On the Type of Correlation Function for the Helium Atom

SOV/51-6-5-25/34

atom by a variational method. The result is shown as curve I in a figure on p 700; curve II represents the Hylleraas function given by Eq (1). Both curves are plotted as functions of distance in atomic units. The figure shows clearly that the correlation function approximation in the form of Eq (1) is practically the best choice, at least for atoms. The paper is entirely theoretical. There are 1 figure and 6 references, 3 of which are Soviet, 1 English, 1 German and 1 mixed (Soviet, English and French).

SUBMITTED: November 29, 1958

Card 2/2

CHERNOVA, Vil'gel'mina Ivanovna; PANIKHIDINA, M.M., red.

[Tables for accelerated calculations of optimal sizes of softwood timber for inland use] Tablitsy dlia uskorennogo rascheta optimal'nykh postavov na pilomaterialy khvoinykh porod vnutrisoiuznogo potrebleniia. Leningrad, 1964. 13 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Derevoobrabatyvaiushchaia promyshlennost', no.1) (MIRA 17:7)

3071. CLINICAL SIGNIFICANCE OF THE NEW METHOD OF DIAGNOSING EPIDEMIC HEPATITIS (BOTKIN'S DISEASE) IN CHILDREN (Russian text) - Panikarovskaya G.V. and Friedman R.O. - PEDIATRIYA 1958/4 (29-33) Tables 4

The aldolase activity in the serum (determined by the method of V. J. Tovarnitsky and E.N. Valuiskaya, 1955) is increased during the active stage of epidemic hepatitis. In all but one of 198 children with this disease, the aldolase values in the serum were increased. Aldolase activity returns to normal (3-5 U.) together with the diminution of other symptoms of hepatitis, and increases when intercurrent diseases occur In a group of 24 children with other diseases (cholecystitis, cirrhosis of the liver, nephrosis-nephritis, dysentery, rheumatic disease and influenza), aldolase values were normal in all except one, who had less than 10 U. In 63 children in contact with children who had epidemic hepatitis, the aldolase activity was normal. These 63 children were followed up for 3 months; none of them contracted hepatitis.

Najman - Zagreb (L,7,6)

PANIKAROVSKAYA, G.V., FRIDMAN, R.O.

Clinical significance of a new method for diagnosing Botkin's disease in children [with summary in English]. Pediatriia 36 no.4:29-33 Ap'58 (MIRA 11:5)

1. Iz kafedry pediatrii (zav. - prof. R.Yu. Kol'ner) lechebnogo fakul'teta Kiyevskogo meditsinskogo instituta (dir. - dotsent I.N. Alekseyenko) na baze 2-y detskoy infektsionnoy bol'nitsy (glavnyy vrach A.A. Rudik).
(HEPATITIS, INFECTIOUS)

PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Materials on the morphology of the neurovascular apparatus in paradentosis. Teor. i prak. stom. no.5:131-138 '61 (MIRA 16:12)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. prof. G.A. Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik, A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PANIKAROVSKIY, V.V.; PROKHONCHUKOV, A.A.; ZHIZHINA, N.A.

Experimental study of the morphogenesis of pericementitis.
Stomatologiia 42 no.3:17-19 My-Je '63 (MIRA 17:1)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik; PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik

Effect of radioactive iodine on the maxillodental system. Teor. i prak.stom. no.6:55-60 '63.

State of the maxillodental system in experimental therapy of radiation sickness. Ibid.:61-63 (MIRA 18:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PANIKAROVSKIY, V.V.; GOSH, T.Ye. (Moskva)

Mucoepidermoid tumors of the salivary glands. Arkh.pat. no.10: 16-21 '61. (MIRA 14:10)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. B.I. Migunov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N. Beletskiy) i patologoanatomicheskogo otdeleniya (zav. - starshiy nauchnyy sotrudnik Z.V. Gol'bert) Gosudarstvennogo onkologicheskogo instituta imeni P.A. Gertsena (dir. - prof. A.N. Novikov).
(SALIVARY GLANDS--TUMORS)

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Regeneration processes in the tissues of the maxillodental system following the action of ionizing radiation. Teor. i prak.stom. no.6:41-47 '63. (MIRA 18:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov), kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. G.A.Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik; ROBUSTOVA, T.G., assistent

Pathomorphology of actinomycosis of the jaw bones. Teor. i prak. stom. no.6:48-54 '63. (MIRA 18:3)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. G.A.Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PROKHONCHUKOV, A. A.; PANIKAROVSKIY, V. V.

Significance of humeral factors in the development of radiation-induced changes in teeth and jaws. Radiobiologiia 2 no.3:429-433 '62. (MIRA 15:7)

1. Moskovskiy meditsinskiy stomatologicheskiy institut.

(X RAYS—PHYSIOLOGICAL EFFECT) (JAWS)
(TEETH)

PROKHONCHUKOV, A. A.; PANIKAROVSKIY, V. V. (Moskva)

Changes in the parotid glands following repeated action of ionizing radiations. Arkh. pat. no.8:39-44 '61. (MIRA 15:4)

1. Iz laboratorii kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N. A. Fedorov) i kafedry propedevtiki khirurgicheskoy stomatologii (zav. - dotsent G. A. Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G. N. Beletskiy)

(PAROTID GLANDS) (RADIATION—PHYSIOLOGICAL EFFECT)

PROKHONCHUKOV, A.A.; PANIKAROVSKIY, V.V.

Changes in the maxillodental system in multiple X-ray irradiation. Med. rad. 8 no.4:47-53 Ap'63 (MIRA 17:2)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PROKHONCHUKOV, A.A.; PANIKAROVSKIY, V.V. (Moskva)

Role of humoral mechanisms in the development of radiation changes in the salivary glands. Pat. fiziol. i eksp. terap. 6 no. 3:62-64 My-Je '62. (MIRA 17:2)

1. Iz Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor - dotsent G.N.Beletskiy).

KISELEVA, N.S.; PANIKAROVSKIY, V.V.

Dynamics of the development of late metastases of ascitic tumors in rats. Vop. onk. 10 no.3:41-46 '64. (MIRA 17:8)

1. Iz laboratorii opukholevykh shtammov (zav. - doktor biolog. nauk Ye.Ye. Pogosyants) otdela etiologii i patogeneza opukholey (zav. - deystvitel'nyy chlen AMN SSSR prof. A.D. Timofeyevskiy) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin). Adres avtorov: Moskva, I-11C, ul. Shchepkina, d.61/2, korp. 9, Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

ACCESSION NR: AR4027240 S/0299/64/000/002/P068/P068

SOURCE: RZh. Biologiya, Abs. 2P431

AUTHOR: Prokhonchukov, A. A.; Panikarovskiy, V. V.

