

LYAPICHEV, P. A. Cand. Tech. Sci.

Dissertation: "Basic Types of Run-off Regulation for a Several-Year Period." Moscow
Order of Lenin Power Engineering Institute V. M. Molotov, 10 Oct 47.

SO: Vechernyaya Moskva, Oct, 1947 (Project #17836)

1. LYAPICHEV, P. A.
2. USSR (600)
4. Technology
7. Water power regime in a hydroelectric power station with annual regulation of flow. Moskva, Gosenergoizdat, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassified.

Lyapichev, Petr Andreyevich

LYAPICHEV, Petr Andreyevich; KAPLINSKIY, S.V., kandidat tekhnicheskikh nauk, redaktor; BARSOV, M.V., redaktor; MEDVEDEV, L.Ya., tekhnicheskii redaktor

[Method of controlling river flow] Metodika regulirovaniia rechnogo stoka. Moskva, Gos.izd-vo lit-ry po stroit. i arkhitekture, 1955. 389 p. (MIRA 9:2)

(Rivers--Regulation)

LYAPICHEV, P.A.

SIDOROV, A.A., kandidat tekhnicheskikh nauk, redaktor; BLIZNYAK, Ye.V. doktor tekhnicheskikh nauk, professor; OLESHKEVICH, L.V., kandidat tekhnicheskikh nauk, dotsent; AKHUTIN, A.N., doktor tekhnicheskikh nauk, professor; BEREZINSKIY, A.R., doktor tekhnicheskikh nauk, professor; GRISHIN, M.M., doktor tekhnicheskikh nauk, professor; DZHUNKOVSKIY, N.N., doktor tekhnicheskikh nauk, professor; ZHEMÓCHKIN, B.N., laureat Stalinskoy premii, doktor tekhnicheskikh nauk, professor; MIKAYLOV, K.A., doktor tekhnicheskikh nauk, professor; NICHIPEROVICH, A.A., doktor tekhnicheskikh nauk, professor; NESTERUK, F.Ya., doktor tekhnicheskikh nauk; NEDRIGA, V.P., kandidat tekhnicheskikh nauk; SAFONOV, P.V., inzhener; LATYSHENKOV, A.M., kandidat tekhnicheskikh nauk, dotsent, redaktor; MUROMOV, V.S., kandidat tekhnicheskikh nauk, dotsent, redaktor; BARSOV, M.V., inzhener, redaktor; MEYSTER, V.A., kandidat tekhnicheskikh nauk, redaktor; LIPKIND, M.V., kandidat tekhnicheskikh nauk, redaktor; LYAPICHEV, P.A., kandidat tekhnicheskikh nauk, redaktor; KARPOV, I.M., kandidat tekhnicheskikh nauk, dotsent, redaktor; REPKIN, V.P., inzhener, redaktor; MEDVEDEV, L.Ya., tekhnicheskiiy redaktor.

[Hydraulic engineering handbook] Spravochnik po gidrotekhnike, Moskva, Gos.izd-vo lit-ry, po stroit. i arkhit. 1955. 828 p. (MLRA 8:10)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii. 2. Zasluzhenyy deyatel' nauki i (Continued on next card)

SIDOROV, A.A., kandidat tekhnicheskikh nauk, redaktor, and others... (Card 2)

[Hydraulic engineering handbook] Spravochnik to gidrotekhnike,
Moskva, Gos.izd-vo lit-ry, po stroit i arkhit. 1955. 828 p.
(Card 2) (MLRA 8:10)

2. Zasluzhenyy deyatel' nauki i tekhniki RSFSR (for Bliznyak)
3. Deystvitel'nyy chlen Akademii nauk AzSSR (for Mikaylov)
(Hydraulic engineering)

LYAPICHEV, Ye.G., starshiy elektromekhanik

This yields good results. Avtom., telem. i sviaz' 4 no. 12:26
D '60. (MIRA 14:1)

1. Kotel'nikovskaya distantziya signalizatsii i svyazi Severo-
Kavkazskoy dorogi.
(Electric lines--Poles)

LYAPICHEV, Ye.G., starshiy elektromekhanik

Change in the design of a welding clamp. Avtom. telemekhan. i svyaz'
6 no.4:39 Ap '62. (MIRA 15:4)

1. Kotel'nikovskaya distantziya signalizatsii i svyazi
Severo-Kavkazskoy dorogi.
(Welding--Equipment and supplies)

L 04631-67 EWT(m)/EWP(t)/BTI IJP(c) JD

ACC NR: AP6010099

(N)

SOURCE CODE: UR/0129/66/000/003/0060/0062

AUTHORS: Arkovenko, G. I.; Grekov, N. A.; Lyapicheva, N. F.; Sazonova, T. N. 42
B

ORG: none

TITLE: Relaxation of tensions in titanium alloys, as a function of hot deformation conditions 27 16

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1966, 60-62

TOPIC TAGS: titanium alloy, metal grain structure, metal deformation / VT3-1
titanium alloy, VT-14 titanium alloy

ABSTRACT: The influence of temperature and degree of deformation on the relaxation of tensions in the titanium alloys VT14 and VT3-1 was studied. The chemical composition, the usual mechanical properties, the grain size and grain structure, and the microstructure of the alloys were investigated. The experimental results are presented in graphs and tables (see Fig. 1). It was found that the deformation of alloys VT3-1 and VT-14 specimens in the β -region leads to a formation of coarse grains and to a decrease in the relaxation stability. Lowering the deformation temperature to the $(\alpha+\beta)$ -region yields, upon deformation, a more homogeneous structure and leads to an increase in the relaxational stability. The alloy VT14 is more sensitive to hot deformations than is alloy VT3-1.

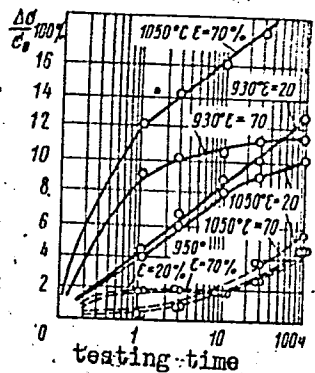
Card 1/2

UDC: 669.245:539.371

L 04631-67

ACC NR: AP6010099

Fig. 1. Relaxation of tensions (for cylindrical specimens) at 1000 and $\sigma_0 = 0.65\sigma_{0.2}$ for VT3-1 and $\sigma_0 = 0.70\sigma_{0.2}$ for VT14 as a function of the testing time, heating temperature during forging, and degree of deformation during final heating stage: dashed curve alloy VT3-1; solid curve - alloy VT-14.



Orig. art. has: 2 tables and 3 graphs.

SUB CODE: 11/ SUBM DATE: none

13/

awm

Card 2/2

LAKHIN, P.V.; LYAPIDEVSKIY, O.P. [Liapidevs'kyi, O.P.]; VETROV, O.P. [Vietrov, O.P.]

Methodology of the graphic recording of the quantity of biological fluids. Fiziol.zhur. [Ukr.] 10 no.4:558-560 J1-Ag '64.

(MIRA 18:11)

1. Institut fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

LYAPIDEVSKIY, S.S.; SHEMBEL', A.G.

Stammering. Med.sestra 18 no.9:30-35 S '59. (MIRA 12:11)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta
ukha, gorla i nosa Ministerstva zdravookhraneniya RSFSR, Moskva.
(STAMMERING)

PRAVDINA, O.V.; MELEKHOVA, L.V.; IVANOVSKAYA, F.A.; TAPTAPOVA, S.I.;
ALMAZOVA, A.I.; LYAPIDEVSKIY, S.S., red.; NOVIKOV, Ya.A., red.;
DRANNIKOVA, M.S., tekhn.red.

[Essays on the pathology of speech and of the voice] Ocherki po
patologii rechi i golosa. Pod red. S.S.Liapidevakogo. Moskva,
Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR. No.1. 1960. 148 p.
(MIRA 13:12)

1. Moscow. Moskovskiy gosudarstvennyy pedagogicheskiy institut.
(Speech, Disorders of)

ZEYEMAN, Miloslav[Seeman, Miloslav], prof. doktor med. nauk;
SOKOLOVA, Ye.O.[translator]; TRUTNEV, V.K., zasl. deyatel'
nauki, prof.[deceased], red.; LYAPIDEVSKIY, S.S., dots.,
red.; YAKOBSON, I.S., red.; ROMANOVA, Z.A., tekhn. red.

[Speech disorders in children] Rasstroistva rechi v detskom
vozraste. Pod red. i s predisl. V.K.Trutneva i S.S.
Liapidevskogo. Moskva, Medgiz, 1962. 298 p. (MIRA 16:6)
Translated from the Czech.

(SPEECH, DISORDERS OF) (CHILDREN--DISEASES)

LYAPIDEVSKIY, V. K.

FD 412

USSR/Physics - Photoconductivity

Card 1/1

Author : Krongaus, A. N., and Lyapidevskiy, V. K.

