ACCESSION NR: AP4035698

more easily melted cathodes. Although it was the cathodes that were pitted, the microplasmoids originated at the anodes. It is suggested that their high velocities may be due to electrodynamic accelerating forces of the type discussed by H.Maecker (Zs.phys.,141,198,1955). A simple regenerative mechanism is suggested to account for microcrater formation: a local increase of the metal vapor density reduces the thickness of the cathode drop region. This results in a local increase of the electric field, and hence of the current. The increased current increases the local temperature, and hence the local evolution of metal vapor. "In conclusion the authors express their gratitude to A.G.Iosif'yan, member of the Academy of Sciences of the Armenian SSR, for his interest in the work, and to Yu.P.Ry*lov and A.A.Stupin for discussing the results." Orig.art.has: 1 formula and 4 figures.

ASSOCIATION: none

SUBMITTED: 08Jun63 ATD PRESS: 3086 ENCL: 00

SUB CODE: ME, GC NR REF SOV: 006 OTHER: 001

3/3
Card

L 11901-66 EWT(l)/EWA(m)-2

ACC NR: AP6001914 UR/0294/65/003/006/0914/0919

AUTHOR: Osadin, B.A.

ORG: Branch of the All-Union Research Institute for Electromechanics (Filial Vsesoyuznogo nauchno-issledovatel'skogo institute elektromekhaniki)

TITLE: Anode erosion with a high-current discharge in a vacuum

TOPIC TAGS: erosion, anode, gas discharge, electrode

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 914-919

ABSTRACT: The first part of the article is devoted to a review of the theoretical aspects of the subject and the development of a method of calculation. A figure shows the geometry of the electrodes used in the experimental section of the work. The test material (a eutectic of 44.5% lead and 55.5% bismuth or tin) was placed in lump form in a tray on the face of the central electrode and was melted in a vacuum (at a pressure of less than 10-5 mm Hg) using an electric heater. The discharge was initiated with a special sparkplug, and the frequency of the discharge was 10-25 cycles. Steady-state heat conditions were established on the electrodes within a few minutes after the start of operation; the temperature of the face of the central electrode during the pauses be-

Card 1/2 UDC: 533.915:536.422.1

L 11901-66

ACC NR: AP6001914

9

tween discharges was 300-350°C. Experimental values for the consumption of electrode material are said to agree well with values calculated theoretically. The conclusion can be drawn that the lag in the loss of mass in a high-current face discharge should lead to the result that the erosion plasma formed in the discharge and accelerated by the magnetic pressure of the current passing through it will have a considerable spread with respect to velocity. A small mass at the start of the discharge will be accelerated to high velocities, while the main mass of the erosion plasma will be imparted substantially smaller velocities.

"The author expresses his thanks to M.A. Mel'nichenko and B.V. Yelisevev for advice, and B.M. Ilekhminev for help in making the measurements."

Orig. art. has: 13 formulas and 3 figures.

SUB CODE: 20,11/ SUBM DATE: 03Dec64/ ORIG REF: 008/ OTH REF: 001

HW

Card 2/2

L 60354-65 EWT(1)/EWT(m)/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(t)/EWP(b) Pz-6/
Po-4/P1-4 IJP(c) JD/JG/AT

ACCESSION NR: AP5018301 UR/0057/65/035/007/1230/1235
537.525

AUTHOR: Osadin, B. A. 49 44 B

TITLE: On the energy dissipated in a high-current vacuum discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1230-1235

TOPIC TAGS: vacuum discharge, electrode, erosion, plasma gun

ABSTRACT: The author has investigated the vacuum (10^{-5} mm Hg) discharge of a 180 microfarad capacitor charged to 3 kV or less between a 25 mm inner diameter cylindrical copper electrode and 8 mm diameter rods of lead, tin, zinc, aluminum, copper, steel, and tungsten. The investigation was undertaken because of interest in the behavior of cylindrical plasma guns. The two electrodes were coaxial and their ends were coplanar with the end of a 16 and 19 mm inner and outer

it, and the luminous intensity were observed with an oscilloscope. The plasma

Card 1/2

L 60354-65

ACCESSION NR: AP5018301

emitted in the discharge was observed and the speed of the plasma bursts were measured by means of high-speed streak photography. The energy evolved in the discharge was measured with a specially constructed calorimeter. It was found that 54% of the energy stored in the capacitor was transferred to the electrode erosion products (plasma, unionized vapor, and metal droplets). The most rapid plasma bursts (6 z 10^6 cm/sec for the aluminum electrode) were emitted in the very early stage of the discharge long before the current had reached its maximum. This is ascribed to the presence in the later stages of the discharge of a much greater mass of eroded electrode material to be accelerated. The paper concludes with a very brief discussion of the efficiencies of plasma guns. "I thank Yu.P. Rylov, A.A.Stupin, Z.A.Pingulevskaya, and Yu.F.Taynov for discussions and S.V. [illegible] in performing the measurements." Orig. art. has: 1 formula,

L 60324-65 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 Pz-6/Po-4/Pi-4 IJP(c) AT

ACCESSION NR: AP5018318 UR/0057/65/035/007/1327/1329

533.9

AUTHOR: Osadin, B. A. 31 B

TITLE: Concerning the formation of clumps in pulsed plasma accelerators 21

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1327-1329

TOPIC TAGS: plasma source, plasmoid, plasma structure, spark gap, vacuum arc

ABSTRACT: Longitudinal time resolution streak photographs of the plasma issuing from a coaxial plasma gun show a banded structure which has been differently interpreted by different authors. I.F.Kvartskhava, R.D.Meladze, and K.V.Suladze (ZhTF, 30, 289, 1960) ascribe the bands to the successive ejection of separate plasma clumps or plasmoids, whereas Yu.V.Skvortsov, V.S.Komel'kov and S.S. Tserevitinov (ZhTF, 34, 965, 1964) regard the bands as due to the helical structure of a continuously emitted plasma. In the hope of settling this point the

of the inner electrode and the inner diameter of the outer electrode were either

Card 1/3

L 60324-65

ACCESSION NR: AP5018318

8 and 25 mm, respectively, or 4 and 14 mm, respectively. The outer electrode was of copper and the inner of lead, tin, zinc, aluminum, copper, steel, or tungsten. The plane electrodes were of brass; they were 2 cm in diameter and were separated by an undisclosed distance. The sparks were produced by discharge of a 180 microfarad capacitor charged to 3 kV, or a 1.4 microfarad capacitor charged to 30 kV. The inner electrode was always the anode during the first half-cycle. All the longitudinal streak photographs (including those made with plane electrodes) showed the familiar banded structure, the details of which varied with the electrode material. Since it seems unlikely that plane electrodes could give rise to a helical plasma, it is concluded that the bands are due to successively ejected plasmoids. This conclusion is confirmed by the

art. has: 1 figure.

Card 2/3

L 60324-65
ACCESSION NR: AP5018318

ASSOCIATION: none

SUBMITTED: 06Jul64 ENCL: 00 SUB CODE: ME, EC

NO REF SOV: 004 OTHER: 002

Card 3/3 dmp

OSADIN, V.A., inzh.

Methods of analyzing the indicator diagrams for determining the mean indicated p, pressure. Energomashinostroenie 7 no.6:18-21 S '61. (MIRA 14:9)
(Indicators for gas and oil engines)

OSADIN, V.A., inzh.

New stationary 62hN 36/45 diesel engine. Energomashinostroenie 7 no.11:48 N '61. (MIRA 14:11)

(Diesel engines)

BUNIN, K.P., professor, doktor tekhnicheskikh nauk; OSADINA, N.G., inzhener; FEDOROVA, S.A., inzhener.

Diagram of the eutectoid transformation of austenite in gray or malleable cast iron. Lit.proizv.no.4:17-19 Ap '56. (MLRA 9:7)

1.Chlen-korrespondent AN USSR (for Bunin)
(Cast iron) (Austenite)

OSAD'KO, A. F.

A growing economy increases demands on financial organs. Fin. SSSR 19 no.12:54-58 D '58. (MIRA 11:12)

1.Zaveduyushchaya Stalinskim rayfinotdelom g. Moskvy.
(Finance)

OSAD'KO, A. F

State controllers (notes by the district Finance Department chief.
Fin. SSSR 20 no.6:67-74 Je '59. (MIRA 12:10)
(Moscow--Finance)

BUROVA, Lyudmila Petrovna; OSAD'KO, Angelina Fedorovna; RYZHKOV, A.S., red.; PONOMAREVA, A.A., tekhn. red.

