

PELESKA, B.; JELINEK, M.

The PREMA transistorized battery cardioatimulator. Cesk. fysiол.
13 no.2:178-180 Ja'64

1. Ustav klinicke a experimentalni chirurgie, Praha; Vyzkumny
ustav zdravotnicke techniky, Brno.

*

PELEVIN, V.I.

Aleksandr Petrovich Protopopov, 1880-1959. Vop.geog. no.51:192-193
'61. (MIRA 14:6)
(Protopopov, Aleksandr Petrovich, 1880-1959)

GROSHEV, L.V.; DEMIDOV, A.M.; LUTSENKO, V.N.; PELEKHOV, V.I.

[Atlas of gamma spectra of radiative capture of thermal neutrons]
Atlas spektrov γ -buchi radiatsionnogo zakhvata teplovykh
neutronov. Izd-vo Glavnogo upravleniia po ispol'zovaniiu atomnoi
energii, 1958. 198 p. (MIRA 13:3)
(Gamma rays--Spectra) (Neutrons--Capture)

PELEKHOV, V. I., LUISSENKO, V. I., DEZHDOV, A. M., and L. V. GROCHEV, AS USSR

"Spectra of Gamma Rays from Radiative Capture of Thermal Neutrons from Even-Even Radioactive Nuclei with Rotational Levels," a paper presented at the International Conference on the Neutron Interactions with the Nucleus, New York City, 9-13 Sep 57

Abstract Available in C-3,800,344

PELEKHOV, V. I.

GROSHEV, L.V.; DEMIDOV, A.M.; LUTSENKO, V.N.; PELEKHOV, V.I.

Investigation of γ -rays emitted by the nuclei of vanadium,
manganese, cobalt and aluminum on capturing thermal neutrons.
Atom. energ. 3 no.9:187-203 S '57. (MLRA 10:9)
(Gamma rays) (Neutrons--Capture)

PELEKHOV, V.I.

82026
S/056/60/038/02/38/061
B006/B014

24.6510
24.6520

AUTHORS: Groshev, L. V., Demidov, A. M., Pelekhov, V. I.

TITLE: Spectra of Gamma Rays¹⁹ Occurring in the Capture of Thermal Neutrons by Heavy Nuclei. I.

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 2, pp. 588 - 597

TEXT: In recent years the authors have measured the gamma spectra found in radiative capture of thermal neutrons of numerous elements. The data obtained are published in a map issued in 1958 and in a series of articles (Ref. 2). In the article under review, the authors describe some rules governing the gamma spectra of heavy elements ($A = 100-200$) which are not too close to the magic nuclei. This is illustrated by numerous experimental diagrams. The spectra of these elements were taken by means of a magnetic Compton spectrometer (resolution of 2%) which made it possible to take almost the whole γ -ray spectrum of the $(n\gamma)$ reaction within the range 0.3 - 12 Mev under the same conditions. The ordinate of the diagrams on the basis

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Spectra of Gamma Rays Occurring in the Capture
of Thermal Neutrons by Heavy Nuclei. I.

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of which several peculiarities are studied within the range of low energies, is the quantity $\nu(E)$ - the number of photons per neutron capture event and per uniform energy range E (γ -quantum energy in Mev) instead of $\nu(E)H_0$, as in the preceding papers. The absolute values of $\nu(E)$ were obtained by normalization with respect to the neutron binding energy. The following odd-odd nuclei were studied: Rh¹⁰⁴, Ag^{108,110}, In¹¹⁶, Sb^{122,124}, La¹⁴⁰, Eu¹⁵², Ho¹⁶⁶, Tu¹⁷⁰, Ta¹⁸², Re^{186,188}, Ir^{192,194}, and Au¹⁹⁸ (Figs. 1 and 2), and the following even-even nuclei: Mo⁹⁶, Cd¹¹⁴, Sn^{116,118,120}, Nd¹⁴⁴, Sm¹⁵⁰, Gd^{156,158}, Er¹⁶⁸, Hf¹⁷⁸, Pt¹⁹⁶, and Hg²⁰⁰. The spectra under consideration covered the range 1 - 6 (or 7) Mev. A table lists the neutron binding energies B_n in nuclei with $A \sim 110$ (mean value of 6.7 Mev) and in nuclei with $A \sim 175$ (mean value of 6.2 Mev). Next, experimental and theoretical spectra are compared with one another. For their calculations the authors assumed a neutron binding energy of 6.4 Mev in odd-odd nuclei and of 7.6 Mev in even-even nuclei. The calculations were made

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ACCESSION NR: AP4042958

S/0048/64/028/007/1118/1123

AUTHOR: Groshev, L.V.; Demidov, A.M.; Kotel'nikov, G.A.; Lutsenko, V.N.; Pelekhov, V.I.

TITLE: The levels of rhodium 104 excited in thermal neutron capture Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-21 Feb 1964

SOURCE: AN SSSR. Izv.Seriya fizicheskaya, v.28, no.7, 1964, 1118-1123

TOPIC TAGS: neutron capture, gamma ray spectrum, decay scheme, electron spectrum, rhodium

ABSTRACT: The γ -ray spectrum of Rh^{104} excited by thermal neutron capture in Rh^{103} was recorded with a magnetic Compton spectrometer with a resolution of 0.3%. The spectrometer and the experimental technique are described elsewhere (L.V.Groshev, A.M.Demidov, V.N.Lutsenko and A.F.Malov, Izv.AN SSSR, Ser.fiz.24,791,1960). Fifty-one lines were observed with energies from 4.885 to 6.998 MeV and intensities from 9×10^{-5} to 2.3×10^{-2} photons per capture. The internal conversion spectrum of Rh^{104} was observed with a magnetic spectrometer having a resolution of 0.6%. Again the instrument and experimental techniques are described elsewhere (V.I.Pelekhov and

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ACCESSION NR: AP4042958

A.F.Malov, *Izv.AN SSSR, Ser.fiz.25,1069,1961*). The β -spectrum was examined from 60 to 2500 keV, but the large continuous background prevented lines from being observed at energies greater than 200 keV. Below this energy ten internal conversion lines were distinguished. The most intense line (74 keV) was assumed to be the K conversion line of the M1 transition from the 97 keV isomeric state (R.C.Greenwood, *Phys. Rev.129,345,1963*) and to have the theoretical value of the internal conversion coefficient. From this assumption, and from the relative intensities of the γ -rays obtained by private communication from O.Schult, the internal conversion coefficients of six other lines were calculated and their multipole order determined. Five lines were found to be due to E1 transitions and one to an M1. One of these assignments is in conflict with a previous assignment by A.S.Melioranskiy, L.F.Kalinkin and I.V.Estulin (*Vozbuzhdenny*ye sostoyaniya Rh¹⁰⁴. Izd.Mosk.gos.un-ta 1963*). If one assumes that the most energetic of the observed neutron capture γ -rays is due to direct transition to the ground state, one finds that the calculated neutron binding energy is in good agreement with the value obtained from the (d,p) reaction, and that of the 30 levels that lie within the region that has been explored by means of the (d,p) reaction, all but 5 coincide with previously known states. A striking feature of the γ -ray spectrum is that the high-energy lines resulting from transitions to levels lying below 0.8 MeV are generally considerably lower energy than the

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ACCESSION NR: AP4042958

less energetic lines. This can be explained by a hypothesis of N.Starfelt (Preprint, 1963) involving the M1 giant resonance. The present authors offer an alternative explanation based on the assumption that the neutron is captured in an s state. E1 transitions to the low-lying levels would then be multiparticle transitions, and thus weak, and M1 transitions would be forbidden by the orbital angular momentum selection rule for the neutron. A decision between the two explanations might be reached by determining the character of the transitions concerned, for these should be M1 transitions in the one case and E1 transitions in the other. Orig.art.has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 008

OTHER: 010

3/3

ACCESSION NR: AP4042971

S/0048/64/028/007/1244/1254

AUTHOR: Groshev, L.V.; Demidov, A.M.; Ivanov, V.A.; Lutsenko, V.N.; Pelekhov, V.I.

TITLE: Gamma-rays and internal conversion electrons from neutron capture of hafnium 177 / Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-21 Feb 1964

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.7, 1964, 1244-1254

TOPIC TAGS: neutron capture, gamma-ray spectrum, electron spectrum, hafnium

ABSTRACT: The γ -ray spectrum excited by thermal neutron capture by natural hafnium was recorded with a magnetic Compton spectrometer with a resolution of 0.3% above 2 MeV and 0.6% at 1 MeV (see L.V.Groshev, A.M.Demidov, V.N.Lutsenko and A.F.Malov, Izv.AN SSSR, Ser.fiz.24,791,1960). The internal conversion spectrum of Hf178 was observed for a target containing 89% Hf177. The magnetic spectrometer employed had a resolution of 0.6% and is described elsewhere (V.I.Pelekhov and A.F.Malov, Izv.AN SSSR, Ser.fiz.25,1089,1961). A level scheme for Hf178 is presented. Sixty-seven γ -ray lines were observed with energies from 1.066 to 7.826 MeV and intensities from 1.8×10^{-4} to 6.4×10^{-2} photons per capture. The assignment of these

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ACCESSION NR: AP4042971

γ -rays to the various hafnium isotopes is discussed at length. Of the 18 lines recorded with energies less than 1.5 MeV, all but 3 were observed with enriched material by R.K. Smither (Phys. Rev. 129, 1691, 1963) and are ascribed to Hf^{178} . The relative intensities of these lines were largely in agreement with those found by Smither; there were discrepancies, however, and in these cases the authors prefer their own data because of the higher resolution of their spectrometer. It is concluded after an involved discussion that of the remaining lines, those with energies greater than 6.1 MeV can be safely attributed to Hf^{178} and those with lower energies cannot. Forty-two internal conversion lines were observed with energies from 82 to 1587 keV. Internal conversion coefficients were calculated for 23 of these lines, but multipolarities were assigned only to the 9 least energetic because of the absence of any suitable standard lines of high energy. The 260 keV K conversion line of the 325 keV γ -transition was assumed to be due to an E2 transition for calculating the internal conversion coefficients, and Smither's γ -ray intensities were employed. The level scheme given for Hf^{178} comprises, in addition to the 7.619 MeV 3^- , 4^- levels into which the neutron is captured, 15 states with excitations not greater than 1.513 MeV. The scheme is in general similar to that given by Smither (loc. cit.), but there are differences that are discussed in detail. Some spin and parity assignments are in doubt, and more experimental work is de-

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ACCESSION NR: AP4042971

irable. Orig.art.has: 3 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF NOV: 004

OTHER: 006

3/3

GROSHEV, L.V.; DEMIDOV, A.M.; PELEKHOV, V.I.

Spectra of gamma rays produced in the capture of thermal neutrons
by heavy nuclei. Part 1. Zhur. eksp. i teor. fiz. 38 no. 2: 588-597
F '60. (MIRA 14:5)

(Gamma rays) (Neutrons--Capture)

S/048/62/026/012/005/016
B117/B186

AUTHORS: Ivanov, V. A., and Pelekhov, V. I.

