"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

CZECHOSLOVAKIA/Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref Zhur-Khim., No 15, 1958, 49810.

Author : Krasnec L., Kratsmar-Smogrovic J., ~~Pivoda A.~~
Inst :
Title : Chelate Salts of Beryllium With Organic Acids of the $BeO(R-CO_2)_6$ Type.

Orig Pub: Chem. zvesti, 1957, 11, No 10, 575-578.

Abstract: Chelate salts of Be with alpha- and beta-naphthoic acid have been prepared: Be_4O (alpha-$C_{10}H_7COO)_6$, MP 246.5°, Be_4O (beta-$C_{10}H_7$-COO)$_6$, MP 335.5-336.5°, and $2Be_4O$ (beta-$C_{10}H_7COO)_6 \cdot 3C_6H_5CH_3$, MP 335.5-336.5°. -- V. Shtern.

Card : 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

KRATSMAR-[illegible], [illegible], [illegible] [illegible]slava, Kalinciakova [illegible], PIVODA, Alojz

Reactions of the hexakispropionato-m-oxo-tetraberyllium complex with monochloroacetic acid and benzoic acid. Acta pharmac 9, 93-97 '64.

1. Chair of Inorganic and Organic Chemistry of the Faculty of Pharmacy, Bratislava.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Application. Synthetic and Natural Medicinal Substances. Galenical and Medicinal Forms. H.

Ass. Jour. : Rel. Zur. - [illegible] 1959 [illegible]

Author : Pivoda, [illegible] T. [illegible] F.

Inst. : -

Title : The Application of [illegible] Pharmaceutical Industry.

Orig. Pub. : Farmacia (Czech.) 1958, [illegible] 235-240.

Abstract : The possibility of the application of isotopes for [illegible] lization [illegible] and for their analysis [illegible] indicated. -- I. Matveyeva.

Card 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVODA, A.

27

Inner complex salts of beryllium with organic acids of the type $Be_4O(RCO_2)_6$. L. Krasnec, J. Krátsmár-Šmogrovič, and A. Pivoda (Komenský Univ., Bratislava, Czech.). *Chem. zvesti* 11, 575-8(1957)(German summary).—The formation of inner complex salts of Be with 1- or 2-naphthoic acid is described. The reaction in benzene medium of freshly pptd. $Be(OH)_2$ with 1- and 2-naphthoic acids yields $[Be_4O(1\text{-}C_{10}H_7COO)_6]$, m. 246.5°, and $[Be_4O(2\text{-}C_{10}H_7COO)_6]$, m. 335.5-6.5°, resp. The equation is $4Be(OH)_2 + 6RCO_2H = Be_4O(RCO_2)_6 + 7H_2O$, where RCO_2H is 1- or 2-naphthoic acid. Jan Micka

5

1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 23144-66 EWT(j)/T/EWP(t)/ETC(m)-6 IJP(c) JD/WW/RM

ACC NR: AP6010708 SOURCE CODE: CZ/0034/65/000/004/0288/0289

AUTHOR: Styblo, Karel (Engineer); Ermis, Frantisek; Pivoda, Petr (Graduate chemist); Kovarik, Milos

ORG: VZU NHKG VZKG, Ostrava

TITLE: Determination of gases, and oxygen particularly, by means of the instrument exhalograph EA-1

SOURCE: Hutnicke listy, no. 4, 1965, 288-289

TOPIC TAGS: steel, aluminum, metal chemical analysis, laboratory instrument

ABSTRACT: The instrument is supplied by Balzers of Liechtenstein. Description of the instrument is given. Operation of the apparatus is described. The results are reproducible, and obtained in 3 minutes. In samples of steel stilled with Al (up to 0.05% Al) the time required is 5-6 minutes; when 0.5 Al is present the time needed is 10-12 minutes. At higher Al contents, up to 20 minutes is needed for the analysis. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 11, 07 / SUBM DATE: none / OTH REF: 006

Card 1/1 UDR

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVONKA, J., inz.

Fundamentals of designing multipurpose machine tools. Strojirenstvi 11 no.11:811-817 N '61.

1. Vyzkumny ustav obrabecich stroju a obrabeni, Praha.

(Machine tools)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVONKA, J., inz.

"Hydraulic mechanisms" by Faisandier. Strojirenstvi 12 no.8:638 Ag '62.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Pivonka, Josef, inz.

"Hydraulic drives" by Heinz Zoebl. Reviewed by Josef Pivonka.
Stroj vyr 11 n .9:477-478 S '63.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVONKA, Josef, inz.

"Hydraulic drive" by E.M.Chaimovitsch [Khaymovich, E.M.]. Reviewed by Josef Pivonka. Stroj vyr 11 no.11:586-589 N'63.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

25(2,7) PHASE I BOOK EXPLOITATION CZECH/2525

Pivůnka, Josef, Engineer

Funkce, obsluha a údržba hydraulických pohonů obráběcích strojů (Functioning, Operation, and Maintenance of Hydraulic Drives for Machine Tools) Praha, Státní Nakladatelství Technické Literatury, 1959. 311 p. 1,700 copies printed.

Resp. Ed.: Adolf Nejepsa, Engineer; Tech. Ed.: Vladislav Lacina; Managing Ed. for Literature on Mechanical Engineering: Josef Kleptko, Engineer.

PURPOSE: The book is intended for maintenance men, repairmen, foremen, mechanics, and machine-tool and fixture designers.

COVERAGE: The book describes hydraulic drives for machine tools. The design, construction, and functioning of elements and units of such devices are discussed. Attention is given to the effect of the properties of fluids and of seals on proper functioning. Recommendations for servicing and maintenance are made. Types and causes of malfunctions and preventive maintenance procedures are presented. No personalities are mentioned. There are 21 references: 7 English, 7 German, 4 Czech, 2 Soviet, and 1 French.

Card 1/7

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

TABLE OF CONTENTS:

Introduction 11

1. General Considerations Regarding Hydraulics and Hydraulic Systems 13
   1.1. Definition of hydraulics 13
   1.2. Requirements of modern production 13
   1.3. Advantages and disadvantages of hydraulic drives 14

2. Fluid Flow 17
   2.1. Basic types of energy 17
   2.2. Hydrostatics 19
   2.3. Hydrodynamics 21
   2.4. Types of flow 24
   2.5. Types of losses in hydraulic systems 26
   2.6. Hydraulic fluids and their properties 31

3. Hydraulic Circuits 43
   3.1. Hydraulic circuits for straight-line motion 43
      3.11. Circuits with throttling devices 43

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Functioning, Operation, and Maintenance of Hydraulic Drives (Cont.) CZECH/2525

6.12. Miscellaneous valves 152
6.13. Slide valves 155
6.2. Pressure-control valves 159
6.3. Elements of an oil-distribution system 166
6.4. Elements of a hydraulic reciprocating circuit 172
6.5. Fluid flow and velocity-control mechanisms 179
6.6. Automatic controls of the working cycle of a machine tool 190
6.7. General arrangement of [fluid] distribution in hydraulic drives 201
6.8. Copying devices 203

7. Tubing and Fittings 207
7.1. Tubing 209
7.2. Flexible hoses 213
7.3. Telescopic and swivel joints 215
7.4. Instructions for installation and maintenance of hydraulic tubing 216

8. Sealing 219
8.1. Construction and use of different types of seals 220
8.2. Recommendations for construction and maintenance of seals 226

Card 4/7

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Functioning, Operation, and Maintenance of Hydraulic Drives (Cont.) CZECH/2525

9. Tanks and Filters	228
9.1. Tanks for pressure fluid	228
9.2. Filters	230
9.3. Oil cleaning during operation	233
10. Straight-line Ways for Machine Tools	236
10.1. Construction of ways	236
10.2. Lubrication of sliding surfaces and ways	240
10.3. Effect of lubrication on the accuracy of ways	242
10.4. Effect of the friction coefficient on the regularity of motion	242
10.5. Material and machining of ways	243
10.6. Protection of ways	243
11. Schemes of Hydraulic Circuits of Some Machine Tools	245
11.11. Grinders	245
11.12. Planers	255
11.13. Shapers	256
11.14. Saws	259
11.15. Broaching machines	259
11.16. Lathes	262

Card 5/7

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Functioning, Operation, and Maintenance of Hydraulic Drives (Cont.) CZECH/2525

11.17. Milling machines 263
11.18. Drilling machines 266
11.19. Boring machines 269
11.20. Copying devices 270
11.21. Hydraulic-pneumatic drives for DELTA drilling machines 273

12. Servicing of Hydraulic Systems for Machine Tools 276
12.1. Initial and supplemental oil filling. Starting the machine tool 277
12.2. Effect of air in hydraulic systems 279
12.3. Leakage in hydraulic systems 282
12.4. Seizure of slide valves, cylinders, and valves 284
12.5. Causes of low rates of hydraulic flow in a system 284
12.6. Excessive heating of hydraulic equipment 286
12.7. Noise and vibrations caused by the pump and their effect on the machine tool 287
12.8. Some malfunctions in hydraulic systems and their removal 288
12.9. Some general rules for proper servicing 294

13. Maintenance of Hydraulic Systems for Machine Tools 296
13.1. Changing hydraulic fluid 296
13.2. Cleaning the hydraulic system 297

Card 6/7

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Functioning, Operation, and Maintenance of Hydraulic Drives (Cont.) CZECH/2525

13.3. Method of determining the causes of malfunctions 297
13.4. Repair of components of hydraulic systems 300

Bibliography Cited 303

Index 304

AVAILABLE: Library of Congress (TJ1188.P5)

Card 7/7

GO/mg
11-10-59

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

ZADUBAN, M.; PIVONKA, M.; KLVANA, M.

Preparation of contrast suspension with Y90 for therapeutic application. Neoplasma 8 no.4:439-444 '61.

1. Istopisches Laboratorium, Radiologische Klinik, P.J. Safarik-Universitat, Kosice, Tschechoslovakei.
(YTTRIUM radioactive)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVONKA, Zdenek, MUDr

Rectal foreign bodies. Lek. listy, Brno 9 no.22:513-515 15 Nov 54.

1. Z chirurgickeho oddeleni OUNZ Vyskov. Prednosta primar MUDr Jan Miklica.

(RECTUM, foreign bodies,)
(FOREIGN BODIES,
rectum)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

VASKOVA,M.; MAREK,J.; PIVOŇKOVA,L.

Occupations for myopia and presbyopia. Cesk. oftal. 20 no.2:[illegible]-4 Mr.'64.

1. Oční klinika lékařské fakulty UK v Olomouci (přednosta: prof. dr. V.Vejdovský) a Zakladní [illegible] letá škola pro slabozraké v Litovli (ředitel: J.Marek).

