

TIKHOV, G.A.; PEKELIS, V., red.; TERUSHIN, M., tekhn. red.

[Astrobiology] Astrobiologiya. Moskva, Izd-vo TsK VLKSM
"Molodaia gvardiia," 1953. 65 p. (MIRA 14:12)

1. Chlen-korrespondent AN SSSR (for Tikhonov)
(Life on other planets)

GUMILEVSKIY, Lev; PEKELIS, V., redaktor; MIKHAYLOVSKAYA, N., tekhnicheskiy
redaktor

[Russian engineers] Russkie inzhenery. 2-e izd. Moskva, Molodaia
gvardiia, 1953. 439 p. [Microfilm] (MLBA 7:10)
(Engineers)

PEKELIS, V.

РАПКОВ, В., ПЕКЕЛИС, В.; ЯКХОМТОВА, З., редактор; ЗИКЕЕВ, Н., худо-
жественный редактор; СОБЕНЗОН, А., технический редактор.

[The young motion-picture operator] IUnyi kinomekhanik. [Moskva]
Izd-vo TsK VLESM "Molodaia gvardiia," 1954. 110 p. (MLRA 8:1)
(Motion-picture projection)

LYAPUNOV, Boris Valerianovich; PEKELIS, V., redaktor; BODROV, A., tekhnicheskiy redaktor

[Discovery of a world] Otkrytie mira [Moskva] Izd-vo TsK YLKSM
"Molodaia gvardiia," 1954. 157 p. (MIRA 8:7)
(Interplanetary voyages)

PEKELIS, V.

Small stream driven electric power plant. Tekh.mol. 22 no.10:
26-28 0 '54. (MLBA 7:11)
(Hydroelectric power stations)

PERLIS, V.

~~XXXXXXXXXXXXXXXXXX~~

Storehouses for living gold. Tekh.mol.23 no.1:9-21 Ja'55.
(Granaries) (MIRA 8:3)

Review v
KHRUSHCHEV, A.

Book for young motion-picture operators. ("Young motion-picture operator." V. Rapkov, V. Pekelis. Reviewed by A. Khrushchev).
Tekh. mol. 23 no.4:36 An '55. (MLRA 8:6)
(Motion picture projection) (Rapkov, V.) (Pekelis, V.)

LYAPUNOV, Boris Valerianovich; PEKELIS, V., redaktor; KIRILLINA, L., tekhnicheskii redaktor

[The struggle for speed] Bor'ba za skorost'. Perer. izd. [Moskva]
Izd-vo TsK VLSM "Molodaa gvardiia," 1956. 207 p. (MLRA 9:10)
(Speed) (Engineering)

PEKELIS, V.

"Pogoda," "Ural," "Kristall," and "Srelna," Tekh., vol. 24 no. 6:7 Ja '56.
(Electronic calculating machines) (MIRA 9:9)

PEKELIS, V.

Calculating with lightning speed. Znan.sila 31 no.7:10-16 J1 '56.
(Electronic calculating machines) (MLRA 9:9)

PEKELIS, V

DAVYLOV, Lev; PEKELIS, V., red.; MOROZOVA, G., tekhn.red.

[Steel hands of the forge operator] Stal'nye ruki kuznetsa.
[Moskva] Izd-vo TsK VLKSM "Molodaja gvardija," 1957. 74 p.
(Forging machinery) (MIRA 11:4)

GUMILEVSKIY, Lev Ivanovich; ~~PRKHLIS, V.~~ redaktor; KOROLEVA, L.,
tekhnicheskii redaktor

[Diesel locomotives] Teplovozy. [Moskva] Izd-vo TsK VIKSM
"Molodaa gvardiia," 1957. 79 p. (MLFA 10:6)
(Diesel locomotives)

BOLKHOVITINOV, Viktor Nikolayevich; BUYANOV, Aleksandr Fedorovich;
ZAKHARCHENKO, Vasilii Dmitriyevich; OSTROUMOV, Georgiy Nikolayevich;
ORLOV, V., red.; MOROZOV, S., red.; PEKELIS, V., red.; YEGOROVA, I.,
tekhn.red.

[Stories from the history of Russian science and technology]
Rasskazy iz istorii russkoi nauki i tekhniki. Pod obshchei red.
V.Orlova. Moskva, Izd-vo TsK VLKSM "Molodaia gvardiia," 1957.
589 p. (MIRA 11:1)

(Science--History) (Technology--History)

10/10/57

RAPKOV, V.; PEKELIS, V.

Showing filmstrips. TUn. tekhn. 2 no.9:61-63 S '57.
(Filmstrips) (Lantern projection)

(MLRA 10:9)

PEKELIS V

A region of full, sensible, and courageous life. Tekh. mol. 25 no.3:
6-7 Mr '57.

(Krasnoyarsk territory)

(MLRA 10:6)

PEKELIS, V.

AUTHORS: Petrov, V., Candidate of Technical Sciences, SOV/29-58-7-18/23
Konyshева, T., Engineer

TITLE: In the World of Books and Periodicals (V mire knig i zhurnalov)

PERIODICAL: Tekhnika molodezhi, 1958, Nr 7. pp. 30-31 (USSR)

ABSTRACT: V. Petrov tells about a new publication which appeared on the book market: "The Young Motion Picture Engineer" by V. Rapkov and V. Pekelis, which was published by "Molodaya Gvardiya" in 1958. The author describes this book as a good manual for the purpose of making oneself acquainted with the elements of motion picture engineering. The book has 8 chapters and it describes the correct manner of demonstrating 16 mm sound- and silent films. The book may be recommended not only to students but also to teachers and managers of motion-picture circles. On the whole, the authors have acquitted themselves of their task with good success. The principal chapters of the book which are devoted to the description of projection apparatus, the carrying out of seances, and the care of apparatus are written in good style. The chapter dealing with the "day-cinema" contains several mistakes and inaccurate passages, which cannot be allowed to pass

Card 1/3

In the World of Books and Periodicals

S. V/ 29-58-7-18/23

without criticism. The book is interesting and easily comprehensible. Illustrations (drawings) are good. As motion picture apparatus are being used in an ever-increasing degree in schools, it may be assumed that a new edition of this book will soon be published, in which existing faults should be considered and eliminated.

T.Konyshva mentions the booklet on the "Preservation of Fruit, Berries, and Vegetables in Private Houses by Pasteurization" by A.K. and G.I.Yermolayev, which was announced in the periodical "Tekhnika molodezhi", 1958, Nr 5. The booklet was published by the Zhitomir regional publishing house. Readers are told how preserves are prepared at home, and what apparatus and what tare are necessary for this purpose. The entire process is described in detail. Zhitomir glass factories began with the mass production of preserve-glasses. The preservation of fresh vegetables and fruit, which has been a hobby of the enthusiasts A.K. and G.I.Yermolayev for the past ten years, is no longer a purely domestic matter but has acquired public importance.