Title : Negative photoconductivity of cuprite

Periodical : Zhur. eksp. i teor. fiz. 26, 115-119, Jan 1954

Abstract : Investigate the influence of an electric field and intensity of light on the photoconductivity of cuprite. Establish the presence in cuprite of both negative and positive photoconductivity. For increasing light intensity at given voltage in a crystal the negative photoconductivity increases, reaching its maximum value. Increasing the electric field with light intensity unchanged leads to increased values of negative photoconductivity. Results of a study of the temperature dependence will be published in separate articles.

Institution : State Scientific-Research Institute of Roentgenology and Radiology

Submitted : March 17, 1953

LYAPIDEVSKIY, V. K.
USSR/Physics - Ionization chamber

FD-743

Card 1/1 : Pub 146-13/22

Author : Lyapidevskiy, V. K., and Shcherbakov, Yu. A.

Title : Study of the operation of a diffusion-condensation chamber

Periodical : Zhur. eksp. i teor. fiz., 27, 103-109, Jul 1954

Abstract : The operation of a rectangular diffusion-condensation chamber filled with air and alcohol vapor at atmospheric pressure was studied. Analysis of the vertical temperature distribution revealed that the heat exchange with the side walls of the chamber is a decisive factor. The chamber was found to work steadily at various temperatures. Photographs of ionizing particles are presented. Indebted to M. S. Kozodayev. 6 foreign references.

Institution : Moscow Engineering Physics Institute

Submitted : August 5, 1953

LYAPIDEVSKIY, V.K.

Instrument for the observation of ionized particle tracks. Fiz.
v shkole 15 no.1:47-50 Ja-F '55. (MIRA 8:2)

1. Inzhenerno-fizicheskiy institut, g.Moskva.
(Ionization chambers)

LYAPIDEVSKIY, V. K.
USSR/Physics - Diffusion-condensation chamber

FD-200

Card 1/1 Pub. 146 - 26/26

Author : Lyapidevskiy, V. K.

Title : ~~Investigation of the field of partial pressures in a diffusion-~~
 : Investigation of the field of partial pressures in a diffusion-
 : condensation chamber

Periodical : Zhur. eksp. i teor. fiz., 29, August 1955, 263-264

Abstract : The saturation distribution in the volume of diffusion chamber, and consequently the height and quality of the sensitive layer, depend upon the temperature field and upon the partial pressures field. The temperature field in the volume of a diffusion chamber was investigated by the writer (co-author Yu. A. Shcherbakov, *ibid.*, 27, 103, 1954) and others (H. Morrison, G. Plain, *Rev. Sci. Instr.*, 23, 1952). In the present note the writer describes the procedure and results of measurements of the field of partial pressures, for which a special device was constructed, a diffusion chamber with expansion (cylindrical vessel with glass walls, the bottom of the chamber consisting of two brass disks held by screws and cooled by liquid nitrogen passing through a spiral channel cut out in the upper disk). He thanks M. S. Kozodayev and Professor M. F. Shirokov. Two references.

Institution : Moscow Engineering Physics Institute

Submitted : November 1, 1954

LYAPIDEVSKIY, V. K.

Lyapudevskiy, V. K. -- "Investigation of the Physical Processes in a Diffusion-Condensation Chamber." Min Higher Education USSR. Moscow Engineering-Physics Inst. Moscow, 1956. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

LYAPIDEVSKII, V. K.

Graphy

The Question of the Formation of a Cellular Structure in a Layer of Fog or Smoke. V. K. Liapidevskii. *Zhurnal*

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Experimental'noi i Teoreticheskoi Fiziki, Feb., 1956, pp. 389-400. *Soviet Physics JETP*, Sept., 1956, pp. 287-290. Translation. Includes observations of the homogeneous wake produced by an aircraft in the upper layer of the atmosphere.

160 227

LYAPIDEVSKIY, V. K.

Investigation of the field of partial pressures in a diffusing
condensing chamber. V. K. Lyapidevskii (Moscow Eng.
Phys. Inst. L. Soviet Phys., 24(1) p. 416 (1950); Zhur
b. Étude. J. Tardet. Fig. 29, 304-4 (1957).—A method for meas-
uring the partial pressure field inside a diffusion chamber is
presented.

J. B. Schroeder

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MJE

LYAPIDEVSKIY, V. K.

Distr: 4514

7
 Investigation of the diffusion chamber with heated bottom and cooled top. V. K. Lyapidevskiy and O. P. Astakhov (Eng. Phys. Inst. Akad. Sci. USSR, *Experiments* 1956, No. 3, 39-40).—The temp. field was investigated inside cylindrical chambers, 170 mm. in diam., and 70, 100, and 150 mm. high, the bottom of which was covered with Et, Pr, Bu, or iso-Amal. In one series of expts., the top was cooled to various temps., the bottom being held at a const. higher temp.; in another series, the top was held at a const. cooler temp., the bottom being heated to various temps. This condition causes air-alc. vapor convection in the chamber. The pressure was detd. at which a stable temp. distribution and a const. type of convection were reached, depending on the top temp. By using a sensitive thermo-couple with a mirror galvanometer as temp. indicator, it was found that: (1) at a given height of the chamber with a const. temp. at the top, the stability pressure increases with the temp. of the vapor source (bottom); (2) at equal temps. of the top and bottom, the stability pressure increases with the height of the chamber; (3) at a given height of the chamber and a const. temp. of the top, the stability pressure increases with the temp. of the top (decrease of the temp. gradient in the chamber). E. Ryshkevitch

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JGJ

Distr: *10/1/77*

Diffusion chamber with continuously acting vapor source.
 V. K. Ryshkevich (Eng. Phys. Inst., Moscow). *Tr. Vsesoyuzn. Nauchn. Issled. Inst. Khim. Fiz.* 1956, No. 3, 40-1. In order to maintain a const. vapor compn. in the diffusion chamber from a liquid mixt. on the chamber's bottom, its side walls are made of a porous material. The liquid rises in the capillaries of the wall, and evaps. into the chamber, producing a const. vapor compn. The process is continuous as long as the necessary temp. difference is maintained between the top and the bottom of the chamber. Tests have shown that in the vertical direction the compn. is practically const. (chamber dimensions 200 x 300 mm., 100 mm. high). Even a porous plate at one side only produces a nearly uniform vapor compn. over the chamber bottom. Several other advantages in comparison with previously used chambered chambers are pointed out. E. Ryshkevich

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1/1

LYAPIDEVSKIY, V.K.

Formation of a cellular structure in fog or smoke layers. Zhmr. eksp.
i teor. fiz. 30 no.2:399-400 F '56. (MLBA 9:12)

1. Moskovskiy inzhenerno-fizicheskiy institut.
(Condensation trail)

LYAPIDEVSKIY, V. K.

1-4E20

4

✓ Investigation of the work of diffusion-condensation camera at compressions different from atmospheric. V. K. Lyapidevskii and O. P. Astakhov. *Prilozh. k Tekh. Eksperimenta* 1937, No. 1, 43-7. — The influence of pressure on fundamental parameters of the diffusion camera was investigated. Temp. distribution within the camera may essentially differ from that along the walls at low pressures. Pressure decrease lowers the height of the sensitive film and restoration time, vapor flow and exposure intensity at which the camera works are enhanced. A. Krembeller

Moscow Eng. Physics Inst.

LYAPIDEVSKIY, V.K.; MARTISHIN, V.M.

Investigating partial pressure fields in diffusion cloud chambers.
Prib. i tekhn. eksp. no.1:48-49 Ja-F '57. (MIRA 10:6)

1. Moskovskiy inzhenerno-fizicheskii institut.
(Cloud chamber)

LYAPIDEVSKIY, V. K.

120-2-10/37

AUTHOR: Lyapidevskiy, V. K.

TITLE: An Application of the Diffusion Chamber to the Determination of Small Activities. (Primeneniye Diffuzionnoy Kamery dlya Opredeleeniya Malykh Aktivnostey.)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.2, pp. 37 - 39 (USSR).

ABSTRACT: The difficulties in determining small activities when using particle counters may, to a large extent, be avoided by using the diffusion chamber for recording radiation. The author gives results of measurements of α -activity using a diffusion chamber. Two methods are described: in one the sample is at the bottom of the chamber, in the second it is placed in the region where supersaturation is less than unity. It is shown that using the first method, both the absolute sample activity and the vapour stream may be determined; the second method permits the determination of activities of the order of 10^{-12} curies both for α - and β -preparations. A formula for the evaluation of the particle stream with the camera in a stationary regime is given by equation 1, where C is the activity of the sample, R is the α particle range in mg/cm^2 , h is the distance from the source plane to the sensitive layer

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120-2-10/37

An Application of the Diffusion Chamber to the Determination of Small Activities.

in $\text{mg}/\text{cm}^2\text{sec.}$, t is the time in seconds and f is the flow of vapour in $\text{mg}/\text{cm}^2\text{sec.}$ Schematic drawings of the diffusion chamber and of the chamber for determining the activity of the sources and two graphs of the counting speed versus time for two measured samples are given. V.M. Martishin has helped in construction of the apparatus, M.S. Kosodayev has assisted in the theoretical side of the work. There are 3 Slavic references.

