

CZECHOSLOVAKIA / Physical Chemistry. Thermodynamics. B-8
Thermochemistry. Equilibria. Phase
Transitions. Physico-Chemical Analysis.

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 22450.

Abstract: phenomena are described within the limits of thermodynamics of irreversible processes and the interphase flows are expressed depending on the jumps of corresponding properties on the boundary. A two-phase multicomponent system is discussed. The assumption that the boundary is stationary, made in the preceding three reports, is rejected. The ratios of mass flows of individual components and of momentum and energy transfers are derived; their application to special cases results in some relations obtained previously, for example, in relation to the temperature jump. New results concerning diffusion are also obtained. -- M. Ryba.

Card 5/5

CHILADZE, Z.A

USSR/Human and Animal Physiology. Internal Secretion. The
Thyroid Gland.

T-8

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55815.

Author : Chiladze, Z.A.

Inst :

Title : The Absorption of Radioactive Iodine I^{131} by the Thyroid
Gland During Pregnancy (Experimental Study).

Orig Pub: V sb.: Aktual'n. vopr. akusherstvai i ginekol. M. , 1957,
293-303.

Abstract: One quarter of an hour to 96 hours after hypodermic
injection of 0.1-0.2 μ curie of I^{131} , it is absorbed
by the thyroid gland (TG) of 5 pregnant rabbits in a
10-15 percent larger amount than by not pregnant
females. The administration of I^{131} during pregnancy

Card : 1/2

129

' USSR/Human and Animal Physiology. Internal Secretion. The Thyroid
Gland. T-8

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55815.

does not change its absorption rate by the thyroid
gland of the offspring.

Card : 2/2

USSR/Human and Animal Physiology. Internal Secretion. The Thyroid Gland. T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55816.

Author : Chiladze, Z.A.

Inst :

Title : The Absorption of Radioactive Iodine I¹³¹ by the Thyroid Gland of Women During Pregnancy.

Orig Pub: Aktual'n. vopr. akusherstva i genekol. M., 1957, 304-319.

Abstract: The accumulation of I¹³¹ in the thyroid gland (TG) of healthy pregnant women (40 subjects), as measured 1/4 to 96 hours after the internal intake of a 1-2 μ curie dose of I¹³¹ is heightened, but it is still within normal limits. Simultaneously, the discharge of I¹³¹ into the bloodstream is increased. An inter-

Card : 1/3

130

CHILADZE, Z.A., dotsent.

Method for producing electrotonus in the atonic uterus for
arresting uterine hemorrhage; experimental and clinical study.
Akush. i gin. no.1:41-46. '65. (MIRA 18:10)

1. Kafedra akusherstva i ginekologii (zav.- prof. K.V. Chachava)
Tbilisskogo instituta usovershenstvovaniya vrachey.

CHILADZE, Z. A., Cand Med Sci -- (diss) "Absorption of radioactive iodine I^{131} in the thyroid gland during pregnancy. (Experimental-clinical research). " Tbilisi, Academy of Sciences Georgian SSR Press, 1959. 23 pp with graphs; (Tbilisi State Medical Inst); 200 copies; free; (KL, 17-60, 173)

L 18199-63

EWI(1)/EWI(m)/BDS/ES(1) AMD/AEPTC/ASD AR/K

S/0218/63/028/004/0595/0601

ACCESSION NR: AP3005651

AUTHOR: Kritskiy, G. A.; Safronova, R. N.; Chil-Akopyan, L. A.;
Kovtun, Yu. T.

64
59

TITLE: Bone marrow nucleic acid autolysis in normal and in X-irradiated animals |9

SOURCE: Biokhimiya, v. 28, no. 4, 1963, 595-601

TOPIC TAGS: autolysis, RNA, DNA, bone marrow, local X-irradiation, dose

ABSTRACT: For DNA and RNA autolysis of rabbit bone marrow, the right back extremities of a group of rabbits were exposed to X-irradiation (RUP-1) of 2000 r (24 min) & the same parts of another group of rabbits were exposed to 200 r (2.4 min). After irradiation the rabbits were decapitated at different time periods. The back extremities were frozen for 1-2 days, and after thawing at room temperature, the bone marrow was extracted. Nucleic acid autolysis of bone marrow homogenates was investigated. Results indicate that shortly after irradiation DNA autolysis is slightly activated for the 200 r dose. For the 2000 r dose the initial DNA autolysis rate increases almost three

Card: 1/2

L 18199-63

ACCESSION NR: AP3005651

times. RNA autolysis for a 2000 r dose is activated only 2 hrs after irradiation. DNA and RNA autolytic rates are significantly inhibited after the first day, reach their peak between 2-4 days, and then gradually return to normal. Nucleic acid autolysis changes were compared with changes in their contents. Activation of DNA autolysis is an earlier radiation disturbance than decrease in nucleic acid contents or change in free nucleotide contents. Activation of DNA autolysis shortly after irradiation is a characteristic disturbance in cell biochemistry and leads to cell disintegration. Sharp inhibition of DNA and RNA autolysis shortly after irradiation can be explained by qualitative DNA and RNA changes in the irradiated tissues. The authors express their gratitude to N. B. Aleksandrova for assistance in the study. Orig. art. has: 2 tables, 3 figures.