[Growth of the wealth and the welfare of the nation] Rost bogatstva i blagosostoianiia naroda. Moskva, Ekonomizdat, 1963. 117 p. (MIRA 16:8)
(Cost and standard of living)
(Economic conditions)

OSAD'KO, I.S.

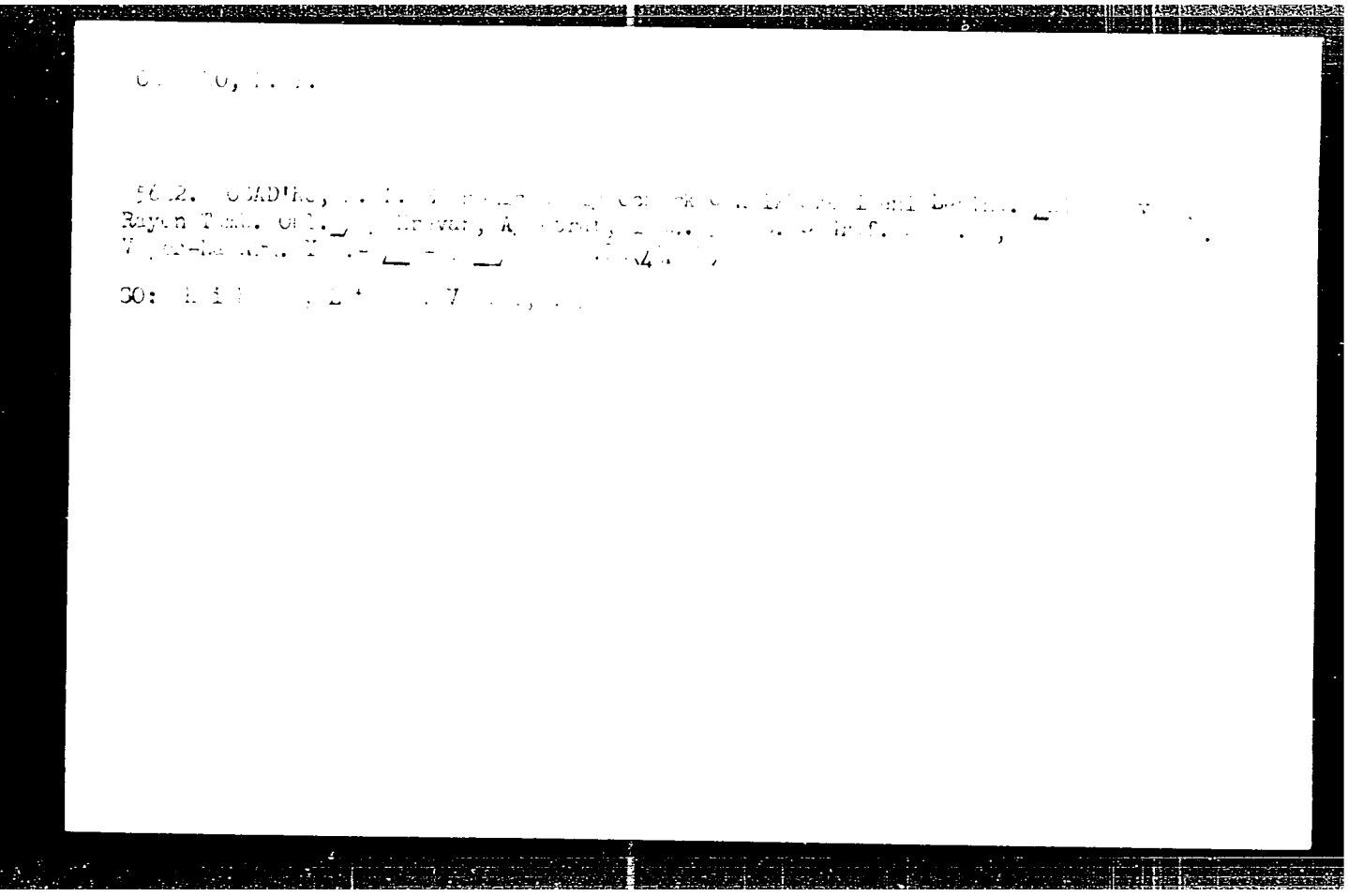
Stripping reaction with excitation of spin levels. Vest. Mosk. un. Ser. 3: Fiz., astron. 16 no.3:62-65 My-Je '61. (MIRA 14:7)

1. Kafedra elecktrodinamiki i kvantovoy teorii Moskovskogo gosudarstvennogo universiteta.
(Nuclear reactions)

SAD'KO, P. P.

Ekonomicheskii ocherk o kolkhoze imeni Lenina (Kirsanovskii raion, Tambovskoi oblasti
[Economic sketch of the Lenin collective farm (Kirsanov district, Tambov province)].
Moskva, Sel'khozgiz, 1953. 244 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 11 February 1954



OSAD'KO, Mikhail Petrovich, kandidat ekonomicheskikh nauk; ANDRONOV, I.I., redaktor; FURMAN, G.V., tekhnicheskiy redaktor

[Agricultural artels under modern conditions of developments] Sel'skokhoziaistvennaia artel' v sovremennykh usloviiakh ee razvitiia. Moskva, Izd-vo "Znanie," 1956. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8, Ekonomika sel'skogo khoziaistva, vyp. 2, no.5) (MLRA 9:11)
(Collective farms)

OSAD'KO, Mikhail Petrovich, kandidat ekonomicheskikh nauk; SULKOVSKAYA, M.A., redaktor; ZUBRILINA, Z.P., tekhnicheskiy redaktor

[The workday unit and wages] Trudoden' i ego oplata. Moskva, Sel'khozgiz, 1956. 171 p.
(Wages) (MLRA 10:2)

TERENT'YEV, M.L.; OSAD'KO, M.P.; BRAGINSKIY, B.I.; SLOBODIN, V.M.; FISHMAN, Z.A.; LEVIN, I.Ye.; TSYMBOV, M.Yu.; BADIR'YAN, G.G.; TYUTIN, V.A.; ABRAMOV, V.A.; FRAYER, S.V.; KOBCHIKOVA, I.A.; KARMAUKHOVA, Ye.I.; OBOLENSKIY, K.P.; IL'IN, S.A.; GAVRILOV, V.I.; FREYDMAN, S.M.; KALASHNIKOVA, V.S., redaktor; LAPIDUS, M.A., redaktor; RAKITINA, Ye.D., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor

[Manual for students of collective farm economy] V pomoshch' izuchaiushchim ekonomiku kolkhozov. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 423 p. (MLRA 10:1)
(Collective farms)

OSAD'KO, Mikhail Petrovich; SUPONITSKIY, S.A., kand. ekon. nauk, red.; FILIPPOV, L.A., red.; GUR'YANOV, V.P., tekhn. red.

[Socialist system of agriculture; from a course of lectures on the political economy of socialism] Sotsialisticheskaia sistema sel'skogo khoziaistva; iz kursa lektsii po politicheskoi ekonomii sotsializma. [Moskva] Izd-vo Mosk. univ., 1958. 91 p. (MIRA 11:9)
(Agriculture)

OSAD'KO, M.

Strengthening the principle of material self-interest in collective farm production. Vop.ekon. no.2:80-88 F '59. (MIRA 12:5)

(Collective farms)
(Wages)

OSAD'KO, Mikhail Petrovich; MATSUK, R.V., red.; VORONINA, R.K., tekhn. red.

[Necessary and surplus products under socialism] Neobkhodimyi i pribavochnyi produkt pri sotsializme. Moskva, Gos. izd-vo "Vysshaia shkola," 1962. 61 p. (MIRA 15:5)
(Economics)

OSAD'KO, Mikhail Petrovich; YEFIMOV, O.S., red.; KOZLOVA, T.A., tekhn. red.

[The cooperative form of agricultural production under socialism]Kooperativnaia forma sel'skokhoziaistvennogo proizvodstva pri sotsializme. Moskva, Izd-vo Mosk. univ., 1963. 117 p. (MIRA 16:3)

(Collective farms)

KOVALEVSKIY, G.T., red.; LANDIN, Ye.I., red.; OSAD'KO, M.P., red.; PASHKEVICH, O.N., red.