News published in various reviews and periodicals:

"Vestnik Akademii nauk SSSR", 1958, Nr 1 published an article on

Card 2/3

In the World of Books and Periodicals

SOV: 29 58 7 18/23

"Solid Gasoline". In "Zheleznodorozhnyy transport", 1958, No. 2
an article deals with the automatization of railroad traffic.
In "Zhurnal tekhnicheskoy fiziki", 1958, Vol. 28 a method of ob-
taining pure tellurium by sublimation, which is both simple and
applicable in industrial plants, is described. There is
1 Soviet reference.

1. Motion picture photography--USSR
2. Foods--Preservation
3. Fuels--USSR
4. Railroads--Control systems
5. Tellurium
--Sublimation

Card 3/3

Pekelis, V.
PEKELIS, V. 1

~~Mathematics and life.~~ Un.tekh. 2 no.1:70-74 Ja '58. (MIRA 11:1)
(Algorism)

PEKSLIS, V.

Mathematics and the life. IUn.tekh. 2 no. 2: 22-45 M. 1960.
(Mathematical recreations)

(MIRA 11:2)

PEKELIS, V.

"Samo". IUn. tekhn. 2 no.7:20-26 J1 '58.
(Automatic control)

(ICBA 11:10)

PEKELIS V.

AUTHORS: Kobrinskiy, H., Professor, Pekelis, V.

29-3-7/25

TITLE: A Dispassionate Partner (Besstrastnyy partner)

PERIODICAL: Tekhnika Molodezhi, 1958, V. 26, Nr 3, pp. 10-12 (USSR).

ABSTRACT: The first chess-playing automaton was built by the Hungarian mechanic Farkash Kempelen in 1769 and made a triumphant sweep all round the world. It burnt, however, in a fire in Philadelphia and the whole humbug was exposed. The Spanish engineer Torres Kevedo built a real automaton in 1890. Yet this automaton won only with a specific opening of the game. Recently, the chess-amateurs were excited by a sensational news. A new machine was sitting at the chess-board, viz. the electronic calculating-machine. It is known, in the age of progress - that the brains of a man are the backbone of any machine, no matter how clever it is. With every game, even the most simple one, opposing interests meet and the adversary tries to exploit to his own advantage the mistakes and errors committed by his antagonist. Mathematic tried to disclose the secret of the complicated competition between reasonable beings and to determine its rules. The mathematicians Neyman, Uold, and others succeeded approximately 30

Card 1/3

A Dispassionate Partner

29-3-7/25

years ago in establishing the bases of the mathematical theory of playing. This is of great fundamental importance and of practical application in economics, strategy and other fields. In the theory of playing it is proved that the issue of a game of chess depends on both the opening and the selected strategy. Our attachment to chess, however, is based on the very fact that we do not know the mathematical solution of this game. The Belgian mathematician L. Kraychik tried to calculate, at least approximately, the possible number of variations. This number amounts to $2 \cdot 10^{116}$. The chess-amateurs must not get excited: if the whole population of the world would continuously play chess and make a move each second, not less than 10^{100} centuries would be necessary for playing the whole lot of variations. The game of the automaton is based on a regulating system permitting to make in every situation the better or the correct move. But there are also games the issue of which depends merely on a chance, e. g. roulette and lotto. In this case both men and machine must reply at random. Concluding, we want to mention a game in which the machine - what is amazing - proved to be the stronger adversary. This game is based upon a random misleading of the partner in which case the chances to win are fifty-fifty. The machine, however, discovered unconscious rules governing the questioning by men, and won. What is the purpose of

Card 2/3

PRELIS. V

Mathematical mirrors. IUn.tekh. 3 no.9:68-74 S '58.
(Electromechanical analogies)

(MIRA 11:10)

PEKELIS, V.

Exploring mountains of books. Znan. sila 33 no.3:7-9 Mr '58.

(Information libraries) (Cybernetics) (MIRA 11:4)

VIMNICHENKO, Ivan Fedorovich; PEKELIS, V., red.; YEVDOKIMOV, M.,
tekh.n.red.

[Reflections about communism; from a writer's notebook]
Duma o kommunizme; iz bloknota pisatelja. Moskva, Izd-vo
TsK VLKSM "Molodaja gvardija," 1959. 174 p. (MIRA 13:1)
(Agriculture)

PEKELIS, V.

PHASE I BOOK EXPLOITATION 507/1693

Nezavisimyye stepeni razvitiya (Independent paths of the
United States and the USSR) Moscow, 1959. 63 p.
[31,000 copies printed.]
Ed.: V. Kuznetsov; Tech. Ed.: L. Boykova.

NOTE: This popular science booklet is intended for the
general reader.

CONTENTS: The booklet contains 13 articles dealing with
early and recent efforts to develop space
science and technology in spite of the fact that the articles are
written by leading Soviet scientists in the field. The
contributions of K. E. Tsiolkovsky to space science
are briefly presented. Scientists, space rockets,
future space craft, and certain pertinent engineering
problems are discussed. No personalities are mentioned.
No references are given.

Engel's, A. L. (American). A Flight into the Future 20

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Lunar Land on the Moon 22

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struction of Space 25

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Boyer, V. [Candidate of Physics and Mathematics, Worker
of the State Scientific Center of the Academy of Sciences
of the USSR, Institute of Space Research]
P. I. Shernberg]. The Mars and
Cerberus Sh. [Engineer]. Photon Rocket - Space Ship of
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~~FEELIS V~~

Friction and capacitance solve problems. IUn.tekh. } no.3:33-
36 Mr '59. (MIRA 12:4)
(Integrators)

PEKELIS, V.

Critique and bibliography; book about the second vision ("The
man saw everything" by S. Morozov. Reviewed by V. Pekelis).
Sov.foto 19 no.11:77 N '59. (MIRA 13:4)
(Photography--Scientific applications)
(Morozov, S.)

PEKELIS, VIKTOR

Visiting our senior astronomer. Znan.sila 34 no.2:24 F '59.
(MIRA 12:3)
(Tikhov, Gavriil Adrianovich, 1875-)

KOZLOV, Petr Mikhaylovich; PIKELIS, V., red.; KURLIKOVA, L., tekhn.red.

[Invasion of a myth] Vtorzhenie mifa. Moskva, Izd-vo TsK
VLKSM, "Molodaia gvardiia," 1960. 76 p. (MIRA 13:6)
(Chemical engineering)

KAPUSTIN, Ivan Il'ich; PEKELIS, V., red.; SHLENSKAYA, M., tekhn.red.

[Production lines in the shoe industry] Konveier skorokhodov.
Moskva, Izd-vo TsK VNIISI "Molodaja gvardija," 1960. 79 p.
(MIRA 14:4)

(Shoe manufacture)

VASIL'YEV, Mikhail Vasil'yevich; STANYUKOVICH, Kirill Petrovich; PEKELIS, V.,
red.; FEDCHENKO, V., red.; KUVYRKOVA, L., tehn. red.

[In the world of the seven elements] V mire semi stikhii. Moskva, Izd-
vo TsK VLKSM "Molodaia gvardiia," 1961. 254 p. (MIRA 14:7)
(Physics--Juvenile literature)

PEKELIS, V.

House of Popular Sciences. IUn.tekh. 5 no.6:35-41 Ja '61.
(MIRA 14:9)

(Leningrad--Science)

PEKELIS, V.