ASSOCIATION: Institut biokhimii im. A. N. Bakha Akademii Nauk SSSR, Moskva (Institute of Biochemistry, Academy of Sciences, USSR)

SUBMITTED: 18Aug62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: AM

NO REF SOV: 009

OTHER: 018

Card 2/2

AVAKYAN, Z.G.; CHIL-AKOPYAN, L.A.; AFRIKYAN, E.K.

Effect of feeding with vitamins and other growth substances on
the development and productivity of the silkworm. Vop. mikrobiol.
no.2:333-354 '64. (MIRA 18:3)

KAZARYAN, G.A.; ARUTYUNYAN, V.M.; KARAPETYAN, N.V.; CHIL-AKOPYAN, L.A.

Some biochemical indices in thyrotoxicoses. Izv. AN Arm. SSR. Biol.
nauki 18 no.1:91-96 Ja '65. (MIRA 18:5)

1. Laboratoriya gormonov i izotopov Nauchno-issledovatel'skogo
instituta rentgenologii i onkologii AMN SSSR, endokrinologicheskii
kabinet II meditsinskogo ob"yedineniya.

CHILAP, A.Ya.

Problem pertaining to the breakthrough of edge water to the gallery
of a well. Izv. vys. ucheb. zav.; mat. no. 3:241-255 '60.
(MIRA 13:12)

1. Nauchno-issledovatel'skiy institut matematiki i mekhaniki imeni
N.G. Chebotareva pri Kazanskom gosudarstvennom universitete.
(Differential equations) (Oil field flooding)

CHILAP, A.Ya.

Determining pressure field in lumpy nonuniform layers.
Izv. vys. ucheb. zav.; neft' i gaz 4 no.1:53-60 '61. (MIRA 15:5)

1. Kazanskiy gosudarstvennyy universitet imeni Ul'yanova (Lenina).
(Oil reservoir engineering)

CHIAP, A.Ya.

Determining the pressure field in a fragmented nonuniform bed
using the method of statistical tests. Izv. vys. ucheb. zav.;
neft' i gaz 8 no.3:73-76 '65. (MIRA 18:5)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-
Lenina.

SKVORTSOV, E.V.; FARZAN, B.Kh.; CHILAN, A.Ya. (Kazan')

Solution of certain conjugation problems by reduction to a
generalized Riemannian problem. Prikl.mat.i mekh. 27 no.2:
351-355 Mr-Apr '63. (MIRA 16:4)
(Boundary value problems) (Integral equations)

CHILAP, A. Ya. Cand Phys-Math Sci -- "Certain problems of determining the field of pressure and the displacement of the boundary ~~line~~ of water and petroleum in layers." Kiev, 1960 (Joint Academic Council of Insts of Mathematics, Physics, and Metal Physics, Acad Sci UkSSR). (KL, 1-61, 181)

CHILAP, A.Ya. (Kazan')

On the conjugation problem for a sectorial region. Zhur.vych.mat.i
mat.fiz. 2 no.6:1054-1061 N-D '62. (MIRA 15:11)
(Harmonic functions)

GHILAP, A. Ya.

(Kazan*)

Determining the fields of pressure in a striated blockwise
nonuniform layer. Izv. AN SSSR Mekh. i mashinostr. no.4:
185-189 JI-Ag '64 (MIRA 17:8)

380
PHOTOELECTRIC FISSION OF THE NUCLEUS Li^7 He^4
Yashakhtz and G. A. Chisaghyli. Zhur. Ekspl. i Teoret.

Fig. 26 254 507884 Feb (In Russian)

The $Li^7 + He^4$ reaction studied experimentally by [1] was examined theoretically. From the reaction threshold is 4h Mev. It is believed that the binding energy of the deuteron to the Li^7 is very small, almost 0 Mev. The spin of the parent nucleus is 3, coinciding with the spin of the system $He^4 + H^2$. The magnetic moment of Li^7 is almost equal to that of the deuteron. The magnetic dipole moment of $Li^7 + H^2$ is very small and weak because of the presence of one of α particles and one deuteron. The theoretical value of the cross section of the reaction is $0.15 \cdot 10^{-23}$ cm², and the experimental value is $4.2 \cdot 10^{-23}$ cm². U.S.T.

Technical Staff

CHILASHVILI, G. A.

"Disintegrations of Light Nuclei in Collisions With Heavy Nuclei," by V. I. Mamasakhlisov, Corresponding Member, Academy of Sciences Georgian SSR, and G. A. Chilashvili, Tbilisi State University imeni Stalin, Soobshcheniye Akademii Nauk Gruzinskoy SSR, Vol 17, No 10, Oct 56, pp 873-877

The two-particle model for light nuclei is assumed, according to which Li^6 can be represented as a $(\text{He}^4 + \text{H}^2)$ system and Be^9 as a $(\text{Be}^8 + n)$ system.