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVORUNAS, Y. A. Cand Agr Sci -- (diss) "The Lithanian Red Clover." Kaunas, 1957. 22 pp 23 cm. (Lithuanian Agricultural Academy), 150 copies (KL, 18-57, 97)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAROV, L.M.

AUTHORS: Kogan, G.B., and Pivovarov, L.M. 90-58-5-9/10

TITLE: Experience of Testing Control Cables During Assembly Work in Oil Fields (Opyt ispytaniya kontrol'nykh kabeley pri proizvodstve montazhnykh rabot na neftyanykh promyslakh)

PERIODICAL: Energeticheskiy Byulleten', 1958, Nr 5, pp 28-29 (USSR)

ABSTRACT: The checking of multi-strand cables is carried out by means of ohm-meters, signal lamps, inductors, etc. One strand is grounded, and on the other end of the cable the checking apparatus shows which strand it is. In this way all strands are checked and then marked. For this method two workers are needed and many man-hours. A new device has been developed, consisting of a special resistor magazine (Figure 2) and a control frame (Figure 3). The checking of the cable strands is carried out by connecting the ends of the strands with the terminals of the resistor magazine (Figure 4). On the other end of the cable the resistance of the different strands is indicated on a megohm-meter. In this way each strand of the cable can be determined and marked. The new device requires only one worker for operation, and the time for checking a cable is reduced to one fourth. This device is being used in the oil fields of

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

90-58-5-9/10

Experience of Testing Control Cables During Assembly Work in Oil Fields

Baku, Central Asia, and the Northern Caucasus. It is produced by the L'vov Plant "Teplokontrol'".
There are 4 figures.

AVAILABLE: Library of Congress

Card 2/2 1. Electric cables-Test methods 2. Electric cables-Test results

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, G., inzh.

Temporary hoist without headframe at the "Ignat'evskaia" Mine.
Prom.stroi. i inzh.soor. 3 no.2:62-63 Mr-Ap '61. (MIRA 15:5)
(Mine hoisting)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, G., inzhener; SEREDA, I., inzhener.

More than 300 meters of rise heading per month. Mast.ugl.4 no.11: 19-20 N '55. (MLRA 9:2)
(Coal mines and mining)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

ZHUKOV, A.V., kand.tekhn.nauk; DAZHUK, K.V., kand.tekhn.nauk; PIVOVAR, G.I., inzh.

Ceramic perlite heat-insulating products. Stroi. mat. 6 no.7:21-22 Jl '60. (MIRA 13:7)

(Perlite (Mineral)) (Insulation (Heat))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, N.G.

Experimental study of the hydrodynamic pressure on the concrete bed beyond spillway bucket aprons. Izv.Inst.gidrol.i gidr. AN URSR 12:129-147 '55. (MIRA 9:4)
(Spillways)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L. I.

A compact impulse generating assembly [illegible] Gangi and L. I. Pivovar [illegible] phys. 4, 376-81 1940. The app. is designed for medical and technical needs. It affords either an electronic beam or hard radiation with energies up to [illegible] Roksalana Gamow

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L. I.

168T103

USSR/Physics - New Techniques Sep 50
Molecular Beam
Capacitor (Condenser)

"Detection of a Molecular Bunch on the Basis of the Variation of a Capacitor's Electrical Conductivity," M. I. Korsunskiy, L. I. Pivovar, A. M. Markus, Physicotech Inst, Acad Sci Ukrainian SSR

"Zhur Eksper i Teoret Fiz" Vol XX, No 9, pp 860-861

Letter to editor reveals possibility of creating high-sensitivity detector of molecular rays, based on subject variation by measuring deposition, from beam under study, upon the condenser. Shows that conductivity of very thin metal films depends complexly on their thickness. Submitted 9 Feb 50.

168T103

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L. I.

SA

A53
DD

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

An indicator for molecular beams. [illegible]

[illegible] substances for which the condensates (condensation deposits) are characterized by a considerable electric conductivity. It is claimed that this method is suitable for a wide range of rates of deposition. The apparatus is based on the relationship between the electric conductivity of the deposit and its thickness.

F. LACHMAN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

1413. DETERMINATION OF EFFECTIVE CROSS-SECTION FOR ELECTRON LOSS OF IONS OF ATOMIC NITROGEN IN THE RANGE OF ENERGY 465-1180 keV. M.I.Korsunskii, L.I.Pivovar, A.M.Markus and Kh.L.Leviant. 537.562

Dokl. Akad. Nauk SSSR, Vol. 108, No. 3, 399-402 (1956). In Russian.

An experimental method using magnetic analysis of differently charged nitrogen ions resulting from collisions of originally singly charged ions with nitrogen gas is described. Cross-sections for loss of varying number of electrons in this range of energy are given.

G.Martelli

1414. ON THE APPLICABILITY OF THE RELATIONSHIP $(\sigma_{12}\sigma_{23}\ldots\sigma_{n1})/(\sigma_{21}\sigma_{32}\ldots\sigma_{1n}) = 1$, WHICH IS VALID IN THE CASE OF DETAILED EQUILIBRIUM, TO A GROUP OF IONS WITH STEADY-STATE COMPOSITION M.I.Korsunskii, Kh.L.Leviani and L.I.Pivovar. 537.562

Dokl. Akad. Nauk SSSR, Vol. 107, No. 5, 664-7 (1956). In Russian.

In the first part of this paper the assumptions under which this relation is valid are investigated, and a method for the analysis of the rather poor experimental material available at present is discussed. Then, with the help of an indirect procedure, the results of this investigation are compared with some experimental data deduced from a previous work (see preceding abstract). The good agreement which is found seems to prove the validity of the above mentions relation (in these measurements the exchange of charge between fast ions (nitrogen) and matter (air) occurred at the room temperature).

G.Martelli

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Pivovar, L. I.

6080

Determination of the effective cross sections for electron loss by lithium and sodium ions in the energy range 80-250 e.kv. Kh. L. Leviant, M. I. Korsunskii, L. I. Pivovar, and I. M. Podgornyi. *Doklady Akad. Nauk* S.S.S.R. 103, 403-6(1955); cf. preceding abstract.—The effective cross section of electron loss was detd. by passing Li^+ and Na^+ through an air target. The energy of the ions varied from 80 to 250 e.kv. The cross sections were detd. for $Li^+ \rightarrow Li^{k+}$ ($k = 2, 3$) and for $Na^+ \rightarrow Na^{k+}$ ($k = 2,3,4,5$). The values of the cross sections increased with increasing energy.

J. Rovtar Leach

EL

Snw (3)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

C-6

Category : USSR/Nuclear Physics - Origin of Charged and neutral particles through matter

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 585

Author : Korsunskiy, M.I., Leviant, Kh.L., Pivovar, L.I.,

Inst : Khar'kov Polytechnic Inst., USSR

Title : Applicability of the Ratio $(\sigma_{12}\sigma_{31}\sigma_{23}/\sigma_{21}\sigma_{13}\sigma_{32}) = 1$, which Holds for Detailed Equilibrim, to a Beam of Ions with a Stationary Composition

Orig Pub : Dokl. AN SSSR, 1956, 107, No 5, 664-667

Abstract : An analysis of the experimental data, obtained by various investigators, is used to show that the following equality holds with an accuracy to within 5%: $\frac{d}{dm}\left(\frac{1}{N_1}\frac{dN_1}{dm}\right)_{m=0} = \sigma_{12}\frac{N_2^0}{N_1^0} + \sigma_{13}\frac{N_3^0}{N_1^0} + \sigma_{14}\frac{N_4^0}{N_1^0} + \ldots$ (1)

where N_1, N_2, etc is the number of ions in the beam having charges 1, 2, etc., and N_1^0, N_2^0, etc. is the number of ions in the stationary case. Equation (1) is obtained if the relationship

$$\frac{\sigma_{12}\sigma_{23}\sigma_{31}}{\sigma_{21}\sigma_{13}\sigma_{32}} = 1 \qquad (2)$$

is valid and is obtained for cross sections that characterize the charge exchange between a beam of fast ions and a substance at room temperature;

Card : 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVOAROV, I., UMANSKIY, J., YELUTINA, V., and KAGAN, A.

"X-Ray Diffraction Data on the Changes in Mosaics Caused by Disintegration" (Section 11-4) a paper submitted at the General Assembly and International Congress of Crystallography, 10-19 Jul 57, Montreal, Canada.

c-3,800,189

Velovja st. 4 fl. bl. (UMANSKIY)

Moscow (YELUTINA, KAGAN, PIVOVAROV)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

AUTHOR: PIVOVAR, L.I., TUBAYEVA, V.M., GORDIYENKO, V.I.

TITLE: The Influence of Electronic Current Components on the Development of Electric Breakdown in a High Vacuum. (Vliyaniye elektronnoy tokovoy komponenty na razvitiye elektricheskogo proboya v vysokom vakuume, Russian)

PA - 3553

PERIODICAL: Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 5, pp 997-1000 (U.S.S.R.)

ABSTRACT: The experiments were carried out in a cylindrical vacuum chamber with a diameter of 200 mm, in which a pressure of $1 - 3.10^{-6}$ torr was maintained. As high-frequency source a cascade generator with 180 kw was used. The breakdown voltages and the currents before breakdown between the electrodes were investigated in the case of both the existence and the lack of a magnetic field for copper electrodes at the cathode and lead electrodes at the anode as also for copper electrodes at the cathode and copper at the anode, and for copper at the cathode and aluminum at the cathode.

It was found that:

1.) The electron-current component plays an important part in the development of electric breakdown between the metal electrodes in the high vacuum.

2.) In the case of voltages which are near breakdown voltage, the electron flux forms the basic part of currents before breakdown

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

The Influence of Electronic Current Components on the Development of Electric Breakdown in a High Vacuum PA 3553

3.) The development of the electron flux in a vacuum interval depends on the anode material. (With 1 Table and 2 Illustrations).