Machinery commander. Tekh.mol. 29 no.6:10-11 '61. (MIRA 14:7)
(Automation)

PEKELIS, V.D.

MOTKOVICH, Viktor; KUL'BACHNYY, I.G., doktor tekhnicheskikh nauk, nauchnyy redaktor; PEKELIS, V.D., redaktor; OSTRIROV, N.S., tekhnicheskiiy redaktor

[Foundry men of Kolomna] Kolomenskie liteishchiki. Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1956. 46 p. (MIRA 9:12)
(Kolomna--Founding)

PEKELIS, V.D.; BERG, A., akademik, red.; KOL'MAN, E., akademik, red.;
RYCHKOVA, N.G., red. izd-va; PRUSAKOVA, T.A., tekhn. red.

[The possible and impossible in cybernetics] Vozmozhnoe i
nevozmozhnoe v kibernetike; sbornik statei. Moskva, Izd-vo
AN SSSR, 1963. 221 p.



SHAL'IA, Miron Ivanovich; PEKELIS, V.D., red.; TISTROVA, O.Ye., red.;
VORONIN, K.P., tekhn.red.

[Homemade hydroelectric power station] Samodel'naya gidroelektre-
stantsiia. Pod obshchei red. V.D.Pekelisa. Moskva, Gos.energ.
izd-vo, 1958. 39 p. (MIRA 11:12)
(Hydroelectric power stations)

RAPKOV, Vladimir Ippolitovich; ~~PEKELIS, Viktor Davydovich~~; SHASHERINA, N.,
red.; KOVALEV, A., tekhn.red.

[The young motion-picture projectionist] IUnyi kinomekhanik.
Izd.2., perer. i dop. Izd-vo TsK VILKSM "Molodaia gvardiia,"
1958. 317 p. (MIRA 12:2)
(Motion-picture projection)

PEKELIS, V.D.; ARTOBOLEVSKIY, I.I., akademik, obshchiy red.;
PETROVA, E., tekhn.red.; SAMOKHVALOVA, N., tekhn.red.

[Machine; its past, present, and future] Mashina; ee proshloe,
nastoiashchee i budushchee. Moskva, Izd-vo TsK VLSM "Molodaia
gvardiia," 1959. 509 p. (MIRA 13:2)
(Mechanical engineering)

28(2)
AUTHOR:

Pekelis, V.D.

SOV/29-59-4-7/26

TITLE:

Is a "Thinking" Machine Capable of Solving Any Problem?
(Mozhet li "dumayushchaya" mashina reshit' lyubuyu zadachu?)

PERIODICAL:

Tekhnika molodezhi, 1959, Nr 4, pp 8-9 (USSR)

ABSTRACT:

Referring to the automatic computer suggested by the British mathematician A. T'yuring in 1937, the author tries to demonstrate the possibilities of a "thinking" machine. In general, that machine is qualified to solve automatically any problem. For this purpose the machine only requires a program-table, i.e. an "algorithm". It is true that it can neither operate with fraction numbers nor with negative quantities, but on the other hand the solution of the most intricate problems is virtually reduced to the execution of uniform and most simple operations. The combination of several simple proceedings shows the ways and means for automatizing the spiritual work of man. This machine is apt to solve highly difficult calculatory problems, to translate from one language into another, to play chess, draughts, dominoes, and to find a way out of a labyrinth. It has never been tried to construct the machine of T'yuring because it is very primitive and slow.

Card 1/2

Is a "Thinking" Machine Capable of
Solving Any Problem?

SOV/29-59-4-7/26

The machine exists only on paper; nevertheless, it is of extraordinarily great theoretical importance, because it demonstrates ad oculos that any process, however complicated in itself, can be subdivided by means of the algorithm into simple and uniform phases. It proves further that problems for which no algorithm can be established, cannot be solved, neither now nor in the future, not even by the most perfect electronic machines. Such problems can only be tackled by the human brain. There are 2 figures.

Card 2/2

PEKELIS, Viktor, zhurnal'ist

What is an engineer? Izobr. i rats. no.6:18-20, 38 '63.
(MIRA 16:8)

PEKELIS, V.

Machines' language. IUn.tekh. no.8:53-58 Ag '57.
(Electronic calculating machines)

(MIRA 10:8)

PEKBLIS, V.
PEKBLIS, V.

Mathematics and life. IUn. tekhn. 2 no.2:16-20 P '58. (MIRA 11:2)
(Mathematics--Curiosa and miscellany)

PEKELIS, V.

What is cybernetics. Sov. profsoiuzy 18 no.2:27-30 Jan '62.
(MIRA 15:4)
(Cybernetics)

PEKELIS, V D

28(2)

PHASE I BOOK EXPLOITATION

SOV/2616

Kobrinskiy, Natan Yefimovich, and Viktor Davydovich Pekelis

Bystreya mysli (Faster Than Thought) [Moscow] Izd-vo TsK VLKSM
"Molodaya gvardiya", 1959. 388 p. 90,000 copies printed.

Ed.: V. Fedchenko; Tech. Ed.: A. Kovalev.

PURPOSE: This book is intended for the general reader with some education but without a mathematical background.

COVERAGE: The book contains a discussion of the computer, its fundamental principles, and some of its applications, written in popular style and humorously illustrated. The authors discuss the history of counting and number systems and the development of modern computers from the time of primitive computing devices like the abacus. They also discuss the logic, basic components, and fantastic speeds of present-day computers. Advantages and disadvantages of computers are discussed. No personalities are mentioned. There are no references.

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Faster Than Thought

SOV/2616

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Faster Than Thought

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A new science with an ancient name

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Card 5/5

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S/029/61/000/006/002/004
D045/D112

17-2855 4112

AUTHOR: Pekelis, V.
TITLE: Master of machines
PERIODICAL: Tekhnika molodezhi, no. 6, 1961, 10-11

TEXT: The author describes the functions of the biomechanical system or more simply the combined effort of man and machine in performing complicated operations. As computers cannot be used to carry out every operation, it has been necessary to find a way of reducing the time required by man's brain and the number of movements required to control a machine. Tests and experiments have shown that man's movements are not an essential link in the biomechanical control system, since the change in the biocurrents of the muscles carrying out these movements occurs before any such movement is completed. Man can cause the development of biocurrents in his muscles and regulate them without even moving. A signal from the brain alone creates a biocurrent of the required capacity. In 1957, Soviet specialists created a biomanipulator. In the summer of 1960, at the 1st International Congress of the Federation on Automatic Control, a prosthesis-manipulator was demon-

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S/029/61/000/006/002/004
D045/D112

J

Master of machines

strated. This bioelectrical system of control, called the "iron hand" for short, was described in the journal "Tekhnika molodezhi", no. 4, 1958. The author points out, however, that better, more sensitive and more easily controllable manipulators have since been created. These will permit several complicated problems of prosthetics to be resolved, such as the creation of pliable, artificial limbs with various properties of manipulation. They will reproduce the movements of the various fingers and will be very powerful. The bioelectrical system will have only the function of control. On the other hand, these manipulators will be able to distinguish between different degrees of heat, strength etc. The author, in pointing out the advantages of a bioelectric manipulator over a mechanical one, emphasizes the fact that it can be used over long distances. The author cites a case where a locomotive is controlled by a device based on the "iron hand". In this case, one signal is given from the muscles bending the wrist and another - from the muscles which unbend it. In other words, one "forward" and one "reverse" signal. The solution of the problem of the direct use of the biocurrents of the central nervous system depends on the results of research in the field of electroencephalography. When this problem is resolved, the number of

