

BELYAYEV, D.K.; QTKIN, L.G.; KULICHOV, B.A.

Effect of the light factor in the development of fur cover in
mink (*Mustela vison* Shr.). Izv. SO AN SSSR no.4 Ser. Biol.-med.
nauk no.1:91-100 '64. (MIRA 17:11)

1. Institut tsitologii i genstiki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

BELYAYEV, D.K., kand. biolog. nauk

Some problems of genetic control. Vest. AN SSSR 34 no.6:58-60
Je '64. (MIRA 17:8)

BELYAYEV, D.K.; TRUT, I.N.

Behavior and reproductive function of animals. Report No. 1:
Correlation of the behavioral characteristics with the
breeding season and fertility. Biol. Zhurn. Gid. Biol. 69
no. 3:5-19. Moscow 1964. (MIRA 17/2)

TIKHONOV, Vilen Nikolayevich; BELYAYEV, D.K., red.; ZAYTSEVA,
I.P., red.

[Study of blood groups in animals; a methodological manual]
Izuchenie grupp krovi zhivotnykh; metodicheskoe posobie.
Novosibirsk, Red.-izd. otdel Sibirskogo otd-nia AN SSSR,
1964. 59 p. (MIRA 18:8)

1. Chlan-korrespondent AN SSSR (for Belyayev).

BELYAYEV, D.K.

Certain problems concerning correlative variability and their
significance for the theory of evolution and animal breeding.
Izv. Sib. otd. AN SSSR no. 10:111-124 '62 (MIRA 17:8)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN
SSSR, Novosibirsk.

BELYAYEV, D.K.; KLOCHKOV, D.V.; ZHELEZOVA, A.I.

Effect of light on the reproductive function and fecundity of the
mink (*Mustela vison* Schr.). Biul. MOIP. Otd. biol. 68 no.2:107-125
Mr-Ap '63. (MIRA 17:2)

BELYAYEV, D. K., TRUT, L. N.

"The Ways of Reorganization of the Reproductive Function in Seasonly Reproducing Mammals."

report submitted for the 11th Intl. Congress of Genetics, The Hague, Netherlands, 2-10 Sep '63

BELYAYEV, D.K.; YEVSIKOV, V.I.

Effect of the heterozygotic nature of the maternal organism on the vitality of the progeny. Dokl. AN SSSR 146 no.6:1414-1417 0 '62.
(MIRA 15:10)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR.
Predstavleno akademikom Yu.A. Orlovym.
(MINK BREEDING) (HEREDITY)

BELYAYEV, D.K.; KIKNADZE, I.I.; SHERUDILO, A.I.

Cytophotometric determination of the amount of desoxyribonucleic acid in the sexual cells of various genotypes. Dokl. AN SSSR 143 no.4:958-960 Ap '62. (MIRA 15:3)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom V.A.Engel'gardtom.
(DESOXYRIBONUCLEIC ACID) (SPERMATOZOA)

BEIYAYEV, D.K.; RATNER, V.A.

Analysis of genetic and phenotypic correlations in connection with
some problems of breeding and evolution. Dokl. AN SSSR 140
no.3:609-702 S '61. (MIRA 14:9)

1. Predstavleno akademikom I.I.Shmal'gauzenom.
(GENETICS)

BELYAYEV, D.K.; UTKIN, L.G.

Problems of obtaining higher fecundity of sables in captivity.
Nauch. trudy Nauch.-issl. inst. push. zver. i krol. 5:95-115
'60. (MIRA 15:3)

(Sables)

BELYAYEV, D.K., kand.biologicheskikh nauk; UTKIN, L.G., kand.biologicheskikh nauk

Some data on breeding sables in captivity. Nauch. trudy
Nauch.-issl. inst. push. zver. i krol. 5:40-70 '60. (MIRA 15:3)
(Sables)

BELYAYEV, D.K.

Applying genetic principles to the breeding of mink (*Mustela vison*
Schr.) *Biul. MOIP. Otd. biol.* 64 no.3:103-115 My-Je '59.
(MIRA 13:3)

(Minks)

Observations on Intraovarian Eggs of the Sable

304/20-120-2-52/53

surrounded by a radiant crown (corona radiata). Further microscopical details are described. According to the state of the eggs no. 2 and no. 3 it could be supposed that they are in the preparatory stage for the first maturity division. As is well known in some Carnivora (dog, reference 12-14; fox, reference 15) the first polar body is eliminated after ovulation. In a species related to the sable, the polecat (Reference 11), the egg is released during the metaphase of the second maturity division. With the sable the case seems to be similar. There are 15 references, 1 of which is Soviet.

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR (Institute of Animal Morphology imeni A. N. Severtsov AS USSR), Vsesoyuznaya nauchno-issledovatel'skaya laboratoriya pushnogo zverovodstva (All-Union Scientific Research Laboratory for the Breeding of Fur-Bearing Animals)

PRESENTED: August 24, 1957, by I. I. Shmal'gauzen, Member, Academy of Sciences, USSR

SUBMITTED: August 13, 1957

Card 2/2 1. Sables--Reproduction 2. Uterus--Physiology 3. Eggs
--Production

SOV/ 20-120-2-62/63

AUTHORS: Bayevskiy, Yu. B., Belyayev, D. K., Utkin, L. G.

TITLE: Observations on Intraovarian Eggs of the Sable (*Hablyudeniya nad yaichnikovymi yajtsami sobolya*)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2, pp. 439 - 440 (USSR)

ABSTRACT: In publications there are descriptions of mature eggs of several species of mammals (References 3-8). There is only an imperfect description of the egg of the sable (Reference 10). A female sable in heat was operated on August 2, 1956, and had 3 intact follicles in its right ovary. 2 Graaf vesicles contained rather grown eggs (figure 1 b and c) in a stage near to deliverance. The sizes of the follicles and of the eggs are given. In 300 times magnification the egg protoplasm looked coarse-grained and rather frothy. It filled the whole space of the zona pellucida so that no peri-vitellin space is visible in this stage. The nuclei of separate cells and the differences between them are described. The zona pellucida is

Card 1, 2

BELYAYEV, D.K., kandidat biologicheskikh nauk.

Genetic principles applies in breeding colored minks. Tekh. no. 25
no. 5:38 My '57. (MLRA 10:6)

(Minks)

BELYANG, D. K.

Silver Fox

Certain characteristics of the fur development of young silver foxes in different lighting conditions. Kar. i zver. 6, No. 1, 1953.

Monthly List of Russian Acquisitions, Library of Congress
June 1953. UNCL.

BELIAYEV, D.K.

BELIAYEV, D.K.; PEREL'DIK, N. Sh.; PORTNOVA, N.T.

Experimental reduction of the embryonal development period of
sables *Martes zibellina* L. Zh. obsh. biol. 12 no.4:260-265
July-Aug 1951. (CLML 20:11)

1. Central Scientific-Research Laboratory for the Growing of
Fur-Bearing Animals of the Ministry of Sovkhozes USSR.

BELYAEV, D.K.