[Labor incentives in a socialist society] Stimulirovanie truda v sotsialisticheskom obshchestve. Minsk, Izd-vo "Nauka i tekhnika," 1964. 190 p. (MIRA 17:5)

1. Akademiya nauk BSSR, Minsk. Instytut ekonomiki.

24806
S/048/ /025/006/016/010
B /B212

9.4300

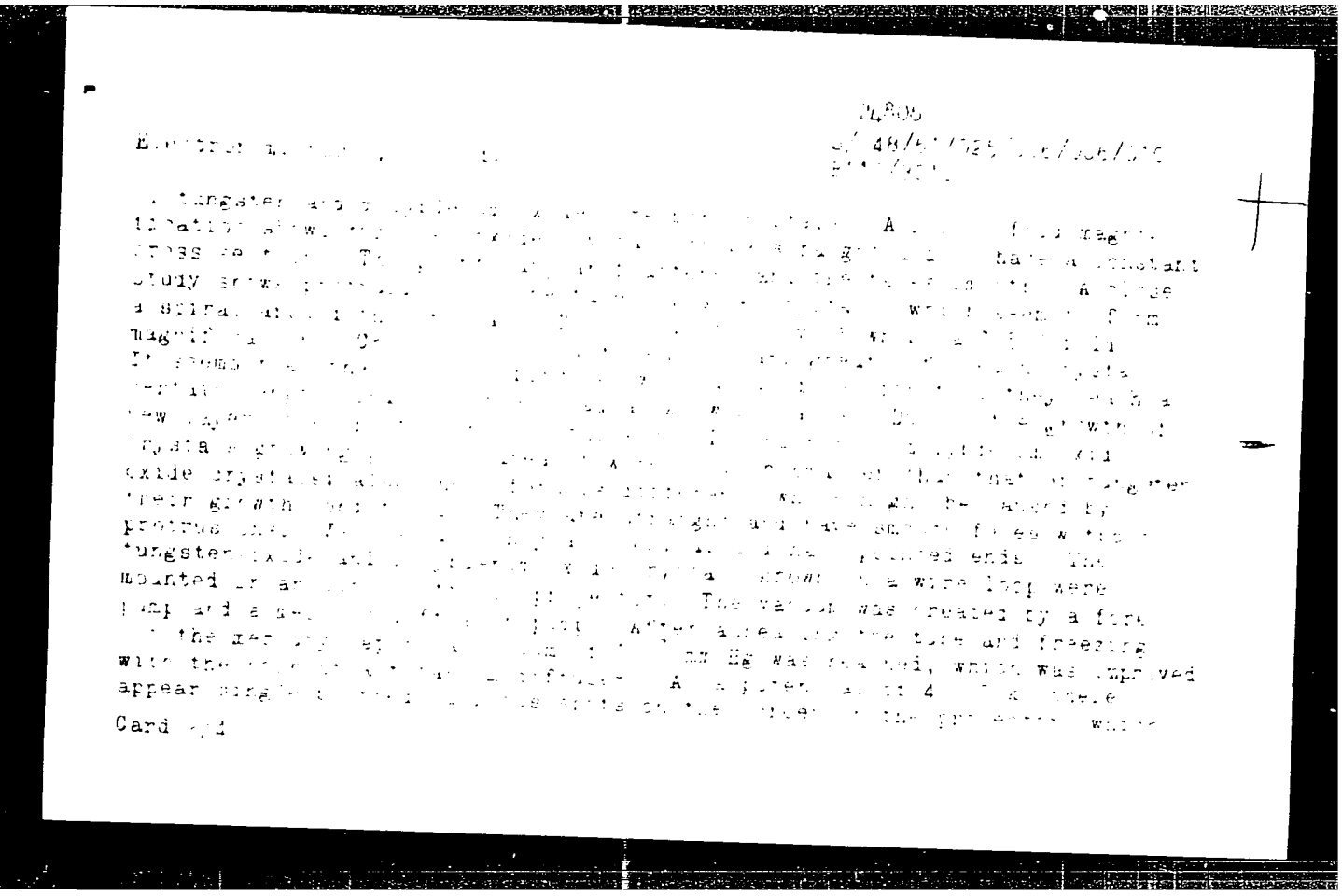
AUTHORS: S. [illegible] and Osad [illegible]

TITLE: [illegible] thread like semi [illegible]

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya [illegible]

TEXT: [illegible] Conference on Electronics [illegible] October [illegible] The authors [illegible] This with the [illegible] model [illegible] Tungsten or molybdenum [illegible] thread like crystals [illegible] were put in the [illegible] electron [illegible] surface of the thread like [illegible] were studied [illegible] form of their [illegible] showed that thread like crystals

Card 1/4



Card 1/4

Electron-microscopic study ...

correspond to the emission of the various thread-like crystals. The image might change when the potential is raised. The images of single thread-like crystals (of smaller diameter) disappear, while the images of others appear. The crystals resist a lasting heating to red heat of the wire. Due to the heating of the crystals, the same emission current will be observed with a potential increase. Some emission images disappear and the screen luminesces evenly. It is assumed that the ends are rounded off during heating and the images of some crystals overlap. Quite often one can see images on the screen, which consist of four individual luminous spots. Sometimes it can be observed how the image is rotating by 90° around its axis. This might take place under the effect of ion bombardment of residual gases. Very seldom it was observed that a sudden rotation took place when increasing the potential, with a subsequent disappearance of the image. It is possible that these phenomena are related to the occurrence of a screw crystal emission and to a stripping of these crystals by the field. Investigations of the thread-like crystals after the test showed that their ends become pointed due to ion bombardment. The ion bombardment is the main cause for the instability of cold cathodes (Ref.5: Elinson M.I., Vasil'yev G.V., Avtoelektronnaya emissiya. Fizmatgiz, M., 1958). A fairly stable

Card 3/4

Electron-microscopic study ...

current can be expected from crystals having the form of straight needles of a small diameter. Studies of the effect of ion bombardment on the emission properties of thread-like crystals showed that the emission current increases by a multiple and reaches up to 500 μa. The stability of the emission current also increases. At the same time, more four-leaf images can be observed on the screen. For a certain "point brush", the conditions furnishing constant emission currents are chosen experimentally. There are 7 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M.V. Lomonosova (Division of Physics of Moscow State University imeni M.V. Lomonosov)

OSADZHAYA, O.V., assistent

Foreign body in the vagina. Zdrav.Belor. 6 no.2:68 F '60.
(MIRA 13:6)

1. Iz kafedry akusherstva i ginekologii (i.o. zaveduyushchego - dotsent N.F. Lyzikov) Vitebskogo meditsinskogo instituta.
(VAGINA--FOREIGN BODIES)

FUKLEV, V.A.; OSAK, A.A.; SUBKHANKULOV, F.F.; TULYAGANOV, E.Kh.; KLEYMAN, N.M.

Operation of a basic gas cupola with a refractory bed charge. Lit proizv. no.6:35-36 Je '64. (MIRA 18:5)

L 04887-67 EWT(m) LJP(c) GD

ACC NR: AT6027223 SOURCE CODE: UR/0000/66/000/000/0151/0155

AUTHOR: Sergeyev, A. V.; Osak, V. F.

41

B+1

ORG: none

TITLE: Electronic circuit of a neutron monitor

19

SOURCE: AN SSSR. Sibirskoye otdeleniya. Sibirskiy institut zemnogo magnetizm, ionosfery i rasprostraneniya radiovoln. Issledovaniya po geomagnetizmu i aeronomii (Studies in geomagnetism and aeronomy). Moscow Izd-vo Nauka, 1966, 151-155

TOPIC TAGS: neutron detector, neutron counter, electronic circuit, circuit design

ABSTRACT: A method for simplifying the circuit of a neutron monitor is proposed, which is based on the experimental finding that an increase of the supply voltage of an SNM-8 slow-neutron counter to 3000 v does not cause the counter indications to fall outside the proportionality limits. This mode of operation makes it possible to obtain a pulse amplitude roughly twice that of the standard mode. Pulses can be recorded with a simple pulse amplifier with a gain $K \approx 200$. Based on these results, a neutron-monitor circuit is designed which incorporates both electronic tubes and semiconductors, and by introducing feedback and adequate

Card 1/2

L 04887-67
ACC NR: AT6027223

correlation between the stages of the first and second amplifier, greatly reduces the thermal instability exhibited by earlier devices of this type. A distinctive feature of the circuit proposed is the use of a tunnel diode (with an operating threshold of 0.2 v) in the integral pulse-discriminator circuit. The maximum gain is 500, and the instability is ±0.5%. A schematic circuit and a block diagram of the neutron monitor are given and discussed. Orig. art. has: 1 table and 4 figures.

SUB CODE: 09,18/ SUBM DATE: 25Dec65/ ORIG REF: 009/ OTH REF: 001

Card 2/2

OSAK, V. P.