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D045/D112

Master of machines

stages required for an informative command to be transmitted from the man to the machine will be reduced to a minimum. Descriptively speaking, the machine will be controlled by "unexpressed wishes". In conclusion, the author emphasizes the tremendous scope of this new field of science, and the modern trend towards full automation of all labor-consuming processes. References are made to Ye. Polyan, senior engineer of the Institut protezirovaniya i protezostroyeniya (Institute of Prosthetics and the Making of Artificial Limbs), academician I.I. Artobolevskiy, Doctor of Technical Sciences A.Ye. Kobrinskiy and academician A.A. Blagonravov.

Card 3/3

X

PEKELIS, V.

Laboratory of thinking: 1001 why's. Tekh. mol. 31 no.8:
34-35 '63. (MIRA 16:11)

*

PEKELIS, V.

What is bionics? Sov. profsoiuzy 19 no.22:38-40 D '63.
(MIRA 17:1)

KOBRINSKIY, Natan Yefimovich; PEKELIS, Viktor Davidovich;
LIVANOV, A., red.; YEGOROVA, I., tekh. red.

[Faster than thought] Bystrye mysli. Moskva, Molodaia
gvardiia, 1963. 469 p. (MIRA 16:11)
(Cybernetics)

PEKELIS, V.

"Tsiolkovskii" by M.Arlasorov. Reviewed by V.Pekelis. Tekh.mol.
31 no.4:25 '63. (MIRA 16:6)
(Tsiolkovskii, Konstantin Eduardovich, 1857-1935)

PEKELIS, V.

On the road toward the thinking crystal. Tekh. mol. 31 no.3:
1-2 '63. (MIRA 16:6)

(Cybernetics) (Crystals)

RAPKOV, Vladimir Ippolitovich; PEKELIS, Viktor Davydovich; GOLDOVSKIY, Ye.M.,
prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki,
nauchnyy red.; SKORUBSKAYA, I.N., red.; GOLICHERKOVA, A.A., tekhn.red.

[The A B C's of the amateur motion-picture photographer; how many
letters in the A B C's of the amateur motion-picture photographer?]
Azbuka kinoliubitelia; skol'ko bukv v azbuke kinoliubitelia?
Moskva, Izd-vo VTsSPS, Profizdat, 1961. 346 p.

(MIRA 15:2)

(Amateur motion pictures)

ALEKSANDROV, I.N., inzh.; PEKELIS, V.G., inzh.

Automatic voltage regulation in the feed centers of power
distribution networks. Elek. sta. 34 no.9:31-34 S '63.

(MIRA 16:10)

PEKELIS, Ye.M.

Numerical method of solving a nonlinear problem of the flow
of an air current around the earth's irregularities. Trudy
MMTS no.6:57-64 '65.

(MIRA 18:12)

~~USSR: Chemistry~~ ~~Radiochemistry~~ PEKEL'NAYA, Ye. G.

1974, No. 1

"Determination of the Coefficient of Distribution of Radium and of Its Isotopes Between the Melt and Crystals of Calcium Nitrate," M. G. Kozlov (Leningrad), Ye. G. Klokman, Ye. G. Pekel'naya, Radiatsiya, Acad Sci USSR

Iz Ak Nauk SSSR, CKhN, No 1, 1974, 155-162

The coefficient of distribution of radium and its isotopes between the melt and crystals of calcium nitrate was determined. It is shown that in the melt there is no enrichment of radium isotopes. It was also shown that radium nitrate readily forms fine crystals with the nitrates of Sr and Ba, but not with those of Sr and Ba. The fine crystals of Sr and Ba are enriched with Sr and Ba, but not on the nitrates of Sr and Ba.

PEKERO, Kh., kand.biolog.nauk; BOGDANOVSKIY, A., starshiy nauchnyy sotrudnik;
TRISHKIN, S., starshiy nauchnyy sotrudnik

Derivatives of triazine and urea in potato plantings. Zashch.past.it
vred.i bol. 10 no.4:27-28 '65. (MIRA 1816)

1. Gomel'skaya oblastnaya sel'skokhozyaystvennaya opyt'naya stantsiya.

MAKSIMOV, Vasil'iy Mikhaylovich, dotsent, kand.geologo-miner.nauk; ASATUR, K.G., dotsent, kand.tekhn.nauk; DAVIDOVICH, V.I., dotsent, kand.tekhn.nauk; ALBUL, S.P., kand.geologo-miner.nauk; PAUKER, H.G., inzh.-gidrogeolog; OSTROUMOV, B.P., gidrotekhnik; ZAYTSEV, I.K., doktor geologo-miner.nauk; TOLSTIKHIN, N.I., prof., doktor geologo-mineral.nauk; REZNIKOV, A.A., kand.khim.nauk, starshiy nauchnyy sotrudnik; MERSHALOV, A.F., assistant; VOROTYNTSEV, V.T., dotsent, kand.tekhn.nauk; MARKOV, I.A., dotsent, kand.geologo-miner.nauk; KIRKIS, Ye.Ye., dotsent, kand.geologo-miner.nauk; KHITROV, I.N., inzh.-geolog; BOROVIISKIY, V.P., kand.geologo-miner.nauk; RAVDONIKAS, O.V., kand.geologo-miner.nauk; ONIN, N.M., kand.geologo-miner.nauk; BASKOV, Ye.A., inzh.-gidrogeolog; NOVOZHILOV, V.N., dotsent, kand.geologo-miner.nauk; PEKEL'NIY, I.S., inzh.-gidrogeolog; NEVKL'SHTEYN, Yu.G., inzh.-gidrogeolog; BOSKIS, S.G., inzh.-gidrotekhnik; NIKIFOROV, Ye.M., inzh.-gidrogeolog; GATAL'SKIY, M.A., prof., doktor geologo-miner.nauk, nauchnyy red.; DOLMATOV, P.S., nauchnyy red.; GEN-NAD'YEVA, I.M., tekhn.red.

[Hydrologist's handbook] Spravochnoe rukovodstvo gidrogeologa.
Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,
Leningr.otd-nie, 1959. 836 p. (MIRA 12:4)

1. Vsesoyuznyy geologicheskii nauchno-issledovatel'skiy institut
(for Reznikov).

(Hydrology)

PEKENCIO, P.Kh., aspirant

Effect of fertilizers on the anatomical structure of stalks and
the resistance of spring wheat to lodging. Izv. TSKhA no.2:209-216
'59. (MIRA 12:8)

(Wheat--Fertilizers and manures)

PEKEN'O, P. Kh., Cand Biol Sci -- (diss) "Effect of mineral fertilizers on the harvest yield and quality of grain, anatomy and chemical composition of wheat stems in relation to planting seed for a winter dormant period." Moscow, 1960. 20 pp; (Moscow Order of Lenin Agricultural Academy im K. A. Timiryazev); 200 copies; price not given; (KL, 19-60, 132)

PUNKER, A.