"The Role Of Light Governing Biological Rhythms In Mammals" (p.39) by D.K. Belyaev
SO: Journal of General Biology (Zhurnal Obshchei Biologii) Vol. XI, 1950, No. 1

BELIAEV, D. K.

24196 BELIAEV, D. K. K voprosu o predvaritel'nom otbore plosannogo molodnyaka
lisits. Karakulevodstvo i zverovodstvo, 1949, No. 4, S. 42-45.

SO: Letopis, No. 32, 1949.

BELYAYEV, D. K. (Co-author)

See: UTKIN, L. G.

Belyayev, D. K. and Utkin, L. G. "The effect of reduced length of daylight on the period of time needed for ripening of fox fur," *Kar'akulevodstvo i zverovodstvo*, 1949, No. 2, p. 59-62.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

BELYAYEV, D.; KUZNETSOVA, S., inzh.

Improve the organizational and technical standards of quality control. Avt.dor. 27 no.6:4 Je '64.

(MIRA 18:4)

1. Direktor stroyashchikhsya dorog pri Kemerovskom upravlenii stroitel'stva i remonta avtomobil'nykh dorog (for Belyayev).
2. Direktsiya stroyashchikhsya dorog pri Kemerovskom upravlenii stroitel'stva i remonta avtomobil'nykh dorog (for Belyayev).

BELYAYEV, B.Ye., inzh.; BULAKH, V.F., inzh.; VOLOKH, Yu.G., inzh.;
EVENTOV, I.M., inzh.

Unit for preparing road emulsions. Stroi. i dor. mash. 10
no.9:11-13 S '65. (MIRA 18:10)

СОНЦАНБЭЙ, С.Т.; БЕЛХАЯН, Б.Үе.

Increase the amount of construction work completed in winter.
Avt. dor. 2E no.12:3-5 D '65. (MTR 19:1)

BELYAYEV, B.Ye., inzh.

Road construction specialists at the construction of Volga-Baltic
Sea waterway system. Avt.dor. 28 no.6:27 Je '65.

(MIRA 18:8)

BELYAYEV, B.Ye., inzh.

Transportation of an activated mineral powder. Avt.dor. 28 no.3:16
Mr '65. (MIRA 18:5)

BELYAYEV, B.Ye.; SHASHKOVA, Ye.I.

Method of preventing the foaming of bitumen. Avt. dor. 27 no.2:23-
24 F '64. (MIRA 17:3)

KARATAYEV, G.S., inzh.; BELYAYEV, B.Ye., inzh.

Road construction work has been carried out in winter. Avt.dor.
26 no.10:5-6 0 '63. (MIRA 16:11)

RELYAYEV

~~RELYAYEV~~ B.Ye.; GELENTSVEY, L.B.; SOTNIKOVA, V.N.

Results of the use of activated mineral powder. Avt. dor. 26
no.1:15-17 Ja '63. (MIRA 16:6)

(Pavements, Bituminous concrete)

BELYAYEV, B.Ye.; AKSINOVICH, Ye.V.

Training specialists for mass professions in road construction.
Avt.dor. 25 no.8:5 Ag '62. (MIRA 16:2)
(Road construction workers)

BELYAYEV, B.Ye.; AKSINOVICH, Ye.V., inzh.

Work better in the new year. Avt. dor. 25 no.2:8-9 F '62.

(MIRA 15:2)

1. Glavnyy inzh. Upravleniya stroitel'stva No.17 (for Belyayev).
(Road construction workers)

BELYAYEV, B.Ye., inzh.

Striving for technical progress. Avt.dor. 22 [i.e.23] no.9:
17-18 S '60. (MIRA 13:9)
(Road construction) (Road machinery)

ye.
BELIAYEV, B., inzh.

Using local materials in constructing roadbeds. Avt.dor.
23 no.7:7-8 J1 '60. (MIRA 13:7)
(Road construction)

~~BNLYAYEV, B. Ig., insh.~~

Speeding up the introduction of over-all mechanization. Avt. dor.
21 no.4:5-6 Ap '58. (MIRA 11:4)

(Road machinery)

BELYAYEV, B.V.

Dependence of the correct usage of foreign words upon the
method of perceiving their semantic aspect. Vop. psikhol.
no.5:83-93 S-0 '64 (MIRA 18:1)

1. Kafedra psikhologii Moskovskogo gosudarstvennogo pedagogicheskogo instituta inostrannykh yazykov imeni Morisa Toreza.

BELJAJEV, B.V. [Belyayev, B.V.] (Moszkva)

On the characterization of the psychology of foreign language
(Western European and American) instruction. Magyar pszichol
szemle 19 no.4:457-467 '62.

HUNGARIAN

DELYAYEV, B. V., Moscow

"The Foreign (Western and American) Literature on the Psychology of Teaching Foreign Languages"

Budapest, Magyar Pszichológiai Szemle, Vol. 19, No. 4, 1962, pp 457-467

Hungarian translation of article originally published in Soviet Psychologist 1962, No. 1, pp 157-167

1/1

BELYAYEV, B.V. (Moskva)

Characteristics of foreign (Western European and American) psychology
of teaching foreign languages. Vop. psikhol. 8 no.1:157-167 Ja-F '62.
(MIRA 15:4)

(EDUCATIONAL PSYCHOLOGY)
(LANGUAGES AND LANGUAGES--STUDY AND TEACHING)

BELYAYEV, B.V. (Moskva)

Basic problems in the psychology of teaching foreign languages .
Vop. psikhol. 6 no. 6:49-58 M-D '60. (MIRA 13:12)
(Language and languages--Study and teaching)

To Have Command of a Foreign Language

SOV-3-58-9-26/36

instructor teaches phonetics, vocabulary and grammar).

Card 2/2

DEL'YA'IV, B. V.

SOV-3-58-9-26/36

AUTHOR: Lavrov, N.A., Docent, Gor'kiy State Pedagogical Institute of Foreign Languages

TITLE: To Have Command of a Foreign Language (Prakticheski vladet' inostrannym yazykom)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 9, pp 73-74 (USSR)

ABSTRACT: The 3rd Intervuz Conference of Foreign Language Teachers took place at the Gor'kovskiy pedagogicheskiy institut (Gor'kiy Pedagogical Institute) in March 1958. It was attended by representatives of many pedagogical institutes. The conference heard the report of B.V. Belyayev, Docent of the Chair of Psychology, Moskovskiy pedagogicheskiy institut (Moscow Pedagogical Institute), on the "Psychological Principles of the Process of Becoming Proficient in a Foreign Language". The Docent of the Rizhskiy pedagogicheskiy institut (Riga Pedagogical Institute) G.Ye. Vedel devoted his lecture to questions of the so-called complex, non-aspect (besaspektnoye prepodavaniye) teaching of a language (one

Card 1/2

AGASSION

5/0103/15/026/001/017/017

66
0

ABSTRACT

...sources of energy in automatic equipment

SOURCE

...1965, 173-175

TOPIC TAGS

...automatic control, automatic control theory

ABSTRACT

...discharge time and

VOLTAJE

...primary batteries and Cd-Ni storage (secondary)

RESEARCH

...functioning. The load resistance is

TEMPERATURE

...shows that the battery internal resistance largely

DEPENDENCY

...determines the effect of temperature on the

APPLY

...curves for various design coefficients are supplied. Orig

ASSOCIATION

...circuits

SUBMITTED

ENGL 00

SUB CODE: 1E

NO REF SOVS 000

OTHER 000

Card 1/1

W.G. BELYAYEV, B.V.

