions of carboxylic acids. Ukr. khim. zhur. 28 no.3:333-337 '62. (MIRA 15:10)

1. Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko.

(Acids, Organic)

KOTORLENKO, L.A.; GARDENINA, A.P.; OLEYNIK, V.G.

Oxidative degradation of polyamides. Part 1: Thermal and radiation-induced oxidation of polycaprolactam studied by infrared spectroscopy. Ukr. khim. zhur. 30 no.4:370-376 '64. (MIRA 17:6)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR.

BRODSKIY, A.I.; FOMENKO, A.S.; ABRAMOVA, T.M.; DAR'YEVA, E.P.; GALINA, A.A.; FURMAN, Ye.G.; KOTORLENKO, L.A.; GARDENINA, A.P.

Radiation oxidation of poly-ε-caprolactam. Vysokom.soed. 7 no.1:116-122 Ja '65. (MIRA 18:5)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR i Kiyevskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna.

L 51867-65 EWG(j)/EWT(m)/EPF(c)/EPR(n)-2/EWP(j)/T/EWA(h)/EWA(c)/EWA(l) Pc-4/
Pr-4/Pab/Pu-4 RPL GG/GS/RM S/0000/64/000/000/0103/0109 47
ACCESSION NR: AT5002665 43

AUTHOR: Fomenko, A. S.; Kotorlenko, L. A.; Abramova, T. M.; Der'yeva, Ye. F.; 64
Galina, A. A.; Furman, Ye. G. 15

TITLE: Participation of free radicals in the radiative oxidation of polycapro-
lactam 19

SOURCE: AN UkrSSR, Institut khimii vysokomolekulyarnykh soyedineniy. Sintez i
fiziko-khimiya polimerov; sbornik statey po rezul'tatam nauchno-issledovatel'-
skikh rabot (Synthesis and physical chemistry of polymers; collection of articles
on the results of scientific research work). Kiev, Naukova dumka, 1964, 103-109

TOPIC TAGS: polycaprolactam oxidation, gamma irradiated polymer, radiative oxida-
tion, free radical, antioxidant, EPR spectrum, polymer film, hydroperoxide libera-
tion

ABSTRACT: Variations in the electron paramagnetic resonance spectra from irradia-
ted (Co^{60}, 30C, vacuum, $2 \cdot 10^4$ to $200 \cdot 10^4$ joule/kg) polycaprolactam films (from
acetate solutions, $10-12 \cdot 10^{-6}$ m) in relation to temperature, radiation dose and
atmospheric oxygen were analyzed in a study covering the behavior of free radi-
cals, their participation in the radiative oxidation of a polymer and the inhibi-

Card 1/2

[illegible] radiative oxidation. The
authors express gratitude to academician A. I. Brodskiy (AN UkrSSR) for his as-
sistance and participation in evaluating the results." Orig. art. has: 6
figures and 1 table.

ASSOCIATION: Fiziko-khimicheskogo khimii im. L. V. Pisarzhevskogo AN UkrSSR (In-
stitute of Physical Chemistry, AN UkrSSR); Kiyevskiy filial Vsesoyuznogo nauchno-
issledovatel'skogo instituta iskusstvennogo volokna (Kiev Branch, All-Union
Scientific Research Institute of Synthetic Fibers)

SUBMITTED: 22Jun64 ENCL: 00 SUB CODE: MT, OP

NO REF SOV: 002 OTHER: 003

Card 2/2

KOTOROWICZ, Halina (Warszawa, ul Litewska 16)

Tumor of the groin in a child. Pediat. polska 32 no.3:287-288 Mar 57.

1. Z Kliniki Chirurgii Dziecicej A. M. w Warszawie. Kierownik: prof. dr Med. J. Kassakowski.

(ABDOMINAL WALL, neoplasms
groin, in child (Pol))

KOTOROWICZ, Halina; MODRZEJEWSKA-KIDAWA, Barbara

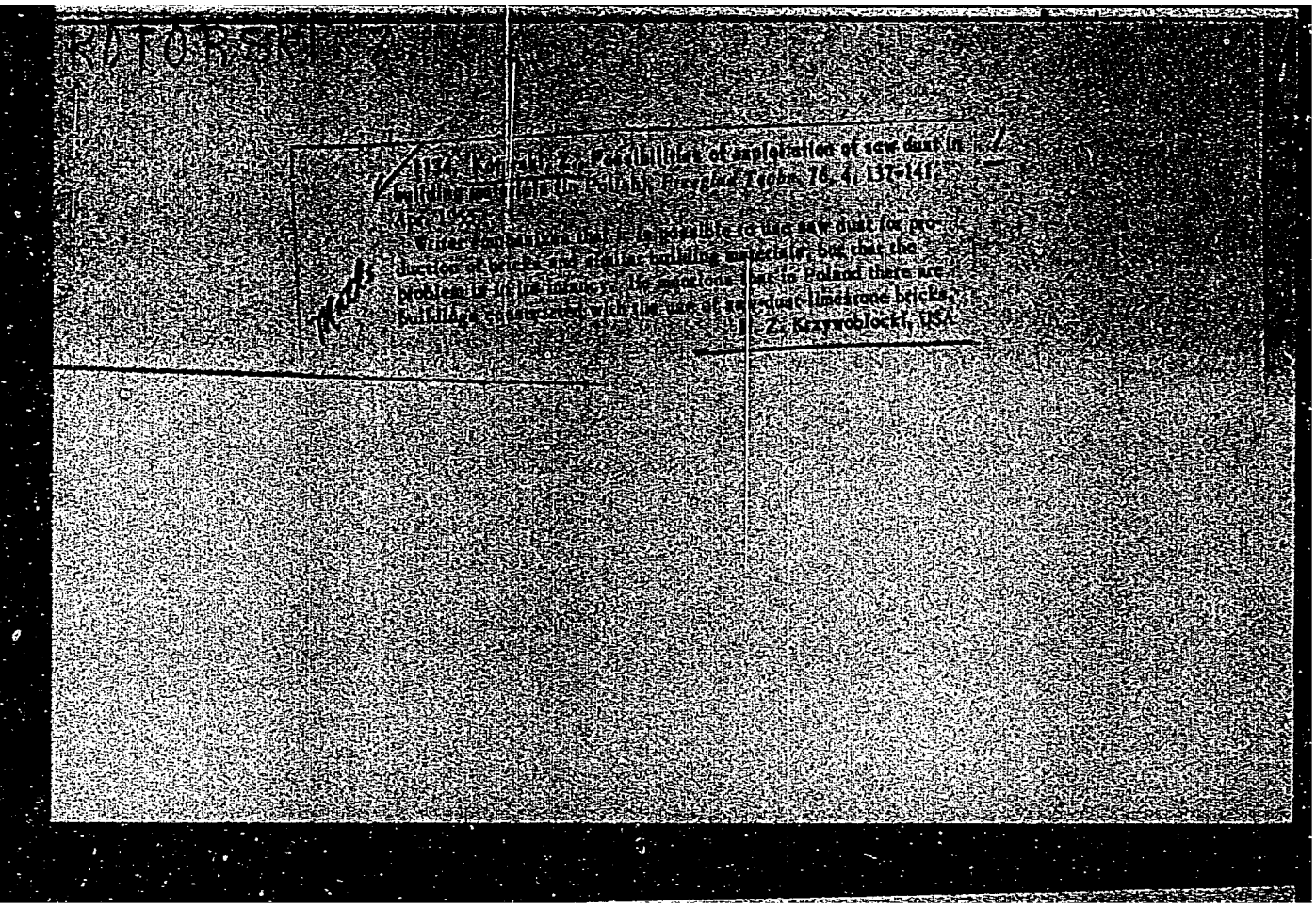
Attempted drainage of the hepatitic parenchyma in complete obstruction of the extrahepatic bile ducts. Pediat. pol. 36 no.6:654-658 '61.

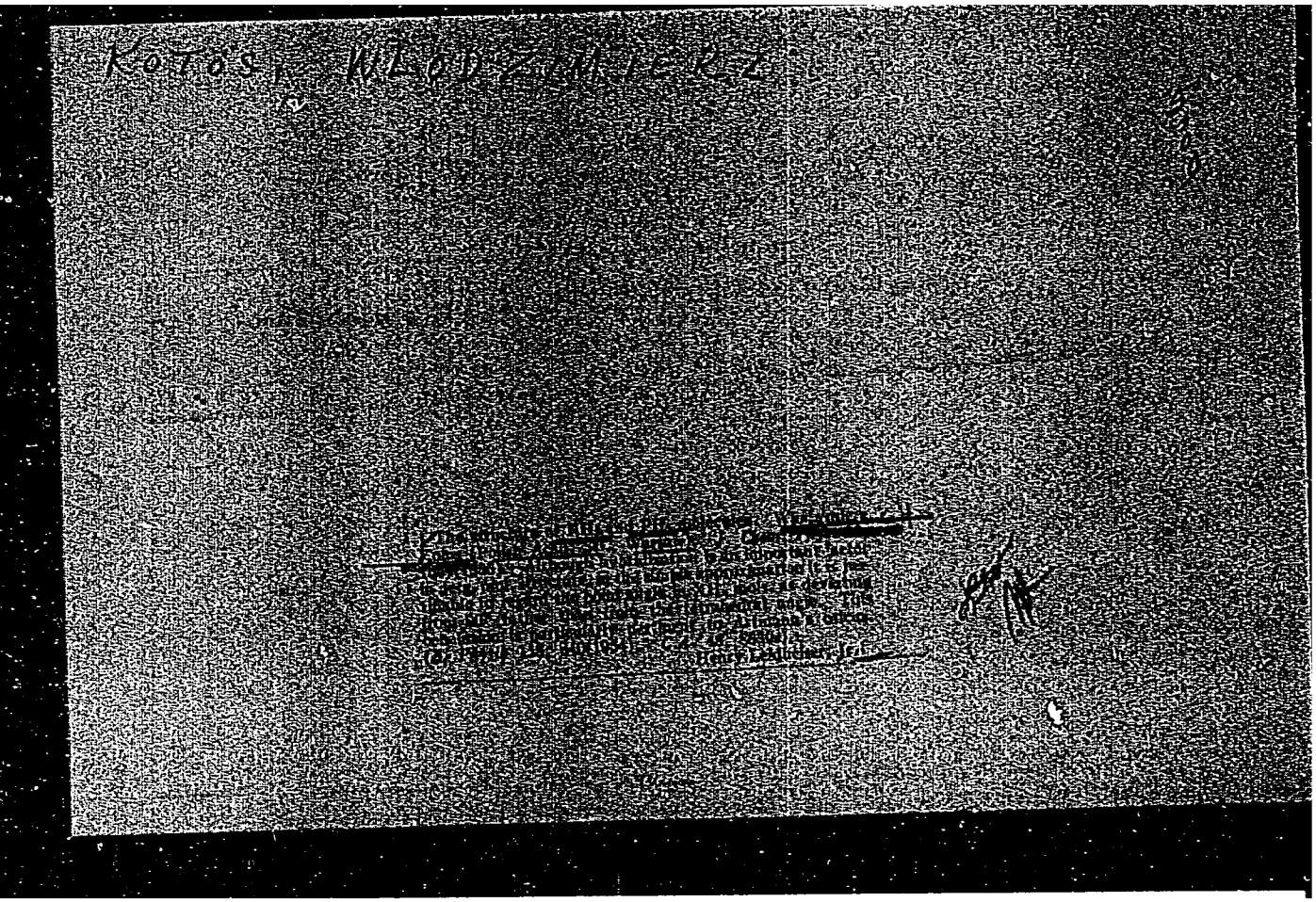
1. Z Kliniki Chirurgii Dziecicej AM w Warszawie Kierownik: prof. dr med. J.Kossakowski.
(BILE DUCTS abnorm)

MODRZEJEWSKA-KIDAWA, Barbara; KOTOROWICZ, Halina

Congenital obstruction of the bile ducts in children. Pol. przegl. chir. 35 no.7/8:837-841 '63.