TITLE: The condition of the maxillodental system during the experimental therapy of radiation sickness

CITED SOURCE: Sb. Teoriya i praktika stomatol. M., vy*p. 6, 1963, 61-63

TOPIC TAGS: radiation sickness, radiation protection, dental tissue, maxillo-dental system, bone damage, ACTH, leukogen, batyl alcohol, selachyl alcohol

TRANSLATION: In experiments on 108 white rats, the condition of the maxillodental system was studied during experimental therapy of acute and chronic radiation sickness with ACTH, selachyl and batyl alcohol, bofend (kaferid) and leukogen, separately and in various combinations. The animals were subjected to a single (700 r) or multiple doses (50 r 3 times a week, total dose 1450 r) of irradiation. After 30 days the animals were sacrificed, and samples were fixed in a 12% solution of neutral formalin and decalcified in 10% HNO_3, followed by embedding in celloidin.

Card 1/2

PROKHONCHUKOV, A.A.; PANIKAROVSKIY, V.V. (Moskva)

Radiation-induced changes in the salivary glands. Arkh. pat. 24 no.11:47-50 '62. (MIRA 18:12)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov), kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. V.A.Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PROKHONCHUKOV, A.A.; SHISHINA, N.A.; PANIKAROVSKIY, V.V.

Changes in phosphorus and calcium metabolism during the development of experimental dental caries in rats of the "August" strain; a radioisotopic investigation. Stomatologiia 42 no.4: 18-25 Jl-Ag '63 (MIRA 17:4)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Morphological changes in the salivary glands in chronic radiation sickness. Vrach. delo no.2:98-102 F '62. (MIRA 15:3)

1. Laboratoriya kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR, prof. N.A. Fedorov) i kafedra propedevtiki khirurgicheskoy stomatologii (zav. - dotsent G.A. Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta.
(SALIVARY GLANDS)
(RADIATION SICKNESS)

PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Traumatic ossifying myositis of the musculus masseter (case of heterotopic bone formation). Stomatologiia 40 no.1:49-51 Ja-F '61. (MIRA 14:5)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. - dotsent G.A.Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor - dotsent G.N.Beletskiy) i Moskovskogo gorodskogo chelyustno-litsevogo gospitalya (glavnyy vrach - dotsent A.A.Kovner).

(MUSCULUS MASSETER--DISEASES)

PANIKAROVSKIY, V.V.

Mucoepidermoid tumors of the salivary glands. Stomatologiia 38 no.5:36-39 S-O '59. (MIRA 13:3)

1. Iz kafedry patologicheskoy anatomii (zaveduyushchiy - prof. B.I. Migunov) Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor - dotsent G.N. Beletskiy).
(SALIVARY GLANDS--TUMORS)

TANIKAROVSKIY, V.V., Cand Med Sci--(diss) "Pathomorphology of epithelial neoplasms of the large and small salivary glands." Len, 1958. 15 pp (Min of Health RSFSR. Len Med Stomatological Inst), 200 copies (KL,48-58, 107)

PANIKAROVSKIY, V.V.; BIBERMAN, Ya.M.

Neurinoma of the tongue. Stomatologiia 40 no.4:48-49 Jl-Ag '61.
(MIRA 14:11)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. - doktor meditsinskikh nauk G.A.Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N.Beletskkiy) i Moskovskogo gorodskogo chelyustno-litsevogo gospitalya (glavnyy vrach.- dotsent A.A.Kovner).
(TONGUE--TUMORS)

PANIKAROVSKIY, V.V.; GOL'BERT, Z.V.; GOSH, T.Ye.

Cylindromas of the salivary glands. Stomatologiia 41 no.5: 47-50 S-O '62. (MIRA 16:4)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. G.A.Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta (rektor - dotsent G.N.Beletskiy) i patologoanatomicheskogo otdeleniya (zav. - starshiy nauchnyy sotrudnik Z.V. Gol'bert) Gosudarstvennogo onkologicheskogo instituta imeni P.A.Gertseva (dir. - prof. A.N.Novikov)
(SALIVARY GLANDS--TUMORS)

PANIKAROVSKIY, Y.K..

Epithelial neoplasms of the major and minor salivary glands.
Stomatologiia 37 no.5:32-37 S-O '58 (MIRA 11:11)

1. Iz kafedry patologicheskoy antatomii (zav. - prof. B.I. Migunov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N. Beletskiy).
(SALIVARY GLANDS--TUMORS)

Panikkar, K.B.

PANIKKAR, K.B.

Fourth Asian regional conference of the International labor organization. Vsem. prof. dvizh. no.1:37-40 Ja '58. (MIRA 11:1)

1.Postoyannyy predstavitel' Vsemirnoy federatsii profsoyuzov pri Ekonomicheskoy komissii Organizatsii ob"yedinennykh natsiy Azii i Dal'nego Vostoka.
(Interantional Labor Organization)

PANIKKAR, K.B.

Fund that will support the development of underdeveloped areas.
Vsem.prof.dvizh. no.9 insert:8-10 S '56. (MLRA 9:11)
(Underdeveloped area)

PANIKKAR, K.B.

Workers of India in the struggle against the rising exploitations.
Vsem.prof.dvizh. no.7:27-29 Jl'55. (MLRA 8:10)
(India--Labor and laboring classes)

PANIKKAR, P.K.

"The main purpose of the Indian exhibition in Moscow is to strengthen our friendship." Vnesh. torg. 43 no.7:40 '63.
(MIRA 16:8)

(Moscow--Exhibitions) (India--Manufactures)

PANIKOV, L.P

10

PHASE I BOOK EXPLOITATION SOV/5425

Fedorov, N.D., Candidate of Technical Sciences, Compiler

Kratkiy spravochnik inzhenera-fizika: Yadernaya fizika. Atomnaya fizika (Concise Handbook for the Engineering Physicist: Nuclear Physics. Atomic Physics) Moscow, Atomizdat, 1961. 507 p. 28,000 copies printed.

Ed.: A.P. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This reference book is intended for engineers and physicists working in the field of atomic and nuclear physics.

COVERAGE: The first seven parts of the book contain the most necessary reference material on atomic and nuclear physics. The remaining parts present information and data from other related fields. The last part gives the information on systems of units compiled from the new GOST specifications, physical constants, and some mathematical data. No personalities are mentioned. References accompany each part of the book.

Card 1/13

III. Scintillation Crystals and Materials 341

Card 9/13

L 46715-66 EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/ETI/EWP(k)/EWP(l) IJP(c)

ACC NR: AP6023646 JD/HW SOURCE CODE: UR/0381/66/000/002/0044/0051

AUTHOR: Anikeyev, Ya. F.; Teverovskiy, V. I.; Panikov, N. N.

