

LUR'YE, A. S.

Technic for the formation of a preternatural anus following extirpation of the rectum in cancer. Vop. onk. 8 no.1:30-32 '62.
(MIRA 15:2)

1. Iz Kostinskoy onkologicheskoy bol'nitsy Mosoblzdravotdela.

(RECTUM--CANCER) (ANUS--SURGERY)

LUR'YE, A. S., doktor med. nauk (Kaliningrad, Moskovskoy obl., Kostino,
Shkol'nyy pr., d 5-a, kv. 14).

Anterior approach to the upper part of the thoracic section of
the esophagus. Vest. khir. no.2:11-13 '62. (MIRA 15:2)

1. Iz Kostinskoy oblastnoy onkologicheskoy bol'nitsy (gl. vrach -
Z. A. Bunatyan) Mosoblzdravotdela.

(ESOPHAGUS--SURGERY)

LUR'YE, A. S., doktor med. nauk

Cicatricial stenosis of the esophagogastric anastomosis treatment.
Khirurgia no.2:77-81 '62. (MIRA 15:2)

1. Iz Kostinskoy oblastnoy onkologicheskoy bol'nitsy (glavnyy
vrach Z. A. Bunatyan) Mosoblzdravotdela.

(ESOPHAGUS—SURGERY)
(STOMACH—SURGERY)

LUR'YE, A. S.

Some difficulties in the formation of esophageal anastomoses.
Grud. khir. 4 no.3:48-50 My-Je '62. (MIRA 15:7)

1. Iz Moskovskoy oblastnoy onkologicheskoy bol'nitsy (glavnyy
vrach P. M. Isakhanov)

(INTESTINES--SURGERY) (ESOPHAGUS--SURGERY)
(STOMACH--SURGERY)

LUR'YE, A.S., doktor med.nauk (Kaliningrad, Moskovskoy oblasti, Kostino,
Shkol'nyy proyezd, d.5a, kv.14)

Treatment of stases in an antethoracically displaced stomach.
Klin.khir. no.11:81 N '62. (MIRA 16:2)

1. Moskovskaya oblastnaya onkologicheskaya bol'nitsa.
(DIGESTIVE ORGANS—SURGERY)

LUR'YE, A.S., doktor med. nauk

Technique of pancreatic resection in a transpleural removal
of cardiac cancer. Khirurgiia 39 no.6:63-65 Ja '63.

(MIRA 17:5)

1. Iz Moskovskogo oblastnogo onkologicheskogo dispansera
(glavnyy vrach P.M. Isakhanov).

ABRAHAM, A.S., doktor med. nauk (P. I. Meditsinskii, Moskovskoy oblasti. E.
Shkol'nyy prospekt, d. 5-6, kv. 14)

Resection of the pancreas in the transpleural removal of the sto-
mach in cancer. Vest. khir. 90 no. 5:42-45 1973 (19 31 17:5)

1. Iz Moskovskogo oblastnogo onkologicheskogo dispansera (glav-
nyy vrach - P. M. Isakhanov).

LUR'YE, A.S. (Kaliningrad, 5, Moskovskoy oblasti, Shkol'nyy prospekt,
d.5a, kv.7)

Ligature of the thoracic lymphatic duct in surgery on the
esophagus. Grud. khir. 5 no.5:74-76 S-0 '63. (MIRA 17:8)

1. Iz Moskovskoy oblastnoy onkologicheskoy bol'nitsy (glavnyy
vrach P.M. Isakhanov).

LUR'YE, A.S. (Moskovskaya oblast, Kaliningrad, 5, Shkol'nyy prospekt,
5-a, kv.14)

Resection of the upper segment of the stomach in cancer.
Vop. onk. 9 no.9:44-49 '63. (MIRA 17:9)

1. Iz onkologicheskogo dispansera Moskovskoy oblasti (glavnyy
vrach - Isakhanov, P.M.)

LUR'YE, A.S., doktor med. nauk

Abdominoparasacral resections of the rectum, Akt. vop. prokt.
no.2s204-211 '63 (MIRA 18:1)

IUR'YE, A.S., doktor med. nauk (Kaliningrad, Moskovskoy oblasti, Shkol'nyy
proyezd, 5-2, kv.14)

Technique for rectal resection. Vest. kair. 92 no.5:115-118 1964.
(MIRA 18:1)

1. Iz Moskovskogo oblastnogo onkologicheskogo dispensera (glavnyy
vrach - P.M. Isakhanov).

LUR'YE, A.S., doktor med. nauk

Pathology and surgery of tumors of the glomus caroticum. Khirurgiia
40 no.12:112-118 D '64. (MIRA 18:3)

1. Kostinskaya oblastnaya onkologicheskaya bol'nitsa (glavnyy
vrach P.M. Isakhanov) Moskovskogo otdela zdravookhraneniya.

LUR'YE, A.S., doktor med. nauk

Methodology of the removal of cancer of the thoracic part of
the esophagus. Khirurgiia 41 no.4:47-52 Ap '65. (MIRA 18:5)

1. Moskovskiy oblastnoy onkologicheskoy dispanser.

IUR'YE, A.S.

Treatment of cancer of the thoracic section of the esophagus.
Vop. onk. 11 no.3:8-13 '65. (MIRA 18:6)

1. Iz Moskovskogo oblastnogo onkologicheskogo disparsera (glavnyy vrach - P.M. Iskhanov).

LUR'YE, A. T.

Elektricheskie Izmereniya v Setyah Silnovo Toka (Electrical Measuring in High Voltage Networks), Moscow-Leningrad, 1948.

LUR'YE, A. T.

Promishlennie Elektrodetonatori (Industrial Electro-Detonators, Moscow, 1949.

LUR'YE, A. T.

PA 16/49T98

USSR/Mining
Blasting

Oct 48

"New Method for Making Computations on Large-Scale Electrically Detonated Blasting Circuits,"
A. T. Lur'ye, Mil Transp Acad imeni Kaganovich,
4 1/2 pp

"Gor Zhur" No 10

Deduces and discusses basic equation for electric blasting circuit. Gives graphic method for solving equations. Illustrates method by theoretical example.

16/49T98

LUR'YE, A.YA.

USSR/Microbiology - Microorganisms Pathogenic to Humans and Animals F-3

Abstr Jour: Ref Zhur - Biol., No 18, 1958, 81571

Author : Verkos, K.P., Plotneva, G.G., Blankman, A.L.,
Yishnyakaya, N.Y., Korneyeva, G.A., Linskaya,
A.I., Lur'ye, A. Ye., Isakovich, S.P.

Inst : -

Title : Vaccination Against Tuberculosis of Children
and Adolescents Having a Positive Reaction to
Intra-Dermal Injection of Tuberculin.

Orig Pub: Vopr. okhrany materinstva i detstva, 1957, 2,
No. 6, 40-43

Abstract: No abstract.

Card 1/1

42

LUR'YE, A

YE

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Prochnost' Elementov Parovykh Turbin (Stability of the Elements of
Steam Turbines) Sbornik Statey. Pod Redaktsiyey I. I. Kirillova i A. Ye.
Lur'ye. Moskva, Mashgiz, 1951.
242 p. Illus., Diagr., Tables.
Bibliographical Footnotes.

LUR'YE, A. Ye.
LUR'YE, A. Ye.

Information in the foreign press. Tekst.prom.15 no.9:44-45 S'55.
(Textile industry) (MLRA 8:11)

LUR'YE, A.Ye., kandidat tekhnicheskikh nauk.

Synthetic fiber fabrics. (From: "Industrie Textile" no.823, 1955)
Leg. prom. 15 no.11:49-50 H '55. (MLRA 9:2)

1. United States--Textile fibers, Synthetic.

LUR'YE, A.Ye.

Part of the Alexandrovsk mill in the development of the Russian
textile and machinery industry in the first half of the 19th century.
Trudy Indt.ist.est. i tekhn. 13:79-101 '56. (MIRA 10:1)
(Textile industry--History) (Machinery industry--History)

BUTOVICH, Vasily Mikhaylovich, inzh.; VILLEMSON, Khenrik
Iokhanesovich, inzh.; KORZINKIN, Nikolay Sergeyeovich, inzh.;
USHNIR, Saveliy Abramovich, kand. tekhn. nauk; LUR'YE,
Aleksandr Yevseyevich, kand. tekhn. nauk; POSTNIKOVA, K.P.,
prepodavatel'nitsa; KHOTIMSKIY, P.M., red.; FRUDNO, K.F., tekhn.
red.

[France-Russian textile dictionary] Frantsuzsko-russkii tekstil'-
nyi slovar'. [By] V.M.Butovich i dr. sostaviteli. Moskva, Fiz-
matgiz, 1962. 462 p. (MIRA 15:7)

1. Moskovskiy tekstil'nyy institut (for Postnikova).
(Textile industry--Dictionaries)

LURNE, A. Z.

