VLASOV, M.A.; KUPERMAN, A.L.

Results of the testing of lug-type tires for standard ZIL and GAZ trucks. Avt.prom. no.9:23-25 S '61. (MIRA 14:9)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.
(Motortrucks--Tires)

VLASOV, M.; ZVEREV, V., zootekhnik

Our experience in raising chicks for meat production. Ptitsevodstvo 9 no.5:20-25 My '59. (MIRA 12:7)

1. Predsedatel' kolkhoza "Voskhod," Krasno-Polyanskogo rayona, Moskovskoy oblasti (for Vlasov). 2. Kolkhoz "Voskhod," Krasnopolyanskogo rayona, Moskovskoy oblasti.
(Poultry)

VLASOV, M.

Sorniaki khlopchatnika i bor'ba s nimi (Weeds in cotton and their control). Alma-Ata, Kazgosizdat, 1953. 68 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

VLASOV, M.D.

SOV/4896

PHASE I BOOK EXPLOITATION

Moskovskiy dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo

Avtomaticheskiye rotornyye linii - sredstvo kompleksnoy avtomatizatsii proizvodstva. (Rotary-Transfer-Machine Lines-a Means of Full Automation of Production) Moscow, Mashgiz, 1960. 221 p. 10,000 copies printed.

Ed.: L. N. Koshkina; Ed. of Publishing House: I. Vasil'yeva; Tech. Ed.: G. V. Smirnova; Managing Ed. for Literature on Metalworking and Machine-Tool Making: V. I. Mitin, Engineer.

PURPOSE: The book is intended for technical personnel in the machinery industry.

COVERAGE: This collection of articles explains the principles of full automation based on the use of rotary transfer machines in various industries. The rotary operational transfer machines used for basic processing are discussed, and also the special power equipment and

Card 1/4

Rotary-Transfer Machine (Cont.) SOV/4896

accessories for these machines and [production] lines. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Card 2/4

L 28365-66 EPF(n)-2/EWT(m)/ETC(f)/EWG(m) JT

ACC NR: AP6001700 (N) SOURCE CODE: UR/0089/65/019/005/0467/0468

AUTHOR: Vertebnyy, V. P.; Vlasov, M. F.; Kirilyuk, A. L. 34 33 B

ORG: Institute of Physics of AN UkrSSR (Institut fiziki AN UkrSSR)

TITLE: Effect of core arrangement upon neutron spectra obtained from horizontal channels of VVR-M reactor 19

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 467-468

TOPIC TAGS: nuclear research reactor, neutron spectrum, nuclear reactor component/VVR-M nuclear reactor

ABSTRACT: Experiments were conducted at the Institute of Physics of the Ukrainian Academy of Sciences in order to determine the best arrangement of core elements and thus to get a maximum yield of slow neutrons in a reactor measuring channel. The VVR-M nuclear research reactor was used in connection with a mechanical chopper. The neutron spectra were investigated for three arrangements in the channel proximity. In the first case, only heat-releasing elements were used as neutron sources. The second arrangement was composed of elements and a 5.5-cm water layer. The water was substituted by a beryllium layer of the same thickness in the third version. These three arrangements were schematically illustrated by the reactor core cross-section and their effects on spectra

Card 1/2 UDC: 621.039.519

L 28365-66
ACC NR: AP6001700

were graphically demonstrated. It was concluded that the best arrangement was the version with beryllium moderator. A gratitude was expressed to D. T. Pilipts, Chief Engineer of the Institute of Physics, and to other Institute assistants for their help in conducting experiments. Orig. art. has: 3 figures.

SUB CODE: 18 / SUBM DATE: 30Nov64 / ORIG REF: 001 / OTH REF: 002

Card 2/2 CC

VLASOV, Mikhail Fedorovich

N/5
741.753
.V8

Sborka I Regulirovka Elektroizmeritel'nykh Priborov (The Assembling and Adjusting of Electric Meters, By) M. F. Vlasov, S. M. Pigin I V. I. Chervyakova. Moskva, Gosenergoizdat, 1955.

245 (3) p. Illus., Diagrs., Tables.

"Literatura": p. (247)

VERTEBNYY, V.P.; VLASOV, N.E.; KIRILYUK, A.I.; KOLOTYY, V.V.; PISANKO, Zh.I.; TROFIMOVA, N.A.

Total neutron cross sections of Re^{185} and Re^{187}. Atom. energ. 19 no.3:250-252 S '65. (MIRA 18:9)

PASECHNIK, M. V.; BARCHUK, I. F.; VERTEBNYY, V. P.; VLASOV, M. F.; KOLOTIY, V. V.; MAYSTRENKO, A. N.; MOSTOVOY, V. I.; NAZARCHUK, M. M.; PILIPETS, D. T.

"The parameters of the WWR-M reactor of the Inst of Physics, AS UkSSR and its application in nuclear physics research."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

VLASOV, M.F.; VERTEBNYY, V.P.; KIRILYUK, A.L.

Resonance levels of erbium isotopes. Atom. energ. 15 no.3:247-249 S '63. (MIRA 16:10)

(Erbium isotopes)

VLASOV, Mikhail Fedorovich; PIGIN, Sergey Mikhaylovich; CHERVYAKOVA, Vera Ivanovna; LAVRUKHIN, M.A., retsenzent; TKALIN, I.M., retsenzent; LEKHSHTEYN, L.I., red.; ZHISHNIKOVA, O.S., tekhn. red.

[Assembly and adjustment of electric measuring devices]Sborka i regulirovka elektroizmeritel'nykh priborov. Izd.2., perer. Moskva, Gosenergoizdat, 1963. 260 p. (MIRA 16:3)
(Electric meters)

VLASOV, M.F.; KIRILYUK, A.L. [Kyryliuk, A.L.]

Identification and determination of the parameters of resonance levels in erbium. Ukr. fiz. zhur. 8 no.9:947-953 S '63. (MIRA 17:8)

1. Institut fiziki AN UkrSSR, Kiyev.

VLASOV, M.F.

VLASOV, Mikhail Fedorovich; PIGIN, Sergey Mikhaylovich; CHERVYAKOVA, Vera Ivanovna; BLEKHSHTEYN, L.I., redaktor; ZABRODINA, A.A., tekhnicheskiy redaktor.

[Installation and regulation of electric measuring appratus] Sborka i regulirovka elektroizmeritel'nykh priborov. Moskva, Gos.energ.izd-vo, 1955. 245 p. (MLRA 8:12)
(Electric meters)

28434
S/185/61/006/002/006/020
D210/D304

21.6000

AUTHORS: Vlasov, M.F., Fedorov, M.B., and Vertebnyy, V.P.

TITLE: Methane diffusion cloud chamber for neutron spectrometry

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961, 186 - 190

TEXT: In this article the authors describe the constructions and operation of a methane diffusion cloud chamber for spectrometry of neutrons of energy 1 to 3 MeV. The construction of the chamber is shown. The chamber was operated at one atmosphere of methane using methanol for diffusion, giving a sensitive volume of 3 cm high by 20 cm diameter. The electrodes are made of two screens connected together and kept at a potential of 1kV relative to the base plate and the methanol groove. The flow of the cooling liquid nitrogen and the methanol temperature were controlled automatically to give base plate and methanol temperatures -70 and 10°C respectively, to

Card 1/2

Methane diffusion cloud ...

within ± 0.5°C. The chamber was operated by means of an electronic arrangement, given in the original paper, which starts the neutron generator, switches on the electric field and the pulse lamps, and winds the photographic film in the required sequence. The chamber was tested by analyzing the neutron spectrum from the D(d, n) reaction in the direction of the denterium beams of 150 keV energy, and the dispersion of the apparatus was found to be 8 % half-intensity. There are 5 figures.

ASSOCIATION: Instytut fizyky AN URSR, m. Kyyiv (Institute of Physics, AS UkrSSR, Kiyev)

SUBMITTED: August 22, 1960

Card 2/2

L 2226-66 EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)/EWA(h) WW/DM
ACCESSION NR: AP5023764 UR/0089/65/019/003/0250/0252
539.172.4:539.170.2

AUTHOR: Vertebnyy, V. P.; Vlasov, M. F.; Kirilyuk, A. L.; Kolotyy, V. V.; Pisanko, Zh. I.; Trofimova, N. A.

TITLE: Total neutron cross sections of Re super 185 and Re super 187

SOURCE: Atomnaya energiya, v. 19, no. 3, 1965, 250-252

TOPIC TAGS: neutron cross section, rhenium, nuclear energy level, thermal neutron

ABSTRACT: The total neutron cross sections of the separated isotopes Re^{185} and Re^{187} were determined in the resonance, thermal, and cold energy range. The measurements were carried out on the VVR-M nuclear reactor of the Institut fiziki AN USSR (Institute of Physics, AN SSSR) by using the time-of-flight technique. The cross section of Re^{187} obeys the 1/v law in the range below 0.5 - 2 e.v., and that of Re^{185}, below 0.08 e.v. The contribution of positive levels to the thermal cross sections of Re^{185} amounts to about 56%, and that of Re^{187} to about 3% of the total cross section. Analysis of the thermal cross sections show that for Re^{187} the energy of the negative level closest to zero is

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L 2226-66

ACCESSION NR: AP5023764

10 e.v. $\geq |E_o| \geq$ 5 e.v., and for Re^{185}, $|E_o| \geq$ 10 e.v. The neutron widths given for these levels are at least 15 times greater than the average widths of the positive levels. The total cross section of Re^{185} at 2200 m/sec is 118 ± 2 barn, and that of Re^{187} it is 90 ± 2 barn. Orig. art. has: 3 figures, 2 tables, and 1 formula.

ASSOCIATION: None

SUBMITTED: 15Dec64 ENCL: 00 SUB CODE: NP

NO REF SOV: 005 OTHER: 003

Card 2/2

VERTEBNYY, V.P. [Vertebnyi, V.P.]; VLASOV, M.F.; PASECHNIK, M.V. [Pasichnyk, M.V.]; TOTSKIY, I.A. [Tots'kyi, I.A.]

Spherical electron-pulse ionization chambers for the study of fast neutons [in Ukrainian with summary in English]. Ukr. fiz.zhur. 3 no.2:196-203 Mr-Ap '58. (MIRA 11:6)
(Neutrons) (Ionization chambers)

S/089/62/012/004/007/014
B163/B102

AUTHORS: Vertebnyy, V. P., Vlasov, M. F., Kolotyy, V. V., Maystrenko, A. N., Pasechnik, M. V.

TITLE: Spectrum of slow neutrons from the horizontal channel of a ВВР-М (VVR-M) reactor

PERIODICAL: Atomnaya energiya, v. 12, no. 4, 1962, 324-326

TEXT: The energy distribution of slow neutron from a horizontal channel beginning in the active zone of a VVR-M reactor at the Institut fiziki AN USSR (Institute of Physics, AS UkrSSR) was measured by the time-of-flight method. A 14 cm thick beryllium layer is arranged between the fuel elements and the channel entrance. The measuring arrangement consists of a mechanical interrupter of 300 mm diameter with 26 slits of 0.5 mm width each, which can be rotated at a speed of 10^2 to 10^4 revolutions per minute, a drift tube of 25 m length and a battery of boron counters. Another arrangement with a 175 m long drift tube is being completed. The time of flight is measured by means of a multichannel time analyzer ИВА-1 (IVA-1), developed in the laboratory of nuclear electronics of the

Card 1/2

Spectrum of slow neutrons ...

same institute. The measured energy distributions can be well approximated by Maxwell distribution. The temperatures resulting from this least-squares-approximation are very near to the temperature of the active zone. Small systematic deviations from a Maxwell distribution that can be observed at the low energy end of the spectrum are explained by the filtering action of the beryllium. An indenture in the energy distribution curve at 0.025 ev is related to a corresponding maximum in the total cross-section of beryllium. There are 3 figures and 3 Soviet references.

SUBMITTED: July 5, 1961

Card 2/2

VERTEBNYY V.P.; VLASOV, M.F.; KIRILYUK, A.L.

Effect of the configuration of the core of a VVR-M reactor on the spectrum of neutrons from a horizontal channel. Atom. energ. 19 no.5:467-468 N '65. (MIRA 18:12)

VLASOV, M.G.