SUBMITTED: May 11, 1956.

ASSOCIATION: Moscow Institute of Engineering and Physics.
(Moskovskiy Inzhenerno-Fizicheskiy Institut.)

AVAILABLE: Library of Congress.

Card 2/2

120-3-30/40

LYAPIDEVSKIY, V.K.

AUTHOR: Lyapidevskiy, V.K.

TITLE: Diffusion Chamber with a Transparent Base (Diffuzionnaya kamera s prozrachnym dnom)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, Nr 3, p.103 (USSR)

ABSTRACT: The instrument is designed for the observation of tracks of ionising particles. In order to be able to project the tracks on a screen the base and the cover of the chamber are made from transparent materials. The diffusion chamber (Fig.1) is in the form of a cylindrical vessel 100 mm in diameter and 60 mm high. The base of the chamber consists of a layer of liquid, 6 (ethyl alcohol), which is poured onto the glass plate, 7. The liquid is cooled by special walls made of copper (lower part, 5) and of plexi-glass (upper part, 4). The walls of the chamber are cooled by solid carbon dioxide placed in the container, 14. The lid of the chamber is made of brass and contains a glass window. The temperature of the lid is controlled by an electrical heater. In order to prevent icing of the outer surface, special thermal insulation is provided in the form of three closed air spaces, 8. A humidity transmitting material (filter paper) is used as the source of vapour and is placed on the inner side of the cylinder. The liquid at

Card 1/3

120-3-30/40

Diffusion Chamber with a Transparent Base.

the bottom of the chamber rises up the filter paper, evaporates and diffuses downwards, making sure of a continuous functioning of the instrument. The chamber is illuminated by means of a 300 watt lamp. It is placed at a distance of 5 to 6 meters from the screen. When the liquid layer is cooled, convection takes place and is clearly visible on the screen. In the steady state (10 to 15 minutes after the introduction of the solid carbon dioxide) the supersaturation near the bottom of the chamber becomes sufficient for the condensation of drops on ions to take place. Using this instrument it is possible to observe on a screen separate drops formed on condensation centres, as well as tracks of α and β particles. Trials carried out at industrial exhibitions have shown that it is possible to observe α -particle tracks on a screen in an auditorium in daylight. The author wishes to acknowledge the interest of M.S.Kozodayev in this work and to thank A.M.Konstantinov for his help in the construction of the instrument.

Card 2/3

Moscow Engineering Physics Inst.

Lyapidevskiy, V.

AUTHOR: LYAPIDEVSKIY, V., ERGLIS, K. PA - 2319
TITLE: Devices for Nuclear Physics. (Pribory dlya yadernoy fiziki, Russian).
PERIODICAL: Atomnaya Energiya, 1957, Vol 2, Nr 3, pp 291 - 292 (U.S.S.R.).
Received: 4 / 1957 Reviewed: 5 / 1957
ABSTRACT: At the department for experimental methods of Nuclear Physics of the Moscow Institute for Physical Engineering investigations have been carried out for some years which concern the registration devices serving the purpose of ionizing radiation.
The most important properties of the diffusion chambers were investigated, and some types of chambers for physical investigations, measuring of small activities and for purposes of demonstration were developed and built.
As a device for demonstration the diffusion chamber, if compared with the WILSON chamber, offers the advantage of uninterrupted action. The chamber with a transparent bottom developed by the above mentioned department permits the observation of traces of α -particles and electrons on a ~ 6 m² screen.
A new type of diffusion chambers permits the measuring of radio-activities of the order of magnitude of 10^{-12} curie with high statistical accuracy because these chambers concentrate concentration onto the surface of a preparation introduced into the

Card 1/2

PA - 2319

Devices for Nuclear Physics.

chamber. One of these chambers for the determination of low activities will be on show at the All-Soviet Industrial Exhibition as well as at international exhibitions.

The development of large diffusion chambers raises several problems. At the department mentioned above the construction of a diffusion chamber with a surface of $600 \times 900 \text{ m}^2$ (the reviewer believes that this should read $6 \times 9 \text{ m}^2$) was developed in which an interrupted vapor flow is supposed to act. This chamber contains plates on two walls opposite to each other which conduct the moisture.

Furthermore, an experimental amplifier with drive correction was developed by means of an amplifier with contact transformer by the department mentioned above. The application of contact transformers in electrometric amplifiers is useful only in the case of using current intensities of at least 10^{-11} a (with respect to the full scale of the device). (No illustrations).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.
Card 2/2

LYAPIDEVSKIY, V.K.

AUTHOR:
TITLE:
PERIODICAL:

KRONGAUZ, A.N., LYAPIDEVSKIY, V.K., DEYEV, M.S. 56-5-10/55
The Photoconductivity of Cu_2O . (Fotoprovodimost' kuprita, Russian)
Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 5,
pp 1012 - 1017 (U.S.S.R.)

ABSTRACT:

The light of a mercury vapor lamp is sent through a monochromator with quartz optics and focussed on a Cu_2O crystal which is fixed between two electrodes, which are connected by a sort of bridge circuit with a rectifier as current source and an oscillograph and a galvanometer as indicating- and measuring device respectively.

The curves concerning the photoconductivity in dependence on the wavelength of the inciding light show for negative conductivity a maximum at 6400 Å and for positive conductivity a maximum at 4200 Å, inasmuch as the crystal was illuminated with low intensity.

Also in the case of the investigation of the temperature dependence of photoconductivity a maximum could be found both for positive and for negative conductivity.

It was further found that if a Cu_2O crystal that had already been irradiated with light and which has a maximum negative photoconductivity is additionally irradiated with X-rays, its negative conductivity diminishes, and even positive conductivity may de-

Card 1/2

56-5-10/55

The Photoconductivity of Cu_2O .

velop. If irradiation is carried out in the reversed order, an increase of negative photoconductivity is observed.

ASSOCIATION: State Institute for Roentgenology and Radiology
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

PHASE I BOOK EXPIRATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabilnykh izotopov i isucheniy v narodnom khozyaystve i nauke, Moscow, 1957

Polybenzylnoye Isotopov. Nauchnyye gamma-uslanovki. Radiometriya i dosimetriya: trudy konferentsii... (Isotope Production, High-energy Gamma-Radiation Facilities. Radiometry and Dosimetry) Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 293 p. 5,000 copies printed.

Speztsingul'nyy Atomnoy energii SSSR: Glavnoye upravleniye po ispol'tovaniyu...

Editorial Board: Prolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Aglintsev, K.K., Alkseyev, B.A., Boshkarev, V.V., Lezhbinskiy, N.I., Melkov, T.P., Sinitzyn, V.I., and Popova, G.L. (Secretary); Tech. Ed.: Novichkov, N.D.

NOTE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

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Card 2/12

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and above 0.2 Mev, respectively.

UW/ACV

LYAPIDENSKY, V.K.

GUSAROV, I.I., aspirant., LYAPIDEVSKIY, V.K., kand.fiz.-mat.nauk

Method for measuring natural radioactivity of the air by products
of radon fission. [with summary in English]. Gig. i sen. 23
no.10:10-16 O '58 (MIRA 11:11)

1. Iz I Moskovskogo ordena Lenina meditsinskogo institut imeni
I.M. Sechenova i Moskovskogo inzhenerno-fizicheskogo instituta.

(AIR,
natural radioactivity determ. by radon fission
products (Rus))
(RADIUM, radon fission prod. in determ., natural
radioactivity of air (Rus))

AUTHOR: Lyapidevskiy, V. K.

SOV/53-66-1-6/11

TITLE: ~~The Diffusion Chamber~~ (Diffuzionnaya kamera)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 66, Nr 1,
pp. 111 - 129 (USSR)

ABSTRACT: By means of foreign publications and by his own numerous papers in this field the author gives a survey in the present article on the problems of recording ionizing particles in diffusion and cloud chambers. The first section deals with the physical processes in diffusion chambers, the influence of the condensation upon the temperature distribution and the distribution of the partial pressures; the effects are discussed by means of many diagrams. The following sections deal with the charge of the ions and the dead time, the direction of diffusion, similar chambers, low pressure chambers (20 - 30 torr), the sensitive stratum, the control system (photomultipliers FEU), and the constructive particulars of diffusion chambers (the cooling of the bottom of the chamber, the walls of the chamber, the steam source, the chamber illumination, the application of photo-plates in the diffusion chamber).

Card 1/2

The Diffusion Chamber

SOV/53-66-1-6/11

Finally it is stated that the diffusion chambers compared with the cloud chambers exhibit a number of advantages, particularly in work with accelerators and for absolute measurements of α - and β -activities of an order of 10^{-12} Curie. They are applicable in many ways, above all for investigations of gas discharges, for the investigation of the behaviour of charged droplets in the electric and in the gravitational field, for the investigation of the process of formation and growth of droplets or also of monocrystals in the seed of condensation, for the investigation of the scattering of light at droplets, of the interaction of accelerated particles with matter, etc. There are 15 figures and 41 references, 19 of which are Soviet.