37671 instrument dlya biopsiislizistoy obolochki gaymorovoy
pazukhi. vestnik otorinolaringologii,
1949, No. 6, s. 57-58

So. Letopis' Zhurnal'nykh Statey, Vol. 47, 1949

LUR'YE, A.Z.

LUR'YE, A.Z., kandidat meditsinskikh nauk

Histological data on structural modifications of the mucosa of the maxillary sinus following surgery of the cavity. Vest. otorin. 16 no.3:52-54 My-Je '54. (MLRA 7:7)

1. Iz kliniki bolezney ukha, gorla i nosa (sav. prof. B.N.Lebedevskiy) Molotovskogo meditsinskogo instituta.

(MAXILLARY SINUS, surgery,

*postop. changes of mucosa)

(MUCOUS MEMBRANES,

*maxillary sinus, postop. changes)

LUR'YE, A.Z.

LEBEDEVSKIY, B.N., professor, zasluhenny deyatel' nauki; LYR'YE, A.Z.,
kandidat meditsinskikh nauk

Preservation of the mucosa in radical surgery of the maxillary
sinus. Vest. oto-rin. 16 no.4:54-57 J1-Ag '54. (MIRA 7:8)

1. Iz kliniki bolezney ukha, gorla i nosa Molotovskogo meditsin-
skogo instituta.

(SINUSITIS,

*maxillary, surg., conservation of mucosa)

LUR'YE, B. A.

Trigonometry - Study and Teaching

"Questions of trigonometry and its teaching." N. M. Beskin. Reviewed by B. A. Lur'ye;
Mat. v shkole no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

LUR'YE 1958

AUTHORS: Gertsenov, K. M., Candidate of Technical Sciences, Lur'ye, B. A., Engineer 6-58-3-5/16

TITLE: An Evaluation of the Correction of an Aerophotographic Film Into a Plane in Aerial Photographs of Mountainous Regions (Otsenka vyravnivaniya aeroplanki v ploskost' pri aerofotos" yemke gornykh rayonov)

PERIODICAL: Geodeziya i Kartografiya, 1958, Nr 3, pp. 23-31 (USSR)

ABSTRACT: The correction of an aerophotographic film into the plane is in aerial photographs at present mainly evaluated according to the method of the graphical interpolation of the transverse parallaxes. In mountainous regions the q -values reduced to a plane for all points of reduction are interpolated. In the evaluation of the distortions of aerial photograph negatives it was found in the Moscow Geodetical Service that in some cases the divergence, exceeding the permissible measure, between q_{measured} and $q_{\text{calculated}}$ is not only caused by the distortions of the aerial photograph negatives, but by the errors of measurement of the transverse parallax. One of the sources of these errors is the inexact orientation of the aerial photographs to the instrument. The calculation of this

Card 1/2

An Evaluation of the Correction of an Aerophotographic Film 6-58-3-5/16
Into a Plane in Aerial Photographs of Mountainous Regions

error is given here and it is shown that it is necessary to employ more exact method in the orientation of aerial photographs. Moreover the errors of the transverse-parallax-measurements proper exert an influence upon the results in the evaluation of the corrections of aerophotographic films for the plane. Therefore the control of measurement and the control of the calculations are very important. It is expedient when two persons survey and when the average of results of the two measurements is used for further computations. In the Moscow Air Geodetical Service a method for the evaluation of the correction into the plane of aerial photographs of mountainous regions was worked out taking into account the influence of the errors of orientation and instrument measurement. This method according to the graphic method of interpolation is shortly described here. The determination of the distortions of the negatives of aerial photographs was carried out by means of the stereoprojector C P-2 by Romanovskiy. 1-1,5 hours are necessary on the average for one pair of aerial photographs. There are 3 figures, 4 tables, and 2 references; which are Soviet. Library of Congress

AVAILABLE:
Card 2/2

1. Aerial photography
2. Topography

L 19696-63

WW/JW/MAY/JWD/H

ACCESSION NR: AP3006615

EPR/EPF(c)/EWT(m)/BDS

AFFTC

Ps-4/Pr-4

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S/0076/63/037/009/1979/1984

213

AUTHOR: Svetlov, B. S.; Lur'ye, B. A.

TITLE: Characteristics of the thermal decomposition of dinitroxy-ethylnitramine

SOURCE: Zh. fizicheskoy khimii, v. 37, no. 9, 1963, 1979-1984

TOPIC TAGS: nitro ester, explosive, thermal decomposition, liquid explosive, chemical stability, stability, nitric acid, dinitroxy-ethylnitramine, decomposition, storage stability

ABSTRACT: The thermal decomposition of dinitroxyethylnitramine (DINA) was studied in the presence and absence of water and nitric acid at 60-170C in order to determine both the effect of reaction products on the decomposition rate and the decomposition characteristics at low temperatures. The experiments were conducted in a pressure bomb filled to varying degrees with DINA. The initial bomb pressure was 1 mm Hg. The pressure increase was measured as

Card 102

L 19696-63

ACCESSION NR: AP3006615

2
a function of time, and the concentration of NO_2 in the decomposition products was determined colorimetrically. Some results are shown in Figs. 1-4 of the Enclosure. The following conclusions were drawn: 1) Thermal decomposition of DINA can take place by two different mechanisms: one involves spontaneous decomposition and resembles the mechanism observed with other nitroesters; the other takes place at low temperatures, involves hydrolysis accompanied by oxidation, and is characterized by strong self-acceleration. 2) In contrast to nitroglycerine, DINA exhibits a tendency to self-inhibition. 3) At low temperatures the decomposition rate of DINA after accumulation of decomposition products may be more than 100 times, and in the presence of water 1000 times, the initial decomposition rate. 4) The chemical stability of DINA is basically determined by the presence of water, which may induce self-accelerating hydrolysis, and by nitric acid, which it may contain as a technical impurity. Orig. art. has: 7 figures.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskij institut im. D. M. Mandel'eyeva (Moscow Institute of Chemical Technology)

Card 2102

LJR'YE, B.B.

Imbedding problem involving a centerless germ. Izv. AN SSSR. Ser.
mat. 28 no.5:1135-1138 S-0 '64. (MIRA 17:11)

1. Leningradskoye otdeleniye Matematicheskogo instituta imeni
Steklova AN SSSR.

LUR'YE, B. B.

"Leonard System With the Generator Armature Voltage Introduced Into Its Exciting Winding."
Thesis for degree of Cand. Technical Sci. Sub 21, Nov. 49, All-Union Correspondence
Polytechnical Inst.

Summary 82, 18 Dec. 52, Dissertations Presented for Degrees in Science and Engineering
in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

LUR'YE, "60"

621.313.236.3.062.1

3114. Circuit for parallel operation of amplidyne
with transverse field. B. B. LUR'Y AND M. D.
KOCHULESKO. *Elektrichestvo*, 1954, No. 2, 17-18.

In Russian.

The difficulty of operating amplidynes in parallel is due to the instability of their external characteristics which, in turn, may be caused by variations of the pressure of the brushes of the quadrature circuit due to wear, variations in the current distribution between compensating winding and shunt resistance when the temperature of the amplidyne varies, variations in ambient moisture and, finally, to incorrect adjustment of the brush arms and brushes. The circuit suggested connects the armature of each of the amplidynes in series with the compensating winding of the other machine and the control windings of the two amplidynes. The author shows theoretically and confirms by test results that the stability of this parallel circuit is fully satisfactory in all cases where parallel connection of amplidynes is required, because more than the 14-16 kW output of a single amplidyne is necessary.

B. P. KRAUS

B*

LUR'YE, B.B.

AUTHOR: MUZALEVSKIY, O.G. and LUR'YE, B.B., cand. of tech. sc. at the PA-2397 Central Scientific Research Institute of Iron Production (TsNIICHM).

TITLE/ Investigation of Performance of the Light Merchant Mill's Rolling Rate Regulator. (Issledovaniye raboty regulatora tempa prokatki melkosortnogo stana, Russian).

PERIODICAL: Stal', 1957, Vol 17, Nr 1, pp 135 - 140 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 5 / 1957

ABSTRACT: The analysis carried out showed that the automation system for the rolling regulator can not warrant the following: 1) Greater constancy of the time intervals between the rolling processes in the first roll stand than in the case of hand drive. 2) The constancy of the times between the rolling processes during tapping all through the train, which is necessary for smooth working. In order to improve the operation of the regulator it must first of all be avoided that 2 - 3 billets pass at the same time from the furnace to the roller train. For this purpose the use of roller trains with tapered rollers is suggested. Stability of the starting point can be attained by the construction of an automatically controlled mechanic support. As the centrifugal action of the ingots can be observed mainly in the first and second roll stand it serves the purpose of building an additional rate regulator before the fifth roll stand, for which purpose the

card 1/2

PA - 2397

Investigation of Performance of the Light Merchant Mill's Rolling Rate Regulator.

roller train before the fifth roll stand had to be devided into two sections. The controlling scheme for the roller train and the special characteristics of the operation of the rate regulator are described. (9 illustrations).