PHASE I BOOK EXPLOITATION SOV/4143

Avtomatizatsiya mekhanicheskoy obrabotki v Leningradskoy promyshlennosti (Automation of Mechanical Machining Processes in Leningrad Industry) Moscow, Mashgiz, 1959. 358 p. Errata slip inserted. 4,000 copies printed.

General Ed.: I.M. Kucher; Reviewers: N.V. Reshetikhin, Candidate of Technical Sciences, Docent, and Ye. V. Miller, Candidate of Technical Sciences, Docent; Eds. of Publishing House: T.L. Leykina and M.A. Chfas; Tech. Ed.: O.V. Speranskaya; Managing Ed. for Literature on Machine-Building Technology (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for technical personnel.

COVERAGE: The book deals with the automation of mechanical machining processes in small-lot production in Leningrad industry. The use of hydraulic copying slide rests is explained, and practical experience in the introduction of copying slide rests into leading Soviet plants is described. The improvement of such slide rests, the technical and economic effects resulting from their usage, and methods of designing master forms are discussed. New designs of hydraulic slide rests are described. Emphasis is laid upon problems of program control, especially for the simplest control systems, and a number of the original systems are described. Automation problems involved in the group machining method are investigated. No personalities are mentioned. There are 57 references: 46 Soviet and 11 English.

SECTION II.

NUMERICAL PROGRAM CONTROL

SECTION III.

AUTOMATION IN LOT PRODUCTION BASED ON THE GROUP MACHINING METHOD

AVAILABLE: Library of Congress

TK/pw/mas
10-25-60

Card 5/5

RYBALKO, K.S.; PEREL'SON, M.Ye.; SHRETER, A.I.; VLASOV, M.I.; GUSANOV, I.A.; PIMENOV, M.G.; PIMENOVA, R.Ye.; NOVOSEL'TSEVA, N.P.; SEREBRYAKOVA, A.A.

Preliminary evaluation of plants of the family Compositae for their sesquiterpenic lactone content. Apt. delo 14 no.5:37-41 S-O '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticheskikh rasteniy, Bittsa, Moskovskoy oblasti.

KUVAYEV, V.B.; VLASOV, M.I.; GUBANOV, I.A.

Larkspur Delphinium confusum M. Pop., a new medicinal plant. Bot. zhur. 49 no.7:997-1002 Jl '64 (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticheskikh rasteniy, Moskovskaya oblast'.

15-57-10-14914

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 262 (USSR)

AUTHOR: Vlasov, M. I.

TITLE: A Technical Conference of the Problem of Selecting the Most Rational System of Mining Operation (Tekhnicheskaya konferentsiya po voprosu vybora naiboleye ratsional'nykh sistem razrabotki)

PERIODICAL: Ugol' Ukrainy, 1957, Nr 1, pp 47-48

ABSTRACT: The paper gives a short account of the content of reports at a conference on the systems of mining operations in coal fields. This conference was called by the Voroshilovgrad Oblast Committee of the Ukrainian Communist Party together with the Oblast Administration of the Scientific-Technological Mining Society and the Voroshilovgrad House of Technology.. It was noted at the conference that approximately 60 galleries were being mined at the beginning of 1957 in the principal Voroshilovgrad coal district by the

Card 1/2

A Technical Conference of the Problem of Selecting (Cont.)

long-pillar system. In the principal Donbass anthracite district, 114 galleries were being worked at that time. At the mines of the "tresta Sverdlovugol'" (Sverdlov Coal Trust), the use of the pillar system has permitted an increase in the advance of the galleries from 28 m to 36.5 m. Further progress in the coal industry is seen in the decrease in delivery of rock to the surface. This accomplishment has required the introduction of all manner of methods for working wider passages. In the Voroshilovgrad coal district, 25 mining operations are conducted by wide passages; in the Donbass anthracite field, 20 such operations are in use. The conference recommended the expansion of working the coal beds in the Donbass by long pillars (longwall method) along the strike and to change to driving drifts by wide passages.

Card 2/2

I. S. Krashkin

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B012/B052

12 2000

AUTHORS: Vlasov, M. I., Mining Engineer, Golovin, Yu. P., Mining Engineer, and Baryshev, V. M., Mining Engineer

TITLE: Sinking of horizontal workings by blowing-up deep boreholes section by section

PERIODICAL: Gornyy zhurnal, no. 7, 1960, 39-40

TEXT: In the mines of Gornaya Shoriya, horizontal workings with small holes are advanced by applying cone and line cut. In the Temir-Tau Mine, annually 8420 m are advanced. The monthly average lies between 25 and 30 m. Very economical data were attained by blowing up deep boreholes for advancing upsets. Experience gained in advancing horizontal workings was applied to experiments. The main parameters of drilling and blasting work were determined. From June to September, 1959, three horizontal workings with a total length of 80 m were advanced by deep boreholes. The hardness of the rock was 16-18, and that of ore 15-16 according to Protod'yakonov. Fig. 1 shows the scheme of the charge in various sections of boreholes, Fig. 2 gives the sequence of explosions in the boreholes. The optimum depth

Card 1/3

Sinking of horizontal workings ...

of boreholes was found to be between 12 and 20 m; thus, the deviations were reduced to a minimum of 20 cm, and the drilling speed was not reduced. The experiments showed that the most economical method is that of advancing workings with cross sections between 4 and 6 m^2 by six boreholes (Fig. 2) two of which are cut holes. One of the difficulties in this system is the heavy air blow in the passage. The method of advancing horizontal workings by blowing up deep boreholes section by section is recommended for solid, viscous, and little cracked rock. The above method leads to a 2.5 to 3-fold increase in the rate of advance (as compared to the usual one), a cost reduction of 20-30%/m, higher safety, and improved working conditions. Drill rig BA-100 (BA-100) is unsuited. A drill rig of 60-80 kg is recommended for depths between 15 and 20 m, and a borehole of 60-75 mm in diameter. There are 3 figures and 1 Soviet-bloc reference.

ASSOCIATION: Rudnik Temir-Tau, Kemerovskoy obl. (Temir-Tau Mine of the Kemerovskaya oblast') Vlasov, M. I.; VostNII, Stalinsk (Eastern Scientific Research Institute for Industrial Safety in the Mining Industry, Stalinsk) Golovin, Yu. P., and Baryshev, V. M.

Sinking of horizontal workings ...

S/127/60/000/007/004/011
B012/B052

Legend to Fig. 1: Scheme of the charge of a borehole section: 1) stemming, 2) cord, 3) ammonite No. 6, 4) fuse cord, 5) detonator

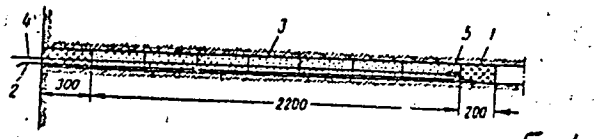


Fig. 1

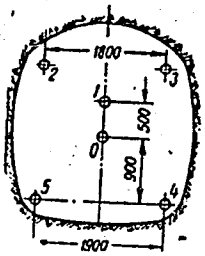


Fig. 2

Legend to Fig. 2: Scheme of the distribution of boreholes

Card 3/3

VLASOV, M.I., gornyy inzh.; GOLOVIN, Yu.P., gornyy inzh.; BARYSHEV, V.M.

Drift mining using the method of sectionalized deep hole blasting. Gor.zhur. no.7:39-40 Jl '60. (MIRA 13:7)

1. Rudnik Temir-Tau Kemerovskoy oblasti (for Vlasov).
2. Vostochnyy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti, Stalinsk (for Golovin, Baryshev).
(Mining engineering)

BOLDYREV, Vitaliy Ivanovich; VLASOV, Mikhail Vasil'yevich; KUZNETSOVA, N.I., red.; RAKOV, S.I., tekhn.red.

[Finances of trade unions; collection of regulations] Finansovaia rabota profsoiuzov; sbornik rukovodiashchikh materialov. Moskva, Izd-vo VTsSPS Profizdat, 1960. 302 p. (MIRA 13:12)
(Trade unions--Finance)

VLASOV, Mikhail Vasil'yevich; BAL'ZAMOV, Dmitriy Parmenovich; ZHUKOV, Fedor Trofimovich; SEMENOV, S.M., red.; ANDREYEVA, L.S., tekhn. red.

[Auditing committee of a factory and plant local committee] Revizionnaia komissiia FZMK. Moskva, Profizdat, 1962. 63 p. (Bibliotechka profsoiuznogo aktivista, no.5(29)) (MIRA 15:5)

(Trade unions) (Auditing)

DROKIN, A.I.; DYLGEROV, V.D.; SUDAKOV, N.I.; VLASOV, M.V.

Rotational hysteresis loss in single crystals of magnesium-manganese ferrates as dependent on the magnetic field strength and temperature. Izv.vys.ucheb.zav.;fiz.no.2:141-144 '63. (MIRA 16:5)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Institut tsvetnykh metallov imeni M.I. Kalinina i Krasoyarskiy pedagogicheskiy institut.
(Hysteresis) (Magnesium ferrates—Magnetic properties)
(Manganese ferrates—Magnetic properties)

VLASOV, M.N.

The Western Siberian Branch. Izv. ASiA no.2:128-130 '61.
(MIRA 15:1)

1. Rukovoditel' Zapadno-Sibirskogo filiala Akademii stroitel'stva i arkhitektury SSSR.
(Building)

VLASOV, M.V., nauchnyy sotrudnik; LUKPANOV, Zh.L., nauchnyy sotrudnik

New data on controlling the cutworm Hadena basilinea.
Zashch. rast. ot vred. i bol. 6 no.8:24 Ag '61. (MIRA 15:12)

1. Kazakhskiy institut zashchity rasteniy, pochtovoye otdeleniye Kargalinka.
(Kazakhstan—Cutworms—Extermination)
(Kazakhstan—Grain—Diseases and pests)

S/0139/63/000/002/0141/0144

ACCESSION NR: AP3000937

AUTHORS: Drokin, A. I.; Dyulgerov, V. D.; Sudakov, N. I.; Vlasov, M. V.

TITLE: Dependence of rotary hysteresis loss in magnesium-manganese ferrite single crystals on the magnitude of magnetic field and temperature

SOURCE: Izv. VUZ. Fizika, No. 2, 1963, 141-144

TOPIC TAGS: magnetic hysteresis, ferrite, single crystal, mechanical moment, magnetic field

ABSTRACT: Rotary magnetic hysteresis loss has been studied on the (100) plane of magnesium-manganese ferrite single crystals, together with the dynamics of powder figures in the rotary magnetic field. The rotary loss was investigated by measuring the mechanical moment acting on single crystal ferrite pellets placed in a homogeneous magnetic field slowly rotating in forward and reverse directions. Field strength varied between 0 to 4000 oersteds at temperatures from -183 to 100C. The powder figures were photographed through a MBI-6 microscope. The results show that anisotropy in the single crystal plane (100) at 700 oersteds and up and the rotary hysteresis loss increase with increase in field strength, reaching a maximum around 900-1250 oersteds and subsequently decreasing. "The authors express their gratitude

Card 1/2

ACCESSION NR: AP3000937

to A. G. Titova for procuring the single crystals." Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki SO AN SSSR (Institute of Physics SO AN SSSR); Institute tsvetny*kh metallov im. M. I. Kalinina Krasnoyarskiy pedinstitut (Institute of Nonferrous Metals, Krasnoyarsk Teachers Institute)