1. Z Kliniki Chirurgii Dziecięcej AM w Warszawie Kierownik: prof. dr J. Kossakowski.
(BILE DUCTS) (ABNORMALITIES)
(SURGERY, OPERATIVE)





RODIONOVA, K.F.; KIRIYENKOVA, N.V.; MAKAROCHKINA, K.M.; KOTOSHEVA, Z.S.

Characteristics of the organic matter in the Devonian producing formation penetrated by the 44 well in the Shkapovo field; geochemical studies of mute formations. Trudy VNII no.20:125-161 '59.
(MIRA 12:10)
(Shkapovo region (Bashkiria)--Organic matter))

RODIONOVA, K.F.; STAROVOYTOVA, A.F.; KIRIYENKOVA, N.V.; MAKAROCHKINA, K.M.;
Prinimali uchastiye: KOTOSHEVA, Z.S.; MOCHALOVA, Ye.M.

Characteristics of the organic substance in Jivet sediments of the Pavlovskaya, Tashliyar, and Aktash areas in the Romashkino field. Trudy VNII no.23:161-204 '60. (MIRA 13:11)
(Romashkino region--Sediments (Geology))
(Organic matter)

AUTHOR: Kotosonov, A. SOV/107-59-1-48/51

TITLE: New Reference Books for Radio Amateurs
(Novyye spravochniki dlya radiolyubiteley)

PERIODICAL: Radio, 1959, Nr 1, p 63 (USSR)

ABSTRACT: Two books are listed with reviews of each.

Card 1/1

S/141/61/004/002/015/017
E140/E135

9,7100 (1024)

AUTHOR: Kotosonov, A.S.

TITLE: Cold cathode thyratron logical circuits

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1961, Vol.4, No.2, pp. 366-374

TEXT: The article constitutes an investigation of the use of the cold cathode glow discharge tetrode ТХ 45 (TKh4B), a tube with parameters practically independent of temperature from -70 to +90 °C. Previous Soviet work in this subject was based on the МТХ-90 (MTKh-90) three electrode tube. The latter has a high parameter scatter - according to the present author up to 100% and above - whereas the TKh4B has a scatter of only 5%. The author singles out two papers on the same subject, by J.E. Flood and J.B. Warman (Ref.5: Electronic Engineering, Vol.28, 416 (1956); Vol.28, 489 (1956)) and R. Aronssohn (Ref.6: L'Onde Electrique, Vol.38, 724 (1958)) and claims that their circuits have the disadvantage of requiring interruption of the anode circuit current in order to extinguish the tubes, and also that a circuit for logical negation is absent. In the present paper the author

attempts to develop the highest speed circuits and to find a universal single tube element suitable for constructing the basic logical functions. After reviewing the tube characteristics, a two-tube flip-flop for use as a binary scaler is described. Stable operation up to 30-40 kcs with supply voltages 220-260 V was obtained. The same tube type could be used as a voltage stabiliser to improve performance of the flip-flop. A single tube "universal logical element" is then described. It is a cold cathode tetrode with equal RC loading in anode and cathode circuits, input to the control grid. Suitable adjustment of the time constants permits this circuit to operate as a flip-flop, alternately igniting and extinguishing with a train of identical input pulses. It is stated (in para. 5) that the single tube flip-flop can operate with positive or negative pulse fronts, so that the flip-flop should be coupled through crystal diodes. Discussing the use of these circuits as "universal logical elements", it is stated (in para. 6) that negative pulses cannot ignite the succeeding thyratron. The "universal logical element" operates by using the pulses of opposite polarity obtained from

Cold cathode thyratron logical S/141/61/004/002/015/017
E140/E135

an anode to cancel (inhibit) pulses obtained from a cathode. This permits functions of the form xy to be generated. These circuits operated stably up to about 10 kcs. Nevertheless the author recommends the use of silicon diodes for the logical AND. The article concludes with an illustration consisting of a bidirectional binary counter using the two tube flip-flops and the single tube "universal logical element". Except for the first stage, in which the sense of counting is fixed, each stage of the counter consists of one two-tube flip-flop and two single-tube "universal" circuits. The work was done on the suggestion and guidance of M.L. Tsetlin and L.M. Shekhtman.
There are 9 figures and 7 references: 5 Soviet and 2 non-Soviet. The English language reference (Ref.5) is as quoted in the text above.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: December 28, 1959, and after revision, October 28, 1960.

KOTOSONOV, A.S.

Contactless metering device of the electric conductivity of graphite materials. Konstr. uglegraf. mat. no.1:270-273 '64.
(MIRA 17:11)

L 61121-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EWP(t)/EWP(b) WW/WH

ACCESSION NR: AR5003765 S/0272/64/000/010/0098/0098

389:621.317.73

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika. Otd. vyp., Abs. 10.32.607

AUTHOR: Kotosonov, A. S.

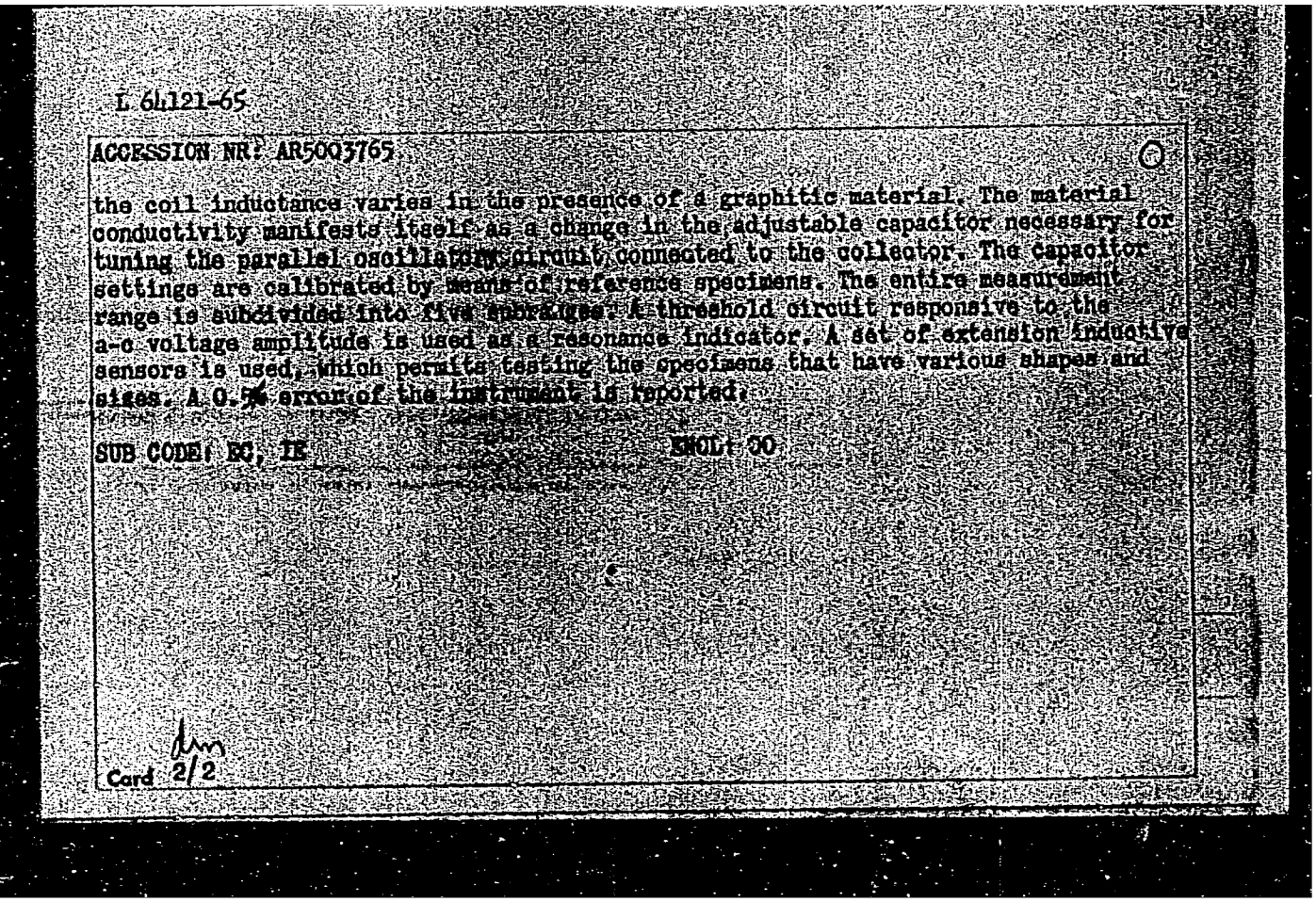
TITLE: Contactless instrument for measuring electric conductivity of graphitic materials

CITED SOURCE: Sb. Konstrukts. uglegrafit. materialy, no. 1, M., Metallurgiya, 1964, 270-273

TOPIC TAGS: graphite resistivity, graphite resistivity measuring instrument, graphite resistivity meter

TRANSLATION: This semiconductor-device instrument is intended for measuring graphitic material conductivity within 0.02-0.2 m/ohm.mm^2. The master oscillator has a Colpitts circuit with the inductive component replaced by a quartz 1-Mc resonator. The use of quartz has practically eliminated the effects of supply-voltage (flashlight battery) variations and temperature changes on the oscillator stability. The oscillator r-f voltage is applied to a voltage amplifier whose collector circuit contains an inductive sensor constructed as a lay-on coil;

Card 1/2



L 64121-65

ACCESSION NR: AR5003765

the coil inductance varies in the presence of a graphitic material. The material conductivity manifests itself as a change in the adjustable capacitor necessary for tuning the parallel oscillatory circuit connected to the collector. The capacitor settings are calibrated by means of reference specimens. The entire measurement range is subdivided into five subranges. A threshold circuit responsive to the a-c voltage amplitude is used as a resonance indicator. A set of extension inductive sensors is used, which permits testing the specimens that have various shapes and sizes. A 0.5% error of the instrument is reported.

SUB CODE: EC, IE ENCL: 00

Card 2/2

KOTOSONOV, N. V.

189T46

USSR/Electronics - Dielectrics, Measurements of Jul 51

"Application of a Wave Guide for the Measurement of Dielectric Constant of Substances," N. Kotosonov, G. Pakhomov

"Zhur Tekh Fiz" Vol XXI, No 7, pp 802-807

Authors suggest new method for measuring dielec const by observation of Bruster angle in wave guide. Method is applied to measure dielec const of liquids in cm wave band. Application of wave guide for investigation of dielectrics was first

LC 189T46

USSR/Electronics - Dielectrics, Measurements of (Contd) Jul 51

done by N. N. Malov (cf. "Zhur Eksper i Teoret Fiz" Vol XVI, No 7, 1946). Authors were assisted by Prof P. V. Golubkov and Asst Prof B. M. Zamorozkov. Submitted 24 Jul 50.