ORG: All-Union NII of the Tube Industry (Vsesoyuznyy NII trubnoy promyshlennosti)

TITLE: Ultrasonic flaw detection in tubes of small diameter

SOURCE: Defektoskopiya, no. 2, 1966, 44-51

TOPIC TAGS: ultrasonic flaw detection, metallographic examination, metal tube

ABSTRACT: Ultrasonic flaw detection was studied in nonmagnetic tubes of 4-10 mm diameter and 0.1-0.8 mm wall thickness. Experiments were carried out on various ultrasonic instruments: IDTs-3M (TsNIITMASh), UDT-4 (VNIITI) and the IDTs-5. While the IDTs-5 machine performed best, it had to be modified to handle smaller tube diameters; the IDTs-5 was rated for 6-10 mm tubes with 0.1-0.8 mm wall thicknesses. 2-3 mm long defects at a depth of 0.03-0.05 mm were detected. The IDTs-5 pickup was modified to focus the ultrasonic waves in order to detect defects 0.5 mm long at a depth of 0.015 mm when operated at frequencies up to 5 megacycles/sec. Pictures of the new type pickup head show its 6 components, the distribution of angles during the reflection of ultrasonic waves off the surfaces of tubes and a separate design scheme for a head, which completely encircled the tube to be inspected. General views were also shown of the device in actual operation. Details of the electronic storage circuit are includ-

UDC: 620.179.16

Card 1/2

L 46715-66

ACC NR: AP6023646

ed. Operating procedures are described and test results on tubes of various diameters are presented. Micrographs (100×) illustrate the types of defects discovered by the modified apparatus: lines, cracks and scale-markings--all on internal surfaces. The apparatus was calibrated by forming artificial defects of measurable sizes on the internal surfaces of the tubes and comparing the recorded data with natural defects. Industrial trials at three different plants were successful; the equipment consistently detected flaws as small as 5-7% of the wall thicknesses. Orig. art. has: 9 figures.

SUB CODE: 14,09/ SUBM DATE: 27Sep65/ ORIG REF: 001

Card 2/2 fv

PANIKRATOV, K.D.

Urological diseases among the rural population. Sov.med. 27 no.12:75-78 D'63 (MIRA 17:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. P.M. Maksimov) Ivanovskogo meditsinskogo instituta i otdela organizatsii zdravookhraneniya (zav. - doktor med. nauk I.D. Bogatyrev) Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana (nauchnyye rukovoditeli raboty - prof. M.A. Blagoveshchenskiy i kand. med. nauk I.D. Bogatyrev).

PANIKRATOV, K.D.

Standards for rendering urological aid to the urban population. Zdrav. Rod. Feder. 7 no.10:6-12 0'63. (MIRA 16:11)

1. Iz Gospital'noy khirurgicheskoy kliniki (zav. - prof. P.M. Maksimov) Ivanowskogo meditsinskogo instituta i otdela organizatsii zdravookhraneniya (rukovoditel' - doktor med. nauk I.D.Bogatyrev) Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny imeni F.F.Erismana.

PANIKRATOV, K.D.; VOLGHENKOVA, Ye.M.

Effect of medicinal sleep on certain manifestations in experimental burns in dogs. Khirurgiia, Moskva no. 12:12-18 Dec 1952. (CLML 23:3)

1. Of the Department of General Surgery (Director -- Prof. V. A. Batashov) and the Department of Pharmacology (Director -- Docent G. M. Shpuga), Ivanovo Medical Institute.

PANIKRATOV, K. D.

Urological care in Ivanov Province and plans for its further development. Urologiia no.3:44-45 '61. (MIRA 14:12)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. M. A. Blagoveshchenskiy) Ivanovskogo gosudarstvennogo meditsinskogo instituta.

(IVANOVO PROVINCE—UROLOGY)

TEODORESCU, St.; FELLNER, M.; NICOLAE, G.; PANIIA, P.; VINTICI, V.

Changes in the cerebrospinal fluid in treated syphilis. Rumanian M. Rev. 3 no.1:41-42 Jan-Mar 59.
(NEUROSYPHILIS, CSF in
progn. value after ther.)

PANIN, A.

Amplifiers, Vacuum-Tube

Amplifier VCh for receivers "Moskvich" and ARZ./ No. 4, 1952.
Radio

9. Monthly List of Russian Accessions, Library of Congress, June 1952 1958, Uncl.

PANIN, A.

Radio - Apparatus and Supplies

Amplifier VCH for receivers "Moskvich" and "ARZ". Radio, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

PANIN, A.

"A V. Ch. amplifier for the receivers 'Moskvich' and 'ARZ' ".

So. Radio, Vol. 4, p. 57, 1952

PANIN, A.

Generator of fixed frequencies. Radio no.5:49-50 My '61. (MIRA 14:7)

(Oscillators, Electric)

IVANOV, V.; PANIN, A.

Electrical section of the "Reporter-3" magnetic tape recorder.
Radio no.8:47-49, 52 Ag '62. (MIRA 15:8)
(Magnetic recorders and recording)