TITLE: Spectra of internal conversion electrons emitted on capture of thermal neutrons by Er^{167} and Er^{166}

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 12, 1962, 1480 - 1485

TEXT: To study the levels in Er^{168} , the radiative transitions in the reaction $\text{Er}^{167}(\text{n}\gamma)\text{Er}^{168}$ were investigated. The measurements were made using a magnetic β -spectrometer with an intermediate focus; the resolution of the instrument was $\sim 1.3\%$ in the 20 - 300 keV energy range, and 0.6% in the range up to 2 MeV. The target material was either enriched Er_2O_3 or a natural erbium isotope mixture on an aluminum foil. Working from the known levels of the Er^{168} nucleus excited in the decay $\text{Tm}^{168} \xrightarrow{e^- \text{ capture}} \text{Er}^{168}$, a γ -transition scheme was constructed (Fig. 2). It can be seen from this scheme that in all probability the same levels are excited in the reaction

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$Er^{167}(n\gamma)Er^{168}$ as in the decay mentioned above. A group of intense lines in the Er^{168} spectrum was detected in the range of electron energies ~ 750 keV, which indicates that the Er^{168} levels near 1 MeV are heavily occupied. In the $(n\gamma)$ reaction, such occupation was only observed in the case of heavy even-even nuclei (L. V. Groshév, A. M. Demidov, V. N. Lutsenko, V. I. Pelekhov, *Atomnaya energiya*, 4, 5 (1958)). The most intense lines in the Er^{167} spectrum were the K, L and M-conversion lines of the transition of energy 208 ± 2 keV. The total intensity of this transition was calculated by comparing the conversion line L208 to L185 from the Er^{168} spectrum to be 40% per capture. So high an intensity makes it seem probable that excitation of an isomeric state in the $(n\gamma)$ reaction is in fact as large as expected. It was established that $1/6$ of the intensity of the conversion lines studied is due to resonance neutrons. The relative contribution of resonance neutrons to resonance absorption is about equal in Er^{167} and Er^{166} . It can therefore be assumed that the resonance conditioning neutron absorption lies within the same energy range for Er^{166} as for Er^{167} . This

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Spectra of internal...

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paper was presented at the 12th Annual Conference on Nuclear Spectroscopy held in Leningrad from January 26th to February 2nd, 1962. There are 3 figures and 2 tables.

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40867

S/O48/62/026/000/001/011
B125/B186

212500
AUTHORS:

Groshev, L. V., Demidov, A. M., Ivanov, V. A., Lutsenko, V. N.,
and Pelekhov, V. I.

TITLE:

Spectra of γ -rays and internal conversion electrons arising
in the $(n\gamma)$ -reaction on gadolinium isotopes

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 9, 1962, 1119-1133

TEXT: The spectra of the γ -rays that arise when thermal neutrons are
captured by Gd^{155} (capture cross section 61000 ± 5000 barn) and Gd^{157}
(capture cross section 240000 ± 12000 barn) were taken in the energy
range 0.4 to 9 Mev. The inner conversion electron spectra were taken at
electron energies of 20 kev to 3. Mev by magnetic spectrometers. The
 Gd_2O_3 specimens were enriched in Gd^{155} and Gd^{157} . The γ spectra
measurements and the apparatus have been described by Groshev L. V. et al.
(Izv. AN SSSR, Ser. fiz., 791 (1960)). The internal conversion
electron spectra were determined using the same enriched gadolinium
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X

Spectra of γ rays and internal ...

S/048/62/026/009/001/011
B125/B186

isotopes as in the measurements of γ -radiation spectra. The internal conversion electron lines were separated from these spectra. Their intensity, the K-shell conversion coefficient α_K , the ratio α_K/α_L and the type of the transition are given. In measuring most of the levels of the Gd^{156} γ -transition scheme it has been assumed that the γ -lines with $E > (B_n - 3)$ Mev correspond to an initial state. This initial state arises when the neutron is captured onto lower levels of the nucleus. The levels within the energy gap of 2.1 Mev (for Gd^{156}) and 1.7 Mev (for Gd^{158}) are described separately. Most of the levels above 1621 keV were determined from the transitions out of the initial state. The Gd^{158} γ -transition scheme was established on the same basic considerations as the Gd^{156} γ -transition scheme. The levels with 1188, 1268, 1405, 1521, 1373, 1454 keV are described separately. The lines contained in the spectra of internal conversion electrons with 496, 669, 687, 700 and 707 keV for Gd^{156} and with 438, 457, 702 and 746 keV

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X

BROSHEV, L. V.; DEMIDOV, A. M.; IVANOV, V. A.; LUTSENKO, V. N.; PELEKHOV, V. I.

"Gamma Rays and Electrons of Internal Conversion from the Reaction Hf^{177}
(n, γ) Hf^{178} ."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

IAE (Inst Atomic Energy)

GROSHEV, L. V.; DEMIDOV, A. I.; KOTEL'NIKOV, G. A.; LUTSENKO, V. N.; PLEKHOV, V. I. 4

"Levels of the Nucleus Rh^{104} Excited by the Capture of Thermal Neutrons."

reports submitted for All-Union Ccnf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

IAE(Inst Atomic Energy, AS USSR)

GROSHEV, L.V.; DEMIDOV, A.M.; IVANOV, V.A.; LUTSENKO, V.N.; PELEKHOV, V.I.

Spectra of gamma rays and internal conversion electrons emitted
in the capture of thermal neutrons by mercury nuclei. Izv.
AN SSSR. Ser. fiz. 27 no.11:1377-1391 N '63. (MIRA 16:11)

1. Institut atomnoy energii im. I.V. Kurchatova.

GROSHEV, L.V.; DEMIDOV, A.M.; PELEKHOV, V.I.

[Spectra of gamma rays accompanying the capture of thermal neutrons by Mo, Nd, Ho, Tu, and La nuclei]
Spektry γ -лучей, сопровождающих захват тепловых нейтронов ядрами Mo, Nd, Ho, Tu, и La. Москва, Глав. упр. по испол'зованию атомной энергии, 1960.
19 p. (MIRA 17:2)

PELEKHOV, V.I.; SHADIYEV, N.

Spectrum of internal conversion electrons accompanying the
capture of slow neutrons by Au^{197} nuclei. Izv. AN SSSR.
Ser.fiz. 30 no.1:156-161 Ja '66.

(MIRA 19:1)

27476
S/048/61/025/009/001/007
B104/B102

21-6000
AUTHORS:

Pelekhov, V. I., and Malov, A. F.

TITLE:

A magnetic spectrometer of internal conversion electrons emitted in (n, γ) reactions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 9, 1961, 1069 - 1083

TEXT: This paper was read at the 9th Annual Conference on Nuclear Spectroscopy. The authors describe an experimental installation at the reactor of IRT AS USSR. The installation, which is equipped with a special magnetic spectrometer, is used for analyzing internal conversion electrons emitted by nuclei during radiative capture of thermal neutrons. The installation is schematically represented in Fig. 1. Neutrons from the core of the reactor pass through a channel (diameter, 10 cm) and, after traveling ~ 4 m, incide on the Cd¹¹³ target of the spectrometer. The neutron beam is 3.3 cm large. In the spectrometer, the conversion electrons coming from the target are focused in opposite direction to the neutrons coming from the reactor. The spectrometer contains two magnets of equal

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A magnetic spectrometer of internal... 27476
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B104/B102

design (Fig. 2) with an axisymmetric field, by which the electrons are doubly focused. The mean radius of the electron trajectory is 30 cm. This principle of focusing was chosen to ensure a large angle of aperture for a sufficient resolution of the spectrometer. This is necessary because of the small neutron flux at the target of about 10^9 neutrons/cm²sec⁻¹. The magnetic field for the plane of symmetry $z = 0$ is given by

$$H_z(r,0) = H_0 \left(1 + \alpha \frac{r-r_0}{r_0} + \beta \left(\frac{r-r_0}{r_0} \right)^2 + \dots \right) \quad (1), \text{ where } \alpha = -1/2,$$

$\beta = 1/8$. $\gamma = 8/H_0$ is obtained for the momentum dispersion. Here, the distortions of the electron trajectories between the pole pieces and the electron scattering in the target, in the films and in the gas of the counter C_1 , and in the residual gas of the spectrometer chamber were neglected. Neglecting the collimating action of the slit U_1 , the following expression is found for the resolution of the spectrometer:

$$R_{1/2} = \frac{2Q}{16r_0} + \frac{|4\beta-3|}{96} \left(\frac{h}{r_0} \right)^2 + \frac{|1-8\beta|}{12} (\psi_r^0)^2 + \frac{|8\beta-3|}{12} (\psi_z^0)^2, \text{ where } Q \text{ is the}$$

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A magnetic spectrometer of internal ...

width of the slit u_2 ; r_0 is the mean radius of the electron trajectory; h is the height of the slit; ψ_r^0 is the tangent of the radial aperture angle of electron capture; ψ_z^0 is the tangent of the axial aperture angle of electron capture; and β is a field coefficient. The image of the target is thoroughly studied for slight fluctuations of H , and the relation $\Omega \approx S \alpha_1 \alpha_2 / 8\pi r_0^2$ is given for the mean relative solid angle. Here, $S/8\pi r_0^2$ is the relative solid angle for a point of the target; α_1 and α_2 are numerical coefficients. The design of the spectrometer is explained in detail with the aid of Fig. 5. The final part of the paper deals with the adjustment of the spectrometer. The authors thank L. V. Groshev and A. M. Demidov for assistance, D. V. Pavlov for participating in the design of the spectrometer, I. M. Kamyshev for the elaboration of details of the design and for drawings, A. S. Volkov for the construction of control apparatus, and F. V. Nemtsov for mounting the spectrometer. There are 9 figures and 26 references: 8 Soviet and 18 non-Soviet. The most important references to English-language publications read as follows: Daniel H., Rev. Sci. Card 3/7

A magnetic spectrometer of internal ...

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S/O48/61/025/009/001/007
B107/B102

Instr., 31, 249 (1960); Motz H. T., Phys. Rev., 104, 1353 (1956); De Vries et al., Nucl. Instr. and Meth., 8, 121 (1960); Graham R. L. et al., Nucl. Instr. and Meth., 2, 245 (1960).

Fig. 1: Schematic representation of the experimental arrangement. Legend: (1) Core; (2) graphite reflector; (3) target; (4) spectrometer; (5) trap; (A) reactor shield; (B) paraffin + B₄C.

Fig. 2: Schematic representation of the spectrometer. Legend: (A) Neutrons; (B) magnetic flux; (S) target; (ω_1) and (ω_2) spectrometer slits; (C_1) and (C_2) Geiger counters.

Fig. 5: Vertical section of the spectrometer through the symmetry axes of the magnetic fields. Legend: (1) Wall of the vacuum chamber; (2) rubber seal; (3) pole shoes; (4) excitation coil; (5) framework; (6) Pb lump.