ASSOCIATION: Scientific Research Institute for Iron Production.(TsNIChM)
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.

Card 2/2

LUR/E, B.R.
8(5)

80V/1869

PHASE I BOOK EXPLOITATION

Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii

Elektroprivod reversivnykh prokatnykh stanov s elektromashinnym upravleniyem (Electric Drive of Reversing Rolling Mills With Dynamoelectric Control) Moscow, Metallurgizdat, 1958. 257 p. (Series: Its: Sbornik trudov, vyp. 14) Emata slip inserted. 3,800 copies printed.

Additional Sponsoring Agency: Institut proizvodstva stali.

Ed.: N.P. Kunitzkiy; Ed. of Publishing House: A.A. Vagin; Tech. Ed.: O.G. Bekker.

PURPOSE: This book is intended for scientific workers, process engineers, setup men, and designers, whose work is connected with electric drives of rolling mills. It may also be useful for students in advanced courses at polytechnical and power institutes who are specializing in the field of electric drives for rolling mills.

COVERAGE: The book deals with theoretical and experimental research being done on electric drives for reversing rolling mills. Optimum regimes for motors, the control of tension in rolling very thin band, control of the thermal load

Card 1/4

SOV/1869

Electric Drive of Reversing (Cont.).

of d-c rolling mill motors, and the stability of electronic time relay are discussed. Recommendations are made for the selection and determination of electric drive parameters of reversing rolling mills. The following personalities, all engineers, are mentioned: F.F. Olifer, B.Z. Zaytsev, V.L. Kalyazhnov, V.A. Kovtunovich, Sh.N. Kupershmit, and M.D. Kochenenko. There are 10 Soviet references.

TABLE OF CONTENTS:

Preface

3

Makeyev, I.F. [Candidate of Technical Sciences].
Tension Control as the Function of Power in Rolling Band
on a Cluster Mill

5

The Problem of accuracy in maintaining the uniformity of tension in winding a band on the drum of a coiler at constant speed is discussed, as well as the effect of single factors, such as tension, speed of rolling, power in idling, etc., on the accuracy of tension control.

Kunitskiy, N.P. [Candidate of Technical Sciences]. Optimum
Regimes for Acceleration of Motors Driving Reversing Rolling
Mechanisms at Constant Field

27

Card 2/4

Electric Drive of Reversing (Cont.)

SOV/1869

The author states that there is certain optimum value of additional resistance in the field circuit of the exciter, at which time motor acceleration is at a minimum, and there is no need for a large e.m.f. for an amplidyne. He also discusses the problem of obtaining an optimum current for motors driving reversing rolling mechanisms by selecting the necessary e.m.f. curve of the amplidyne, particularly its minimum value.

Kalinskiy, D.N., [Engineer]. Multiple-winding Exciter of a Generator 61
The use of a multiple-winding exciter for a self-excited generator is discussed, and the expediency in using parallel self-excitation is shown.

Kunitskiy, N.P. [Candidate of Technical Sciences]. Optimum Regimes of a Motor Driving a Reversing Rolling Mill at Speeds Above Normal With Three-stage Dynamoelectric Control 75

The theory design, method, and adjustment of parametric three-stage dynamoelectric control of the motor driving a reversing rolling mill at speeds above normal are discussed.

Card 3/4

Electric Drive of Reversing (Cont.)

SOV/1869

Kunitskiy, N.P. [Candidate of Technical Sciences]. Optimum Regime for Acceleration of the Motor Driving a Reversing Rolling Mill at Speeds Above Normal With Two-stage Dynamoelectric Control 204

The theory, design, method, and adjustment of two-stage dynamoelectric control of the motor driving a reversing rolling mill at speeds above normal are discussed. This system has been used for driving rolling mills put into operation during the last two or three years.

Lur'ye, B.B. [Candidate of Technical Sciences]. Stabilization of Electronic Time-relay Performance 233

A method of improving the stability of an electronic time-relay for use in circuits for the automation of processes in the metallurgical industry is discussed.

Zhilko, E.I. [Engineer]. Use of Logic Circuits for Controlling Manufacturing Processes 246

This approach, claimed by the author to be new, increases the possibility of automatic control of processes which were formerly considered inaccessible for automation because of their lack of mathematical interpretation.

AVAILABLE: Library of Congress

Card 4/4

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9.2140 (1088,1143,1325)

S/112/59/000/012/058/097
A052/A001

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, No. 12, p. 159,
25011

AUTHOR: Lur'ye, B.B.

TITLE: Stabilization of Electronic Time Relay Operation

PERIODICAL: Sb. tr. Tsentr. n.-1. in-t chernoy metallurgii, 1958, No. 14,
pp. 233-245

TEXT: A method is proposed for stabilization of operation of electronic time relays assembled on tetrodes and pentodes. At a proportional changing of the negative control-grid potential and the supply voltage, the anode current of the tube maintains a constant value corresponding to the relay pull-in current; the delay of the electronic time relay does not depend within broad limits on the change of supply voltage. Since the anode current of the tube is in a considerable degree determined by the screen grid voltage, it is suggested to connect the screen grid to the gas-discharging voltage stabilizer. Characteristics and experimental data of various types of electronic time relay are given. An electronic

Card 1/2

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Stabilization of Electronic Time Relay Operation

S/112/59/000/012/058/097
AO52/A001

relay circuit with the screen grid voltage stabilization has secured a change of delay by 1% at supply voltage fluctuations from 175 to 260 volts. There are 14 illustrations.

V.Ye.Kh.

Translator's note: This is the full translation of the original Russian abstract.

UX

Card 2/2

DOTSENKO, V.Ye., prof.; LUR'YE, B.B., docent; SEREBBYANSKAYA, N.Z.,
inzh., REMOROV, A.A., inzh.

Static converter with automatic output voltage regulation.

Trudy MIIT no.205:16-26 1965.

(MIRA 18:9)

LUR'YE, B.B.

Imbedding problem involving a noncommutative germ of p^3 order.
Trudy Mat. inst. 80:98-101 '65. (MIRA 18:7)

BASOVA, B.K., dotsent; IMR'YE, B.B., dotsent

Use of static phase converters in track work in railroad trans-
portation, Trudy MIIT no.205:104-115 '65. (MIRA 18:9)

VINOGRADOV, I.A.; LUR'YE, B.D., redaktor; TISHMVSKIY, I.I., tekhnicheskij
redaktor

[Let us increase productivity in swine breeding] Povyshaem pro-
duktivnost' svinovodstva. [Moskva, Izd-vo Ministerstva sel'skogo
khoziaistva SSSR, 1955] folder (5 p.) (MLBA 10:1)

1. Zaveduyushchiy svinofermoy kolkhoza "Trudovaya armiya,"
Tutayevskogo rayona, Yaroslavskoy oblasti (for Vinogradov)
(Swine breeding)

KOLESNIKOV, Venedikt Andreyevich, prof., doktor sel'skokhoz.nauk; ZHURIN, Aleksey Borisovich, agronom; KAPTSINZL', Mikhail Abramovich, agronom; KAPTSINEL', Anna Petrovna, agronom; KOVAL', Alla Alekseyevna, kand.sel'skokhoz.nauk; KORCHAGIN, Vladimir Nikoleyevich, entomolog; ZUBAREV, N.A.; LUR'YE, B.D., red.; RAZGULYAYEVA, N.G., tekhn.red.

[Amateur fruitgrower's reference manual] Kalendar'-spravochnik sadovoda-liubitelia. Moskva, Izd-vo M-va sel'.khoz.SSSR, 1959. 494 p. (MIRA 13:4)

(Fruit culture)

MAKARENKO, G.A.; GRIGOR'YEVA, V.G.; SHEYNINA, T.I., red.; LUR'YE,
B.I., red.

[Book to aid the agricultural specialist engaged in produc-
tion; index of literature for 1963] Knigu - v pomoshch' spe-
tsialistu sel'skogo khoziaistva na proizvodstve; ukazatel'
literatury za 1963 god. Moskva, Kolos, 1964. 111 p.
(MIRA 18:3)

1. Moscow. Tsentral'naya nauchnaya sel'skokhozyaystvennaya
biblioteka.

LUR'YE, B.G.