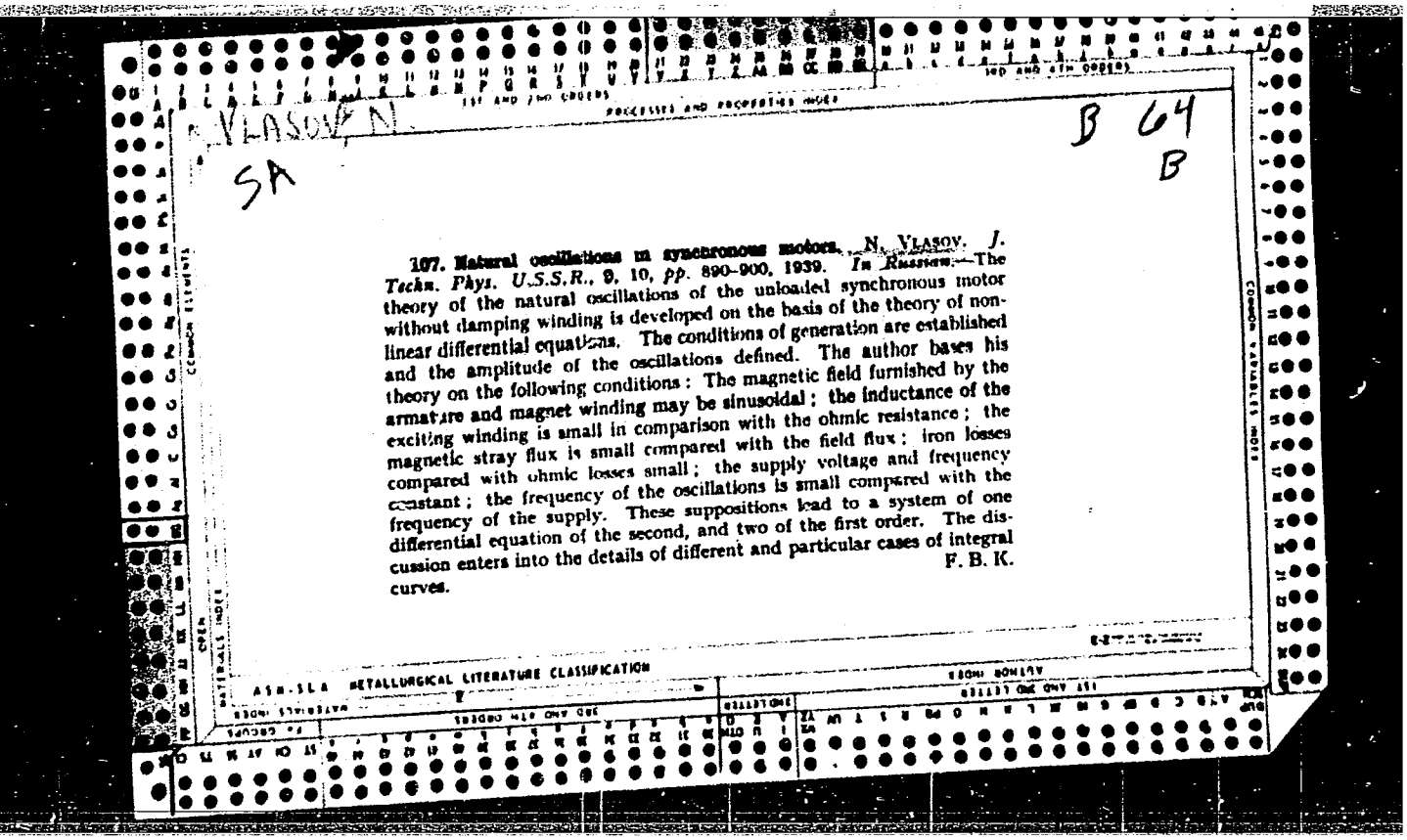
SUBMITTED: 30Jan62 DATE ACQ: 11Jun63 ENCL: 00

SUB CODE: MA NO REF SOV: 008 OTHER: 003

Card 2/2

VOLKOV, N., polkovnik

In the image of the fascist Wehrmacht. Komm. Vooruzh. Sil 46 no.6:77-82 Mr '65. (MIRA 18:11)



VLASOV, N.

SA

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107. **Natural oscillations in synchronous motors.** N. VLASOV. *J. Techn. Phys. U.S.S.R.*, 9, 10, *pp.* 890–900, 1939. *In Russian.*—The theory of the natural oscillations of the unloaded synchronous motor without damping winding is developed on the basis of the theory of non-linear differential equations. The conditions of generation are established and the amplitude of the oscillations defined. The author bases his theory on the following conditions: The magnetic field furnished by the armature and magnet winding may be sinusoidal; the inductance of the exciting winding is small in comparison with the ohmic resistance; the magnetic stray flux is small compared with the field flux; iron losses compared with ohmic losses small; the supply voltage and frequency constant; the frequency of the oscillations is small compared with the frequency of the supply. These suppositions lead to a system of one differential equation of the second, and two of the first order. The discussion enters into the details of different and particular cases of integral curves.

F. B. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VLASOV, N.

Collectivism and concreteness are above all. Sov. profsoiuzy 20 no.1: 22-25 Ja '64. (MIRA 17:2)

1. Organizator profsoyuznoy gruppy uchastka elektrikov paroturbinnogo tsekha Khar'kovskogo turbinnogo zavoda imeni Kirova.

N. VLASOV, A. NIZHEGORODOV

"Utilize More Fully the Reserves of Increase the Smelting of Steel" report of the All-Union Conference of steel Smelters in aporozhye.

SO: 5 April 55, Yellow Report No. 66 Pg cc7

VLASOV, N., nachal'nik.

Rural motion-picture establishments in Transcarpathia. Kinomekhanik no.9: 7-8 S '53. (MLRA 6:9)

1. Otdel kinofikatsii Zakarpatskogo oblupravleniya kul'tury, Uzhgorod. (Transcarpathia--Moving-picture projection) (Moving-picture projection -Transcarpathia)

VLASOV, N.

USSR
Brendeyevskiy Peat Works, Yaroslavl Province (1950)

"What is Delaying Mechanization of Peat Extration?", Pravda, 1950.

Current Digest of the Soviet Press, Vol. 2, No. 20, 1950, page 46.
(In [redacted] Library)

KARATAYEV, N.K., doktor ekon.nauk; POLYANSKIY, F.Ya., doktor istor.nauk; TSAGOLOV, N.A., doktor ekon.nauk; VLASOV, N.A., kand.ekon.nauk [deceased]; KORNIYENKO, A.A., kand.ekon.nauk; MOROZOV, F.M., kand.ekon.nauk; PLITSYNA, K.T., kand.ekon.nauk; PODOROV, G.M., kand.ekon.nauk; CHUBUK, I.F., kand.ekon.nauk; PASHKOV, A.I., red.; ZHUK, I., red.; MOSKVINA, R., tekhn.red.

[History of Russian economic thought] Istoriia russkoi ekonomicheskoi mysli. Pod red. A.I.Pashkova i N.A.TSagolova. Moskva, Izd-vo sotsial'no-ekon.lit-ry. Vol.2. [Epoch of premonopolistic capitalism] Epokha domonopolisticheskogo kapitalizma. Pt.1. 1959. 526 p. (MIRA 13:5)

1. Akademiya nauk SSSR. Institut ekonomiki.
(Economics)

VLASOV, N.A.; CHERNYSHEV, L.A.; PAVLOVA, L.I.

Salt lakes of Eastern Siberia and possibilities for their industrial utilization. Trudy BKNII no.4:51-65 '60. (MIRA 15:3)
(Siberia, Eastern--Lakes) (Saline waters)

VLASOV, N.

Antimatter and the universe. Atom.energ. 16 no. 5:465-468 My '64. (MIRA 17:5)

VIASOV, N.

New literature. Atom.energ. 16 no. 5:470-474 My '64. (MIRA 17:5)

L 42179-66 EWT(1)/EWT(m)/FSS-2 GW

ACC NR: AN6030516 SOURCE CODE: UR/9007/66/000/112/0004/0004

12
11
B

AUTHOR: Vlasov, N. (Professor)

ORG: none

TITLE: Nuclear flame spectra

SOURCE: Komsomol'skaya pravda, 14 May 66, p. 4, col. 2-4

TOPIC TAGS: proton, alpha particle, nuclear radiation, sun, dwarf star, isotope, cyclotron, heavy nucleus, ion acceleration, neutron, positron, hyperon, astrophysics, radio astronomy

ABSTRACT: A comparison is drawn between the microcosm of the atom and the macrocosm of the universe. Inside the sun and other stars protons combine to form alpha particles (helium nuclei), enabling the sun to emit enormous energy fluxes. Such nuclear conversions, from the burning of nuclear fuel (Hydrogen), illuminate the universe. After the hydrogen burns out, stars collapse from gravitational forces, the temperature rises, and the helium burns forming heavier elements. Such stars are called white dwarfs, whose density reaches tons per cubic centimeter.

One may assume that the isotopes existing on these dense stars are much heavier than those known on earth; e.g., nickel 80 instead of nickel 60. Such isotopes are radioactive on earth, but their decay is forbidden in dense stars owing to special conditions. Such isotopes can be produced in principle on earth, but this requires the capability of accelerating very heavy nuclei. Prof. G. N. Flerov has accelerated particles as heavy as argon ions in the Dubna cyclotron. Acceleration of uranium ions, which

Card 1/2 0918 1598

are sixfold heavier, requires quite different techniques.

Even in sun-type stars protons are converted into neutrons, and positrons and neutions are radiated. Eventually this may conclude with the formation of a neutron star (with no protons). Such stars are millions of times denser than white dwarfs and approach the densities of atomic nuclei.

Recently, about 10 X-ray stars have been discovered with the aid of rocket probes. First thought to be neutron stars, they were later found to be too large. Academician V. A. Ambartsumiyan has shown that neutrons in very dense stars must convert at some evolutionary stage into heavy stable hyperons.

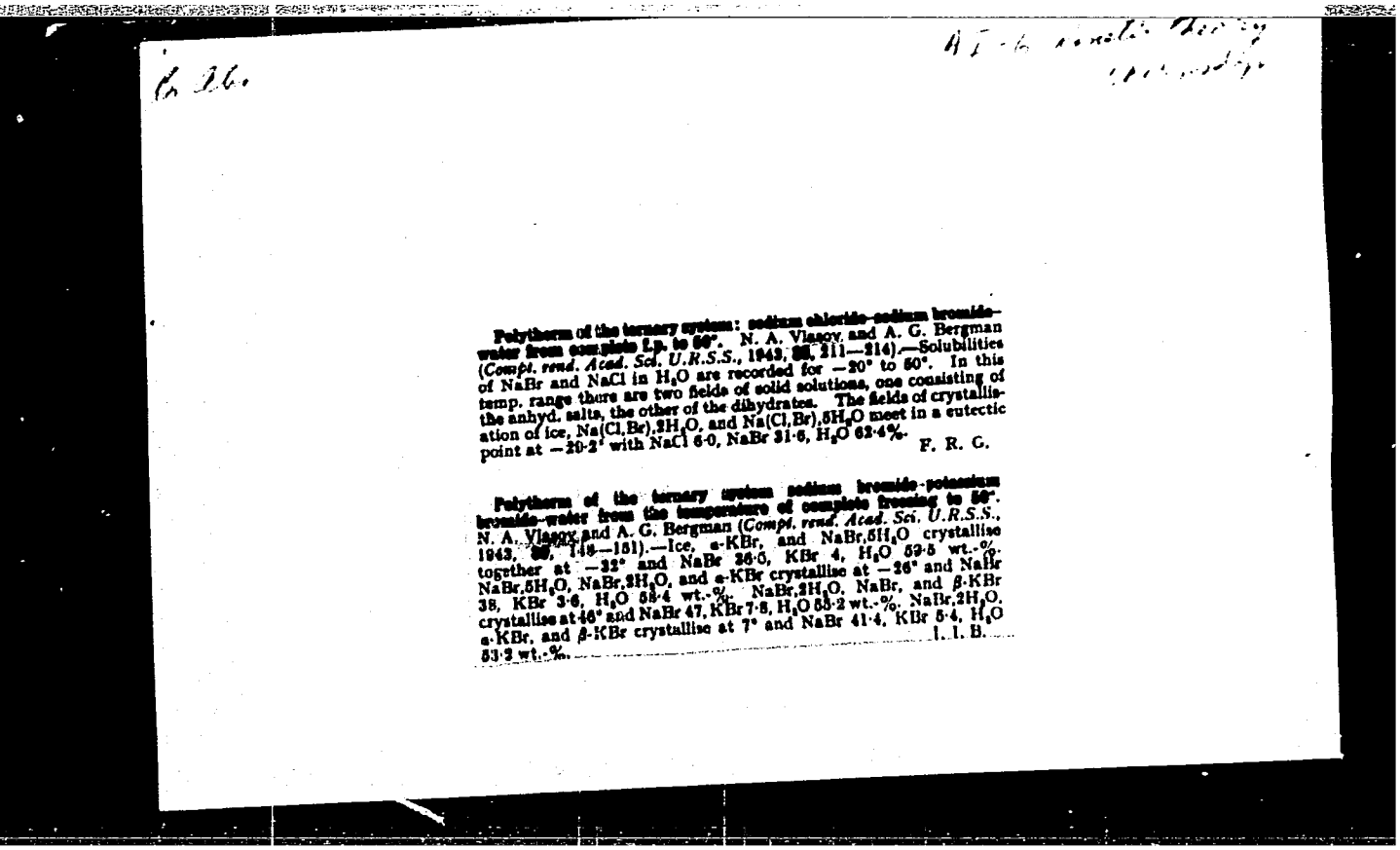
A new unitary symmetry system has been created for arranging elementary particles in the manner of the Mendeleyev periodic table. This system was used to predict the omega minus hyperons and a new class of primary heavy particles called quarks. If quarks do exist, they will help to explain astrophysical phenomena and the superdense states of matter. Collisions of heavy high-energy particles yield large numbers of other particles of various masses.

