KAMINSKIY, A.D.

Veteran plant. TSement 27 no.5:11-13 S-O '61. (MIRA 14:12)

1. Direktor Leningradskogo tsementnogo zavoda imeni Vorovskogo.
(Leningrad--Cement plants)

KAMINSKIY, A.G.

Experts' mistakes in the determination of continuing loss of work capacity. Vrach. delo no.2:115-118 F '61. (MIRA 14:3)

1. Glavnyy ekspert - nachal'nik otdela vrachebno-trudovoy ekspertizy Ministerstva sotsial'nogo obespecheniya USSR.
(DISABILITY EVALUATION)

KIRICHENKO, P.L.; KAMINSKIY, A.G. (Kiyev)

Further improvement of some forms of medical expertise on the working capacity and the raising of the level of physicians' qualifications in Medical Experts' Commissions on workers' Disability and Temporary Control Commissions. Vrach. delo no.1: 122-125 Ja '64 (MIRA 17:3)

KAMINSKIY, Aleksey Grigor'yevich; KHOMENKO, A.G., red.

[Medical expertise of the capacity for work in pulmonary tuberculosis patients; manual for physicians of therapeutic and prophylactic institutions, and of the Medical Expert Commission on Work Ability] Vrachebno-trudovaia ekspertiza bol'nykh tuberkulezom legkikh; rukovodstvo dlia vrachei lechebno-profilakticheskikh uchrezhdenii i VTEK. Kiev, Zdorov'e, 1964. 298 p. (MIRA 17:11)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza i grudnoy khirurgii, Glavnyy ftiziatr Ministerstva zdravookhraneniya Ukr.SSR (for Mamolat).

VEGER, Anton Markovich, prof.; KAMINSKIY, A.G., red.

[Doctor's manaul on problems of expertise of the capacity for work; general fundamentals for determining temporary and persistant incapacity for work] Spravochnik vracha po voprosam eksperitzy trudosposobnosti; obshchie osnovy opredeleniia vremennoi i stoikoi netrudosposobnosti. Kiev, Zdorov'ia, 1965. 204 p. (MIRA 19:1)

KAMINSKIY, A.K.

BALASHOV, V.V., DOROFEYEV, G.F., KALITKIN, N.N., KAMINSKIY, A.K.
SHIROKOV, Yu.M., SMIRNOV, Yu.F., and TUMANOV, K.A.

"Method of the Light Nuclei Levels Calcualation,"

paper submitted at the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

Moscow State Univ. and Lebedev Physics Inst. Acad. Sci. USSR

ZHIVOPISTEV, F. A., KAMINSKIY, A. K., PERELOMOV, A. M. and CHIROKOV, Y. M.

"Sur le Calcul des Niveaux d'energie des noyaux legers."

report presented at the Intl. Congress for Nuclear Interactions (Low Energy) and Nuclear Structure (Intl. Union Pure and Applied Physics), Paris, 7-12 July 1958.

21(1) SOV/56-36-3-35/71

AUTHORS: Kaminskiy, A. K., Shirokov, Yu. M.

TITLE: On the Electromagnetic Radii of the Lightest Nuclei in the Ground- and in the Lowest Excitation States (Ob elektromagnitnykh radiusakh legchayshikh yader v osnovnykh i nizshikh vozbuzhdennykh sostoyaniyakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 3, pp 874 - 878 (USSR)

ABSTRACT: In the present paper the authors calculate the radii of nuclei with mass numbers 5 - 8 for the ground- and the first excited states on the basis of experimental data on isotopic multiplets and scattering of high energy electrons on nuclei, and they especially investigate the dependence of the radius on the excited state. In a figure, 4 diagrams show the dependence of r_o on excitation energy: Figure a) for He^5 - Li^5, b) for He^6 - Li^6 - Be^6 (in dependence on E_{exc} of Li^6) c) for Li^8 - Be^8 - B^8 (in dependence on E_{exc} of Be^8) and d) for Li^7 - Be^7. It was found that the nuclear radius of He^5 and Li^5, as an exception, shows no monotonous increase with

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On the Electromagnetic Radii of the Lightest Nuclei in the Ground and in the Lowest Excitation States

energy. For the 2. excited level with E = 16.69 Mev the nuclear radius is smaller than for the first and also smaller than for the ground state. For Li^7 - Be^7 the nuclear radius increases rapidly with energy, for Li^7 - Be^7 there is a weak dependence, and the same is the case for the nuclear radius with A = 8. In general it may be said that, with the exception of the He^5-Li^5 doublet, the nuclear radii for all nuclei increase monotonously with energy. It was found that agreement between experimental data from the scattering of fast neutrons on nuclei and those calculated from the Coulomb (Kulon) energy difference can be improved by assuming a different value for r_0 for s- and p-shells. For Li^7, for example, one obtains $r_s = 2.42.10^{-13}$cm and $r_p = 1.32.10^{-13}$cm and for Li^6 $r_s = 2.65.10^{-13}$cm and $r_p = 1.07.10^{-13}$cm is obtained. There are 1 figure and 8 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)
SUBMITTED: September 16, 1958

ACCESSION NR: AP4033632 S/0188/64/000/002/0032/0042

AUTHOR: Kaminskiy, A. K.; Lonskiy, E. S.

TITLE: Computation of the sensitivity of thick-walled ionization chambers

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1964, 32-42

TOPIC TAGS: ionization chamber, gamma radiation, electron, electron path, nuclear physics

ABSTRACT: A general discussion of various types of ionization chambers and their principle of operation is followed by presentation of a method for computing the sensitivity of thick-walled ionization chambers for measurement of the intensity of gamma radiation with an energy $0 < W < 100$ Mev. The authors compute the contribution of primary electrons, take into account secondary electrons and other corrections and discuss the ionization current in the chamber. The computation is made without any assumption concerning equilibrium between gamma radiation and electrons in the wall of the chamber and without assuming that the thickness of the forward wall is greater than the mean path of electrons formed by gamma quanta in the wall of the chamber. This method has been used to compute the sensitivity of aluminum and graphite chambers. With respect to the ionization

ACCESSION NR: AP4033632

current in the chamber, it is shown that if the intensity of gamma radiation incident normal to the forward wall of the chamber is I(W), the ionization current in the chamber is computed using the formula

$$J(W) = e\frac{I(W)}{w}\,\bar{r}(W)\,\rho S(W)V, \qquad (1)$$

where e is the charge of the electron, w is the mean energy necessary for formation of one pair of ions in the gas filler, ρ is the density of the gas filler, V is the volume of the gas cavity of the chamber. The ratio of the stopping power of the gas filler and the material of the walls of the chamber, averaged for the electron spectrum $\bar{r}(W)$, can be computed using the formula

collision. Z
collision. gas

$$\bar{r}(W) = \frac{\int_{W}^{\infty} \frac{\left(\frac{dE}{dx}\right)_{\text{столкн. } Z}}{\left(\frac{dE}{dx}\right)_{\text{столкн. газ}}} n(W, E)\,dE}{\int n(W, E)\,dE}. \qquad (2)$$

If the chamber is not exposed to monochromatic gamma quanta, but to a beam of the intensity $I(W_{max})$ from an accelerator with the energy spectrum $\varphi(W_{max}, W)$, the

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ionization current in the chamber is computed using the formula

$$J(W_{max}) = I(W_{max}) \frac{\frac{e}{w} \rho V \int_0^{W_{max}} S(W) \bar{r}(W) \varphi(W_{max}, W) W \, dW}{\int_0^{W_{max}} \varphi(W_{max}, W) W \, dW}. \quad (3)$$

The method described in the text was used for computation of the sensitivity of thick-walled ionization chambers of aluminum for $0 < W < 50$ Mev and graphite for $0 < W < 100$ Mev for three different thicknesses of the forward wall. Computers were used. Similar computations can be made for chambers of different wall material and different gas fillers. Work is now being completed on numerical integration of the values $\bar{r}(W)$ and $J(W_{max})$ using formulas (2) and (3) and the results will be published. Plans call for experimental checking of computations by comparison of aluminum and graphite chambers having forward walls of different thickness. "The authors sincerely thank Yu. M. Shirokov and L. Ye. Lazareva for sustained interest and valuable discussion of the results. Thanks are due also to M. I. Kabanova for assistance in programming the formulas for computation on a 'Strela' computer".
Orig. art. has 27 formulas and 8 figures.