LC 189T46

KOTOSONOV, N. V.

PA 244T54

USSR/Electronics - Dielectrics, Micro- Mar 52
wave Measurements

"The Theory of Dielectric Constant Measurements in the Centimeter Band," N. V. Kotosonov, Sci-Res Inst of Mechanics and Physics, Saratov State U

"Zhur Tekh Fiz" Vol 22, No 3, pp 531-537

Discusses several methods of measuring the dielectric constant of substances at super-high frequencies with the help of a waveguide and gives simplified formula for calculating this constant. Proposes two methods for measuring the dielectric constant of thin layers of liquid and solid dielectrics. Credits Prof P. V. Golubkov for suggesting work and Docent B. M. Zamorozkov for advice and discussion of results. Submitted 20 Nov 51

244T54

244T54

S/078/62/007/004/014/016
B107/B101

AUTHORS: Ugay, Ya. A., Kotosonov, N. V., Fogel'son, R. L., Tkacheva, G. S.

TITLE: Some properties of Ca_3Sb_2 prepared by the method of S. A. Vekshinskiy

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 930 - 931

TEXT: The present paper describes the preparation of a thin film (5 - 20μ) of Ca_3Sb_2. The temperature dependence of the specific conductivity was measured (Fig. 2). The compound Ca_3Sb_2 has hitherto not been synthesized, and has only been mentioned by M. Hansen (see below). It was obtained by simultaneous evaporation of Ca and Sb in a vacuum of 10^{-5} mm Hg (method of S. A. Vekshinskiy; Novyy metod metallograficheskogo analiza splavov (A new method of metallographic analysis of alloys), Gostekhizdat, 1944). The vapor was collected by mica foils previously heated to 300°C. The resulting film transmits a narrow stripe of orange-colored light, corresponding to Ca_3Sb_2. The compound can be left in air for a long time.

Card 1/2

S/078/62/007/004/014/016
B107/B101

Some properties of Ca_3Sb_2...

The resistance was measured with electrodes deposited on the foils by the evaporation of antimony. Preliminary experiments had shown that the resistance of antimony was negligible. The resistivity of calcium antimonide at room temperature is 10^4 ohm·cm. The measurements are well reproducible. The distance between the valency band and the conduction band was calculated to be 1.4 ± 0.1 ev. Calcium antimonide is a slightly photoconductive compound. Its photoconductivity is increased by an oxide film which forms when the system is left without further evacuation. There are 2 figures and 7 references: 6 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: M. Hansen. Constitution of Binary Alloys. New York, 1958.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: February 20, 1961

Fig. 2. Specific conductivity of Ca_3Sb_2 as a function of temperature.

Card 2/3

UGAY, Ya.A.; KOTOSONOV, N.V.; FOGEL'SON, R.L.; TKACHEVA, G.S.

Properties of Ca_3Sb_2 prepared by the method of S.A.Vekshinskii. Zhur.neorg.khim. 7 no.4:930-931 Ap '62. (MIRA 15:4)

1. Voronezhskiy gosudarstvennyy universitet.
(Calcium antimonide)

L 10005-63 EWT(1)/BDS--AFFTC/ASD/ESD-3--
LJP(C)/TF
ACCESSION NR: AP3003209 S/0115/63/000/006/0041/0042

AUTHOR: Fogel'son, R. L.; Kotosonov, N. V. 58

TITLE: Apparatus for measurement of magnetic field intensity

SOURCE: Izmeritel'naya tekhnika, no. 6, 1963, 41-42

TOPIC TAGS: magnetic field intensity measurement, magnetometer

ABSTRACT: A magnetometer based on the Hall effect is described. The Hall emf on a 15 x 5 x 1 mm Ge strip with a Hall constant of 1.6 x 10 sup 4 cm sup 3/k is measured by the compensation method, with a vibration galvanometer serving as the indicator. The overall measurement range is 1000--30,000 oe. The measurement error of the device does not exceed 1%, and its sensitivity is said to be high. It works on 50-cycle ac, is portable, and can be used for measurements in relatively narrow gaps. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 22Jul63 ENCL: 00
SUB CODE: 00 NO REF SOV: 000 OTHER: 001

Card 1/1

L 39445-65 EEC(b)-2/EWA(h)/EWT(m)/EWP(b)/T/EWP(t) Pt-4/Pz-6/Pab IJP(c)
ACCESSION NR: AP5006070 UR/0139/65/000/001/0184/0185

AUTHOR: Gorlov, M. I.; Katosonov, K. V.

TITLE: Concerning the influence of chemical treatment of the surface of germanium on the inverse current drift

SOURCE: IVUZ. Fizika, no. 1, 1965, 184-185

TOPIC TAGS: germanium alloy junction, pnp junction, collector current, inverse current, current drift

ABSTRACT: The purpose of the investigation was to determine the effect of etchants containing hydrofluoric and nitric acids on the inverse drift of collector current in germanium alloyed junctions of the p-n-p type. The etchants used were 42% HF, 30% H_2O_2, 70% HNO_3, and 25% KOH. To determine the influence of the moisture on the inverse drift, half of the junctions were sealed with a getter (aluminum oxide annealed five hours at 1200C). The results show that the use of a getter reduces the time of drift of collector current, as well as the magnitude of the current itself, whereas preliminary etching of the junctions does not reduce the drift. A decrease

Card 1/2

L 39445-65

ACCESSION NR: AP5006070

in the drift was also produced by storing the samples for eight months at room temperature. It is concluded that the inverse drift is not due to moisture alone, and its causes are much more complicated. Orig. art. has: 3 figure and 1 table.

ASSOCIATION: Voronezhskiy gosuniversitet (Voronezh State University)

SUBMITTED: 20May63 ENCL: 00 SUB CODE: GS

NR REF SOV: 002 OTHER: 000

Card 2/2

KOTOTISHVILI, Eliso Vladimirovna

[Stratigraphy of Cretaceous deposits of the Shkmeri synocline]
Stratigrafiia melovykh otlozhenii shkmerskoi sinklinali.
Tbilisi, 1958. 39 p. [In Georgian] (MIRA 12:10)
(Georgia--Geology, Stratigraphic)

KOTOUC, inz.

Passenger railroad transport in the United States. Doprava no.11: 391 '60.

PLESNIK, Stefan; KOTOUCEK, Jan

Contribution to the problem of properties of some anion dye solutions. Pt.2. Sbor VSCHT Pardubice no.1:161-172 '64.

1. Chair of Textile Chemical Technology of the Higher School of Chemical Technology, Pardubice. Submitted June 17, 1963.

L 00665-67 EWP(j) RM

ACC NR: AP6027369 SOURCE CODE: CZ/0043/66/000/004/0242/0251

AUTHOR: Majer, Jaroslav--Mayer, Ya. (Docent; Pharmacist; Candidate of sciences; Bratislava); Kotoucek, Milan--Kotouchek, M. (Graduate pharmacist; Bratislava); Dvorakova, Edita--Dvorzhakova, E. (Graduate pharmacist; Bratislava)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: New complexans (V). Complexes of ethylenediamino-N,N'-dipropionic-alpha, alpha' acid, and of ethylenediamino-N,N'-dipropionic-alpha, alpha'-N,N'-diacetic acid with the cations of alkali earths, and with some other divalent cations

SOURCE: Chemicke zvesti, no. 4, 1966, 242-251

TOPIC TAGS: cation, alkali earth mineral, amino acid, acetic acid, dissociation constant, stability constant, intermolecular complex

ABSTRACT: Schwarzenbach's method was used for potentiometric investigation of the dissociation constant of the two acids mentioned above, and of the complexes of these acids with divalent cations of Mg, Ca, Sr, Ba, Cu, Cd, Zn, Pb, Mn, and Fe. The dissociation and stability constants found are compared to those of ethylene-diamino-N,N'-diacetic acid, and of ethylene-diamino-N,N,N',N'-tetra-acetic acid. Orig. art. has: 2 figures, 10 formulas, and 6 tables. [JPRS: 36,464]

SUB CODE: 07 / SUBM DATE: 20May65 / ORIG REF: 003 / OTH REF: 004

Card 1/1 vlr

0211 0496

KOTOUCEK, M.; DOLEZAL, J.; ZYKA, J.

Selective test and volumetric gold determination.
Coll Cz Chem 28 no.2:521-524 F '63.

1. Institut fur organische, anlaytische und physikalische Chemie, Palcky-Universitat, Olomouc und Institut fur analytische Chemie, Karlsuniversitat, Prag.

KOTOUNOVA-HANZALOVA, L.; SEIFERT, J.

Effect of cutting down trees in forest border areas on microbiological processes in forest soil. p.75. Ceskoslovenska akademie zemedelskych ved. SBORNIK. RADA LESNICTVI. Praha. Vol. 28, no. 1, Feb, 1955

SOURCE: East European Accessions List, (EEAL), Library of Congress, Vol. 4, No. 12, December 1955

L 24824-66 EWT(d)/FSS-2

ACC NR: AP6008023 SOURCE CODE: UR/0406/66/002/001/0082/0090

AUTHOR: Kotousov, A. S.

ORG: none

TITLE: The determination of the correlation properties of signals of discrete information at the output of a communications channel with random variations of parameters

SOURCE: Problemy peredachi informatsii, v. 2, no. 1, 1966, 82-90

TOPIC TAGS: communication channel, signal interference, signal noise separation, signal correlation, correlation function

ABSTRACT: It is necessary to know the correlation properties of noises in order to synthesize optimal linear filters in the solution of problems of detection and discrimination of signals against a background of "non-white" noise. During radio communications in the short-wave range the main interferences of such type are the signals from extraneous interfering stations, particularly radiotelegraph stations. Autocorrelation functions of telegraph signals have been investigated elsewhere. However, in the case investigated, the problem is made complex by the fact that the correlation properties of signals at the input of the

Card 1/4 UDC: 621.394.11

receiver are, as a result of fading, substantially different from the properties of the emitted signal. In view of this, the present article poses the problem of the determination of the autocorrelation function and the power spectrum of the radiotelegraph signal at the output of a channel with random variations of the parameters. The spectrum of the frequency-telegraph signal at the output of the communications channel is shown in Fig. 1. This spectrum corresponds to the autocorrelation function shown in Fig. 2. The broken line in Fig. 1 shows the spectrum of the signal at the input to the communications channel. It is shown that the spectra of the signals at the input and at the output of the channel differ substantially in the frequency range close to that of the communications carrying frequencies. It is concluded that the correlation properties of a signal at the input and at the output of a communications channel with variable parameters may differ considerably when the speed of variation of the channel parameters is commensurable with the speed of telegraph transmission. The author expresses his deep gratitude to Prof. L. M. Fink for assistance and attention to this work. Orig. art. has: 2 figures and 33 formulas.