The combination of new methods, optical and radioastronomic, led to the discovery of exploding super giants and galaxies, with energy yields equivalent to hundreds of millions of suns. If man can duplicate nuclear conversions as effectively as they occur in nature, the knowledge to be gained, appearing to be fantastic at the moment, will be quite realizable. Orig. art. has: 1 figure. [JPRS: 36,364]

SUB CODE: 20, 03 / SUBM DATE: none

Polytherm of the ternary system H_2O–KCl–KBr. A. G. Bergman and N. A. Vlasov (*Compt. rend. Acad. Sci. U.R.S.S.*, 1942, **36**, 57—61).—The system H_2O–KCl–KBr has been studied at > 30°. The only solid phases formed are ice and KCl–KBr solid solutions. The eutectic point is at −13·4° and KCl 6·6%, KBr 25·6%.

J. W. S.



Polytherm of the ternary system: sodium chloride–sodium bromide–water from complete f.p. to 50°. N. A. Vlasov and A. G. Bergman (*Compt. rend. Acad. Sci. U.R.S.S.*, 1943, **38**, 211—214).—Solubilities of NaBr and NaCl in H_2O are recorded for −20° to 50°. In this temp. range there are two fields of solid solutions, one consisting of the anhyd. salts, the other of the dihydrates. The fields of crystallisation of ice, $Na(Cl,Br),2H_2O$, and $Na(Cl,Br),5H_2O$ meet in a eutectic point at −20·2° with NaCl 6·0, NaBr 31·6, H_2O 62·4%. F. R. G.

Polytherm of the ternary system sodium bromide–potassium bromide–water from the temperature of complete freezing to 50°. N. A. Vlasov and A. G. Bergman (*Compt. rend. Acad. Sci. U.R.S.S.*, 1943, **38**, 148—151).—Ice, α-KBr, and $NaBr,5H_2O$ crystallise together at −22° and NaBr 26·5, KBr 4, H_2O 69·5 wt.-%. $NaBr,5H_2O$, $NaBr,2H_2O$, and α-KBr crystallise at −26° and NaBr 38, KBr 3·6, H_2O 58·4 wt.-%. $NaBr,2H_2O$, NaBr, and β-KBr crystallise at 46° and NaBr 47, KBr 7·8, H_2O 53·2 wt.-%. $NaBr,2H_2O$, α-KBr, and β-KBr crystallise at 7° and NaBr 41·4, KBr 5·4, H_2O 53·2 wt.-%. I. I. B.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The angular distribution of pairs produced by γ-rays
from Th C″. B. Dzhelepov and S. Vlasov (Leningrad
Physico-Technical Inst., U.S.S.R.). J. Exptl. Theoret.
Phys. (U.S.S.R.) 15, 685-91(1945)(English summary).
The apparent dependence of the divergence angle of posi-
tron-electron pairs on the target's Z (L. V. Groshev and I.
M. Frank, C.A. 32, 6041[9]) could be due to the variation
of scattering power among the gases used simultaneously
as targets and cloud chamber gases. D. and V. irradiated
Al foils with 11- and 23-μ, Pb foils and 120-, 210-, and 300-[illegible]
γ-rays from Th C″, observing the no. of coincidences per
hr. as a function of the angle formed by the axes of the
G.M. tubes, which converged on the target. The resolving
time of the coincidence circuit was 2.5 × 10[illegible] sec. The
exptl. coincidence rate was 50-200% of background rate.
The curves for positron-electron path angle vs. no. of pairs
per hr. coincided almost exactly for the 11-μ Pb and 210-μ
Al targets; thus the rate of pair-formation in the region
measured (5-30 per hr.) was not a function of Z.

Cyrus Feldman

METALLURGICAL LITERATURE CLASSIFICATION

VLASOV, N.A., doktor fiz.-matem. nauk

Antimatter and the universe. Priroda 53 no.9:20-25 '64. (MIRA 17:10)

VLASOV, N. A.; SAMOYLOV, L. N.

Heavy hydrogen and neutron isotopes. Atom. energ. 17 no.1:3-9 Jl '64. (MIRA 17:7)

VLASOV, N. A.

USSR/Nuclear Physics - Neutrons - Sources Jul 48
Nuclear Physics - Neutrons - Velocity

"Experiments With Monochromatic Slow Neutrons,"
N. A. Vlasov, 32 pp

"Uspekhi Fiz Nauk" Vol XXXV, No 3

Treats subject under: mechanical selector; brief historical review; principles of construction of selector-modulators (source, detector, synchronizing devices); spectra of slow neutrons. (To be concluded in next issue.)

11/49T94

VLASOV, N. A.

PA 11/49T95

USSR/Nuclear Physics - Neutrons - Absorption
Nuclear Physics - Neutrons - Velocity
Aug 48

"Experiments With Monochromatic Slow Neutrons,"
N. A. Vlasov, 55 pp

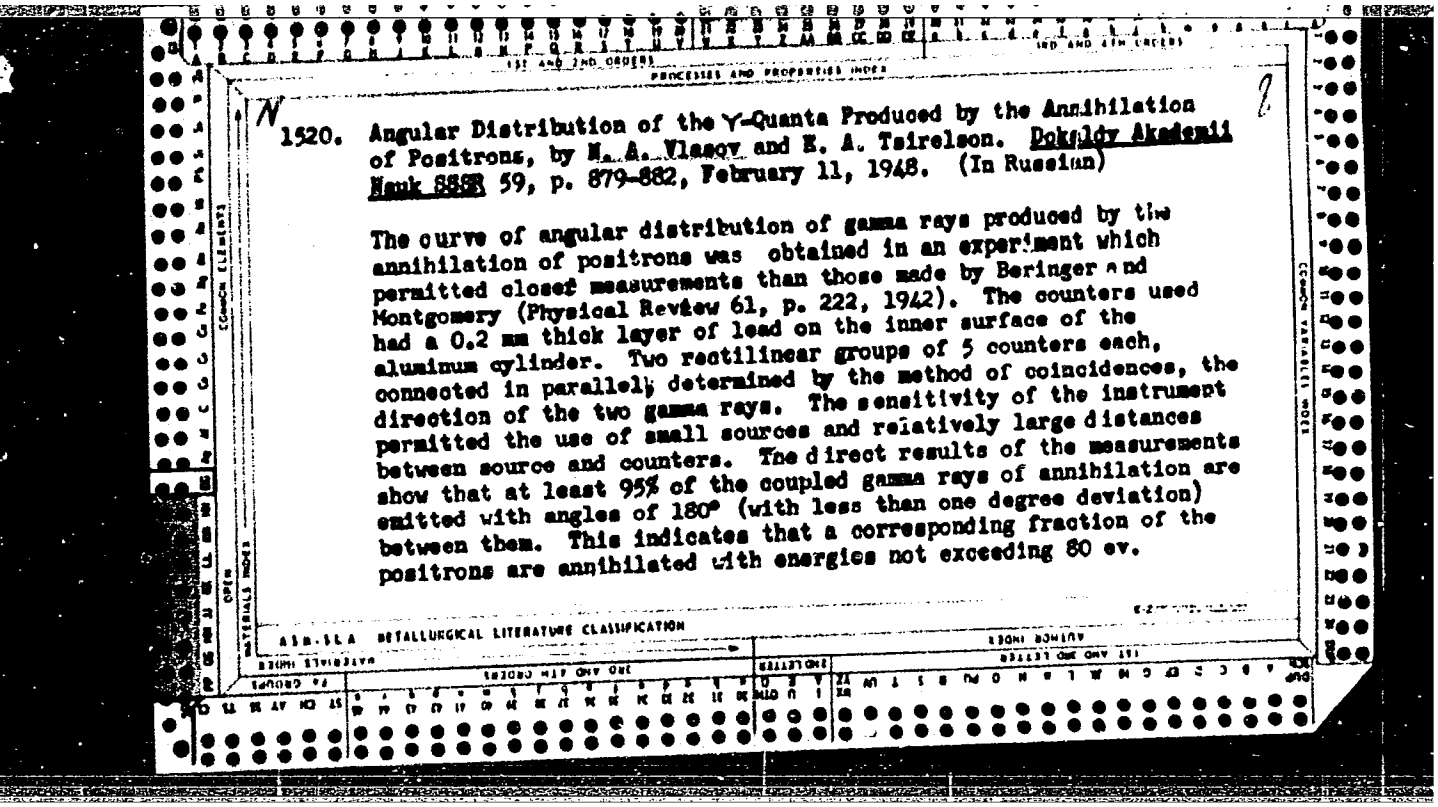
"Uspekhi Fiz Nauk" Vol XXV, No 4

Treats subject under: absorption and dispersion of neutrons; absorption in boron; absorption in lithium; absorption in cadmium; resonance absorptions in other elements (indium, silver, gold, manganese, antimony, iodine, mercury, iridium, tantalum, tungsten, platinum, zirconium, osmium, cobalt, thallium, columbium, germanium, gadolinium, dysprosium).

11/49T95

USSR/Nuclear Physics - Neutrons - Absorption (Contd)
Aug 48

11/49T95



N

1520. Angular Distribution of the γ-Quanta Produced by the Annihilation of Positrons, by M. A. Vlasov and E. A. Tsirelson. Doklady Akademii Nauk SSSR 59, p. 879-882, February 11, 1948. (In Russian)

The curve of angular distribution of gamma rays produced by the annihilation of positrons was obtained in an experiment which permitted closer measurements than those made by Beringer and Montgomery (Physical Review 61, p. 222, 1942). The counters used had a 0.2 mm thick layer of lead on the inner surface of the aluminum cylinder. Two rectilinear groups of 5 counters each, connected in parallel, determined by the method of coincidences, the direction of the two gamma rays. The sensitivity of the instrument permitted the use of small sources and relatively large distances between source and counters. The direct results of the measurements show that at least 95% of the coupled gamma rays of annihilation are emitted with angles of 180° (with less than one degree deviation) between them. This indicates that a corresponding fraction of the positrons are annihilated with energies not exceeding 80 ev.

VLASOV, N.A.

BERGMAN, A.G.; VLASOV, N.A.

Homeomorphism of potassium halide salts and polytherms of ternary systems KCl — KBr — H_2O, NaCl — NaBr — H_2O, NaBr — KBr — H_2O, and NaCl — KCl — H_2O. Izv.Sekt.fiz.-khim.anal. 17:312-337 '49. (MLRA 7:6)

1. Institut obshchey i neorganicheskoy khimii [im. N.S.Kurnakova] Akademii nauk SSSR. 2. Laboratoriya rasplavlennykh soley i mnogokomponentnykh sistem.
(Potassium salts) (Halides) (Systems(Chemistry)

Lab. Fused Salts & Multicomponent Systems

BERGMAN, A.G.; VLASOV, N.A.

Polythermal of, Na, K // Cl, Br the reciprocal system from -33°C to 30 -40°C. Izv. Sekt. fiz. khim. anal. 18:201-220 '49. (MIRA 11:4)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.

(Thermochemistry) (Electrolytes)

USSR/Nuclear Physics - Gamma Rays 21 Dec 49

"Polarization of Annihilation Gamma-Quants,"
N. A. Vlasov, B. S. Dzhelepov

"Dok Ak Nauk SSSR" Vol LXIX, No 6, pp 777-780

PA 173T89

From Dirac's theory of 2-quantum annihilation, (electron
it follows that during pair-annihilation (electron
and positron) in s-state 2 quantum must be polar-
ized in perpendicular planes, as discussed by I.
Ya. Pomeranchuk in "Dok Ak Nauk SSSR" Vol LX, 1948
theory and experience both testify that 2-quantum
annihilation under ordinary conditions dominates.