ACCESSION NR: AP4033632

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki (Scientific Research Institute of Nuclear Physics)

SUBMITTED: 10May63 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: NP NO REF SOV: 004 OTHER: 006

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L 15317-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPR/EPA(w)-2/EWP(b)/EWA(m)-2 Pab-10/
Pr-4/Ps-4/Pt-10 IJP(c)/AFWL/ESD/ESD/AEDC(a)/AEDC(b)/ASD(m)-3/AFETR/ESD(gs)/ESD(t)
ACCESSION NR: AP4047862 WW/WH S/0188/64/000/005/0033/0045

AUTHOR: Kaminskiy, A. K.; Lonskiy, E. S.

TITLE: Sensitivity of thick-walled ionization chambers to the bremsstrahlung from an accelerator with maximum W ≤ 100 MeV

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no. 5, 1964. 38-45

TOPIC TAGS: ionization chamber, electron accelerator, aluminum chamber, graphite chamber, bremsstrahlung

ABSTRACT: The ionization current in thick-walled ionization chambers is calculated as a function of γ-ray energy, assuming that the γ-radiation is produced by bremsstrahlung

L 15317-65
ACCESSION NR: AP4047862

walls of the chamber. If the ionizing particles are electrons, then the initial energy spectrum of the electrons is approximately proportional to the sum of three cross sections:

$n(W, E) = \text{const}\,[\sigma_\phi(W, E) + \sigma_a(W, E) + \sigma_n(W, E)]$.

Since the ionization loss of a positron is similar to that of an electron, the corrected form of the energy distribution is given by

$$n(W, E) = \text{const}\,[\sigma_\phi(W, E) + \sigma_a(W, E) + 2\sigma_n(W, E)].$$

Separate equations can then be written for the contribution of the three processes. The dependence of the electron ionization loss on the energy of the incident radiation is shown in graphic form for the cases of air and argon, aluminum and graphite. The relation between the ionization current and the intensity of incident radiation is then given by

$$J(W_{max}) = \frac{epV}{w} I(W'_{max}) \frac{\int_0^{W_{max}} S(W)\,\bar{r}(W)\,\varphi(W_{max}, W)\,W\,dW}{\int_0^{W_{max}} \varphi(W_{max}, W)\,W'\,dW}.$$

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L 15317-65
ACCESSION NR: AP4047862

where the sensitivity function is calculated with an accuracy of 3-5% for $0 < W < 50$ MeV for aluminum and $0 < W \leq 100$ MeV for graphite walls. The numerical calculations were performed on a Strela computer and plots of sensitivity vs. energy are given for Al and graphite ionization chambers with air and argon. A rapid initial rise in sensitivity with energy is seen, followed by flattening with a further increase in energy. Experiments are planned to check the validity of the present theory. Orig. art. has: 6 figures and

ACCESSION NR: AP4020584 S/0057/64/034/003/0527/0529

AUTHOR: Kaminskiy, A.K.; Lonskiy, E.S.

TITLE: Thick-walled ionization chamber as a Gamma-ray monitor at energies below 100 MeV

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 527-529

TOPIC TAGS: ionization chamber, thick-walled ionization chamber, aluminum ionization chamber, graphite ionization chamber, ionization chamber sensitivity, Gamma ray, Gamma ray measurement, Gamma ray monitor, Gamma ray ionization chamber

ABSTRACT: The gamma-ray sensitivities of three aluminum ionization chambers (wall thicknesses 5, 7.5 and 10 cm) and three graphite ionization chambers (wall thickness 8.35, 16.7 and 25 g/cm^2) were calculated for gamma-ray energies up to 50 MeV for the aluminum and 100 MeV for the graphite chambers. The calculations were performed essentially by the method of B.H.Flowers, I.D.Lawson and E.B.Fossey (Proc.Phys.Soc. 65B,286,1952), but the following additional factors were taken into account: 1) the effect of polarization on ionization loss in Al and C; 2) the difference between the ionization losses of electrons and positrons; 3) the effect of screening on the

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ACCESSION NR: AP4020584

pair production and bremsstrahlung cross sections; 4) the energy dependence of the cross section for pair production by electrons; 5) the effect of photonuclear reactions; and 6) the energy dependence of the ratios of the stopping power of air to those of Al and C. In addition, recent data were employed for the ionization potentials and the ranges of electrons in Al and C. The calculations were performed with the aid of an electronic computer to an accuracy of 1%, although an accuracy of only 3 to 5% is claimed for the results because of uncertainty of the values of some of the physical constants involved. The results are presented graphically. Integrations of the ionization chamber sensitivities over the bremsstrahlung spectra from accelerator targets are under way. These are discussed very briefly. "In conclusion, we express our sincere gratitude to Yu.M.Shirokov and L.Ye.Lazareva for constant interest and assistance in the work." Orig.art.has: 3 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 20Apr63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: PH NR REF SOV: 000 OTHER: 004

Card 2/2

KAMINSKIY, A.M., inzh.

System for regulating microclimate parameters in greenhouses.
Vest. elektroprom. 33 no.9:21-24 S '62. (MIRA 15:10)
(Greenhouses--Heating and ventilation)
(Temperature regulators)

KAMINSKIY, A.M. (Odessa)

Candidoses of the oral cavity. Probl.stom. 6:397-398 '62.
(MIRA 16:3)

(MONILIASIS) (MOUTH--DISEASES)

KAMINSKIY, A.S., laureat Stalinskoy premii, inzhener.

Crane for erecting radio masts. Mekh.stroi. 4 no.8:16-17 Ag '47. (MLRA 9:2)

1."Stal'konstruktsiya".
(Cranes, derricks, etc.)

KAMINSKIY, A.S., inzhener, laureat Stalinskoy premii.

Selecting methods of erecting tall structures. Mekh.stroi. 4 no.10: 11-13 Oct. '47. (MLRA 9:3)

1. "Stal'konstruktsiya".
(Cranes, derricks, etc.)

KAMINSKIY, A.S., laureat Stalinskoy premii, inzhener; KHODOV, M.P., inzhener.

Construction work pulleys made by "Stal'" konstruktsiia." Mekh. stroi. 4 no.10:18-20 Oct. '47. (MLRA 9:3)
(Pulleys)

5(3) SOV/79-29-9-39/76

AUTHORS: Gitis, S. S., Oksengendler, G. M. (Deceased), Kaminskiy, A. Ya.