Friction coefficients of materials used for making machine-tool
guides. Stan.1 instr. 30 no.3:17-19 Mr '59. (MIRA 12:3)
(Machine tools)

LEVIT, G.A.; LUR'YE, B.G.

Improving the lubrication of feed-mechanism guides. Stan. i instr.
32 no.11:18-24 N '61. (MIRA 14:10)
(Feed mechanisms--Lubrication)

LEVIT, G.A.; LUR'YE, B.G.

LUR-203

Calculating feed-mechanism guides according to friction
characteristics. Stan.i instr. 33 no.1:12-15 Ja '62.
(MIRA 15:2)

(Feed mechanisms)

LUR'YE, B.G.

Using the theory of similitude in designing machine tools with
uniform feeds. Stan.i instr. 33 no.11:11-14 N '62. (MIRA 15:11)

(Machine tools--Design) (Similitude, Theory of)

LEVIT, G.A.; LUR'YE, B.G.

Design of hydrostatic open guides. Stan. i instr. 34 no.10:
7-13 0 '63. (MIRA 16:11)

LEVIT, G.A.; LUR'YE, B.G.

Design of closed hydrostatic guides. Stan. i instr. 35 no.6:
6-12 Je '64 (MIRA 17:8)

L 52120-65 EWP(k)/EWT(d)/EWP(h)/EWA(d)/EWP(1)/EWP(v) PP-4

ACCESSION NR: AP5015362

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621.836.2

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AUTHOR: Levit, G. A.; Lur'ye, B. G.

TITLE: Hydrostatic guides. Class 49, No. 170818

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 112

TOPIC TAGS: metalworking machine, hydrostatic pressure, machine tool industry,
machine part 14

ABSTRACT: This Author's Certificate introduces hydrostatic guides for metal cutting machine tools with rectangular working surfaces and oil containers which are connected with a hydrostatic system for feeding lubricants under pressure. The guides may be used for rectilinear displacement of a movable unit with power locking in the vertical and horizontal planes. The guides are designed to be made up from standard elements for machine tools of various types and sizes. The devices are made up of several hydrostatic supports with built-in choke valves. Each support combines a section of the guide with the basic elements of the hydrostatic system--the oil cups connected with the choke valves and channels for lubricant feed.

Card 1/2

L 52120-65

ACCESSION NR: AP5015362

ASSOCIATION: Eksperimental'nyy nauchno-issledovatel'skiy institut metallo-
rezhushchikh stankov (Experimental Scientific Research Institute of Metal Cutting
Machine Tools)

SUBMITTED: 26Jul69

ENCL: 00

SUB CODE: IE, MH

NO REF SOV: 000

OTHER: 000

Card 2/2 *fr*

LEVIT, G.A.; LORRE, H.G.

Investigation and design of guides with pressure lubrication. Stan.
1 instr. 36 no.5:15-21 My '65. (MIRA 18:5)

LUR'YE, B.

PA 175T99

USSR/Physics - Diffusion

11 Aug 50

"Experiments on Determination of Diffusion Coefficient of Sodium Ions in Sodium Chloride,"
A. Murin, B. Lur'ye

"Dok Ak Nauk SSSR" Vol LXXIII, No 5, pp 933-935

(Radium Inst. in Khlopin, AS USSR)

Describes attempts to work out exptl procedure in detn of magnitude of subject coeff of diffusion of Na^+ ions in solid NaCl. Compares exptl and theoretical values for various temp. Radioactive sodium (Na^{24} , $T = 14.8$ hr) employed. Submitted 16 Jun 50 by Acad P. I. Lukirskiy.

175T99

LUR'YE, S

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USSR :

Experiments for the determination of the mean range of recoil nuclei in heavy halides of lead. S. Muzin, B. Lur'ye and V. Pavlov. *Doklady Akad. Nauk S.S.S.R.* 77, 243-7 (1951). The recoil nuclei, which result from the α -decay of $RdTh$ and ThC' , are collected on the surfaces of cylinders made of $PbCl_2$ and PbI_2 . A thin surface layer ($\sim 10^{-4}$ cm.) is then cut off, and its activity is measured. The mean range of the recoil nuclei in $PbCl_2$ and in PbI_2 is deduced from the results obtained and compared with the theoretical formulas for collision loss. The agreement between theory and exptl. results is satisfactory for $PbCl_2$ but somewhat less so for PbI_2 . E. Gora

LUR'YE B.

USSR/Physics

Card 1/1 Pub. 22 - 15/47

Authors : Murin, A. and Lur'ie, B.

Title : Experimental study of the diffusion of silver and lead ions in silver bromide

Periodical : Dok. AN SSSR 99/1, 53-55, Nov 1, 1954

Abstract : Experimental studies intended to determine the coefficients of diffusion of silver bromide are described. It resulted in construction of equations, the solution of which is done graphically (for silver diffusion). Ten references: 4-USSR (1928-1952). Graphs.

Institutions : Radium Institute im. V. G. Khlopin of the Acad. of Scs. of the USSR and Leningrad State University im. A. A. Zhdanov

Presented by : Academician P. I. Lukirskiy, July 1, 1954

LUR'YE, B. G.

USSR/Physics

Card 1/1 Pub. 22 - 11/45

Authors : Murin, A. N.; Kazakova, G. N.; and Lur'ye, B. G.

Title : Experiments with diffusion of bromine in solid argentum-bromide for purposes of studying

Periodical : Dok. AN SSSR 99/4, 529-531, Dec 1, 1954

Abstract : Experiments with bromine diffusion in solid argentum-bromide are described. Bromine diffusion of pure bromine as well as brominated samples were studied with the help of a radioactive indicator Br^{82} . Two methods - the contact and the adsorption methods - were used. The first one was used in the cases of pure bromine samples, the second, in the cases of brominated samples. Diffusion coefficients obtained by both methods are considered quite satisfactory and can be expressed as follows: $D_{\text{Br}} = 0.50e^{-24000 \text{ RT}} \text{ cm}^2/\text{sc}$. Coefficients of electric conductivity of bromine and brominated samples were also determined. Ten references 7-USSR (1937-1954). Diagrams.

Institution : Leningrad State University im. A. A. Zhdanov, Radium Inst. im. V. G. Klopov,
Presented by: Academician P. I. Lukirskiy, June 9, 1954 AS USSR

LUR'YE, B. G.

LUR'YE, B. G. — "On Electrical Conductivity and Diffusion in the Halides of Silver and the Alkali Metals." Acad Sci USSR. Radium Inst imeni V. G. Khlopin. Leningrad, 1955. (Dissertation for the Degree of Candidate in Physicomathematical Sciences)

SOURCE Knizhnaya Letopis', No 6 1956

LUR'YE, B. G.
USSR/Physics - Diffusion of ions

FD-3148

Card 1/1 Pub. 153 - 4/26

Author : Banasevich, S. N.; Lur'ye, B. G.; Murin, A. N.

Title : Determining the coefficient of diffusion of silver ions in silver bromide by the method of taking off of thin layers

Periodical : Zhur. tekhn. fiz., 25, No 13 (November), 1955, 2277-2279

Abstract : The coefficients of self-diffusion of silver ions in compressed tablets of silver bromide were measured by the absorption method earlier (A. N. Murin, Yu. Taush, DAN SSSR, 80, No 4, 1951; A. N. Murin, B. G. Lur'ye, DAN SSSR, 99, No 1, 1954) and were found to deviate from the value computed according to the Einstein equation $D = kT/c/Ne^2$. To solve conclusively the problem of this deviation the authors conducted experiments to measure the concentration of tracer atoms c at various distances from the initial boundary x . They present the results, from which they conclude that the mechanism of self-diffusion and of ion conductivity in the case of silver bromide is one and the same, at least in the high-temperature structural-nonsensitive region. Two references.

Institution :

Submitted : June 14, 1955

BARANOVSKIY, V.I.; LUR'YE, B.G.; MURIN, A.N.