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GROSHEV, L.V.; DEMIDOV, A.M.; LUTSENKO, V.N.; PELEKHOV, V.I.

Gamma-ray spectra of radioactive neutron capture by even-even
radio nuclides with rotational levels. Atom.energ. 4 no.1:5-21
Ja '58. (MIRA 11:4)
(Gamma rays--Spectra) (Neutrons--Capture)
(Rare earth metals)

89-9-1/32

AUTHOR: GROSHEV, L.V., DEMIDOV, A.M., LUTSENKO, V.N., PELEKHOV, V.I.
TITLE: Investigation of the γ -Rays Emitted by the Nuclei of V, Mn, Co, Al on the Occasion of the Capture of Thermal Neutrons. (Issledovaniye γ -luchey, ispuskayemykh yadrami V, Mn, Co, Al pri zakhvate teplovykh neytronov)
PERIODICAL: Atomnaya Energiya, 1957, Vol 3, Nr 9, pp 187 - 203 (U.S.S.R.)

ABSTRACT: The energies of the γ -quanta were measured by means of a scintillation spectrometer. The γ -energies can, for comparison with other nuclear reaction measurements, be arranged in level schemes. The following levels (in MeV) were found with individual nuclei:

$V^{51}(n,\gamma)V^{52}$	$Mn^{55}(n,\gamma)Mn^{56}$	$Co^{59}(n,\gamma)Co^{60}$	$Al^{27}(n,\gamma)Al^{28}$
29 γ -lines	41 γ -lines	40 γ -lines	25 γ -lines
Niveaus in V^{52}	Niveaus in Mn^{56}	Niveaus in Co^{60}	Niveaus in Al^{28}
0,13	0,11	0,060	0,03
0,42	0,21	0,286	0,97
0,87	0,308	0,445	1,37
0,83	0,47	0,513	1,63
1,40	1,15	0,557	2,14
1,48	1,32	0,622	2,28

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Investigation of the γ -Rays Emitted by the Nuclei of V, Mn, Co, Al on the Occasion of the Capture of Thermal Neutrons.

1,55	1,53	0,972	3,10
1,75	1,73	1,012	3,29
1,79	2,05	1,237	3,46
1,84	2,23	1,533	3,60
2,09	2,47	1,825	3,88
2,13	2,54	2,154	4,03
2,15	2,68	2,295	4,24
2,31	3,83	2,610	4,69
2,42	7,26	3,138	4,77
2,46		7,51	4,90
2,53			5,14
2,85			5,47
3,00			5,77
3,05			6,25
3,14			6,76
3,31			7,728
7,296			

Card 2/2

With 7 tables, 16 illustrations and 4 Slavic References

ASSOCIATION: Not given

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress

PELEKHOV, V. I.

AUTHORS: Groshev, L. V., Demidov, A. M., Lutsenko, V. N., Pelekhov, V. I. 89-1-1/29

TITLE: γ Ray Spectra Emitted by Even-Even Nuclei With Rotational Levels if the Nuclei Captured Thermal Neutrons (Spektry γ -luchey radiatsionnogo zakhvata neytronov dlya ochetno-ochetnykh izluohayushohikh yader s vrashohatel'nymi urovnyami)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 1, pp. 5-21 (USSR)

ABSTRACT: By means of a magnetic Compton spectrometer the γ -spectra ($E = 0.3-9$ MeV) are measured and the following lines are obtained:

E γ in MeV

Gd ¹⁵⁷ (n, γ)	Gd ¹⁵⁵ (n, γ)	Gd(n, γ)	Er(n, γ)	Hf(n, γ)	Dy(n, γ)	Ta(n, γ)
6.74±0.01	7.33±0.03	(0.69±0.02)	6.680±0.015	6.39±0.04	5.87±0.02	6.04±0.02
6.44±0.03	6.74±0.03	(0.64±0.02)	6.202±0.015	6.14±0.02	5.580±0.015	5.94±0.03
5.88±0.03	6.44±0.035	0.55±0.02	6.07±0.03	5.73±0.012	5.15±0.02	5.80±0.03
5.62±0.03	~4.3		5.88±0.03	5.49±0.03	4.65±0.04	5.54±0.03
Card 1/3	~5.2	1.24±0.02	5.73±0.04	5.34±0.03	4.10±0.025	5.36±0.03

γ -Ray Spectra Emitted by Even-Even Nuclei With Rotational Levels if the Nuclei Captured Thermal Neutrons

89-1-1/29

4.92±0.04	1.17±0.02	5.34±0.03	4.92±0.03	3.48±0.03	5.24±0.03
1.33±0.02	1.06±0.02	4.77±0.035	4.80±0.45	3.14±0.03	4.99±0.03
1.26±0.02	(0.96±0.02)	4.66±0.03	4.54±0.04	3.04±0.03	4.83±0.03
1.85±0.015		4.42±0.045	4.38±0.015	2.86±0.03	
1.11±0.015		4.1	1.415±0.015	2.74±0.025	
0.96±0.02		1.9	1.33±0.015	0.42±0.02	
0.80±0.015		1.3	1.30±0.02		
0.78±0.02		1.01±0.02	1.22±0.015		
		0.94±0.02	1.18±0.015		
		0.82±0.01	1.09±0.015		
		0.736±0.015			
		0.64±0.02			

Some γ -quanta of the nuclei can be well classified in level schemata. The following levels are excited with certainty:

Card 2/3

γ Ray Spectra Emitted by Even-Even Nuclei With Rotational Levels if the Nuclei Captured Thermal Neutrons

89-1-1/29

Gd ¹⁵⁸ E γ in MeV	Gd ¹⁵⁶ E γ in MeV	Er ¹⁶⁸ E γ in MeV
0	0	0
0.08	0.089	0.080
0.26	0.287	0.265
1.11	1.17	1.08
1.20	1.24	1.28
1.25	8.46	1.80
1.40		7.76
7.87		

There are 15 figures, 11 tables, and 26 references, 5 of which are Slavic.

SUBMITTED: August 31, 1957

AVAILABLE: Library of Congress

Card 3/3

PELEKHOV, V. I., GROSHEV, L. V., DEMIDOV, A. M., LUTSENKO, N. V.

"(n, γ) Reactions Studies at the IRT Reactor of the USSR Academy of Sciences."

paper presented at the Symposium of the International Atomic Energy Agency on Pile Neutron Research in Physics, Vienna, 17-21 Oct 1960.

Institute for Atomic Energy imeni I. V. Kurchatov, of the USSR Academy of Science.

PELEKHOV, V.P.

Seminar for increasing the general technical knowledge of
teachers. Est.v shkole no.1:83 Ja-F '56. (MLRA 9:5)

1. Uchitel' Uspenskoj semiletney shkoly No. 3 Uspenskogo rayona
Krasnodarskogo kraja.
(Teachers, Training of)

1. GASTEV, N. S., PELEKHOVA, E. N.
2. USSR (600)
4. Belladonna
7. Effect of light and nitrogen compounds on the alkaloid content of belladonna. Agrobiologiya no. 1, 1953.

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

BERSONS, I.; VEVERIS, O.; GUNNE, Kh. [Gunne, H.]; KOLMYKOVA, L.;
PELEKIS, L.

Detection of leaks in hermetized objects of small dimensions by
means of radioactive gas. Izv.AN Latv.SSR no.11:73-80 '63.
(MIRA 17:4)

1. Institut fiziki AN LatvSSR.

crystal (10 mm. thick and 29 mm. diam.) and a
(Ti) crystal (13.4 mm. thick and 29 mm. diam.). Per-
formance of the Ca(Ti) crystal was considerably better

PELEKIS

Application of the scintillation spectrometer for the analysis of radionuclides (I. Babin and I. Poljak, *Vys. Inst. Fiz. Akad. Nauk S.S.S.R., Ser. 128, Fizmatlit, Radiofiz. Seriya* 9, 11-17 (1963).) — By using the scintillation spectrometer... was studied. It is confirmed that... as an admixt. in the presence... data obtained for the Rb admixt. are strikingly similar to the data given in... Many curves are given to show the application of the scintillation spectrometer for determining the half lives of decay of the respective radionuclides.

-212

-212

Rmk

10/15/53

Measurement of γ - γ coincidences in the spectra of ^{113}In and antimony ^{121}Sb and ^{123}Sb .

The data obtained for ^{113}In are compared with figures published by other observers. The energy of the γ radiation reported in ^{113}In spectra varied from 0.230 to 0.613 m.e.v. The same method was used for the γ coincidences in the case of ^{121}Sb (energy 0.848-2.09 m.e.v.).

V H C

S/197/62/000/002/002/003
B104/B138

AUTHORS: Bakhmat, A., Belogurov, V., Pelekis, I.

TITLE: ¹⁰⁸Ag gamma emission

PERIODICAL: Akademiya nauk Latvyskoy SSR. Izvestiya, no. 2(175), 1962,
79 - 82

TEXT: In 1950-58, the authors determined the gamma spectrum of various "old" Ag sources in the range of 0 - 1100 kev with a double coincidence scintillation spectrometer. NaI(Tl) crystals (20x30 mm) with γ -C (FEU-S) photo multiplier were used as detector. The resolving power of the analyzing and the controlling spectrometers were 9 and 10.5% respectively for the 661-kev line of Cs¹³⁷. Further, the spectra of the γ - γ coincidences and of the sum-coincidences were determined. The existence of a long-lived Ag^{108m} isomer is proved, in the spectrum of which lines with energies of 80, 430, 620, and 725 kev were observed. Coincidences of the 430-kev quanta with 620- and 725-kev quanta, of the 620-kev quanta with 430- and 725-kev quanta, and of the 725-kev quanta with 430- and 620-kev quanta were ascertained. 80-kev quanta did not coincide with quanta of the three /
Card 1/2

Ag¹⁰⁸ gamma emission

S/197/62/000/002/002/003
B104/B138

other lines. B. S. Dzhelepov is thanked for advice and interest. There are 6 figures, 1 table, and 5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: M. A. Wahlgren and W. W. Meinke. Isomerism of Silver-108, Phys. Rev., 1960, 1, 1960; Phys. Rev. Letters, 1960, 4, 203.

ASSOCIATION: Institut fiziki AN Latv. SSR (Institute of Physics AS Latvyskaya SSR)

SUBMITTED: July 6, 1961

↓

Card 2/2

PELEKIS, L.

S/048/62/026/002/009/032
B101/B102

AUTHORS: Bakmat, A., Belogurov, V., Gromov, K., Zhelev, Zh., and Pelekis, L.