TITLE: Reactions of the Aromatic Nitro Compounds. VII. The Absorption Spectra of the Products of Yanovskiy's Reaction

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2983-2988 (USSR)

ABSTRACT: In one of the previous papers the authors showed that acetone adds to the polynitro compounds in enol form and that the colored final products of Yanovskiy's reaction are in free state only separable from indifferent solvents. As a result of the instability of these compounds, it is extremely difficult to investigate their structure and mechanism of formation thoroughly by the usual methods. The evaluation of the absorption spectra in the visible range yields the best results. Thus, A. I. Shatenshteyn and co-workers (Ref 2) found that Yanovskiy's reaction has an acid-basic character. The absorption spectra of a number of compounds resulting from Yanovskiy's reaction were described by M. I. Newlands and F. Wild (Ref 3). By means of absorption spectra the structure of the addition products of acetone to several polynitro compounds in alkaline medium was found in the present investigation. The authors synthesized all

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Reactions of the Aromatic Nitro Compounds. VII. The Absorption Spectra of the Products of Yanovskiy's Reaction

initial polynitro compounds and purified them by repeated recrystallization. It was shown that the color of the dinitro compounds according to Yanovskiy's reaction is due to the formation of monocomplexes (the constants of which are given by the table). The authors assume (Ref 1) that the reactions of m-dinitro-benzene and some of its derivatives with acetone yield two monosalts (I), (II), and one disalt (III) in the presence of caustic potash. The color of the trinitro compounds is due to the formation of mono- or disalt. It is only in trinitro-benzene that the trisalt plays a certain part with respect to color. There are 4 figures, 1 table, and 4 references, 2 of which are Soviet.

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University)

SUBMITTED: July 14, 1958

KAMINSKIY, A. Ya.; GITIS, S.S.

Reactions of aromatic nitro compounds. Part 21: Structure of products of the Janovsky reaction. Zhur. ob. khim. 34 no.11: 3743-3747 N '64 (MIRA 18:1)

GITIS, S.S.; KAMINSKIY, A.Ya.

Reactions of aromatic nitro compounds. Part 10: Structure of the products of the IAnovskii reaction as studied by their absorption spectra. Zhur. ob. khim. 30 no.11:3810-3817 N'60. (MIRA 13:11)

1. Dnepropetrovskiy gosudarstvennyy universitet.
(Nitro compounds)

GITIS, S.S.; KAMINSKIY, A.Ya.

Reactions of aromatic nitro compounds. Part 16: Preparation of the Janovsky reaction products. Zhur.ob.khim. 33 no.10: 3297-3300 O '63. (MIRA 16:11)

GITIS, S.S.; GLAZ, A.I.; KAMINSKIY, A.Ya.

Reactions of aromatic nitro compounds. Part 17: Products of addition of alcoholates to dinitroanisole. Zhur.ob.khim. 33 no.10: 3301-3303 O '63. (MIRA 16:11)

KAMINSKIY, Aleksandr Yevgen'yevich; GREBTSOV, P.P., red.; SMIRNOVA, Ye.A., tekhn.red.

[Introducing cooperative agriculture in China] Kooperirovanie sel'skogo khoziaistva Kitaia. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 165 p. (MIRA 12:7)
(China--Agriculture, Cooperative)

ABRAMOV, V.A.; RUMYANTSEV, A.F.; CHAYKIN, P.I.; ABATURIN, L.V.; GAVRILOV, V.I.; ALTAYSKIY, I.P.; KAMENSKIY, A.Ye.; SUKACH, P.V.; VASIL'YEV, V.N.; OBOLENSKIY, K.P.; SAVEL'YEV, Ye.A.; MOTOV, S.I.; RUSAKOV, G.K.; IVANOV, F.G.; PISKUNOV, V., red.; POLYAKOVA, L., red.; MUKHIN, Yu., tekhn. red.

[Economics of agricultural enterprises; textbook]Ekonomika sel'skokhoziaistvennykh predpriiatii; uchebnoe posobie. Moskva, Gospolitizdat, 1962. 510 p. (MIRA 15:9)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola.

(Farm management)

ABRAMOV, V.A.; RUMYANTSEV, A.F.; CHAYKIN, P.I.; ABATURIN, L.V.; GAVRILOV, V.I.; ALTAYSKIY, I.P.; KAMINSKIY, A.Ye.; SUKACH, A.F.; VASIL'YEV, V.N.; OBOLENSKIY, K.P.; SAVEL'YEV, V.A.; RUSAKOV, G.K.; IVANOV, F.G.; POLYAKOVA,N., red.; MUKHIN, Yu.,tekhn.red.

[Economics of agricultural enterprises] Ekonomika sel'skokhoziaistvennykh predpriiatii; uchebnoe posobie. Izd.2., dop. Moskva, Politizdat, 1963. 527 p. (MIRA 17:1)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola.

(Agriculture--Economic aspects)

AKSEL'ROD, Isay Solomonovich; AFANAS'YEV, Mikhail Aleksandrovich; VEYNBLAT, Boris Markovich; GITMAN, Mark Borisovich, kand. tekhn. nauk; DUBROVSKIY, Aleksandr Ivanovich; KAMENTSEV, Vladimir Petrovich; KAMINSKIY, Boris Aleksandrovich, kand. tekhn. nauk; KOLOKOLOV, Nikolay Mikhaylovich; EPSHTEYN, Anatoliy Mordukhovich, prof.; KIRILLOV, V.S., kand. tekhn. nauk, red.; GOLUBKOVA, Ye.S., red.

[Road engineer's manual; the construction of bridges and culverts] Spravochnik inzhenera-dorozhnika; stroitel'stvo mostov i trub. Moskva, Transport, 1965. 735 p. (MIRA 18:7)

KAMINSKIY, B.I.; SHOKOMOLOV, I.

Perturbations in the system ξ Ursae Majoris. Uch.zap.Tadzh.un. 18:44-51 '58. (MIRA 14:7)

1. Tadzhikskiy Gosudarstvennyy universitet imeni V.I.Lenina, Stalinabad.
(Ursa Major) (Problem of three bodies) (Perturbation)

KAMINSKIY, B.M. (Zhitomir)

Some remarks concerning the book by I.B.Veinerov and L.M.Rozhinskii on "Trichomonal urethritis in men." Urologiia, 23 no.1:83 Ja-F '58. (MIRA 11:3)
(URETHRA--DISEASES) (TRICHOMONIASIS)
(VEINEROV, I.B.) (ROZHINSKII, L.M.)

KAMINSKIY, B.M. (Zhitomir)

Type of side-effect in androgen therapy for women. Probl. endok. i gorm. 5 no.2:110 Mr-Ap '59. (MIRA 12:7)

1. Iz zhenskoy konsul'tatsii (zav. M.G. Kas'yanova) 1-y Zhitomirskoy gorodskoy bol'nitsy (glavnyy vrach M.D. Zhila)
(ANDROGENS, inj. eff.
in women (Rus))

KAMINSKIY, B.M.

Size of the uterus in the first months of pregnancy. Akush. i gin. 36 no.2:45-48 Mr-Ap '60. (MIRA 13:12)
(PREGNANCY) (UTERUS)

KAMINSKIY, B.M.

Characteristics of the three phases of the climacteric in women. Kaz.med.zhur. no.3:36-38 My-Je '62. (MIRA 15:9)

1. Zhenskaya konsul'tatsiya (zav. - T.V.Chaykovskaya) Pervoy zhitomirskoy gorodskoy bol'nitsy (glavnyy vrach - M.D.Zhila).
(CLIMACTERIC)

[redacted], B.[redacted]

Amniotic fluid embolism as a cause [illegible] shock, review of literature. Khirurgiia, 1 gin. [illegible] (MIRA 17:6)

KAMINSKIY, B.M., (Zhitomir)

Relaxin, a pregnancy hormone. Akush. i gin. no.6:74-76 N-D '63.
(MIRA 17:12)

KAMINSKIY, B.M.