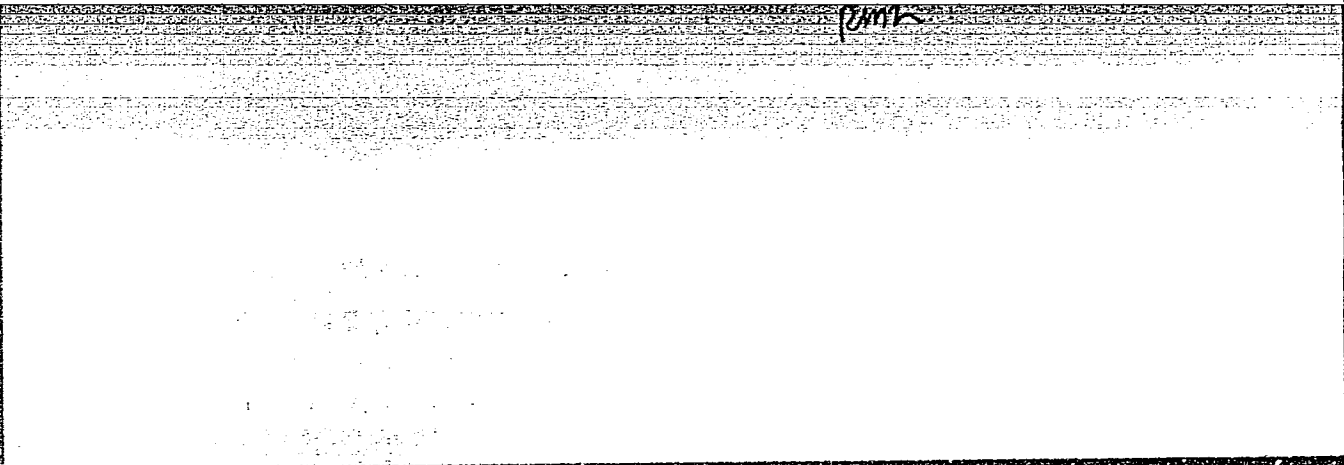
Electric conductivity and self-diffusion coefficients of cations
in silver iodide. Dokl.AN SSSR 105 no.6:1188-1191 D '55.(MLRA 9:4)

Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanava. Pred-
stavleno akademikom A.F.Ieffe.
(Silver iodide--Electric properties) (Cations)

STARIK, I.Ye.; RATNER, A.P. [deceased]; GROSHKOV, G.V.; MURIN, A.N.;
STARIK, A.S.; GREBENSHEIKOVA, V.I.; KLOKMAN, V.P.; NEFEDOV, V.D.;
LUR'YE, B.G.; ISHINA, V.A.; SMIRNOV, L.A.; YEFIMOVA, Ye.I.;
TOROPOVA, M.A.; SIMONYAK, Z.N.; FRENKLIKH, M.S.; SICHEMELEVA, Ye.V.,
redaktor; VODOLAGINA, S.D., tekhnicheskiy redaktor

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

1. Leningrad. Universitet.
(Radiochemistry)



MURIN, A.N.; LUR'YE, B.G.

Electric conductivity and diffusion of plastically deformed silver
halide samples. Probl. kin. i kat. 9:321-328 '57. (MIRA 11:3)
(Silver halides--Electric properties)

SOV/76-32-11-18/32

5(4)

AUTHORS:

Murin, A. N., Lur'ye, B. G.

TITLE:

On the Diffusion of the Silver Ions in the Mixed Crystals
AgBr + CdBr₂ (O diffuzii ionov serebra v smeshannykh kristal-
lakh AgBr + CdBr₂)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2575-2579
(USSR)

ABSTRACT:

The dependence of the electric conductivity of the mixed
crystals AgBr + CdBr₂ on the composition is rather complex. It
is assumed that the Cd²⁺ ions in the crystal lattice AgBr take
the positions of the Ag ions, but that at the same time an
equivalent number of lattice positions Ag_□ are formed which
secure an electric neutrality of the mixed crystal. The migra-
tion processes of the interstitial ions can take place in the
form of direct (from one position to the other) or "relay"
transitions. In pure AgBr the value $\alpha \approx (0.5-0.6)$ was obtained
(Refs 3,4 and 10), which corresponds to two thirds "relay"
and one third direct transfers. To determine the coefficients
of the autodiffusion of silver ions in AgBr in the case of

Card 1/3

SOV/76-32-11-18/32

On the Diffusion of the Silver Ions in the Mixed Crystals $\text{AgBr} + \text{CdBr}_2$

different amounts of the CdBr_2 additions (0-6 mol%) the method of sectioning was employed in the present case. The authors used AgJ activated with Ag^{110} in a furnace (Fig 1) at 225° . A minimum observed on the diffusion isotherm is explained by a quasichemical reaction, the "salting out", corresponding to the equation $\text{Ag}_\square + \text{Ag}^0 \rightleftharpoons \text{Ag}^+$ (in the lattice). The further increase of the diffusion coefficient with the Cd concentration is explained by an increase of the empty lattice sites in the cationic part of the AgBr lattice. The ratio between the diffusion coefficients calculated from data by Teltov (Tel'tov) according to the Einstein equation (Eynshteyn) and the experimentally obtained values remains constant ($\alpha = 0.67$) (Table). The obtained results tend to show the absence of movable "complex compounds" of the $\text{Cd}^{2+}\text{Ag}_\square$ type. L. M. Belov, Diploma Candidate, took part in the investigations. There are 1 figure, 1 table, and 14 references, 4 of which are Soviet.

ASSOCIATION: Gosudarstvennyy universitet im. A. A. Zhdanova, Leningrad
(State University imeni A. A. Zhdanov, Leningrad)

Card 2/3

SOV/20-127-5-2417

5(4)

AUTHORS:

Murin, A. N., Lur'ye, B. G., Shapkin, G. N.

TITLE:

On the Transfer Haats of the Complexes $[Cd^{++}Ag\Box]$ in $AgBr + CdBr_2$ Crystals

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 5, pp 1055-1057 (USSR)

ABSTRACT:

In a solid solution of cadmium bromide in silver bromide Cd^{++} ions take the place of Ag^+ -ions in the crystal lattice of $AgBr$ under production of $Ag\Box$ -cation vacancies. The reaction between Cd^{++} (with an excess charge $+e$) and the vacancies $Ag\Box$ (excess charge $-e$) leads to the association of neutral complexes of the form $[Cd^{++}Ag\Box]$. If a temperature gradient becomes effective in the system $AgBr + CdBr_2$, a thermodiffusion of cadmium occurs, the Cd -ions moving only as a complex $[Cd^{++}Ag\Box]$.

In the steady state the relative concentration $\Delta C/C$ is described by the equation (Ref 2): $\frac{\Delta C}{C} = \frac{-(1+p)C_k^* + (1-p)\lambda X}{2kT^2} \Delta T$ (T - temperature difference between the cold and the hot end of the sample;

Card 1/3

SOV/20-127-5-34/58
On the Transfer Heats of the Complexes $[Cd^{++}Ag^{\square}]$ in $AgBr + CdBr_2$ -Crystals

Q_k^* - transfer heat of the complex $[Cd^{++}Ag^{\square}]$, $\nu =$ association heat of the complex according to reference 3 (0.16 ev). $\Delta C/C$ was measured. A finely dispersed mixture of $AgBr$ and $CdBr_2$, marked by Cd^{115m} , was pressed into tablets under a pressure of 4000 at. The said tablets were homogenized by annealing, and were then heated in a furnace with constant temperature gradient for 315 hours, batches of 5 tablets being separated by mica plates; the temperature difference between the hot and the cold end of the furnace amounted to 100° ($210-310^\circ$), so that a temperature difference of 20° corresponded to each tablet. Figure 1 shows the linear dependence of $lg C/C_0$ on $1/T$ (C_0 - concentration of cadmium before the experiment). In the case of the mentioned duration of the experiment, only the tablet at the hot end attained the equilibrium concentration, although the diffusion coefficient calculated by other authors (Ref 7) made it appear probable that equilibrium concentration would be attained by all 5 tablets. An experimental determination of the diffusion coefficient proved, however, that the data of reference 7 are too high by one order of magnitude,

Card 2/3

On the Transfer Heats of the Complexes $[Cd^{++}Ag\bar{Q}]$ in $AgBr+CdBr_2$ -Crystals SOV/20-127-5-34/58

and that the duration of the experiment actually sufficed only for the temperature interval of 310-290° in order to attain equilibrium concentration. Q_k^* was calculated as amounting to -0.54 ev. There are 1 figure and 9 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

PRESENTED: April 16, 1959 by A. F. Ioffe, Academician

SUBMITTED: April 13, 1959

Card 3/3

LURYE, B. G., LEBEDEV, N. A., MURIN, A. N.

"The Dependence of Self-Diffusion Coefficients of ¹⁰⁰Ag On the Pressure in Silver Bromide."

report submitted for 4th Intl. Symposium on the Reactivity of Solids, Amsterdam, 30 May - 4 June 1960.

S/181/60/002/01/19/035
B008/B014

24.7700

AUTHORS:

Banasevich, S. N., Lur'ye, B. G., Murin, A. N.