COUNTRY	:	USSR
CATEGORY	:	Cultivated Plants. General Problems. M
ABS. JOUR.	:	RZhBiol., No. 3, 1959, No. 10859
AUTHOR	:	Lavrenko, A. T., Sova, M. S., Oleynik, K. I., Zhmaylo,*)
INST.	:	Odessa Agricultural Institute.
TITLE	:	Reports on Production Experiments (in a Number of Kolkhozes of Odessa, Zaporozhskaya, Nikolayevskaya, Kirovograd-skaya, Zakarpatskaya and Cherkasskaya Oblasts).
ORIG. PUB.	:	Tr. Odessk. s.-kh. in-ta, 1958, 13, 137-143.
ABSTRACT	:	No abstract.

CARD: 1/1

*) P. I., Kryuk, L. A., Berdnik, I. V., Osak, V. P., Prokopenko, M. I., Dmitrenko, Ye. A.

OSAKI, F.

OSAKI, F. Remarks on Jeno Jedovsky's article "Investigation of a Network with Phase Compensating Condensers by Means of a Circular Diagram." p. 144

Vol. 49, no. 5, May 1956
ELEKTROTECHNIKA
TECHNOLOGY
Budapest, Hungary

SO: East European Accession Vol. 6, no. 3, March 1957

OSAKIN, V.P., inzh.

Characteristic of the wear of metal in high-speed crushing for mills coal. Energomashinostroenie 6 no.4:23-26 Ap '60.
(MIRA 13:8)
(Crushing machinery)

MASHEK, I. [Mašek, I.]; KRZHIKAVA, L. [Křikavá, L.]; OSANCOVA, K. [Osancová, K.]

Determining standard dietary allowances for man. Vop.pit. 16 no.5: 52-58 S-O '57. (MIRA 11:3)

1. Iz Institute narodnogo pitaniya (dir. - dotsent I.Mashek), Praga.

(NUTRITION,
standard. (Rus))

COUNTRY : Czechoslovakia
CATEGORY : Human and Animal Physiology, Metabolism T

ABS. JOUR. : RZhBiol., No. 5 1959, No. 21763

AUTHOR : Osancova K.
INST. :
TITLE : Determination of an Adequate Amount of Fat in the Diet.

ORIG. PUB. : Ceskosl. hyg., 1958, 3, No. 2-3, 121--126

ABSTRACT : According to data previously obtained, the mean fat consumption for women younger than 40 should amount to 30% of the total caloric intake, being gradually reduced to 25% for women in the older age groups.

Card: 1/1

OSAD'CHA, V

"Fat rations and the weight of the body."

CESKOSLOVENSKA FYZIOLOGIE, Praha, Czechoslovakia, Vol. 7, no. 4, July 1958

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, Sept 59
Unclas

KRZHIKAVA, L. [Kžikavá, L.]; [illegible] K. [Ošancová, K.]

Problem of the fan content in food [with summary in English]. Vop.pit. 17 no.6:12-13 N-D '58. (MIRA 12:2)

1. Iz Instituta narodnogo pitaniya, Praga, Chekhoslovatskaya Narodnaya Respublika.

(FOOD, fat content (Rus))

(FATS, determ. in food (Rus))

OSANCOVA, M.

Diet and obesity. Results of epidemiological investigations. Rev. Czech. med. 7 no.4:278-294 '61.

1. Institute of Human Nutrition, Prague. Director: Doc. J. Masek, M.D.

(OBESITY nutrition & diets)

OSANCOVA, K.

On the frequency of obesity. Cesk. gastroent. vyz. 15 no.3:237-240 My '61.

1. Ustav pro vyzkum vyzivy lidu, Praha, reditel doc. dr. J. Masek. (OBESITY statist)

OSANCOVA, K.

Food requirement and body weight. Results of a field nutrition survey. Cesk. gastroent. vyz. 15 no.4:299-303 Je '61.

1. Ustav pro vyzkum lidu, Praha, reditel doc. dr. J. Masek.
(NUTRITION SURVEYS) (BODY WEIGHT)

OSANCOVA, K.

Obesity and food composition. (Results of a field nutrition survey).
Cesk. gastroent. vyz. 15 no.6:434-448 S '61.

1. Ustav pro vyzkum vyzivy lidu, reditel doc. MUDr. J. Masek, Dr.Sc.
(NUTRITION SURVEYS) (OBESITY nutrition & diets)

MASEK, J.; KRIKAVA, L.; OSANCOVA, K.

Epidemiological survey of cholesterolaemia and its significance.
Rev. czech. med. 8 no.3:186-199 '62.

1. Institute of Human Nutrition, Prague; Director: Prof. J. Masek, M.D.

(BLOOD CHOLESTEROL)

OSANCOVA, K.

On new recommended allowances of food portions, calories, nutritional substances and supplements. Cesk. gastroent. 16 no.1:5-14 Ja '62.

1. Ustav pro vyzkum vyzivy lidu v Praze, reditel doc. dr. J. Masek DrSc.
(NUTRITION)

KRIKAVA, L.; HEJDA, S.; HATLE, J.; MASEK, J.; OSANCOVA, K.; NERADILOVA, M.

Fats in nutrition of our population. Cesk. gastroent. vyz. 16 no.3/4: 183-190 Ap '62.

1. Ustav pro vyzkum vyzivy lidu v Praze, reditel doc. MUDr. J. Masek, DrSc.

(FATS) (NUTRITION SURVEYS)

MASEK, J.; OSANCOVA, K.; SLABOCHOVA, Z.; HEJDA, S.; HATLE, J.

Epidemiology and pathogenesis of obesity. Cesk. gastroent. vyz. 16 no.3/4:223-229 Ap '62.

1. Ustav pro vyzkum vyzivy lidu v Praze, reditel doc. MUDr. J. Masek, DrSc.

(OBESITY) (NUTRITION)

MASEK, Josef; KRIKAVA, Louis; OSANCOVA, Katerina; HEJDA, Stanislav; HATLE, Jaroslav

New Czechoslovakian recommendations for nutrition allowances. Cas. lek. cesk. 101 no.26:806-811 29 Je '62.

1. Ustav pro vyzkum vyzivy lidu v Praze, prednosta prof. dr J. Masek.
(NUTRITION SURVEYS)

MASEK, J$_o$sef; KRIKAVA, Louis; OSANCOVA, Katerina

The level of blood cholesterol and phospholipids in the population, influencing factors and their importance. Cas. lek. cesk. 101 no.50: 1482-1488 14 D '62.

1. Ustav pro vyzkum vyzivy lidu, Praha-Krc, reditel prof. dr. J. Masek.
(BLOOD CHOLESTEROL) (PHOSPHOLIPIDS)

MASEK, Josef; KRIKAVA, Louis; OSANCOVA, Katerina; statisticke zpracovani ZVOLANKOVA, K.; HATLE, J.

The level of blood cholesterol and phospholipids in the population II. Cholesterol level in the Czechoslovakian population and seasonal variations. Cas lek. cesk. 101 no.51:1489-1494 21 D '62.

1. Ustav pro vyzkum vyzivy lidu, Praha - Krc, reditel prof. dr. J. Masek.
(BLOOD CHOLESTEROL) (SEASONS)

MASEK, J.; KRIKAVA, L.; OSANCOVA, K.; statisticke zpracovani ZVOLANKOVA, K.; HATLE, J.

Blood levels of cholesterol and phospholipids in the population. III. Influence of diet and physical work (population studies). Cas. lek. cesk. 102 no.8:198-204 22 F '63.

1. Ustav pro vyzkum vyzivy lidu, Praha-Krc, reditel prof. dr. J.Masek.
(BLOOD CHOLESTEROL) (PHOSPHOLIPIDS) (BLOOD LIPIDS)
(EXERTION) (FATS) (DIETARY PROTEINS) (ASCORBIC ACID)
(BLOOD CHEMICAL ANALYSIS)

KRIKAVA, L.; HEJDA, S.; OSANCOVA, K.

Studies on food consumption by 6-year-old children from 2 different communities. Cesk. pediat. 20 no.11:945 N '65.

1. Ustav pro vyzkum vyzivy lidu v Praze (reditel prof. dr. J. Masek, DrSc.).

Nutrition

CZECHOSLOVAKIA

HEJDA, S.; OSANCOVA, K.; Research Institute for Human Nutrition (Ustav pro Vyzkum Vyzivy Lidu), Prague, Director (Reditel) Prof Dr J. MASEK.

"Dietary Sources of Calcium."

Prague, Casopis Lekaru Ceskych, Vol 105, No 40, 30 Sep 66, pp 1092 - 1095

Abstract /Authors' English summary modified_7: Sources of calcium in the diet of the rural population of Eastern Bohemia were investigated. Milk and milk products are the most important source, accounting for 66% of the total Ca intake. Cereals come second, contributing 13%, while vegetables provide 6% of the total Ca intake. 3 Figures, 4 Czech references.