TITLE: Study of the Eu¹⁴⁸ gamma spectrum

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 2, 1962, 217 - 220

TEXT: Eu¹⁴⁸ was chromatographically separated from the rare earths obtained by bombarding a tantalum target with 660-Mev protons in the Dubna synchrocyclotron. The measurements were made with a scintillation coincidence spectrometer and a 50-channel analyzer. The following relative intensities were found:

Gamma-energy, kev	Relative intensity	Gamma-energy, kev	Relative intensity
1600	15 ± 5	~830*	12 ± 6
~1450*	4	725	22 ± 7
1330	8 ± 3	630	100 ± 20
~1200*	2	550	100
1030	14 ± 5	415	9 ± 4
920	20 ± 7		

Card 1/3

Study of the Eu¹⁴⁸ gamma spectrum

S/048/62/026/002/009/032
B101/B102

* was found by spectrum analysis. The 830-kev line may be due to a Eu¹⁴⁷ impurity. From the equal relative intensities of 550- and 630-kev gamma rays in the single spectrum and on coincidence with 725-, 920-, 1030-, 1330-, and 1600-kev rays it is concluded that the 415-, 725-, 920-, 1030-, 1330-, and 1600-kev gamma quanta are in a cascade with the 550- and 630-kev quanta, and that there occur no transitions to the 550-kev level with intensities comparable to those of the transitions mentioned above, except the 630-kev transition. The recording of summated spectra (summation on coincidence) indicated a distinct peak of the sum 630 + 550 = 1180 kev, and confirmed that the cascade contained 630 and 550-kev gamma quanta. The coincidence measurements suggest that levels with $\sqrt{2510}$ and $\sqrt{2780}$ kev are excited in the Eu¹⁴⁸ decay (Fig. 4). There are 4 figures, 3 tables, and 6 references: 3 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: Schwerdtfeger, C. F., Funk, E. G., Mihelich, J. W., BAPS, 5, 425 (1960); Bhattacharjee, S. K., Baldev Sahai, Baba, C. V. K., Nucl. Phys., 12, no. 4, 356 (1959); Eldridge, I. S., Lyon, W. S., Nucl. Phys., 23, no. 1, 131 (1961).

Card 2/3

Study of the Eu^{148} gamma spectrum

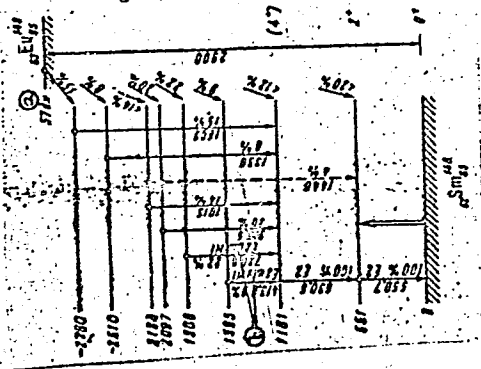
S/048/62/026/002/009/032
B101/B102

ASSOCIATION: Institut fiziki Akademii nauk LatvSSR (Institute of Physics of the Academy of Sciences LatvSSR). Ob'yedinenyy Institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

Fig. 4. Eu^{148} decay.

Fig. 4

Legend: (a) days;
(b) or.



Card 3/3

BAKHMAT, A.; BELOGUROV, V.; GROMOV, K.; ZHELEV, Zh.; PELEKIS, L.

Study of the γ -ray spectrum of Eu^{148} . Izv. AN SSSR. Ser. fiz.
26 no.2:217-220 F '62. (MIRA 15:2)

1. Institut fiziki AN Latvyskoy SSR i Ob'yedinennyy institut
yadernykh issledovaniy.
(Europium-Spectra)
(Gamma rays)

S/058/62/000/008/020/134
A061/A101

AUTHORS: Belogurov, V. N., Veveris, O. E., Pelekis, Z. E., Pelekis, L. L.

TITLE: Gamma-radiation of some neutron-deficient terbium isotopes

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 41, abstract 8B290
(In collection: Radioakt. izlucheniya i metody ikh issled.,
Riga, AN LatvSSR, 1961, 49 - 59)

TEXT: A coincidence scintillation gamma-ray spectrometer was used to investigate the γ -radiation of a terbium fraction separated by chromatography from the products of a tantalum spallation reaction induced by 660-Mev protons. The change of γ -radiation intensity in the 30 - 400 kev range, as well as the integral decay curve measured on a gas-discharge counter, pointed to the presence of Tb^{151} , Tb^{152} (or Tb^{154}), Tb^{153} , Tb^{155} , and Tb^{156} . Tb^{157} was not detected. The most intense radiation of Tb^{153} , Tb^{155} , and Tb^{156} isotopes was investigated at length. The results from measurements of $\gamma\gamma$ -coincidences do not contradict the assumption of a positron decay of Tb^{153} nuclei and, moreover, permit the assumption of the existence of a 510 - 200 kev γ -cascade, while pointing to the absence of a

Card 1/2

BAKHMAT, A.; BELOGUROV, V.; PELEKIS, L.

Gamma radiation of Ag^{108m} . Vestis Latv ak no.2:79-82
162.

1. Institut fiziki AN Latvyskoy SSR.

L 58757-65 EPF(e)/EPF(n)-2/EPH/EPW(j)/EWP(m)/T Po-4/Pr-4/Pu-4/Pu-4
JW/13/JAJ/RM

ACCESSION NR: AP5012485

UR/0089/65/018/004/0418/0419
543.53:678.742

43

AUTHORS: Dubinskaya, N. A.; Lyul', A. Yu.; Pelekis, L. L. B

TITLE: Induced gamma activity in polyethylene bombarded with
neutrons

SOURCE: Atomnaya energiya, v. 18, no. 4, 1965, 418-419

TOPIC TAGS: polyethylene, gamma activity, neutron bombardment,
induced activity

ABSTRACT: The authors investigated the characteristics of induced activity of high pressure and low pressure polyethylene produced by neutron bombardment. The purpose of the investigation was to determine the suitability of these materials for activation analysis. The granulated polyethylene was irradiated in a vertical channel of an IRT reactor in a thermal neutron flux of 9×10^{12} neutrons/cm²sec, for two exposure times (15 minutes and 4 hours). The induced gamma activity was estimated from the integral

Card 1/2

L 50757-65
ACCESSION NR: AP5012485

counting rate measured by a NaI(Tl) crystal measuring 40 x 40 mm. The distance between source and crystal was 4 mm. The results of various batches of polyethylene were compared with one another and also with British type WJG polyethylene. The various radioactive isotopes responsible for the gamma radiation of the neutron irradiated polyethylene were identified. The cooling time necessary to reduce the activity by a factor of 100 was determined. It is concluded that the induced activity is due to contamination of purifying elements used in the catalysis and purification of the material. Original article has: 3 tables

ASSOCIATION: None

SUBMITTED: 30Mar64

ENCL: 00

SUB CODE: NP/M

NR REF SOV: 000

OTHER: 004

Card

typ
2/2

S/058/62/000/008/019/134
A061/A101

AUTHORS: Belogurov, V. N., Veveris, O. E., Pelekis, Z. E., Pelekis, L. L.

TITLE: $\gamma\gamma$ -coincidence measurements in Gd¹⁵¹ and Gd¹⁵³ spectra

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 40 - 41, abstract 8B289
(In collection: Radioakt. izlucheniya i metody ikh issled., Riga,
AN LatvSSR, 1961, 61 - 65)

TEXT: Gd¹⁵¹ and Gd¹⁵³ decay schemes were studied by the method of $\gamma\gamma$ -coincidences. The source used was a Gd¹⁵¹, ¹⁵³ preparation obtained as the decay product of Tb¹⁵¹, ¹⁵³ from a terbium fraction by way of secondary chromatographic separation (the terbium fraction was ejected from a tantalum target bombarded by 660-Mev protons). The gamma radiation in the 40 - 350 kev range was recorded by a coincidence scintillation gamma-ray spectrometer. The resulting energy and gamma-line intensity values fit data supplied by other authors. The relative intensities of measured $\gamma\gamma$ -cascades are indicated. The absence of strong $\gamma\gamma$ -coincidences in the Gd¹⁵¹ spectrum is explained by the existence, in Eu¹⁵¹, of levels with significant lifetime, as is confirmed by the results of lifetime measurements.

[Abstracter's note: Complete translation]
Card 1/1

L. Kryukova ✓

PELEKIS, L.L.

Measuring γ - γ -coincidence in the spectra of Ir¹²⁴ and Sb¹²⁴, Izv.
AN SSSR, Ser. fiz. 20 no.12:1419-1422 D '56. (MLRA 10:3)

1. Institut fiziki Akademii nauk Latvyskoy SSR.
(Iridium--Isotopes) (Antimony--Isotopes)

YANUSHKOVSKIY, Vladimir Aleksandrovich; SHUMILOVSKIY, N.N., prof.,
doktor tekhn. nauk, red.; TAKSAR, I.M., kand. fiz.-mat. nauk,
red.; PROKOF'YEV, P.T., kand. fiz.-mat. nauk, red.; PELEKIS,
L.L., red.; LEVI, S., red.; BOKMAN, R., tekhn. red.

[Use of radioactive radiation in industry] Primenenie radio-
aktivnykh izlucheni v promyshlennosti. Riga, Izd-vo Akad.
nauk Latviiskoi SSR, 1957. 104 p. (MIRA 15:2)
(Radioactivity--Industrial applications)

Pelēkis, L.L.

Category : USSR/Nuclear Physics - Instruments and Installations. C-2
Methods of Measurement and Investigation.

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 5783

Author : Pelēkis, L.L.

Inst : Institute of Physics, Academy of Sciences, Latvian SSR.

Title : Scintillation Gamma Spectrometer with CsI(Tl) Crystal.

Orig Pub : Izv. An LatvSSR, 1956, No 4, 105-112

Abstract : Description of the circuit and of the results of a gamma spectrometer with a FEU-19 photomultiplier with a CsI(Tl) crystal 34 mm in diameter and 16 mm thick. The experiments show that the CsI crystal has an effective fraction of photo absorption that is 70% greater (for E = 1 Mev) than that of an NaI crystal of the same dimensions. The relatively low resolution of the spectrometer (15% for E = 0.66 Mev) is due principally to the quality of the FEU-19 photomultipliers.

Card : 1/1

SOV/137-58-9-20222

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 300 (USSR)

AUTHORS: Bambe, L.Ya., Pelekis, Z.E., Pelekis, L.L.

TITLE: Determination of the Thickness of Steel by Diffused Gamma Radiation (Opredeleniye tolshchiny stali po rasseyannomu gamma-izlucheniyu)

PERIODICAL: Tr. In-ta fiz. AN LatvSSR, 1957, Vol 10, pp 91-101

ABSTRACT: A method is described for measuring the thickness of steel articles with the aid of the registration of diffused radiation (DR) from a radioactive source of Cs^{137} . The variation in the scintillation γ -spectrum in relation to the thickness of the diffuser (D) was studied. 50x50 mm plates located at a distance of 60 mm from the scintillator were used in the role of D. Also investigated was the relationship of the intensity of DR and the thickness of Al, Fe, and Pb. An elementary estimation of the latter agrees well with the experimental data. The effect of the area of D on the measurement of the thickness was established by means of photographing the spectra of DR from cylinders 4-40 mm in diam. It is established that the increase in DR is considerably lessened from the 25 mm diam upwards.