ASSOCIATION: FTI of the Academy of Science of the U.S.S.R., Charkov
PRESENTED BY:
SUBMITTED: 22.10.1956
AVAILABLE: Library of Congress

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

24(3)

AUTHORS: Krivovar, L.I., Gordiyenko, [illegible] SOV/57-28-10-[illegible]

TITLE: Micro-Discharges and Pre-Discharge Currents Between Meta[illegible] Electrodes in High Vacuum (Mikrorazryady i predrazryadnyye toki mezhdu metallicheskimi elektrodami v vysokom vakuume)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, Vol 28, Nr 10, pp 2289-2294 (USSR)

ABSTRACT: This is an investigation of the influence of the electron component of the current upon the generation and the development of micro-discharges with the help of a magnetic transverse field in a vacuum. The object of this study was: 1) To establish the existence of auto-electronic currents and to determine their correlation with the micro-discharges. 2) The determination of the influence exerted upon the generation and the development of micro-discharges by the electron- and the heavy-particle component of the current. 3) An observation of the transformation of the micro-discharges into pre-discharge currents, which are the cause for the sparkover across the vacuum interspace. The equipment used in this investigation was, at least in general features, similar to that used by the authors in the work covered by the papers cited by references 4 and 6. The results of the investigation

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Micro-Discharges and Pre-Discharge Currents Between Metallic Electrodes in High Vacuum SOV/57-28-10-30 40

are as follows: 1) No initial currents (currents of auto-electronic emission) are found at electrode interspaces exceeding 1.5 mm. 2) The generation of micro-discharges is not connected with the electron component of the current, it is, on the contrary, caused by the heavy particles 3) The development of micro-discharges with a rise of voltage results in the occurrence of a continuous pre-discharge current, this current causing the sparkover. This is predominantly an electron current. 4) The threshold voltage of the micro-discharge and the voltage, at which the pre-discharge current occurs, are dependent upon the anode material and upon the electrode configuration 5) The development of the sparkover in the vacuum interspace proceeds in stages which are as follows: a) generation of the micro-discharges caused by the heavy particles b) generation of a continuous current of a predominantly electron nature. c) occurrence of a spark caused by the pre-discharge current.

A.K. Val'ter, Professor, Member of the Academy of Sciences Ukrainskaya SSR, showed constant interest in the work. There are 2 figures, 1 table, and 6 references, 2 of which are Soviet

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Micro-Discharges and Pre-Discharge Currents Between Metallic Electrodes in High Vacuum SOV/57-28-10-30 40

SUBMITTED: October 28, 1957

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

SOV/58-59-5-5-11125

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 172 (USSR)

AUTHORS: Pivovar, L.I., Gordiyenko, V.I., Tubayev, V.M.

TITLE: Effect of Electrode Shape and Dimensions on Electric Spark-Over in a High Vacuum

PERIODICAL Uch. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. fiz. otd. fiz.-matem. fak., Vol 7, pp 171 - 176

ABSTRACT: The authors studied sparking in the case of Rogovskiy electrodes (hemisphere - plane and spike - plane) under a pressure of 10^{-6} mm Hg. They found that as the curvature of the electrodes increases the sparking voltage increases (except in the case of sharp non-uniformity in the region of the cathode). An increase in field non-uniformity in the case of constant electrode surfaces increases the sparking voltage.

Card 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

[illegible]

AUTHORS: Pivo[illegible] I. [illegible] T[illegible]bayev, V.

TITLE: Investigation of the Diele[illegible] Strength of Some Compressed Gases and Gaseous Mixtures by [illegible] of an Ele[illegible] Generator [illegible] elektricheskoy pr[illegible] szhatykh gaz[illegible] gazoobrazhnykh [illegible] elektrostaticheskogo generatora)

PERIODICAL: Zhurnal tekhnicheskoy fiziki [illegible] Vol. [illegible] [illegible]-1548 (USSR)

ABSTRACT: A compact ele[illegible] generator as well [illegible] of the diele[illegible] strength of some gases an[illegible] res important for pra[illegible] work in weakly [illegible] fields (which are characteristic for most [illegible] tions of ele[illegible] generators) carrie[illegible] scribed. The experiments were carried out at [illegible] of the conduct[illegible]. The generator voltage was me[illegible] the slide-back rotor voltmeter fixed to the [illegible] of the container. By means of this apparatus the ele[illegible] breakdown in carb[illegible] dioxide, in nitrogen, hydrogen, in [illegible] of nitrogen and [illegible] dioxide, in mixtures of [illegible]

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Investigation of the Dielectric Strength of Some Compressed Gases and Their Mixtures by Means of an Electrostatic Generator

nitrogen and "Ele" gas (SF_6) as well as in mixtures of carbon dioxide and "Ele" gas within the pressure range of from [illegible] 4 atmospheres was measured. The breakdown voltage in the mentioned gases as function of the pressure in the voltage range up to 2[illegible] kV were measured. Conclusions: 1) The best gas insulation for electrostatic generators is a mixture of nitrogen and SF_6 at pressures up to 8 atmospheres abs lute pressure or a mixture of carbon dioxide and SF_6 at higher pressures. 2) The mixtures of nitrogen and carbon dioxide have a greater dielectric strength at pressures of above 7 ; 8 atmospheres absolute pressure than each single component. The CO_2 content in the mixture must be smaller than 20 ; 25 %. 3) It is not useful to use nitrogen for the insulation of electrostatic generators. 4) The authors show the possibility and the usefulness of hydrogen for the insulation of electrostatic generators in some cases. A. K. Walter, Real Member, Academy of Sciences AS Latvian SSR was interested in this work. G. I. Ivanov and I. Baranov took part in the initial stages of this work. There are 9 figures and [illegible] references, 2 of which are Soviet.

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

SOV/57-28-7-26/35

Investigation of the Dielectric Strength of Some Compressed Gases and Gaseous Mixtures by Means of an Electrostatic Generator

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov (Physico-technical Institute, AS Ukrainian SSR, Khar'kov)

SUBMITTED: March 21, 1957

1. Electrostatic generators--Applications 2. Gases--Dielectric properties

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L.I.; GORDIYENKO, V.I.

Microdischarge and predischarge currents between metallic electrodes in a high vacuum. Zhur.tekh.fiz. 28 no.10:2289-2294 O '58. (MIRA 11:12)

(Electric discharges) (Vacuum)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L. I.

9(31A) PHASE I BOOK EXPLOITATION SOV/2746

Akademiya nauk USSR. Fiziko-tekhnicheskiy institut

Elektrostaticheskiye generatory, sbornik statey (Electrostatic Generators; Collection of Articles) Moscow, Atomizdat, 1959. 255 p. 4,100 copies printed.

Ed. (Title page): A. K. Val'ter, Member, Academy of Sciences, USSR. Ed. (Inside book): I. B. Andreyenko, Tech. Ed.: N. A. Vlasova.

PURPOSE: This collection of articles may be useful to scientists and engineers working with high-voltage electrostatic generators.

COVERAGE: The authors discuss the construction and operation of a number of electrostatic generators developed in the USSR and describe methods of generating negative hydrogen ions. They discuss the operation of accelerating tubes and present methods of stabilizing accelerator voltages. No personalities are mentioned. References appear at the end of some articles.

Koval', A. G., L. I. Krupnik, A. D. Timofeyev and Ya. M. Fogel'. Problem of Producing a Beam of Negative Hydrogen Ions by Overcharging Positive Ions in a Cathode Channel of a High-frequency Source 15

The authors discuss a negative hydrogen-ion source based on the production of a negative ion beam by overcharging positive ions in a gas flowing through a cathode channel of a high-frequency source. They also derive expressions for determining amount of negative hydrogen ions in that beam. There are 11 references: 6 Soviet, 4 English and 1 German.

Tsyzikalo, A. A. Testing of Accelerating Tubes of a 4 Mev Electrostatic Accelerator Developed by FTI AN UkrSSR

The author briefly discusses the construction of a number of accelerating tubes and describes testing of these tubes in a 4 Mev electrostatic accelerator. He also discusses the results of testing and presents the configuration of the electric field in a tube with conical electrodes. There is 1 Soviet reference.

Fogel', Ya. M., R. P. Slabospitskiy and I. T. Gazhovskiy. Generation of Negative Ions of Helium, Carbon, Oxygen and Chlorine When Passing Positive Ions Through a Supersonic Jet of Mercury Vapor. 32

The authors study the transformation of positive ions of helium, carbon, oxygen and chlorine into negative ions when former are passed through a supersonic jet of mercury vapor. They also consider the possibility of producing a source of heavy negative ions and present graphs showing variation of the transformation coefficient with temperature and ion energy. There are 7 references: 3 Soviet and 4 English.

Akshanov, B. S. Electrostatic Generator as an Injector for an Accelerator 46

The author discusses the use of electorstatic generators as injectors of high-energy particles for accelerators. He describes basic features of these generators and considers the operation of generator ion sources. He also discusses control and supply circuits of ion sources and briefly describes generators developed in the laboratory of FTI AN UkrSSR. There are no references.

Pivovar, L. I., and V. M. Tubayev. Study of Electric Strength of Some Compressed Gases and Gaseous Mixtures With the Aid of an Electrostatic Generator 56

The authors discuss a compact electrostatic generator developed in the laboratory of FTI AN UkrSSR and used in testing electric strength of compressed gases and gaseous mixtures such as [illegible] nitrogen, hydrogen and mixtures of nitrogen and carbon dioxide, nitrogen and an electrically negative gas, sulfur hexafluoride, SF, carbon dioxide and sulfur hexafluoride. They [illegible] the experimental setup, discuss the procedure used in [illegible] experimental results. There are [illegible] references: [illegible] English and [illegible] Soviet.

[illegible] 73

[illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PROVAR

9(3)

PHASE I BOOK EXPLOITATION SOV/[illegible]

Akademiya nauk SSSR. Fiziko-tekhnicheskiy institut

Elektrostaticheskiye generatory. Sbornik statey (Electrostatic Generators. Collection of Articles) Moscow, Atomizdat, 1959. [illegible] p. [illegible],100 copies printed.

Ed. (Title page): A. K. Valter, Member, Academy of Sciences, USSR. Ed. (Inside book): I. B. Andreyevskiy, Tech. Ed.: B. A. Vlasova.

PURPOSE: This collection of articles may be useful to scientists and engineers working with high-voltage electrostatic generators.

COVERAGE: The authors discuss the construction and operation of a number of electrostatic generators developed in the USSR and describe methods of generating negative hydrogen ions. They discuss the operation of accelerating tubes and present methods of stabilizing accelerator voltages. No personalities are mentioned. References appear at the end of some articles.

Berlinov, A. B. High-frequency Sources for Electrostatic Generators 7

The author presents the results of study, conducted by FTI AN UkrSSR in 1950-1955, of factors affecting the ring discharge in hydrogen in a transverse magnetic field and those affecting the percentage of ions in a 10-50-mc frequency range and initial pressure in the discharge chamber of 1 through $k10^{-4}$ mmHg. He also discusses the construction and operation of a high-frequency ion source. There are 5 references: 2 English and 1 German.

Belyayev, V. Sh., A. K. Valter, K. K. Chernyavskiy and S. P. Tarlan. High-voltage Vertical-Horizontal Electrostatic Generator 30

The authors discuss the construction and operation of an electrostatic generator with a cross-shaped steel boiler and two horizontal tubes and describe the advantages of such a design over horizontal and vertical types of generators. There are [illegible] references: [illegible] Soviet, 13 English, 1 French and 1 Danish.

Gostinskiy, G. M. Magnetic Analyzer as an Instrument for Measuring Voltages of an Electrostatic Generator 99

The author discusses the use of a magnetic analyzer for measuring voltages of an electrostatic generator. He briefly explains the construction of the analyzer and describes the procedure used in measurement. There are 5 references, all English.