Artificial climate in production areas. Sots.trud no.9:66-6
S '57. (MLRA 11-9)

Factories--Air conditioning)

VLADIMIROV, I.V.; CALIKOVICH, L.S.; FRKIN, K.S.; ROGOVIN, V.A.

Synthesis of keto group-containing cellulose esters. *Vysokom. soed.*
7 no.5:786-790 Ky 1965. (MIRA 18-9)

1. Moskovskiy tekstil'nyy institut.

PEKER, L. K.

"Concerning the Expected Special Properties of Decay of Six Quasi-Particle Isomeric States in Odd-Odd Nuclei with $A = 240$."

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

LGU (Leningrad State Univ)

PEKER, L. K.

USSR/Nuclear Physics - Excitation Jul/Aug 53
Levels

"Two Systems of Nuclear Excited Levels," L. K. Peker and L. A. Sliv, Phys Tech Inst, Acad Sci USSR

Iz Ak Nauk, Ser Fiz, Vol 17, No 4, pp 411-427

Acknowledge good results from analyzing M. G. Mayer's (Phys Rev 78, 16 (1950)) order of energy levels. The shell model allowed one to establish the existence of two systems of excited states: the "sequence" and the "hole" levels. It was concluded from analysis of experimental

272T44

material that in nuclei of atomic number $20 \leq Z \leq 70$ the mean distance between levels is 200 keV and the energy width of one shell approximates 1000 keV. Fifty-four references, mostly foreign. Received 23 Jun 53.

Peker, L. K.

USSR.

✓ Possible verification of the model for nuclear shells. *62*
L. A. Sil'v and L. K. Peker (Phys.-Tech. Inst., Acad. Sci.
U.S.S.R., Leningrad). *Zhur. Ekspil. i Teoret. Fiz.* 25,
381-3 (1933); cf. Goeppert-Mayer, *C.A.* 44, 6283c.—A
possible verification of the models of nuclear shells is based
on the use of data for the γ -radiation in (n, γ) reactions on
thermal neutrons. The nature of the γ -radiation detd.
from the model of nuclear shells gives good agreement with
literature data on the γ -transitions for a series of isotopes.
J. Rovtar Leach

ACCESSION NR: AP4024056

S/0048/64/028/002/0302/0307

AUTHOR: Poker, L.K.

TITLE: Regarding three-particle isomeric states of odd-A nuclei [Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.2, 1964, 302-307

TOPIC TAGS: odd-A nucleus, even-even nucleus, three-particle state, three-particle isomeric state, isomeric state, two-particle state, many-particle state, high spin state

ABSTRACT: A number of odd-A nuclei are now known to have long-lived isomeric states which cannot be described as single-particle states. The Z and N values of such isomers do not fall on the usual "islands of isomerism" and these isomers are characterized by unusually high spins and excitation energies. Among such isomers are Mo⁹³, T = 6.7 h, Iso = 21/2⁺, E_{iso} = 2428; Cs¹³⁵, T = 53 min, Iso = 19/2⁻ (or 17/2⁻), E_{iso} = 1620; Lu¹⁷⁷, T = 155 days, Iso = 23/2⁻, E_{iso} = 968; Po²⁰⁷, T = 2.8 sec, Iso = 19/2⁻, E_{iso} = 1390; Po²¹¹, T = 25 sec, Iso = 25/2⁺, E_{iso} = 1456. It has long been realized that these states are connected with excitation of the

Card 1/3

ACCESSION NR: AP4024056

even-even core of the nucleus. For this reason the effect has come to be called core isomerism. In view of their long lifetimes, these states cannot be collective ones. The large values of the spin indicate that several unpaired nucleons contribute to the total angular momentum, while the values of the excitation energy (particularly for the last four isomers listed above) limit this number to three nucleons. Hence it may be inferred that these isomeric states are three-quasiparticle states. The purpose of the present note is to call attention to the fact that there is a relationship between such states and two-particle states in neighboring even-even nuclei. This allows of drawing certain inferences regarding the configurations of the three-particle isomeric states, predicting other as yet unknown three-particle isomers, as well as yet unknown two-particle levels in even-even nuclei. To elucidate this relation there are compared the data on the three-particle states of Mo^{93} , Cs^{135} and Lu^{177} with the data on the known two-particle states in the neighboring even-even nuclei with the same even number of protons or neutrons, namely, Mo^{92} , Ba^{136} and Hf^{178} . The analogies and regularities involved are discussed at some length. It is predicted that analogous long-lived isomeric states may exist in Sb^{131} , I^{133} , La^{137} , Pr^{139} and Pm^{141} , with probable spins of $19/2^-$, $17/2^-$ or $15/2^-$. It is also possible that long-lived three-particle states may exist in Zr^{91} , Po^{209} and Bi^{211} . "The author is sincerely grateful to B.S.Dzhelepov, L.A.Sliv, A.P.

Card 2/3

ACCESSION NR: AP4024056

Klyucharev, and V.V.Remayev for useful discussions." Orig.art.has: 1 formula, 1 figure and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta (Scientific Research Physical Institute, Leningrad State University)

SUBMITTED: 20Sep63

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: NS

NR REF SOV: 006

OTHER: 010

3/3
Card

PEKER, L. K.

USSR/Nuclear Physics - Transitions 11 Sep 53

"Two-Nucleon Nuclear Transitions," L. A. Sliv and
L. K. Peker, Leningrad Phys-Tech Inst, Acad Sci
USSR

DAN SSSR, Vol 92, No 2, pp 277-279

Continuation of former work by authors (DAN 88, 5
(1953)) in which existence of two systems of nuclear
levels, either "successive" or "hole", was pointed
out. Analyze case in which the nucleus has a mixed
system consisting of both "successive" and "hole"
systems. Recently published works on decay schemes
of certain nuclei (H. Zeldes et al., Phys Rev

269T88

79 (1950) etc) facilitate the study of formation
of mixed systems of levels. Presented by Acad P. I.
Lukirskiy 4 Jul 53.

PEKER, L. K.

9-21-54

RMZ

Nuclear Science Abstracts
July 15, 1954
Physics

②
COLLECTIVE MODEL AND THE PROPERTIES OF SLIGHTLY EXCITED LEVELS OF A NUCLEUS. L. A. Siliv and L. K. Peker. Doklady Akad. Nauk S.S.S.R. 94, 849-52(1954) Feb. 19. (In Russian).

The use of the collective model, a variation of the nuclear shell model, for the analysis of levels of odd nuclei is discussed. The dependence of the energy of the primary excited collective level on the number of neutrons in the nucleus is shown. It is shown that the spin-orbital splitting of the levels depends on the filled condition of the neutron level. The energy of the collective level of odd nuclei is compared with the energy of the first excited level of even nuclei. (J.S.R.)

4129

USSR/Physics

Card 1/1 Pub. 22 - 16/56

Authors : Sliv, L.A., and Peker, L.K.