Card 1/2

SOV/137-58-9-20222

Determination of the Thickness of Steel by Diffused Gamma Radiation

The spectrum of DR was studied in relation to the distance from the D to the scintillator. On the basis of the data obtained, an instrument was developed with the aid of which it is possible to measure the thicknesses of objects approachable from only one side. A block-diagram is given and a brief description of the operation of the instrument is added.

A.F.

1. Steel--Plates--Thickness
2. Steel Plates--Measurement
3. Gamma rays--Applications
4. Gamma rays--Diffusion
5. Cesium isotopes (Radioactive)--Gamma ray spectrum

Card 2/2

PELEKIS, L. L., Candidate Phys-Math Sci (diss) -- "The use of scintillation spectrometers to investigate the temporal correlation of gamma-rays of certain radioactive isotopes". Moscow, 1959. 10 pp (Min Higher Educ USSR, Moscow Engineering Phys Inst), 100 copies (KL, No 23, 1959, 160)

PELEXIS, L.L.

DISAPPEARANCE OF THE DISAPPEARANCE IN IT

EMPLOYERS AND EMPLOYEES ARE TO BE USED BY THE UNITED STATES
ARMY AND NAVY AND OTHER FEDERAL AGENCIES FOR THE

PELEKIS, L.L.

Fizika i Tehnika Primeneniya Radioaktivnykh Izotopov (Physics and Technique of Use of Radioisotopes), Works of the Institute of Physics, Vol 9, edited by Ya. E. Chudars, Candidate of Physicomathematical Sciences; I. M. Taksar, Candidate of Physicomathematical Sciences; and L. L. Pelekis, Riga, Publishing House of the Academy of Sciences Latvian SSR, 1956, 165 pp

Sum in 1467

PELEKIS, L.L.

"Scintillation Gamma-Spectrometer," From the book-Physics and Technique of Use of Radioisotopes. Works of the Institute of Physics, Vol 9, edited by Ya. E. Chudars, Candidate of Physicomathematical Sciences; I. M. Taksar, Candidate of Physicomathematical Sciences; and L. L. Pelekis, Riga, Publishing House of the Academy of Sciences Latvian SSR, 1956, 165 pp.

Sum in 1467

S/798/61/000/000/006/012

AUTHORS: Belogurov, V.N., Veveris, O.E., Pelekis, Z.E., Pelekis, L.L.

TITLE: The gamma-radiation of some neutron-deficient terbium isotopes.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya.
Inst. fiz. AN LatvSSR. Riga. Izd-vo AN LatvSSR, 1961, 49-59.

TEXT: Two Tb fractions, obtained from a Ta trap under 660-mev proton bombardment, were investigated: Fraction (I) was obtained after 4 hours' bombardment, fraction (II) after 20 minutes. The γ -spectra were studied with a scintillation coincidence spectrometer, which consisted of two scintillation spectrometers (I and II) connected in a coincidence circuit with $\tau = 5 \cdot 10^{-7}$ sec. The spectra were measured with a BMA-50 (BMA-50) 50-channel analyzer. The crystals employed were NaI(Tl), 20x30 mm, the photomultipliers of the $\Phi\Phi\gamma$ -C (FEU-S) type. The calibration procedure is briefly described. The resolution of the spectrometers was 10% (I) and 12% (II) on the 661-kev line of Cs^{137} . I. - Four-hour fraction. The Tb fraction was separated chromatographically (in Leningrad) within about 30 hours after irradiation and was spectrometrically analyzed some additional 35 hours later to determine the time variations of the intensity of the spectrum in the 30-400-kev energy range. The 87-kev photopeak undergoes a decay with a half-life (HL) of 5.3 days, which is attributable to Tb^{155} or Tb^{156} . The 160-180-kev line group initially decays with a HF of 69 hrs, later HF = 5.3 days, which points to the presence of

Card 1/3

The gamma-radiation of some neutron-deficient... S/798/61/000/000/006/01:
the γ -lines of Tb^{153} and Tb^{155} in the aforesaid energy interval. The decay of the group of lines at near 210 kev evinces an initial HL of 63 hrs, followed by HL=4.7 days, which relates it to Tb^{153} and Tb^{156} or Tb^{155} . The 260-kev photopeak, too, is complex. Its decay curve breaks into an initial branch with HL=2 days (Tb^{151} and Tb^{153}) and a subsequent branch with HL=9 days (Tb^{155} or Tb^{156}). The lengthened HL=9 days may be attributed to a long-life Gd^{151} daughter product. The last, 350-kev, decay curve has an initial part with HL=20 hrs (Tb^{151} , Tb^{154} or Tb^{152}) and another with HL=7days (Tb^{155}). The integral decay curve obtained on the CTC-5 (STS-5) gaseous-discharge counter indicates also that 20-hr and 5-day Tb isotopes are present and that long-life daughter isotopes of Gd are accumulated gradually. 14 days after irradiation a secondary chromatographic separation was performed to separate the daughter products Gd^{151} and Gd^{153} . The time decay of the new spectrum indicates the presence of 5-day isotopes of Tb and only an insignificant presence of Tb^{153} . Only after 20 days (4 HL's) did the HL increase appreciably, indicating the presence of a small quantity of Gd^{153} . The results of γ - γ coincidence measurements (made at a 30-mm distance from source to each crystal) are tabulated. In summary, the γ -spectrum of the second-separation Tb preparation indicates that the preparation contains Tb^{155} (most intensive γ -lines: 87, 105, 160-180, 260, and 340-360 kev) and some little Tb^{153} and Tb^{156} (the latter suggested by the line near 270-290 kev) and a newly discovered weak 530-kev line which, according to S.Ofer (Phys.Rev., v. 115, no. 2, 1959, 412) pertains to Tb^{156} . No
Card 2/3

The gamma-radiation of some neutron-deficient... 8/798/61/000/000/006/012

Tb¹⁵⁷ was found. It is concluded that a 262-105-kev cascade exists in the Tb¹⁵⁵ spectrum, whereas the 212-87-kev cascade is not present in the Tb¹⁵³ spectrum.

II. 20-min fraction. Chromatographic separation of the fraction was performed at Dubna 5 hrs after irradiation. The 160-180-210-kev group of lines initially decays with a HL = 70 hrs, then HL = 5.5 days (Tb¹⁵³ and Tb¹⁵⁵, respectively). The 510-kev photopeak decays with a HL = 70 ± 10 hrs throughout the entire 260-hr test period. The closest Tb isotope is Tb¹⁵³. The 750-kev photopeak decay shows a HL = 4.5 days, attributable to Tb¹⁵⁵ or Tb¹⁵⁶. The γ - γ -coincidence measurements (made as before) suggest the presence of a 200-290-kev cascade (Tb¹⁵⁶). It is asserted that the 510-kev photopeak observed is produced by annihilation radiation, and that Tb¹⁵³ positron decay is present. The intensity of the 510-200-kev cascade is appx. 15%, which does not qualitatively contradict the assumption that this cascade pertains to Tb¹⁵³. The results of this investigation, based on a single Tb fraction irradiated for 20 minutes, are termed tentative only. There are 8 figures, 1 table, and 6 references (3 Russian-language Soviet, 3 English, language U.S.: Strominger, D., et al., Rev. Mod. Phys., v. 30, no. 2, 1958, 585; the Ofer reference cited in the bottom line of Card 2/3; and Toth, K.S., et al., Phys. Rev., v. 115, no. 1, 1959, 158).

ASSOCIATION: None given.

Card 3/3

GROMOV, K.Ya.; DZHELEPOV, B.S.; ZVOL'SKA, V.; ZVOL'SKIY, I.; ZOLOTAVIN,
A.V.; PELEKIS, L.L.; PELEKIS, Z.E.

Decay scheme for Tu^{165} . Izv.AN SSSR.Ser.fiz. 27 no.2:195-199
F '63. (MIRA 16:2)

(Thulium isotopes--Decay)

S/798/61/000/000/007/012

AUTHORS: Belogurov, V.N., Veveris, O.E., Pelekis, Z.E., Pelekis, L.L.**TITLE:** Measurements of the γ - γ -coincidences in the spectra of Gd^{151} and Gd^{153} .**SOURCE:** Radioaktivnyye izlucheniya i metody ikh issledovaniya.
Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 61-65.

TEXT: This paper reports a study of the Gd^{151} spectrum intended to achieve a more refined knowledge on its decay mode than is afforded by the conversion-electron study of N.M. Anton'yeva et al. (Akad. n. SSSR, Izv., ser. fiz., v. 22, no. 2, 1958, 135). The $Gd^{151, 153}$ preparation was obtained as a daughter product of Tb^{151} and Tb^{153} from a secondary chromatographic separation of a Tb fraction. The initial Tb fraction was irradiated for 4 hrs, separated from a Ta trap 30 hrs later, and subjected to secondary separation 14 days after initial separation. The γ -radiation of $Gd^{151, 153}$ in the 40-350-kev energy interval was studied with the scintillation coincidence spectrometer described by the authors (same compendium, pp. 49-59, Abstract S/798/61/000/000/006/012). The source-to-crystal distance was 28 mm. γ -lines observed: 70 ± 4 , 100 ± 4 , 155 ± 5 , 175 (unresolved), appx. 200, 245 ± 5 , 310 ± 10 kev, and an intense X-ray line at 45 ± 3 kev. The relative γ -line intensities (tabulated) were taken from the photopeak areas with due consideration of the spectral sensitivity of the scintillation spectrometer (error appx. 20%). The NaI(Tl) crystals employed in the γ - γ -coincidence measurement were placed at a

Card 1/3

Measurements of the γ - γ -coincidence...

S/798/61/000/000/007/012

180° angle relative to the source. A 10-mm thick Pb absorber was placed between the crystals to prevent scattered- γ -quanta coincidence. At its center - opposite the source - the absorber had a 6-mm diam aperture. The absorber was also covered with a 1-mm Cd and a 0.5-mm Cu sheath to exclude K X-rays from the Pb. Measurements were made twice, with a distance between source and each crystal of 28 and 40 mm, respectively. The two sets of measurements agree well. The results are tabulated. This tabulation has a third column, entitled "Intensity of γ -cascade" which represents the values q of a fraction, the numerator of which is the experimentally measured total number of true coincidences of the γ -lines that coincide with the selected γ -line, and the denominator of which is the product of the total number of the quanta of the selected γ -line registered in the "fixed" channel during the time of the coincidence measurement by the absolute effectiveness of the registration of the γ -quanta in the photopeak (in the analyzing channel). Possible error in determining q : appx. 50%. The means of two measurements are tabulated, together with their differences. The tabulation shows the absence, in the Gd¹⁵¹ spectrum, of intense cascade-type γ -transitions (with $q \geq 7\%$). Such absence of strong γ - γ -transition is also noted by A. Bisi, et al. (Nucl. Phys., no. 3, 1957, 670). The coincidence spectra contain γ -lines of 105 ± 5 kev; 75 ± 10 kev; and appx. 195 kev. It appears natural to ascribe these γ -lines to Gd¹⁵¹; because of the weakness of the cascades these lines might be produced by a small unknown admixture in the

Card 2/3

Measurements of the γ - γ -coincidence...