1. PANIN, A.

2. USSR (600)

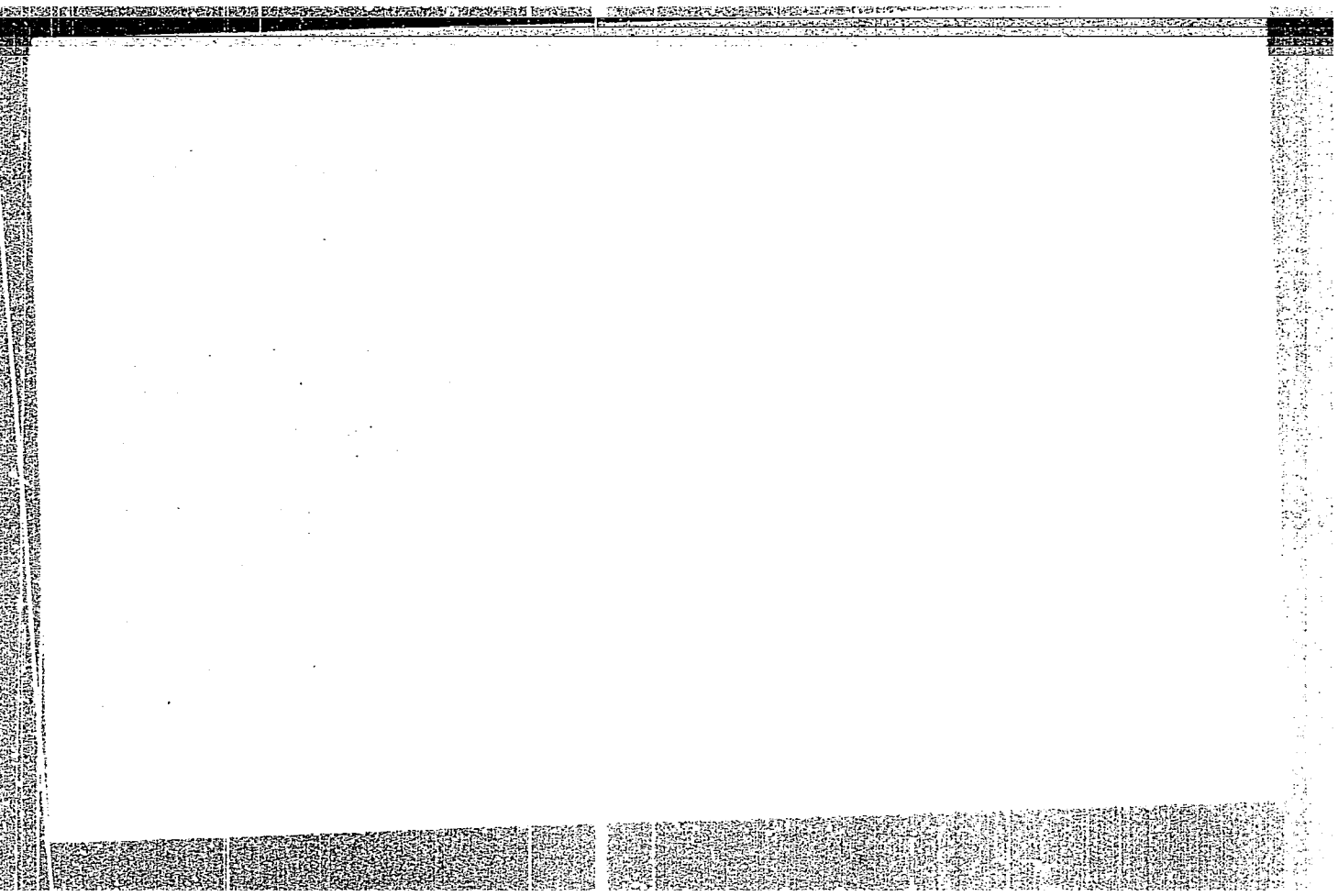
4. Radio Frequency Modulation

7. Diagram with single network transformation of frequency.
Radio. No.10, 1952

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

BEGLAR'YAN, P.; PANIN, A.

Let's substitute soft packaging of textiles for semi-hard one. Sov. torg. 35 no.10:47-48 O '61. (MIRA 14:12)
(Packing for shipment)
(Textile fabrics)



ACCESSION NR: [illegible]

During hyperoxemic convulsions however the oxygen debt develops as a result of an

PANIN, A. F., LEBEDEV, P. F.

Straw

Flattening and baling straw in storage hoppers of harvesters. Sel'khozmashina no. 5, 1952.

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

Q-3

USSR / Farm Animals. Small Horned Stock.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54790.

Author : Panin, A. I.
Inst : Not given.
Title : The Biological Basis of the Romanov Sheepbreeding.

Orig Pub: Ovtsevodstvo, 1957, No 10, 26-30.

Abstract: The sex activity in the Romanov sheep is almost devoid of the seasonal character, and therefore mating may be effected at any time of the year, and three lambings in two years, or even two lambings in one year, may be obtained. A prolonged heat (60 hours and more) is conducive to the increase of fertility which augments the meat and wool production of sheep. The early sex maturity permits the coupling of ewe lambs at the age of 6-8 months; however, after lambing

COUNTRY : USSR
CATEGORY : Farm Animals.
Small Horned Cattle.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 12026

AUTHOR : Panin, A. I.
INST. : All-Union Agricultural Institute of Education*
TITLE : The Evolution of the Wool Cover in Sheep.

ORIG. PUB. : Tr. Vses. s.-kh. in-ta zaochn. obrasovaniya, 1957, vyp. 1, 86-102

ABSTRACT : The time period of hair bulbs originating in different parts of the body were studied by observing the hair's appearance on the skin surface of embryos of various ages and breeds (Severnaya Northern short-tailed, Romanovskaya, Merino). The process of the hair bulbs' establishment is divided into stages and proceeds along topographical zones throughout the torso. Each such established stage is characterized by a change in the quality of the

CARD: 1/3 *by Correspondence

50

CATEGORY :
ABS. JOUR. : RZhBiol., No. 1959, No.
AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : cells which form hair and this conditions the production of hair of a specific type. Wool which grows at the diverse topographical zones is therefore distinctively different. In breeds with heterogeneous wool the number of topographical zones where hair bulbs have been established is larger. In phylogenesis the dimension of the wool cover properties proceeds by a reduction of the number of stages at which hair bulbs became established and in ontogenesis this reduction is realized by

PANIN, Aleksandr Ivanovich, prof.; BYRDINA, A.S., red.; TRUKHINA, O.N., tekhn. red.

[Sheep raising]Ovtsevodstvo. Moskva, Sel'khozizdat, 1962. 262 p. (MIRA 16:2)
(Sheep)

PANIN, A.I., doktor sel'skokhozyaystvennykh nauk

Correspondence training of high-grade zootechnicians. Zhivotnovodstvo 24 no.6:10-12 Je '62. (MIRA 17:3)

1. Dekan zootekhnicheskogo fakul'teta Vsesoyuznogo sel'skokhozyaystvennogo instituta zaochnogo obucheniya.

PANIN, A.I.

Tasks in the field of animal science in fulfilling the decisions of the January Plenum of the Central Committee of the Communist Pary of the Sovet Union. Biul.MOIP. Otd. biol. 61 no.3:108-109 My-Je '56. (MLRA 9:10)

(DAIRY CATTLE—FEEDING AND FEEDING STUFFS)

1. SHALBAKINA, L. I. ; VAKARENKO, S. S. ; PANIN, A. I. ; BEZRUK, V. S.

2. USSR (600)

4. Afforestation

7. Leaders in steppe forestry speak. Les i step' 4 no. 10: 1952

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

BRYANTSEV, A. V., inzh.; PANIN, A.N.

SBSh-3 modernized doubled milling drum. Torf.prom. 37 no.6:5 '60.
(MIRA 13:9)

1. Torfopredpriyatiye imeni Klassona.
(Peat machinery)

PANIN, A.M.

On the occasion of the fiftieth anniversary of the Klasson Peat Plant. Torf. prom. 40 no.6:31-33 '63. (MIRA 16:10)

1. Torfopredpriyatiye imeni Klassona.

PANIN, A.P.

Water power resources of the Ponoy River and their possible utilization. (MIRA 12:3)
Vodnoenerg.res.Kol'.poluos. no.2:64-91 '58.
(Ponoy River--Power utilization)

PANIN, A.P.

Water power resources of Eastern Litsa and Kharlovka Rivers and their possible utilization. Vodnoenerg.res.Kol'.poluos. no.1:110-169 '58. (MIRA 12:3)

(Eastern Litsa River--Power utilization)
(Kharlovka River--Power utilization)

AVERIN, Yu.A., inzh.; KARYAKIN, R.N. inzh.; PANIN, A.P., inzh.

Results of experimental determination of the spectral composition of initial currents used in rectifier electric locomotives. Trudy TSNII MPS no.156:49-57 '58. (MIRA 11:8)
(Electric locomotives)
(Mercury-arc rectifiers)

PANIN, A.P. (g.Nebit-Dag); ZIN'KOVSKIY, P.I. (g.Nebit-Dag)

Organization of plastering work. Stroi.pred.neft.prom. 1 no.6:22-24 Ag '56. (Plastering) (MLRA 9:9)

PANIN, A.P.