1. Cloud chambers--Design
2. Cloud chambers--Performance
3. Cloud chambers--Control systems
4. Particles--Recording devices

TITLE: Diffusion Chambers

Card 2/2

SOV/120-59-4-8/50

AUTHOR: Lyapidevskiy, V. K.

TITLE: ~~The Convection Chamber~~ - a New Instrument for the Observation of Charged Particle Tracks

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 49-53 and 1 plate (USSR)

ABSTRACT: A description is given of a convection chamber whose principle is similar to that of the diffusion chamber. The difference between the two lies in the fact that in the case of the convection chamber there is a temperature difference of up to 80°C across the bottom of the chamber. As a result of this temperature difference convective motion is set up and the vapour is moved from the periphery to the central portion of the bottom and forms a sensitive layer a few mm high. The chamber is shown schematically in Fig 1. The bottom of the chamber consists of two parts. The central part 1 is made of a good conductor and is cooled to -60°C. Near the walls the bottom of the chamber 3 is made of a bad conductor. The walls of the chamber 2 are at approximately room temperature. The vapour is provided by a layer of alcohol 7.

Card 1/3

SOV/120-59-4-8/50

The Convection Chamber -- a New Instrument for the Observation of Charged Particle Tracks

The vapour is transferred from the periphery to the centre of the chamber by convection and the liquid condensed on the central part collects near the walls. Data are given on the temperature distribution (Fig 2), the partial pressure distribution (Fig 3), super saturation, and the rate of flow of the gas. The chamber can be used for the demonstration and measurement of low-activity solid, liquid and gaseous specimens. Figs 5-9 give typical photographs obtained with the chamber. The chamber can be used to record both very high and very low particle fluxes. The chamber may be modified so that the working volume is in contact with the atmosphere. In the latter case it may be used to determine the activity of the atmosphere (10^{-12} curie/litre or more). Acknowledgments

Card 2/3

SOV/120-59-4-8/50

The Convection Chamber -- a New Instrument for the Observation of
Charged Particle Tracks

are made to M. S. Kozodayev, A. M. Konstantinov, V. I. Anisimov, T. M. Bogacheva and Ye. Ye. Minayeva. There are 11 figures and 2 Soviet references.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Institute of Engineering and Physics)

SUBMITTED: June 6, 1958.

Card 3/3

AUTHOR: Lyapidevskiy, V.K. SOV/120-59-5-34/46
TITLE: On the Work of a Low-pressure Diffusion Chamber
PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 5,
pp 131 - 132 + 1 plate (USSR)

ABSTRACT: The diffusion chamber which was studied was described by the author in Ref 1. It was shown that a reduction in the height of the sensitive layer, as the pressure decreases, is connected with a change in the partial pressure and the temperature distribution. The first is important in chambers with a very non-linear temperature distribution along the walls and the second in chambers with almost linear distributions. Figure 1 shows the distribution of temperature in the chamber. Curve 1 refers to atmospheric pressure inside the chamber and Curve 2 to a pressure of 20 mm Hg. (the temperature is plotted along the vertical axis and the distance from the bottom along the horizontal axis). Curve 2 shows a similar plot for another temperature distribution over the walls (non-linear). Another effect discovered was that at low pressures inside the chamber ✓

Card1/2

SOV/120-59-5-34/46
On the Work of a Low-pressure Diffusion Chamber

fluctuations in the drop background took place. The sensitive layer divides up into cells. A typical photograph of the sensitive layer is shown in Figure 3 (opposite p 134). The cells appear at pressures lower than 200 mm Hg. When the pressure is reduced to 30 mm Hg, the size of the cells is reduced and then begins to increase again. At a pressure of about 10 mm Hg, both charged-particle tracks and the cells are absent. In distinction to high-pressure chambers, this effect cannot be removed since the temperature distribution in the low-pressure chamber cannot be regulated. Acknowledgments are made to M.S. Kozodayev and V.I. Anisimova. There are 3 figures, and 3 Soviet references.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut
(Moscow Engineering-physical Institute) ✓

SUBMITTED: June 19, 1958

Card 2/2

S/039/64/010/001/000/020
B006/B063

21.8100 (1033,1138,1570)

AUTHORS: Gusarov, I. I., Lyapidevskiy, V. K.

TITLE: Determination of Inhaled Doses of Radon Decay Products

PERIODICAL: Atomnaya energiya, 1960, Vol. 10, No. 1, pp. 64-67

TEXT: A new method is suggested for determining the inhalation of radon decay products. The method is based on the counting of alpha particles per liter of air, which are produced by a complete decay of radon daughter products. In view of its relative exiguity, beta activity is neglected. The amount of energy released by a complete decay of the α -active atoms contained in 1 liter of air is given as $E_1 = a(ERaA + ERaC') + (b+c)ERaC'$,

where a, b, and c are the numbers of RaA, RaB, and RaC atoms, respectively, per 1 l of air; ERaA and ERaC are the energies released per decay of the respective element. Denoting their mean value by E_α , one obtains: E_2

$= E_\alpha(2a+b+c) = E_\alpha n$, where n is the number of alphas produced per l of air.

The error due to averaging is insignificant. If it is further assumed

Card 1/5

Determination of Inhaled Doses of Radon
Decay Products

S/089/60/010/001/009/020
B006/B063

that the absorption coefficient η is equal for all inhaled radon decay products, $E = \eta nE$ will hold. In addition to the commonly accepted filter method, there are some other methods available for the determination of the unknown n : Supposing that for a certain pumping rate v , the number n_p of alphas recorded per unit time remains constant within a long time interval, the number of radioactive atoms will remain constant within the time Δt of this interval, that is to say, the number of radioactive atoms retained by the filter during the time Δt is equal to the number of atoms decaying in the same time. In the time Δt , exactly 1 l of air is to be pumped through the filter. For RaA, RaB, and RaC, the number of atoms retained by the filter is $\varphi_1(a+b+c)$, where φ_1 is the known filtration efficiency. The total number of decay events is $\varphi_1(2a+b+c) = \varphi_1 n$ and, thus, n is equal to $n_p/v\varphi_1\varphi_2$, where φ_2 is the recording efficiency; the counting rate n_p is expressed in pulses/min; v is given in l/min. A device with continuous recording of the alphas emitted by the filter was developed by the authors jointly with A. M. Konstantinov for dose measurement by this

Card 2/5

Determination of Inhaled Doses of Radon
Decay Products

S/089/64/010/001/009/020
B006/B063

method. This device was used for two series of experiments, the first of which corresponded to a short-period exposure of the organism to a contaminated atmosphere, whereas the second series corresponded to a longer exposure, in which radioactive substances are concentrated in the organism. This concentration differs from the concentration of these substances in the atmosphere. On account of the fluctuations in time of the quantities of substances contained in the air, simultaneous measurements were made with two devices of the same type. The number of α -particles recorded in a complete decay of the daughter products proved to be largely independent of the method applied and of the concentration ratio of daughter products. The radon concentration may be determined from the number of recorded alphas. Fig. 2 shows accumulation and decay curves of daughter products retained by filter 1 and filter 2 (for $v = 151/\text{min}$, $A = 11$). The authors thank A. V. Bykhovskiy, M. S. Kozodayev, and Ye. V. Shchepot'yeva for discussions, and A. A. Titov for assistance in measurements. There are 2 figures and 3 references: 2 Soviet and 1 US. 4

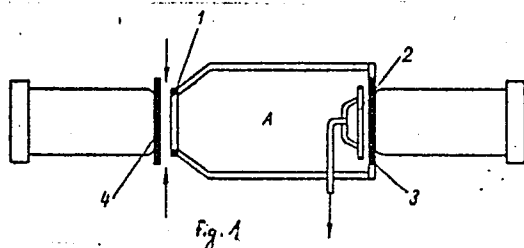
SUBMITTED: January 12, 1960

Card 3/5

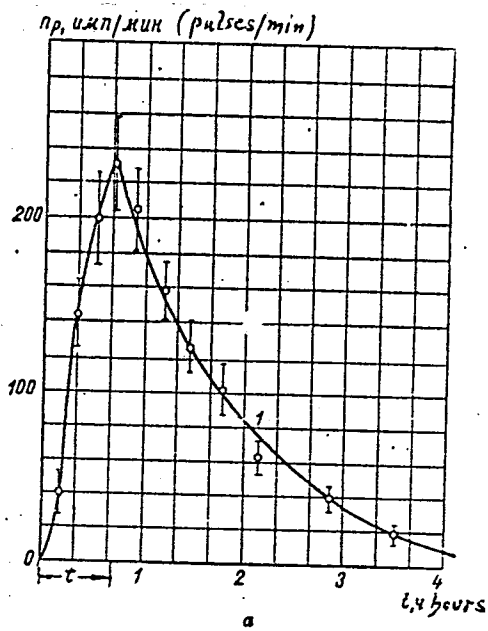
S/089/60/010/001/009/020
B006/B063

Legend to Fig. 1: 1), and 2) filters; 3), 4) scintillation counters; the arrows indicate the direction of air movement