L 24824-66

ACC NR: AP6008023

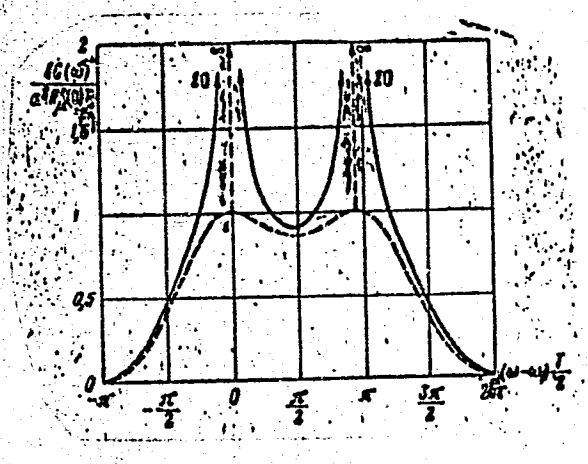


Fig. 1

Spectrum of the frequency-telegraph signal at the output of a communications channel.

Card 3/4

L 24824-66

ACC NR: AP6008023

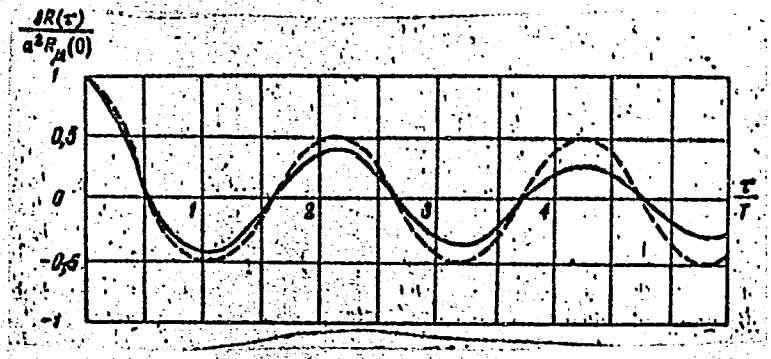


Fig. 2

Autocorrelation function.

SUB CODE: 09 / SUBM DATE: 19Apr65 / ORIG REF: 003 / OTH REF: 001

Card 4/4 bba

KOTOUSOV, L. S., Cand Phys-Math Sci -- "Computation of the thermodiffusion coefficient of moderately dense and compressed gases." Len, 1961. (Min of Higher and Sec Spec Ed RSFSR. Len Polytech Inst im M. I. Kalinin). (KL, 8-61, 227)

29612
S/120/61/000/004/022/034
E202/E335

24.5500 (1537, 1164)

AUTHOR: Kotousov, L.S.

TITLE: Application of microthermistor MT-54 to a thermal-conductivity probe

PERIODICAL: Pribory i tekhnika eksperimenta, no. 4, 1961, pp. 142 - 145

TEXT: The author evaluates in detail the practical potentialities of a bead-type microthermistor, MT-54. This thermistor was originally developed by Karmanov, a staff member of the Laboratoriya poluprovodnikov Leningradskogo agrofizicheskogo nauchno-issledovatel'skogo instituta (Semiconductors Laboratory of the Leningrad Agrophysical Scientific Research Institute). It is in the form of a bead with overall dimensions of approx. 0.5 mm, including the waterglass coating. Compared with the hot tungsten-wire type probe, this thermistor has certain advantages: its resistance is approx. 4 kΩ and its temperature coefficient of resistance at 20 °C, approx. 3.5%. MT-54 has nichrome wire connections and is mounted on a glass rod sealed in a capillary cell. The capacity of the cell and the capillary ducts

Card 1/4

Application of ....

is approx. 1 ml. with a cell immersed in a thermostatic liquid close to the ambient temperature and a temperature drop of 5 - 15 °C; the voltage drop of the thermistor is approx. 2.5 to 5 V. The sensitivity of this probe depends predominantly on the voltage drop; however, high voltage drops lead also to great instability. Thus, the high average sensitivity of this type of probe, which is approximately higher by two orders of magnitude than the hot-wire types, is offset by its working instability at high sensitivity and its poor tolerance to overloading. Unfortunately, the author was not able to have a matched pair of MT-54's and had to rely on a Wheatstone-bridge circuit, in which the probe formed one of the arms, and a sensitive mirror galvanometer registered the zero balance. In order to use the full sensitivity of the probe, an exceptionally high degree of temperature stability is required, viz. ± 0.005 °C; this was found impractical and the sensitivity was lowered in order to work with a ± 0.001 °C thermostat controlled by a Beckmann thermometer. With the above arrangement, the author was able to determine the composition of the following mixtures with the average absolute sensitivity:

Card 2/4

Application of ....

Ne^{20}/Ne^{22}	0.1%
N_2/Ar	0.003%
N_2/CO_2	0.002%
H_2/O_2	0.0005%

The same probe was also used successfully in the determination of the diffusion coefficients in the binary gaseous mixtures at sub-atmospheric pressures. The author did not study the low-temperature performance of the TK-54 but mentions that new, high-resistance, high temperature coefficients of resistance thermistors have been developed in the same place as the TK-54, which are capable of high-sensitivity high-temperature work of the order of 700 - 800 °C. Finally, it is mentioned that MT-54 resembles in many respects bead thermistors used in an analyser of a gas-liquid chromatographic column (Ref. 1 - D. Ambrose, R.R. Collerson - J. Scient. Instrum., 1955, 32, 323).
Acknowledgments are expressed to B.P. Konstantinov and Yu.P. Stepanov.

Card 3/4

KOTOUSOV, L.S.; MARTYNOV, Ye.M.; STEPANOV, Yu.P.

Separation of neon isotopes by the thermal diffusion method.
Atom.energ. 10 no.6:632-633 Je '61. (MIRA 14:6)
(Isotope separation) (Neon--Isotopes) (Thermal diffusivity)

KOTOUSOV, L. S.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Technical Physics Institute imeni A. F. Ioffe in 1962:

"Calculation of the Thermo-diffusion Coefficient of Moderately Dense and Compressed Gases."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

31951
S/057/62/032/001/012/018
B104/B138

24.5200

AUTHOR: Kotousov, L. S.

TITLE: Relationship between the coefficient of thermal diffusion and the thermodynamic properties of binary mixtures. I. Calculation of the coefficient of thermal diffusion of dense gases

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 1, 1962, 89-100

TEXT: The thermodynamics of steady irreversible processes is applied to derive an expression for the coefficient of thermal diffusion of binary mixtures, which does not allow for heat transfer. The coefficient is a function of the second derivative of the enthalpy of the mixture with respect to the concentration and, thus, is also a function of the second derivative of the heat liberated as mixtures of pure substances form. The coefficient of thermal diffusion is defined as the degree of deviation of a real from an ideal mixture. It is also proportional to the dimensionless parameter $\lambda/R\varrho D_{12}$. λ is the coefficient of thermal conductivity, and D_{12} is a "gravitational coefficient". For ideal mixtures, the heat transfer is

Relationship between the coefficient ...

equal to the difference between the enthalpies of the components and in general it depends on slight additions which occur as a result of interaction between similar and dissimilar molecules during isothermal diffusion. The coefficient of thermal diffusion was calculated as a function of pressure over a wide range. Known thermodynamic data and kinetic quantities for mixtures were used. The coefficient of thermal diffusion was also taken from literature. The results fit experimental data. If the temperature of the mixture is close to critical for one of its components, then the relevant derivatives of the thermodynamic variables of state will vary rapidly. In this case, at pressures near or above critical, exact data must be available for the thermodynamic functions of the mixture in the critical range. Academician Konstantinov, Professor S. Ye. Bresler, Professor L. E. Gurevich, and Docent M. A. Gurevich are thanked for discussions. There are 8 figures and 21 references: 5 Soviet and 16 non-Soviet. The four most recent references to English-language publications read as follows: T. T. Moran and W. W. Watson, Phys. Rev., 109, 1184, 1958; W. H. Rutherford and J. G. Roof. J. Phys. Chem., 63, 1506, 1959; J. Ye. Walther and H. G. Drickamer. J. Phys. Chem., 62, 421, 1958; S. Whitacker and R. L. Pigford. Ind. Eng. Chem., 53, 185, 1960.

Card 2/3

KOTOUSOV, L.S.

Relation between the thermal diffusion coefficient and the thermodynamic properties of binary mixtures. Part 1. Calculation of the thermal diffusion coefficient of dense gases. Zhur. tekh. fiz. 32 no.1:89-100 Ja '62. (MIRA 15:1)

1. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina.
(Gases--Diffusion) (Thermodynamics)

34214
S/057/62/032/002/015/022
B124/B102

24.1300

AUTHOR: Kotousov, L. S.

TITLE: Relationship between the thermal diffusion coefficient and the thermodynamic properties of binary mixtures. II. Pressure dependence of the thermal diffusion coefficient of a gaseous mixture in the range from 0.01 to 0.5 atm

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 2, 1962, 224 - 229

TEXT: As is evident from previous work, the thermal diffusion coefficient α_T of He-Ar, N_2-CO_2, and H_2-CO_2 mixtures depends on pressure, chiefly in the hitherto unexamined range from 0.01 to 0.2 atm, which confirms the earlier findings concerning the behavior of the second concentration derivative of enthalpy $H''_{x_1x_1}$ below 1 atm. When the gas has been diluted, α_T tends to zero, which is consistent with the dependence on the absolute effects of deviation of the thermodynamic properties of real gases from those of ideal ones. Since a change in α_T of 10 - 20% is observed between

Card 1/3

... thermal diffusion with a

34214
S/057/62/032/002/015/022
B124/B102

Relationship between the ...

temperature drop ΔT between the upper and the lower portion of the device, and a mean temperature $\bar{T}$. There are 3 figures and 8 references: 2 Soviet and 6 non-Soviet. The three references to English-language publications read as follows: K. E. Grew, Nature, London, 156, 267, 1945; H. G. Drickamer a. J. R. Hofto. J. Chem. Phys. 17, 1165, 1949; T. L. Ibbs et al. Proc. Phys. Soc. 41, 459, 1929.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: March 20, 1961

Card 3/3

L 23818-65 EWT(1)

ACCESSION NR: AP5000643 S/0057/64/034/012/2178/2180

AUTHOR: Kotousov, L.S.

TITLE: Concerning the pressure-differential effect in interdiffusion of gases

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.12, 1964, 2178-2180

TOPIC TAGS: gas diffusion, pressure effect

ABSTRACT: The paper is basically a short review of the literature on theoretical and experimental determinations of the pressure-differential effect in interdiffusion of gases. The review was undertaken in view of the significance of the pressure differential in solution of theoretical and practical problems involving interdiffusion, as for example, diffusion through a capillary connecting two comparatively large gas volumes. There are two views as regards the cause of the pressure differential Δp. According to one view, Δp is due to a difference between the diffusion rates of the components, giving rise to a reverse compensating flow; however, calculations based on the corresponding formulas yield results in serious disagreement with experiment. Hence this view would appear to be erroneous. The more plausible mechanism is the following: when at the initial instant $\Delta p = 0$, the

1/2

L 23818-65
ACCESSION NR: AP5000843

mean mass velocity in the capillary is zero; this leads to a difference between the molecular flows of the two components and, consequently, to the appearance of Δp. In the quasistationary state, on the contrary, the molecular flows are equal in magnitude and opposite in sign and the mean mass velocity differs from zero. There is adduced a formula for Δp for the case of absence of diffusive sliding (sliding of the gas along the capillary walls); this formula is then modified to take diffusive sliding into account. The last formula was checked by the authors by experiments with He and A, using capillaries 0.1 to 0.3 mm in diameter. The results were somewhat lower than the values of Δp given by the last formula; the results for large (2.1 and 3.95 mm diameter) capillaries are substantially higher than the Δp values given by the formula neglecting diffusive sliding. Some of the reasons for the disagreement between the theoretically predicted and different experimental values of Δp are discussed briefly. Orig.art.has: 3 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy inst. im.M.I.Kalinina (Leningrad Polytechnical Institute)

SUBMITTED: 30May64 ENCL: 00 SUB CODE: ME

NR REF SOV: 005 OTHER: 009

2/2

L 23828-65 EWT(d)/EWT(1)/EWP(t)/EWP(c)/EWA(d)/EWP(v)/T/EWP(k)/EWP(1)
Pf-4

ACCESSION NR: AP5000850 S/0057/64/034/012/2196/2198

AUTHOR: Kotousov, L.S.