S/798/61/000/000/007/012

preparation. It is noted, however, that repeat measurements, performed 1 and 3 months later, confirmed the results obtained. The weakness of the γ - γ -coincidences points to the existence of levels with a significant lifetime. Such a level (196-keV energy) was detected by D. Strominger et al. (Rev. Mod. Phys., v. 30, no. 2, 1958, 585) and by E. Berlovich, et al. (Papers presented at the 11th annual conference in Riga on nuclear spectroscopy. Riga. 1961), and the two lifetimes measured ($6 \cdot 10^{-5}$ sec and $5.8 \cdot 10^{-5}$ sec, respectively) are in good agreement. The present coincidence measurements did not detect any coincidences that might have substantiated the low-intensity (245-175-keV) cascade transition postulated according to N. M. Anton'yeva et al. (reference cited in line 3 of Text, Card 1/3). Therefore, it may be presumed that the 245-keV γ -transition proceeds directly to the Gd^{151} fundamental level or to the 22-keV level. If that is so, then either the 245- or the 267-keV level should be introduced into the decay mode of Gd^{151} . There are 2 figures, 2 tables, and 7 references (3 Russian-language Soviet, 4 English-language).

ASSOCIATION: None given.

Card 3/3

3/048/63/027/002/005/023
B104/B180

AUTHORS: Gromov, K. Ya., Dzhelapov, B. S., Zvol'ska, V.,
Zvol'skiy, I., Zolotavin, A. V., Pelekis, L. L., and
Pelekis, Z. E.

TITLE: The Tu^{165} decay scheme

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 27, no. 2, 1963, 195-199

TEXT: The decay scheme of Tu^{165} suggested in a previous work by the authors (Izv. AN SSSR, Ser. fiz., 25, 1092 (1961)) was checked by $\gamma\gamma$ -coincidence tests and by determining the multipole orders in the Er^{165} transitions. The spectrum of the conversion electrons was taken with a double focusing β -spectrometer in the range 5-60 keV. From the intensity ratios the multipole order for most transitions with energies below 400 keV could be determined. The $\gamma\gamma$ -coincidences were determined on a 50-channel analyser. The decay scheme shown in the figure was constructed from the results. It is identical with that of the previous paper.

Card 1/1

FELEKIS, L.L., kand. fiz.-mat. nauk, otv. red.; PROKOF'YEV, P.T.,
kand. tekhn. nauk, red.; CHUDAR, Ya.E., kand. fiz.-mat. nauk,
red.; YANUSHKOVSKIY, V.A., red.; TEYTEL'RAUM, A. [Teitelbaum, A.],
red.; BOKMAN, R., tekhn. red.

[Methods for studying radioactive radiation] Radioaktivnye izlu-
chenia i metody ikh issledovaniia. Riga, Izd-vo Akad. nauk
Latviiskoi SSR, 1961. 141 p. (MIRA 15:4)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu Akademijs.
Fizikas instituts.

(Radioactivity)

ACC NR: AP6024851

SOURCE CODE: UR/0371/66/000/002/0032/0036

AUTHOR: Abrams, I. A.; Kalis, Kh.E. -- Kalis, H.; Polekis, L. L.; Taure, I. Ya.

ORG: Institute of Physics, AN LatSSR (Institut fiziki, Latv. SSR)

TITLE: Gamma radiation of a spherical source with a cylindrical channel on the axis of symmetry of sphere and cylinder

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 2, 1966, 32-36

TOPIC TAGS: *RADIATION INTENSITY,*
radiation source, gamma radiation, nuclear radiation circuit source, radiation source design, nuclear reactor, IRT-2000 nuclear reactor

ABSTRACT: This paper describes a method for the prediction of dosage power and gamma radiation flow from a spherical radiator with a cylindrical passage carrying a flow of short life radioactive isotopes. The method was applied for a computer-supported calculation of the 15 cm diameter radiator belonging to the radiation circuit of the IRT-2000 nuclear reactor. The circuit or contour utilizes a eutectic alloy of Sn, In and Ga, with 99% of the gamma radiation coming from the In ^{116m} isotope with a half-life of 54 min. Comparison of the calculated results with measured experimental data agreed within 20%. The experimental radiation was obtained by photo-activation of the metastable level (335 Kev) of In ¹¹⁵ by the reaction In ¹¹⁵(γ, γ')In ^{115m}.

SUB CODE: 18, 20/ SUBM DATE: 29Jun65/ ORIG REF: 006

Card 1/1

Plakis, 2

S/798/61/000/000/006/012

AUTHORS: Belogurov, V.N., Veveris, O.E., Pelekis, Z.E., Pelekis, L.L.

TITLE: The gamma-radiation of some neutron-deficient terbium isotopes.

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya.
Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 49-59.

TEXT: Two Tb fractions, obtained from a Ta trap under 660-mev proton bombardment, were investigated: Fraction (I) was obtained after 4 hours' bombardment, fraction (II) after 20 minutes. The γ -spectra were studied with a scintillation coincidence spectrometer, which consisted of two scintillation spectrometers (I and II) connected in a coincidence circuit with $\tau = 5 \cdot 10^{-7}$ sec. The spectra were measured with a BMA-50 (BMA-50) 50-channel analyzer. The crystals employed were NaI(Tl), 20x30 mm, the photomultipliers of the ЭЭВ-С (FEU-S) type. The calibration procedure is briefly described. The resolution of the spectrometers was 10% (I) and 12% (II) on the 661-kev line of Cs^{137} . I. - Four-hour fraction. The Tb fraction was separated chromatographically (in Leningrad) within about 30 hours after irradiation and was spectrometrically analyzed some additional 35 hours later to determine the time variations of the intensity of the spectrum in the 30-400-kev energy range. The 87-kev photopiek undergoes a decay with a half-life (HL) of 5.3 days, which is attributable to Tb^{155} or Tb^{156} . The 160-180-kev line group initially decays with a HF of 69 hrs, later HF = 5. days, which points to the presence of

Card 1/3

The gamma-radiation of some neutron-deficient... S/798/61/000/000/006/012

the γ -lines of Tb^{153} and Tb^{155} in the aforesaid energy interval. The decay of the group of lines at near 210 keV evinces an initial HL of 63 hrs, followed by HL=4.7 days, which relates it to Tb^{153} and Tb^{156} or Tb^{155} . The 260-keV photopeak, too, is complex. Its decay curve breaks into an initial branch with HL=2 days (Tb^{151} and Tb^{153}) and a subsequent branch with HL=9 days (Tb^{155} or Tb^{156}). The lengthened HL = 9 days may be attributed to a long-life Gd^{151} daughter product. The last, 350-keV, decay curve has an initial part with HL = 20 hrs (Tb^{151} , Tb^{154} or Tb^{152}) and another with HL = 7 days (Tb^{155}). The integral decay curve obtained on the CTC-5 (STS-5) gaseous-discharge counter indicates also that 20-hr and 5-day Tb isotopes are present and that long-life daughter isotopes of Gd are accumulated gradually. 14 days after irradiation a secondary chromatographic separation was performed to separate the daughter products Gd^{151} and Gd^{153} . The time decay of the new spectrum indicates the presence of 5-day isotopes of Tb and only an insignificant presence of Tb^{153} . Only after 20 days (4 HL's) did the HL increase appreciably, indicating the presence of a small quantity of Gd^{153} . The results of γ - γ coincidence measurements (made at a 30-mm distance from source to each crystal) are tabulated. In summary, the γ -spectrum of the second-separation Tb preparation indicates that the preparation contains Tb^{155} (most intensive γ -lines: 87, 105, 160-180, 260, and 340-360 keV) and some little Tb^{153} and Tb^{156} (the latter suggested by the line near 270-290 keV) and a newly discovered weak 530-keV line which, according to S. Ofer (Phys. Rev., v. 115, no. 2, 1959, 412) pertains to Tb^{156} . No

Card 2/3

The gamma-radiation of some neutron-deficient... S/793/61/000/000/006/012

Tb¹⁵⁷ was found. It is concluded that a 262-105-keV cascade exists in the Tb¹⁵⁵ spectrum, whereas the 212-87-keV cascade is not present in the Tb¹⁵³ spectrum.

II. 20-min fraction. Chromatographic separation of the fraction was performed at Dubna 5 hrs after irradiation. The 160-180-210-keV group of lines initially decays with a HL = 70 hrs, then HL = 5.5 days (Tb¹⁵³ and Tb¹⁵⁵, respectively). The 510-keV photopeak decays with a HL = 70 ± 10 hrs throughout the entire 260-hr test period. The closest Tb isotope is Tb¹⁵³. The 750-keV photopeak decay shows a HL = 4.5 days, attributable to Tb¹⁵⁵ or Tb¹⁵⁶. The γ - γ -coincidence measurements (made as before) suggest the presence of a 200-290-keV cascade (Tb¹⁵⁶). It is asserted that the 510-keV photopeak observed is produced by annihilation radiation, and that Tb¹⁵³ positron decay is present. The intensity of the 510-200-keV cascade is appx. 15%, which does not qualitatively contradict the assumption that this cascade pertains to Tb¹⁵³. The results of this investigation, based on a single Tb fraction irradiated for 20 minutes, are termed tentative only. There are 8 figures, 1 table, and 6 references (3 Russian-language Soviet, 3 English-language U.S.: Strominger, D., et al., Rev. Mod. Phys., v. 30, no. 2, 1958, 585; the Ofer reference cited in the bottom line of Card 2/3; and Toth, K. S., et al., Phys. Rev., v. 115, no. 1, 1959, 158).

ASSOCIATION: None given.

Card 3/3

S/798/61/000/000/007/012

AUTHORS: Belogurov, V.N., Veveris, O.E., Pelekis, Z.E., Pelekis, L.L.

TITLE: Measurements of the γ - γ -coincidences in the spectra of Gd^{151} and Gd^{153} .

SOURCE: Radioaktivnyye izlucheniya i metody ikh issledovaniya.
Inst. fiz. AN LatvSSR. Riga, Izd-vo AN LatvSSR, 1961, 61-65.