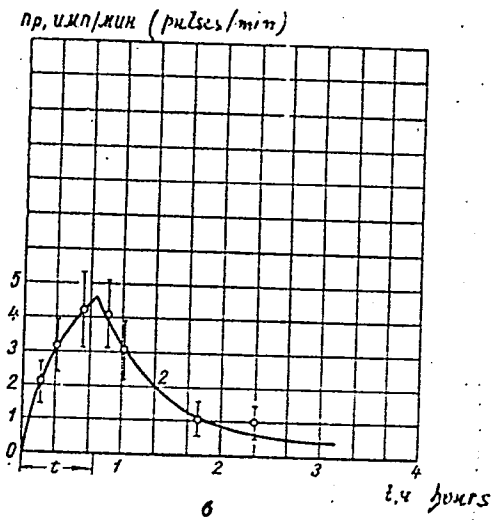
Legend to Fig. 2: n_p - counting rate, t - pumping time



Card 4/5



S/089/63/010/001/009/020
B006/BC 63



X

Card 5/5

21.5200
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67826
SOV/47-60-1-20/46

AUTHOR: Lyapidevskiy, V.K.

TITLE: A New Apparatus for Observing the Tracks of Charged Particles (Convection Chamber) 19

PERIODICAL: Fizika v shkole, 1960,²⁰ Nr 1, pp 70-72 (USSR)

ABSTRACT: This is a detailed description of the above-mentioned apparatus (Figure 1), and of how experiments on α and β radiation should be conducted using it. A convection chamber can work under ionic loads exceeding thousands of times the natural background. This permits alpha-sources of great activity (hundreds of particles per second) to be introduced into the chamber, which was impossible with a diffusion chamber. It is also more reliable, as the entrance of outside air into it does not affect its work. An 80°C difference in temperatures is maintained at the bottom level, and the intensive movement of gas caused by this accomplishes the transfer of steam from the source. It is situated near the

Card 1/4

67826

SOV/47-60-1-20/46

A New Apparatus for Observing the Tracks of Charged Particles
(Convection Chamber)

central part of the bottom near which a sensitive layer, several mm high, is formed. The gas attains a speed of several cm per second. The bottom of the chamber consists of two parts. Its central part is of a good heat-conducting material which is cooled to a temperature of -40 to -60°C . The part of the bottom near the sides of the chamber is made of a poor heat conductor. The sides are at a temperature approaching room temperature. Alcohol serves as a source of steam. Convection transfers the steam from the periphery to the center of the chamber. The liquid which has condensed in the center part of the bottom, which is elevated, runs off to the sides where it is warmed and again evaporates. The apparatus, filled with air and ethyl alcohol vapour at 1 atm pressure, starts to work when the temperature of the central bottom part is below -20°C . The α and β particle tracks ✓

Card 2/4

67826
SOV/47-60-1-20/46

A New Apparatus for Observing the Tracks of Charged Particles
(Convection Chamber)

are observed through the transparent cover and sides. The radioactive preparation is introduced into the sensitive layer in the chamber by means of a special holder through an aperture in the side of the apparatus. To increase the number of tracks of α particles in the sensitive layer, an electric field is created between the cover and the bottom. The sensitive layer is illuminated through the sides of the chamber, and it is best to use for this purpose a PR-115 projector. The tracks of the particles can be observed in an undarkened room. With the aid of this convection chamber it is possible to conduct all the main experiments with α and β radiation: to demonstrate the tracks, measure the activity of preparations, obtain absorption curves and measure the length of the run of α particles. Instructions how to conduct these experiments are given. There are 2 diagrams, 1 chart, 1 photo-

Card 3/4

67826

SOV/47-60-1-20/46

A New Apparatus for Observing the Tracks of Charged Particles
(Convection Chamber)

graph and 1 Soviet reference.

ASSOCIATION: Inzhenerno-fizicheskiy institut ^{Moskva} (Moscow
Engineering-Physics Institute)

Card 4/4

LYAPIDEVSKIY, V.K.

Model for the study of color vision. Dokl. AN SSSR 134 no.2:
463-466 S '60. (MIRA 13:9)
(COLOR SENSE) (PHYSIOLOGICAL APPARATUS)

LYAPIDEVSKIY, V.K.; PAVLOVA, T.G.

Visual method for the determination of low activities. Med.rad.
no.11:66-71 '61. (MIRA 14:11)

1. Iz dozimetricheskoy laboratorii Gosudarstvennogo nauchno-
issledovatel'skogo rentgeno-radiologicheskogo instituta Mini-
sterstva zdravookhraneniya RSFSR.
(RADIATION MEASUREMENT)

21.6000

28315

S/081/61/000/016/026/040
B106/B101

AUTHORS: Gusarov, I. I., Lyapidevskiy, V. K.

TITLE: New methods of determining atmospheric pollution by radon daughter products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 16, 1961, 327, abstract 16U356 (Med. radiologiya, v. 6, no. 1, 1961, 52-57)

TEXT: A method of total counting and an equilibrium method are described which are sufficiently accurate and can be employed in practice. The principle of both methods consists in determining the total number of α decays from the Rd daughter products which were isolated from a certain volume of the air to be examined. The principle of the equilibrium method consists in measuring the α activity of a filter under conditions at which the equilibrium was established between the number of the atoms incident and those decaying on the filter. [Abstracter's note: Complete translation.]

Card 1/1

X

LYAPIDEVSKIY, V.K.; OBODOVSKIY, M.M.

Diffusion cloud chamber controlled by a photoelectric multiplier.
Prib. i tekhn. eksp. 6 no.6:38-40 N-D '61. (MIRA 14:11)

1. Moskovskiy inzhenerno-fizicheskiy institut.
(Cloud chamber)
(Photoelectric multipliers)

S/120/62/000/001/007/061
E032/E514

AUTHORS: Lyapidevskiy, V.K. and Obodovskiy, I.M.

TITLE: A convection chamber with a honeycomb base

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 41-42

TEXT: It is pointed out that the convection chamber described by the first of the present authors in Ref.1 (PTE, 1959, No.4, 49) has a relatively small base area (up to 100 cm²). In the present paper the authors describe a chamber whose base area can be made as large as desired without affecting its performance. The base consists of isolated prisms 1 (Fig.1), each of which functions as an ordinary convection chamber. The top ends of the prisms lie in a single plane and the prisms themselves are cooled down to -40 to -60°C by thermal contact with the plate 2 which in turn is cooled by solid CO₂. The upper part of the chamber (walls and lid) is maintained at room temperature. The working vapour evaporates from the surface of the source 3 and is brought up by the gas flow into the upper region of the chamber, and then down towards the prisms 1. Near the surface of the prisms there is a sensitive layer with a super-saturation

Card 1/3

A convection chamber with a ...

S/120/62/000/001/007/061
E032/E514

greater than the super-saturation at which droplets begin to form on ions. The cooled gas-vapour mixture becomes heated on approaching the walls and moves in the upward direction, thereby producing a closed convective flow of the gas-vapour mixture. The chamber operates continuously so long as the temperature difference between the bottom and the top parts is maintained at the necessary value. In the honeycomb chamber the gas motion can be made to proceed in a single direction so that the diameter of the chamber can be reduced to the diameter of its working region. In order to achieve this, the prisms were laid over the entire base area, while the upper part of the chamber carried peripheral windows which were covered with the Petryanov ФПП-15 (FPP-15) filter. Air at room temperature was drawn into the chamber through the filter by a backing pump, and after reaching the prism surface was ejected back into the atmosphere through an aperture in the bottom plate. There are 2 figures.

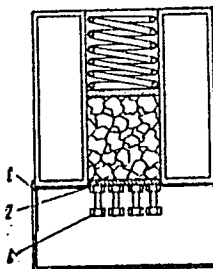
ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut
(Moscow Engineering Physics Institute)

SUBMITTED: May 17, 1961
Card 2/3

A convection chamber with a ...

S/120/62/000/001/007/061
E032/E514

Fig.1



Card 3/3

14,7000

S/046/62/008/003/007/007
B108/B104

AUTHORS: Lyapidevskiy, V. K., Falomkin, I. V.

TITLE: Effect of ultrasound on the process of directed crystallization

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 3, 1962, 369 - 370

TEXT: The effect of ultrasound on the redistribution of impurities between the liquid and solid phases during directed crystallization was examined in a glass tube closed below by a nitrogen-cooled steel plate. Ultrasound exerts its principal effect upon the region near the boundary to the solid phase. This region is enriched in impurities; ultrasound accelerates the transfer of substance. It probably also accelerates the diffusion of dissolved substance into the liquid. The result of ultrasonic treatment is an increase in the output rate of pure substance from the solution. There is 1 figure.