TITLE:

Determination of the Effective Charge of Ca Ions in Mixed Crystals of NaCl and CaCl₂

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 1, pp. 80-87

TEXT: The authors determined the diffusion coefficient of Ca ions and their mobility in a constant electric field by means of radioactive Ca⁴⁵. The plane-parallel plates of monocrystalline NaCl were annealed after which Ca⁴⁵ foils were sprayed on them. A special quartz tube was used for annealing both in vacuum and inert gas. The diffusion coefficient was independent of the medium. One of the diffusion profiles obtained

(Ca⁴⁵ activity distribution in the NaCl crystal) is shown in Fig. 1a. The calculated diffusion coefficients of the Ca⁺⁺ ions in NaCl crystals are listed in Table 1 and represented in Fig. 2 along with data by M. Chemla. About twenty experiments were made. When calculating the effective charge $(ze)_{eff}$ the authors utilized only data for 650 and 700°C

Card 1/3

Determination of the Effective Charge of Ca
Ions in Mixed Crystals of NaCl and CaCl₂

S/181/60/002/01/19/035
BO08/BO14

where the conductance of crystals is considerable. In some experiments the crystals changed their color, and dendrites were sometimes observed. The profile of diffusion was strongly deformed in experiments in which a higher tension was applied than usual. A high maximum and one to two maxima differently shifted to the cathode were found at the interface. Table 2 furnishes data of experiments in which the said phenomena could not be observed. In all experiments the following observations were made when an electric field was applied: After separation of the crystals hills and valleys were symmetrically visible on the opposed faces which reproduced exactly the shape of the applied active point. Thus, depending on experimental conditions, the interface between the central and anode crystal shifted at a distance of up to 200 μ where the active layer had been applied. A broken line on Fig. 1b represents the shift observed. After the experiments the anode crystals lost more weight than the cathode crystals. When a nitrogen current passed through the crystals, a fine powder of NaCl deposited on the graphite cathode. The weight of this powder corresponded to the weight loss of the cathode

Card 2/3

4

Determination of the Effective Charge of Ca
Ions in Mixed Crystals of NaCl and CaCl₂

S/181/60/002/01/19/035
B008/B014

crystal. Possibly, a reaction took place at high temperatures between the metallic sodium deposited from the cathode and the gaseous chlorine evolving from the anode. The impurity ion and twelve of its immediate neighbors in the NaCl lattice are schematically shown in Fig. 3. The Candidate G. I. Shestakova assisted in the experiments. B. Boltaks and I. Sozinov are also mentioned. There are 3 figures, 2 tables, and 10 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad
State University)

SUBMITTED: April 15, 1959

Card 3/3

X

S/181/60/002/01/20/035
B008/B014

24.7500

AUTHORS: Makarov, L. L., Lur'ye, B. G., Malyshev, V. N.
TITLE: Examination of the Densities of Mixed ⁸⁶KCl-RbCl Crystals
and of the Diffusion of Rubidium Ions Therein

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 1, pp. 88-92

TEXT: The authors examined the densities of mixed KCl-RbCl crystals at 25°C and determined their concentration of vacancies according to Shottki (Table 1). Fig. 1 represents the dependence of the degree of occupation of the elementary lattice n upon the composition. The difference between the results obtained by the authors and M. S. Ivankina (Ref. 7) is probably due to the different preparation of the samples. The configuration component of the entropy change in the development of mixed KCl-RbCl crystals was calculated with regard to the vacancies (Table 2). The results obtained are in agreement with experimental data. Next, the authors studied the diffusion of Rb⁺ ions at 670°C by means of the radioisotope R⁸⁶. The results of diffusion measurement are given in Table 3. An analogy


Card 1/3

4

Examination of the Densities of Mixed KCl-RbCl
Crystals and of the Diffusion of Rubidium Ions
Therein

S/181/60/002/01/20/035
B008/B014

was found between the melting-point curves, the "outflow", the diffusion coefficients D , and the defectiveness of the mixed crystals. The temperature dependence of the diffusion coefficients was studied on three samples (KCl, RbCl, and an equimolecular mixed crystal) (cf. Table 4). The results obtained are represented as a function $\log D = f\left(\frac{1}{T}\right)$ in Fig. 3. The three straight lines run parallel within the experimental limit of error. This indicates that the diffusion process in the preparations under consideration requires the same activation energy. Calculations have shown that it amounts to 35000 ± 300 cal/mole. This may be explained by the fact that the binding energy between the K^+ (or Rb^+) ions and the Cl^- anion is virtually equal in crystals of any composition. The authors refer to N. S. Kurnakov's papers. The X-ray structural analysis was carried out by Ye. V. Stroganov and Engineer I. Kozhina. The authors thank Professor A. N. Murin for his helpful advice. There are 3 figures, 4 tables, and 12 references, 5 of which are Soviet.



Card 2/3

Examination of the Densities of Mixed KCl-RbCl
Crystals and of the Diffusion of Rubidium Ions
Therein

S/181/60/002/01/20/035
B008/B014

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State
University)

SUBMITTED: April 9, 1959

Card 3/3

84614

S/181/60/002/010/042/051
B019/B056

24 7:00

AUTHORS:

Murin, A. N., Lur'ye, B. G., and Lebedev, N. A.

TITLE:

The Effect of Pressure Upon the Self-diffusion of Silver Ions in Silver Bromide

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2606 - 2611

TEXT: In the introduction, the results of work on diffusion, electrolytical conductivity, and the mechanism of ion transfer in solid silver-bromide solutions is discussed. The authors determined the coefficients of self-diffusion of silver in pure silver bromide at 180, 220, and 280°C and pressures of 1, 1500, 3000, and 8000 atm. Tablets of AgBr (10 mm diameter, 2-3 mm thickness) were made. At one end surface of these tablets, a drop of $AgNO_3$ was applied, and tagged with Ag^{110} . After diffusion glowing, the tablets were cut into slices by means of a micro-tome (10 to 60 micron thick). The activity of the layers was measured by means of a scintillation counter. The experimental arrangement shown in Fig. 3 is discussed in detail. Table 2 gives the values of the self-

Card 1/3

84614

The Effect of Pressure Upon the Self-diffusion of Silver Ions in Silver Bromide

S/181/60/002/010/042/051
B019/B056

diffusion coefficients of the tagged Ag⁺-ions in AgBr, as measured by the authors:

Temperatur [°C]	1	1500	3000	5500	8000
280	8.3±0.6	4.8±0.2	3.6±0.2	2.25±0.05	1.25±0.03
220	1.29±0.13	0.71±0.03	0.42±0.02	0.285±0.01	0.165±0.01
180	0.25±0.01	0.16±0.01	0.10±0.005	0.067±0.008	0.058±0.007

Fig. 4 represents the function $\text{Log}D = F(1/T)$ graphically, and it is shown that between the measured values and the values calculated by means of the diffusion formula of Einstein there is a difference. This difference decreases with increasing pressure and decreasing temperature. Finally, an estimate of the correlation factor for the internodal diffusion mechanism is made. Table 3 gives the values of the correlation factor f_0 of the internodal diffusion at 280, 220, and 180°C for pressures of 1, 1500, 3000, 5500, and 8000 kg/cm². With increasing temperature f_0 decreases, with increasing pressure f_0 first decreases, after

Card 2/3

84614

The Effect of Pressure Upon the Self-
diffusion of Silver Ions in Silver Bromide

S/181/60/002/010/042/051
B019/B056

which it again increases; an especially large increase may be observed
at 180°C. The f_0 -values are accurate up to 5-15%. There are 4 figures,
3 tables, and 15 references: 4 Soviet, 5 US, 3 British, and 2 German.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad
State University)

SUBMITTED: March 3, 1960

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Card 3/3

20114

S/181/61/003/002/012/050
B102/B204

9,4300 (and 1043, 1155)

AUTHORS: Murin, A. N., Lur'ye, B. G., Banasevich, S. N.,
Samosyuk, G. P., Ignatovich, Ya. L.