Subsidiary Apparatus

UDC 621.372.3.01
3265
The Effect of Frequency Variations on the Operation of Ferro-Resonant Voltage Stabilizers. W. G. Belyayev (Leningrad, *Tekhnicheskaya*, Jan-Feb 1978, No. 1, pp. 50-74. In Russian). The effects of various parameters of stabilizers, such as the inductance value, the capacitance of capacitors and the compensating coil, the value and type of the load resistance, etc., on the output voltage variation with frequency are investigated by a graphical-analytical method. The main conclusions are confirmed by experimental results.

1948

BELYAYEV, B. V. (Maj.)

"Voltage Regulator with a Movable Core," Elektrichestvo, No 8, 1948
Mbr., Inst. Automatics & Telemechanics, Dept. Tech. Sci., Acad. Sci.,
1947 Cand. Electrical Engineering

30T58

BEIYAYEV, B. V.

PA 30¹58

GERMANY/Mines - Design
USSR/Mines - Design

Jul 1946

"Hydrodynamic Mines and Means of Defense against Them,"
Engr-Maj B. V. Belyayev, Candidate in Technical Sci-
ences, 10 pp

"Morskoy Sbornik" No 7

Toward the end of 1944 the hydrodynamic mine was adopted for wide use. This had been developed by the Germans as early as 1940. This article discusses the general operation of these mines and the manner in which the hull of a passing vessel affects the mechanism in these mines.

30158

Chamber and vacuum system of the ...

S/908/62/000/000/006/008
B163/B180

joints being made with 5Φ (BF) glue which was polymerized at 150-170°C. The chamber was evacuated by 7 oil diffusion pumps MM-100 (MM-100), the preliminary vacuum being created by one or two fore-pumps BH-1 (VN-1), which type was also used for backing the diffusion pumps in operation. Oil traps cooled with liquid nitrogen were used to exclude vapor from the chamber. There are 3 figures.

Card 2/2

S/908/62/000/000/006/008
B163/B180

AUTHORS: Belyayev, B. S., Pantyushkova, Ye. V., Sedov, M. G.
TITLE: Chamber and vacuum system of the 680 Mev synchrotron
SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by
Z. D. Andreyenko. Moscow, Gosatomizdat, 1962. 58-63

TEXT: The chamber, which consists of four quadrants, joined by rubber-packed metal flanges, with inner and outer radius 182 and 218 cm respectively, is made of porcelain. Between the quadrants are straight sections 53 cm long. Each quarter of the chamber consists of 5 or more segments, each of which has nozzles for pumping, and introducing beam control devices. The four straight sections are used for injection, drift tube, intensity and position indicator, and resonator. The total volume of the vacuum chamber with nozzles is 500 l. The vacuum is of the order of several 10^{-6} mm Hg. The inner surface was partly coated with a 50 μ m thick silver layer, and the rest, leaving the acceleration gap with colloidal graphite. The segments were assembled on a special bench, the

Card 1/2

BELYAYEV, B.S.

Results of a contest to develop new building machinery for
the transportation industry. Transp. stroi. 11 no.8:45-46
Ag '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Tekhnicheskogo upravleniya Mintran-
stroya.

(Building machinery)

POLEVAYA, N.I.; TITOV, N.Ye.; BELYAYEV, B.S.; SPRINTSSON, V.D.

Experiment with the calcium method for determining the absolute
age of sylvites [with summary in English]. *Geokhimiya* no.8:718-726
'58. (MIRA 12:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut
i Radiyevyy institut AN SSSR, Leningrad.
(Sylvite) (Geological time)

BELYAYEV, B.S.

Increasing responsibility for the quality of building and
assembling operations. Transp.stroi. 10 no.2:1-3 P '60.
(MIRA 13:5)

1. Zamestitel' nachal'nika Tekhnicheskogo upravleniya
Mintransstroya.
(Transportation--Buildings and structures)

BELYAYEV, B.S., kandidat tekhnicheskikh nauk.

Methods for mechanizing loading and exchanging of cars. Mekh.trud.rab.
10 no.11:23-26 N '56. (MLRA 10:1)
(Coal-handling machinery)

BELYAYEV B.S.

ALEKTOROV, V.A.; BELYAYEV, B.S.; PATSIORA, P.P.; POYARKOV, M.F., professor, doktor ~~tehnicheskikh~~ nauk, redaktor; LARIN, V.F., retsenzent; MOLOTOV, V.D., retsenzent; VOLKHOVER, R.S., tekhnicheskii redaktor.

[Electric power plants, substations and electric power lines in lumbering] Elektrostantsii, podstantsii i elektroseti na lesorasrabortkakh. Pod red. M.F.Poiarkova. Moskva, Goslesbumizdat, 1953. 632 p. (MLRA 7:10)

(Electric power plants) (Lumbering)

BEIYANN, B. S.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Submitted by</u>
Patsiora, P. P.	Series of textbooks and students manuals on the electrification of timber felling	Moscow Forestry Engineering Institute
<u>Polvayev, B. S.</u>		
Ginzburg, Z. B.		
Alektorov, V. A.		
Almasov, A. F.		

SO: W-30604, 7 July 1954

BELYAYEV, B.P.; KAPUSTIN, N.I.

Experiment in operating a public designing office. Ogneupory 30
no. 3341-42 '65. (MIRA 18:5)

1. Borovienskiy kombinat ogneuporov.

305 BELYAYEV, B. P.

Manufacturing Process

1125. Experience with mechanizing the unloading of clay from railway trucks.—B. P. BELYAYEV (*Uzheguzhny*), 16, 425, 1951). (3 pp., 1 fig.)

BELYAYEV, B.N.; BOLDYREV, V.S., kand.tekhn.nauk; FORTUS, M.I., kand.
fiz.-matem. nauk

IU.M.Alekhin's book "Statistical forecasts in geophysics."
Metecr. i gidrol. no. 2:56-57 F '64. (MIRA 17:5)

BELYAYEV, B.N.; BOLDYREV, V.S.

Use of the theory of random functions in the study of sea currents.
Okeanologia 3 no.6:953-961 '63. (MIRA 17:4)

ACC NR: AP7004153

and can be obtained by processing the information obtained from tests set out on existing, or planned, ranges and operated over long periods of time. When four runs are made over a measured mile the results will fall within the 0.5% minimum noted; hence this is the only method which will satisfy requirements at all speeds. Orig. art. has: 14 formulas and 1 table.