Gostinskiy, G. M., and I. A. Chepurchenko. Voltage Stabilization of an Electrostatic Generator 106

The authors discuss the construction and operation of a voltage stabilization circuit and its elements such as a differential amplifier and a corona triode and describe the method of experimenting by determining the degree of stabilization. There are no references.

Pugel', Ya. M., A. M. Marnuz, V. T. Tolma and Ya. I. Sukhov. Ion Sources for Electrostatic Generators in a Compressed Gas [illegible]

The authors discuss the requirements of ion sources for [illegible] generators and describe the construction of a magnetic ion source with a cold cathode and a high-frequency source. They also discuss the experimental study of these sources conducted by FTI AN UkrSSR and describe the experimental results. There are 29 references: 9 Soviet, 18 English and 2 German.

Pugel', Ya. M., L. I. Krupnik, A. I. Kuzal and A. D. Timofeyev. Source of Negative Hydrogen Ions for an Overcharging Electrostatic Generator [illegible]

The authors describe the construction and operation of three models of negative hydrogen-ion sources developed by FTI AN UkrSSR and present the analysis of their characteristics. The first and the second models were developed in 1955 and 1956 respectively. The third model, built later, is essentially a copy of that developed by Weinman, J. A., and Cameron, J. E., of the University of Wisconsin, U. S. A. In the analysis of characteristics of these models the authors discuss the negative ion spectrum, methods of [illegible] coefficient of transformation of positive ions into negative, focusing of ion beams and loss of ion energy. There are 9 references: [illegible] Soviet, [illegible] English and 2 German.

Provar, I. I. Accelerating Tube of an Electrostatic Generator [illegible]

The author briefly [illegible] ideas [illegible] an accelerating tube and describes [illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R00134 11

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Pivovar, I.

9(51b)

PHASE I BOOK EXPLOITATION SOV/2746

Akademiya nauk SSSR. Fiziko-tekhnicheskiy institut

Elektrostaticheskiye generatory; sbornik statey (Electrostatic Generators; Collection of Articles) Moscow, Atomizdat, 1959. 255 p. 4,100 copies printed.

Ed. (Title page): A. E. Valiter, Member, Academy of Sciences, USSR. Ed. (Inside book): I. D. Andreyevskiy, Tech. Ed.: N. A. Vlasova.

PURPOSE: This collection of articles may be useful to scientists and engineers working with high-voltage electrostatic generators.

COVERAGE: The authors discuss the construction and operation of a number of electrostatic generators developed in the USSR and describe methods of generating negative hydrogen ions. They discuss the operation of a accelerating tube and present methods of stabilizing accelerator voltages. No personalities are mentioned. References appear at the end of some articles.

Koval', A. G., L. I. Krupnik, A. D. Timofeyev and Ya. M. Fogel. Production of Producing a Beam of Negative Hydrogen Ions by Overcharging Positive Ions in a Cathode Channel of a High-Frequency Source 15

The authors discuss a negative hydrogen-ion source based on the production of a negative ion beam by overcharging positive ions in a gas flowing through a cathode channel of a high-frequency source. They also derive expressions for determining amount of negative hydrogen ions in that beam. There are 11 references: 6 Soviet, 4 English and 1 German.

Valiter, A. E., A. Ya. Tarasov, L. I. Pivovar, Ya. M. Fogel, F. Ch. Zalyapin and S. P. Tsytko. Three Horizontal Overcharging Electrostatic Generator 195

The authors discuss the principle of operation and construction of a RG-5 type electrostatic generator and describe methods of ion acceleration and overcharging. They also explain the operation of an ion-beam focusing system and briefly discuss the stabilization and measurement of generator voltages. There are 4 references: 1 Soviet and 3 English.

Valiter, A. E., and A. A. Tsyganalo. Experience Acquired in the Design, Testing and Operation of a Series Vertical Electrostatic Accelerator Developed by PTI AS UkrSSR 200

The authors discuss the construction and requirements of a series vertical electrostatic accelerator developed by PTI AS UkrSSR and present the results of a study of insulating materials for the accelerator and the accelerating tube. They also discuss the results of testing of the accelerator and its components and present graphs and voltage characteristics. There are 1 reference: 1 Soviet, 1 English and 1 French.

Shirshov, I. F., F. G. Tsybrinskiy and I. Ya. Rusanov. Experience Acquired in the Development of Industrial Types of Electrostatic Generators

The authors discuss the construction and operation of a 2 million volt electrostatic generator and [illegible] of testing. They also briefly [illegible] a 4 million volt electrostatic [illegible] There are 3 references: 2 [illegible] English

AVAILABLE: Library of Congress

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

24.2/20 66702

SOV/109-4-8-22/35

AUTHORS: Granovskiy, V.L., Luk'yanov, S.Yu., Spivak, G.V. and Siretenko, I.G.

TITLE: Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1339 - 1358 (USSR)

ABSTRACT: The conference was organised by the Ac.Sc.USSR, the Ministry of Higher Education and Moscow State University.
Y.S. Fogel'son - "Methods of Reducing the Energy Lost in the Formation of a Breakdown".
L.I. Pivovar and V.I. Gordiyenko - "Microdischarges and pre-breakdown Currents Between Metal Electrodes in High Vacuum".
V.A. Simonov and G.F. Kotukov - "Investigation of the Processes of Initiation and Development of a High-voltage Discharge in Vacuum".
S.M. Beykhrudal and G.V. Smirnitskaya - "The Characteristics of Ignition in High-vacuum in Magnetic Fields".
L.V. Tarasov et al. dealt with the transfer of the electrode material during the pre-breakdown stage in vacuum.
S.B. Rosanov et al. - "The Motion of Micro-particles of Substances During Electric Breakdown in Vacuum".
The third section dealt with the problems of electric sparks, corona and their practical applications. It was presided over by I.S. Stekol'nikov. The following papers were read:
V.I. Lavrilov et al. - "Probe Investigation of the a.c. Corona Fields".
G.N. Aleksandrov - "Elementary Processes in the Ionisation Zone of Corona-type Conductors at Atmospheric Pressures".
Y.A. Durmakin - "Appearance of a Corona Discharge in Hydrogen and Nitrogen"
P.N. Chistyakov et al. - "Some Properties of the Corona Discharge in Hydrogen in Coaxial, Cylindrical System".
A.S. Sobolevs and B.N. Kyarfel'd - "Appearance of Discharge Phenomena Between a Point and a Plane at Gas Pressures of 10^{-3} - 1.0 mm Hg".
Ya.Yu. Sopnet et al. - "Methods of Unipolar Ionisation of Air By Means of Aero-Ionisers (see p 1335 of the journal).
M.P. Vanyukov et al. - "Time Spectra of the Radiation of a Spark Discharge in Inert Gases" (see p 1284 of the journal).
M.P. Vanyukov and A.A. Mak - "Production of High Temperatures by Means of Spark Discharges".
V.A. Peretyagin - "Influence of the Magnetic Field of the Electric Discharge on the Dividing Surface of Two Media".
I.S. Stekol'nikov - "New Data From the Study of Long Sparks".
R.I. Ryngov - "Properties of the Breakdown of Compressed Air in a Comparatively Uniform Field in the Presence of Localised Non-uniformities".
A.G. Vorob'yev et al. - "Pulse and Oscillographic Techniques for the Measurement of the Discharge Lags in Dielectrics" (see p 1357 of the journal).
A paper by B.N. Zolotykh dealt with the problem of the basic theory of the electric erosion (see p 1330 of the journal).
The fourth section was presided over by S.Yu. Luk'yanov and was concerned with the non-stationary and low-frequency discharges. The following papers were read:
I.G. Kaksashvilich and A.A. Lebed - "The Nature of the Current Interruption During the Electric Explosion of a Metal Wire".
V.A. Simonov - "Propagation of Plasma From Local Pulse Sources".
Card 7/15 G.G. Timofeyev et al. - "Observation of an Electro-dynamically Compressed Arc By Means of an Electron-optical Converter".
M.S. Ioffe and Ye.Ia. Imshanov - "Investigation of the Radial Electric F[illegible] in the [illegible]tron".
V.A. Belyayev and M.A. [illegible] - "Experiments with an Electron Model of a S[illegible] Magnetic Samples".
A.M. Andrianov et al. - "D[illegible] Magnetic and Electric Fields in Powerful P[illegible]".
G.H. Harding (England) - "[illegible] Determination of the Plasma Temperature [illegible] "Zeta" Equipment" (see p 1320 of the [illegible]).
The paper by Harding a[illegible] interest and Academician L.A. Arts[illegible] the opinion that [illegible] electrons and [illegible] "Zeta" should be of the same [illegible] by Harding, the electr[illegible] [illegible] of

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

SOV

AUTHORS:

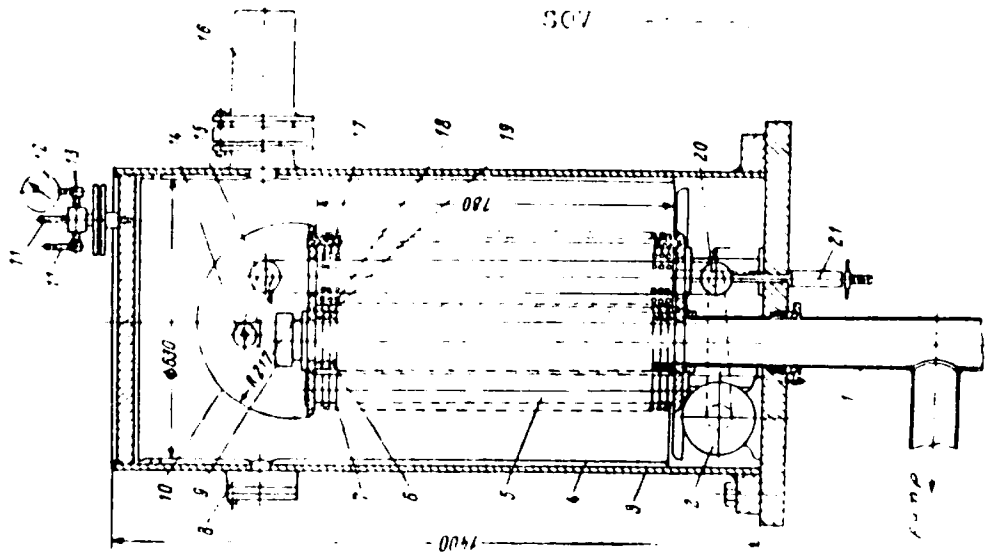
TITLE:

PERIODICAL:

ABSTRACT:

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341



APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

A Comp[illegible] E[illegible]

SOV[illegible]

([illegible]) The [illegible] tube: Since the [illegible] is the member [illegible] the possible [illegible] erator, the authors [illegible] special tube ([illegible] shown in Fig. [illegible]). E[illegible] was [illegible].