Water power resources of the Varzina and Drozdovka Rivers and their possible utilization. Vodnoenerg. res. Kol'. poluos. no.4:70-82 '60. (MIRA 13:10)

1. Kol'skiy filial AN SSSR.
(Varzina River--Power utilization)
(Drozdovka River--Power utilization)

PANIN, A.S.

Automatic equipment for determining water permeability of various materials. Zav.lab. 24 no.2:236-239 '58. (MIRA 11:3)
(Permeability--Measurment)

PANIN, A.S.

32-2-47/60

AUTHOR: Panin, A. S.,

TITLE: An Automatic Device for the Determination of the Water Permeability of Different Substances (Avtomaticheskiy pribor dlya opredeleniya vodopronitsayemosti razlichnykh materialov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 236-239 (USSR)

ABSTRACT: By the arrangement described here hydrophobic and hydrophilic substances can be investigated as well as various others. F.A. Shcherbakov is mentioned as having taken part in the construction of this device. Investigations can be made at high pressure and with unlimited duration. The schematic representation shows that compressed air is taken from a pressure flask in order to press the water from a resevoir into the test container, and perhaps to produce pressure. A figure shows that there are 12 such containers in this arrangement. So the test samples can be exposed at will at normal or at excess pressure to the influence of water. Three different kinds of stencils for fastening the test samples are given. When the water penetrated the sample it forms a drop that falls into a little funnel (figure). At this moment an electric contact is built up which starts a time recorder and eliminates the test container from the test series

Card 1/2

PANIN, A.S., kand.tekhn.nauk; GORLOV, Yu.P., inzh.

Vibro-formation of gas diatomaceous and gas vulcanite products from hard masses. Stroi.mat. 9 no.12:12-16 D '63. (MIRA 17:3)

PANIN, A.S., kand.tekhn.nauk; ZASEDATELEV, I.B., kand.tekhn.nauk

Manufacturing ash gravel. Stroi.mat. 8 no.1:14-17 Ja '62. (MIRA 15:5)
(Gravel)

PANIN, A.S., kand.tekhn.nauk; KUKUSHKIN, A.I., inzh.

Technology of the manufacture of foamed diatomaceous products. Stroi. mat. 8 no.5:29-32 My '62. (MIRA 15:7)
(Insulation (Heat)) (Diatomaceous earth)

PANIN, A. S. Cand Tech Sci

"Bituminized Hydrophobic Powders for Flat Roofs and Waterproofing."

28/3/50

Central Sci Res Inst of Industrial Structures - "TsNIPS."

SO Vecheryaya Moskva
Sum 71

PA 228T72

USSR/Engineering - Construction, Materials 15 May 52

"Experiment of Using Hydrophobic Cinders in Building Industry," A. S. Panin, Cand Tech Sci, Sci Res Inst of Mimmashstroy

"Byul Stroit Tekh" No 10, pp 10-22

Describes construction of flat roof in which hydrophobic cinders are used as waterproofing material. Cinders of coarseness less than 0.5 mm are treated with mixt of 35% bitumen and 65% green oil at temp of 170-200°. Hydrophobic cinder layer withstands hydrostatic pressure to 1.5-2 m of water column. Also describes installation used for prepn of product.

228T72

PANIN, A. S.

228T72

SADIKOV, P.P.; AHAN'YEVA, S.A.; LEBEDEVA, T.P.; SMIRNOV, Ye.K.; PRIGOROVSKIY, V.F., inzh., red.; TISHKOV, L.B.; KATOLICHENKO, V.A.; PANIN, A.V.; NOSKOV, Yu.A.; TRIFONOVA, M.G.; KLEYMENOV, Ye.I.; BOBROVA, Ye.N., tekhn.red.

[Technical equipment for large general-purpose freight yards] Tekhnicheskoe osnashchenie krupnykh gruzovykh stantsii obshchego pol'zovaniia. Moskva, Gos.transp.zhel-dor izd-vo. 1958. 186 p. (Moscow. Moskovskii institut inzhenerov zheleznodorozhnogo transporta. Trudy, no.161) (MIRA 12:2)
(Railroads--Yards--Equipment and supplies)

PANIN, A.V.

[Collection of problems for the course "Accounting and bookkeeping for collective farms"] Sbornik zadach po kursu "Uchet i schetovodstvo v kolkhozakh." Moskva, Gosstatizdat, 1951. 206 p. (MIRA 12:4)
(Collective farms--Accounting)

PANIN, A.V.; KHMELEV, N.N.

[Finances, records and accountability in collective farms] Finansy, uchet i otchetnost' v kolkhozakh. Moskva, Gosfinizdat, 1948. 197 p.
(Collective farms--Accounting) (MIRA 12:3)

ACC NR: AP7004196 (N) SOURCE CODE: UR/0125/67/000/001/0038/0041

AUTHOR: Panin, A. V.

ORG: Voronezh Institute of Construction Engineering (Voronezhskiy inzhenerno-stroitel'nyy institut)

TITLE: Brittle fracture of welds of aluminum alloys

SOURCE: Avtomaticheskaya svarka, no. 1, 1967, 38-41

TOPIC TAGS: brittleness, mechanical fracture, metal welding, metal test, brittle failure, brittle fracture, alloy/AMg6-M alloy, AV-T1 alloy, D16-T alloy, B92-T alloy

ABSTRACT: Specimens of aluminum-alloy welds have been tested for their tendency to brittle failure. The effect of stress concentration, in the form of notches, and low temperatures on the mechanical properties of welds of AMg6-M, AV-T1, D16-T, and B92-T aluminum alloys was investigated. The least tendency to brittle failure was found in welds of AMg6-M alloys, while the greatest tendency was noted in welds of AV-T1 and D16-T alloys. V92-T alloy weld metal had an intermediate position. It was established that the nature of brittle failure is deter-

Card 1/2 UDC: 621.791:620.163.4:669.71

ACC NR: AP7004196

mined not only by the heterogeneous structure of the weld metal but also by the conditions leading to the onset and development of plastic deformation zones. [AM]
Orig. art. has: 2 figures and 1 table.

SUB CODE: 11, 13/SUBM DATE: 26Dec65/ORIG REF: 000/OTH REF: 001/

Card 2/2

PANIN, A. V.

N/5
722.101
.P1
1954

Sbornik zadach po kursu "Uchet i schetovodstvo v kolkhoze". (Collection of Problems for the course in "Collective Farm Records and Accounting")
2 perer. izd. Moskva, Gosstatizdat, 1954.
231 p. tables.

PA 174T88

PANIN, B.

USSR/Physics - Electrical Discharge Jan 51

"Measuring the Parameters of High-Frequency Electrodeless Discharge with Two Probes," L. Biberman, B. Panin, All-Union Ord of Lenin Electrotech Inst imeni Lenin

"Zhur Tekh Fiz" Vol XXI, No 1, pp 12-17

Proposes method for measuring subject parameters which involves taking v-amp characteristics with aid of 2 identical probes. Temp and concn of electrons are detd from results obtained in processing characteristics. Authors were assisted by Prof B. N. Klyarfel'd and Prof V. A. Fabrikant. Submitted 23 Jan 50.