SUB CODE: 03 / SURM DATE: None

Card 2/2

ACC NR: AP7004153

(N)

SOURCE CODE: 01/0375/87/000/000/0000/0000

AUTHOR: Boldyrov, V. S. (Candidate of Technical Sciences; Captain 2d Rank);
Bolyayov, B. N. (Engineer; Captain 2d Rank)

ORG: none

TITLE: Influence of current variability on the accuracy of determining a ship's speed

SOURCE: Morskoy sbornik, no. 1, 1967, 58-60

TOPIC TAGS: ocean current, ship, ship navigation, combatant ship, correlation function, naval equipment, telemetry equipment, navigation equipment, oceanographic equipment

ABSTRACT: The various methods recommended in official instructions for determining current speed are discussed and a comparison is made between standard arguments and the results obtained by use of a measured mile formula developed from current variability observations made at sea. The results are tabulated and the fact that the results obtained by a ship making two, or even three, runs will not enable the ship to determine its speed error to within less than 0.5% is noted. The current correlation function must be known in order to select a rational maneuvering plan,

Card 1/2

ACC NR: AP7003192

figures and 22 formulas.

SUB CODE: 0820/SUBM DATE: 17Jun65/ ORIG REF: 005

Card 2/2

ACC NR: AP7003192

SOURCE CODE: UR/0213/66/006/006/1059/1069

AUTHOR: Belyayev, B. N.; Pozdynin, V. D. (*Leningrad*)
(*Leningrad*)

ORG: none

TITLE: An acoustic method for measuring the distance between irregularities on the ocean bottom.

SOURCE: Okeanologiya, v. 6, no. 6, 1966, 1059-1069

TOPIC TAGS: oceanography, ~~underwater explosion~~, ~~ocean acoustics~~, underwater acoustics, *ocean current*, *ocean acoustics*, *acoustic measurement*

ABSTRACT: Various statistical characteristics of sea currents are considered and the possibility of their use in analysing variations in currents in space and time are discussed. It is shown that the cross-correlation functions can be used to obtain information about the degree of interrelation between the parameters of sea currents, both at two and several points in space. The main premises of the article are illustrated by examples based on the results of simultaneous 7-day current measurements made at three buoy stations closely spaced in the ocean and at depths of 25, 75, 150, and 250 m. Some problems are pointed out connected with the use of multidimensional statistical characteristics, which require further study. Orig. art. has: 3

Card 1/2

UDC: 313:551.465.5(26)

L 44428-66

ACC NR: AP6023080

valuable discussions and support of this study, and B. A. Zager and his assistants for maintaining reliable operation of the cyclotron during irradiation. Orig. art. has: 2 figures and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 18/ SUBM DATE: 10Jul65/ ORIG REF: 003/ OTH REF: 010

Card

2/2

L 44428-66 EWT(m)

ACC NR: AP6023080 (AN) SOURCE CODE: UR/0367/66/003/004/0609/0613

AUTHOR: Belyayev, B. N.; Gvozdev, B. A.; Gudov V. I.; Kalyamin, A. F.;
Krizhanskiy, L. M.

ORG: none

TITLE: Investigation of the gamma spectrum of Br^{74} isotopes

SOURCE: Yadernaya fizika, v. 3, no. 4, 1966, 609-613

TOPIC TAGS: gamma spectrum, bromine isotope, scintillation spectrometer,
nuclear energy level, radiation intensity, cyclotron

ABSTRACT: The gamma spectra of Br isotopes, obtained in the reaction of $\text{Cu}(\text{C}^{12}, \text{xn})\text{Br}$, have been investigated with the aid of a scintillation spectrometer. Energies and relative intensities have been measured for a number of new γ -lines in bromine with the decay half-times 36 ± 1 and 4 ± 1 min. The energies and relative intensities are given for γ -lines with $T_{1/2} = 36$ min. The isotope with $T_{1/2} = 36 \pm 1$ min was identified as Br^{74} . A diagram of the lower energy levels in Se^{74} is given in the original article. The authors thank G. N. Flerov for his

Card 1/2

34
33
B

I. 34480-66

ACC NR: AP6016808

multipolarities of the 2510 and 2490 kev transitions were also identified as E1. On the basis of the obtained multipolarity for the 2200-kev transition, the spin and parity of the 3050-kev level is identified as 2^- . The 2400-kev transition is tentatively identified as E0, although the place of this transition in the level scheme is still undecided. The authors thank M. G. Kaganskiy for a discussion of the results. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 31Jun65/ ORIG REF: 005/ OTH REF: 005

Card 2/2 *90*

L 34480-66 EWT(m)

ACC NR: AP6010808

(N)

SOURCE CODE: UR/0367/66/003/001/0013/0016

AUTHOR: Delyayev, B. N.; Vasilenko, S. S.; Gvozdev, V. S.; Grigor'yev, V. N. 36
35ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences, SSSR (Fiziko-
tehnicheskiiy institut Akademii nauk SSSR) BTITLE: Conversion transitions with pair production in Ge⁷² / 9

SOURCE: Yadernaya fizika, V. 3, no. 1, 1966, 13-16

TOPIC TAGS: germanium, gallium, positron, electron positron pair, electron transi-
tion, Gamma transition, neutron bombardment, dipole interaction, ISOTOPE, SPECTRUM
ANNALS 575

ABSTRACT: The authors measured, for the first time, the spectrum of the positrons produced in the decay of Ge^{72} . This has made it possible to determine the hitherto unknown multiplicities of a number of transitions with energies larger than $2mc^2$ from the pair-conversion coefficients. The positron momentum distribution was measured with the aid of a double-focusing spectrometer described by one of the authors earlier (Vasilenko, with M. G. Kaganskiy and D. L. Kaminskiy, PTE no. 5, 42, 1961). The decaying Ge^{72} was obtained with the aid of the (n, γ) reaction by bombarding gallium oxide with thermal neutrons for 24 hours. Positrons corresponding to γ transitions with energies 2510, 2490, 2465, 2400, 2200, 2120, and 1865 keV were observed. The positron spectrum had a complex form. The main part constituted the positrons due to the most intense γ transitions (2200, 2490, 2510 keV), of which the 2200-keV transition corresponds to dipole radiation and is identified as E1. The

Card 1/2

BELYAYEV, B.N. (Leningrad)

Selection of the discreteness interval and the evaluation of
information loss in the exchange of continuous measurements
of hydrologic elements by discrete elements. *Okeanologiya* 4
no.3:497-505 '64 (MIRA 1881)

Regularities in the α -decay ...

S/056/63/044/001/002/067
B108/B180

found. It was used to calculate $T_{1/2}(\alpha)$ for the isotopes Po¹⁹⁶, 198, 200 and together with experimental data on $T_{1/2}(\alpha + E)$ to calculate the $\alpha/(\alpha + E)$ ratios. The reduced derivative width δ_L^2 has a minimum for $N = 126$ (S. Axensten, C. M. Olsmats. Ark. Fys., 19, 461, 1961). F , the coefficients of forbiddenness were calculated from the formula $\log F = \log T_{1/2}(\alpha) - (a/\sqrt{Q_{\text{eff}}} + b)$ for even-odd Po isotopes. The coefficients a and b were calculated from Eq. (1) for $T_{1/2}(\alpha)$ given in seconds and Q_{eff} , the total energy of alpha decay, given in Mev. The high value of $F = 32$ for Po²⁰³ is attributed to its neutron configuration, with only one neutron in the unfilled $f_{5/2}$ subshell. There are 1 figure and 2 tables. ✓

SUBMITTED: June 4, 1962

Card 2/2

S/056/63/044/001/002/067
B108/B180

AUTHORS: Belyayev, B. N., Kalyamin, A. V., Murin, A. N.