TITLE: Diffusion and electrolytic migration of P^{32} in KCl-crystals
irradiated by 660-Mev protons

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 398-407

TEXT: One of the many possibilities of introducing impurity atoms into a crystal lattice consists in irradiating the latter with neutrons or protons in such a manner that nuclear transformations may occur. Thus, the introduction of P^{32} into alkali chlorides with neutron irradiation is possible as a result of the reaction $Cl^{35}(n,\alpha)P^{32}$ (Ref. 1), in the case of proton irradiation of KCl as a result of the reactions $Cl_{17}(p; 3p, xn)P_{15}^{32}$ and $K_{19}(p; 5p, xn)P_{15}^{32}$. The authors investigated diffusion and migration of the P^{32} formed by proton irradiation of KCl, and gave a detailed report on the results obtained. The KCl-single

Card 1/9

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B102/B204

Diffusion and electrolytic ...

crystals used were first heated in an N_2 -atmosphere at $700^\circ C$ for several hours, after which they were slowly cooled to room temperature. Irradiation with 660-Mev protons was carried out on the synchro-cyclotron of the Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research); the crystals had a size of $1.5 \times 1.5 \times 0.2$ cm and were irradiated perpendicular to the quadratic surface. In view of the fact that with such an irradiation, also Be^7 (53.6 d), Na^{24} (15.0 h), P^{32} (14.5 d), S^{35} (87 d), and Ar^{37} (32 d) may be formed apart from short-lived isotopes, special investigations were carried out for the purpose of determining their relative intensities. These investigations are described in the introduction; they led to the result that one week after the end of irradiation, 99% of the activity measured by means of an end-window counter must be ascribed to P^{32} . The specimens irradiated were heated in quartz tubes, through which pure N_2 streamed, by means of an electric furnace, and the diffusion was investigated. The conditions of heat treatment varied between 2 hours at $736^\circ C$ up to 190 hours at $650^\circ C$. For the purpose of

Card 2/9

20114

S/181/61/003/002/012/050
B102/B204

Diffusion and electrolytic ...

investigating the edge effect with respect to activity distribution, 10 μ thick layers were taken off by means of a microtome parallel to the quadratic surface, and their activities were measured. The diffusion coefficient of P^{32} was calculated according to the approximation formula $(C_0 - C)/C = \exp(-x^2/4Dt)$, where C_0 is the initial concentration, C - the concentration at the time t at a distance x from the crystal surface. The distribution of P^{32} in the KCl-crystal after heating for 190 hours to 650°C is shown by Fig. 1 (curve a: $D = 1.76 \cdot 10^{-9} \text{cm}^2 \text{sec}^{-1}$, curve b: $D = 1.87 \cdot 10^{-9} \text{cm}^2 \text{sec}^{-1}$). An investigation of the temperature dependence of the diffusion coefficient within the high temperature range showed that $\log D$ depends linearly on $1/T$. From the inclination of the straight line, the activation energy of diffusion was calculated as amounting to 3.2 ev. The effect produced upon the diffusion of P^{32} in KCl by a constant electric field was investigated on a system of 3 crystals (at 736°C). Fig. 3 shows the activity distribution after heating for 8 hours; at first, only the crystal denoted by I was

Card 3/9

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B102/B204

Diffusion and electrolytic ...

active. Migration may be distinctly seen from Figs. 4 and 5. At 4 different field strengths, 4 series of experiments were carried out. The numerical results of these experiments are given in the table. The charge q of the phosphor ions was calculated according to the Einstein relation $\mu/D = q/kT$. The results obtained by the investigations are finally theoretically dealt with and discussed in detail. The results obtained indicate that phosphorus in potassium chloride together with chlorine ions form negative complex ions $(PCl_6)^{-1}$. The phosphor then enters the complex in the form $(P^{+5}4K^+6Cl^{-1})^{-1}$, where K^+ is a K^+ vacancy. The authors finally thank Professor V. P. Dzhelepov, Director of the Laboratoriya yadernykh problem OIYaI (Laboratory for Nuclear Problems of the OIYaI), for his interest. There are 7 figures, 1 table, and 11 references: 4 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

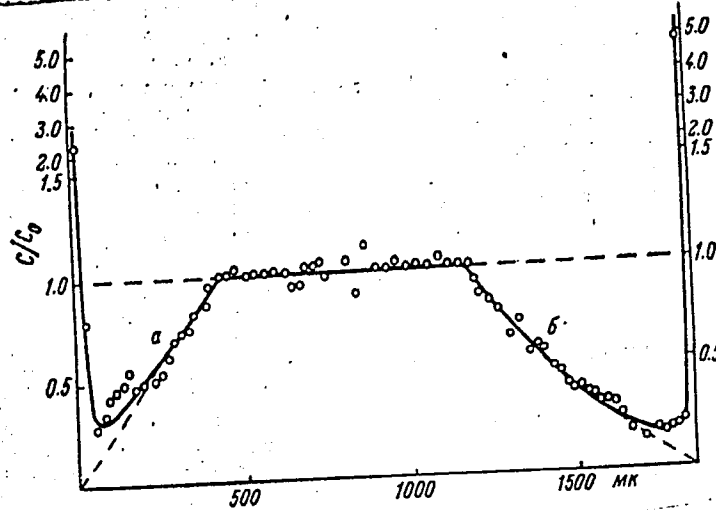
Card 4/9

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B102/B204

Diffusion and electrolytic ...

SUBMITTED: April 15, 1960 (initially) and August 31, 1960 (after revision)



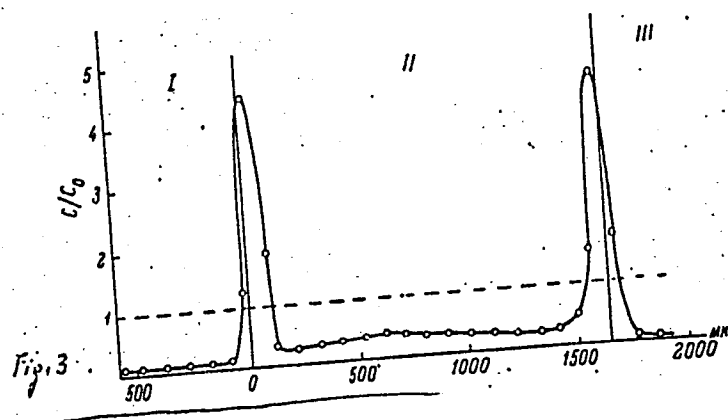
Card 5/9

Fig. 1

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B102/B204

Diffusion and electrolytic ...

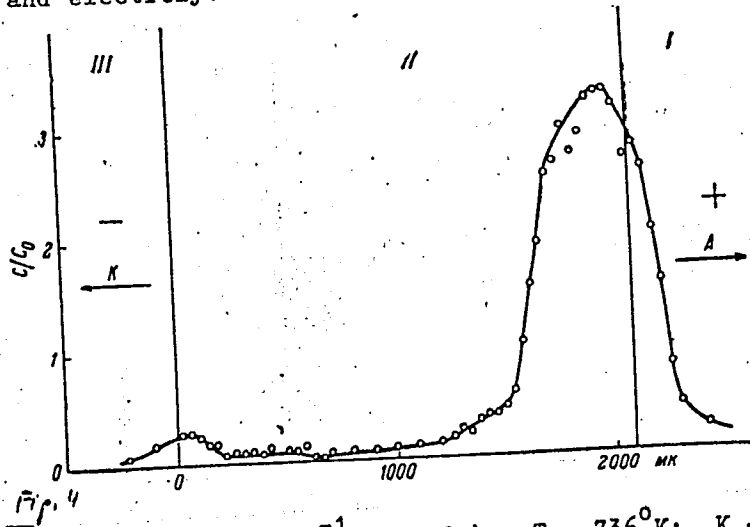


Card 6/9

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B102/B204

Diffusion and electrolytic ...



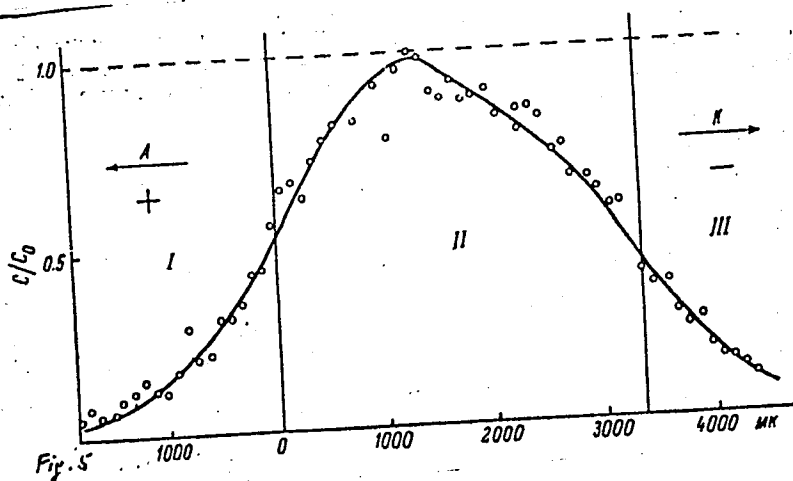
Legend to Fig. 4: $E = 40 \text{ v.cm}^{-1}$, $t = 8 \text{ hr}$, $T = 736^\circ \text{K}$; K - cathode,
A - anode

Card 7/9

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B102/B204

Diffusion and electrolytic ...



Legend to Fig. 5: $E = 9 \text{ v.cm}^{-1}$, $t = 12.5 \text{ hr}$, $T = 736^\circ \text{K}$;

Card 8/9

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S/181/61/003/002/012/050
B102/B204

Diffusion and electrolytic ...