Friction clutch. Mashinostroitel' no.11:13 '65.
(MIRA 18:11)

KAMINSKIY, B.Z.

Review of L.P. Kogan's book "The circular "KTI" knitting machine". Tekst. prom. 24 no.9:87-88 S '64. (MIRA 17:11)

1. Nachal'nik tsekha fabriki No.5 ULP Soveta narodnogo khozyaystva Leningradskogo ekonomicheskogo rayona.

KAMINSKIY, D. L.

USSR/Physics - Spectrography, Beta-Rays Apr 51

"Problem of Beta-Spectrograph Construction Based on Analogy With an Optical Spectrograph," V. M. Kelman, D. L. Kaminskiy, Leningrad Physicotech Inst, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 4, pp 555-561

Authors criticize spectrograph by Klemperer (cf. "Phil Mag" 20, 545, 1935) as not similar to opt instr and consider its dispersion as zero. Authors design new spectrograph analogous to opt and det its dispersion and line width.

LC 180T109

KAMINSKIY, D. L.

USSR/Nuclear Physics - Electron Lens Apr 52

"Discussion: Modeling the Motion of Charged Particles in Axial-Symmetrical Magnetic Fields," D.L. Kaminskiy, V.M. Kelman

"Zhur Tekh Fiz" Vol XXII, No 4, pp 703-706

Authors criticize article by I.I. Tsukerman (Zhur Tekh Fiz" Vol XXI, 599, 1951) who states that an axial-symmetrical magnetic field scatters electrons similarly to a concave optical lens. Although it may occur in very particular cases, authors consider it impossible to construct a magnetic scattering lens. Received 11 Dec 51.

216T93

KAMINSKIY, D. L.

USSR/Nuclear Physics - Modeling Motion of Particles May 52

"Modeling the Motion of Charged Particles in a Two-Dimensional Electric Field Taking Into Account the Volumetric Charge," B. V. Bobykin, V. M. Kelman, D. L. Kaminskiy

"Zhur Tekh Fiz" Vol XXII, No 5, pp 736-743

In order to find trajectories of charged particles in a plane free of space charge, the trajectories are considered to be those of balls rolling on a rubber membrane. (cf. P. Klynen, Philips Tech Rev, 2,231, 1937; V. K. Zvorykin et al. "Proceedings of IRE" 27,558, 1939). Author modifies this method for the case of space charge. Received 14 Feb 52.

222T65

KAMINSKIY, D. L.

Physical Chemistry

Dissertation: "Beta-Spectrometer Constructed Similar to the Optical Spctrometer," Cand Phys-Math Sci, Leningrad Physicotechnical Inst, Acad Sci USSR, Leningrad, 1953. (Referativnyy Zhurnal-Khimiya, Moscow, No 3, Feb 54)

SO: SUM 213, 20 Sept 1954

USSR/Physics - Spectrometers

Card 1/1 Pub. 43 - 10/11

Authors : Kel'man, V. M.; Kaminskiy, D. L.; and Romanov, V. A.

Title : Beta-spectrometer with greater resolving power

Periodical : Izv. AN SSSR. Ser. fiz. 18/1, 148-154, Jan-Feb 1954

Abstract : The construction of a beta-spectrometer of greater resolving power (with symmetrical path of rays) is announced. The spectrometer consists of an electromagnet with screen, copper vacuum-chamber with two copper tubes attached to it, two magnetic lenses, source retainer and recording device. The components of the electrical magnet are described. The current in the coils is directed in such a way that the magnetic current produced by it in the iron yokes are oriented opposite each other. The magnetic current passes through the gap between the upper and lower iron plates of the yoke which also assume the role of poles. Some results obtained with this beta-spectrometer are listed. Two USSR references (1939-1951). Graphs; drawings.

Institution : Academy of Sciences USSR, Physico-Technical Institute

Submitted : December 15, 1953

USSR/Nuclear Physics - Beta-spectrometers

Card 1/1 Pub. 43 - 4/97

Authors : Kel'man, V. M.; Kaminskiy, D. L.; and Romanov, V. A.

Title : A larger prism beta-spectrometer with two magnetic lenses

Periodical : Izv. AN SSSR, Ser. fiz. 18/2, 209-214, Mar-Apr 1954

Abstract : The construction and testing of a larger scale prism-type beta-spectrometer with two magnetic lenses for greater resolving and illuminating power is announced. In principle this spectrometer is not different from the spectrometer model described in a previous report; however, its dimensions are larger and it was constructed with greater perfection. The structural and technical characteristics of the prism-type beta-spectrometer are described in detail. Three references: 2 USSR and 1 USA (1939-1954). Graphs; drawings.

Institution : ..... Phys.-Tech. Inst., AS USSR

Submitted : .....

Kaminskiy, D. L.

USSR/ Physics / Electron optics FD-1037

Card 1/1 : Pub. 153 - 8/23

Authors : Kel'man, V. M. Kaminskiy, D. L., and Yavor, S. Ya.

Title : Experimental investigation of cylindrical magnetic electronic lenses

Periodical : Zhur. tekh. fiz., 24, 8, 1410-1427, Aug 1954

Abstract : Discuss results of experimental investigation into the electron-optical properties of the magnetic cylindrical lense whose field differs but slightly from the field of two infinite rectlinear oppositely directed currents and also into the systems consisting of two such lenses. Give graphs showing the relation between object position and image for various current strengths. Thanks Diplomat V. P. Vlasenko. Seven references, 2 USSR (N. I. Shtepa, ShTF, 216, 1952; A. M. Strashkevich, ShTF, 91, 1940).

Institution : - -

Submitted : 16 March 1954

KAMINSKIY, D.L.

H-3

Category : USSR/Electronics - Electronic Optics

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4279

Author : Baranovskiy, S.N., Kaminskiy, D.L., Kel'man, V.M.
Title : Investigation of the Electron-Optical Properties of Straight Magnetic Slits.

Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 4, 610-624

Abstract : An investigation was made of the electron-optical properties of many magnetic slit lenses (cylindrical lenses), having various structural dimensions. The constructions of these lenses and their properties are described. A study was made of the qualitative picture of the distribution of the magnetic field in the lens. A qualitative study of the distribution of the field was carried out with the aid of a ballistic galvanometer in three planes, oriented at different angles (ϑ =90°, 180°, and 135°) relative to the surface of the pole pieces and intersecting under the central line of the non-magnetic gap of the lens. It is shown that the distribution obtained in the planes ϑ=90° and 135° are in very close agreement with the field of the isolated single conductor, if the current in this conductor is propertly chosen.

Card : 1/2

Category : USSR/Electrons - Electronic Optics H-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1662

Author : Baranovskiy, S.N., Kaminskiy, D.L., Kel'man, B.M.
Title : Double Magnetic Slit

Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 11, 1954-1956

Abstract : Description of the construction and of several characteristics of a system consisting of two magnetic slits. Experiments have shown that a double magnetic slit deflects and focuses an electric beam, forming a linear image of a point source.

Card : 1/1

SOV/120-59-1-6/50

AUTHORS: Kaminskiy, D. L., Kaganskiy, M. G.