173T89

USSR/Nuclear Physics - Gamma Rays (Contd) 21 Dec 49

Problem of polarization of 2-annihilation quanta
can be proved by exptl tests, as described here,
with lead block, C_1 and C_2 counters, radiating
source, and aluminum cones. Submitted by Acad
Lukirsky 2 Jul 49.

173T89

VLASOV, N. A.

VLASOV, N. A.

USSR/Nuclear Physics - Gamma Rays May/Jun 50

"Angular Distribution and Polarization of Annihilation Gamma-Radiation," N. A. Vlasov, Radium Inst, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Fiz" Vol XIV, No 3, pp 337-356

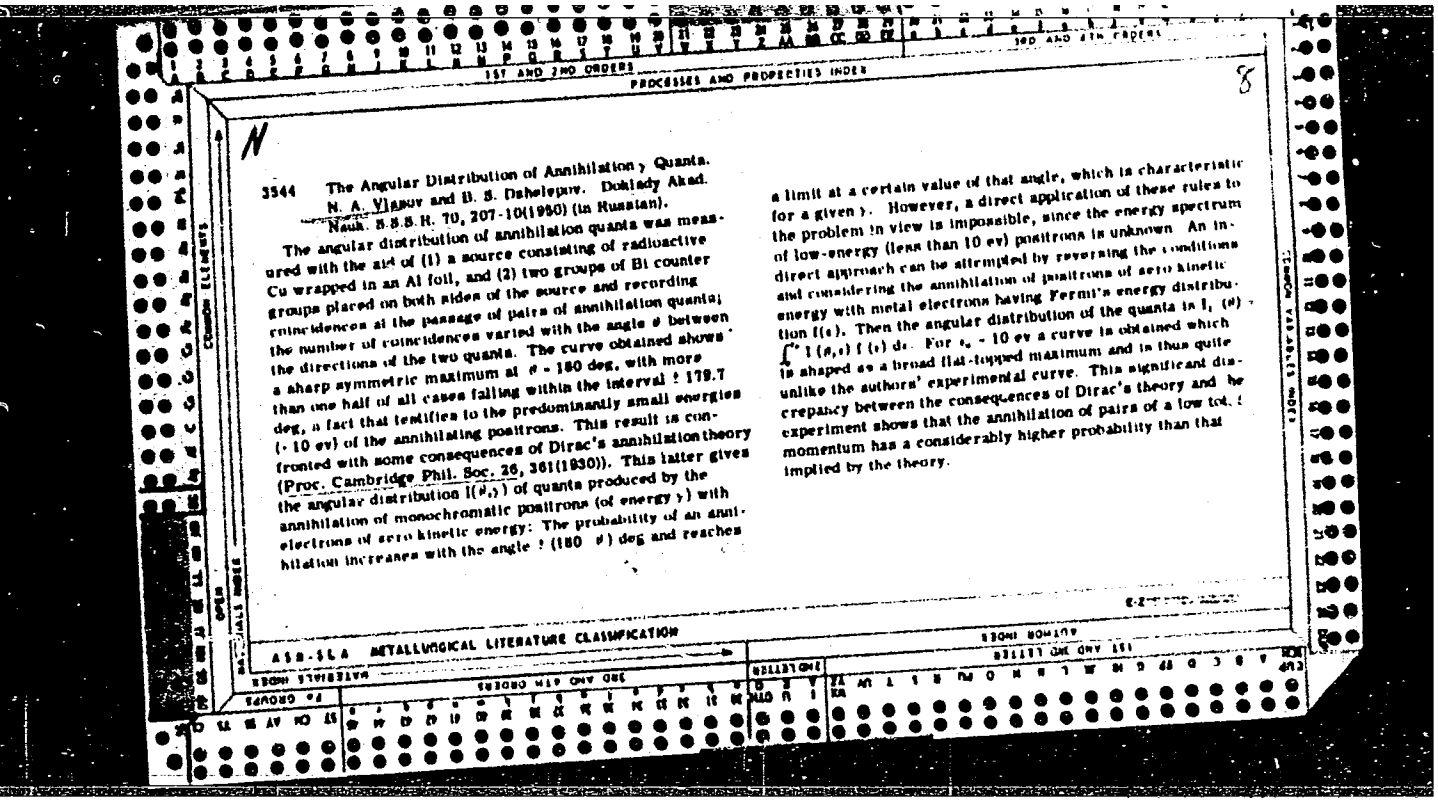
Studies angular distribution of quanta formed during 2-quantum annihilation of positron and electron. Results show that the mean value of the angle of flying apart only differs from 180° by 0.2° - 0.3°, indicating energy of less than 10 ev during annihilation of positrons. Scattered annihilation quanta are propagated mostly in mutually perpendicular planes, which shows that quanta are polarized perpendicularly. Vlasov was assisted by P. I. Lukirskiy and B. S. Dzhelepov, and by A. V. Sorokina in measurements. Submitted 24 Apr 50 at session of the Dept of Physicomath Sci, Acad Sci USSR.

PA 187T70

USSR/Nuclear Physics - Gamma Rays (Contd) May/Jun 50

187T70

187T70



PROCESSES AND PROPERTIES INDEX

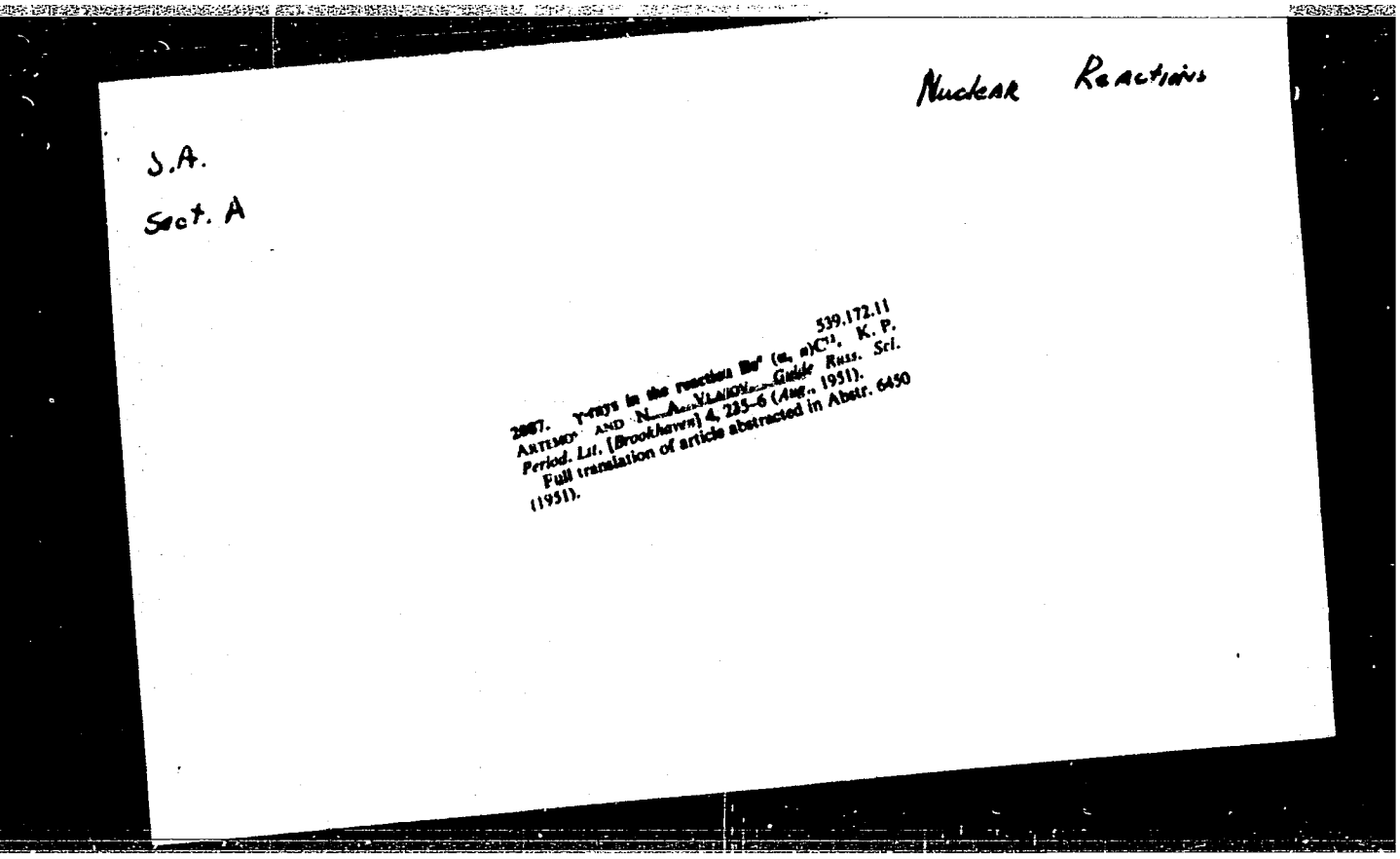
8

N

3544 The Angular Distribution of Annihilation γ Quanta.
N. A. Vlasov and B. S. Dzhelepov. Doklady Akad. Nauk. S.S.S.R. 70, 207-10(1950) (in Russian).

The angular distribution of annihilation quanta was measured with the aid of (1) a source consisting of radioactive Cu wrapped in an Al foil, and (2) two groups of Bi counter groups placed on both sides of the source and recording coincidences at the passage of pairs of annihilation quanta; the number of coincidences varied with the angle φ between the directions of the two quanta. The curve obtained shows a sharp symmetric maximum at φ = 180 deg, with more than one half of all cases falling within the interval ± 179.7 deg, a fact that testifies to the predominantly small energies (< 10 ev) of the annihilating positrons. This result is confronted with some consequences of Dirac's annihilation theory (Proc. Cambridge Phil. Soc. 26, 361(1930)). This latter gives the angular distribution I(φ,ε) of quanta produced by the annihilation of monochromatic positrons (of energy ε) with electrons of zero kinetic energy: The probability of an annihilation increases with the angle ± (180 − φ) deg and reaches a limit at a certain value of that angle, which is characteristic for a given ε. However, a direct application of these rules to the problem in view is impossible, since the energy spectrum of low-energy (less than 10 ev) positrons is unknown. An indirect approach can be attempted by reversing the conditions and considering the annihilation of positrons of zero kinetic energy with metal electrons having Fermi's energy distribution f(ε). Then the angular distribution of the quanta is I, (φ) = $\int_0^{\infty} I(\varphi,\varepsilon) f(\varepsilon)\, d\varepsilon$. For ε_m = 10 ev a curve is obtained which is shaped as a broad flat-topped maximum and is thus quite unlike the authors' experimental curve. This significant discrepancy between the consequences of Dirac's theory and he experiment shows that the annihilation of pairs of a low tot. momentum has a considerably higher probability than that implied by the theory.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