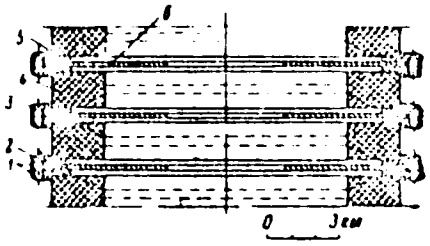


Fig. [illegible]. Schematical drawing of [illegible] sectional tube: ([illegible]) fashioned duraluminum rings; ([illegible]) packing; ([illegible]) tightening screw; ([illegible]) porcelain rings; ([illegible]) [illegible] BF [illegible]; ([illegible]) electrode.

The authors found it difficult to find [illegible] physical quantity [illegible] of the [illegible] tube. They therefore judged [illegible] navior of the tube using the following threshold potentials: ([illegible]) Potential of occurrence of microdischarges practically not affecting the generator

Card 3/[illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

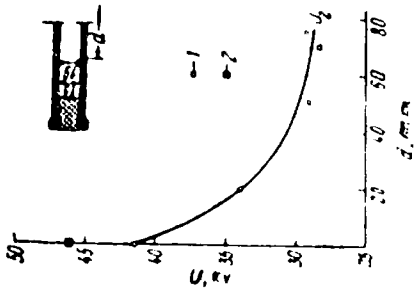
"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

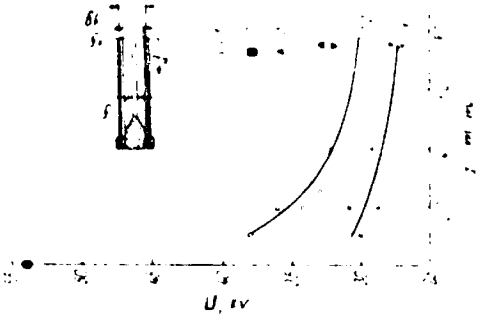
[illegible] (t) [illegible] which [illegible] %. [illegible] (c) [illegible] which [illegible] followed by [illegible]. During experiments [illegible] found [illegible] [illegible] Fig. [illegible] Experi[illegible] Fig. [illegible] and [illegible] with [illegible] (see [illegible]). [illegible] Fig. [illegible] There was [illegible] of [illegible]. The [illegible] show [illegible] of applied potentials. The magnitude of [illegible] potentials [illegible] to be [illegible] dependent on the [illegible], and [illegible] the Coulomb [illegible] (see [illegible]) [illegible]. The [illegible] present [illegible].

Card 4/[illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341





APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

A Compact Electrostatic [illegible]

SOV/57-30-[illegible]

matter rings producing a kind of barrier. They withstand latter voltages up to [illegible] kv while working with [illegible] amp of current. At the time of completion of the paper, the tube had worked some [illegible] hours without worsening. Professor A. K. Valter showed interest and A. [illegible] Taranov helped in organizing the work. There are [illegible] figures; and [illegible] references, [illegible] Soviet, 4 U.S. The U.S. references are: D. R. Crick, D. P. R. Petrie, Proc. Inst. Elec. Eng., 103, 132 (1956); L. Cremberg, J. App. Phys., 23, 518 (1952); R. W. Lampfer, G. P. Robinson, Nucleonics, [illegible], No 10, 58 (1952); J. G. Trump, Andrias. Elect. Eng., [illegible], 986 (1941).

SUBMITTED: July 24, [illegible]

Card [illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

89201

S/056/61/040/001/006/037
B102/B204

26.23/2

AUTHORS: Pivovar, L. I., Tubayev, V. M., Novikov, M. T.

TITLE: Dissociation of molecular hydrogen ions in collisions with gas molecules

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 1, 1961, 34-39

TEXT: The dissociation cross sections of H_2^+ ions have repeatedly been measured in various energy ranges, in various gases, and by means of various devices, but the data obtained deviated considerably. As, however, it is of importance, in connection with problems of the injection of hydrogen ions into thermonuclear devices and accelerators, to know the dissociation cross section as accurately as possible, the authors carried out a renewed study of the dissociation of H_2^+ ions in their passage through various gas targets within the energy range of from 200-1200 kev. The experimental arrangement is shown in Fig. 1. The hydrogen ion beam is electrostatically accelerated, penetrates the collimator gap 1 (diameter 4 mm) and the magnetic mass monochromator 2 (which served as an analyzer), the beam being deflected by 17°.

Card 1/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

89201

S/056/61/040/001/006/037
B102/B204

Dissociation of molecular ...

The beam then passed through a diaphragm 4 and entered the collision chamber 3 (through a channel of 6.5 mm diameter and 100 mm length), which it then left again through a similar channel; the total length of the collision chamber was 310 mm, it was held by two supports 5. The beam then entered the electrostatic analyzer 6 (200 mm diameter, 1000 mm length), where, in the field of the capacitor, the neutral component, the H^+ and the H_2^+ component was separated. The currents of the positive component were measured by a tube electrometer, connected with the beam catcher 7, the intensity of the neutral particles was measured by a thermocouple detector 8, the emf of the thermocouple was determined by means of a mirror galvanometer of the type M-21/4 (M-21/4). For the purpose of freezing out the condensed fraction, trap 9 filled with liquid nitrogen was used. The pressure of the residual gas in the collision chamber was $\leq (4-5)\cdot 10^{-6}$ mm Hg, that in the surrounding space and in the analyzer chamber $\leq 3\cdot 10^{-6}$ mm Hg, the pressure at the output of the accelerator tube and in the chamber of the mass monochromator changed during operation from $7\cdot 10^{-6}$ to $1.2\cdot 10^{-5}$ mm Hg. The cross sections were calculated according to the formulas

Card 2/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

89201

S/056/61/040/001/006/037
B102/B204

Dissociation of molecular ...

$$\sigma_{H^+} = \left\{\frac{d}{d(nL)}\left[2N_{H^+}/(N_{H^+} + N_{H^o}) + 2N_{H_2^+}\right]\right\}_{nL\to o} \qquad \text{(error } \pm 12\%)$$

$$\sigma_{H^o} = \left\{\frac{d}{d(nL)}\left[2N_{H^o}/(N_{H^+} + N_{H^o}) + 2N_{H_2^+}\right]\right\}_{nL\to o} \qquad \text{(error } \pm 15\%).$$

n is the concentration of the gas molecules in the target, L the effective length of the collision chamber. The total dissociation cross section is determined by the three processes $H_2^+ \to H^+ + H^o$ (I), $H_2^+ \to H^+ + H^+$ (II), and $H_2^+ \to H^o + H^o$ (III), and obeys the formula $\sigma_d = (\sigma_{H^+} + \sigma_{H^o})/2$. As target gases, hydrogen, nitrogen (99.97% pure), as well as He, Ar, and Kr with less than 0.1% impurities were used. The cross sections σ_{H^+} and σ_d as functions of the initial H_2^+ velocity were determined; with increasing energy of the H_2^+ ions, they all showed a monotonic decrease, which was partly greater than that observed by Barnett (Ref. 3). The cross sections of the reactions I and II (in units of 10^{-17} cm^2/molecule) measured at different energies are

Card 3/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

89201
S/056/61/040/001/006/037
B102/B204

Dissociation of molecular ...

given in the table for the individual target gases. Within the energy range of from 300-400 kev (in hydrogen), the data obtained agree well with those obtained by Salpeter. The authors thank Academician of the AS UkrSSR A. K. Val'ter for his interest, and Ya. M. Fogel' for discussions. N. V. Fedorenko is mentioned. There are 4 figures, 1 table, and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc.

SUBMITTED: July 18, 1960

Legend to Fig. 1: 1) to the electrostatic accelerator; 2) to the pump of the type ЦВЛ-100 (TsVL-100); 3) by-pass to pump ММ-1000 (MM-1000); 4) to the Knudsen manometer; 5) to the pump ММ-1000; 6) gas input.

Card 4/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

89201

S/056/61/040/001/006/037
B102/B204

Dissociation of molecular ...

Fig. 1

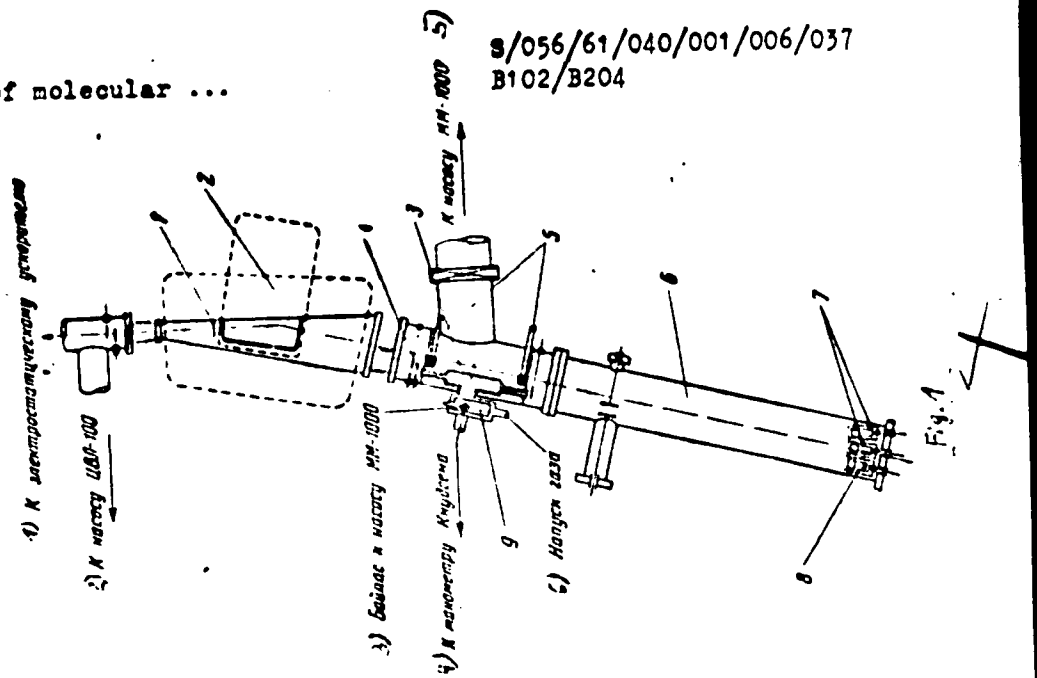


Fig. 1

Card 5/5

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

2640

26.2340

AUTHORS: Fivovar, [illegible]

TITLE: [illegible]

PERIODICAL: [illegible]