TITLE: A Sector β-Spectrometer with Double Focussing (Sektornyy beta-spektrometr s dvoynoy fokusirovkoy)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Vol 6, Nr 6, pp 32-36 (USSR)

ABSTRACT: A description is given of a β-spectrometer with double focussing in a non-uniform axially symmetric magnetic field. The source is located in the magnetic field and the detector is located outside. When the solid angle of the spectrometer is 0.9% of 4π the halfwidth of a conversion line is 1.3% while when the solid angle is 0.3% the halfwidth is 0.36%. The focussing magnetic field has the following form in the median plane:

$$H = H_0 \left[1 - \alpha \left(\frac{r - r_0}{r_0} \right) + \beta \left(\frac{r - r_0}{r_0} \right)^2 \right] \qquad (1)$$

where r_0 is the radius of the main trajectory, H_0 is the field on it, $\alpha = 1/2$ and β describes the aberration and was chosen to be approximately equal to 3/8. The beam is

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SOV/120-59-1-6/50

A Sector β-Spectrometer with Double Focussing

turned through 180° in the magnetic field. There are 4 figures, 1 table and 10 references; 3 of the references are Soviet, 1 is Swedish and the rest are English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-Technical Institute, Academy of Sciences, USSR)

SUBMITTED: January 10, 1958.

Card 2/2

21(8)

AUTHORS: Kaminskiy, D. L., Kaganskiy, M. G. SOV/56-35-4-14/5

TITLE: The Positron Spectrum of $Eu^{152,154}$ (Pozitronnyy spektr $Eu^{152,154}$)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 926 - 931 (USSR)

ABSTRACT: The Eu^{152}-decay (half-life 13 years) has already been investigated in a number of papers (e.g. Refs 1-4); the positron emission of europium was investigated with a magnetic lens spectrometer (Ref 5). For the investigations described the authors used a magnetic spectrometer with double beam focusing, which was specially constructed for investigation of the soft positron spectrum (Ref 6). The scheme of this device is illustrated by figure 1 and is described in detail in the second paragraph. As source, a 5μ thick Al-foil (4.20 mm^2), coated with europium of natural composition (density < 2 mg/cm^2) was used. Gauging of the spectrometer was carried out according to

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the lines of the $Eu^{152,154}$ conversion electrons, the energies of which are already accurately known (Ref 1); it was tested on the Cu^{64}, Zn^{65}-positron spectrum and on the ThC" internal conversion positron spectrum (Fig 3). The $Eu^{152,154}$-positron spectrum was measured in the interval of $1000 < H\rho < 3500$ [Oe.cm]. The curve shows a relatively broad maximum (388 keV) which has a salient point at $H \approx 2400$ and declines sharply. The spectrum mainly consists of positrons due to the pair conversion of 1410 keV γ-quanta and of a β^+-spectrum with an end point energy of $E_o = 700 \pm 20$ keV. The spectrum is identified as that due to the positron decay of Eu^{152} ($T_{1/2} = 13a$), the intensity of the positron decay was determined up to $I = (1.2 \pm 0.2).10^{-4}$ positrons per decay. Figure 5 shows the curve of electron conversion on the K-shell ($E_\gamma = 1410$ keV), the abscissa of the diagram is the number of pulses per second (Geiger counter); ordinate I_M-current (spectrometer); figure 6 shows a diagram of the Fermi-β^+-spectrum. For positron decay $\log(\tau f)$ is given. The complete decay spectrum

The Positron Spectrum of $Eu^{152,154}$ SOV/56-35-4-14/52

$Eu^{152} \rightarrow Sm^{152}$, Cd^{152} is shown by figure 7. The authors thank L.A.Sliv for valuable discussions. There are 7 figures, 1 table, and 16 references, 5 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences USSR)

SUBMITTED: May 26, 1958

Card 3/3

KAMINSKIY, D.L.; KAGANSKIY, M.G.

Sectoral double-focusing beta-spectrometer. Prib.i tekh.eksp. no.1:32-36 Ja-F '59. (MIRA 12:4)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Spectrometer)

21(8),24(7)

AUTHORS: Antonova, S. F., Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L.

SOV/56-37-3-13/62

TITLE: The Positron Spectrum of Eu^{152} and Eu^{152m}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 667-671 (USSR)

ABSTRACT: In connection with the well-known considerable variation of the shape of the nucleus in the case of a change of the neutron number in the nucleus from N = 88 to N = 90, an investigation of the radioactive Eu^{152} and its isomer Eu^{152m} in the decay of which $_{62}Sm^{152}_{90}$ and $_{64}Gd^{152}_{88}$ are formed, is of interest. The present paper deals with the experimental investigation of the positron spectrum of these isotopes. The experimental order is schematically represented by figure 1, and is discussed in the introduction. For the purpose of measuring the spectrum, a magnetic sector spectrometer with double focusing and low background was used. Results are shown by figure 3. The curve has two salient points, one at H_ρ = 1920 G.cm and one at 2460 G.cm, which are caused by the internal pair

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conversion of γ-quanta having the energies 1280 and 1409 kev. Also partial β^+-spectra are plotted (β^+-groups (713±3) kev and (470±10) kev); the intensities are $1.4 \cdot 10^{-4}$ and $5 \cdot 10^{-5}$ β^+ per decay. Figure 4 shows the decay scheme. The β^+-decay of Eu^{152} takes place to the first (2^+) and the second (4^+) excited states of Sm^{152}; the half life of β^+-radiation is given as amounting to about 10 a. The formation of Sm^{152} in the ground- and first excited state occurs in the positron decay of the Eu^{152m} isomer. The end point energies of the partial spectra are 890 and 770 kev (intensities: $6 \cdot 10^{-5}$ and $2 \cdot 10^{-5}$ per decay). The excitation energy of the Eu^{152} isomer determined from the difference between the end point energies is given as amounting to 55±6 kev. From the internal pair conversion spectra the conversion coefficients Γ and the multipolarities of a number of γ-transitions are determined. Figure 5 shows the dependence of the pair conversion coefficient on the energy and the

multipolarity of the transition. The value $\Gamma = (1.6 \pm 0.2) \cdot 10^{-4}$ corresponds to a E1-transition, the value $\Gamma = (0.8 \pm 0.2) \cdot 10^{-4}$ corresponds to a transition with 1280 kev (E1). Further details are discussed. Figure 6 shows the positron spectrum of Eu^{152m}, which has a half-life of only 9.2 h. The value $\Gamma = (0.6 \pm 0.3) \cdot 10^{-4}$ corresponds to a E2-transition (1386 kev). In a table the results obtained by the authors are compared with those obtained by Alburger et al. (Ref 3). Agreement is good. The authors finally thank Professor L.A. Sliv for his interest. There are 7 figures, 1 table, and 8 references, 4 of which are Soviet.

SUBMITTED: April 18, 1959

ANTONOVA, S.F.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Positron decay of Ir^{192}. Zhur.eksp.i teor.fiz. 38 no.2:379-383 F '60. (MIRA 14:5)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Positrons) (Iridium--Decay)

ANTONOVA, S.F.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Investigating the gamma spectrum of Ce^{140}. Zhur.eksp.i teor.fiz. 38 no.3:765-767 Mr '60. (MIRA 13:7)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Gamma rays) (Cerium--Isotopes)

S/056/60/039/004/012/048
B004/B070

24.6720

AUTHORS: Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L., Koksharova, S. F.