1/1

CZECHOSLOVAKIA

OSANCOVA, K.; HEJDA, S.; Research Institute for Human Nutrition (Ustav pro Vyzkum Vyzivy Lidu), Director (Reditel) Prof Dr J. MASEK.

"Calcium Consumption of the Czech Population."

Prague, Casopis Lekaru Ceskych, Vol 105, No 41, 12 Oct 66, pp 1122 - 1125

Abstract [Authors' English summary modified]: The average per capita consumption of calcium is about 760 mg. Very low intakes were observed mainly in the groups where the intake should be higher than average, that is in pregnant women, adolescents, children, and lactating women. Higher consumption of milk and of products based on milk is recommended to obtain satisfactory Ca intake levels. 2 Figures, 6 Tables, 2 Western, 4 Czech references.

(3)

Anatomy

HUNGARY

FOLDI, Mihaly, Dr of med. sci., GELLERT, Albert, Cand. of med. sci., KOZMA, Marta, POBERAI, Maria, ZOLTAN, O., Tamas, OSANDA, Endre, Cand. of med. sci., Medical University of Szeged, II. Medical Clinic, Institute of Anatomy, and Neurological and Psychiatric Clinic (Szegedi Orvostudomanyi Egyetem, II. sz. Belklinika, Anatomiai Intezet es Ideg-Elmekortani Klinika).

"Recent Data on the Anatomy of the Connection Between the Brain and Lymphatic System"

Budapest, A Magyar Tudomanyos Akademia V. Orvosi Tudomanyok Osztalyanak Kozlemenyei, Vol XVII, No 1, 1966, pages 93-100

Abstract: [Authors' Hungarian summary] By the method of experimental lymphatic edema produced by "self-injection with lymphatic fluid," the lymphatic vessels in the substance of the dura mater at the skull base and their connection with the tr. lymphaticus cervicalis were demonstrated. In contrast to the uncertainties and inadequacies found in the literature, this observation provides a morphological confirmation of the lymphatics in the area of the dorsal sulcus and also explains the severe morphological and functional changes seen after radical ligation of the cervical lymphatic ducts. All 9 references are Western. [Manuscript received 13 Jul 65.]

1/1

OSANEC, F.

School medical service is the prime interest of public health organizers. Cesk. zdravot. 5 no.2:98-99 Feb 57.

(PUBLIC HEALTH
school med. serv. (Cz))

OSANEC, Jan, Col, Dr, Hrade Kralove Military Medical Academy

Coauthor, with Maj Dr Vaclav DOBIAS, Capt Dr Bohumil MACEK, and Capt Dr Jaroslav PROCHAZKA, of a historical article, "Care of Wounded in the Austro-Prussian War of 1866."
(VZL, Dec 54)

SO: Sum. 436, 30 March 1955.

ACC NR: AM6014911 Monograph CZ/

Osanec, Jan and others

Manual for the military doctor (Repetitorium vojenskeho lekare) 2d ed., rev. Prague, Nase vojsko, 1965. 0479 p. illus. 4000 copies printed. Series note: Vojenskozdravotnicka knihovna, sv. 23.

TOPIC TAGS: military medicine, chemical warfare, atomic warfare, biological warfare, Czechoslovak military medicine, military hygiene, epidemiology, military surgery

PURPOSE AND COVERAGE: This second edition of the handbook for officers of the Czechoslovak medical corps is meant primarily for doctors to be assigned or merely assigned to military units, for students of military medicine, and for physicians in general. The text covers all aspects of modern military medical services, their organization and logistics during war and peace. Special attention is paid to ABC factors. The chapter on the Principles of Military Surgery covers the effect of ionizing radiation, radioactive contamination, chemical contamination, and biological contamination of surgical casualties. A separate chapter is devoted to AW medical counter-measures in case of area, equipment, and personnel AW contamination. Types of detection devices used

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ACC NR: AM6014911

by Czechoslovak military personnel are described. The chapter on CW defense describes modern CW agents in detail. Principles of diagnosis, therapeutics, and decontamination are also given. Biological warfare principles and countermeasures, and epidemiology are described in a separate chapter, including diagnosis, treatment and prevention. The handbook contains tables, organizational charts, lists of abbreviations and symbols, and references to Czech military instructions.

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ACC NR: AM6014911

Ch. IX. Military medical logistics -- 439

List of abbreviations for field medical services -- 479

SUB CODE: 06, 15/ SUBM DATE: 29Apr65/

Card 3/3

(4)

CZECHOSLOVAKIA

FABRY, P., HEJDA, S., CERNY, K., OSANKOVA, K., PECHAR, J., ZVOLANKOVAK, K; Nutrition Research Institute, Pediatric Faculty, Charles University (Ustav pro Vyzkum Vyzivy Lidu, Fakulta Detskeho Lekarstvi KU), Prague.

"The Influence of Food Intake Frequency on Body Proportions and the Thickness of Epithelium in School Children."

Prague, Ceskoslovenska Fysiologie, Vol 15, No 2, Feb 66, pp 83-84

Abstract: In grown-ups infrequent heavy meals increase fat deposition. 226 children, aged 6 - 16 were given 2874-2970 calories per day in 3, 5 or 7 meals. In the age group 11 - 16 3 meals a day led to an increase of weight; in the younger group no difference was found. The epithelium was thicker in the children with increased weight. 4 Western, 4 Czech references. Submitted at "16 Days of Physiology" at Kosice, 30 Sep 65.

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87370

S/120/60/000/004/009/028
E032/E414

9.4110 (1003, 1105, 1140)

AUTHORS: Oshchepkov, P.K., Skvortsov, B.N., Osanov, B.A. and Siprikov, I.V.

TITLE: Application of Continuous Secondary Electron Multiplication to the Amplification of Small Currents

PERIODICAL: Pribory i tekhnika eksperimenta. 1960. No 4. pp 89-91

TEXT: The principle of the multiplier is illustrated in Fig.1 in which 1 and 2 are contact rings. 3 is a cylindrical tube (secondary emitter), 4 is the electron collector. 5 is a microammeter and Φ_c is the incident radiation giving rise to secondary electron emission from the inner surface of the cylinder It was found that the best results were obtained with a mixture of TiO_2 and MgO as the secondary emitter. The electrical conductivity of this mixture can be varied within relatively wide limits and after suitable treatment the material is capable of producing sufficiently high secondary emission. The material for the tube was prepared as follows: one part by weight of TiO_2 and one part by weight of MgO were soaked in ethyl alcohol and thoroughly mixed. The mixture was then dried in air in a drying cupboard at 100°C for 2 hours. The dried mixture was sifted and

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E032/E414

Application of Continuous Secondary-Electron Multiplication to the Amplification of Small Currents

baked in a furnace and the temperature was raised to 1200°C at the rate of 200°C per hour and kept at 1200°C for 2 hours. The baked material was then sifted again using the 0053 sieve. The powder thus obtained was then used to prepare the following mixture: 1 kg of the above powder, 225 g of homogenized paraffin and 3 to 5 g of oleic acid. The cylindrical tube was made from this mixture by baking in an MgO powder at the rate of 50° per hour up to 1300°C. The specimen was kept at that temperature for 3 hours. It was then allowed to cool over a period of 12 to 15 hours. The tube thus manufactured was then placed in a hydrogen atmosphere and heated to 1200°C in 1 hour. It was kept at that temperature for 30 min and then cooled over a period of 2 hours. The tube was then placed in a special vacuum chamber in which oxygen activation was carried out under the following conditions: temperature 500 to 600°C, pressure of oxygen 0.1 to 0.01 mm Hg, activation time 1 to 3 min. Fig.4 and 5 show the results obtained. There are 5 figures and 13 references: 10 Soviet and 3 non-Soviet.

Card 2/5

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E032/E414

Application of Continuous Secondary-Electron Multiplication to the Amplification of Small Currents

ASSOCIATION: Institut metallurgii AN SSSR
(Institute of Metallurgy AS USSR)

SUBMITTED: May 27, 1959

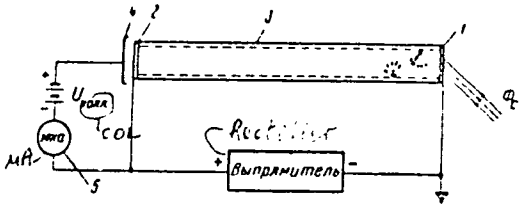

Рис. 1. Схематическое устройство непрерывного вторичноэлектронного умножителя. *1*, *2* — контактные кольца, *3* — цилиндрический канал, *4* — коллектор электронов, *5* — прибор, регистрирующий выходной ток, Φ_0 — первичная радиация, вызывающая с внутренней поверхности электронную эмиссию

Fig.1.