TITLE: Regularities in the α -decay of nuclei with less than 126 neutrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 10 - 13

TEXT: The ratio $\alpha/(\alpha+E)$ of the probabilities of alpha decay and total decay (alpha decay plus electron capture) for Po^{204} was determined experimentally by comparing the activities with the known ones of Po^{206} . The part of nuclei undergoing alpha decay was measured with an ionization alpha-spectrometer, and the part involved in electron capture was determined from the amount of Bi^{204} daughter nuclei separated chemically from Po . The activity of Bi was measured with a scintillation counter (for more details of the method see Izv. AN SSSR, seriya fiz., 25, 874, 1961). The resulting $\alpha/(\alpha+E)$ ratio is $(0.645 \pm 0.084)\%$. From experimental data on even-even nuclei, the relation $\log T_{1/2}(\alpha) = a/\sqrt{Q_{\text{eff}}} + b$ (1) was

Card 1/2

ACCESSION NR: AT3002557

determined in laboratory coordinates and subsequently the determination of the nucleon energy after a collision taking place within the nucleus subject to the Pauli exclusion principle. Together with the recoil nucleon, this leads to a cascade inversely proportional to nucleon absorption rate. The cascade stage is followed by the slower evaporative phase treated by means of thermodynamic theory, statistically determining the probability with which the nucleus with excitation energy E emits a particle j with kinetic energy in the interval T_j to $T_j + dT_j$. Expressions are thus derived for the particle kinetic energy with momentum direction determined from part 1 of the analysis. The problem is then programmed on the URAL 1 computer in two stages, drawing on random magnitudes of position and flight angles with given probability distributions. A set of pseudo-random numbers is selected with uniform distributions in the interval $[0, 1]$. To track the nuclear cascade by following a particle motion the Monte Carlo technique of D. I. Golenko (Raschet kharakteristik nekotorykh stokhasticheskikh protsessov metodom Monte-Carlo. "Vyshislitel'naya matematika", No. 5, 1959) is used, and the results are compared with existing experimental data. "The authors express their gratitude to professor A. N. Murin, assistant professor M. K. Gavurin, and to I. I. P'yanov and I. I. Fedotov for their help in evaluating the work and carrying out the calculations." Orig. art. has: 58 formulas, 11 figures, 10 tables, and 2 block-diagrams.

Card 2/3

ACCESSION NR: AT3002557

S/2944/63/000/001/0076/0107

AUTHORS: Belyayev, B. N.; Tsaritsy*na, I. V.

TITLE: Calculating fast nucleon interactions with nuclei using the Monte Carlo method

SOURCE: Leningrad. Universitet. Kafedra vychislitel'noy matematiki i Vychislitel'nyy tsentr. Metody vychisleniy, no. 1, 1963, 76-107

TOPIC TAGS: nucleon interaction, Monte Carlo method, fast cascade phase, target nucleus, degenerate Fermi gas, recoil nucleon, evaporative phase, excitation energy, random magnitude

ABSTRACT: The nuclei bombardment by light particles has been studied using the R. Serber suggestion (Phys. rev., 72, No. 11, 1114, 1947), later developed by M. L. Goldberger (Phys. rev., 74, No. 10, 1268, 1948). The nuclear reaction is given in two stages. The first is the fast cascade phase with 100-400 Mev nucleon energies, e.g., a proton, encountering a target nucleus of uniform distribution. Limiting attention to a single nucleon in a degenerate Fermi-gas model (i.e., spherically symmetric nucleon momentum distribution), the direction of nucleon momentum is

Card 1/3

S/056/67/043/004/001/061
B102/B106

Formation of At²⁰⁹ and ...

to form with a greater probability than obtained in previous investigations (ZhETF, 39, 527, 1960) in "secondary" capture reactions of superbarrier nuclei, such as He³, He⁴, and Li, which have themselves been formed multiple interactions of high-energy nucleons. There are 1 figure and 1 table.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 31, 1962

Table: Relative yields with respect to At²¹¹.

Legend: (1) Target; (2) bombarding particle and its energy in Mev.

	(1)	(2)	At ²¹⁰	At ²⁰⁹	At ²⁰⁸	At ²⁰⁷
Bi	p, 660		0,81±0,08	0,72±0,08	0,40±0,04	0,51±0,04
	p, 660 (2)		0,82±0,12	—	—	—
	p, 120		0,96	0,64±0,06	~0,5	0,30±0,03
	p, 130 (2)		0,63±0,10	—	—	—
Pb	p, 150 (4)		1,02±0,20	0,81±0,22	0,22±0,05	0,10±0,04
	p, 660		—	1,43±0,43	—	0,61±0,13 (0,62±0,12)
	p, 200		—	1,31±0,28	—	0,28±0,05 (0,56±0,25)
	d, 400		—	1,52±0,25	—	0,52±0,11 (0,72±0,11)
	α, 800		—	—	—	0,71±0,07

Card 2/2

S/056/62/043/004/001/061
B102/B186

AUTHORS: Belyayev, B. N., Mal'tseva, N. S., Mekhedov, V. N., Min Nam Buk, Shimchak, R. A.

TITLE: Formation of At^{209} and At^{207} isotopes on bombardment of bismuth and lead with high-energy protons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1129 - 1134

TEXT: The yields of the lightest astatine isotopes (At^{207} , At^{209}), formed through the capture of fragments impelled by more than 40 Mev, were studied in the course of radiochemical examinations of astatine formation reactions during the bombardment of Bi^{83} and Pb^{82} with high-energy protons (cf. ZhETF, 35, 56, 1958; 39, 230, 1960). Under the same experimental conditions as in preliminary studies, the synchrocyclotron of the OLYAI was used for proton irradiation at 120-660 Mev. The spectra were measured using an ionization- α -spectrometer with a grid and the relative yields were calculated from the height of the individual peaks. The astatine isotopes 207-211 are assumed
Card 1/2

S/048/62/026/008/013/028
B104/B102

α -decay of neutron-deficient ...

lines of Po^{199} ($E_{\alpha} = 5.57$ Mev) and Po^{200} ($E_{\alpha} = 5.86$ Mev) must be taken into account. It is known for Po^{200} that $\alpha_2/(\alpha_2 + E) = 0.8$, where α_2 is the probability of an α -transition ($E_{\alpha} = 5.77$ Mev). Using known data: $\alpha_1/(\alpha_1 + \alpha_2 + E) \approx 5\%$. α_1 is the probability of an α -transition with $E_{\alpha} = 5.86$ Mev. The ratio between probability of α -decay to the ground state and total decay probability of Po^{199} is estimated to be $\sim 7\%$. There is 1 table.