174T88

ACC NR: AP6027019 (A) SOURCE CODE: UR/0018/66/000/004/0057/0063

AUTHOR: Panin, B. (Engineer; Lieutenant Colonel)

ORG: None

TITLE: Driving tanks under field conditions

SOURCE: Voyennyy vestnik, no. 4, 1966, 57-63

TOPIC TAGS: military tank, military personnel, military training

ABSTRACT: The method used to teach tank drivers how to avoid errors when obstacles and barriers, and particularly mine fields, are encountered en route must follow a definite pattern. Because exercises under field conditions are complicated and are carried out by assigned crews it takes several drills to do them properly. Three drills are described in detail and a detailed plan for organizing and conducting a tank driving drill is presented.

SUB CODE: 05,19/SUBM DATE: None

Card 1/1

PANIN, B.A., inzh.

Inspection of quality in construction in Central Asia. Stroi. truboprov. 7 no.6:4-5 Je '62. (MIRA 15:7)

1. Direktsiya gazoprovoda Bukhara - Ural.
(Soviet Central Asia--Gas, Natural--Pipelines)

ACCESSION NR: AT4028741 S/2531/63/000/144/0048/0058

AUTHOR: Ariyel', N. Z.; Byutner, E. K.; Panin, B. D.; Radikevich, V. M.

TITLE: Results of measuring the temperature and wind direction pulsations in the surface layer of the atmosphere

SOURCE: Leningrad. Gl. geofiz. observ. i Ukr. n.-i. gidrometeorol. inst. Trudy*, no. 144/40, 1963. Fizika pogranichnogo sloya atmosfery* (physics of the atmospheric boundary layer); Dneprovskaya expeditsiya GGO i UkrNIGMI, 48-58

TOPIC TAGS: temperature pulsation, wind direction, surface layer, temperature

ABSTRACT: A daily plot of the average hourly values of horizontal wind direction pulsations σ_α at an altitude of 16 m is produced. The dependence of the value of σ_α on stratification, the recurrence of various deviations from the average direction dependent on the stratification and the wind velocity, and the temperature pulsation values ΔT^2 with altitudes of 1 and 7 m are also obtained in the article. The corresponding spectral characteristics of the values σ_α and ΔT^2 are plotted in graphs. It is shown that the spectral function of the pulsation of wind direction is subject to the 5/3 law in the frequency range from 0.02 to 0.1 cycles at a wind velocity of approximately 4 m/sec. A diagram of the wind vane circuit is given.

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ACCESSION NR: AT4028741

together with the recorded examples of wind direction values and graph plots. From the graph it follows that the basic contribution to the oscillation energy responsible for the temperature pulsation at an altitude of 7 m is carried by the frequency ω of from 0.06 to 0.2 sec^{-1} and from 0.1 to 0.6 sec^{-1} at an altitude of 1 m (wind velocity in both cases was equal to 2.4 m/sec). Orig. art. has: 12 figures and 1 table.

ASSOCIATION: Leningradskaya glavna geofizicheskaya observatoriya (Principle Geophysical Observatory of Leningrad)

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: AS NO REF SOV: 005 OTHER: 001

Card 2/2

PANIN, B.D.

Method for the measurement of the temporal and spatial structure of air flow. Trudy GGO no.150:102-106 '64. (MIRA 17:7)

ARIYEL', N.?.; BYUTNER, E.K.; P-N:N, B.D.

Determining the v-components of wind velocity from structural measurements. Trudy GGO no.150:69-77 '64. (MIRA 17:7)

AYZENSHTAT, B.A.; PANIN, B.D.

Heat balance of the active surface according to observations in Tashkent. Trudy Sred.-Az.nauch.issl.gidrometeor.inst. no.6: 48-58 '61. (MIRA 15:4)
(Tashkent--Solar radiation) (Tashkent--Atmospheric temperature)

PANIN, B.D.

Characteristics of the air temperature regime in the direct vicinity of the active surface. Trudy GGO no.107:66-75 '61.
(MIRA 14:10)

(Atmospheric temperature)

SOV/136-58-8-18/27

AUTHOR: Panin, B.M.

TITLE: Results of Adopting a Batch Leaching Process at the Ust'Kamenogorsk Lead Zinc Kombinat (O rezul'tatakh osushchestvleniya periodicheskogo protsessa vyshchelachivaniya na Ust'-Kamenogorskom svintsovo-tsinkovom kombinate).

PERIODICAL: Tsvetnyye Metally, 1958, 31 Nr.8, pp.72-73 (USSR)

ABSTRACT: At the Tekhnicheskiy Sovet (Technical Council) of the former Ministerstvo tsvetnoy metallurgii SSSR (Ministry of Non-Ferrous Metallurgy of the USSR) a discussion was held on the choice of methods of leaching zinc concentrate, in September 1956 (Ref.1). At that time the new Ust'-Kamenogorsk Kombinat Zinc Works, using batch leaching, were working badly and this led many speakers to oppose this process. The author presents data to show the great improvements effected at the works since then and compares the main operating factors of the new and old works of the combine. He considers the following advantages of the batch process observed in operation: ease of maintenance of optimal leaching conditions even with less-trained

Card 1/2

Results of Adopting a Batch Leaching Process at the Ust'Kamenogorsk Lead Zinc Kombinat

personnel; higher degree of solution of zinc in neutral leaching (85-90%) against the 35-70% achieved in the continuous process; good clarification of solutions in neutral thickeners; high degree of solution purification possible; better mixing leading to more intensive solution; the elimination of special heating of solutions before leaching and settling because of the availability of the heat of solution of zinc oxide. The author states that the evidence now available proves the advantages of the batch process.

ASSOCIATION: Kazgiprotsvetmet

1. Zinc ores--Processing

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 15 (USSR)

137-58-6-11360

AUTHOR: Panin, B.M.

TITLE: An Experiment in Introduction of FluoSolids Roast at the Ust'-Kamenogorsk Lead-and-zinc Kombinat (Opyt vnedreniya obzhiga tsinkovykh kontsentratov v kipyashchem sloye na Ust'-Kamenogorskom svintsovo-tsinkovom kombinate)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 11-12, pp 44-48

ABSTRACT: A communication on measures undertaken for FluoSolids roasting of the concentrate. Preparation of the concentrate is improved; furnace design is perfected; a feed nozzle of new design with a mushroom-shaped head is introduced, making for uniform boiling of the layer and ready cleaning of the outlet; the gas ducting is simplified and the gas flow pattern improved; equipment to automate the roasting process is installed.

1. Metallurgy--USSR

Ya.K.

Card 1/1

PANIN, B.V.

[Some characteristics of the interaction of atomic particles of mean energies (10 to 100 Kev.) with solid bodies] O nekotorykh osobennostiakh vzaimodeistviia atomnykh chastits srednikh energii (10 + 100 kev) s tverdymi telami. Moskva, In-t atomnoi energii AN SSSR, 1960. 44 p. (MIRA 16:12)
(Ions) (Collisions (Nuclear physics))

PANIN, B.V.