TEXT: This paper reports a study of the Gd^{151} spectrum intended to achieve a more refined knowledge on its decay mode than is afforded by the conversion-electron study of N.M. Anton'eva et al. (Akad. n. SSSR, Izv., ser. fiz., v. 22, no. 2, 1958, 135). The $Gd^{151, 153}$ preparation was obtained as a daughter product of Tb^{151} and Tb^{153} from a secondary chromatographic separation of a Tb fraction. The initial Tb fraction was irradiated for 4 hrs, separated from a Ta trap 30 hrs later, and subjected to secondary separation 14 days after initial separation. The γ -radiation of $Gd^{151, 153}$ in the 40-350-kev energy interval was studied with the scintillation coincidence spectrometer described by the authors (same compendium, pp. 49-59, Abstract S/798/61/000/000/006/012). The source-to-crystal distance was 28 mm. γ -lines observed: 70 ± 4 , 100 ± 4 , 155 ± 5 , 175 (unresolved), appx. 200, 245 ± 5 , 310 ± 10 kev, and an intense X-ray line at 45 ± 3 kev. The relative γ -line intensities (tabulated) were taken from the photopeak areas with due consideration of the spectral sensitivity of the scintillation spectrometer (error appx. 20%). The NaI(Tl) crystals employed in the γ - γ -coincidence measurement were placed at a

Card 1/3

Measurements of the γ - γ -coincidence...

S/798/61/000/000/007/012

180° angle relative to the source. A 10-mm thick Pb absorber was placed between the crystals to prevent scattered- γ -quanta coincidence. At its center - opposite the source - the absorber had a 6-mm diam aperture. The absorber was also covered with a 1-mm Cd and a 0.5-mm Cu sheath to exclude K X-rays from the Pb. Measurements were made twice, with a distance between source and each crystal of 28 and 40 mm, respectively. The two sets of measurements agree well. The results are tabulated. This tabulation has a third column, entitled "Intensity of γ -cascade" which represents the values q of a fraction, the numerator of which is the experimentally measured total number of true coincidences of the γ -lines that coincide with the selected γ -line, and the denominator of which is the product of the total number of the quanta of the selected γ -line registered in the "fixed" channel during the time of the coincidence measurement by the absolute effectiveness of the registration of the γ -quanta in the photopeak (in the analyzing channel). Possible error in determining q : appx. 50%. The means of two measurements are tabulated, together with their differences. The tabulation shows the absence, in the Gd^{151} spectrum, of intense cascade-type γ -transitions (with $q \geq 7\%$). Such absence of strong γ - γ -transition is also noted by A. Bisi, et al. (Nucl. Phys., no. 3, 1957, 670). The coincidence spectra contain γ -lines of 105 ± 5 keV; 75 ± 10 keV; and appx. 195 keV. It appears natural to ascribe these γ -lines to Gd^{151} ; because of the weakness of the cascades these lines might be produced by a small unknown admixture in the

Card 2/3

Measurements of the γ - γ -coincidence...

S/798/61/000/000/007/012

preparation. It is noted, however, that repeat measurements, performed 1 and 3 months later, confirmed the results obtained. The weakness of the γ - γ -coincidences points to the existence of levels with a significant lifetime. Such a level (196-keV energy) was detected by D. Strominger et al. (Rev. Mod. Phys., v. 30, no. 2, 1958, 585) and by E. Berlovich, et al. (Papers presented at the 11th annual conference in Riga on nuclear spectroscopy, Riga, 1961), and the two lifetimes measured ($6 \cdot 10^{-5}$ sec and $5.8 \cdot 10^{-5}$ sec, respectively) are in good agreement. The present coincidence measurements did not detect any coincidences that might have substantiated the low-intensity (245-175-keV) cascade transition postulated according to N. M. Anton'yeva et al. (reference cited in line 3 of Text, Card 1/3). Therefore, it may be presumed that the 245-keV γ -transition proceeds directly to the Gd^{151} fundamental level or to the 22-keV level. If that is so, then either the 245- or the 267-keV level should be introduced into the decay mode of Gd^{151} . There are 2 figures, 2 tables, and 7 references (3 Russian-language Soviet, 4 English-language).

ASSOCIATION: None given.

Card 3/3

GROMOV, K.Ya.; DZHELEPOV, B.S.; ZVOL'SKA, V.; ZVOL'SKIY, I.; ZOLOTAVIN,
A.V.; PELEKIS, L.L.; PELEKIS, Z.E.

Decay scheme for Tm^{165} . Izv.AN SSSR.Ser.fiz. 27 no.2:195-199
F '63. (MIRA 16:2)

(Thulium isotopes--Decay)

8/048/63/027/002/005/023
B104/B180

AUTHORS: Gromov, K. Ya., Dzheleпов, B. S., Zvol'ska, V.,
Zvol'skiy, I., Zolotavin, A. V., Pelekis, L. L., and
Pelekis, Z. E.

TITLE: The Tu^{165} decay scheme

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 27, no. 2, 1963, 195-199

TEXT: The decay scheme of Tu^{165} suggested in a previous work by the authors (Izv. AN SSSR, Ser. fiz., 25, 1092 (1961)) was checked by $\gamma\gamma$ -coincidence tests and by determining the multipole orders in the Er^{165} transitions. The spectrum of the conversion electrons was taken with a double focusing β -spectrometer in the range 5-60 keV. From the intensity ratios the multipole order for most transitions with energies below 400 keV could be determined. The $\gamma\gamma$ -coincidences were determined on a 50-channel analyser. The decay scheme shown in the figure was constructed from the results. It is identical with that of the previous paper.

Card 1/1

S/058/62/000/008/020/134
A061/A101

AUTHORS: Belogurov, V. N., Veveris, O. E., Pelekis, Z. E., Pelakis, L. L.

TITLE: Gamma-radiation of some neutron-deficient terbium isotopes

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 41, abstract 8E290
(In collection: Radiakt. izlucheniya i metody ikh issled.,
Riga, AN LatvSSR, 1961, 49 - 59)

TEXT: A coincidence scintillation gamma-ray spectrometer was used to investigate the γ -radiation of a terbium fraction separated by chromatography from the products of a tantalum spallation reaction induced by 660-Mev protons. The change of γ -radiation intensity in the 30 - 400 keV range, as well as the integral decay curve measured on a gas-discharge counter, pointed to the presence of Tb^{151} , Tb^{152} (or Tb^{154}), Tb^{153} , Tb^{155} , and Tb^{156} . Tb^{157} was not detected. The most intense radiation of Tb^{153} , Tb^{155} , and Tb^{156} isotopes was investigated at length. The results from measurements of $\gamma\gamma$ -coincidences do not contradict the assumption of a positron decay of Tb^{153} nuclei and, moreover, permit the assumption of the existence of a 510 - 200 keV γ -cascade, while pointing to the absence of a

Card 1/2

PELEKIS, Z.E.

"Gamma-Gamma Coincidence Measurements in Spectra of Ir-192 and Sb-124," from the book-(Physics and Techniques of Use of Radioisotopes), works of the Institute of Physics, Vol 9, edited by Ya. E. Chudars, Candidate of Physicomathematical Sciences; I. M. Taksar, Candidate of Physicomathematical Sciences; and L. L. Pelekis, Riga, Publishing House of the Academy of Sciences Latvian SSR, 1956, 165 pp

Sum in 1467

SOV/137-58-9-20222

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 300 (USSR)

AUTHORS: Bambe, L.Ya., Pelekis, Z.E., Pelekis, L.L.

TITLE: Determination of the Thickness of Steel by Diffused Gamma Radiation (Opredeleniye tolshchiny stali po rasseyannomu gamma-izlucheniyu)

PERIODICAL: Tr. In-ta fiz. AN LatvSSR, 1957, Vol 10, pp 91-101

ABSTRACT: A method is described for measuring the thickness of steel articles with the aid of the registration of diffused radiation (DR) from a radioactive source of Cs¹³⁷. The variation in the scintillation γ -spectrum in relation to the thickness of the diffuser (D) was studied. 50x50 mm plates located at a distance of 60 mm from the scintillator were used in the role of D. Also investigated was the relationship of the intensity of DR and the thickness of Al, Fe, and Pb. An elementary estimation of the latter agrees well with the experimental data. The effect of the area of D on the measurement of the thickness was established by means of photographing the spectra of DR from cylinders 4-40 mm in diam. It is established that the increase in DR is considerably lessened from the 25 mm diam upwards.

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SOV/137-58-9-20222

Determination of the Thickness of Steel by Diffused Gamma Radiation

The spectrum of DR was studied in relation to the distance from the D to the scintillator. On the basis of the data obtained, an instrument was developed with the aid of which it is possible to measure the thicknesses of objects approachable from only one side. A block-diagram is given and a brief description of the operation of the instrument is adduced.

A.F.

1. Steel--Plates--Thickness
2. Steel Plates--Measurement
3. Gamma rays--Applications
4. Gamma rays--Diffusion
5. Cesium isotopes (Radioactive)--Gamma ray spectrum

Card 2/2

Country : USSR
Category : Farm Animals. Cattle. Q-2
Abs. Jour : Ref Zhur-Biol., No 16, 1958, 74035
Author : Pelemaru, Ye.; Rusu, G.; Nikolichin, S. ;*
Institut. : -
Title : Raising of Young Cattle Stock with Rations
Rich in Roughage and Juicy Fodder.
Orig Pub. : Mezhdunar. s.-kh. zh., 1957, No 1, 89-97
Abstract : No abstract.

Card: 1/1

*Sagin, F.; Krishan, T.; Bukur, A.;
Marzhetl, Ye.

PELENICHKA, L.G.

Treating the filter zones of wells using fresh water with
surfactant additives. Nefteprom. delo no.6:17-19 :64.
(MIRA 17:9)

1. Neftepromyslovoye upravleniye "Borislavneft".

PELENICHKO, I.G.

MATSKIN, I.A.; KOVALENKO, K.I.; BABUKOV, V.G.; KONSTANTINOV, N.N.;
PONOMAREV, G.V.; PAL'CHIEV, G.N.; PELENICHKO, I.G.; SHAMARDIN,
V.M.; GLADKOV, A.A.; BRILLIANT, S.G.; SHEVCHUK, V.Ya.; SOSCHER-
KO, Ye.M.; ALEKSANDROV, A.M.; BUNCHUK, V.A.; KRUPENIK, P.I.;
MAYEVSKIY, V.Ya.; YELSHIN, K.V.; GAK, Kh.A.; POTAPOV, G.M.;
KARDASE, I.M.; STEPURO, S.I.; KAPLAN, S.A.; SELIVANOV, T.I.;
YEREMENKO, N.Ya.; ZHUZH, A.D.; USTINOV, A.A.; GIRKIN, G.M.;
VOLOBUYEV, P.P.; CHERNYAK, I.L., nauchnyy red.; DESHALYT, M.G.,
vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Combating losses of petroleum and petroleum products; materials
of the All-Union Conference on Means of Combating Losses of
Petroleum and Petroleum Products] Bor'ba s poteriami nefi i
nefteproduktov; po materialam Vsesoiuznogo soveshchania po bor'be
s poteriami nefi i nefteproduktov. Leningrad, Gos.nauchno-tekhn.
izd-vo nefi. i gorno-toplivnoi lit-ry, 1959. 157 p. (MIRA 13:2)

1. Nauchno-tekhnicheskoye obshchestvo neftyanoy i gazovoy pro-
myshlennosti.

(Petroleum industry)

PELENITSINA, L. A.