Table. Surface probabilities and reduced widths.
Legend: (1) surface probability, (2) reduced width.

A	E_{α} MeV	$\frac{\alpha_1}{\alpha_1 + E}$ %	Поверхностная вероятность	$\delta^2 L$
199	5,87	~ 7	0,0088	0,08
200	5,86	~ 5	0,0027	0,042
201	5,87	0,8	0,0015	0,027
203	5,48	0,02	0,00013	0,0024

40100

S/048/62/026/008/013/028
B104/B102

24.6600

AUTHORS: Belyayev, B. N., Kalyamin, A. V., and Murin, A. N.

TITLE: α -decay of neutron-deficient Po isotopesPERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26,
no. 8, 1962, 1034 - 1036

TEXT: No direct investigation of the α -decay and E-capture of neutron-deficient Po isotopes which form during the reaction $\text{Bi}(p, xn)\cdot\text{Po}$ is possible because of the complex decay series of Po. By comparing the activities of the isotopes investigated with the corresponding activity of an isotope whose fractions of α -decay and E-capture are known, it is possible however to determine indirectly the fractions of other Po nuclei undergoing α -decay and E-capture. Po^{206} was chosen as reference isotope, of which it is known that $\alpha_1/(\alpha + E) = 5 \pm 1\%$. α_1 is the probability of Po^{206} α -decay to the lowest Pb level, $\alpha + E$ is the total decay probability. The α -activity was measured by an ionization chamber with 31-channel pulse-height analyzer 40 - 50 min after irradiation. The coincidence of the

Card 1/2

Calculation of the interaction ...

S/089/62/013/004/001/011
B102/B103

Bi²⁰⁹ target is fairly consistent with experimental results. After decay E^* was found to be 112 Mev, and the most probable excitation energy ranged from 110 to 120 Mev. If, therefore, an energy of about 10 Mev is assumed to be imparted to one nucleon during evaporation, the average total number of neutrons emitted during fission will be 10 or 11. This is in good agreement with the experimental value of 10 ± 2.7 n. The sum of mass numbers of the most probable fragments amounts to 199 - 198 and is thus very close to the experimental value of 196. The momentum and excitation energy distributions obtained for Bi²⁰⁹ differ only little from the values found for U and Th. There are 4 figures and 2 tables. ✓

SUBMITTED: November 27, 1961

Card 3/3

Calculation of the interaction ...

5/089/52/013/004/001/011
B102/B108

binding energies were calculated using Cameron's tables and from experimental data (Physica, 21, no. 3, 367; 410, 1955). The nuclear excitation energy following the cascade stage was determined from the momentum distribution of the recoil nuclei; the contributions of the cascade and evaporation processes being each estimated separately. The ratios of the mean transverse and longitudinal proton momenta to the momentum of the compound nucleus, $\bar{P}_\perp/P_{c.n.}$ and $\bar{P}_\parallel/P_{c.n.}$, as well as E^* were found to be,

respectively, 0.520, 0.342, and 67 Mev for the cascade stage, and, respectively, 0.522, 0.460, and 67 Mev for the cascade-plus-evaporation stage.

Taking allowance for the processes of evaporation increases \bar{P}_\perp by 24%. $\bar{P}_\parallel/P_{c.n.}$ increases almost linearly with $E^*/E_{c.n.}$, no matter whether this is

calculated with or without allowance for evaporation and whether $r_0 = 1.3 \cdot 10^{-13}$ or $1.45 \cdot 10^{-13}$ cm. Allowance for the processes of evaporation leads to a widening of the distribution for both momentum ratios, and in the case of $\bar{P}_\perp/P_{c.n.}$ the maximum is shifted towards greater values of

this ratio. The value of $\sigma_T = 95 \pm 13$ mb obtained for $E_p = 135$ Mev and a

Card 2/3

41374

S/089/62/013/004/001/011
B102/B108

24.6600

AUTHORS: Belyayev, B. N., Murin, A. N.

TITLE: Calculation of the interaction between fast protons and heavy nuclei with allowance for the fission process

PERIODICAL: Atomnaya energiya, v. 13, no. 4, 1962, 317 - 320

TEXT: The interaction of 135-Mev protons with Bi^{209} nuclei was calculated by the Monte Carlo method in order to gain a better insight into the mechanism of fission induced by fast protons and into the distribution of momentum and excitation energies of the products from interaction between fast protons and nuclei. The cascade and the evaporation stage were calculated on the assumption that $r_0 = 1.45 \cdot 10^{-13}$ cm, and on the basis of Fermi's statistics. The level density was assumed in the form $g(E^*) = C \exp 2/a(E^* - \delta)$, where E^* is the nuclear excitation energy, C is a constant independent of E^* , a is a level density parameter ($a = A/10$), and δ is a factor to account for both the parity and the shell effect, calculated according to Cameron (Canad. J. Phys., 36, no. 8, 1040, 1958). The

Card 1/3

Results of an investigation into...

S/E24/52/000/000/004/004
B164/B102

authors are compared with the results calculated for a proton energy of 135 Mev. Agreement is good, which points to a possibility of using the cascade model in studying the momentum spectrum of the recoil nuclei at lower bombarding energies, up to 100 Mev. There are 4 figures and 2 tables.

Card 3/3

4
Results of an investigation into...

S/824/62/000/000/004/004
B164/B102

The mean values of the momentum components and of the excitation energy \bar{E} are derived from this representation. Determining \bar{E} from p_{11} leads to an unambiguous relationship between these two quantities which is independent of whether the evaporation is taken into account or not. In studying the fission process in photoemulsions, this relationship can be used to determine the mean excitation energy of the nucleus undergoing fission. The fission cross section of the interaction considered between protons and Bi^{209} nuclei is 95 ± 13 mbarn. The mean excitation energy after the cascade for the nucleus under fission is 112 Mev. As about 10 Mev fall on each nucleon during evaporation it follows that an average of 10 - 11 neutrons are evaporated in the fission; this is consistent with other experimental data. Thus, the sum of the mass numbers of the most probable fission products is 198 - 199. As the spectra of the excitation energies and of the momenta after the cascade process in the case in question differ only slightly from those of U and Th it is possible also to give some data for the nucleus undergoing fission can be given for the bombardment of U and Th by protons, provided that the respective probabilities of fission at the different excitation energies are known. Experimental data from various

Card 2/3

S/624/62/000/000/004/004
B164/B102

24/100

AUTHORS: Belyayev, B. N., Murin, A. N.