LYSOV, A.M.; ANDREYEV, M.N.; PANIN, B.V.

Studies of conditioned motor food reflexes in sheep [with summary in English] Fizol.zhur. 42 no.11:997-1001 N '56. (MLRA 10:1)

1. Laboratoriya fiziologii Vsesoyuznogo nauchno-issledovatel'skogo instituta karakulevodstva, Samarkand.

(REFLEX, CONDITIONED,
investigation in sheep in sound-proof rooms (Rus))
(REFLEX,
unconditioned, investigation in sheep in sound-proof rooms (Rus))

Panin, B. V.

AUTHORS: Artsimovich, L. A., Shchepkin, G. Ya., Zhukov, V. V., Makov, B. N., Maksimov, S. P., Malov, A. F., Nikulichev, A. A., Panin, B. V., Brezhnev, B. G. 89-12-1/29

TITLE: Electromagnetic Isotope Separating Device for Heavy Elements of High Resolving Power. (Elektromagnitnaya ustanovka s vysokoy razreshayushchey siloy dlya razdeleniya izotopov tyazhelykh elementov)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 12, pp. 483-491 (USSR

ABSTRACT: The constructed apparatus, which shall be able to separate clearly isotorpes even with a relative mass difference of 1/240, must have a high dispersion, a high resolving power and especially well stabilized magnetical andelectrical fields. An axial-symmetricla field, the dispersion of which is proportional to the square of the focusing angle, was used as a magnetic field. The focusing angle is 225°. The measured dispersion of the apparatus amounts to 20 mm at a relative mass difference of the masses to be separated of 1%.

The stabilization of the magnetic field of the separating device has been brought to 0,005% by the aid of a valve scheme. The acceleration velocity for the source of ions (up to 40 kv) is stabilized by a double cascade scheme up to 0,01%. But also the current in the discharge source of ions is stabilized. The vacuum chamber is constructed from stainless steel, in a (-sharpe. The

Card 1/3

pump system has been arranged so that a working vacuum of $4\text{-}6.10^{-6}$ mm Hg is always guaranteed. When separating toxic materials moving locks, valves and regulators from synthetic and rubber are applied. The high vacuum here is maintained by means of a surge chamber.

A normal gas discharge source of ions, in which the material to be separated can be heated up to 1000^{0}C, is used as source of ions.

Boxes from copper or graphite are usually used as targets, The following results were obtained:

Concentration factor:

75	to	302	for	Pb^{208}	concentrated from the natural lead-isotope mixture
22	to	71	for	Pb^{207}	-"-
151	to	214	for	U^{238}	concentrated from natural uranium
985	to	1420	for	U^{236}	-"-
1000			for	Pu^{239}	concentrated from samples of different isotrope compositions
190	to	300	for	Pu^{240}	-"-

Card 2/3/

Electromagnetic Isotope Separating Device for Heavy Element of High Resolving Power. 89-12-1/29

160 to 360 for Pu^{241} concentrated from samples of different isotope compositions

There are 4 tables, 8 figures and 3 Slavic references.

SUBMITTED: August 21, 1957

AVAILABLE: Library of Congress

3/3

PANIN, B.V.

(4) PHASE I BOOK EXPLOITATION SOV/2713

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; polucheniye i primeneniye izotopov (Reports of Soviet Scientists; Production and Application of Isotopes) Moscow, Atomizdat, 1959. 588 p. (Series: Its: Trudy, vol. 6) 8,000 copies printed.

Eds. (Title page): G.V. Kurdyumov, Academician, and I.I. Novikov, Corresponding Member, USSR Academy of Sciences; Ed. (Inside book): Z.D. Andreyenko; Tech. Ed.: Z.D. Andreyenko.

PURPOSE: This book is intended for scientists, engineers, physicians, and biologists engaged in the production and application of atomic energy to peaceful uses; for professors and graduate and nongraduate students of higher technical schools where nuclear science is taught; and for the general public interested in atomic science and technology.

COVERAGE: This is volume 6 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy held in Geneva from September 1 to 13, 1958. Volume 6 contains 32 reports on: 1) modern methods for the production of stable radioactive isotopes and their labeled compounds, 2) research results obtained with the aid of isotopes in the field of chemistry, metallurgy, machine building, and agriculture, and 3) dosimetry of ionizing radiation. Volume 6 was edited by: S.V. Levinskiy, Candidate of Medical Sciences; V.I. Prusakov, Candidate of Chemical Sciences; and V.V. Sedov, Candidate of Medical Sciences. See Sov/2081 for titles of volumes of the set. References appear at the end of the articles.

26406
S/056/61/041/001/001/021
B102/B212

26.2312

AUTHOR: Panin, B. V.

TITLE: Secondary ion emission from metals under the action of ions having energies of 10 - 100 kev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 1 (7), 1961, 3 - 9

TEXT: The author has studied secondary ion emission from Mo, Zr, and graphite, which had been induced by ion bombardment at energies of 10-100kev for the purpose of determining the mechanism of interaction between atomic particles and solid bodies. The experiments were made with the help of an electromagnetic mass monochromator (mass resolution $m/\Delta m \approx 200$). It was possible to bombard the target (2 • 5 mm) with ions from H_1^+ to Mo^+ at energies of 5 - 120 kev and with ion current densities of $1 \cdot 10^{-8}$ - $1 \cdot 10^{-3}$ a/cm^2. The ion energy could be determined exactly to 0.01 %. The energy spread of the ions at the target was about 1 %. It was possible to lower the residual gas pressure in the experiment chamber down to

Card 1/5

Secondary ion emission from...

$2 - 3 \cdot 10^{-8}$ mm Hg at nitrogen temperature. Fig. 2 shows the system schematically, which has been used to measure the coefficients $\delta^{\pm}$ of ion-induced emission. $\delta^{\pm}$ denotes the ratio of the current of all ions having the same sign and leaving the target during bombardment to the current of all bombarding ions. Before determining the curves $\delta^{\pm}(v_o)$ (v_o - velocity of bombarding ions) the author determined the secondary ion emission in a special test series as a function of the residual gas pressure. It was that at pressures $<(2-3) \cdot 10^{-7}$ mm Hg and at a temperature of the sample of 1300°K, $\delta^{\pm}$ is independent of the current density of the bombarding ions for pure Mo and Zr targets. Very detailed studies have been made of the secondary emission from Mo (with impurities of 0.008 % Fe and 0.007 % Al), Zr and graphite of the type ЕГ-14(YeG-14) bombarded with H_1^+, H_2^+, H_3^+, He^+, C^+, N^+, O^+, Cl^+, Ar^+, and Mo^+ ions. The ion emission from Mo showed that even a small increase of the impurity concentration can bring about a

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26406
S/056/61/041/001/001/021
B102/B212

Secondary ion emission from...