✓
B

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy g. Dubna
(Joint Institute of Nuclear Research, Dubna)

SUBMITTED: January 15, 1962

Card 1/1

LYAPIDEVSKIY, V. K.

95

8/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerovfizicheskogo
instituta (Scientific Conference of the Moscow Engineering
Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400
delegates participating. A review is given of these lectures that are
assumed to be of interest for the readers of Atomnaya energiya. They are
following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev,
design of accelerators for superhigh energies; I. Ya. Pomeranchuk,
analyticity, unitarity, and asymptotic behavior of strong interactions at
high energies; A. B. Migdal, phenomenological theory for the many-body
problem; Yu. D. Fifevskiy, deceleration of medium-energy antiprotons in
matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect;
M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium;
Yu. B. Ivanov, A. A. Rukhadse, h-f conductivity of subcritical plasma;

Card 1/4

36

S/089/62/013/006/019/027
B102/B186

Nauchnaya konferentsiya...

Ye. Ye. Lovetskiy, A. A. Rukhadze, electromagnetic waves in nonhomogeneous plasma; Yu. D. Kotov, I. L. Rozental', the origin of fast cosmic muons; Yu. M. Ivanov, muon depolarization in solids; V. G. Varlamov, Yu. M. Grashin, B. A. Dolgoshein, V. G. Kirillov-Ugryumov, V. S. Roganov, A. V. Samoylov, μ^- capture by various nuclei; V. S. Demidov, V. G. Kirillov-Ugryumov, A. K. Ponomov, V. P. Protasov, F. M. Sergeev, scattering of π^- mesons at 5 - 15 Mev in a propane bubble chamber; S. Ya. Nikitin, M. S. Aynutdinov, Ya. M. Selektor, S. M. Zombkovskiy, A. F. Grashin, muon production in π^+p interactions; B. A. Dolgoshein, spark chambers; N. G. Volkov, V. K. Lyapidevskiy, I. M. Obodovskiy, study of operation of a convection chamber; K. G. Finogenov, production of square voltage pulses of high amplitudes; G. N. Aleksakov, problems of color vision; V. K. Lyapidevskiy, relation between number of receivers and number of independent colors; Ye. M. Kudryavtsev, N. N. Sobolev, N. I. Tisengauzen, L. N. Tunitskiy, F. S. Pazyulov, determination of the moment of electron transition of oscillator forces and the widths of the Schumann-Runge bands of molecular oxygen; B. Ye. Gavrilov, A. V. Zharikov, V. I. Rayko, decomposition of the volume charge of intense ion beams; Ye. A. Kramer-Ageyev, V. S. Troshin, measurement of neutron spectra; G. G. Doroshenko, new methods of fast-neutron recording; V. I. Ivanov, dosimetry terminology; R. M. Voronkov, Card 2/4.

LYAPIDEVSKIY, V.K.; FALOMKIN, I.V.

Effect of ultrasound on oriented crystallization. Akust.zhur. 8
no.3:369-370 '62. (MIRA 15:11)

1. Ob'yedinennyy institut yadernykh issledovaniy, g. Dubna.
(Ultrasonic waves--Industrial applications)
(Crystallization)

LYAPIDEVSKIY, Viktor Konstantinovich, kand. fiz.-mat. nauk; LYUSTIBERG,
V.F., inzh., ved. red.; LEVIN, G.E., kand. tekhn. nauk, red.;
SHVETSOV, G.V., tekhn. red.

[Diffusion chamber for determining slight α - and β -activities]
Diffuzionnaia kamera dlia opredeleniia malykh α - i β -aktivnostei.
Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 15 p.
(Peredovoi nauchno-tekhnikeskii i proizvodstvennyi opyt. Tema 41.
No. P-58-77/3) (MIRA 16:3)
(Cloud chamber) (Radioactive fallout)

LYAPIDEVSKIY, V.K.

Relation between the number of receptors and the number of independent colors. Dokl. AN SSSR. 146 no.3:696-699 S '62. (MIRA 15:10)

1. Moskovskiy inzhenerno-fizicheskiy institut. Predstavleno akademikom I.V.Obreimovym.

(Color sense)

ACCESSION NR: AR4032165

S/0058/64/000/002/A046/A046

SOURCE: Ref. zh. Fiz., Abs. 2A388

AUTHORS: Gurvich, A. M.; Krongauz, A. N.; Lyapidevskiy, V. K.;
Mandel'tsvayg, Yu. B.; Nikiforova, A. P.; Popov, V. I.; Titov, A. A.

TITLE: Comparative dosimetric characteristics of single crystals
of cadmium sulfide

CITED SOURCE: Tr. Vses. n.-i. in-ta med. instrumentov i oborud.,
no. 5, 1962, 40-51

TOPIC TAGS: cadmium sulfide, single crystal cadmium sulfide,
dosimetric characteristics, therapeutic x ray monitoring, radiation
dose power, roentgen ampere characteristic, variation with hardness

TRANSLATION: The dosimetric characteristic of CdS single crystals,
as applied to problems of x-ray therapy, were investigated. The

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ACCESSION NR: AR4032165

crystals used were grown either (a) by sublimation of luminor CdS by the Grillaud method (Group I) or (b) by sublimation of luminor CdS in a nitrogen jet (Group II). Crystals of the first group were activated with indium or gallium, and those of the second group with Cl or with AgCl, with a small amount of Zn introduced. The investigations were carried out with x-ray equipment RUM-7 ("soft" radiation, tube voltage 20--60 kV maximum) and RUM-3 ("hard" radiation, 100--200 kV maximum). The radiation dose power in air was measured with an ionization dosimeter. The sensitivity of crystals of Group I was 7--264 $\mu\text{A/r/min}$, while those of group II occupied an intermediate position. A strictly linear roentgen-ampere characteristic was possessed by the least sensitive crystals. The "variation with hardness" was measured for the investigated crystals and the corresponding theoretical curve calculated. The results of the measurements and of the calculations are in satisfactory agreement in the region of strong absorption. In the region of weak absorption, the experimental "variation with hardness" is lower than the calcu-

Card 2/3

ACCESSION NR: AR4032165

lated value, owing to the inhomogeneity of the employed radiation. It is concluded that in the limited energy range used in x-ray therapy (at a generation voltage of 150--200 kV maximum), the investigated single crystals, particularly those of the first group, can be used successfully as detectors in clinical x-ray dosimeters. Yu. Mandel'tsveyg.

DATE ACQ: 31Mar64

SUB CODE: PH, SD

ENCL: 00

Card 3/3

VOLKOV, N.G.; LYAPIDEVSKIY, V.K.; OBODOVSKIY, I.M.

Width of tracks in convection chambers. Prib. i tekhn. eksp. 8
no.3:61 My-Je '63. (MIRA 16:9)

1. Moskovskiy inzhenerno-fizicheskiy institut.
(Photography, Particle track)

LYAPIDEVSKIY, V.K.; MIL'SHTEYN, R.S.

Roentgenometer determining radiation quality. Med. rad. 8 no.5:
62-65 My '63. (MIRA 17:5)

1. Iz dozimetricheskogo otdela (rukovoditel'-dotsent A.N. Krongauz)
Nauchno-issledovatel'skogo rentgen-radiologicheskogo instituta
Ministerstva zdravookhrananiya RSFSR.

DENISENKO, A.N.; LYAPIDEVSKIY, V.K.

Determination of the mean radiation energy by a proportional
counter. Med. rad. 9 no.1:65-68 Ja '64. (MIRA 17:9)

1. Otdel klinicheskoy dozimetrii Nauchno-issledovatel'skogo rentgeno-
radiologicheskogo instituta (dir. - prof. I.G. Lagunova), Moskva.

L 58526-65 EWA(h)/EWT(m)

ACCESSION NR: AP5014302

UR/0241/65/010/006/0079/0082
615,849.7-015,35-78

AUTHOR: Krongauz, A. N.; Lyapidevskiy, V. K.; Titov, A. A.

TITLE: Determination of radiation characteristics from two values measured simultaneously

SOURCE: Meditsinskaya radiologiya, v. 10, no. 6, 1965, 79-82

TOPIC TAGS: radiation measurement, ^{qm}proportional counter, scintillation counter

ABSTRACT: Ordinary ionization chambers, Geiger counters, and other radiation detectors that measure either the current or the number of counts do not yield direct information on the spectral composition of the radiation. The reason is that the value of the effect measured depends both on the spectral composition of the radiation and on the amount of the original radiation (specifically, on the energy of the particles and on the number of particles). Simultaneous measurement of two values (the number of particles and the energy lost by them in a substance) provides information about the spectral composition of the radiation. Simultaneous measurement is necessary only when the intensity of the radiation changes with time. In

Card 1/2

L 58526-65

ACCESSION NR: AP5014302

general, the ratio of the two values characterizing the interaction of radiation with a substance can be determined by one of the following methods: (1) by comparing the values measured independently of each other in two experiments; (2) by comparing the values measured simultaneously by means of two detectors varying in counting efficiency; (3) by comparing two values measured simultaneously at the outlet of the same counter. Orig. art. has: 4 figures.