TITLE: The Problem of the Formation of Monoenergetic Positrons in the Decay of Eu^{152} /9

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 970-972

TEXT: According to the calculations of Professor L. A. Sliv (Ref. 1), an electron - positron pair may be formed when an excited nucleus in whose electron shell an electron is missing makes a transition from a level with $E > 2\ mc^2$ to the normal state. The electron occupies the vacancy in the shell, only the positron is emitted. All positrons produced in this process must have the same energy $E_m = E_\gamma - 2mc^2 + E_{sh}$ (1) (E_γ = transition energy, E_{sh} = binding energy of the electron in the shell). The probability of the formation of monoenergetic positrons is

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The Problem of the Formation of Monoenergetic Positrons in the Decay of Eu^{152}

expressed by $w_m = w_D w_i \Gamma_\gamma / \Gamma_k$ (2) (w_D = probability of the formation of a pair with monoenergetic positron, w_i = probability of the formation of an unoccupied level in the electron shell of the excited atom, Γ_k = width of the atomic level, Γ_γ = width of the excited nuclear level). The lifetime of nuclei in an excited state with $E > 2mc^2$ may be calculated from (2). The authors attempted to establish the appearance of monoenergetic positrons in the decay of Eu^{152}. Fig. 1 shows the decay scheme $Eu^{152} \longrightarrow Sm^{152}$. The transition energy leading to the excitation of 1531-kev level of Sm^{152} is nearly 330 kev. Therefore, the authors looked for those monoenergetic positrons which are emitted on the capture of the electron of the pair in the K-shell and whose energy must be 434 kev according to equation (1). The radioactive source was europium oxide in the natural isotropic proportion and irradiated by thermal neutrons. Fig. 2 shows the positron spectrum of $Eu^{152,154}$ decay; Fig. 3 shows the spectral region in which the line of monoenergetic positrons must lie. No well defined effect could be established. However, an estimate of the upper limit of the intensity may be made from the experimental data.

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84394

The Problem of the Formation of Monoenergetic Positrons in the Decay of Eu^{152}

S/056/60/039/004/012/048
B004/B070

A comparison of the intensity I_p of the inner conversion positrons with the intensity I_m of the monoenergetic positrons gives the value $I_p/I_m = 3000$ (3). From the known inner conversion coefficient, $w_m \leqslant 1.3 \cdot 10^{-8}$ was obtained for the monoenergetic positrons. Thence, $\Gamma_\gamma \leqslant 0.1$ ev and the lifetime $T_\gamma \geqslant 10^{-14}$ sec were calculated after equation (2). There are 3 figures and 4 references: 2 Soviet, 1 US, and 1 Swedish.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

SUBMITTED: May 21, 1960

Card 3/3

0,24,

S/048/61/025/001/011/031
B029/B060

24.6510

AUTHORS: Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L., and Koksharova, S. F.

TITLE: Internal conversion with pair production in the Ta^{182} decay

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 1, 1961, 61-67

TEXT: A study has been made of transitions with an energy of over $2mc^2$ using data of internal conversion with pair formation. As may be seen from Fig. 1, transitions with such energies take place through the energy gap. Transitions between the rotational bands with $K = 2^-$ and $K = 0^+$ are of particular interest (see Fig. 1). Experimental data do not contradict an emission of the type E3, E1 + M2 (predominantly E1), and even mixture E1 + M2 + E3 is admissible. The multipolarity was determined by the method devised by S. F. Antonova et al. (Ref. 8). In some cases, also mixed transitions can be analyzed by this method. In FB and HB transitions emissions of the E1, M2, and E3 are possible, in agreement

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with the selection rules for spin and parity. In this case, the composition of radiation cannot be determined unequivocally from the intensity values of gamma transitions or from the conversion line data. The composition of radiation can be, however, determined from the data of internal conversion with pair formation. Three formulas are written down for this purpose. The authors determined the spectrum of the positrons of the pair conversion and the spectrum of the conversion electrons. The data of the relative intensity of gamma rays were taken from the paper by N. Voynova, B. S. Dzhelepov, N. N. Zhukovskiy (Ref. 9). The internal conversion with pair formation is very weak in the Ta^{182} decay. Fig. 2 illustrates the spectrum of the positrons. If E_+ denotes the energy corresponding to half the drop of the positron spectrum curves, $E_\gamma = E_+ + 2mc^2$. The energies of gamma transitions established in this manner are listed in a Table. The intensity of the positron spectra of individual gamma transitions must be known in order to be able to determine the multipolarity of transitions. In case of a low transition energy the distribution of the positrons is equally large for the transitions of the E1, E2, and M1 types. As an example, Fig. 2 shows the

partial spectra caused by transitions with 1122, 1188, 1222, and 1231-kev energies. Fig. 3 shows the spectra of conversion electrons of Ta^{182}. The relative intensities of the K conversion lines and the corresponding partial spectra of positrons are listed in a Table. The lines of conversion electrons K1256 and (M+N)1189 are not separated. The multipolarities found for the transitions are as follows: 1122 kev: the value of $(\Gamma/a_k)_{exp}$ corresponds to a radiation of the E2 type. The M1 admixture must be small. The 1188-kev transition is a mixed one. An E1 radiation must take part in the FB transition. 75% E1 + (25±8)% M2 is found. The 1222-kev transition has, according to data available in the literature, an E2 multipolarity. Furthermore: 1231 kev - E2 with slight M1 admixture, 1256 kev - probably E1. 1275 kev: according to experimental data available, 80% E1 + 20% M2 fits best. The multipolarity of the 1290-kev transition can be of the M2, E3, or of an even higher type. The probability of E1 transitions from the F level is considerably smaller than the probability of the single-proton transition according to Weisskopf. The portion of E3 radiation in the FB transition amounts to no

Internal conversion with pair production ...

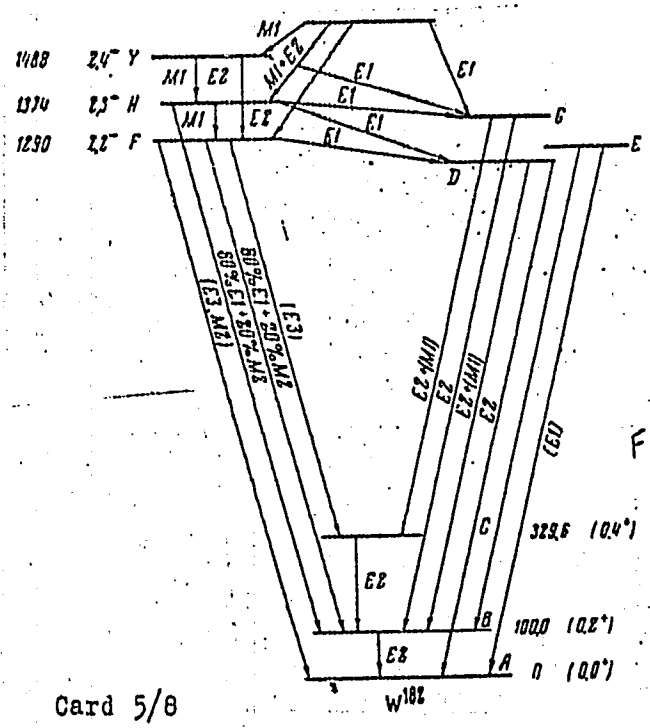
more than 20%. Therefore, the probability of the E3 transition cannot be more than four times as high as the probability of the single-particle transition. L. A. Sliv and I. M. Band are mentioned. The article under consideration is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy, which took place in Moscow from January 19 to 27, 1960. There are 3 figures, 1 table, and 14 references: 7 Soviet-bloc.

ASSOCIATION: Fizikd-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology, Academy of Sciences USSR)

Legend to the Table: Transition multipolarities in W^{182}. 1) transition energy, kev; 2) results yielded by the work under consideration; 3) data by Backstrom, Ref. 12; 4) intensity of the K line; 5) intensity of the positron spectrum; 6) calculated; 7) experimental; 8) type of emission.

89245

S/048/61/025/001/011/031
B029/B060



1554 (4,4°)
1331,7 (8,3°)
1256
1222 (12,2°)

Internal conversion with pair production ...