TITLE: Correction to an expression for the thermal diffusion coefficient

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.12, 1964, 2196-2198

TOPIC TAGS: thermal diffusion, diffusion coefficient

ABSTRACT: In the derivation of an expression for the thermal diffusion coefficient in an earlier paper by the author (Nauchno-tekhn.inform.byull.LPI (Scientific-Technical Information Bulletin, Leningrad Polytechnical Institute), No.8,15,1959) it was assumed that the mean mass velocity in the narrow tube connecting the two large gas volumes is a constant quantity, independent of the tube length. Accordingly, there were used the average values (over the length of the tube) of the partial and total densities. In a recent paper (p.2178 of the present journal; see Abstract AP5000843) there is discussed the question of the pressure differential effect and the flow compensating the difference between the mass flows from one vessel to the other. In this analysis it was found that under quasistationary conditions the center of mass velocity is a function of the coordinate along the tube

1/2

L 23828-65
ACCESSION NR: AP5000850

axis. Accordingly, in the present paper there is deduced a correction to the earlier formula, taking this factor into account. The final expression is

$$\alpha_T = \frac{\partial \bar{H}}{\partial x_1^2} \frac{\lambda}{\partial \bar{H} / \partial x_1 \partial T} \frac{1}{\rho D_{12}} \frac{1}{x_1 \frac{\partial \mu_1}{\partial x_1}}$$

where α_T is the thermal diffusion coefficient, $\bar{H}$ is the molar enthalpy of the mixture, T is the absolute temperature, D_{12} is the interdiffusion coefficient, μ_1 is the chemical potential of the first component, and x_1 is the molar fraction. The role of the pressure gradient in derivation of the expression for α_T is discussed briefly; it is noted that for large diameter tubes the pressure gradient should be negligible. Orig.art.has: 7 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im.M.I.Kalinina (Leningrad Polytechnical Institute)

SUBMITTED: 30May64 ENCL: 00 SUB CODE: ME

NR REF SOV: 003 OTHER: 001

2/2

L 13443-66 EWT(l)/EWT(m)/EPF(n)-2/EWP(j)/T/EWP(t)/EWP(b)/EWA(c)/ETC(m) JD/

ACC NR: AP6002447 WW/RM SOURCE CODE: UR/0057/65/035/012/2221/2226

AUTHOR: Kotousov, L.S.

ORG: Leningrad Polytechnic Institute im. M.I.Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: The diffusion thermal effect. 2.

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2221-2226

TOPIC TAGS: gas diffusion, thermal diffusion, temperature distribution, heat of solution, heat effect

ABSTRACT: The differential equation for the temperature in a binary mixture of diffusing gases, derived by the author in the preceeding paper of this series (L.S. Kotousov, ZhTF 35, 2215, 1965/see Abstract AP6002446/), is solved with certain simplifications for one-dimensional diffusion in a cylindrical container with isothermal walls. The case of a cylinder of finite length, as well as that of an infinitely long cylinder, is treated. The solution is effected by substituting the known solution of the diffusion equation and subsequently calculating the temperature distribution. The resulting temperature distribution depends significantly on the derivative of the thermal diffusion coefficient with respect to the concentration. It is shown that the diffusion thermal effect gives rise to considerable errors in measurements of heats of mixing, particularly at pressures below 1 atm, when the usual technique of convective mixing is employed. Heats of mixing of gases can be accurately determined

Card 1/2 UDC: 533.15

Card 2/2

ACC NR: AP6033534 SOURCE CODE: UR/0170/66/011/004/0455/0462

AUTHOR: Konstantinov, B. P.; Kotousov, L. S.

ORG: Polytechnic Institute, Leningrad (Politekhnicheskiy institut)

TITLE: Calculation of multistage thermal diffusion in a field of rotation forces

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 11, no. 4, 1966, 455-462

TOPIC TAGS: thermal diffusion, thermal diffusion separation, isotope separation equipment, hydrodynamics

ABSTRACT: The authors analyze the theory underlying the operation of a thermal centrifugal column and determine some of its optimal parameters as well as the settling time. The need for such a calculation is dictated by the fact that apparatus of this type, first constructed by M. Farber and W. E. J. Libby (J. Chem. Phys. v. 8, 965, 1940) can be useful for concentration of an isotope from a sample containing only several grams of matter. Its operation is based on maintaining the gap between the hot and cold walls small (on the order of fractions of a millimeter), and replacing the gravitational force by rotational force. Hydrodynamic calculations of the motion of a gas or liquid inside a hollow rotating disc whose walls are at different temperatures are used to derive the equations of the centrifugal separation column. The optimal circulation necessary to obtain a maximum isotope separation is determined. These constitute the conditions for the minimum HETP (height equivalent of theoretical plate) value at any radius. It is shown that a minimal HETP can be obtained by a

 UDC: 621.039.341.6

ACC NR: AP6033534

slight alteration of the gap. The enrichment of radio carbon based on the isotopic mixture $C^{12,14}H_4$ is considered by way of an example. It is shown that by using a thermocentrifugal column it is possible to attain optimal HETP by reducing the gas pressure. The equilibrium time reduces to approximately 1 hr at 5 atm and the optimal rotation speed is 10 rps, the column separation factor is 10^2 - 10^3 for a thermal diffusion factor 0.01 - 0.02, a relative temperature difference of approximately 1°, and a gap 0.3 - 0.5 mm at a radius of approximately 50 cm. The gap should be accurate within 10 μ. Orig. art. has: 2 figures and 30 formulas.

SUB CODE: 20/8/ SUBM DATE: 15Jun66/ OTH REF: 004

Card 2/2

KOTOV, A., pilot pervogo klassa

Unified methods are needed. Grazhd.av. 18 no.5:12 My '61.
(MIRA 14:5)

1. Komandir transportnogo aviaotryada Turkmenskogo territorial'nogo upravleniya Grazhdanskogo vordushnogo flota.
(Flight crews)

KOTOV, A.; LERNER, A.

Semiautomatic machine for grinding form cutters. Mashinostroitel' no.1:18 Ja '63. (MIRA 16:2)
(Grinding machines)

DIDLYKOVSKIY, S.G.; KOTOV, A.A.

Upper Jurassic sediments in the upper Kama Basin. Dokl. AN SSSR 163 no.6:1446-1447 Ag '65. (MIRA 18:8)

1. Gor'kovskaya geologo-razvedochnaya ekspeditsiya Srednye-Volzhskogo ... geologicheskogo upravleniya. Submitted April 5, 1965.

KOTOV, A. F.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Favorov, A. M. Kotov, A. F.	"Summer Planting of Potatoes"	All-Union Selection and Genetic Institute imeni T. D. Lysenko

SO: W-30604, 7 July 1954

KOTOV, A. F.

Using summer-planted potatoes for breeding along clone lines.
Agrobiologiia no.5:86-89 S-O '58. (MIRA 11:11)

1. Vsesoyuznyy selektsionno-geneticheskiy institut, g. Odessa.
(Potato breeding)

AUTHOR: Kotov, A. F., Engineer 105-58-6-16/33

TITLE: Electric Circuit for an Automatic Control of the Output of Bucket-Conveyor Excavators (Elektricheskaya skhema avtomaticheskogo regulirovaniya proizvoditel'nosti mnogokovshovykh ekskavatorov)

PERIODICAL: Elektrichestvo, 1958, Nr 6, pp. 63-66 (USSR)

ABSTRACT: At the control of the excavator drive one of the three parameters, the working (or turning) velocity, the chip thickness, or in some cases the length (or height) of the chip can be altered. So far as the alteration of the two last-mentioned values can lead to a distortion of the level surface and aggravate its exploitation a control diagram is given with automatic alteration of the working velocity. On this basis a control system for bucket-conveyor excavators was worked out which was first used at the greatest conveyor tipping dump bridge in Europe in the Yurkov coal section (profile) of the "Vatutinugol' " trust in the "Ukrburugol' " combine. The mode of action is described. The output control system is static according to its structure. The working velocity is altered automatically in dependence on the working current of the bucket current circuit or of the ro-

Card 1/3

tor of the electric motor, and in dependence on the current of the inductive communicator of the running conveyor belt (of that conveyor belt that takes over the rock from the cutting part). Also a hand control of the working velocity is provided for in this diagram. At unchanged feeding-circuit voltage the main motor current is about proportional to the engine torque and to the cutting power. The current of the inductive communicator under the conveyor belt is proportional to the running conveyor belt load. As amplifying element an electrodynamic amplifier with transverse field was provided for in the diagram. The automatic maintenance of the demanded value in the parameter to be controlled is made by comparing the currents in the windings of the return-coupling of the conveyor belt load and of the load of the cutting part and in the control winding. A stabilization of the transient processes is reached by introducing an elastic voltage return-coupling at the terminals of the excitation winding of the generator. In order to limit the working velocities and the accelerations respective assemblies are provided for in the diagram. A d.c. machine which is fed by an exciter serves as driving electric motor of the electrody-

Electric Circuit for an Automatic Control of the Output of Bucket-Conveyor Excavators 105-58-6-16/33

namic amplifier. In the diagram of the negative return-coupling for the motor current an intermediate saturation current transformer is provided for in order to limit the top value of the current in the load winding of the amplifier. Thus a passing of the velocity through zero and abrupt braking at maximum load are excluded and the stability of the control system is increased. Since May 1956 the system described has been successful used. The automatic output regulators are recommanded for bucket-conveyor excavators, earth removers, rotor excavators, electric excavators nets and so on. There are 1 figure and 1 table.

ASSOCIATION: Ukrgiproshakht.

SUBMITTED: September 2, 1957

1. Earth moving equipment--Control systems 2. Electric circuits --Performance

Card 3/3

KOTOV A. F.