ASSOCIATION: Otdel klinicheskoy dozimetrii nauchno-issledovatel'skogo rentgenoradiologicheskogo instituta, Moscow (Clinical Dosimetry Section, Scientific-Research Institute of Roentgenology and Radiology)

SUBMITTED: 00

ENCL: 00

SUB CODE: LS, NP

NO REF SOV: 003

OTHER: 000

isp
Card 2/2

KHONGAUZ, A.N. (Moskva); LYAPIDEVSKIY, V.K. (Moskva); TITOV, A.A. (Moskva)

Sulfide-cadmium dosimeter for E- and gamma-radiation. Trudy
TSentr. nauch.-issl. inst. rentg. i rad. ll no.1:60-72 '64.
(MIRA 18:11)

LYAPIDEVSKIY, V.K. (Moskva); MIL'SHTEYN, R.S. (Moskva)

Determination of deep penetrating doses by means of a
rotating phantom. Trudy TSentr. nauch.-issl. inst. rentg.
i rad. ll no.1:99-102 '64. (MIRA 18:11)

VOLKOV, N.G.; LYAPIDEVSKIY, V.K.

Determination of the curves of the spectrum sensitivity to light receptors from the addition curves. Dokl. AN SSSR 163 no.1:231-234 J1 '65. (MIRA 18:7)

1. Submitted July 29, 1964.

L 46573 -66 EWT(d)/EWP(1) IJP(c) RB/GG

ACC NR: AP6018062

SOURCE CODE: UR/0020/66/168/003/0687/0690

AUTHOR: Volkov, N. G.; Lyapidevskiy, V. K.

13
12
8

ORG: Moscow Engineering and Physical Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Model with two photocells simulating human color vision and its anomalies

4

SOURCE: AN SSSR. Doklady, v. 168, no. 3, 1966, 687-690

TOPIC TAGS: vision, biocybernetics, photoelectric cell, electronic circuit

16C

ABSTRACT: A model for simulating normal color vision defects including deuteranopia, protanopia, and tritanopia is described. The model (see Fig. 1) contains two photocells (K and P) each with positive and negative photoconductivity, and signals from the photocells are transmitted over channels I and II to input units 1, 2, and 3. Units 1 and 3 record steady-state current values and unit 2 records transient current values. The spectral characteristics of the fast and slow components produced by a square wave of light are different and independent, and thus the spectral characteristics of units 1, 2, and 3 are also independent. With

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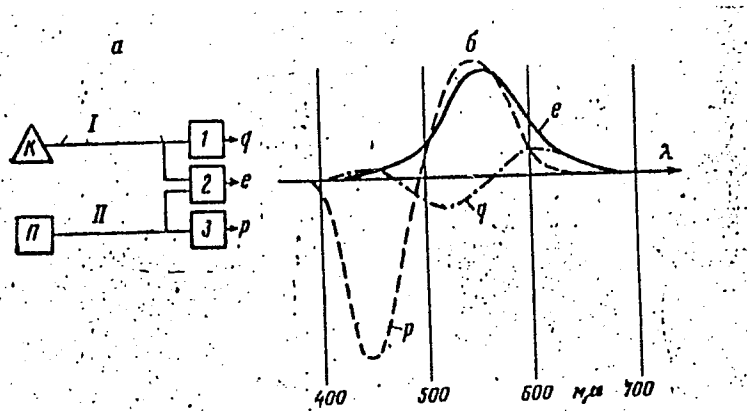


Figure 1

simultaneous operation of photocells K and P, the model simulates normal three-dimensional color vision. Photocells K and P correspond to the rods and cones of the retina and units 1, 2, and 3 correspond to the color receptors of the human eye. If only signals from the rods are transmitted over channel I and only signals from the cones are transmitted over channel II and the ratio between the number of rods and

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ACC NR: AP6018062

cones is 1:1, then the spectral characteristics of units 1, 2, and 3 will correspond to normal color vision. With the number of rods and cones affecting a single nerve fiber dependent on the position of the receptor field in relation to the center of the retina, deuteranopia appears with an increased visual angle and tritanopia appears with a decreased visual angle. Simulation of various color vision defects by rearranging the circuits and using the photocells and units in different combinations is described in detail. The authors thank I. V. Obreimov for discussing the work. Orig. art. has: 2 figures. [06]

SUB CODE: 06, 09/ SUBM DATE: 26Feb65/ ORIG REF: 002/ OTH REF: 003/
ATD PRESS: 5027

aw:m

Card 3/3

LYAPIDOVA, A.I., kand. med. nauk

Characteristics of the course, treatment and outcome of
otoantrites in young children and nursing infants. Sbor.
nauch. trud. Ivan. gos. med. inst. no. 28:142-146 ' 63.
(MIRA 19:1)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. kafedroy
dotsent B.S. Lopatin) Ivanovskogo gosudarstvennogo medi-
tsinskogo instituta (rektor - dotsent Ya.M. Romanov).

LYAPIDUS, L.B., redaktor; KRIMER, I.L., redaktor

[China] Kitai. Otvetstvennye redaktory Liapidus, L.B. i Krimer, I.L.
Moskva, 1950. (MIRA 7:7)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i
kartografii.
(China--Maps)

LYAPIN, A.

"Real wages and the improvement of the material welfare of the
U.S.S.R workers" by S.P. Figurnov. Reviewed by A.Liapin.
Vop.ekon. no.9:143-148 S '61. (MIRA 14:8)
(Wages)
(Cost and standard of living)
(Figurnov, S.P.)

LYAPIN, A.

Book on the most important problems in the building of
communism. Vop. ekon. no.2:123-127. F. '64. (MIRA 17:3)

LYAPIN, A.

Distributing material and spiritual benefits during the period
of the transition to communism. Sots. trud 6 no.11:13-23 '61.
(MIRA 14:11)

(Communism) (Wages)

LYAPIN, A. G.

Acad Sci USSR. Power Engineering Inst imeni G. M. Krzhizhanovskiy

LYAPIN, A. G.- "Investigation of the movement of a volumetric AC crown discharge using a probe with a grating." Acad Sci USSR. Power Engineering Inst imeni G. M. Krzhizhanovskiy. Moscow, 1955.

(Dissertation for the Degree of Candidate in Technical Sciences.)

SO: Knizhnaya Letopis' No. 13, 1956.

LYAPIN, A.G.

AUTHOR LEVITOV, V.I., LYAPIN, A.G., POPKOV, V.I. PA - 2152
TITLE Experimental Investigation of the Motion of a Space Charge in the
Corona-Field of an Alternating Current. (Eksperimental'noye issledovaniye
dvizheniya ob' 'yemnogo zaryada v pole korony peremennogo toka.)
PERIODICAL Izvestiia Akad.Nauk SSSR, Otdel.Tekhn., 1957, Nr 1, pp 14-32 (U.S.S.R.)
Received 3/1957 Reviewed 4/1957
ABSTRACT The experimental investigation of a space charge in the exterior zone
of the corona-field of an alternating current was carried out according
to a method established in the Institute for Energy and according to a
measuring scheme the fundamental element of which is a probe with a net.
The principle of measurements by means of a probe with a net consists in
the fact that a potential similar to the space-potential which existed
before the introduction of the probe, is given from a special source to
the entire system (probe-net) which is brought into the part of the
corona-field to be investigated. If an oscillograph is used, the possi-
bilities of investigation are essentially increased. A scheme was developed
in order to be able to realize compensation of the space-potential $U_R(t)$.
The difficulty of carrying out compensation in practice, made it necessary
to exclude the first (50 Hz) and the third (150 Hz) harmonics in the
current curve to the probe, i.e. to add the voltages 50 and 150 c. to
the compensation-circuit of the sources. It remains to be proved by ex-
periment that such a measure is justified or sufficient. The essential
results obtained were the following. 1) It was proved by experiment that

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Experimental Investigation of the Motion of a Space Charge in the Corona-Field of an Alternating Current.

a drift zone of a space charge exists in the exterior zone of the corona of an alternating current. In it the ions perform an oscillating progressive motion which leads to a gradual removal of ions from the conductor-surface. The duration of a space charge in the drift zone can amount to 25 periods (0.5 sec.) from the start of its creation (at 50 c. of the source). 2) The maximum radii of the removal of the space-charge-front during one, three, and five half-periods of the ion-existence were determined. 3) An approximated constancy of the velocity of the frontal motion (and thus also of the constancy of the voltage on the front) of a moving ion-wave of either polarity during the corona-glowing was determined. (22 illustrations)

ASSOCIATION Institute for Energy of the Academy of Science of the U.S.S.R.
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SUBMITTED 30. 8. 1956
AVAILABLE Library of Congress

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LYAPIN, A. G.,

"Experimental Research and Methods of Calculating Wave Distortion in Transmission In Lines Due to Surge|type Corona," With KOSTENKO, M. V., and ZAYYENTIS, S. L., p 342.