FIG. 1

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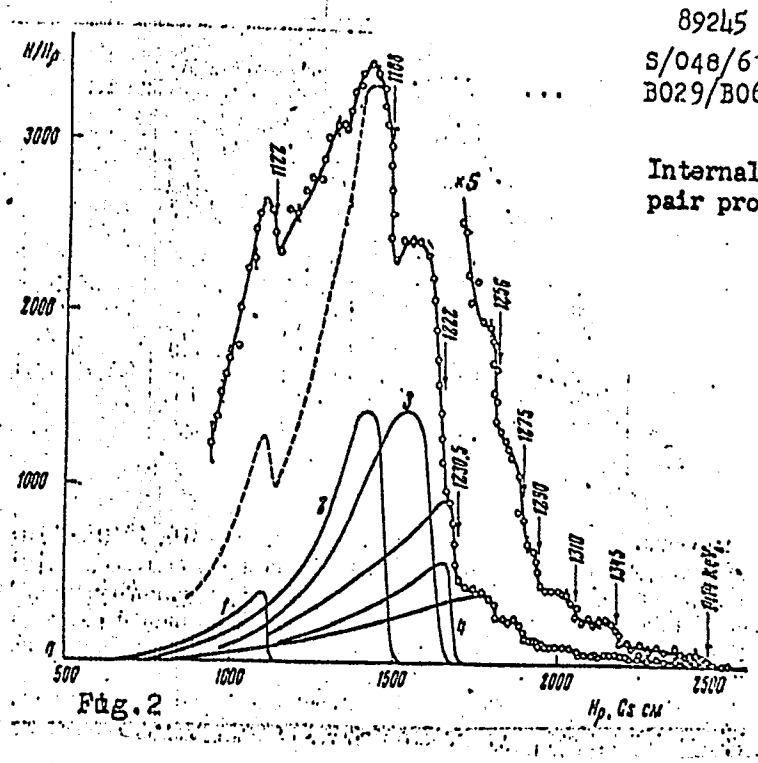
B029/B060

Internal conversion with pair production ...



Card 6/8 Fig. 2

Определение мультипольности переходов в W^{183}.

Энергия переходов, keV		Интенсивность K-линий S_K	Интенсивность спектров позитронов S^+	$(\Gamma/\alpha_K)\cdot 10^8$				Тип излучения
Наши данные	Бонстром [12]			расчет			эксперимент	
				E	E2	M1		
1122	1121,6	140	16	2,90	0,38	0,11	0,32	E2
1188	1189,4	86	75	11,4	1,60	0,45	2,50	75%E1+25%M2
1222	1220	100	100	21,0	2,80	0,82	2,80	E2
1231	1231	35	36	23,0	3,10	0,94	2,90	E2
1256	1254	2,5	14	32,0	4,25	1,40	16,0	[E1]
1275	1273	3,3	13	41,0	6,2	2,15	11,0	80%E1+20%M2
1290	1289	20,0	5,5	49,5	7,9	2,40	1,0	M2
1310	—	—	4,0					?
1340	—	—	3,6					?
1410	—	—	2,3					?

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VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Magnetic spectrometer for investigating faint positron spectra.
Prib.i tekh.eksp. 6 no.5:42-44 S-O '61. (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Spectrometer)

S/048/62/026/008/015/028
B104/B102

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., and Kaminskiy, D. L.

TITLE: Ag^{110*} positron spectrum

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1042 - 1045

TEXT: The positron spectrum was studied using a double-focusing β-spectrometer which gave a resolving power of 1.8% at a solid angle of 1.2% of 4π. The Ag^{110*} source was supplied by thermal-neutron irradiation from metallic silver of natural isotopic composition. Sources of 0.6 - and ~6 mg/cm^2 thicknesses were used. The spectrum mainly consists of positrons produced in internal conversions giving γ-quantum pairs with energies of 1380, 1480, 1500, and 1560 kev. In the hard part of the spectrum, it was possible to separate out positrons derived from transitions at 1780 and 1930 kev. Transitions with energies of 1650 and 1880 kev are supposed. The multiplicities of the most important transitions were determined from the ratio of the pair conversion coefficient to the electron conversion coefficient

Card 1/2

Ag^{110*} positron spectrum

(Table 2). It is proved that the 1597-kev transition detected by the authors occurs to the ground state. There are 2 figures and 2 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Table 2.

E_γ, keV	$\Gamma_n \times 10^6$						
	E1		E2		E3	M1	M2
	Z = 0	Z = 84	Z = 0	Z = 84	Z = 0		
1380	1,05	0,94	0,52	0,84	0,19	0,24	0,07
1480	2,64	1,46	0,82	0,60	0,27	0,42	0,10
1500	2,80	1,66	0,90	0,68	—	0,48	—
1560	3,2	1,92	1,12	0,80	0,42	0,60	0,22
1780	4,80	3,40	2,00	1,52	0,82	1,08	0,60
1930	5,88	4,46	2,72	2,00	1,20	1,56	0,80

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S/056/63/044/001/006/067
B108/B180

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L., Nikitin, M. K.

TITLE: Positron decay of Re^{182}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 35 - 40

TEXT: Two rhenium isomers with the half lives of 13 and 64 hr were obtained in the reaction $Ta^{181}(\alpha,3n)Re^{182}$ after chemical processing (purification) of the reaction product. These two isomers show positron emission during their $Re^{182} \rightarrow W^{182}$ decay, with intensities of $\sim 3\cdot10^{-3}$ and $5\cdot10^{-6}$ positrons per decay event, for the short and long-lived isomer, respectively. Analysis of the β-spectrum of the short-lived isomer by means of a Fermi graph showed two branches of β^+-decay with threshold energies of 550 ± 20 kev and 1740 ± 20 kev and the relative intensities of $0.6\cdot10^{-3}$ and $1.8\cdot10^{-3}$ positrons per decay event. The total energy of the $Re^{182} \rightarrow W^{182}$ transition is 2860 ± 20 kev. The positrons are due mainly to internal

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S/048/63/027/002/015/023
B104/B180

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., and Kaminskiy, D. L.

TITLE: Internal conversion with pair production in the Br^{82} decay

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 2, 1963, 258 - 259

TEXT: The positron spectrum produced by internal conversion with pair production in the decay of Br^{82} was measured with a spectrometer having an aperture ratio of 1.2% of 4π and a resolution of 1.2%. The Br^{82} source was obtained by irradiating $MgBr_2$ powder with thermal neutrons, after which a thin layer (5μ) was deposited on an Al foil. Results are given in Figs. 1 and 2 and in the Table. In the small energy range the two components (Fig. 1) differ considerably from experimental data. This is due to the relative thick source (2-3 mg/cm^2). There are 2 figures and 1 table.

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S/048/63/027/002/015/023
B104/B180

Internal conversion with...

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Fig. 1. Positron spectrum of Br^{82}.
Legend: (a) Component corresponding to the 1478 kev transition; (b) Component corresponding to the 1313 kev transition; (c) Sum of the two components.

Fig. 2. Br^{82} conversion lines.

Fig. 1

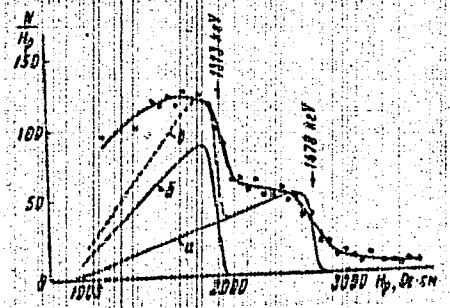
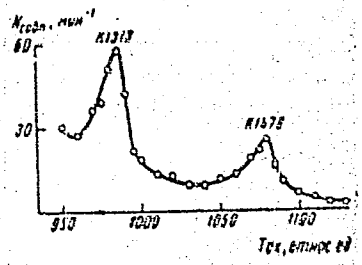


Fig. 2



Card 2/3

S/048/63/027/002/015/023
B104/B180

Internal conversion with...