ALATORTSEV, S.A., prof., doktor tekhn.nauk; ANDREYEV, A.V., kand.tekhn. nauk; ANCHAROV, I.L., inzh.; BALINSKIY, S.I., inzh.; BELOUSOV, V.G., inzh.; VINNITSKIY, K.Ye., kand.tekhn.nauk; VLASOV, V.M., inzh.; VORONTSOV, N.P., kand.tekhn.nauk; GIPSMAN, M.K., inzh.; GLUZMAN, I.S., kand.tekhn.nauk; GUR'YEV, S.V., kand.tekhn.nauk [deceased]; DEMIN, A.M., kand.tekhn.nauk; YEGURNOV, G.P., kand. tekhn.nauk; YEFIMOV, I.P., inzh.; ZHUKOV, L.I., kand.tekhn. nauk; ZEL'TSER, N.M., inzh.; KOSACHEV, M.N., kand.tekhn.nauk; KOTOV, A.E., inzh.; KUDINOV, G.P., inzh.; LAPOVENKO, N.A., kand. tekhn.nauk; MAZUROK, S.F., inzh.; MEL'NIKOV, N.V.; MUDRIK, N.G., inzh.; NIKONOV, G.P., kand.tekhn.nauk; ORLOV, Ye.I., inzh.; POTAPOV, M.G., kand.tekhn.nauk; PRISEDSKIY, G.V., inzh.; RZHEVSKIY, V.V., prof., doktor tekhn.nauk; RYAKHIN, V.A., kand. tekhn.nauk; SIMKIN, B.A., kand.tekhn.nauk; SITNIKOV, I.Ye., inzh.; SOROKIN, V.I., inzh.; STASYUK, V.N., kand.tekhn.nauk; STAKHEVICH, Ye.B., inzh.; SUSHCHENKO, A.A., inzh.; TYUTIN, I.F., inzh.; TYMOVSKIY, L.G., inzh.; FISENKO, G.L., kand.tekhn.nauk; FURMANOV, B.M., inzh.; SHATAYEV, M.G., inzh.; SHESHKO, Ye.F., prof., doktor tekhn.nauk; TERPIGOREV, A.M., glavnyy red. [deceased];

(Continued on next card)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000825410013-7"

ALATORTSEV, S.A.---(continued) Card 2.
KIT, I.K., zamestitel' glavnogo red.; SHESHKO, Ye.F., zamestitel' otv.red.; BUGOSLAVSKIY, Yu.K., red.; BYKHOVSKAYA, S.N., red.; DIONIS'YEV, A.I., kand.tekhn.nauk, red.; KOZIN, Yu.V., red.; SOKOLOVSKIY, M.M., red.; YASTREBOV, A.I., red.; DEMIDYUK, G.P., kand.tekhn.nauk, red.; KRIVSKIY, M.N., kand.tekhn.nauk, red.; LYUBIMOV, B.N., inzh., red.; MOLOKANOV, P.L., inzh., red.; REISH, A.K., inzh., red.; RODIONOV, L.Ye., kand.tekhn.nauk, red.; SLAVUTSKIY, S.O., inzh., red.; TRAKHMAN, A.I., inzh., red.; TRYMOVSKIY, L.G., inzh., red.; FIDELEV, A.S., doktor tekhn.nauk, red.; SHUKHOV, A.N., kand.tekhn.nauk, red.; TER-IZRAEL'YAN, T.G., red. izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

(Continued on next card)

ALATORTSEV, S.A.---(continued) Card 3.

[Mining; an encyclopedic dictionary] Gornoe delo; entsiklopedicheskii spravochnik. Glav.red.A.M.Terpigorev. Chleny glav. red.A.I.Baranov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Vol.10. [Mining coal deposits by the open-cut method] Razrabotka ugol'nykh mestorozhdenii otkrytym sposobom. Redkollegiia toma; N.V.Mel'nikov i dr. 1960. 625 p. (MIRA 13:2)

1. Chlen-korrespondent AN SSSR (for Mel'nikov).
(Coal mines and mining) (Strip mining)

KOTOV, A.F., inzh.; KRAVCHENKO, Ya.S., inzh.

Program control of the operations of a wheel-type excavator.
Mekh.i avtom.proizv. 16 no.4:39-41 Ap '62. (MIRA 15:4)
(Excavating machinery) (Electronic control)

KOTOV, A.F., inzh.; GUL'KO, L.V., inzh.; BIROV, Yu.A., inzh.

Automatically controlled main electric drive of a multibucket excavator. Nauch. zap. Ukrniiproekta no.2:152-162 '60. (MIRA 15:1)
(Excavating machinery--Electric driving) (Automatic control)

KOTOV, A.F., inzh.; [illegible], I.A., inzh.

System of programmed control of the conveying of the Strizhevka transporter bridge. Nauch.zap.Ukrniiproekta no.5:160-165 '61. (MIRA 15:7)

(Strizhevka region—Transporter bridges) (Automatic control)

KOTOV, A. F.

"Harmonic Resonances in the Interval of Waves From 2 to 2[illegible] c.m." Sub 24 May 51, Moscow Order of Lenin State U imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

KOTOV, A. G.

USSR/Physics - Resonance, Ferromagnetic 21 Apr 52

"Ferromagnetic Resonance in Parallel Conductors," V. K. Arkad'yev, Corr Mem, Acad Sci USSR, A. G. Kotov; Moscow State U imeni Lomonosov

"Dok Ak Nauk SSSR" Vol LXXXIII, No 6, pp 821-824

Indicates the application of subject resonance to the measurement of permeability in accordance with the method of absorption of centimeter waves in parallel conductors, which can be carried out with very simple instruments. Recommend that the procedure described be widely employed under conditions of technologically more precise measurements. Submitted 12 Jan 52.

223T90

KOTOV, A. G.

PA 245T106

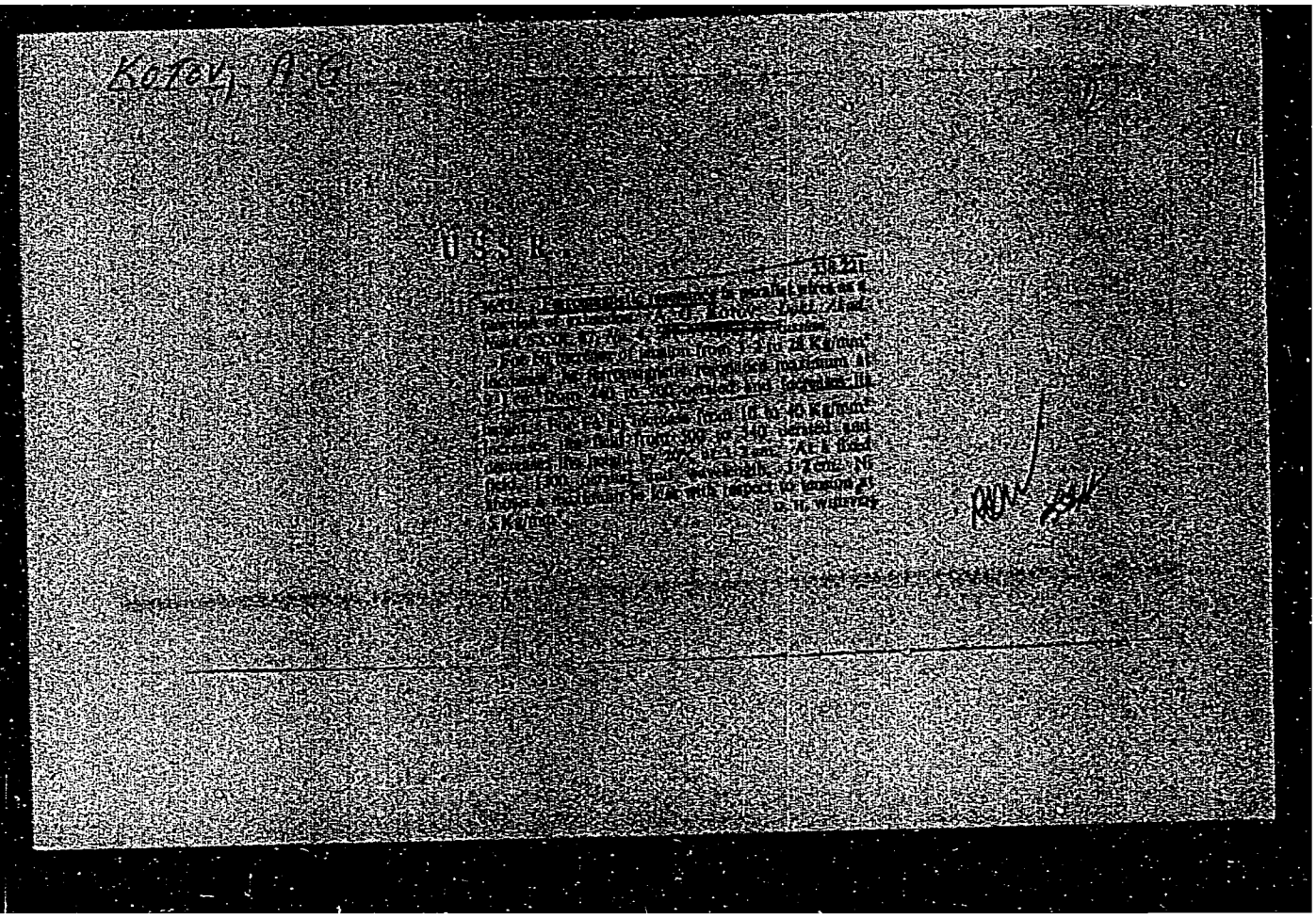
USSR/Physics - Ferromagnetism 21 Nov 52

"Ferromagnetic Resonance in Parallel Wires in Dependence on Temperature and Hysteresis," A. G. Kotov

"Dok Ak Nauk SSSR" Vol 87, N 3, pp 373-375

Shows the influence of temperature and hysteresis on the course of resonance curves under conditions of heightened sensitivity. Thanks V. K. Arkad'yev, who proposed the method of operation and the topic of investigation. Submitted by Acad M. A. Leontovich 25 Sep 52.

245T106



S/190/63/005/001/010/020
B101/B186

AUTHORS: Milinchuk, V. K., Pshezhetskiy, S. Ya., Kotov, A. C., Tupikov, V. I., Tsivenko, V. I.

TITLE: Formation and recombination of free radicals by gamma-irradiation of polypropylene. I

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 1, 1963, 71-74

TEXT: The effect produced by the amorphous and crystalline phases of irradiated polypropylene on the stabilization of free radicals was studied. The polypropylene was irradiated with Co^{60}, dose rate 700 rad/sec, and the nuclear magnetic resonance spectra were taken at -195 and +20°C. Conclusions: With a dose of 350 Mrad, the radical concentration in amorphous polypropylene was $\sim 2 \cdot 10^{20}$ radicals per g, which is twice as much as in crystalline polypropylene. At 20°C, however, the radical concentration in crystalline polypropylene was $\sim 5 \cdot 10^{18}$ radicals per g with a dose of 125 Mrad, which is one order of magnitude higher than in amorphous

Card 1/2

polypropylene. Recombination in amorphous polypropylene irradiated at -195°C is faster than in crystalline polypropylene and is considerably accelerated, especially near the vitrification temperature. This is attributed to the fact that amorphous polypropylene at low temperatures promotes radical formation, whereas higher temperatures promote recombination. The e. p. r. spectra of crystalline polypropylene were found to change reversibly. The hyperfine structure of the e. p. r. spectrum taken at -195°C contained 9 lines, whereas at + 20°C 17 lines were found. There are 4 figures.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: July 17, 1961

TUPIKOV, V.I.; TSIVENKO, V.I.; PSHEZHETSKIY, S.Ya.; KOTOV, A.G.; MILINCHUK, V.K.

Formation and recombination of radicals in the γ-irradiation of solid ammonia and hydrazine. Zhur.fiz.khim. 37 no.1:138-142 Ja '63. (MIRA 17:3)

1. Fiziko-khimicheskiy institut imeni Karpova.

KOTOV, A.G.; PSHEZHETSKIY, S.Ya.; MILINCHUK, V.I.; TUPIKOV, V.I.; TSIVENKO, V.I.