High Voltage Technique, Moscow, Gosenergoizdat, 1958, 664pp
(Series: Its Trudy, No. 195)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.) It was at this instutute that Prof. Govev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1953. In 1956, by decree of Min of Higher Education, the High-Voltage Lab. at LPI was named after A. A Gorev.

ZAYENTS, S.L.; KOSTENKO, M.V.; LYAPIN, A.G.

Experimental study and calculation methods of wave distortions
caused by pulse corona in power transmission lines. Trudy LPI
no.195:342-372 '58. (MIRA 11:10)
(Electric waves) (Electric power distribution--High tension)
(Corona (Electricity))

SOV/24-59-3-25/33

AUTHOR: Lyapin, A. G. (Moscow)

TITLE: Determination of the Field with a Space Charge by Means of a Sond

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1959, Nr 3, pp 171-176 (USSR)

ABSTRACT: The sond used in the experiments is shown in Fig 1. The calculations were carried out as described in Ref 1. The base of the calculations are shown in Fig 2 and Eq (1). The current was defined as Eqs (2) and (2'), where ρ_+ , ρ_- - volume of ion's density, k_+ , k_- - coefficient of ion's motion, $\Delta u_1 = u - u_1$ - potential of undercompensation of the sond. In the case of equal distribution of density of the charge δ on the surface of the sond, the current can be shown as Eq (3), which becomes Eq (4) for $m = 0$. In the former case the potential difference between the sond and the net ($U_n = 0$) can be assumed as Eq (5), when the current will be as in Eq (6). In the latter case ($U_n \neq 0$), the equivalent equation of detention will be Eq (7) and the current as Eq (11). Fig 3 illustrates the oscillograms of the sond current (Eq (12)). The relationship of the amplitudes

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Determination of the Field with a Space Charge by Means of a Sond
can be expressed as Eq (16), which is equal to 2 for $k = 1.5$
and $\rho_m = 10^{-11}$. There are 3 figures and 4 references, of
which 3 are Soviet and 1 is English.

SUBMITTED: September 10, 1958.

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24(3)

SOV/48-23-8-11/25

AUTHORS:

Levitov, V. I., Lyapin, A. G., Popkov, V. I.

TITLE:

Field Investigation of an Alternating-current Corona by Means of a Search Electrode

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 8, pp 980-988 (USSR)

ABSTRACT:

A short theory of investigation by means of a search electrode is given in the present paper. A differential search electrode consisting of two similar electrodes is first described. The authors demonstrate how the discharge is not influenced by the probe, and discuss the whole measuring arrangement with the help of figure 1. In the following, the volt-ampere characteristic of the differential search electrode is discussed. The diagrams of figures 3 and 4 illustrate the volt-ampere characteristics for eight different angles. The influence exerted by space charge upon the mobility of the ions and the amount of the spatial potential are determined from the characteristic. The diagram of figure 9 illustrates the maximum space-charge density in dependence upon the distance. The diagram of figure 10 shows the spatial potential for various

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SOV/48-23-8-11/25

Field Investigation of an Alternating-current Corona by Means of a Search Electrode

distances of the two search electrodes. In conclusion, the applicability and exactitude of the above measuring method by means of a search electrode are discussed. There are 10 figures and 3 Soviet references.

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S/024/62/000/002/001/012
E194/E135

AUTHORS: Levitov, V.I., Lyapin, A.G., Popkov, V.I., and
Ch'ing Chiang-Yang (Moscow)

TITLE: An oscillographic procedure for d.c. corona field
investigation

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Energetika i avtomatika,
no.2, 1962, 47-54

TEXT: As the probe method of investigating a d.c. corona
field is laborious an oscillographic procedure was devised to
record the probe characteristic automatically. The probe V-A
characteristic may be used to determine the field potential and
the product k_p of the ion mobility and space charge density.
With the new method this product, k_p , can be found without
accurate knowledge of the probe capacitance, and the probe
capacitance itself can be determined. The voltage applied to
the probe consists of a d.c. component approximately the same as
the field potential and an a.c. component of appropriate
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An oscillographic procedure for ...

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E194/E135

amplitude and frequency. To make the ionic component of probe current large as compared with the capacitative current the frequency of the a.c. component of the probe voltage must be low. If this condition is observed the probe V-A characteristic can be recorded on a single oscillogram and the product k_p can be found from a phase angle measurement. If a higher a.c. frequency is used the probe current is predominantly capacitative and the probe capacitance can be found. The necessary experimental equipment is described including a rectifier source of d.c. supply, a saw-tooth waveform generator developing a voltage of some tens of kV and a special changeover switch. Tests were made in a cylinder 1.92 m diameter on polished wires of 3.09 and 1.47 mm diameter with both positive and negative corona. The probe V-A characteristics are compared with calculated values and with experimental values obtained by the usual procedure, and agreement is good. The field potential distribution results are also in good agreement, the difference between calculated and experimental values being not greater than 6%. Probe capacitance measurements were made using a Card 2/3



An oscillographic procedure for ... S/O24/62/000/002/001/012
E194/E135

50 c/s a.c. component. The capacitance was found to be lower when corona was present than when it was absent; the difference can be as much as 25% when the probe is near to the wire (6 cm). Accordingly, the usual calculation of probe capacitance can be seriously in error when the probe is near the wire with corona, so that the capacitance should always be determined experimentally.

There are 9 figures.

SUBMITTED: June 14, 1961

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EWT(1)/BDS/EEC(b)-2/ES(w)-2--AFFTC/ASD/ESD-3/SSD--

ACCESSION NR: AP3000014

S/0057/63/033/005/0576/0584

AUTHOR: Lyapin, A. G.

64
63

TITLE: Measurement of ion mobility in the field of a transitional unipolar corona

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 5, 1963, 576-584

TOPIC TAGS: discharges, carrier mobility, corona

ABSTRACT: For many practical calculations it is necessary to know the proportionality factor between the field strength and the charge carrier velocity, that is, the ion mobility coefficient K , in a discharge. For a corona discharge Popkov, V. I. (Doklady AN SSSR, No. 6, 1947) proposed a method for determining the carrier mobility by analysis of the current-voltage characteristic obtained by means of a probe inserted into the investigated outer zone of the discharge. This method has the advantage of yielding a local rather than an average value, but it also has shortcomings. Accordingly, in the present work the theoretical relationship between the mobility and field strength is analyzed and there is proposed a method for numerical determination of the

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ACCESSION NR: AP3000014

mobility in a unipolar corona discharge. The experimental set-up involved the use of a cylindrical capacitor made of metal mesh. The experimental arrangement insures determination of the total charge and direct recording of the time of motion of the charge from the conductor to the measuring cylinder. The measurements are made by means of oscillographs and micrometers. Tests of the proposed procedure show that it is simple yet sufficiently accurate and allows of obtaining quantitative data for ion flight times of from 1 to 10 millisecc. The measurement results indicate a tendency for the mobility coefficient K to decrease slightly with increasing ion lifetime. Orig. art. has: 10 equations and 8 figures.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo, Moskva (Power Institute, Moscow)

SUBMITTED: 09Mar62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: PH

NR REF SOV: 004

OTHER: 000

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LYAPIN, A.G., kand. tekhn. nauk; VOLKOVA, I.I., inzh., ved.
red.

[Use of improved electric drive systems in industry]
Primenenie usovershenstvovannykh skhem elektroprivodov
v promyshlennosti. Moskva, 1963. 91 p. (Materialy za-
vodskogo opyta, sbornik 1) (MIRA 18:7)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy
institut nauchnoy i tekhnicheskoy informatsii.

L 20330-66 EWT(m)/EWP(t) LJP(c) JD/WB

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BOOK EXPLOITATION

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Braude, Zinoviy Il'ich; Lyapin, Aleksey Grigor'yevich; Topilin, Nikolay Vasil'yevich

Structures made of aluminum alloys; reference materials (Konstruktsii iz alyuminiyevykh splavov; spravochnyye materialy) Moscow, Stroyizdat, 1964. 193 p. illus., biblio. Errata slip inserted. 4500 copies printed.

TOPIC TAGS: aluminum alloy; general construction; civil engineering

PURPOSE AND COVERAGE: The book contains instructions on the selection of alloys for supporting, enclosing building structures of various designations, on profile designing, fireproofing methods and corrosion protection. The economic problems in the use of aluminum alloys and their applications for construction are discussed. A broad assortment of construction designs, recommendations for their selection and their utilization by plants are included. The book contains also designing methods, parameters, instructions on stability checking, methods for designing welded, bolted and rivet joints. The book can serve as a handbook for civil engineers, construction designers, scientific workers and students of higher technical schools and technical schools.

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