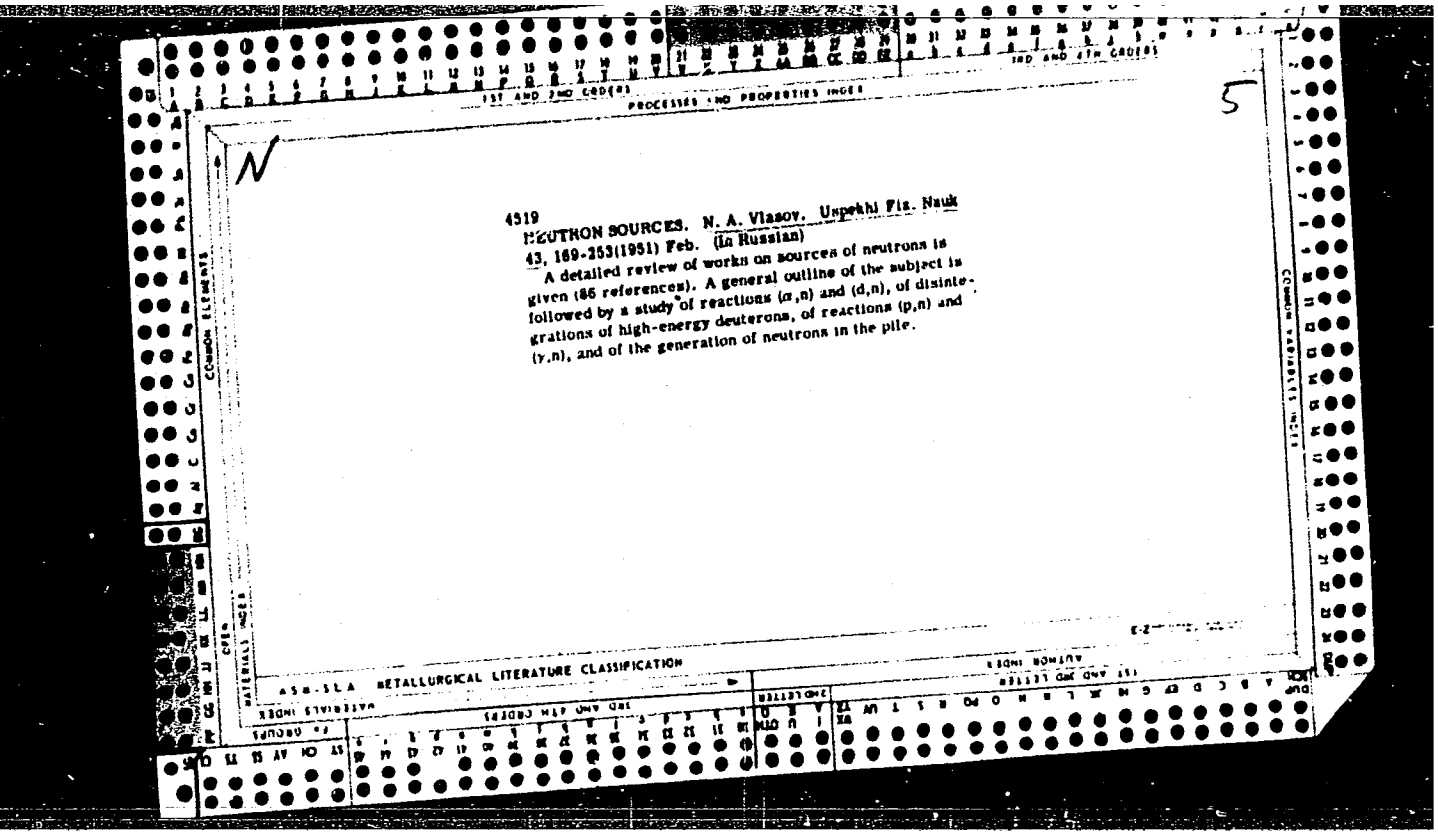
Nuclear Reactions

S.A.

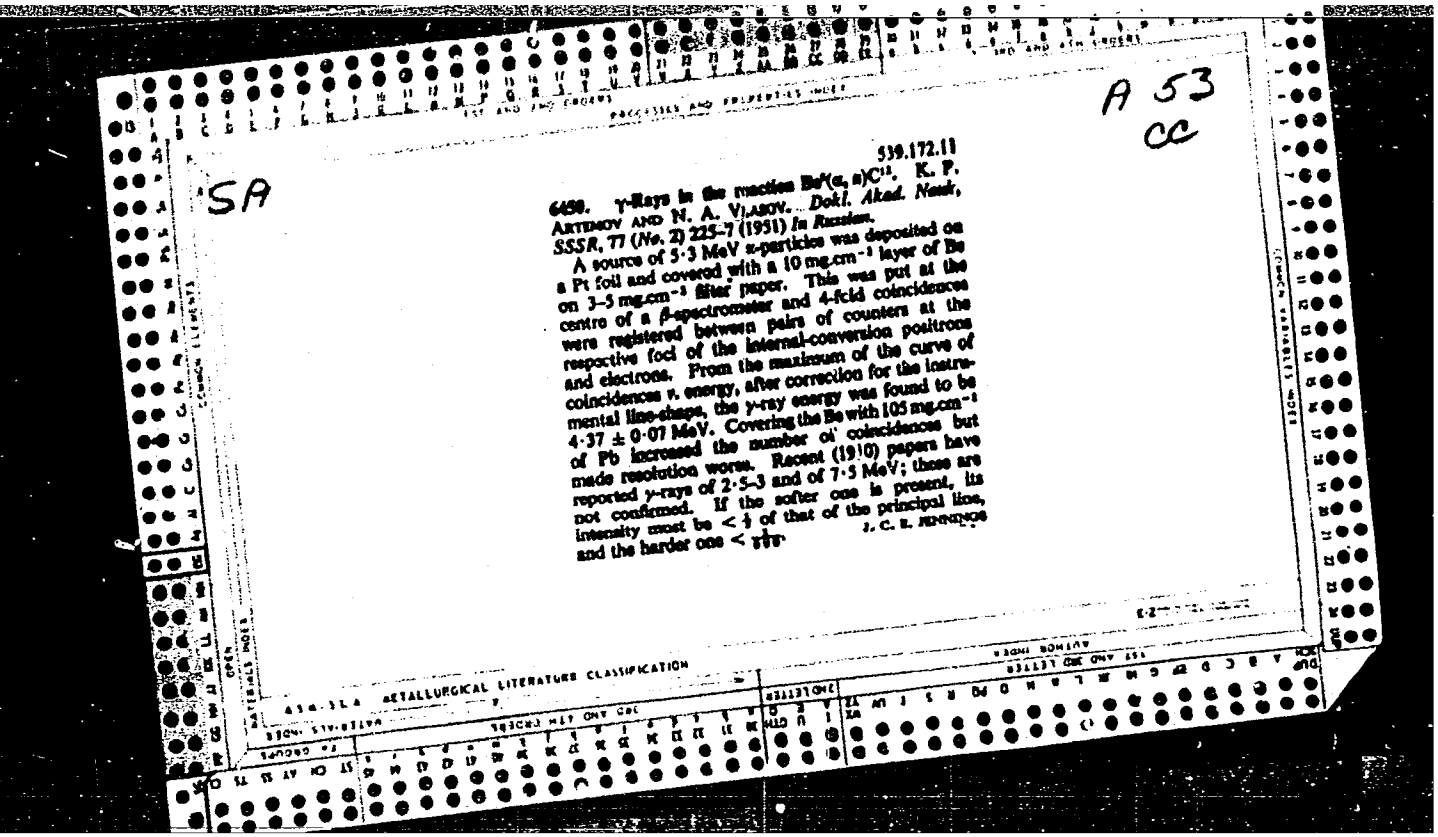
Sect. A

539.172.11

2887. γ-rays in the reaction $Be^9(\alpha, n)C^{12}$. K. P. ARTEMOV AND N. A. VLASOV. *Zhur. Eksper. Teoret. Fiziki* 21, 235–6 (Aug., 1951). *Period. Lit.* [Brookhaven] 4, 225–6 (Aug., 1951). Full translation of article abstracted in Abstr. 6450 (1951).



4519
NEUTRON SOURCES. N. A. Vlasov. Uspekhi Fiz. Nauk 43, 169-253(1951) Feb. (In Russian)
A detailed review of works on sources of neutrons is given (86 references). A general outline of the subject is followed by a study of reactions (α,n) and (d,n), of disintegrations of high-energy deuterons, of reactions (p,n) and (γ,n), and of the generation of neutrons in the pile.



539.172.11

6490. γ-Rays in the reaction $Be^9(\alpha, n)C^{12}$. K. P. ARTEMOV AND N. A. VLASOV. *Dokl. Akad. Nauk, SSSR*, 77 (No. 2) 225–7 (1951) *In Russian.*

A source of 5·3 MeV α-particles was deposited on a Pt foil and covered with a 10 mg.cm^{-2} layer of Be on 3–5 mg.cm^{-2} filter paper. This was put at the centre of a β-spectrometer and 4-fold coincidences were registered between pairs of counters at the respective foci of the internal-conversion positrons and electrons. From the maximum of the curve of coincidences *v.* energy, after correction for the instrumental line-shape, the γ-ray energy was found to be 4·37 ± 0·07 MeV. Covering the Be with 105 mg.cm^{-2} of Pb increased the number of coincidences but made resolution worse. Recent (1950) papers have reported γ-rays of 2·5–3 and of 7·5 MeV; these are not confirmed. If the softer one is present, its intensity must be $< \frac{1}{3}$ of that of the principal line, and the harder one $< \frac{1}{10}$.

J. C. E. JENNINGS

VLASOV, Nikolay Aleksandrovich; LUKIRSKIY, P.I., akademik, redaktor [deceased]; ALEKSEYEV, D.M., redaktor; NOVOZHILOV, Yu.V., redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor.

[Neutrons] Neitrony, Pod red. P.I. Lukirskogo. Moskva, Gos. i.d-vo tekhniko-teoret. lit-ry, 1955. 426 p. (MLRA 8:10)
(Neutrons)

FD-2337

VLASOV, N.A.

USSR/Nuclear Physics - Tritium

Card 1/2 Pub. 146 - 2/34

Author : Vlasov, N. A.; Kalinin, S. P.; Ogloblin, A. A.; Samoylov, L. N.; Sidorov, V. A.; and Chuyev, V. I.

Title : Interaction of protons with tritium, and the excited state of helium-4

Periodical : Zhur. eksp. i teor. fiz. 28, 639-650, Jun 1955

Abstract : The authors describe experiments investigating the reactions T(pn)He^3 and $T(p\gamma)He^4$ in the interval of proton energies up to 7 Mev. The energy of the protons in the beam from the cyclotron chamber was varied by way of slowing in lead filters. Serving as detectors of the neutrons were so-called all-wave counter and uranium chamber; a scintillational counter served as detector of the gamma rays, with NaI(Tl). The curve of cross-section, sigma, versus proton energy, E_p, for the first reaction possesses a maximum at E_p=3 Mev. For the second reaction the cross-section increases monotonically in the entire energy interval. Also investigated were the angular distributions of neutrons and gamma rays. The characteristics of the excited state of helium-4 are discussed. The authors thank the associates of the Cyclotron Laboratory, and

FD-2337

Card 2/2

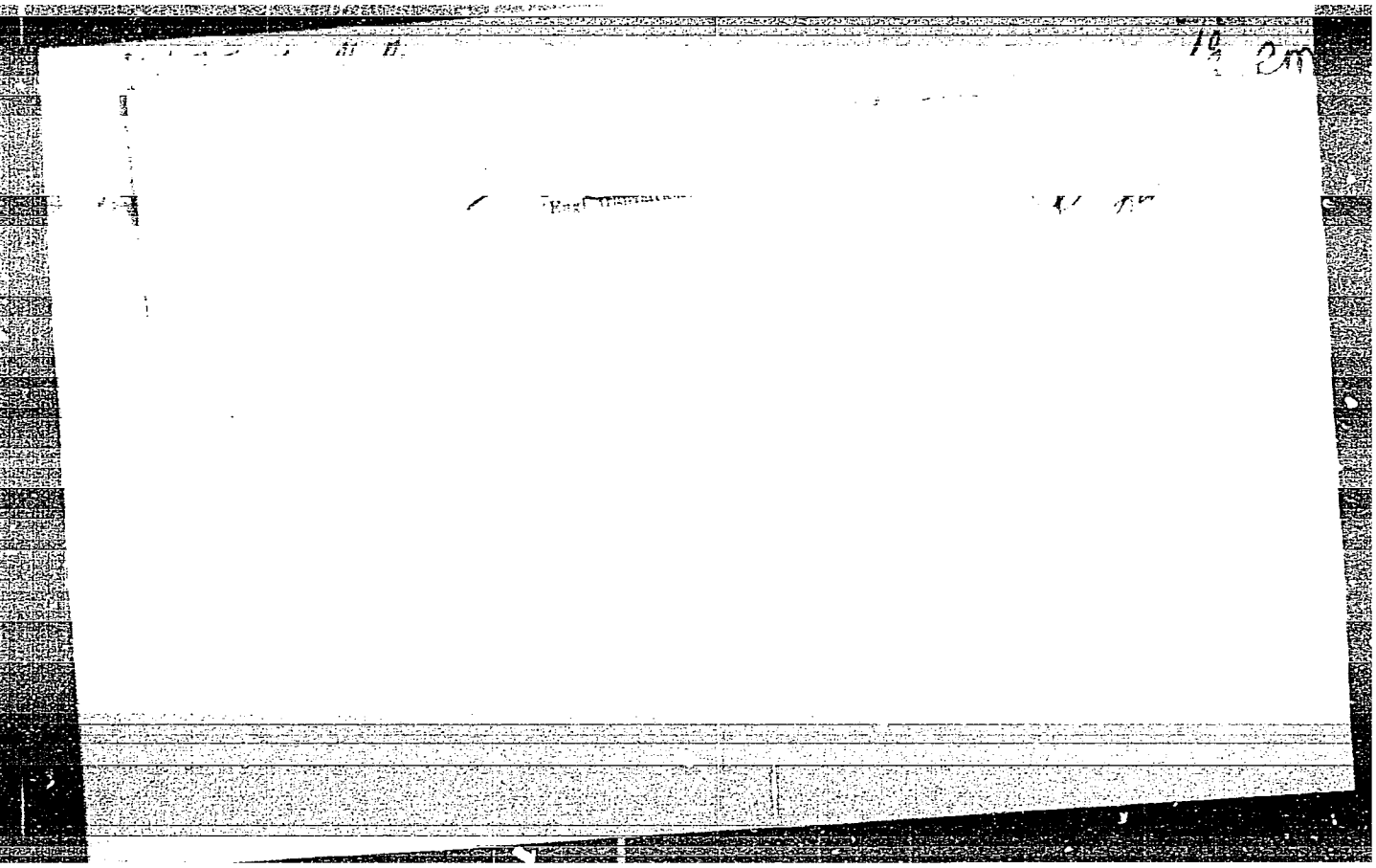
also Ya. A. Smorodinskiy, A. I. Bas', and Yu. M: Popov. Fourteen references, including 2 USSR (B. V. Rybakov, same issue, p. 651; A. I. Baz' and Ya. A. Smorodinskiy, ibid. 27, 382, 1954).