Title : The α - decomposition and a model of shells.

Periodical : Dok. AN SSSR 99/5, 727-730, Dec. 11, 1954

Abstract : A relationship between the probability of α - particle decomposition and the completeness state of a nuclear shell is established. The question is considered in the light of time τ for α - particle decomposition and the completeness state of a nuclear shell. It was found that the agreement between the theoretical probability, w , of an α - particle decomposition and the experimental data exist only for those cases when the neutron and proton shells are far away from their states of completeness. This fact establishes a certain dependence of the probability w of α - decomposition and the time τ of its duration and a time needed for completing the shell. Seven references (1948-1953) Graphs.

Institute: The Leningrad Physico-Technical Institute of the Acad. of Scs. of the USSR
Presented by: Academician P.A. Lukirskiy, July 28, 1954.

PEKER, L. K.

3/10 - Rm 2

Determining the deformation of the nuclear surface.
 L. A. Sliya and L. K. Peker. *Bull. Acad. Sci. U.S.S.R., Phys. Ser.* 19, 919-22 (1955) (Engl. translation); *Invest. Akad. Nauk S.S.S.R., Ser. Fiz.* 10, 355-9 (1955).—The main aspects of the collective model are presented. The methods of detg. the values of the deformation parameter, β , are discussed. From the energy of the rotational levels of strongly deformed nuclei, obtained by $E = (h^2/2I) I(I+1)$, the values of β are close to unity and are 2 to 3 times greater than those obtained from exptl. spectroscopic values of the quadrupole moments. It is pointed out that if this is true, the entire theory developed by Bohr on the assumption that β is very small is invalidated. In this work, β , was detd. from the lifetimes of the rotational levels. The values of the parameter, β , found by this method are smaller than those in the 2 other ways. A discussion to det. which method gives the correct value for β is given. It is shown that the values of β obtained from the energy of the 1st levels are over-estd. and that there should be calcd. from the spectroscopic quadrupole moments, the probability of α -decay and other exptl. data.

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RMA

SLIV, L.A.; PEKER, L.K.

On determining nuclear surface distortion. Izv.AN SSSR.Ser.fiz.
19 no.3:355-359 My-Je '55. (MLRA 9:1)

Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR.
(Moscow--Spectrum analysis--Congresses)

Peker, L. K.
USSR/Nuclear Physics - Thermal neutron capture

FD-3259

Card 1/1 Pub. 146 - 18/44

Author : Peker, L. K.

Title : Radiation capture of thermal neutrons without formation of compound nucleus

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 865-866

Abstract : The author calls attention to the fact that even such a reaction as the radiation capture of thermal neutrons can apparently proceed without the formation of a compound nucleus. He considers the reaction $Pb^{206}(n,\gamma)Pb^{207}$, and the scheme of levels of $^{82}Pb^{207}$ in this connection. Fifteen references, all Western except two.

Institution : --

Submitted : July 25, 1955

PEKER, L.K.

[Characteristics of atomic nuclei under minor energy excitation; abstract of a dissertation for the degree of candidate of physical and mathematical sciences] Svoistva ato mykh iader pri nebol'shikh energiakh vzbuzhdeniia; avtoreferat dissertatsii na soiskanie uchenoi stepeni kandidata fiziko-matematicheskikh nauk. Leningrad, Akademiia nauk SSSR, Leningradskii fiziko-tekhnicheskii institut, 1956. 14 p. (MLRA 10:2)

(Nuclei, Atomic)

PeKER, L. K.

Prof

✓ Radiation absorption of thermal neutrons without formation of a compound nucleus. L. K. Peker. *Soviet Phys. JETP* 2, 763-4 (1956) (English translation) - See *C.A.* 50, 14374d. *B. H. R.*

Prof

PEKER, L.K.

2
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3531
DEFORMATION EFFECTS ON THE FORMATION OF ISOMERIC STATES IN NUCLEI. L. K. Peker. Izvest. Akad. Nauk S.S.S.R. Ser. Fiz. 20, 966-987 (1957) (in Russian)

Isomeric states of nuclei with odd A have been analyzed within the framework of generalized shell models. The experimental data were analyzed in the study of isomeric states of long life was based on the difference λ_{spin} and λ_{parity} . The investigation was made with a single-particle model in which the multiple occupancy of states was taken into account.

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In which the transitions occurred between the states of $g_{1/2} \leftrightarrow p_{3/2}$, $h_{1/2} \leftrightarrow d_{3/2}$, $l_{3/2} \leftrightarrow f_{5/2}$, and in a few cases they appeared in type E3 with transitions $h_{1/2} \leftrightarrow d_{3/2}$; out of 99 cases only 3 to 4 were in isomeric transitions of other types: M3 and E4. However, certain analyses of the isomeric states in the single-particle model was met with serious complications which were resolved without additional assumptions by considering the nuclear deformations which resulted in a satisfactory description of isomeric transitions in nuclei of odd A. (R.V.J.)

Handwritten initials

Category : USSR/Nuclear Physics - Structure and Properties of Nuclei

C-4

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 459

Author : Peker, L.K.

Inst : USSR Academy of Sciences

Title : On Isomer States in Deformed Nuclei

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 3, 616-617

Abstract : It is shown that taking the deformation of the nucleus into account makes it possible to eliminate many difficulties, occurring when experimental data on the isomer states of nuclei are checked against the shell model representation. The analysis is based on a level scheme, obtained by Nielson (Referat. Zhurnal Fizika, 1956, 22068) when taking into account the deformations in an oscillator model of the nucleus. It is noted that this scheme leads to the presence of isomer states in the following nuclei:

$^{165}_{66}\text{Dy}_{99}$ (E3), $^{179}_{72}\text{Hf}_{107}$ (E3, M3), $^{183}_{74}\text{W}_{109}$ (E3, M3), $^{185}_{74}\text{W}_{111}$ (E3, M3),

$^{191}_{76}\text{Os}_{115}$ (M3 + E4) and also $^{187}_{68}\text{Er}_{99}$, $^{177}_{72}\text{Hf}_{105}$, $^{171}_{70}\text{Yb}_{101}$. Experimental data known at the present time confirm this deduction for the first five nuclei (the parentheses contain the multiplicity of the transition). It is emphasized that the isomer states in the deformed nuclei (in which only the

CaPd : 1/2

PA - 1246

CARD 1 / 2

SUBJECT USSR / PHYSICS
AUTHOR GOL'DIN, L.L., PEKER, L.K., NOVIKOVA, G.I.
TITLE The Alpha Decay
PERIODICAL Usp. fis. nauk, 59, 459-541 (1956)
Publ. 7 / 1956 reviewed 9 / 1956

This survey is arranged as follows: Experimental technics, α - γ - correlations (quite recently α -rays are examined by the determination of the angular correlations between δ -particles and γ -rays); the classical theory of α -decay; α -decay on the ground level of the daughter nucleus (the individual properties of nuclei depend more on the number of protons than on the number of neutrons, apparently because in heavy nuclei there are far more neutrons than protons. On the occasion of α -decay the properties of the mother nucleus and not of the daughter nucleus probably play the essential part); the deviation of nuclei from the spherical shape and the rotation structure of the excited levels; the rotation levels and the fine structure of α -rays; the intensity of the lines in α -spectra, simplified and not simplified transitions; the intensity of α -transitions on rotation levels.