TEXT: So far, [illegible] been investigated only at energies [illegible] further development of the theory [illegible] higher energies are [illegible] sections for electron capture and [illegible] ions and also test results of equilibrium [illegible] during collisions with N_2, H_2 and [illegible] He [illegible] energy range. The experimental arrangement [illegible] (ZhETF, 4[illegible], 34, 1961). A beam [illegible] an electrostatic accelerator was [illegible] passed through the collision chamber [illegible]

Card 1/6

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

26[illegible]

Electron loss and capture

collected by beam catchers, and their current were [illegible] tube electrometers of type ЭМУ-[illegible] The [illegible] was determined with a detector by measuring the [illegible] from a He^0 bombarded copper foil. This [illegible] that described by P. M. Stier et al. The [illegible] σ [illegible] σ [illegible] the electron capture and loss were determined by [illegible] the [illegible] expression:

$$\sigma_{10} = \left\{ d \left[\frac{N^0}{N^0 + N^+ + N^{2+}} - \left(\frac{N^0}{N^+} \right)_{\text{ba kgr}} \right] \Big/ [illegible] \right\} [illegible]$$

$$\sigma_{12} = \left\{ d \left[\frac{N^{2+}}{N^0 + N^+ + N^{2+}} - \left(\frac{N^{2+}}{N^+} \right)_{\text{ba kgr}} \right] \Big/ [illegible] \right\} [illegible]$$

N^0, N^+ and N^{2+} denote the numbers of neutral atoms [illegible] charged helium ions respectively; [illegible] denotes the [illegible] of gas atoms in the collision chamber, and L is their mean free path. For each individual case nL was determined as a function of the ratio of the number of secondary

Card 2/[illegible]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

26408
S [illegible]
B1[illegible] B[illegible]

Electron loss and capture. .

particles to the number of primary particles. The linear section of this curve was used to find the cross section. Corrections for multiple scattering were taken into account. σ_{10} and σ_{12} were determined as the mean values of two to three independent measurements. The [illegible] were $\leq \pm 18$ % and $\leq \pm 12$ %, respectively and the energy [illegible] was accurate to within ± 2 %. The equilibrium [illegible] the collision chamber was determined by a chamber modified [illegible] an input and an output channel. Since the [illegible] at the energies employed may be [illegible] the range of [illegible] to [illegible] kev He^0, He^+ and He^{++} [illegible] the range of 5[illegible] to 15[illegible] kev He^+ and He^{++} only. In the range [illegible] there are only about [illegible] % of He^0 present. If one further assumes that the [illegible] (loss) of two electrons may also be neglected, the [illegible] are found: $\sigma_{21} = \sigma_{12} F_{1\infty} / F_{0\infty}$ and $\sigma_{01} = \sigma_{10} F_{1\infty} / F_{0\infty}$, where [illegible] denote the relative concentrations of the [illegible] table shows the results of the analysis [illegible] the particle beam. The curves σ / E are [illegible]

Card 3/6

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

26408

electron loss and capture

diagram which is characteristic for the [illegible] thank Professor A. [illegible] Valter, [illegible] are 5 figures, 1 table, and [illegible] references [illegible] loc. The three most important references [illegible] read as follows: [illegible] Phys. Rev. [illegible] Can. J. Phys. [illegible] 355, 1958.

ASSOCIATION: Khar'kovskiy fiziko-tekhnicheskiy institut [illegible] Ukrainskoy SSR (Khar'kov Institute of Physics [illegible] of the Academy of Sciences [illegible]

SUBMITTED: February [illegible]

Card 4/6

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

S/057/62/032/006/011/022
B108/B102

24 673

Pivovar, L. I., and Tubayev, V. M.

A compact electrostatic 1.5-Mev accelerator

Zhurnal tekhnicheskoy fiziki, v. 32, no. 6, 1962, 71[illegible] - 718

In earlier work the authors together with M. T. Novikov (ZhTF, 31, [illegible]) had designed a 1.5-Mev accelerator. In the present paper, a new linear accelerator with a greater vacuum tank (0.75 m³) is described [illegible]. Hydrogen and helium ions can be given an energy of up to 1.5 Mev. If the diameter of the channel in the acceleration tube and the [illegible] of the insulating rings (porcelain) are properly chosen a potential gradient of 2.5 - 3 Mv/m can be secured in a tube of up to 1.5 m length. Comparison with data obtained from another accelerator (I. Michael et al., Rev. Sci. Instr., 30, 635, 1959) showed that the removal of the organic [illegible] between the electrodes and the insulating rings in the acceleration tube virtually has no effect on the electrical stability of the tube. The same holds true when the residual gas pressure is reduced to 1 - 2·10⁻⁵ mm Hg. Up to 4 Mv an approximately linear law relates the tube length to the

Card 1/8

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

attainable voltage. There are 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR Khar'kov (Physico-technical Institute AS UkrSSR Khar'kov)

SUBMITTED: June 17, 1961

Fig. 1. Diagram of the accelerator (dimensions in mm).
Legend: (1) outlet pipe; (2) motor; (3) steel tank; (4) acceleration tube; (5) dividing disks; (6) potentiometer; (7) insulators; (8) spring contacts with the tube; (9) corona discharge triode; (10) high-voltage conductor; (11) generator; (12) safety valve; (13) vacuum gage; (14), (19) belt transmission; (15) charging belt; (16) rotary voltmeter; (17) dischargers; (18) screen; (20) belt-tightening pulley.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

S/057/62/032/010/007/010
B104/B102

AUTHORS: Pivovar, L. I., and Gordiyenko, V. I.

TITLE: Prebreakdown conductivity between electrodes in the super-high and the high vacuum

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 10, 1962, 1230-1236

TEXT: The effect of the surface condition of Ni-, Cu-, and Mo-plate electrodes (0.1 mm thick) on the prebreakdown conductivity at pressures down to 10^{-10} mm Hg was studied using the device shown in Fig. 1. Field-induced emission from the electrodes was avoided by the electrodes having curved edges. After the glass parts had been degassed at 350°C the apparatus was cooled to room temperature and the traps were filled with liquid nitrogen. The pressure in the system was measured by a Bayard-Alpert pressure gage (W. R. Mansfield, J. Appl. Phys., 11, 454, 1960). The electrodes were degassed by annealing for several hours at 1800 - 2000°C. On applying a voltage to the electrodes after they had cooled to room temperature a rather stable current was observed at voltages far below those at which microdischarges occur. In the range between 10^{-10} and

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

10^{-5} mm Hg this current was independent of pressure and $\ln(I/E^2)$ was a linear function of E. This current is attributed to an autoelectron emission originating from centers formed on the cathode surface by the long-period heat treatment (vacuum etching). A profilograph revealed fine cusps on the surface of such electrodes, and as the voltage is increased this current heats the cusps causing them to evaporate, so that a spark breakdown occurs. If the anode is heated to high temperatures the threshold voltage for microdischarges increases; moreover, an ion current flows as the result of thermionic emission. The relatively high ion current and the gases adsorbed on the anode surface do not influence the formation of microdischarges. The essential influence on those is an oxidation of the anode. Further experiments are needed to explain the mechanism of the microdischarges. There are 4 figures.

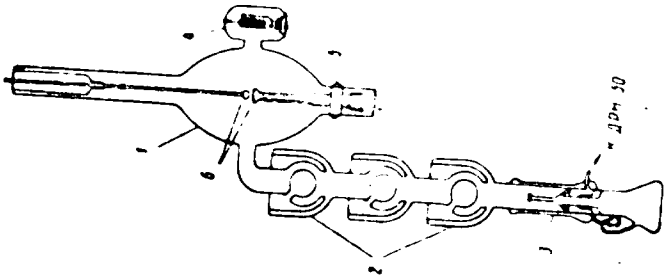
SUBMITTED: December 30, 1961

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

Prebreakdown conductivity ... S/057/62/032/010/007/013
B104/B102

Fig. 1. Experimental arrangement.
Legend: (1) Mo glass balloon; (2) traps; (3) ionization manometer; (5) protective rings; (6) electrodes.



Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

S/056/62/042/006/013/047
B104/B102

AUTHORS: Rivovar, L. I., Novikov, M. T., Tubayev, V. M.

TITLE: Electron capture by helium ions in various gases within the energy range 300 to 1500 kev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1490-1494

TEXT: The cross section σ_{20} of the capture of two electrons by doubly charged helium ions in single collision with H, He, N, Ar, and Kr was measured as well as the cross section σ_{21} of the capture of one electron. A monochromatic beam of singly charged He ions was produced from an electrostatically accelerated ion beam by means of a monochromator. A beam of variously charged He ions was obtained from it by charge exchange in a special chamber. The He^{2+} ions were separated by means of a magnetic mass monochromator and led into a collision chamber. σ_{20} and σ_{21} were determined mass-spectroscopically. In nitrogen, $\sigma_{21} \sim (v_0/v)^{6.5}$, in argon

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

$\sigma_{21} \sim (v_o/v)^{6.3}$ and in krypton, $\sigma_{21} \sim (v_o/v)^{4.8}$ where v_o is the velocity of an electron in a hydrogen atom and $v \sim 3v_o$ to $4v_o$. For low energies σ_{20} agrees well with the data of S. K. Allison (Rev. Mod. Phys., 30, 1137, 1958) and V. S. Nikolayev, et al. (ZhETF, 41, 89, 1961). For He^{2+} ion energies of $\sim$ 1300 kev, the values of σ_{20} in He, N, and krypton are about twice as large as those obtained by Nikolayev. For 1000 kev, σ_{20} is nearly three times the experimental value. As the energy increases the experimental values again approach the theoretical ones. The use of Born's approximation in the calculation of the capture cross section is suggested as the reason for this divergence. There are 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physicotechnical Institute of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: January 30, 1962

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, L.I.; NIKOLAYCHUK, L.I.; VLASENKO, A.I.

Detection of heavy ions by scintillation counters. Prib. i tekh. eksp. 8 no.5:70-72 S-O '63. (MIRA 16:12)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 13946-65 EWT(m)/EPF(n)-2/EWP(b) Pu-4 SSD(a)/SSD/AS(mp)-2/AEDC(a)/AFWL/
ASD(p)-3 JD/JG

ACCESSION NR: AP4047887 S/0056/64/047/004/1221/1227

AUTHORS: Pivovar, L. I.; Nikolaychuk, L. I.; Rashkovan, V. M.