Institution : Academy of Sciences USSR

Submitted : March 9, 1955

VIASOV, N.A.

Conference on the physics of nuclear fission. Atom.energ. no.1: 99-102 '56. (MLRA 9:8)
(Moscow--Nuclear fission--Congresses)



Vlasov, N.A.

C-4

USSR/Nuclear Physics - Structure and Properties of Nuclei

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33990

Author : Bogdanov, G. F., Vlasov, N. A., Kalinin, S. P., Rybakov, B. V. Sidorov, V. A.

Institution: None

Title: Spectra of Neutrons Bombarded with T and D Deuterons with Energies of 14 Mev

Original Periodical: Zh. eksperim. i teor. fiziki, 1956, 30, No 1, 185-187

To check the existing experimental data on the existence of an excited state of approximately 2 Mev in the He^4 nucleus, spectra were studied of neutrons produced by the T(d,n) He^4 and D(d,n) He^3 reactions, with the neutrons escaping at an angle of 0^o relative to the beam of the deuterons. The beam of the 14 Mev deuterons was focused with the aid of a magnetic prism at a distance of 12 m from the cyclotron, where a thin tritium-zirconium or a gas deuterium target was placed. The energy of the neutrons

Card 1/3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33990

was measured from the time it took them to cover the distance from the target to the counter, the latter being a photomultiplier with a solid solution of terphenyl in polystyrol acting as a phosphor. The neutron source was operating under pulse conditions based on the natural modulation of the cyclotron beam. The pulses from the counter went to a germanium-diode coincidence circuit. Pulses, synchronized with the accelerating voltage of the cyclotron were applied to the second leg of the coincidence circuit. The time resolution of this spectrometer (width of gamma line at half the altitude) amounted to 7 mμseconds.

The spectrum of the neutrons from the T(d,n) He^4 and D(d,n)He^3 reactions displayed not only the maxima corresponding to the formation of the He^4 and He^3 nuclei in their fundamental states but also wide groups of slower neutrons with an average of energy of 8 Mev. For the T + d reaction this energy corresponds to an excitation energy of finite nucleus of approximately 22 Mev. However, the similarity of the spectra in

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33990

the case of both reactions is indication in favor of the assumption that the second groups of neutrons are formed faster by a break-up of the deuteron than by the usual reaction with a formation of a finite nucleus He^4 and He^3 in excited state. Notice is taken of the large value of the cross section for the formation of the neutrons of the second groups. This amounts to 300 millibarns/steradian for the case of the T + d reaction, and 100 millibarns/steradian for the case of the D + d reaction.

VLASOV, N.A.

C-5

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3252

Author : Bogdanov, G.F., Vlasov, N.A., Kalinin, S.P., Rybakov, B.V., Sidorov, V.A.
Title : Spectra of Neutrons Produced by Bombarding Light Nuclei with 14 Mev Deuterons.

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 5, 981-983

Abstract : Using the time of flight method, a measurement was made of the spectra of neutrons produced by bombarding thin targets of H, He^3, He^4 (E_d 13.0 Mev) and T (in zirconium), Li, Be, B, C, Cu (E_d 14.4 Mev) produced by bombardment with a beam of deuterons from a cyclotron. The measurements were made at an angle of 0^o to the deuteron beam. The reactions T + d and He^3 + d differ both in the shape of the neutron spectrum, as well as in the value of the cross section (in the former case the cross section is almost three times greater). This confirms the existence of an excited state with excitation energy of 22 Mev in the He^4 nucleus and indicates the absence of a similar state in the Li^4 nucleus. Consequently, the isotopic spin of the excited state of He^4 is zero. It is noted that the neutron spectrum of the reaction He^3 + d does not display the hypothetical level of the Li^5 nucleus with an approximate excitation

Card : 1/2

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3252

C-5

energy of 2.5 Mev, corresponding to the spin-orbit splitting. The cross sections of the formation of neutrons escaping at 0^{o} to the deuteron beam are estimated. This cross section is approximately 50 millibarns/steradian per nucleon for all the light elements investigated, with the exception of T, i.e., it is approximately proportional to the number of nucleons in the nucleus. The cross section diminishes for the heavier elements; it is only 200 millibarns/steradian for Cu.

Card : 2/2

VLASOV, N. A., OGLOBLIN, A. A.

Acad. Sci USSR

"The Li^7 (p, t) Li^5 (Reactio n,"

paper submitted a6 the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27, Nov. 1957.

VLASOV, N.A., BOGDANOV, G.F., KALININ, S.P., RYBAKOV, B.V., SIDOROV, V.A.

"The (P.n.) Reaction on Lithium and the Ground State of Be^6."

paper submitted at the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 November 1957.

VLASOV, N. A., [illegible], G. [illegible], [illegible], S. P., SHUKOV, B. V., and SIDOROV, V. A.

"Time-of-Fight Analysis of the Reaction of 10 Mev Deuterons with Light Nuclei," a paper submitted at the International Conference on the Neutron Interactions with the Nucleus, New York City, 9-13, Sep 57.

Abstract available in C-3,800,344

VLASOV, N. A., BOGDANOV, G. F., KALININ, S. P., KIBAKOV, B. V., and SIDOROV, V. A.

"The Spectra of the Fast Neutrons from (p,n) Reactions are Measured on the 1.5 Meter Cyclotron by the Time-of-Flight Method," a paper presented at the International Conference on the Neutron Interactions with the Nucleus, New York City, 9-13 Sep 57.

Abstract Available in C-3,800,344

AUTHOR: VLASOV,N.A., KALININ,S.P., OGLOBLIN,A.A. PA - 2262
PANKHATOV,V.M., RUDAKOV,V.P., SERIKOV,I N., SIDOROV,V.A.

TITLE: The Excitation Curves of the Reactions $Mg^{24}(d,\alpha)Na^{22}$, $Fe^{54}(d,\alpha)Mn^{52}$, $Fe^{54}(d,n)Co^{55}$, and $Zn^{66}(d,2n)Ga^{66}$. (Krivyye vozbuzhdeniya reaktsiy $Mg^{24}(d,\alpha)Na^{22}$, $Fe^{54}(d,\alpha)Mn^{52}$, $Fe^{54}(d,n)Co^{55}$ i $Zn^{66}(d,2n)Ga^{66}$. Russian)

PERIODICAL: Atomnaia Energiia, 1957, Vol 2, Nr 2, pp 169 - 171 (U.S.S.R.)
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ABSTRACT: These excitation curves were measured by means of the stacking method on the deuteron bundle of a cyclotron. The arrangement of the foil stacks is shown by a drawing. For the measuring of the deuteron flux the target consisting of a stack of Mg-, Fe- or Zn foils was connected with a current integrator. The activity of the samples irradiated was determined by means of a Geiger counter.

The reaction $Mg^{24}(d,\alpha)Na^{22}$: The magnesium foil of 50 micron thickness was produced by rolling. When bombarding a natural mixture of magnesium isotopes one obtains Na^{22} not only by the reaction (d,α) on Mg^{24} (cintent 78,60 %) but also by the reaction $(d,\alpha n)$ on Mg^{25} (content 10,11 %). The energies of these reactions are + 1,9 and - 5,4 MeV. Measuring was carried out one month after irradiation i.e. after the decrease of the foreign activities. The excitation curve obtained after irradiation is shown in a diagram.

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The Excitation Curves of the Reactions $Mg^{24}(d,\alpha)Na^{22}$, $Fe^{54}(d,\alpha)Mn^{52}$, $Fe^{54}(d,n)Co^{55}$, and $Zn^{66}(d,2n)Ga^{66}$.

At ~10 MeV the curve has a sharp maximum which is probably quite real. The yield of Na^{22} on the occasion of the bombardment of a thick magnesium target by 14 MeV-targets amounts to $6{,}0 \cdot 10^{-4}$ atoms per deuteron or 3,1 microcurie/microampere hour (?)

The reaction $Fe^{54}(d,\alpha)Mn^{52}$: As iron has 4 stable isotopes it supplies many activities with many periods when bombarded by deuterons. Mn^{52} forms only at the reaction $Fe^{54}(d,\alpha)Mn^{52}$ in the ground state and in metastable states (half life 6,0 Tgae and 21 minutes). Here the yield of Mn^{52} is measured in the ground state. The excitation curve obtained at the irradiation of two stacks is shown in a diagram; it rises almost linearly with growing deuteron energy. The yield of Mn^{52} at the bombardment of a thick iron target by 14 MeV-deuterons amounts to $4{,}6 \cdot 10^{-5}$ atoms per deuteron or 34 microcurie/microampere hour (?).

The reaction $Fe^{54}(d,n)Co^{55}$: The excitation curve of this reaction has a sharp maximum at E_d 7 MeV.

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The reaction $Zn^{66}(d,2n)Ga^{66}$ has an excitation curve that rises linearly with growing deuteron-energy. Also the yields of Co^{55}

The Excitation Curves of the Reactions $Mg^{24}(d,\alpha)Na^{22}$, $Fe^{54}(d,\alpha)Mn^{52}$, $Fe^{54}(d,n)Co^{55}$, and $Zn^{66}(d,2n)Ga^{66}$. PA - 2262

and Ga^{66} at the last two reactions were given. (5 illustrations)

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VLASOV N.A.

AUTHOR BOGDANOV, G.F., VLASOV, N.A., KALININ, S.P., RYBAKOV, B.V., SIDOROV, V.A. 89-9-2/32

TITLE The Li(p,n)Be reaction and the Fundamental Structure of the Be^6 Nucleus.
(Reaktsiya(p,n) na litii i osnovnoye sostoyaniye yadra Be^6)

PERIODICAL Atomnaya Energiya, 1957, Vol 3, Nr 9, pp 204 - 210 (U.S.S.R.)

ABSTRACT By means of the time of flight method the neutron spectrum emitted by the reactions Li^6+p and Li^7+p = 9 MeV is measured. Further, the redistribution of neutrons and the reaction cross sections were measured. The results are

1) $Li^6(p,n)Be^6$
a) $Q_o = -5,2 \pm 0,2$ MeV
b) the natural breadth of the ground state $\Gamma < 0,3$ MeV
c) angular distribution of neutrons: $\sigma(\theta) = 0,19 + 0,23 \cos(\theta) + 0,70 \cos^2(\theta)$ mb/steradian
d) mass defect of Be^6 = 20,3 ± 0,2 MeV
e) Reaction cross section for the ground state at Ep=9 MeV $\sigma = 5 \pm 1$ mb
2) $Li^7(p,n)Be^7$
a) The neutrons corresponding to the ground state, the level with 0,43 MeV and 4,65 MeV were found,
b) The angular distribution for the neutrons of the ground state and the 1st level is $\sigma(\theta) = 6,8 + 2,4 \cos^2(\theta)$ mb/steradian
c) The total reaction cross section (forming of ground state and 1st

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The Li(p,n)Be Reaction and the Fundamental Structure of the Be^6 Nucleus. 89-9-2/32

level) at Ep = 9 MeV:
$\sigma = 100 \pm 20$ mb

3) The neutrons of the following reactions were observed:
$Li^6(p,pn)Li^5$
$Li^6(p,2pn)He^4$.