Summary: The present theory of α -decay is not satisfactory. Essentially, nothing has been done except computing the transparence of barriers for a spherical nucleus. This is, however, quite insufficient because the α -active nuclei are by no means spherical. Nothing whatever is as yet known about the probability of the creation of α -particles. Undeniable progress was made by the discovery that a considerable part of the lower excited levels has rotational character. Nevertheless, many points still remain unexplained (par-

Peker, L. K.

V8001

ON DOUBLE ALLOWED β TRANSFORMATION. B. B. Djelepov and L. K. Peker. Doklady Akad. Nauk S.S.S.R. 106, 626-9 (1956) Feb. 1. (in Russian)

The β transformation probability depends on the variation of the total momenta in the ΔI system, on the variation of the wave function in the Δd system, and on the variation of the orbital momenta of the ΔL system. The β transformation is solved for the cases where variation of these magnitudes are within the definite limit governed by the selective rule, while for the cases where ΔI , Δd , and ΔL variations are beyond these limits, the β transformation relates to the forbidden cases. Calculations are made to find all the factors which prohibit the β transformation and determine the differences in $\log ft$ values in transformations where ΔI , Δd , and ΔL are known to be equal. Correlation of $\log ft$ values in β transformations with equal ΔI , Δd , and ΔL are set up for the cases of computing $\beta^+ - \beta^-$ decays in nuclei of even parity A and odd Z , and for cases of successive β decays in isobars triplets in which the mass isobar has an even parity A and an odd Z . In both cases the end isobars are nuclei with an even parity A and an odd Z . Data for all 31 cases analyzed for both types of decay showed that binary bound β decays have similar prohibiting order. Correlations of $\log ft$ for binary bound β decay established a rule that if one of the ground nuclei has a complete proton or neutron shell the $\log ft$ value is smaller in transformations related to such nuclei than the $\log ft$ in transformations of the one which does not possess the complete shell. The table of β transformation of types $0^+ - X - 0^+$, and $0^+ - X - 0^+$, and the relation of deformation coefficient to the number of nucleons in the complete shell are discussed. (R.V.J.)

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PEKER, L. K.

Distr: HB3d

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19
1954 ALEJ-457
DECAY SCHEMES OF RADIOACTIVE ISOTOPES, V. 5
Peker and L. K. Peker. Translated from a publica-
tion of the Academy of Sciences, U.S.S.R., Moscow-
Leningrad, 1957. 176p.

Available data on the decay characteristics of nuclei having mass numbers between 1 and 253 were compiled, and decay schemes are presented. Decay schemes for the related disintegrations of different isotopes with the same mass number are shown in a single figure for convenience in the study of nuclear structure. However, in heavy nuclei where α disintegration may occur, this convention is assumed only as a starting point for a method of representation. All numerical data are exhibited directly in the decay schemes. Both the decay schemes and numerical data were taken from the most reliable data published prior to May, 1956. (D.E.B.)

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PEKER, L. K.

✓4422

ELECTRIC MONOPOLE TRANSITIONS IN NUCLEI WITH
ODD MASS NUMBERS. L. K. Peker and L. A. Rivk. Soviet
Phys. JETP 9, 515-16 (1959) OCT.
Discr: 483d

4
1 Rnd
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RMI

Peker, L.K.

48-7-16/21

AUTHORS: Peker, L.K., Gustova, L.V., Chubinskiy, O.V.
TITLE: The Rotation Levels of Mg^{24} (Rotatsionnyye urovni Mg^{24})
PERIODICAL: Izvestiya Akad. Nauk SSSR, Ser. Fiz., 1957, Vol. 21, Nr 7,
pp. 1013 - 1016 (USSR)

ABSTRACT:

It was the aim of the authors to check the conclusion of the generalized model according to which the conditions leading to the ellipsoidal equilibrium form of the nucleus are not only realized in the domain of the heavy nuclei ($150 \leq A \leq 190$ and $A \geq 222$), but also in the domain of the light nuclei, especially near $A = 24$. It is the purpose of this paper to clear up the type of the higher excited levels of the nucleus of Mg^{24} ($E > 4,12$ MeV). Figure 1 and the table show the experimental values on the state of the nucleus of Mg^{24} up to the exciter energy of 9 MeV. The data on the excited states of Mg^{24} were obtained as a result of the investigation of the β -decay of two isobaric nuclei and various nuclear reactions. A detailed report is given on the level $\sim 8,4$ MeV, where various assumptions are made. Figure 2 shows and explains the scheme of the nuclear level of Mg^{24} . The interpretation of the high excited

Card 1/2

48-7-16/21

The Rotation Levels of Mg^{24}

levels of Mg^{24} as rotating levels agrees with the conclusion of the model according to which the nucleus of Mg^{24} possesses an axial-symmetric form of equilibrium. There are 1 table, 2 figures and 21 references, 2 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2

48-7-19/21

AUTHOR: Peker, L.K.

TITLE: On the Peculiarities of the Transitions of an Equilibrium Nuclear Form (Ob osobennostyakh skachkov ravnovesnoy formy yader)

PERIODICAL: Izvestiya Akad. Nauk SSSR, Ser. Fiz., 1957, Vol. 21, Nr 7, pp. 1025 - 1028 (USSR)

ABSTRACT: Nuclei with $A = 150 - 190$ have an ellipsoidal form of equilibrium which depends on the number of neutrons and protons in the nucleus. It was found that the transformation of the equilibrium form from a spherical into an ellipsoidal one takes place on the transition of nuclei with a neutron number of $N = 88$ into nuclei with $N = 90$ which may easily be noticed since it is accompanied by a considerable modification of the energy of the first collective level and by other processes (figure 1). Such an abrupt alteration of the nuclear properties was never observed in nuclei with other neutron numbers. It was the object of this paper to clear up the part played by protons and neutrons individually in the process of the transformation of the form of equilibrium and to determine the values N and Z at which this transformation takes place. In order to determine the boundaries of the domain of the

Card 1/3

48-7-19/21

On the Peculiarities of the Transitions of an Equilibrium Nuclear Form

deformed nuclei, account has to be taken of the fact that the character of the excited levels which is further described is to be considered as the fundamental characteristic of this or that form of equilibrium. Therefore it shall further be judged on the form of equilibrium of a nucleus exclusively according to the properties of the natural and the excited states. Figure 2 shows the nuclear potential as dependent on the parameter of the deformation $\beta \approx \Delta R/R$. The author further describes in detail the determination of the influence of protons and then turns to the nuclei with $A \approx 190$ in which an inverse process, i.e. from the ellipsoidal to the spherical form, takes place and he explains this process (figure 3). He comes to the result that no definite conclusion on the boundaries of the domain of deformed nuclei may be drawn. It may only be assumed that the transformation of the form of equilibrium apparently takes place when $Z = 76 - 78$ and $N = 114 - 116$. In order to determine the boundary values Z and N more accurately, he uses nuclei with uneven A -values which are represented by figure 4. There are 5 figures and 7 references, 2 of which are Slavic.