TITLE: Passage of lithium ions through condensed targets

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1964, 1221-1227

TOPIC TAGS: ion scattering, lithium, angular distribution, ionization

ABSTRACT: The authors report the results of measurements, in the energy range 20--145 keV, of the charged components of an equilibrium beam of ion particles passing through celluloid and carbon films. In addition to the measurements of the charged components of the beam, the angular distribution of the particles emerging from the target was also determined. The angular distribution measurements have made it possible to determine the total transmission of

Card 1/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 13946-65

ACCESSION NR: AP4047887

the particle beam and to compare with the theoretical calculations the angle of the resultant deviation after multiple scattering. The specific energy losses of lithium ions passing through celluloid and carbon films were also measured. The apparatus is shown schematically in Fig. 1 of the enclosure. The counters used for the photomultiplier output were described by the authors previously (PTE No. 5, 70, 1962). The film preparation method and the test procedures are described in detail. The following plots are presented: particle distribution as a function of the electrostatic analyzer voltage, equilibrium charge fractions vs. Li^+ ion energy, degree of ionization vs. Li^+ ion velocity, specific energy loss vs. Li^+ ion velocity, and transmission of the beam vs. Li^+ ion velocity. An incidental result was that thin celluloid films are much less stable than carbon films for these experiments. "In conclusion, we thank Professor A. K. Val'ter for interest in this work." Orig. art. has: 7 figures.

Card 2/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 13946-65

ACCESSION NR: AP4047887

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk UkrSSR (Physicotechnical Institute, Academy of Sciences UkrSSR)

SUBMITTED: 27Apr64

SUB CODE: MP

ENCL: 01

NR REF SOV: 004

OTHER: 004

Card 3/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 13966-65

ACCESSION NR: AP4047887

ENCLOSURE: 01

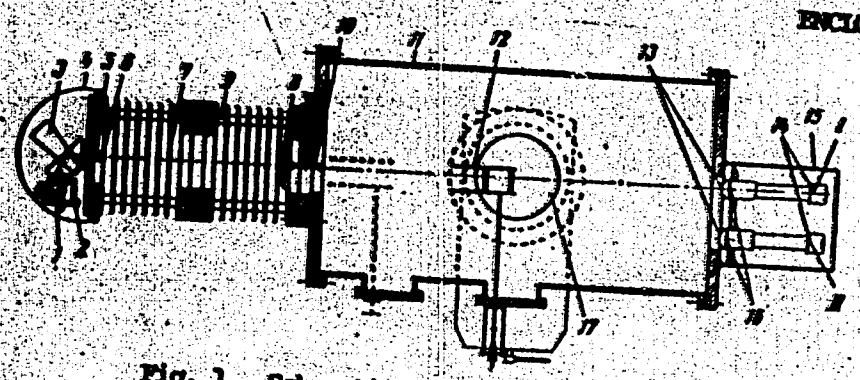


Fig. 1. Schematic diagram of setup

1 - tantalum ribbon, 2 - thermionic source, 3 - mass analyzer, 4 - high-voltage conductor, 5 - analyzer chamber, 6,-7, 8 - diaphragms, 9 - accelerating tube, 10 - drum mounting tube, 11 - drum, 12 - capacitor, 13 -reflector, 14 - FEU38 photomultiplier, 15 - case, 16 - scintillator, 17 - vacuum pump

Card 4/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 11955-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/EWP(b)/EWA(m)-2 LIP(c) JD/WW/JG/AT
ACC NR: AP5026596 SOURCE CODE: UR/0056/65/049/004/1072/1076

AUTHORS: Pivovar, L. I.; Nikolaychuk, L. I.; Gurov, V. M.

ORG: Physicotechnical Institute, Academy of Sciences, Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Equilibrium distributions of the charge of Li, Na, and K ions in Cd, Mg, and Zn Vapors

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 4, 1965, 1072-1076

TOPIC TAGS: electron loss, electron capture, charge density, lithium, sodium, potassium, ion interaction, charged particle

ABSTRACT: In view of the considerable scientific and practical interest attaching to investigations of the loss and capture of electrons and ions by metal vapors, the authors studied the equilibrium distributions of the charge in beams of Li, Na, and K after passage through targets consisting of cadmium, magnesium, and zinc vapors. The charge reactions were determined in the energy range 20--155 kev. The apparatus used was essentially the same as used earlier to investigate the interaction between lithium ions and condensed targets (ZhETF v. 47, 1221, 1964). The modifications of the equipment and the experimental pro-

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 11955-66

ACC NR: AP5026596

3

cedures are described in detail. The variations of the equilibrium charged fraction on the relative ion velocity were similar for all three ions. As the atomic number of the ions increased from Li to K, a systematic decrease was observed in the relative content of the neutral particles, and a considerable increase in the fraction of the doubly charged particles. These values were not the same in zinc, magnesium, and cadmium. Final interpretation of the results is impossible without knowledge of the effective electron capture and loss cross sections. Authors thank Academician A. K. Val'ter of the Academy of Sciences UkrSSR for his interest in the investigation. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 26May65/ NR REF SOV: 004/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 24345-66 EWT(1) IJP(c) AT

ACC NR: AP6010973 SOURCE CODE: UR/0056/66/050/003/0537/0545

AUTHOR: Pivovar, L. I.; Novikov, M. T.; Dolgov, A. S.

ORG. Physicotechnical Institute, Academy of Science, Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

51
B

TITLE: Differential and integral cross sections for electron loss and capture by fast N^+, Ne^+ and Ar^+ ions

2/

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 3, 1966, 537-545

TOPIC TAGS: electron capture, electron loss, capture cross section, noble gas, neon, argon, nitrogen, ion, krypton, xenon, collision cross section

ABSTRACT: The charge distributions in beams of nitrogen, neon, and argon ions were measured as a function of the energy and the scattering angle in single collisions with neon, argon krypton and xenon atoms. At high energies of argon ions, L-shell electrons are found to be involved in the interaction. The total differential scattering cross sections for nitrogen, neon and argon ions were compared with the calculated differential scattering cross sections for the case of a coulomb potential with exponential screening. Results of measurement of the total cross sections for capture of one or loss of several electrons by N^+, Ne^+ and Ar^+ ions in single colli-

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 24345-66

ACC NR: AP6010973

sions with neon, argon, krypton and xenon atoms are presented. The total cross sections obtained are compared with the data of other authors. [CS]

SUB CODE: 20/ SUBM DATE: 020ct65/ ORIG REF: 005/ OTH REF: 004/

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 23488-66 EWT(1)/EWT(m)/ETC(f)/EWG(m)/T DS

ACC NR: AP6007090

UR/0057/66/036/002/0374/0376

AUTHOR: Gordiyenko, V.I.; Pivovar, L.I.

ORG: None

TITLE: Effect of electrode temperature on microdischarges in vacuum

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 2, 1966, 374-376

TOPIC TAGS: spark gap, spark discharge, vacuum temperature dependence, secondary emission, ion emission

ABSTRACT: The work reported in this paper is a continuation of earlier work of the authors (ZhTF, 28, No. 10, 2289, 1958; 32, No. 10, 1230, 1962) on microdischarges between metallic electrodes in vacuum. The electrodes used in the present work consisted of 3 cm diameter hollow copper cylinders closed with curved caps and containing tungsten filaments for heating. The gap between the electrodes was 4 mm and the pressure was maintained below 3×10^{-6} mm Hg. The electrodes were polished before each run. When the temperatures of both electrodes were between room temperature and 200°C the onset of microdischarges occurred at an electrode potential difference of about 40 kV, independently of the temperatures. When the temperature of either electrode was raised about 200°C the microdischarge onset potential increased, and when the cathode was at 425°C or the anode was at 550°C the onset potential was approximately 75 kV. The microdischarge onset potential was approximately the same when the cathode was heated

Card 1/2

UDC: 537.525

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 22488-66

ACC NR: AP6007090

as when the anode was heated, but the character of the microdischarges was different in the two cases. With a hot anode and cold cathode the microdischarge frequency was considerably higher than with both electrodes at room temperature but the charge transferred in each discharge was smaller. Under these conditions the microdischarges would cease after a few minutes, but further microdischarges could be obtained by slightly increasing the electrode potential. With a hot cathode and a cold anode the microdischarges were similar to those obtained when both electrodes were at room temperature. These phenomena are interpreted in terms of the theory of N.I.Ionov (ZhTF, 30, No: 5, 561, 1960) as results of the decrease of the coefficient of secondary ion emission with increase of temperature. The electrode temperatures had no effect on the steady predischarge currents that arise after the microdischarges as long as the cathode remained below 425°C and the anode below 550°C. At higher electrode temperatures the steady currents appeared at lower electrode potentials and made it impossible to observe the microdischarges. The difference in the behavior of the anode and the cathode in this respect is ascribed to cathode pitting rather than to thermoelectron emission, for the currents persisted after the electrodes were cooled. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 12Apr65/ ORIG REF: 006/ OTH REF: 001

UCR

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

EWT(1)/EWA(m)-2 IJP(c) AT

ACC NR: AP5024690 SOURCE CODE: UR/0056/65/049/003/0734/0742

44,55

AUTHOR: Pivovar, L. I.; Novikov, M. T.; Dolgov, A. S.

44,55 44,55

44,55

ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

69
63
B

TITLE: Deep stripping and scattering of positive kryton ions in single collisions with Ne, Ar, Kr, and Xe atoms

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 734-742

21,44,55

TOPIC TAGS: krypton, neon, argon, xenon, ion interaction, electron interaction, differential cross section, integral cross section, electron capture, nuclear shell model, electron loss

21,44,55

ABSTRACT: The purpose of the investigation was to study ion scattering accompanied by deep stripping of electrons and to ascertain the part plaid by inner-shell electrons in the interaction of colliding particles. This was done (in an angle range 0 - 3°) by measuring the charge fractions in single collisions of singly-charged krypton with Ne, Ar, Kr, and Xe atoms, by measuring the differential cross sections for the scattering of the krypton ions in these gases, and by determining the partial integral cross sections for the electron loss by singly charged ions. The partial integral cross section for electron loss and capture by singly-charged krypton ions in the an-

Card 1/2

2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 8216-66

ACC NR: AP5024690

gle range 0—1° were measured directly. The apparatus and procedure employed were described earlier (ZhETF v. 46, 471, 1964). From the results it is concluded that the inner M-shell electrons of krypton ions participate considerably in the interaction process; moreover, it is established that the average Kr^+ ionization energy depends on the nature of the target atom. The average ion charge for single collisions and nonzero angles is directly proportional to the ion velocity. The data obtained also make it possible to determine the integral cross sections for the loss and capture of electrons by Kr^+ ions. Authors thank the accelerator operators K. M. Khurgin and V. G. Rubashko for help with the measurements. Orig. art. has: 8 figures and 3 formulas.

SUB CODE: NP/ SUBM DATE: 08Apr65/ ORIG REF: 006/ OTH REF: 006

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, I.I., NIKOLAYCHUK, I.I., GUROV, V.M.