USSR/Chemistry - Pharmaceuticals,
Bactericides

Jul 53

"Synthesis of Substituted Hydroxy- and Dihydroxydiphenylmethanes," M. V. Rubtsov,
Ye. Ye. Mikhlina and L. A. Pelenitsina, All-Union Sci-Res Chem-Pharm Inst in
Ordzhonikidze

Zhur Obshch Khim, Vol 23, No 7, pp 1209-1214

Simplified the methods found in the literature for the prepn of 4,4' - and 2,4'-
dioxydiphenylmethanes. Synthesized a series of derivs of hydroxy- and dihydroxydi-
phenylmethanes and tested their chemotherapeutic activity.

272T20

PELENOV, S.

Great objectives of a small collective. Avtom., telem. i sviaz' 9
no.8:28-32 Ag '65. (MIRA 18:9)

ACC NR: AP7009115

SOURCE CODE: UR/0413/67/000/003/0104/0105

INVENTOR: Kochan, V. A.; Pelenskiy, R. A.

ORG: None

TITLE: A device for electrical measurement of mechanical properties. Class 42, No. 191154 [announced by the Lvov Polytechnical Institute (L'vovskiy politekhnicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 104-105

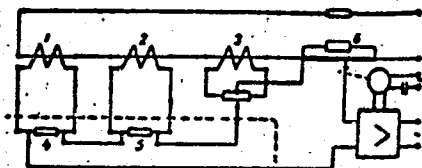
TOPIC TAGS: solid mechanical property, electric measuring instrument, strain gage

ABSTRACT: This Author's Certificate introduces: 1. A device for electrical measurement of mechanical quantities using resistance strain gauges. The installation contains a source of stabilized AC voltage, an amplifier and a slide wire with a reversible electric motor. The unit incorporates three current transformers of the instrument type to reduce the effect of resistance in the connecting lines on measurement results. The transformer primaries are connected in series to the source of stabilized voltage, while thy working strain gauge, compensation strain gauge and an adjustable resistor are connected in the secondary circuits of the first, second and third transformers respectively either directly or through rectifiers. 2. A modification of this device with a fourth current transformer to feed the measurement slide wire.

Card 1/2

UDC: 681.2.083.8:531.787.913:531.781.2

ACC NR: AP7009115



1-3—instrument transformers; 4 and 5—strain gauges; 6—adjustable resistor

SUB CODE: 09/ SUBM DATE: 16Nov64

Card 2/2

PELESHCHUK, A.P. (Kiyev)

Eleventh All-Union Conference of Therapentists. Vrach.delo no.10:
1109-1110 O '59. (MIRA 13:2)
(THERAPEUTICS--CONGRESSES) (BILIARY TRACT--DISEASES)

PELESKA, B.; RABL, M.

Electrical stimulation of the heart with electrodes introduced into the esophagus. Cas.lek. cesk. 103 no.1:1-6 3 Ja'64.

1. Ustav klinicke a experimentalni chirurgie, Praha-Krc;
reditel prof.dr. B.Spacek, DrSc.

*

PELESKA, B.

Implantable electronic cardiostimulator in the treatment of complete AV block and Adams-Stokes syndrome. Cas.lek.cesk. 103 no.11:281-291 13 Mr'64.

1. Ustav klinické a experimentální chirurgie, Praha; přednosta: prof.dr.B.Spacek, DrSc.

*

PELESKA, Lumir; KRCUSKY, Jan

On the problem of staphylococcal bone infections. Sborn.ved.
prac.lek.fak.Karlov.Univ. (Hrad.Kral.) 6 no.5:545-553 '63

1. Ortopedická klinika; přednosta: prof.MUDr.J.Vavřda,LFKU
v Hradci Králové.

*

COUNTRY : Czechoslovakia
 CATEGORY : Human and Animal Physiology, Sensory Organs
 ABS. JOUR. : RZhBiol., No. 5 1959, No. 22543
 AUTHOR : Kadlecova, V.; Peleska, M.
 INST. : --
 TITLE : The Diameter of the Pupil in Light and Darkness at Different Periods in Life. II. Examination in Infrared Light.
 ORIG. PUB. : Ceskosl. ofthalmol., 1957, 13, No. 4, 278--282
 ABSTRACT : Examinations were performed on 107 men and 162 women between 3 and 90 years of age. The diameter of the pupil increased (when seen in light) prior to 10 years of age, then gradually diminished up to 60 years; subsequently changes in the diameter of the pupil do not occur. The diameter of the pupil increased from 2 mm in bright light to 9 mm in darkness. The average "dilatation index" (the ratio of the diameters of the pupil in darkness and light) is constant up to 60 years of age, and then diminishes.--M.G. Rabinovich
 Card: 1/1

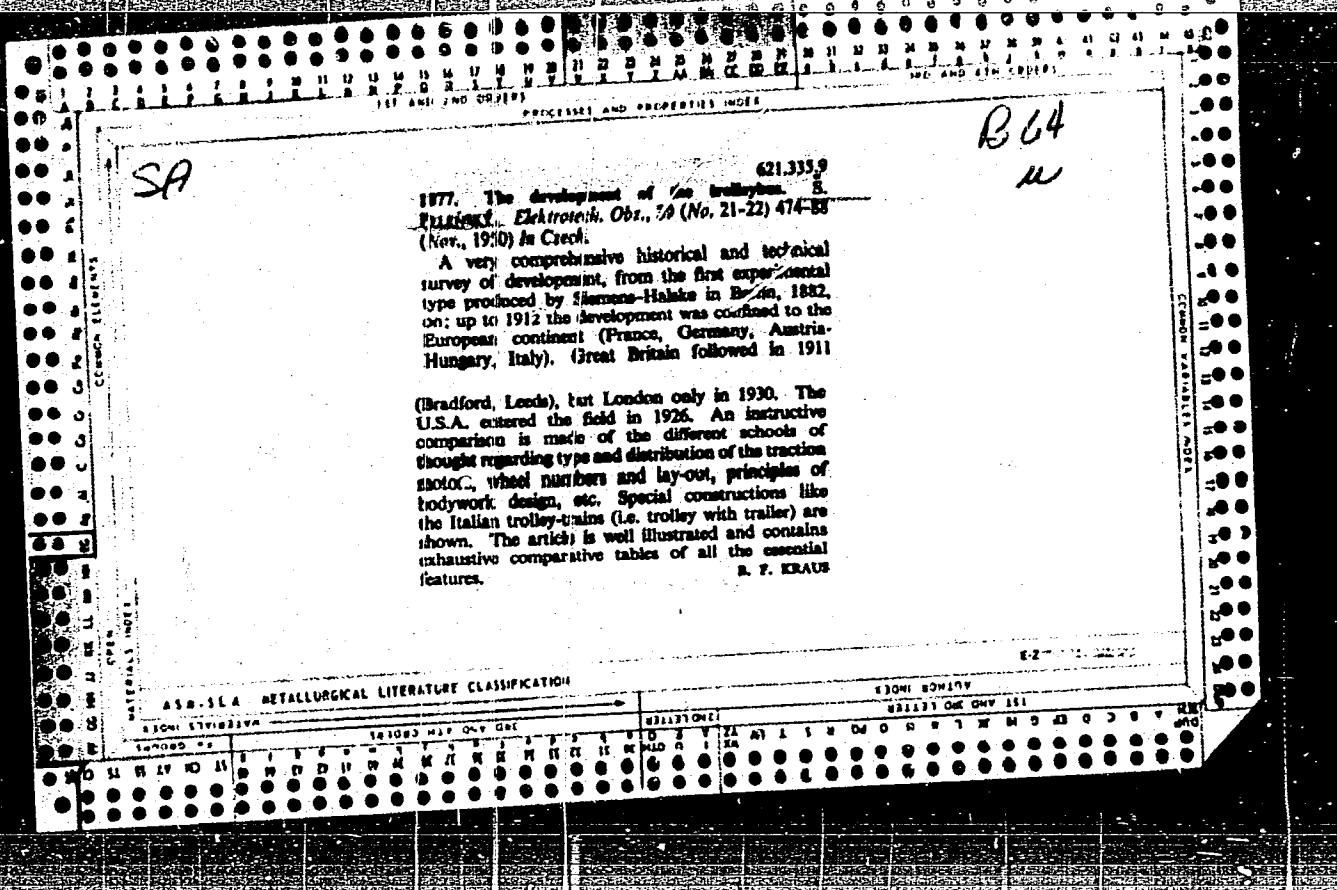
COUNTRY : Czechoslovakia
 CATEGORY : Human and Animal Physiology, Sensory Organs
 ABS. JOUR. : RZhBiol., No. 5 1959, No. 22544
 AUTHOR : Kadlecova, V.; Peleska, M.
 INST. : --
 TITLE : The Effect of the Autonomic Tone of the Pupil and Iris on Pupillary Diameter at Different Periods of Life. III. Examinations in Infrared Light.
 ORIG. PUB. : Ceskosl. ofthalmol., 1957, 13, No. 4, 283--293
 ABSTRACT : The diameter of the pupil is determined by the equilibrium between sympathetic and parasympathetic innervation and by the elasticity of the iris; the latter is significant only in the absence of a high level of autonomic tonus. This explains the relatively greater diameter of the pupil at less than 10 years of age and its subsequent diminution. At ages beyond 60, one encounters normal pupils as well as smaller pupils and greater variety in the ratio of pupillary diameter; furthermore the tissue of the iris scleroses and loses elasticity. By the dilatation index (see
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COUNTRY : Czechoslovakia T
CATEGORY : Human and Animal Physiology, Sensory Organs
ABS. JOUR. : RZhBiol., No. 5 1959, No. 22542
AUTHOR : Kadlesova, V.; Poleska, M.
INST. : --
TITLE : The Diameter of the Dark-adapted Pupil in Infra-
red Light.
ORIG. PUB. : Ceskosl. oftalmol., 1955, 11, No. 4-5, 260--266

ABSTRACT : The study was performed on 113 subjects, aged 7 to 83, the majority of whom were emmetropic. After 16 minutes of dark adaptation, in infrared light the eye was brought into focus with the translucent cathode of the photoelement, the emission of which was directed by means of electronic optics on to a fluorescent screen, on which an image of the eye was obtained. It was established that with age the diameter of the dark-adapted pupil decreased from 8 to 3 mm. Sex and color of the iris are without effect on the dia-
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PELENSKY, S.

CZECH

621.022.056

3257. Simple tramway trolley line. Principles of the mechanics of the suspended contact wire. S. PELENSKY. *Elektr. Obzor*, A3, No. 4, 194-214 (1954) in Czech.

Geometrical and mechanical relations of the trolley wire are derived from first principles, i.e. from the ordinary catenary and its replacement by a parabola. Methods of determining the sags in terms of span length and tension are explained and temperature and stress variations considered. The influence of the span length on the stressed states of the conductor is investigated. The influence of the adjacent spans and of their length differences, if any, are also considered, as well as methods of compensating variations of the tension by tensioning and stress-relieving gear.

D. F. KRAUS