TITLE: Results of an investigation into the interaction of fast protons with heavy nuclei considering fission

SOURCE: Fizika deleniya atomnykh yader. Ed. by N. A. Perfilov and V. P. Eysmont, Moscow, Gosatomizdat, 1962, 203 - 209

TEXT: The momentum distribution and the excitation energy of the reaction products for interaction of 135-Mev protons with Bi²⁰⁹ nuclei is studied. This is done by the Monte-Carlo method assuming a "cascade-evaporation model". Further, the effect of the evaporation on the momentum spectrum of the recoil nuclei is examined. Also the mean values of the recoil momenta and of the excitation energy for the nucleus undergoing fission as well as the fission cross section are determined. To calculate the excitation energy of the nucleus, the spectra of the components of the recoil momenta parallel (p_{\parallel}) and perpendicular (p_{\perp}) to the direction of the incident protons are analyzed for the pure cascade process and for the cascade-plus-evaporation process. Comparison shows that when evaporation is taken into account the momentum spectra appear broader and p_{\perp} to be increased by 24%.

Card 1/3

BELYAYEV, B.N.; MAL'TSEVA, N.S.; MEKHEDOV, V.N.; MIN NAM BUK;
SHIMCHAK, R.A.; SARANTSEVA, V.R., tekhn. red.

[Formation of At^{209} and At^{207} in the bombardment of Bi and Pb
with high-energy protons] Obrazovanie At^{209} i At^{207} pri bom-
bardirovke Bi i Pb protonami vysokikh energii. Dubna, Ob"edinen-
nyi in-t iadernykh issledovaniy, 1962. 9 p. (MIRA 15:6)
(Astatine--Isotopes) (Protons)

BELYAYEV, B.N.; KALYAMIN, A.V.; MURIN, A.N.

Experimental and calculated cross sections of the reaction $\text{Bi}^{209}(p, xn)$
 Po under bombardment by 135 Mev. protons. Dokl. AN SSSR 140
no.2:337-339 S '61. (MIRA 14:9)

1. Radiyevyy institut im. V.G.Khlopina AN SSSR. Predstavleno
akademikom A.P.Vinogradovym.
(Nuclear reactions)

BELYAYEV, B.N.; KALYAMIN, A.V.; MURIN, A.N.

Reduced derived width $\sigma_{\frac{2}{L}}$ for Po isotopes. Izv. AN SSSR. Ser.
fiz. 25 no.7:879-881 J1 '61. (MIRA 14:7)

1. Radiyevyy institut AN SSSR im. V.G. Khlopina.
(Polonium--Decay) (Alpha rays)

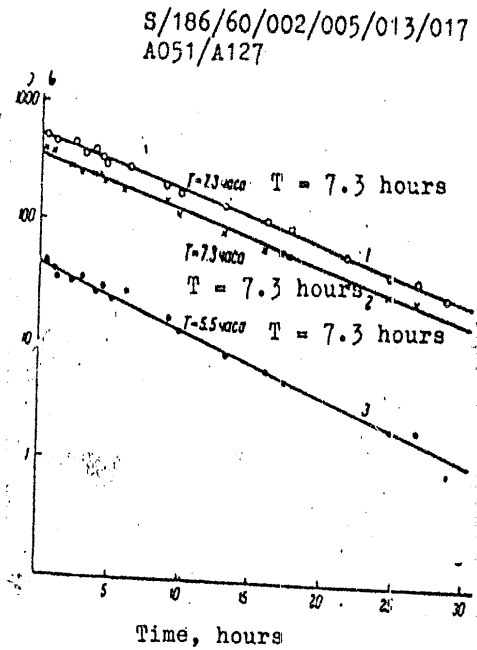
BELYAYEV, B.N.; KALYAMIN, A.V.; MURIN, A.N.

Probability ratio of α -decay and E-capture for the isotopes
Po²⁰⁰, Po²⁰¹, Po²⁰³. Izv. AN SSSR. Ser. fiz. 25 no.7:874-878 J1 '61.
(MIRA 14:7)

1. Radiyevyy institut im. V.G. Khlopina AN SSSR.
(Alpha rays) (Electrons--Capture) (Polonium--Isotopes)

Separation of astatine from lead,

Figure 6: 1 and 2 - curves of decay of At^{211} , plotted from the change of the intensity of the lines $E_{\alpha} = 7430$ kev and $E_{\alpha} = 5880$ kev, respectively. 3 - decay curve of At^{209} , plotted from the change of the intensity of the line $E_{\alpha} = 5630$ kev.

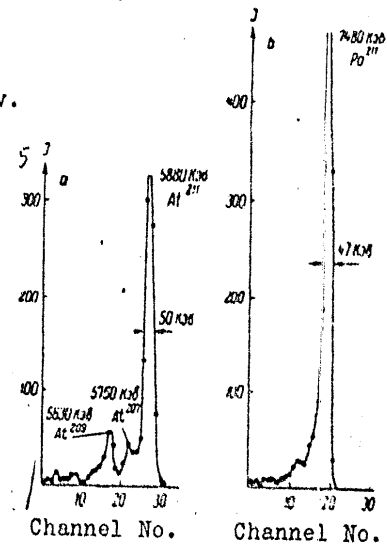


Card 8/8

Separation of astatine from lead,

S/186/60/002/005/013/017
A051/A127

Figure 5: Alpha-spectrum of At sample, formed from thorium, irradiated with 660 Kev energy protons. a - $E_{\alpha} < 6000$ kev, b - $E_{\alpha} > 6000$ kev. J - intensity.



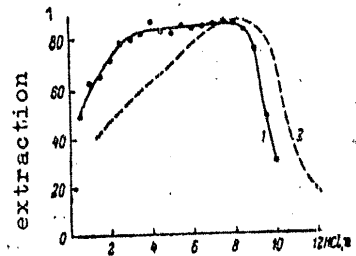
Card 7/8

Separation of astatine from lead,

Figure 1:

Extraction of At from hydrochloric solutions using diisopropyl ether. 1 - according to data of the present work, 2 - according to data of Ref. 14 (Neuman)

S/186/60/002/005/013/017
A051/A127



Card 6/8

Separation of astatine from lead,

S/186/60/002/005/013/017
A051/A127

the various isotopes of At was carried out with sufficient accuracy only for samples formed from thorium. It was impossible to produce radiochemically pure At from lead. In checking the reproducibility of results of the given method it was noted that comparatively large amounts of At loss (up to 50 %) was connected mostly with the incomplete extraction of the At in the various stages of purification. However, it is pointed out that these losses can be avoided by acidifying the alkaline solution of the stannite, containing At with HCl, to which small quantities of Te have been added. Here it is assumed that owing to the competition of adsorption of At on Te, the adsorption of the element by the walls of the glass vessel is excluded. The favourable reproduction of results of the yields makes this suggested method applicable for the determination of absolute cross-sections of At formation in various nuclear reactions. There are 6 figures, 3 tables and 16 references: 5 Soviet-bloc, 11 non-Soviet-bloc. The four recent English language publications read as follows: M. Lefort, G. Simonoff, X. Farrago, C. r., 248,219, 1959; E. K. Hyde, J. Chem. Educ. 36, 1, 15, 1959; H. M. Neuman, J. Inorg. Nucl. Chem., 4, 5/6, 349, 1957; D. Strominger, J. M. Hollander, G. T. Seaborg, Rev. Modern Phys., 30, 2, 799, 1958. ✓