Formation and recombination of radicals by γ-irradiation of frozen H_2O_2 - H_2O solutions. Kin. i kat. 4 no.6:926-929 N-D '63. (MIRA 17:1)

1. Fiziko-khimicheskiy institut imeni Karpova.

KOTOV, A.G.

Effect of dyeing centers of molten quartz on the photolysis of adsorbed water molecules. Zhur.fiz.khim. 37 no.7:1630-1631 Jl '63. (MIRA 17:2)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

L 21332-65 EWT(m)/EPF(c)/EWP(j)/ Pc-4/Pr-4 ASD(m)-3/AFWL/SSD/AS(mp)-2/
RAEM(c)/RAEM(l)/ESD(gs)/ESD(t)/EPL WW/JFW/RM

ACCESSION NR: AP4044436 S/0076/64/038/008/1926/1930

AUTHOR: Kotov, A. G. (Moscow); Pshezhetskiy, S. Ya. (Moscow)

TITLE: EPR study of the annihilation processes of ion-radicals in ionic crystals

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 8, 1964, 1926-1930

TOPIC TAGS: free radical annihilation, electron paramagnetic resonance, color center, EPR spectrum

ABSTRACT: It was shown that upon gamma irradiation of NH_4Cl, $N_2H_4 \cdot HCl$ and $N_2H_4 \cdot H_2SO_4$ one obtains NH_3^+ and $N_2H_4^+$ ion-radicals. The coulombic repulsion of ion-radicals and their low mobility in ionic crystals at moderate temperatures give reasons to believe that annihilation of ion-radicals as a result of motion is improbable. The annihilation mechanism of ion-radicals in this case is a more complex process which occurs under conditions of stationary ion-radicals in crystal lattice nodes. This article presents data which enable one to make some conclusions regarding the mechanism of annihilation of ion-radicals in some ionic

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ACCESSION NR: AP4044436

crystals. The study was carried out on the change of concentration of ion-radicals in NH_2Cl, $N_2H_4 \cdot HCl$ and $N_2H_4 \cdot H_2SO_4$ upon change of temperature and time of heating and upon illumination with visible light and ultraviolet light. These salts were previously irradiated by Co^{60} gamma source at liquid nitrogen temperature. The concentration of ion-radicals was determined by comparing the area of EPR spectrum with the spectrum of standard $CuCl_2 \cdot 2H_2O$ paramagnetic crystal. It was found that upon heating NH_2^+ and $N_2H_4^+$ ion-radicals are annihilated in the same temperature interval as the color centers. In NH_4Cl change of concentration of NH_3^+ is observed upon irradiation with ultraviolet and visible light. The rate constant for the disappearance of ion-radicals is a function of temperature. In colorless salt $N_2H_4 \cdot HCl$, $N_2H_4^+$ ion radicals vanish at higher temperature. The annihilation of ion radicals occurs during their recombination with electrons of color centers. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, NP

NR REF SOV: 004 OTHER: 005

Card 2/2

L 23342-65 EWT(m)/T DIAAP BM S/0020/64/159/006/1385/1388

ACCESSION NR: AP5002001

AUTHOR: Sorokin, Ye. A.; Kotov, A. G.; Pshezhetskiy, S. Ya.;

TITLE: Study of radiolysis of ammonia adsorbed on surfaces of solids, by the method of electronic paramagnetic resonance

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1385-1388

TOPIC TAGS: ammonia radiolysis, matrix effect, electronic paramagnetic resonance, γ irradiation, radiolysis, cobalt 60

ABSTRACT: The effectiveness of utilization of the energy of nuclear radiation for chemical reactions is increased by the use of solid sorbents. However, the mechanism of the sensibilization is not clear. The authors investigated processes which take place on γ-irradiation of ammonia adsorbed in zeolite. Specimens of zeolite with adsorbed ammonia were irradiated with Co^{60} at the temperature of liquid nitrogen. The epr-spectrum were recorded. The spectrum of zeolite is a weakly anisotropic singlet. The spectrum of zeolite with adsorbed ammonia

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L 23342-65
ACCESSION NR: AP5002001

show a fine structure. With the increase of ammonia amount, this distortion is increased, and the original singlet disappears. The radical NH_2 in argon shows a different epr-spectrum (triplet) than in water and in zeolite. The differences could be explained by the effect of the matrix on the rotational degrees of freedom of NH_2. The formation of NH_2 apparently depends not only on the direct radiolysis, but also on the energy transfer from zeolite. Orig. art. has: 3 figures

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ye. Karpova (Physical Chemical Institute)

SUBMITTED: 18Jul64 ENCL: 00 SUB CODE: GC, NP

NR REF SOV: 002 OTHER: 006

Card 2/2

L 34705-65 EPF(t)/EPF(n)-2/EWA(h)/EWP(j)/EWT(m)/EWA(l) Pc-4/Pr-4/Pu-4/Peb 31
ACCESSION NR: AP4044435 RPL GO/RM S/0076/64/038/008/1920/1925 30
B

AUTHOR: Kotov, A. G.; Pshezhetskiy, S. Ya.

TITLE: EPR study of the formation of $[CO_2]^-$ radicals upon γ-irradiation of certain ammonium and hydrazonium salts

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 8, 1964, 1920-1925

TOPIC TAGS: electron paramagnetic resonance, free radical, hydrozonium sulfate, hydrazonium chloride, ammonium chloride, gamma irradiation

ABSTRACT: The article describes the investigation of EPR spectra of γ-irradiated NH_4Cl, $N_2H_4 \cdot HCl$ and $H_2H_4 \cdot H_2SO_4$ which characterize the nature of the produced radicals. It was found that formation of ion-radicals during irradiation of ammonium and hydrazonium salts occurs in the same manner as during irradiation of solid ammonia and hydrazine, i.e., due to splitting of hydrogen atoms. The produced ion-radicals NH_3^+ and $N_2H_4^+$ are stabilized by the coulomb's field of the ionic lattice. In γ-irradiated hydrazonium chloride atomic hydrogen spect-

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L 34705-65

ACCESSION NR: AP4044435

rum was observed and the change of the concentration of ion-radicals was not observed upon its disappearance. It is believed, therefore, that the processes $N_2H_5^+ + H = N_2H_4^+ + H_2$; $N_2H_4^+ + H = N_2H_5^+$; are not very probable in the stabilization of atomic hydrogen. The EPR spectra of γ-irradiated salts change during heating and are dependent on the temperature of measurement, which explains the anisotropy of the hyperfine splitting due to excitation of the rotational and vibrational degrees of freedom. It was shown that during irradiation of ammonium chloride or solid ammonia NH_3^+ is converted to $N_2H_4^+$ ion-radical. Orig. art. has: 3 figures

ASSOCIATION: Fiziko-khimicheskiy institute im. P. Ya. Karpova (Physical Chemistry Institute)

SUBMITTED: 26Jun63 ENCL: 00

SUB CODE: GP, LC NO REF SOV: 002 OTHER: 005

Card 2/2

KOTOV, A.G.; PSHEZHETSKIY, S.Ya.

Electron paramagnetic resonance study of the processes of destruction of ion radicals in ionic crystals. Zhur.fiz.khim. 38 no.8 [illegible] (MIRA 18:1)
Ag '64.

SOROKIN, Yu.A.; KOTOV, A.G.; PSHEZHETSKIY, S. Ya.

Electron paramagnetic resonance study of the radiolysis of ammonia adsorbed on solid surfaces. Dokl. AN SSSR 159 no.6: 1385-1388 D '64 (MIRA 18:1)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova. Predstavleno akademikom S.S. Medvedevym.

(A) L 11646-66 EWT(d)/EWT(m)/EWP(f)/T/EWA(c) DJ

ACC NR: AP6002953 SOURCE CODE: UR/0286/65/000/024/0124/0125

INVENTOR: Dolganov, M. S.; Milyayev, G. G.; Kotov, A. G.; Filippov, V. V.; Gus'kov, N. G.; Koshman, E. I.

ORG: none

TITLE: Rotary fuel pump. Class 46, No. 177228 [announced by Noginsk Fuel Equipment Factory (Noginskiy zavod toplivnoy apparatury)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 124-125

TOPIC TAGS: fuel pump, internal combustion engine

ABSTRACT: The proposed pump for internal combustion engines contains a pressure valve, a measuring device, and a rotor-distributor with pressure pistons positioned opposite one another which are driven by a fixed cam plate (see figure). To improve the engine's operation by improving the cut-off at the end of the injection, the measuring device is made in the form of a sliding sleeve with an internal annular groove radially located in the rotor. The piston also has an annular groove whose position, relative to the sleeve groove, determines the piston's stroke.

Card 1/2 UDC: 621.43.031

L 11646-66
ACC NR: APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000825410013-7

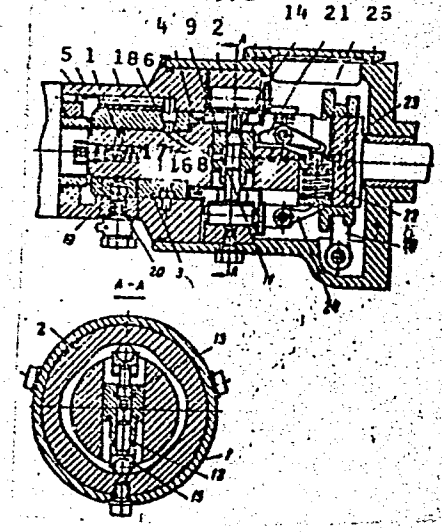

Fig. 1. Fuel pump

1 - Pump housing; 2 - cam plate; 3 - bearing sleeve; 4 - rotor; 5 - chamber; 6,7,8 - fuel feed channels; 9 - sliding sleeve; 10 - annular groove; 11 - openings; 12 - smooth piston; 13 - piston with annular groove; 14 - piston port; 15 - roller tappet; 16 - central rotor channel; 17 - pressure valve; 18 - distribution channel; 19 - fuel outlet channel; 20 - outlet to fuel injector; 21 - double-arm lever; 22 - spring; 23 - corrector; 24 - pressure arm; 25 - clutch; 26 - control lever.

In a variation of this pump, a double-arm lever is mounted in the rotor groove; one arm is connected to the sliding sleeve and the other, to the regulator spring. Orig. art. has: 1 figure.

[TN]

SUB CODE: 21/ SUBM DATE: 03Jul64/ ATD PRESS: 4175

Card 2/2

L 37696-65

ACCESSION NR: AP5006690 S/0076/65/039/002/0470/0472

AUTHOR: Roginskiy, V. A.; Kotov, A. G.; Pshezhetskiy, S. Ya.

TITLE: The effect of intermolecular compounds on the formation of radicals during gamma irradiation of some solid binary solutions

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 2, 1965, 470-472

TOPIC TAGS: gamma irradiation, solid solution, binary solution, radical formation, intermolecular compound, free radical, electron paramagnetic resonance

ABSTRACT: The effects of intermolecular interaction in solid binary solutions under the influence of γ-irradiation were studied experimentally. Three types of binary systems were irradiated at 77K from a Co-60 source: the ideal solutions $C_6H_5CH_3$ + n-C_6H_{14}, C_2H_5OH + $(C_2H_5)_2O$ and CH_3OH + C_2H_5OH; the non-ideal solutions C_2H_5OH + C_6H_6, CH_3COOH + C_6H_6 and C_2H_5OH + n-C_6H_{14}, and intermolecular compound forming solutions, i.e., NH_3 + CH_3OH, CH_3NH_2 + CH_3OH, N_2H_4 + C_2H_5OH and N_2H_4 + iso-C_3H_7OH. Free radical concentrations were determined by EPR spectroscopy and compared in relative units against a $CuCl_2 \cdot 2H_2O$ single crystal standard. Free radical production in the first and second types of systems was additive or slightly higher than additive, respectively, but it was markedly different from additive in the third type of solution.