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E032/E414

Application of Continuous Secondary-Electron Multiplication to the Amplification of Small Currents

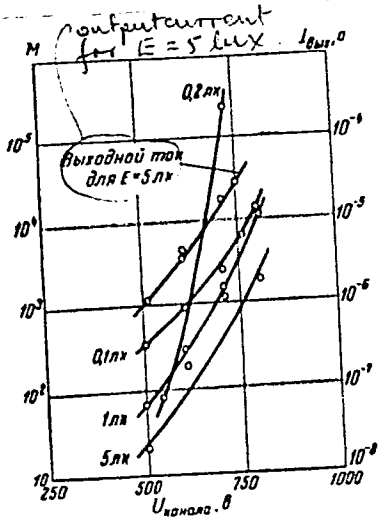

Fig.4.
Amplification coefficient (M) and output current (I, amps) as functions of the voltage applied to the secondary emitter (V, volts) for 0.1, 0.2, 1 and 5 lux. The curve for 0.2 lux was obtained after baking at 180°C for 30 min.

Card 4/5

L 23795-65 EWT(1)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pq-4/Pae-2/
Peb/P1-4 GW/WS

ACCESSION NR: AT5003293 S/2892/64/000/003/0125/0138

AUTHOR: Radziyevskiy, G.B.; Osanov, D.P. B+1

TITLE: Depth distribution of absorbed energy from nonmonoenergetic electrons

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 3, 1964, 125-138

TOPIC TAGS: electron energy absorption, energy absorption distribution, radiation protection, radiation dosimetry, electron dosimetry, shielding, outer space shielding

ABSTRACT: In the past, a relatively simple calculation of the depth distribution of absorbed energy due to electrons was possible only in two cases: 1. when a thick sample is exposed to an "infinitely wide" beam of monoenergetic electrons (see, e.g., B. Markus, Strahlentherapie, 97, 3, 376, 1955); and 2. when the electrons originate from a β-radiating isotope (e.g., by means of the Levinger formula). The present paper describes new semiempirical methods for the calculation of electron-generated energy distribution. They [illegible] the estimation of absorbed energy due to electrons with arbitrary energy

and [illegible]
in flat samples of water-equivalent material in contact with an infinitely thick source

Card 1/2

L 23795-65

ACCESSION NR: AT5003293

(applicator) containing P^{32} with an isotropic β-flow within the source; and b. estimate of the energy distribution within a plane sheet of material irradiated from one side by an isotropic flow of electrons from the earth's outer radiation belt (astronaut's approximation). Orig. art. has: 20 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NO REF SOV: 004 OTHER: 015

Card 2/2

L 23788-65 EWT(1)/EWT(m)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pq-4/ Pae-2/Peb/Pi-4 DIAAP GW/WS

ACCESSION NR: AT5003294 S/2892/64/000/003/0139/0148 49 B+1

AUTHOR: Osanov, D.P.; Kovalev, Ye. Ye.; Radziyevskiy, G.B.

TITLE: Tissue doses of the bremsstrahlung from electrons in the earth's outer radiation belt 14

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 3, 1964, 139-148

TOPIC TAGS: radiation belt, Van Allen belt, Van Allen electron, bremsstrahlung, outer space radiation protection, tissue dose, astronaut radiation protection, beta radiation

ABSTRACT: While electron shielding in outer space hardly represents a problem, the protection against electron bremsstrahlung is a completely open question, partly because of rapid changes in the available information concerning the intensity and energy distribution of electrons within the earth's outer radiation belt. The present paper presents

utilize the most reliable experimental data on the currents and spectra of electrons as

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L 23788-65

ACCESSION NR: AT5003294

summarized by O'Brien and Van Allen (J. Geophys. Res., 67, no. 1, 397, 1962). Graphs present the spectra of electron bremsstrahlung in materials of low atomic weight and the radial distribution of absorbed doses in an r = 23 cm sphere made of a tissue-equivalent material (see Fig. 1 of the Enclosure). The article concludes with a discussion of the results. Orig. art. has: 10 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: NP, SV

NO REF SOV: 005 OTHER: 006

Card 2/3

L 23788-65

ACCESSION NR: AT5003294

ENCLOSURE: 01

a

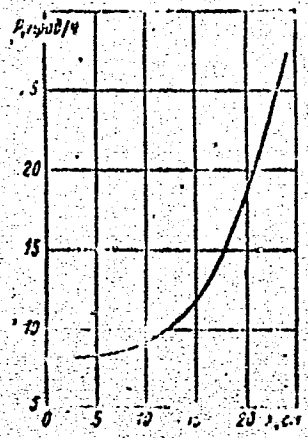

Fig. 1. Radial distribution of absorbed doses in an r_0 = 23 cm sphere made of tissue-equivalent material. a. mrad/h.

Card 3/3

AUTHOR KOVALEV, Ye Ye ; OSANOV, D.P.

TITLE The Influence exercised by the measurements of a disk shaped source on the weakening of γ-rays in a protective medium (Vliyaniye protyazhennosti ploskogo istochnika na oslableniye γ-izlucheniya v zashchite. Russian)

PERIODICAL Atomnaya Energiya 1957, II/6, 555-558.

ABSTRACT Theoretically the influence exercised by the measurements of an infinitely thin disk-shaped γ-source which is embedded in a protective medium upon the weakening of γ-radiation is taken up by the protective medium (in this case the multiple scattering of γ-radiation in the protective medium is taken into consideration The derived equation is numerically worked out for water, concrete, iron, lead, and γ-energies of from 0,5 MeV to 3,0 MeV, and results are graphically recorded in which case the ratio k/k_o is used as a characteristic. This ratio, which is called degree of relative weakening, is defined as follows:

k_o = degree of weakening for a punctiform γ-source

k = degree of weakening of a disk-shaped γ-source but both in consideration of the multiple scattering of γ radiation.

CARD 1/2

The influence exercised by the measurements of a disk shaped source on the weakening of γ -rays in a protective medium

The following curves illustrate the computed results:
1) For various thick materials with small and medium Z
2) for various materials of 5 cm thickness, in which case $E_\gamma = 0{,}5$ MeV
3) with different energies in dependence of the thickness of the concrete (up to 120 cm).

ASSOCIATION: not given.
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress

CARD 2/2

Osanov D.P.

AUTHORS Gusev N.G., Osanov D.P., Mashkovich V.P., 89-10-20/36

TITLE Measurement of Small α-Emitter Concentrations in Water by Freezing -Out.
(Izmereniye malykh kontsentratsiy α-aktivnykh veshchestv v vode metodom vymorazhivaniya.-Russian)

PERIODICAL Atomnaya Energiya, 1957, Vol 3, Nr 10, pp 346-350 (U.S.S.R.)

ABSTRACT The follwing effect was used for measuring α-contaminations in water:
If α-contaminated water is poured into a receptacle made of insulating material, the bottom of which consists of metal, and if the bottom is frozen -out to -60°C, the activity in the uppermost layer, i.e. the layers frozen at the end- on the occasion of freezing -out will increase considerably. As a measure for enrichment with the sign K the order of magnitude $K = \frac{N}{N_o}$ is assumed. N is the α-particle number emitted from the surface of the frozen layers, whilst N_o is the number of α-particles which are emitted from the surface of a preparation which is still liquid.
The experimental arrangement, which is described in detail, is now investigated:
1) In what way does the coefficient K depend upon the concentration of the α-active liquid? K does not change in a concentration domain of from 3.10^{-7} C/l to 6.10^{-9} C/l.
2) In what way does K depend upon freezing temperature? For this dependence the relation:

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$\frac{K}{18} + \frac{T}{100} - 1$ was found.

3) In what way does K depend upon the heigth h? The α-particles are able to emerge and be counted only from a layer h cm strong which is smaller than the α-range in ice and water respectively. For the coefficients of various heights h_1 and h_2 the relation $\frac{K_2}{K_1} = \frac{h_2 + 0,5}{h_1 + 0,5}$ was found.

4) Influence of the chemical composition of the water on the course of freezing.
The coefficient K is attains its highest value in the case in which the α-contaminated water to be frozen is chemically nearly equal to distilled water.

There are 5 figures, 1 table and 2 Slavic references.