Card 5/8

Separation of astatine from lead,

S/186/60/002/005/013/017
A051/A130

pitiation of the Te was repeated (5 mg). The formed residue was centrifuged, washed with concentrated HCl and dissolved in 5 ml of 8 M HCl while passing through a gaseous chlorine. The At was separated from the Te by extracting it in to diisopropyl ether. The ether layer (about 6 ml) was washed twice with 1.5 - 2 ml of 8 M HCl and the At was re-extracted with water (twice with 5 ml each time). After extraction a solution was obtained of radiochemically pure At, about 0.01 M according to HCl, containing traces of the diluent. When extracting At formed from lead, the method is more complicated, necessitating first the elimination of lead chloride, which precipitates when HCl is added to the nitric acid. The gamma-spectra of At were studied on a scintillation spectrometer. Findings agree well with data of Strominger D., Hollander, J. M., Seaborg G. T. (Ref. 16: Rev. Modern Phys. 30, 2, 799, 1958.) on gamma-emission of At²⁰⁸, At²⁰⁹ and At²¹⁰. When measuring the At preparations formed from the lead, in addition to the known gamma-lines, 3 lines were found (660 kev with T ≈ 5 hours, 165 kev and 32 kev) which, according to literature data, cannot be attributed to isotopes of At. The total intensity of these lines is about 10 % of the intensity of the entire specimen. The determination of the half-lives of

Card 4/8

S/186/60/002/005/013/017
A051/A127

Separation of astatine from lead,

bismuth irradiated with 660 Mev energy protons on the internal beam of the synchrocyclotron, in 5 ml of concentrated nitric acid, while heating it in a flask with a reversible cooler; 40 ml of 8 M HCl, saturated with chlorine, were added to the nitric acid solution. The extraction was carried out with 60 ml of diisopropyl ether in an extractor equipped with a mechanical mixer. The organic layer was twice washed with 15 ml of 8 M HCl. The At was extracted from the ether with 40 ml of 0.1 M solution of sodium stannite in 2 M NaOH. 10 - 15 mg of sodium tellurite 2 - 3 mg of lanthane (LaCl_3) and 1 - 2 mg of sodium chloroaurate were added to the alkaline solution. The solution was separated from the residue by filtration through a glass filter No. 4. The precipitation of the tellurium with the sodium stannite was repeated twice. The alkaline filter was acidified with 20 ml of concentrated HCl, containing about 0.2 mg of Te to 1 ml. The precipitation of the Te from the acidic solution was carried out with intensive mixing. After coagulation of the residue, 5 mg of Te was added twice. The Te residue, containing At, was separated from the solution by centrifuging, washed with a 6M HCl and dissolved in a few drops of nitric acid. 20 ml of 6 M HCl were added to the obtained solution, and the Te was precipitated with stannous chloride. After coagulation of the precipitate, the precipi-

Card 3/8

Separation of astatine from lead,

S/186/60/002/005/013/017
A051/A127

recorded by a MC-11 (MS-11) counter. Reference is made to the work of Neuman H.M. (Ref. 14: J. Inorg. Nucl. Chem., 4, 5/6, 349, 1957) where a complete description is given of a method for the extraction of At. The authors obtained an improved method, using diluted HCl solutions (Figure 1). Extraction of At increases in the presence of nitric acid. Small quantities of HF which have been added to the dissolved thorium in nitric acid has no effect at all on the extraction of At. The most convenient method for extracting At from an alkaline solution of sodium stannite after re-extraction is said to be the co-precipitation of the element with metallic tellurium from an acidified solution of stannite with HCl. Kurchatov, B. V., Mekhedov V. N. et al. (Ref. 1: ZhETF, 35, 1 (7), 1958) give a complete description of the method. Co-precipitation of At from HCl solutions with tellurium helps not only to concentrate the At and eliminate the large quantities of salts present in the solution, but also to conduct an effective purification from Sb, Os, Tl and J. Experiments showed that the presence of small quantities of tellurium in the H₂SO₄ solution (-10 mg) considerably spoiled the conditions of distillation of At. The recommended method developed by the authors is described as follows: Based on data of the behavior of At at each stage of purification it was suggested to dissolve 1 gr. of metallic

Card 2/8

S/186/60/002/005/013/017
A051/A127

AUTHORS: Belyayev, B. N.; Van-Yun-Yuy, Sinotova, Ye. N.; Nemet, L.;
Khalkin, V. A.

TITLE: Separation of astatine from lead, bismuth and thorium, irradiated with protons of 660 MEV energy

PERIODICAL: Radiokhimiya, v. 2, no. 5, 1960, 603 - 613

TEXT: The purpose of this article was to develop a quantitative method for separating radio-chemically pure astatine from irradiated lead, bismuth and thorium, with fast protons, which would be easily reproduced and would yield about 60 % astatine from the irradiated targets with a yield tolerance of ± 5 %. Development of such a method is hampered by the insufficient knowledge of the chemical properties of At. In order to establish the quantitative method for At separation with good reproducibility of the results the authors claim that it is necessary to investigate the behavior of the element at each stage of purification. This was accomplished on radio-chemically pure At, separated out from thorium as an indicator. The behavior of At was checked by the gamma-emission, which, in turn, was

Card 1/8

LOVLYA, S.A.; ZHELTOV, Yu.P.; BELYAYEV, B.M.

Means for improving the hydraulic fracturing method. Neft.khoz. 38
no.5:43-48 My '60. (MIRA 13:8)
(Oil wells--Hydraulic fracturing)

BELYAYEV, B.L., mayor meditsinskoy sluzhby

Work of the blood transfusion section of the military naval hospital,
Voen.-med.zhur. no.9:67-68 '64. (MIRA 18:5)

BELYAYEV, B.K., kandidat tekhnicheskikh nauk.

Friction losses of disks revolving in their cylinder.
Sudostroenie 22 no.11:19-22 N '56.

(MLRA 10:2)

(Disks, Rotating) (Friction)

BELYAYEV, B.I.

Materialization of planned capacity is the final goal of the
construction of industrial enterprises. Prom.stroi. 43
no.12:2-4 '65. (MIRA 18:12)

BELYAYEV, B.S., kand. tekhn. nauk, dotsent

Group adjustment and the evaluation of triangulation accuracy.
Izv. vys. ucheb. zav.; geod. i aerof. no.2:15-28 '64.

(MIRA 17:9)

1. Universitet druzhby narodov imeni Patrisa Lumaby.
Rekomendovana kafedroy geodezii.

KHLEBNIKOV, Anatoliy Vasil'yevich; CHZHUN-VEY-LIN [Chung Wei-ling];
BELYAYEV, B.I., kand. tekhn. nauk, recenzent;

[Mechanization and automation of mine surveying computations]
Mekhanizatsiya i avtomatizatsiya marksheiderskikh vychislenij. Moskva, Nedra, 1964. 182 p. (MLRA 17:8)

BELYAYEV, B.I., kand.tekhn.nauk.

Interpretation of I. I. Pranis-Pransvich's method with block
matrices. Nauch. trudy SI no.36#111-114 '61. (MIRA 17:3)