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L 37696-65

ACCESSION NR: AP5006699

as shown in Fig. 1 of the Enclosure. The maximum deviation from additive behavior was found at component ratios corresponding to intermolecular association. The nitrogen compounds were shown to shield alcohol molecules from splitting. The shielding effect is caused by energy transfer from alcohol to nitrogen compounds. Thus, free radical formation increases if the N-H bonds are weaker than the C-H bonds in the alcohol (hydrazine-methanol system), and decreases if the N-H bonds are stronger (ammonia-methanol system). Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 06Jan64 ENCL: 01 SUB CODE: OC, NP

NO REF SOV: 002 OTHER: 001

Card 2/3

ROGINSKIY, V.A.; FOMOV, A.G.; TSHEMPETSKIY, S.Ya.

Mechanism of the nonadditive formation of radicals in the radiolysis of frozen CCl_4 + CH_3OH solutions. Dokl. AN SSSR 163 no.6:1433-1436 Ag '65. (MIRA 18:8)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Submitted January 29, 1965.

L 35911-66 EWT(m)/EWP(j) CG/RM

ACC NR: AP6014890 SOURCE CODE: UR/0076/65/039/012/2892/2895

AUTHOR: Roginskiy, V. A.; Kotov, A. G.; Pshezhetskiy, S. Ya.

ORG: Moscow physico-chemical Institute im. L. Ya. Karpov (Moskovskiy fiziko-khimi heskiy institut)

TITLE: Formation of free radicals in frozen solutions of methanol and carbon tetrachloride under the effect of gamma radiation

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 2892-2895

TOPIC TAGS: methanol, carbon tetrachloride, free radical, cryogenic effect, gamma irradiation, EPR

ABSTRACT: Samples for electron paramagnetic resonance investigation and for determination of the gases and HCl formed during electrolysis were freed from dissolved air by repeated evacuation of solutions frozen at 90°K to 10^{-4} mm Hg. The samples thus prepared were irradiated in the polycrystalline state with a Co^{60} source. The radiation dose was 1.6 Mrad/sec. The samples for electron paramagnetic resonance investigation and for gas analysis were irradiated together at 77°K. The electron paramagnetic resonance spectra were also recorded at 77°K in a type Re-1301 radiospectrometer. The pressure which developed during

Card 1/2 UDC: 541.15

ACC NR: AP6014890

radiolysis of the gases was measured with a manometer to an accuracy of ± 0.07 mm Hg. Before measurement of the pressure, the gases were thawed out and refrozen, after which the gases which did not condense at 77°K were introduced into the measuring system. The composition of the gases was determined by mass spectrometry. The yield of HCl was determined by titration with silver nitrate. Experimental results are exhibited in a series of curves. It was found that the dependence of the yield of radicals on the composition of the solutions was characterized by a maximum; the amount of "superadditive" radicals coincides with the yield of HCl. The formation "superadditive" is explained by the reaction of H atoms with CCl_4 molecules and of Cl atoms with CH_3OH molecules. Orig. art. has: 6 formulas and 5 figures.

SUB CODE: 07, 20/ SUBM DATE: 14Apr64/ ORIG REF: 005/ OTH REF: 008

Card 2/2

ACC NR: AP7011834 SOURCE CODE: UR/0020/66/171/006/1380/1383

AUTHOR: Pukhal'skaya, G. V.; Kotov, A. G.; Pshezhetskiy, S. Ya.

ORG: none

TITLE: Transformations of free radicals under the action of light in gamma-irradiated methylamines

SOURCE: AN SSSR. Doklady, v. 171, no. 6, 1966, 1380-1383

TOPIC TAGS: Primary aliphatic amine, free radical, chemical energy conversion, gamma irradiation, spectrophotometer / SF-4 spectrophotometer, DRSh-500 irradiation apparatus

SUB CODE: 07

ABSTRACT: S. Ya. Pshezhetskiy et al., using certain gamma-irradiated polymers and olefins as an example, previously established the reversible isomerization of radicals as a result of the migration of free valence between carbon atoms. Considering it important to ascertain whether such free valence transitions are possible between different atoms, particularly transitions between nitrogen and carbon, the authors studied spontaneous, as well as ultraviolet-light-induced transformations of free radicals in gamma-irradiated aliphatic amines (methylamine, dimethylamine and trimethylamine). Irradiation on a cobalt-60 gamma source

Card 1/2 UDC: 541.15 0932 0430

ACC NR: AP7011834

and DRSh-500 lamps, as well as recording of EPR spectra on an RE 1301 instrument and of absorption spectra on an SF-4 spectrophotometer were done at a temperature of 77° K. When necessary, the irradiation with light was done directly in the resonant cavity of a microwave spectrometer. The results are discussed in detail. This article was presented by Academician S. S. Medvedev on 14 February 1966. Orig. art. has: 3 figures and 3 formulas. [JPRS: 40,422]

Card 2/2

KOTOV, A.I.

Automatic safety device for preventing beer from being spilled and thrown over. Spirt.prom. 27 no.3:28-29 '61. (MIRA 14:4)
(Distillation apparatus)

KOTOV, A.I., kand.tekhn.nauk, dotsent; BONDARENKO, N.F., inzh.

Electroosmotic effect on soils during the construction of pile foundations. Trudy LIVT no.19:33-41 '61. (MIRA 14:9)
(Piling (Civil engineering)) (Electroosmosis)

NERPIN, Sergey Vladimirovich, doktor tekhn. nauk, prof.; KOTOV, Aleksandr Ivanovich; RASHA, Dmitriy Nikolayevich; ZARKHI, A.Z., kand. tekhn. nauk, dots., retsenzent; MORARESKUL, N.N., kand. tekhn. nauk, dots., retsenzent; SHTENTSEL', V.K., red.; VOLCHOK, K.M., tekhn. red.

[Footings, basements, and engineering geology] Osnovaniia, fundamenty i inzhenernaia geologiia. Pod obshchei red. S.V. Nerpina. Moskva, Izd-vo "Rechnoi transport," 1963. 360 p. (MIRA 16:7)

(Engineering geology)

KOTOV, A. I.

Kotov, A. I. -- "Investigation of the Processes of Packing and Swelling of Cohesive (Clay) Soils." Min River Fleet USSR, Leningrad Inst of Engineers of Water Transport, Leningrad, 1955 (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No 24, 11 June 1955, Moscow, Pages 91-104

124-11-13244

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 139 (USSR)

AUTHOR: Kotov, A. I.

TITLE: On the Deformation of Argillaceous (Clayey) Soils.
(O deformatsiyakh svyaznykh (glinistykh) gruntov.)

PERIODICAL: Tr. Novosibirsk. in-ta inzh. vodn. transp., 1956, Nr 2, pp 128-145

ABSTRACT: The paper describes the results of compression tests on large samples (503 mm diameters) of loam on a specially constructed testing stand. Extensive observations on the deformation of the samples and their internal pressures (measured by means of hydro-aerostatic manometers) are reported. The data were recorded simultaneously every 2 to 3 seconds by means of a photorecording of a number of indicators. The Author notes the significant part played by the creep in the total deformation of the sample; he shows that the creep continued, in some tests, for more than 6-7 months and that it achieved its clear-cut identity after 10 to 15 hours after the start of a test. The magnitude of the ratio of the pressure increase in the captured water to the increase in the loading was found to diminish

Kotov, A.I.

K-4

USSR/Forestry - Forest Economy.

Jour : Ref Zhur - Biol., No 3, 1958, 10590

Author : Kotov, A.I.

Inst : Ukrainian Agricultural Academy.

Title : On Increasing the Frequency of Maintenance Cutting in the Forests of the Steppe Zone of the UkSSR.

Orig Pub : Nauchn. tr. Ukr. s.-kh. akad., 1956, 8, 263-265

Abstract : The schedule of cleaning, thinning, and clearing lanes recommended for the forests of the USSR in the instruction on maintenance cutting (1953) is unsuitable for the forests of the zone [sic] of the UkSSR. In many steppe forest economies, lengthening the periods between thinnings and clearing lanes led to a lowered sanitary state of the plantings, the appearance of a large amount of dead wood, insect pests, and fungus diseases. It would be sensible to lessen the

Card 1/2

Card 2/2

SOV/124-57-3-3292

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 95 (USSR)

AUTHOR: Kotov, A. I.

TITLE: Experimental Investigation of the Seepage Characteristics of Loams (Eksperimental'nyye issledovaniya fil'tratsionnykh svoystv suglinkov)

PERIODICAL: Tr. Leningr. in-ta inzh. vod. transp., 1956, Nr 23, pp 65-71

ABSTRACT: Bibliographic entry

SOV/24-58-9-15/31

AUTHORS: ~~Kotov, A.I. and~~ Nerpin, S.B. (Leningrad)

TITLE: Water-resistant Properties of Clay Soils and Earths and the Nature of the Initial Percolation Gradients (Vodoupornyye svoystva glinistykh pochv i gruntov i priroda nachal'nykh gradiyentov fil'tratsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 9, pp 106 - 109 (USSR)

ABSTRACT: According to Darcy's law, the percolation coefficient R is equal to V/J , where V is the mean flow velocity and J is the pressure gradient. Experimentally, it is found that percolation only begins when a certain minimum pressure gradient is established and percolation at low pressure gradients is less than that predicted by Darcy's law. An attempt is made in the paper to account for these deviations from the law by means of a model consisting of an assemblage of tortuous capillaries containing a non-Newtonian fluid. The equations for flow of the fluid are set up and solved and curves are obtained (Figure 1) for dependence of the flow velocity and percolation coefficient on pressure gradient. Experiments on clays of different porosities (Figure 2) show that the shape of the observed curves of the percolation coefficient against pressure

Card1/2

Water-resistant Properties of Clay Soils and Earths and the Nature of the Initial Percolation Gradients

gradient are similar to those predicted theoretically. The effect of porosity is also accounted for. Thanks are expressed to B.V. Deryagin for discussion of the results and to S.A. Roza for supply of apparatus. There are 3 figures and 5 references, 3 of which are Soviet and 2 English.

ASSOCIATION: Leningradskiy institut inzhenerov vodnogo transporta (Leningrad Institute of Water Transport Engineers)

SUBMITTED: April 30, 1957

ROZA, S.A.; KOTOV, A.I.

Experimental investigation of skeletal creep in soils. Zap. LGI 34 no.2:203-213 '58. (MIRA 12:6)
(Soil mechanics)

NERPIN, S.V., doktor tekhn.nauk, prof.; KOTOV, A.I., kand.tekhn.nauk, dotsent; RAYEV, V.A., inzh.

Nature of the compressibility of clayey soils. Trudy LIIVT no.26: 105-111 '59. (MIRA 14:9)

(Clay)