Table. Comparison of the experimental and calculated values of Γ/α_K.

Legend: (1) Intensities; (2) $(\Gamma/\alpha_K)_{calc}$; (3) $(\Gamma/\alpha_K)_{exp}$; (4) Multipole order.

Table

E_γ keV	(1) Интенсивность, 10⁻⁴ от числа распад.	(2) $\left(\frac{\Gamma}{\alpha_K}\right)_{расч}$ M1	E2	M1	(3) $\left(\frac{\Gamma}{\alpha_K}\right)_{эксп}$	(4) Мультипольность
1313	0,770	0,78	0,13	0,08	0,11	E2, M1
1478	0,635	1,08	0,42	0,28	0,27	E2, M1

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BADALOV, N.B.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Internal conversion with pair formation in As^{76}. Izv.AN SSSR. Ser.fiz. 27 no.2:260-262 F '63. (MIRA 16:2)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Internal conversion (Nuclear physics))
(Arsenic isotopes--Decay)

KAMINSKIY, D.L.; NOVIK, K.M.; ALEKSEYEV, N.I.; VARSHALOVICH, L.S.

Hyperfine splitting of the ground state of Tu^{169}. Opt. i spektr. 15 no.4:441-445 O '63. (MIRA 16:11)

ACCESSION NR: AP4040309 S/0057/64/034/006/1050/1056

AUTHOR: Kaganskiy, M.G.; Kaminskiy, D.L.; Klyucharev, A.N.

TITLE: Coherent oscillations in a high voltage Penning discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1050-1056

TOPIC TAGS: plasma, discharge oscillations, plasma oscillations, argon plasma, Penning discharge, external magnetic field

ABSTRACT: Large amplitude coherent oscillations of frequency from 1 to 100 kilocycles/sec were observed in a high voltage Penning discharge in argon in a longitudinal magnetic field, The discharge took place between cold cathodes separated by 5 cm and a cylindrical anode of diameter 0.6, 1 or 2 cm. The pressure was varied from 0.0005 to 0.004 mm Hg, the anode potential from 1 to 5 kV, and the magnetic field from 0 to 3500 Oe. The ions passing through a small opening in one cathode were analyzed electrostatically. Nearly sinusoidal coherent oscillations were observed in both the cathode current and the anode potential, but only under such conditions that the discharge current increased with increasing anode potential. Grounding the anode through a 150 microfarad capacitor did not influence the cathode current os-

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cillations. The amplitude increased very rapidly with increasing current in a certain threshold region and reached values exceeding the average current. The frequency of the oscillations was approximately proportional to the anode potential and inversely proportional to the magnetic field strength, and was nearly independent of the discharge current over the range from 10 to 200 mA. The frequency decreased with increasing anode diameter, but the oscillations obtained with the 2 cm diameter anode were not coherent. When the magnetic field strength was reduced to about 1800 Oe the second harmonic was excited, and at certain anode potentials the fundamental frequency disappeared, leaving only the second harmonic. Modulation of the anode potential at frequencies above that of the oscillations had no effect. When the anode potential was modulated at lower frequencies, the modulation frequency appeared in the cathode current oscillogram along with the oscillations. The modulation frequency appeared particularly clearly at half the oscillating frequency and at a discrete series of lower frequencies. It is not disclosed whether these lower frequencies were the lower sub-harmonics. The oscillations of the potential of the two halves of a longitudinally split anode were in phase with each other; therefore, the oscillations are not associated with a rotation of the plasma in crossed fields. Discharges in hydrogen were also observed, but the oscillations were not coherent and were different in some other respects from those found in argon. Oscillations ob-

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served by other authors in Penning discharges are mentioned, and it is shown that these differ in nature from those discussed above. A partly successful attempt is made to interpret the results in terms of the convective instability in a longitudinal electric field discussed by B.B.Kadomtsev (Nucl.Fus.1,286,1961), but a number of features remain unexplained and it is concluded that further investigation is required. Orig.art.has: 4 formulas and 5 figures.

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ACCESSION NR: AP4042943 S/0057/64/034/008/1521/1525

AUTHOR: Alekseyev, N.I.; Kaminskiy, D.L.

TITLE: Ionization of several rare earth elements on tungsten, rhenium and iridium surfaces

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.8, 1964, 1521-1525

TOPIC TAGS: surface ionization, rare earth element, tungsten, rhenium, iridium

ABSTRACT: The surface ionization coefficients of all the rare earths except Ce and Pr were measured on 0.1 mm diameter W and 0.2 mm diameter Re and Ir wires, and some of the results are tabulated. The wire was located on the axis of a liquid nitrogen cooled copper cylinder which served as collector and contained a 2 x 3 mm^2 window to admit the molecular beam. A 75 V accelerating potential was maintained on a grid between the wire and the collector. The temperatures of the ionizing surfaces were measured with an optical pyrometer; they ranged from 1500 to 2550°K. The materials were vaporized in a thin-walled electrically heated tantalum tube with a 1 mm diameter opening for escape of the molecules. The total quantity of material vaporized

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in a run was determined by weighing, and this was compared with the total charge collected. The fraction of the molecules incident on the wire was determined both by calculation with control measurements of the film deposited under identical geometric conditions on a plane surface at the location of the wire, and by calibration measurements of the known large ionization coefficients of K and Cs on W. The work functions of the metal wires were measured, and the ionization potentials of some of the rare earths were measured by the method of N.I.Ionov and M.A.Mittsev (ZhETF, 38,1350,1960; 40,741,1961). The measured surface ionization coefficients were in satisfactory agreement with the values calculated by the Saha-Langmuir equation when the ionization potentials obtained in the present investigation were employed. Not all of these, however, are in agreement with the values obtained from spectroscopic data. The surface ionization coefficients on Ir were much greater than those on W. Ir is regarded as the most suitable of the three metals for the detection of Sm, Eu, Tm and Yb beams, but its melting point is too low to permit it to be used advantageously for the other rare earths. Re and W are both suitable for detecting all the rare earths. The ionization coefficients were somewhat greater on Re than on W. "The authors are grateful to N.I.Ionov and M.A.Mittsev for advice regarding the measurement of the ionization potentials by the surface ionization

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system that is basically achromatic. Admittedly, solution of the pertinent equations in the double six-pole magnet case is difficult in the general case, but solutions can be arrived at in particular cases. There is then described the Zeeman splitting of the ground state of the hydrogen atom, and it is noted that if a hydrogen atom beam is sent through a system of [illegible] magnets there will pass through the first magnet only the atoms [illegible] magnet the upper state splits into [illegible] as a diverging lens with an equally great [illegible]

ZAYKOV, M.A., kand.tekhn.nauk, dotsent; TSELUIKOV, V.S., inzh.; KAMINSKIY, D.M., kand.tekhn.nauk, dotsent; PERETYAT'KO, V.N., inzh.; KAPTANOV, M.P., inzh.; PERMYAKOV, V.M., inzh.; PROKOP'YEV, A.V., inzh.

Investigating and improving cogging conditions of sheet rolling mills. Izv. vys. ucheb. zav.; chern.met. no.5:131-144 My '58. (MIRA 11:7)

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(Rolling mills)

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Pressure of the metal on rolls in rolling carbon and alloyed steels on a three-high billet mill. Izv. vys. ucheb. zav.; chern. met. 4 no.8:78-83 '61. (MIRA 14:9)

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