Card 2/3

48-7-19/21

On the Peculiarities of the Transition of a Equilibrium Nuclear Form

ASSOCIATION: Library im. M. Gor'kiy, AN USSR
(Biblioteka Akademii nauk SSSR im. M. Gor'kogo)

AVAILABLE: Library of Congress

Card 3/3

PEKER, L.K.

PA - 2873

AUTHOR:
TITLE:

Not given
Dissertations (July-December 1956). Department for Physical-Mathematical Science. (Zashtchite dissertazii. Otdelenie fiziko-matematicheskikh nauk, Russian)

PERIODICAL:

Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 4. pp 132-132
(U.S.S.R.)

Reviewed: 7 / 1957

Received: 5 / 1957

ABSTRACT:

The following dissertations were submitted at the Institute for Crystallography for the purpose of obtaining the Academic degree of "Candidate of Physical and Mathematical Sciences:

E.D.DUKOVA: "Experimental Research of the Stratified Spiral Growth of Crystals of the Gaseous Phase".

At the Physical-Technical Institute:

S.M.RIVKIN: "Investigation of the Behavior of Unbalanced Current Carriers (Experimental Investigation of the Process of Motion, Generation, Recombination of Non-Balanced Current Carriers)"

E.I.AGISHEV: "Non-Magnetic Momentum-Mass-Analyzers".

V.G.BOLCHEV: "The Investigation of the Thermoelectronic and Repeated Electron Emission in the Solid and Liquid State of Brass, Silver, and Germanium as well as in Tin."

over

Card 1/2

AUTHOR PEKER, L.K., SLIV, L.A., PA - 2993
TITLE Electric Monopole Transitions for Nuclei with odd Atomic Weight.
(Elektricheskiye monopol'nyye perekhody u yader s nachetnym atomnym
vesom - Russian)
PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 3,
pp 621-622, (U.S.S.R.)
Received 6/1957 Reviewed 7/1957
ABSTRACT At first the stage of the problem is discussed on the basis of some pre-
-vious works. The present paper is intended to point out the fact of the
existence of E0 transitions between the levels with spin $1/2(1/2_{\pm} \rightarrow 1/2_{\pm})$
in the case of nuclei with odd A. In the case given the spin selection
rules exclude the possibility of E2 transitions ($\lambda = 0$), and the formu-
la $T_{E0}/T_{\gamma} = \alpha_K - \beta_1$, then applies. Here α_K denotes the coefficient of the
interior conversion on the K-shell, β_1 - the theoretical coefficient of
the interior conversion of M1 - radiation, T_{γ} - the probability of the γ -
radiation, T_{E0}/T_{γ} - the part played by electrons which are connected
with a monopole transition. Just by means of the last-mentioned formula
the experimental method is simplified essentially, for in this case mea-
suring of α_K alone suffices. The most accurate investigation was that
of the level scheme of Au¹⁹⁷. (A corresponding sketch is attained). The
latest measurements of the coefficients of the interior conversion for
the transition 191keV furnished the value $\alpha_K = 2,5$. In the case of pure
M1-transition, $\alpha_K = 1$, would apply, and in the case of the presence of an
E2-admixture the coefficient of the interior conversion would be still

Card 1/2

PEKER, L.K.

AUTHOR

PEKER, L.K.

56-7-55/66

TITLE

A New Isomerism in Eu¹⁵²

PERIODICAL

(O novom vide izomerii v Eu¹⁵²)
Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 33, Nr 7
pp 291-293 (USSR)

ABSTRACT

The investigation of the entire material of the decay
of the isomeres Eu^{152m} (9,2 h) and Eu¹⁵² (13 a)

leads to the conclusion that Eu¹⁵² is the rare and per-
haps the only case in which a nucleus is in a inter-
mediate state. This intermediate state is between the
spherical and the ellipsoidal form of equilibrium of
the nuclei and must have special properties, such as the
lack of a γ -transition between the two isomeres,
which according to the spin difference of 2, would have
to be an E₂-transition.

It is therefore of great importance to set up the decay
scheme of both nuclei more extensively and with greater
accuracy in order to learn more about the structure of

CARD 1/2

GUSEV, Nikolay Grigor'yevich; WASHKOVICH, Vadim Pavlovich; OBYINTSEV,
Gennadiy Vasil'yevich; MARGULIS, U.Ya., red.; PEKER, L.K.,
nauchnyy red.; AKHLAMOV, S.H., tekhn.red.

[Gamma radiation from radioactive isotopes and fission products;
theory and tables] Gamma-izluchenie radioaktivnykh izotopov i
produktov deleniya; teoriya i tablitsy. Moskva, Gos. izd-vo
fiziko-matematicheskoi lit-ry, 1958. 208 p. (MIRA 12:1)
(Gamma rays) (Radioisotopes)

21(7)

PHASE I BOOK EXPLOITATION

SOV/1101

Dzheleпов, Boris Sergeevich, and Leon Kaufmanovich Peker

Skhemy raspada radioaktivnykh yader (Decay Schemes of Radioactive Nuclei)
Moscow, Izd-vo AN SSSR, 1958. 780 p. 6,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Radiyevyy institut.

Resp. Ed.: Yu. V. Khol'nov; Tech. Ed.: R. S. Pevzner.

PURPOSE: This book is for nuclear physicists and specialists in radio chemistry who are concerned with the nature and mechanism of radioactive decay, isotope formation, or nuclear radiation.

COVERAGE: The present publication incorporates all information available on decay schemes to the end of 1957. The 256 decay schemes include those of many odd-odd isotopes in the domain of deformed nuclei with $A=150 - 190$ and $A > 222$ which were rechecked and constructed or essentially changed to correspond with modern conceptions of the unified shell model about the nature of rotational and vibrational levels. If a nucleus has several low levels which are excited only by nuclear reactions but not by processes of radioactive decay, only those levels

Card 1/2

PEKER, L. K.

AUTHORS: Grigor'yev, Ye. P., Dzheleпов, B. S. 48 22 2/77
Zolotavin, A. V., Kraft, O. Ye., Krut'nik, B., Peker, L. K.

TITLE: The Decay of Tb^{160} and H^{160} and the Level Scheme of Dy^{160}
(Raspad Tb^{160} i Ho^{160} i skhema urovney Dy^{160})

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1968
Vol. 22, Nr 2, pp 101-125 (USSR)

ABSTRACT: Radioactive Tb^{160} was here obtained by irradiation with slow neutrons of chemically pure (99.99%) Tb_2O_3 . The position and relative intensity of 19 lines was carefully measured in the conversion spectrum. The decomposition of the known line 963 + 966 keV into two components is essentially new. The relative intensities of the γ -transitions were obtained by means of a division of the line areas through the corresponding photoelectric absorption factor. The values were because of the absorption of the γ -rays corrected in the source itself and at the walls of the cylinder, as well as because of the absorption of the photoelectrons in the target and in the slits of the counter. The obtained relative intensities

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