SUBMITTED April 24, 1956
AVAILABLE Library of Congress.
Card 2/2

POPOV, Vladimir Ivanovich; OSANOV, Dmitriy Pavlovich; LYUSTIBERG, V.F., inzh., ved. red.; SHTEYNBUK, G.Yu., inzh., red.; SOROKINA, T.M., tekhn. red.

[Diffusion chamber for measuring the α-contamination of water] Diffuzionnaia kamera dlia izmereniia α-zagriaznennosti vody. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 12 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 41. No.P-58-89/4) (MIRA 16:2)
(Cloud chamber) (Alpha rays)

SOV/12[illegible]-5-5-7/32

AUTHORS: Osanov, D. P. and Popov, V. I.

TITLE: Correction for Self-Absorption of α-Particles in the Measurement of Activity of Plane Specimens (Popravka na samo-oglosheniye α-chastits pri izmerenii aktivnosti ploskikh obraztsov)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 52-54 (USSR)

ABSTRACT: In thecalculation and measurement of the number of α-particles emitted by a plane specimen, one often deals with so-called thick specimens in which the absorption of α-particles emitted by the lower layers takes place. Thus, when water is evaporated, in order to determine the concentration of α-active substances contained in it, measurements are made on the dry sediment which is always left behind. In order to obtain sufficiently large sediments of this kind it is desirable to evaporate a large amount of water. However, if the amount of water evaporated is too large, then the thickness of the sediment may be large enough to absorb the α-particles. The connection between the activity of the water Q in curies per litre and the number of α-particles N emitted per minute from the surface of an infinitely thin non-absorbing layer is given by $Q = 9 \times 10^{-10} N/V$, where

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Correction for Self-Absorption of α-Particles in the Measurement of Activity of Plane Specimens

V is the volume of the evaporated water in cc. Consider the case where V cc of water have been evaporated and a sediment is left behind with a thickness given by $d = Kd_o$, where $K \leqslant 1$ and d_o is the limiting thickness, i.e. the thickness in mg/cm^2, which is equal to the range of α-particles of the given energy in the material of the layer. The connection between the α-activity of the water and the number of α-particles which leave the layer at the surface is given by:

$$Q = 9.10^{-10} \frac{N}{V} \frac{2}{2 - d/d_o} \quad . \qquad (2)$$

Comparing Eqs.(1) and (2), one sees that the factor $\varepsilon = 2/(2 - d/d_o)$ is a correction for self absorption for deposits whose thickness lies between 0 and d_o mg/cm^2.

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Correction for Self-Absorption of α-Particles in the Measurement of Activity of Plane Specimens

Finally, when V cc of water have been evaporated, a layer may be formed whose thickness is greater than the thickness of the limiting layer. In that case, the connection between the activity of the water and the number of α-particles emitted per minute is given by:

$$Q = 9.10^{-10} \frac{N}{V} 2 \frac{d}{d_o} \quad . \qquad (3)$$

A comparison of Eqs.(1) and (3) shows that in this case the correction for self-absorption is $\varepsilon = 2d/d_o$. The above 3 expressions were investigated experimentally and the results obtained are shown in Figs.1 and 2. In Fig.1 the straight line shows the dependence of the number of α-particles emitted at the surface of a deposit on its weight, i.e. the amount of evaporated water, for an idealised case when the layer is "transparent" to α-particles. The experimental curve departs from this straight line, beginning at $d = 0.5$ mg/cm^2. Since the straight line in Fig.1 represents the law $N = A/2$, while the amount of α-radiation from a

Correction for Self-Absorption of α-Particles in the Measurement of Activity of Plane Specimens

limiting layer is $N_0 = A/4$, it follows that the range of α-particles corresponds to the thickness of the layer for which the ordinate of the straight line is twice the ordinate of the experimental curve. In Fig.2 this corresponds to $d_0 = 2.92$ mg/cm^2 or $R = 15$ μ . Using curve 2 it is easy to obtain the correction for self-absorption for any thickness of the deposit and the number of α-particles emitted at the surface. In this figure P is the ratio of α-particles emitted by a "transparent" layer and the number of actually emitted α-particles respectively. The lower curve in Fig.2 gives the calculated correction for self-absorption and the upper curve was calculated from the above formulae, using $d_0 = 2.9$ mg/cm^2 . The divergence between the theoretical and experimental curves is due to an inaccuracy of the order of 5% in the determination of d_0 and is removed if one assumes that $d_0 = 3$ mg/cm^2 . The curve shows that for

Correction for Self-Absorption of α-Particles in the Measurement of Activity of Plane Specimens

deposits whose thickness is less than 0.5 mg/cm^2, self-absorption may be neglected and for $d \geq 2.2$ mg/cm^2,

$P = 1 + 2.3\ d$ (the energy of the α-particles is not given). There are 2 figures and 3 references, 2 of which are Soviet and 1 English. This is an abbreviated translation.

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

SUBMITTED: November 16, 1957.

AUTHORS: Kovalev, Ye. Ye. Osanov, D. P. SOV/57-28-7-33/35

TITLE: Taking Into Account ~~the Influence~~ of Multiple Scattering on the Attenuation of the γ-Radiation of Extended Sources (K uchetu vliyaniya mnogokratnogo rasseyaniya na oslableniye γ-izlucheniya protyazhennykh istochnikov)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol. 28, Nr 7 pp. 1610 - 1612 (USSR)

ABSTRACT: The difficulties connected with the taking into account of the multiple scattering in the protective material can be overcome to a certain extent in the case of extended sources, as there are truncated cone and disk. This is the case when the analytical expression given in Ref 2 is used for the accumulation factor. This formula applies to wide ranges of the γ-radiation energy values and protective thicknesses. When this formula and the notation assumed (Ref 1) are used it can be shown that the power of a γ-radiation dose emitted from the truncated cone covered by a protective layer can be determined by the formula (2). In (2) the multiple scattering in the protective material is taken into account by the introduction of the accumulation factor B under the in-

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tegral sign. In order to be able to take into account the multiple scattering in a source surrounded by a protective material the spectrum emitted from the radiation source must be known. For this reason such a taking into account of this scattering is difficult at present. Some special cases which are of interest for practical work are investigated. 1) Radiation of an infinite half-space through an absorbing and scattering protective layer. The formula (3) (according to the method described in Ref 1) obtained by the integration of (2) is turned into formula (4) in this case. 2) The radiation of a truncated cone of infinite thickness through an absorbing and scattering protective layer: formula (5). In the case where the protection lacks, the multiple scattering in the source itself can be taken into account. For this purpose the formula (1) is used with other values for the accumulation factors. In the same way as with (3) the formula (7) is determined for the power of the γ-radiation dose (emitted from the truncated cone taking into account the multiple scattering without protective layer). By means of (7) the following can be obtained: 3) Radiation

Taking Into Account the Influence of Multiple Scattering on the Attenuation of the γ-Radiation of Extended Sources SOV/57-23-7-33/35

of an infinite half-space with multiple scattering. 4) Radiation of an infinite plate of finite thickness without protective layer. 5) Truncated cone of infinite thickness without protective layer. There are 3 references, 1 of which is Soviet.

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

SUBMITTED: March 23, 1957

1. Gamma rays--Applications 2. Gamma radiation--Attenuation

Card 3/3

21(3) SOV 89-[illegible]

AUTHOR: Osanov, D. P.

TITLE: Shielding From γ-Radiation Emerging From the Base of a Cylindrical Source (Zashchita ot γ-izlucheniya, vykhodyashchego cherez osnovaniye tsilindricheskogo istochnika)

PERIODICAL: Atomnayaenergiya, 1959, Vol 6, Nr 3, pp 333 - 338 (USSR)

ABSTRACT: A theoretical computation is made of the dose rate for a space point which has a certain distance from the upper surface of a cylindrical radioactive source and which is separated from the source by a shield of a certain thickness. In the computation the self-absorption in the cylindrical source is taken into account. In this connection it is assumed that the active substance in the cylindrical source is homogeneously distributed and that γ-quanta of the same energies are emitted from each volume element. The values for different parameters of the integral occurring in the equation derived are listed in a table (1 1/2 pages). There are 1 figure, 1 table, and 7 references, 2 of which are Soviet.

SUBMITTED: January 3, 1958

Card 1/1

21(9) SOV/89-6-6-14/27

AUTHORS: Osanov, D. P., Kovalev, Ye. Ye.