(8 illustrations and 3 Slavic references).

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Card 2/2

RYABAKOV, Boris Vasil'yevich; SIDOROV, V.A.; VLASOV, N.A., red.

[Spectrometry of fast neutrons] Spektrometriia bystrykh neitronov. Pod red. N.A.Vlasova. Moskva, Izd-vo Glav. upr. po ispol'zovaniiu atomnoi energii, 1958. 175 p. (MIRA 14:11)
(Neutrons)

VLASOV, N. A.; Rudakov, V. P.

"Correlation angulaire beta-gamma dans la desintegration de 139 Ba et signe du quotient des constantes de la desintegration beta."

Vlasov, N. A. and Oglobin, A. A., " Reaction (d,t) sur les noyaux $^{6}_{LI}$, $^{7}_{Li}$, $^{9}_{Be}$." report presented at the Intl. Congress for Nuclear Interactions (Low Energy) and Nuclear Structure (Intl. Union Pure and Applied Physics)_ Paris, 7-12 July 1958.

21(3)

AUTHOR: Vlasov, N. A.

SOV/89S-58-6-1/33

TITLE: Preface of the Editor (Predisloviye redaktora)

PERIODICAL: Atomnaya energiya, 1958, Supplement, Nr 6, p 4 (USSR)

ABSTRACT: The investigation of the interaction of fast neutrons with matter is the best method of investigating the properties of atomic nuclei, which also yields information for the solution of important practical problems concerning the design and the calculation of nuclear reactors. This kind of work, however, contains more methodical assumptions and know-hows than definite experimental results. This may be explained by the difficulties encountered in the construction of such a neutron spectrometer which, with the neutron sources available at present, gives good results. Recently, a way out of these difficulties has been offered by the application of time-of-flight methods to the spectrometry of fast neutrons. Thus far-reaching and hitherto inaccessible means of investigation have been made available. The authors of the book under review are pioneers in the field of the investigation of neutron-spectroscopical methods on the basis of the time-of-flight principle. By using the 150 cm cyclotron of

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the Institut atomnoy energii (Institute of Atomic Energy) they designed and constructed one of the first spectrometers which is obviously the best at present available. For this reason, the chapters devoted to the time-of-flight method are not only a review of papers, but also a report on the experience gathered and new results gathered by the authors. In this book attention is primarily centered on the time-of-flight method as the most efficient and promising method. Of the other methods, only the most important ones are mentioned which have not yet lost their importance. This book is the first comprehensive survey in this direction. It comes in very useful for physicists and engineers working with neutrons. The experience gained by the authors of the book under review is already being utilized in the development and the construction of new cyclotrons. It may be hoped that this experience will also be utilized by other laboratories.

VLASOV, N.

AUTHORS: Vlasov, N., Groshev, L., Mostovoy, V., Pevzner, M., 89-1-2o/29

TITLE: Interaction Between Neutrons and Nuclei (Vzaimodeystviye neytronov s yadrami).

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 1, pp. 96 - 1o1 (USSR)

ABSTRACT: From September 9, to September 13, 1957 an International Conference took place at New York Columbia University, which was attended by more than 2oo physicists. A total of 7o lectures was delivered. The most important results are the following:
The reaction cross section for $B^{1o}(n,\alpha)$, $Li^6(n,\alpha)$ and $He^3(n,p)$ must be measured with much greater accuracy.
Description of a neutron spectrometer with a pulsating neutron source from a synchrocyclotron. Resdving power obtained: >o,o1 μs/m with a flying distance of 35 m.
A mechanical selector which attains a ray-resolution of o,o1 to o,o15 μs/m
At Nd143 a negative point of resonance was uniquely found:

$$E_o = -1,5 \pm o,5 \text{ eV}; \quad \sigma_o \Gamma^2 = 415 \text{ b(eV)}^2.$$

Determination of the yields of various isotopes at the fission of U^{233} with $E_n = 1,8$ eV and the fission of U^{235} with $E_n > 2$ eV.
A three-fold fission of U^{235} with neutrons in the energy range of from o,o2 to o,2 eV was not found.

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A magnetic spectrograph was built for the purpose of measuring the energy of fission fragments.
For Pu^{240} resonances at E_n = 1,056 eV; 20,4 eV and 38,2 eV were found. For Pu^{242} only resonances at 2,65 and 53,6 eV were found up to 1 KeV. For I^{129} and Zr^{93} no resonance was found within the range of from 1 to 100 eV.

$\frac{\sigma_f(U^{233})}{\sigma_f(U^{235})}$ = 0,9323±0,0013

$\frac{\sigma_f(Pu^{239})}{\sigma_f(U^{235})}$ = 1,4056±0,0009 for neutrons with Maxwell distribution and T = 20°C

$\frac{\sigma_f(Pu^{239})}{\sigma_f(U^{233})}$ = 1,5048±0,0009

$\frac{\sigma_f(Pu^{241})}{\sigma_f(Pu^{239})}$ = 1,351± 0,0006

σ_0 for Au : 98,8 ± 0,3 b E_n = 2200 m/sec

$T_{1/2}$ of U^{233} = (1,611 ± 0,008) . 10^5a

σ_f for U^{233} : 524 ± 4 b E_n = 2200 m/sec

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89-1-20/29

Interaction Between Neutrons and Nuclei.

$$\frac{\int \sigma_c \frac{dE}{E}}{\sigma_0\ 2200\ m/sec} = 25,5 \pm 5,0\% \text{ for } Pu^{240}$$

The folbwing reactions are described:
$U^{235}(d,p)$; $U^{235}(d,pf)$; $U^{238}(d,p)$; $U^{238}(d,pf)$ E_d = 14 MeV

$U^{238}(n,n')$; $U^{235}(n,n')$; $Pu^{239}(n,n')$ E_n = 0,55; 1,0 and 2,0 MeV

$Fe^{56}(n,n')$; $I^{127}(n,n')$ $E_n = \sim 1,5$ MeV

$F(n,\gamma)$ - 15 resonances from 2 to 15 eV were found

(n-p), (n-α), (n-2n) reactions on various elements

$D(p,n)$ E_d = 3,5 up to 3,9 MeV.

Furthermore, the γ- spectra of the most varied n-γ processes were measured. There are 2 figures.

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AUTHORS: Vlasov, N. A., Skvortsov, S. A. SOV/89-5-4-15/24

TITLE: Physico-Technical Institutions of Norway (Fiziko-tekhnicheskiye uchrezhdeniya Norvegii)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 4, pp 468-471 (USSR)

ABSTRACT: A Soviet delegation, invited by the director of the Norwegian-Dutch Atomic Institute, visited Norway in May 1958. The Soviet delegation consisted of: I. I. Afrikantov, N. A. Vlasov, and S. A. Skvortsov.
The authors give a detailed report on this visit.
There are 3 figures.

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ALIKHANOV, A.I., akademik, obshchiy red.; VEKSLER, V.I., akademik, obshchiy red.; VLASOV, N.A., kand.fiz.-mat.nauk, obshchiy red.; DROZDOV, S.I., kand.fiz.-mat.nauk, red.toma; ZARETSKIY, D.F., kand.fiz.-mat. nauk, red.toma; SMOLYAN, G.L., red.; MAZEL', Ye.I., tekhn.red.

[Nuclear physics; proceedings of the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1958] IAdernaia fizika; trudy Vtoroi mezhdunarodnoi konferentsii po mirnomu ispol'zovaniiu atomnoi energii, Zheneva, 1958. Pod obshchei red. A.I.Alikhanova, V.I.Vekslera i N.A.Vlasova. Moskva, Izd-vo Glav. upr. po ispol'zovaniiu atomnoi energii pri Sovete Ministrov. (MIRA 12:5)
Vol.1. 1959. 552 p.
(Geneva--Atomic energy--Congresses)

VLASOV, N. A. (Dr.)

"Interaction of Protons and Deutons with Light Nuclei."

report presented at the Intl. Conference on Nuclear Forces and the Few Nucleon Problems, London, 8-11 July 1959.

Moscow

ALIKHANOV, A.I., akademik, red.; VLASOV, N.A., kand. fiz.-mat.nauk, red.; IL'ICHEV, B.I., red.; LABAZNOV, V.I., red.; MAZEL', Ye.I., tekhn. red.

[Transactions. Selected reports by foreign scientists] Trudy. [Izbrannye doklady inostrannykh uchenykh] Moskva, Izd-vo Glav. uprav. po ispol'zovaniiu atomnoi energ. pri Sovete Ministrov SSSR. Vol. 2. [Neutron physics] Neitronnaia fizika. Pod obshchei red. A.I.Alikhanova i N.A. Vlasova. 1959. 755 p. (MIRA 14:7)

1. Vtoraya mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Zheneva, 1958.
(Neutrons)

RYBAKOV, B.V.; SIDOROV, V.A.; VLASOV, N.A., red; ZHUKAVLEVA, M.F., red.

[Spectrometry of fast neutrons] Spektrometriia bystrykh neitronov. Moskva, Izd-vo Glav. upr. po ispol'zovaniiu atom. energ. pri sovete ministrov SSSR, 1959. 175 p. (Atommaia energiia, supplement no.6) (MIRA 12:7)

(Neutrons—Spectra)

21(8) SOV/56-36-1-4/62

AUTHORS: Vlasov, N. A., Rudakov, V. P.

TITLE: β-γ Angular Correlation in the Decay of Ba^{139} and the Sign of the Ratio of the β-Interaction Constants (Uglovaya β-γ korrelyatsiya pri raspade Ba^{139} i znak otnosheniya konstant β-vzaimodeystviya)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 1, pp 24-27 (USSR)

ABSTRACT: In the introduction the results obtained by several investigations of the ratio of interaction constants (g_S/g_T or g_V/g_A) carried out by several authors are discussed. With respect to the connection between angular correlation and the ratio of these constants, A. Z. Dolginov (Ref 7) showed that the anisotropy coefficient a can be represented in the expression of the angular β-γ correlation $W(\theta) = 1+a\cos^2\theta$ as a function of this ratio and some ratios of matrix elements of β-transition. The latter are written down for the case $\Delta J = 1$ (cf. Ref 7) and discussed. Further, the results obtained by a number of other papers are discussed (Refs 8-12). In reference 8 the angular β-γ-correlation was investigated for the cascade transition between the states $(7/2^-) \xrightarrow{\beta} (5/2^+) \xrightarrow{\gamma} (7/2^+)$ at

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β-γ Angular Correlation in the Decay of Ba^{139} and the Sign of the Ratio of the β Interaction Constants

E_β = 2.23 and E_γ = 0.163 MeV. The authors investigated it in the decay of Ba^{139} (from the reaction $Ba^{138}(d,p)Ba^{139}$). A statistical evaluation of 30 measuring series resulted in the following values for the anisotropy coefficient:

$$a = \left\{N(\pi) - N(\pi/2)\right\} / N(\pi/2) = 0.058 \pm 0.023$$

(Ba^{139} has a half-life of 85 minutes).
Control measurements were carried out with the preparations Sc^{46} and Sb^{124} the results of which are also given. Calculation of the anisotropy coefficient was carried out both on the assumption of a mixed vectorial and axial interaction and for a scalar-vectorial mixture. The following was obtained for the constants: $g_S = -g'_S$; $g_T = -g'_T$; $g_V = g'_V$; $g_A = g'_A$ where the quantities with a prime relate to the non-conservation of parity. Calculations were carried out for the case of a mixture of magnetic dipole (96 %)- and electric quadrupole (4 %)-radiation. The dependence of a on the ratio g_S/g_T or g_V/g_A and on only one ratio of matrix elements was

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β-γ Angular Correlation in the Decay of Ba^{139} and the Sign of the Ratio of the β Interaction Constants

calculated; the functions obtained are given in figures 2 and 3. Theoretical results agree with experimental ones only for $g_V/g_A < 0$. The authors finally thank A. Z. Dolginov for letting them know calculation results and for discussions, and they express their gratitude to S. P. Kalinin for his interest, and to L. A. Sliv and I. S. Shapiro for discussing results. There are 3 figures and 13 references, 1 of which is Soviet.

SUBMITTED: July 11, 1958