significant increase of δ^+. A comparison of the $\delta^{\pm}(v_0)$ curves measured indicates that: 1) secondary ion emission increases rapidly with increasing mass of the bombarding ion; the mass can be smaller or larger than the mass of the target atom. 2) δ^+ also increases with increasing mass of the target atom. When the target is bombarded with H_2^+ and H_3^+, the secondary ion current is almost twice or three times as big as that when bombarding it with H_1^+ (provided that v_0 remains constant). This finding agrees with the assumption of a decomposition of the molecular ions at the instant of impact on the solid body surface. A small portion of the hitting molecular ions is reflected without decomposition. These results also agree with those obtained for ion-induced electron emission. An exact investigation shows that a " fine structure" of the $\delta^{\pm}(v_0)$ curves may occur in certain cases. For example, the smooth shape of these curves for Mo (in H_1^+ bombardment) is disturbed by a series of minima occurring at $v_0 \simeq 1.4 \cdot 10^8$, $1.7 \cdot 10^8$, and $2.8 \cdot 10^8$ cm/sec (half-width ≤ 0.5 Mev). In all cases the $\delta^-(v_0)$ curves

Card 3/5

PANIN, R.V.

Secondary ion emission from metals under the action of ions having energies between 10 and 100 kev. Zhur.eksp.i teor.fiz. 41 no.1:3-10 Jl '61. (MIRA 14:7)

(Ions)

24629
S/056/62/042/002/001/055
B102/B138

24.6712
26.2312

AUTHOR: Panin, B. V.

TITLE: Interaction of atomic particles of medium energies (10 - 100 kev) with solids (energy spectra of secondary ions)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 313 - 324

TEXT: Molybdenum and beryllium targets were bombarded by H_1^+, H_2^+, He^+, O_1^+, N_1^+, N_2^+, O_1^+, O_2^+, CO^+, Ar^+, and Ar^{++} with energies between 7.5 and 80 kev. The ion currents of $1 \cdot 10^{-8}$ - $1 \cdot 10^{-3}$ a/cm^2 densities were incident upon the target surface at an angle of 45°. The energy spectra of the secondary ions emitted in this bombardment were measured with a paraboloidal electrostatic analyzer designed by R. I. Solov'yev in agreement with A. F. Malov's theory of axisymmetric focusing fields. Most of the measurements were made with heated targets (1300 °K), a residual-gas pressure of $1 \cdot 10^{-7}$ - $3 \cdot 10^{-7}$ mm Hg in the measuring chamber and an apparatus resolution $\Delta E/E \approx 80$. The current from the ion receiver was measured with an electrometer-

Card 1/3

Interaction of atomic ...

amplifier with a sensitivity of $1 \cdot 10^{-15}$ a/scale unit. The results are given as diagrams $\delta_{\varphi}^{+}(E)$ or $\delta_{\varphi}^{+}(E/E_0)$; δ_{φ}^{+} is the ratio of the current secondary ions emitted within the cone 2φ with energies between E and $E + \Delta E$, to that of bombarding ions with initial energy E_0. Analysis of the results shows that the laws of the classical mechanics of free-particle collisions can be applied to the mechanism of secondary ion emission. Earlier assumptions that there is dissociation of most of the molecular ions on striking a solid surface and that the secondary ion emission is independent of the charge of the bombarding ions were confirmed. L. A. Artsimovich, I. N. Golovin and G. Ya. Shchepkin are thanked for interest and discussions, V. G. Tel'kovskiy for remarks and A. A. Borisov and Yu. Ye. Pavlov, Laboratory assistants, for their help. There are 8 figures and 6 references: 2 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: F. Seitz, D. Turnbull. Solid state physics, Academic press inc. publishers, N. Y., London, 1958. J. A. Brinkman. Am. Journ. of Phys., 24, 246, 1956. G. K. Wehner. Adv. in Electr. and electron phys., 7, 239, 1955. H. E. Stanton. J. of Appl. Phys., 31, 678, 1960.

Card 2/3

PANIN, B.V.

Interaction between medium energy (10 - 100 Kev.) atomic particles and solids; energy spectra of secondary ions [with summary in English]. Zhur. eksp. i teor. fiz. 42 no.2:313-324 F '62. (MIRA 15:2)
(Nuclear reactions)(Ions--Spectra)

L 3170-66 EWT(m) DIAAP

ACCESSION NR: AT5016964 UR/3154/65/000/002/0047/0070 34 12 B+1

AUTHOR: Dmitruk, N. I.; Malov, A. F.; Panin, B. V.; Runov, A. D.; Soldatov, A. F.; Shchepkin, G. Ya.

TITLE: Mass-separation device with magnetic and electric cross-fields intended for the production of pure (C > 99%) rare isotopes of heavy elements 19

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ABSTRACT: A two-stage mass separator is described, and the results of separation of lead and cadmium isotopes are reported. An electro-magnetic mass separator described by L. A. Artsimovich, et. al. (Atomnaya energiya, 3, 483, 1957) was used as the first stage; its focusing angle 1.25π was changed to $\pi\sqrt{2}$. The second stage developed after D. Z. Fischer's device (Phys., 133, 471, 1952), has electric and magnetic fields of special configurations in the same space; this arrangement permits the focusing of ions separated according to their masses and energies simultaneously with the vertical and horizontal focusing of particles. The design of the second stage, performed on the basis of the general theory of axisymmetrical

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electric and magnetic cross fields, is reported in detail. From estimates of geometrical characteristics, the dispersion of the mass separator for Pb^{208} - Pb^{207} isotopes was found to be 12.24 mm. A theoretical maximum resolution is 250,000; in practice, however, the resolution was under 1000 for Pb^{204} isotope separation. A Pb^{204} sample isolated by the above mass separator had these concentrations: $C_{Pb^{204}}$ = 99.64%; $C_{Pb^{208}}$ = 0.6%; $C_{Pb^{207}}$ = 0.08%; $C_{Pb^{206}}$ = 0.18%. Allowing for the contamination of the sample by the natural mixture of Pb isotopes at the separator emitter, the sample must have contained 99.99% Pb^{204}, which corresponds to an enrichment ratio of 700,000. A sample of cadmium enriched in the mass separator contained 99.9% Cd^{114}. "In conclusion, the authors wish to thank L. A. Artsimovich for his constant attention and help and also the workers of the Institute of Atomic Energy im. I. V. Kurchatov and other organizations who took part in development, building of units, and in assembling and alignment of the outfit: V. Z. Bychkov, D. V. Pavlov, A. A. Nikulichev, N. N. Golubeva, V. F. Gavrilov, P. I. Zdobnikov, Yu. I. Kostyutkin, I. Ya. Leskov, I. G. Trifonov, Yu. Ye. Pavlov, I. M. Averin-Lavrov, S. M. Naftulin, V. I. Voloznev, S. I. Zykov, N. M. Bakanova, N. D. Ivanova, G. N. Eyzan and also the group of workers directed by A. A. Dolgiy, V. F. Karpov, and G. A. Khomyachkov." Orig. art. has: 6 figures and 40 formulas.

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