Equilibrium charge distributions of Li, Na, and K ions in Cd, Mg, and Zn vapors. Zhurleksp.i teor.fiz. 49 no.4:1072-1076 O '65. (MIRA 18:11)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 44789-65 EWT(1)/EPF(c)/EPA(w)-2/T/EWA(m)-2 Pr-4/Pab-10 IJP(c) WW

ACCESSION NR: AP5010494 UR/0056/65/048/004/1022/1032

AUTHOR: Pivovar, L. I.; Tubayev, V. M.; Novikov, M. T.

TITLE: Distribution of charges in beams of ions passing through gaseous targets

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 4, 1965, 1022-1032

TOPIC TAGS: charge distribution, ion beam, gas target, charge fraction, hydrogen, helium, nitrogen, neon, argon, krypton, ionization

ABSTRACT: The charge distribution was measured in nonequilibrium and equilibrium beams of N, Ne, Ar, and Kr ions, with energies of 200—1300 kev, passing through targets of gaseous hydrogen, helium, nitrogen, neon, argon, and krypton. The apparatus employed was the same as described by the authors earlier (ZhETF v. 46, 471, 1964). The random measurement errors were of the order of ±4—5% for components with charge particles, and ± 10% for the neutral beam component. The ion energy was accurate to 1.5%, except at accelerator voltages of 200—300 kv, when they reached ±6%. The results show that the relative content of the equilibrium fractions in the beam does not depend on the ion scattering angle, and that the

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

L 44789-65

ACCESSION NR: AP5010494

nonequilibrium average charge for non-zero scattering angles decreases with the increasing pressure in the collision chamber. A noticeable difference between the equilibrium distribution of the charges in the different gases was established for all the investigated ions. Empirical formulas are derived for the dependence of the ratio of the charge fractions and of the average charge on the ion velocity. Other characteristics investigated were the dependence of the degree of ionization on the velocity of the ions passing through the target, and the dependence of the degree of ionization on the target charge. "In conclusion we thank Professor A. E. Val'ter for interest in the work, and also the accelerator operators K. M. Khurgin and V. G. Rubashko for help with the measurements." Orig. art. has: 8 figures, 2 formulas, and 1 table. [02]

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-technical Institute, Academy of Sciences, UkrSSR)

SUBMITTED: 03Nov64 ENCL: 00 SUB CODE: NP

NO REF SOV: 007 OTHER: 008 ATD PRESS: 3256

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

ACCESSION NR: AP4034059 S/0126/64/017/004/0606/0607

AUTHORS: Pivovarov, L. Kh.; Yanshin, S. I.; Semerchan, A. A.; Baskin, M. L.

TITLE: Influence of high pressures and temperatures on tungsten monocarbide

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 606-607

TOPIC TAGS: tungsten monocarbide, high pressure, high temperature, tungsten monocarbide properties, microhardness, hardness tester PMT 3, line diffusion, diffraction line, dislocation density, crystal lattice

ABSTRACT: The results of experiments on the influence of high pressures and high temperatures on the properties of WC are presented. Investigations were performed on cylindrical specimens made of powdered WC containing 6.06% C (by weight). This material was pressed, then baked at 2400K in hydrogen. The specimens were subjected to pressures up to 100 000 atm (acting quasihydrostatically) while being heated to 2400K. Some specimens were annealed for 1.5 hours at 1800K. Standard specimens were left in their original condition. The microhardness was investigated with apparatus PMT-3 under a 50-kg load, at atmospheric pressure and at room

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

ACCESSION NR: AP4034059

temperature. The diffusion of the x-ray diffraction lines was determined by comparison with the width of line 211 recorded in the Ni-K_{α} radiation. It was observed that the application of pressure and heat led to an increase of the micro-hardness from 1800 to 3200 kg/mm^2 and to a substantial broadening of the diffraction lines. After annealing, these properties returned nearly to those of the standard specimens. The change in the properties of the simultaneously compressed and heated WC may be explained by the increase in the density of dislocations and of other defects the crystalline lattice of this material suffered under the influence of plastic deformation. Orig. art. has: 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute of Hard Alloys)

SUBMITTED: 23Jun63 DATE ACQ: 20May64 ENCL: 00

SUB CODE: SS, MM NO REF SOV: 002 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

BABUSHKIN, L.N.; [illegible] VAR, L.F.

Method for evaluating the moisturing of a territory with [illegible] precipitation. Nauch. trudy TashGU no. 213 Geography no. [illegible] 19-31 '63.

(MIRA [illegible])

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

BELYASHEVSKIY, N.N. [Biliashevs'kyi, M.M.]; PIVOVAR, M.G. [Pyvovar, M.H.]; BUBAY, M.G. [Buhai, M.H.]

Study of the contact stability of inverted filters under drained concrete linings subject to pressure fluctuations. Visti Inst. hidrol. i hidr. AN URSR 21:43-55 '62. (MIRA 16:4)
(Dams)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

BILASHEVSKIY, M.M.[Bilashevs'kyi, M.M.]; PIVOVAR, M.G. [Pyvovar, M.H.]; OLEYNIK, O.Ya.[Oliinyk, O.Ya.]; PISHKIN, B.A.[Pyshkin, B.A.], otv. red.; PYECHKOVSKAYA, O.M.[Piechkovs'ka, O.M.], red.izd-va; YEFIMOVA, M.I.[IEfimova, M.I.], tekhn. red.

[Calculating the conjugation of head and tail waters and the strengthening of the bottom below spillway dams] Rozrakhunky spriazhennia b'iefiv i kriplen' dna za vodozlyvnymy hrebliamy. Kyiv, Vyd-vo Akad. nauk URSR, 1961. 166 p. (MIRA 15:2)

1. Chlen-korrespondent Akademii nauk URSR (for Pishkin).
(Spillways)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

BELYAKHEVSKIY, N.N. [Biliashevs'kyi, M.M.]; [illegible], [illegible] [illegible], [illegible]

Effect of a dentated sill on the depth of the [illegible] pressure wicket dams. Visti Inst. Hidrol. [illegible] [illegible] '63.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

[illegible]VA, [illegible]

"Hydraul[illegible] [illegible]inc[illegible]les f[illegible] [illegible] [illegible]esig[illegible] of [illegible]ncre[illegible] [illegible] [illegible]races [illegible] S[illegible]llway [illegible]ams." [illegible] [illegible], Kiev Au[illegible]m[illegible]ile and Road [illegible]s[illegible], [illegible] [illegible]ca[illegible] [illegible] S[illegible], Kiev, 1[illegible] [illegible], [illegible],

[illegible]: Sum. [illegible], 2[illegible] [illegible] [illegible]rv[illegible] of [illegible]en[illegible]fic and [illegible]chnical [illegible]issertations [illegible]ef[illegible]ded a[illegible] [illegible] [illegible] [illegible]cational [illegible]s[illegible]tu-[illegible]ions [illegible]

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, N.G.

Method of calculating bottom stabilization for the downstream side of spillway dams. Izv. Inst. gidrol. i gidr. AN URSR no. 14:23-36 '56.

(MLRA 9:12)

(Spillways)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, N.G.

Discharge action in concrete culvert drain outlets and determination of their thickness. Dop. AN URSR no.5: 434-438 '56. (MLRA 10:2)

1. Institut gidrologii ta gidrotekhniki Akademii nauk URSR. Predstavleno akademikom Akademii nauk USSR G.I. Sukhomelom.
(Drainage) (Hydraulics)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, N.G. [Pivovar, M.H.]

Determination of the limits of a submerged surface jump with a surface-bottom type of flow [with summary in English]. Dop. AN URSR no.2:171-174 '58. (MIRA 11:5)

1.Institut gidrologii i gidrotekhniki AN URSR. Predstavleno akademikom AN USSR G.I. Sukhomelom H.I. Sukhomelom].
(Hydraulic jump) (Dams)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

BELYASHEVSKIY, Nikolay Nikolay Nikolayevich[Biliashevs'kyi, M.M.]
PIVOVAR, Nikolay Grigor'yevich[Pyvovar, M.H.]; PECHKOVSKAYA, O.M.[Piechkovs'ka, O.M.], red.izd-va; DAKHNO, Yu.B., tekhn.red.

[Design of bottom linings below low-pressure shield spillways] Rozrakhunok kriplen' dna za niz'konapirnymy shchytovymy vodoskydamy. Kyiv, Vyd-vo AN URSR, 1962. 61 p. (MIRA 16:3)
(Spillways)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

ACC NR: AT7006070 SOURCE CODE: UR/0000/65/000/000/0268/0274

AUTHOR: Pivovar, N. G.

ORG: Institute of Hydromechanics, AN UkrSSR (Institut gidromekhaniki AN UkrSSR)

TITLE: Investigation of the filtration properties of glass cloth

SOURCE: AN UkrSSR. Issledovaniya po prikladnoy gidronamike, 1965, 268-274

TOPIC TAGS: fiber glass, filtration

ABSTRACT: The investigations involved 1) the filtration properties of various brands of glass cloths for steady filtration flows; and 2) the contact stability of glass-cloth protected ground under the influence of steady and pulsating filtering streams directed both along and normal to the contact. It was determined that: the filtration rates of the cloths decreased with time, stabilizing after 4-5 days; this is connected with the deposition of air separating from the water on the pores of the fiber; filtration rates for various types of cloth varied with a range of almost 1:2,000; heat treatment and silico-organic solution treatment of some fibers increased filtration rates by 2-8 times; the filter materials were found to be practically impermeable to sand in a water medium. Thermal treatment of the glass cloth and its impregnation finishing was carried out at the Ukrainian Branch of the All-Union Scientific Research Institute of Glass Fibers. Orig. art. has: 3 figures, 5 formulas and 1 table. [JPRS: 35,995]

SUB CODE: 11

Card 1/1

09270882

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

PIVOVAR, N.G.

Calculations for the concrete pavement below the bucket of a spillway dam taking into consideration the discharging effect of drainage holes. Izv. Inst. gidrol. i gidr. AN URSR 15:23-37 '59. (MIRA 12:9)

(Spillways)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001341

AUTHOR: Pivovar, N.G. SOV/21-58-2-13/28

TITLE: Determination of the Limits of a Submerged Surface Jet in a Surface-Ground Structure of the Flow (Opredeleniye granits zatoplennogo poverkhnostnogo pryzhka s poverkhnostno-donnoy strukturoy potoka)

PERIODICAL: Dopovidi Akademii nauk Ukrainskoi RSR, 1958, Nr 2, pp 171-174 (USSR)

ABSTRACT: N.N. Belyashevskiy [Ref 6] proposed theoretical graphs to determine the effect of the dimensions of the overflow toe on the position of the limits of different modes of flow The author carried out experimental investigations into this problem in the Institute of Hydrology and Hydraulic Engineering of the AS UkrSSR under the guidance of Corresponding Member of the AS UkrSSR, B.A. Pishkin from 1952 to 1956 These investigations resulted in calculations of curves which make it possible to determine, in addition to the limits of other regimes (modes of flow), the limits of

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013411