Номер опыта	Время отжига, час.	$E, \text{ в } \cdot \text{ см}^{-1}$	$\frac{A_2}{A_1}$	$\frac{\mu}{D}, \text{ в}^{-1}$	$q = Ze, \text{ в зарядах электрона}$	$q_{\text{ср.}} \pm \Delta q_{\text{ср.}}$
1	8.0	10	4.32	2.62	0.232	} 0.191 ± 0.045
2	10.3	5.6	1.78	2.12	0.186	
3	8.0	51	8.20	1.22	0.107	
4	8.0	40	23.6	2.84	0.240	

Legend to the table: 1) Number of experiments. 2) Duration of heating in hours. 3) E in $\text{v} \cdot \text{cm}^{-1}$. 4) Ratio of total activities accumulated after heat treatment on the anode- and cathode side of the irradiated crystal. 5) μ/D in v^{-1} , μ is the mobility of the phosphorus ions. 6) $q = Ze$, in electron charges. 7) $q_{\text{mean}} \pm \Delta q_{\text{mean}}$.

Card 9/9

S/181/61/003/011/007/056
B102/B138

AUTHORS: Murin, A. N., Lur'ye, B. G., and Tarlakov, Yu. P.
TITLE: Electrical conductivity and self-diffusion of silver in silver iodide at high pressures
PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3299-3305

TEXT: AgI is distinguished by an abnormally high conductivity and by the existence of several modifications. It has already been investigated many times, among others, by the authors together with N. A. Lebedev (FTT, 2, 2607, 1960). The present paper reports on investigations of the pressure and temperature dependences of electrical conductivity and Ag self-diffusion coefficients at pressures up to 6000 kg/cm². The AgI was produced from chemically pure elements, ground and pressed at 5000 kg/cm² to tablets. They had a density of 5.5 - 5.6 g/cm³ (monocrystalline density: 5.67 g/cm³). Electrical conductivity was measured in a pressure

Card 1/4

Electrical conductivity and self-...

S/181/61/003/011/007/056
B102/B138

cell. For diffusion investigation Ag^{110m} was deposited from an Ag^*NO_3 solution on to a silver plate which was then exposed to iodine vapor so that an Ag -tagged Ag^*I surface film was formed. This silver plate was then brought together with an AgI tablet, and diffusion took place at a certain temperature and a certain pressure. Then the silver plate was dissolved in HNO_3 and 15 to 30 μ thick layers were cut from the tablets.

Their activity was measured with a gamma scintillation counter. The data were used to plot diagrams: logarithm of specific activity as functions of the square distance. The self-diffusion coefficient was determined from the gradient of the straight lines. The Bridgman phase diagram (Proc. Amer. Acad., 51, 57, 1915) is discussed in detail. The results of the measurements are presented in Fig. 4. In all cases (all phases, temperatures and pressures) the measured values of the self-diffusion coefficients are much higher than the calculated ones. This might be explained by assuming a circular diffusion for the α modification and in states similar to it. For the other modifications instability of the lattice could be responsible for the high experimental values. There are 4 figures, 1 table, and 21 references: 4 Soviet and 17 non-Soviet. The

Card 2/4

Electrical conductivity and self-...

3/181/61/003/011/007/056
B102/B138

three most recent references to English-language publications read as follows: A. I. Mayimdar a. R. Roy. J. Phys. Chem. 63, 1853, 1959; K. Zimen et al. J. Chem. Soc., Supl. 2, 392, 1949; S. W. Kurcnick. J. Chem. Phys., 20, 218, 1952.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: May 9, 1961

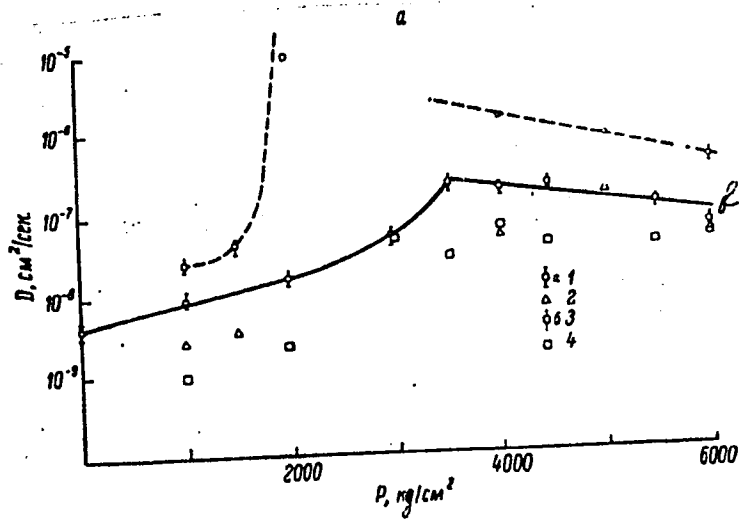
Fig. 4. Ag self-diffusion coefficient as a function of pressure at 90 and 110°C.

Legend: (a) measured, (b) calculated. (1) D_m at 110°C; (2) D_c at 110°C; (3) D_m at 90°C; (4) D_c at 90°C.

Card 3/4

Electrical conductivity and self-...

S/181/61/003/011/007/056
B102/B138



S/181/62/004/007/027/037
B178/B104

AUTHORS: Lur'ye, B. G., Murin, A. N., and Brugevich, R. F.

TITLE: Diffusion and electrolytic migration of manganese ions in a mixture of NaCl and MnCl₂ crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 7, 1962, 1957-1958

TEXT: The diffusion of Mn ions in a mixture of NaCl and MnCl₂ crystals and in pure NaCl was investigated. The mixed crystals, which contained about 0.02 mole% Mn, were grown by the method of Kirooulos. Radioactive Mn⁵⁴ dissolved in alcohol was applied to a crystal plate. After subjecting specimen to diffusion annealing the gamma activity of microtom sections was determined with a 4π scintillation counter (E = 0.89 Mev). The activation energy of an M⁺⁺ ion on transition into the associated vacancy is 0.71 ev, the frequency of natural oscillations of Mn⁺⁺ is $6.3 \cdot 10^{11} \text{ sec}^{-1}$, the association enthalpy of the complex is 0.7 ev, and the association entropy, $-\Delta S_a$, is $1.9 \cdot 10^{-4} / \text{deg}$. The free energy of association
Card 1/2

Diffusion and electrolytic ...

S/181/62/004/007/027/037
B178/B104

is given by $\Delta C_a = (0.7-1.9) \cdot 10^{-4} T$. Allowing for the mobility of Mn^{++} ions in the electric field, the effective ion charge at 500, 600, and 700°C is estimated at $(5-9) \cdot 10^{-2} e$, where $e = 4.8 \cdot 10^{-4}$ CGSE. The lifetime of the complex $Mn^{++}Na^+_{\square}$ is $9 \cdot 10^{-6}$ sec, and the period between the reorientations of the complex is $8 \cdot 10^{-7}$ sec. There are 1 figure and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: March 6, 1962

Card 2/2

ACC NR: AP6036974

(A, N)

SOURCE CODE: UR/0181/66/008/011/3291/3294

AUTHOR: Murin, A. N.; Lur'ye, B. G.; Seregin, P. P.; Cherezov, N. K.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy universitet)

TITLE: Study of the state of iron in single crystals of AgCl by the Mossbauer method

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3291-3294

TOPIC TAGS: iron, silver chloride, Mossbauer spectrum, emission spectrum, crystal imperfection

ABSTRACT: The sources used for the investigation were prepared by diffusing Co^{57} in single crystals of AgCl grown by the Stockbarger method and specially treated. The Mossbauer spectrum was measured with apparatus with constant velocity and with electrodynamic vibrator. The absorber was stainless-steel foil (8 mg/cm^2) and the detector a proportional counter. The Mossbauer emission spectrum of $\text{Fe}^{57\text{m}}$, localized in single crystal AgCl, was found to consist of two doublets, A) with splitting 0.30 mm/sec and B) with splitting 0.20 mm/sec . Comparison of the spectrum at two temperatures (293 and 77K) and after different annealing and cooling conditions leads to the conclusion that the iron is present in the form of Fe^{2+} and Fe^{3+} ions, situated apparently in the lattice points and constituting part of complexes with vacancies. Doublet-

Card 1/2

ACC NR: AP6036974

A corresponds to Fe^{3+} and doublet B to Fe^{2+} . The authors thank S. B. Tomilov for participating in the preparation of the $Co^{57}Cl_2$ compound. Orig. art. has: 2 figures.

SUB CODE: 20// SUBM DATE: 17May66/ OTH REF: 009

Card 2/2

GUDKOV, S.F.; IVANOV, A.K.; KORNILOV, V.F.; LUR'YE, B.I.; NALBANDYAN,
A.B.; RUDENKO, P.S.

Plant test of the direct production of formaldehyde from
natural gas. Gaz. prom. 8 no.4:35-39 '63.

(MIRA 17:10)