TITLE: The Shielding of γ-radiation Sources of Rectangular Shape (Zashchita istochnikov γ-izlucheniya pryamougol'noy formy)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 6, pp 670 - 672 (USSR)

ABSTRACT: By way of introduction the authors of the present "Letter to the Editor" point to the fact that the hitherto published investigations on the shielding of rectangular γ-sources are unsatisfactory and that for practical work investigations on such a source with finite measures would be important. This problem is dealt with under the following assumptions: 1) the source is assumed to consist of an infinitely thin radiating plate 2) the active substance is assumed to be equally distributed on the surface of the source. Figure 1 shows the geometrical conditions for which the γ-ray attenuation and the dose rate are in the following theoretically investigated in dependence on the distance. The formulas obtained are discussed and demonstrated by means of practical examples. Figure 2 shows in 4 diagrams the γ-radiation attenuation in the shield and figure 3 shows the dependence of the dose rate on the

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distance for different sources (point source, linear source, and different rectangular sources). In conclusion, it is said that in the case of large distances and any shield density a rectangular source may be treated as point source and that a rectangular source with a lateral ratio of 0.1 may practically be regarded as linear source at any distance. The authors discuss the consideration of the multiple scattering of the γ- rays, which, in certain cases, may play an important role. A case where the dose rate increases to the five-fold when considering the multiple scattering is given. There are 3 figures and 5 references, 3 of which are Soviet.

SUBMITTED: November 15, 1958

PHASE I BOOK EXPLOITATION SOV/5717

Moscow. Inzhenerno-fizicheskiy institut

Pribory i metody analiza izlucheniy; sbornik nauchnykh rabot, vyp. 2. (Apparatus and Methods for the Analysis of Radiation; Collection of Scientific Papers, no. 2) Moscow, Atomizdat, 1960. 166 p. 4000 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy inzhenerno fizicheskiy institut.

Ed. (Title page): Ye. L. Stolyarova, Candidate of Physics and Mathematics; Tech. Ed.: S. M. Popova.

PURPOSE: This collection of articles is intended for specialists in nuclear physics, dosimetry of nuclear radiations, and shielding.

COVERAGE: The articles were prepared by scientists of MIFI (Moscow Physics and Engineering Institute) and presented at the 1957 conference of the Institute. Brief annotations to the articles have been included in the Table of Contents. No personalities are mentioned. References follow each article.

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Apparatus and Methods for the Analysis (Cont.)

TABLE OF CONTENTS:

OSANOV, D.P.

Weakening of gamma radiation emerging from the base of a cylindrical source. Sbor. nauch. rab . MIFI no.2:22-36 '60.
(MIRA 14:3)

(Gamma rays)

OSANOV, D.P.; KOVALEV, Ye.Ye.

Build-up dose factors for an irradiating disk. Sbor. nauch. rab. MIFI no.2:37-46 '60. (MIRA 14:3)
(Gamma rays)

KOVALEV, Ye.Ye.; OSANOV, D.P.

The amount of radiation emanating from a hollow cylindrical source filled with an absorbing substance. Biofizika 5 no. 5:630-633 '60. (MIRA 13:10)

(RADIATION---DOSAGE)

S/089/60/008/04/09/009
B113/B017

AUTHORS: Osanov, D. P., Kovalev, Ye. Ye.

TITLE: Radiation of a Cylindrical Source Behind a Plane Shield

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 4, pp. 374-376

TEXT: The traditional description of radiation absorption of a cylindrical source is not satisfactory. A better solution of the problem of gamma radiation absorption is obtained by using the formula for the dose rate $P = 2P_\gamma qR\, S(p,k,\mu_1 R,\mu_2 d)\, B(\mu_2 l)$ where P_γ is a constant, q the specific activity, z,R,k,p the geometrical dimensions of the cylinder, μ_1 is the coefficient of radiation absorption in the source, μ_2 that of the protective shield, B the dosage build-up factor for a point source. The integral S was computed by means of the electronic computer "Strela". The values of the integral S at $\mu_1 R = 1$ for $p = 1.5 \div 5$, $\mu_2 d = 0.5 \div 10$ and $k = 0.5$ and 1.0 are given in the table. In Fig. 2 the computed and experimental attenuation factors are compared as functions of $\mu_2 d$ of

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Radiation of a Cylindrical Source Behind a Plane Shield

S/089/60/008/04/09/009
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gamma radiation of cylindrical sources in lead and iron. The most intensively scattering medium, aqueous cobaltic sulfate solution, was used as the source. A satisfactory agreement was obtained between computations and experiments; with $\mu_2 d < 2\text{-}2.5$ the maximum difference between computed and measured values does not exceed 30%. The importance of this computation lies in the exact measurement of the protective thickness from the economic and the radiation-protective point of view. There are 2 figures, 1 table, and 2 references: 1 Soviet and 1 American.

SUBMITTED: August 5, 1959

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GUSEV, N.G.; KOVALEV, Ye.Ye.; OSANOV, D.P.; POPOV, V.I.; MARGULIS, U.Ya., nauchnyy red.; KOKOSOV, L.V., red.; VLASOVA, N.A., tekhn. red.

[Shielding against radiation from extended sources] Zashchita ot izlucheniia protiazhennykh istochnikov. Moskva, Gos.izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 287 p. (MIRA 15:2)
(Shielding (Radiation))

KOVALEV, Ye.Ye.; OSANOV, D.P.

Emission from a volume source in the presence of surface activity.
Atom.energ. 10 no.5:515-517 My '61. (MIRA 14:5)
(Gamma rays)

45443
S/892/62/000/001/005/022
B102/B186

26.2240
26.2511

AUTHOR: Osanov, D. P.

TITLE: Contribution of radiation due to multiple scattering in a volume source to the dose behind the shield

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 1, 1962, 46-52

TEXT: The radiation component due to multiple scattering of gamma rays is estimated, and the conditions under which this component is negligible in shield calculations are discussed. The group method is applied, which makes it possible to reduce the problem of a monochromatic source with intrinsic scattering to that of a non-monochromatic source without intrinsic scattering. The application of this method is demonstrated by taking as an example a cylindrical source whose dose rate behind a shield of thickness μx is determined by $P=2P_{\gamma}qRG(k,p,\mu_0R,\mu x)B(\mu l)$;(cf.Atomnaya energiya, 8,no.4,374,1960). For radiation with n energetic components, summation over n and introduction of the

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Contribution of radiation due to ...

attenuation multiplicity in the shield, $K_i = G(k,p,\mu_{oi}R)/G(k,p,\mu_{oi}R,\mu_i x)$, lead to the expression $P = \frac{4\pi}{3.7\cdot10^7}\sum_{i=1}^{n} P_{\gamma i} N_i B(\mu_i l)/K_i$. The contribution of the scattered dose to the total dose behind the shield will be negligible if at least the following conditions are fulfilled: (1) The primary radiation is the main component of the radiation behind the shield; (2) the shield is thick enough; (3) the shield consists of a material with high Z. Another condition could be formulated by $\sum_{i=1}^{n}\delta(E_i) \leqslant 20\%$, where $\delta(E_i)$ is the fraction contributed by the i-th component to the dose behind the shield: $\delta(E_i) = P_{\gamma i} N_i \frac{B(\mu_i l)}{K_i} / \sum_{i=1}^{n} P_{\gamma i} N_i \frac{B(\mu_i l)}{K_i}$.

If the radiation spectrum of the source and the attenuation function $G(\mu x)$ are known, $\delta(E_i)$ can be calculated. Such calculations were made for concrete, iron and lead. It is found that the least shield thicknesses for which multiple scattering is negligible are 3λ for concrete, 2.5λ for iron and $> 1\lambda$ for lead (λ being the γ-quantum mean free path). There are 2 figures and 2 tables.

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45444

S/892/62/000/001/006/022
B102/B186

AUTHORS: Osanov, D. P., Kovalev, Ye. Ye.

TITLE: Determination of the build-up factors of the scattered radiation of extended sources

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 1, 1962, 53-54

TEXT: A method is proposed for calculating the build-up factors of the radiation scattered in the shield of an arbitrary extended source. It is simpler than the usual point-source integration method and applicable if the dependence of the attenuation multiplicity on the shield thickness μx is known. It is based on the determination of the equivalent absorption length μl defined by the condition $K_{es}(\mu x) = K_{ps}(\mu l) = e^{\mu l}$; es and ps refer to extended source and point source, $l > x$. The build-up factor is then determined by $B_{es} = B_{ps}(\mu l) = B_{ps}(\ln K_{es})$. Since self-absorption has little effect, and only the angle of incidence of the radiation on the shield is of importance, this method yields good results.

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in practical calculations of complex shield configurations. It was experimentally checked by Osanov and Kovalev (Atomnaya energiya, 8, no.4, 374,1960).