CHILASHVILI, G.A.

CHILASHVILI, G.A.

Interaction between gamma-quanta and light nuclei. Soob. AN Grus. (MIRA 10:12)
SSR 19 no.1:19-22 JI '57.

1. Tbilisskiy gosudarstvennyy universitet im. Stalina. Predstavleno
chlenom-korrespondentom akademii V.I. Manasakhiliscvym.
(Nuclei, Atomic)

GHILASHVILI, G.A.

Electrodisintegration of atomic nuclei. Soob. AN Gruz. SSR 20
no. 3:277-284 Mr '58. (MIRA 11:7)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina. Predstavleno
chlenom-korrespondentom Akademii V.I. Mamasakhlisovym.
(Collisions (Nuclear physics))

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., SOV/56-37-3-24/62
Chilashvili, S. A.

TITLE: Resonance Scattering of γ -Quanta on the Mg^{24} Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 37, Nr 3(9), pp 750-755 (USSR)

ABSTRACT: The present paper deals theoretically with the resonance scattering of γ -quanta on the Mg^{24} nucleus with excitation of the level 2^+ (1.37 Mev) and 2^+ (4.23 Mev). F. Metzger (Ref 2), N. A. Burgov, and Yu. V. Terekhov (Ref 3) determined experimentally the width of the level 2^+ (1.37 Mev) by the method of resonance scattering. If the Mg^{24} nucleus is assumed to be weakly deformed, the level 2^+ (1.37 Mev) may be regarded either as a collective (rotational) level with the momentum $I = 2$ (and with the projection $K = 0$ to the axis of symmetry of the nucleus) or also as a simple particle level (which is due to the excitation of a single nucleon in the field of the deformed nucleus). The nucleus in the shell $N = 2$ may be on the levels

Card 1/4

Resonance Scattering of γ -Quanta on the Mg^{24} Nucleus SOV/56-37-3-24/62

$\Omega = \pm 1/2, \pm 3/2,$ and $\pm 5/2$. In this connection three different levels correspond to the case $\Omega = \pm 1/2$, to the case $\Omega = \pm 3/2$ two, and to the case $\Omega = \pm 5/2$ one level (Ω denotes the projection of the momentum of the nucleon to the axis of symmetry of the nucleus). The distance between these levels depends on the value $\hbar\omega$ and on the parameter of deformation δ . According to the selection rules, only the transitions $1/2 \rightarrow 1/2$ and $3/2 \rightarrow 3/2$ are possible in Mg^{24} . The value $\delta = \pm 0.2$ is found for the Nilsson parameter in the transition $1/2 \rightarrow 1/2$, in the transition $3/2 \rightarrow 3/2$, however, it holds that $\delta = 0$. The widths of the excited 1.37 Mev level are tabulated. The case with $\delta = -0.2$ is out of question. At $\delta = 0.2$, the theoretical value of the width is considerably higher than the experimental one. If the value of δ (i.e. 0.3) is higher, the agreement with the experiment will probably be better. Angular distribution does not depend on the choice of the nuclear model as far as pure E2 transition is concerned. A different result with respect to the dependence of angular distribution on the nuclear model is, however, obtained if the resonance scattering of γ -quanta on the Mg^{24} nucleus with excitation of the second level

Card 2/4

Resonance Scattering of γ -Quanta on the Mg^{24} Nucleus SOV/56-37-3-24/62

2^+ (4.23 Mev) is considered. From this level γ -transition to the ground level and to the first excited level is possible. In the transition to the ground level, the distribution of γ -quanta again does not depend on the choice of the nuclear model. In the transition to the first excited level, the transitions E2 and M1 are possible. The following relations hold for the probabilities: $W[E2(2 \rightarrow 1)] \sim W[E2(2 \rightarrow 0)]$, $W[M1(2 \rightarrow 1)] \sim W[E2(2 \rightarrow 1)]$. The figures 0.1, and 2 denote the ground level and the first and second excited level. Moreover, it holds that $W[E2(2 \rightarrow 1)] / W[E2(2 \rightarrow 0)] \sim 1$, $W[M1(2 \rightarrow 1)] / W[E2(2 \rightarrow 1)] \sim 10^{-2}$. Transition $2 \rightarrow 1$ is no pure E2 transition. A formula is written down for the computation of the correlation function. After fairly extensive computations $I(\theta) \sim (1 + A \cos \theta + B \cos^2 \theta + C \cos^3 \theta + D \cos^4 \theta)$ is obtained, where $A = 0.11$; $B = -1.5$; $C = -0.3$; $D = 0.7$.

Card 3/4

Resonance Scattering of γ -Quanta on the Mg^{24} Nucleus SOV/56-37-3-24/62

θ denotes the angle between the absorbed and the emitted γ -quantum. Experimental investigation of the correlation of the γ -quanta in the excitation of the Mg^{24} -nucleus with the energy 4.23 Mev may lead to certain conclusions on the character of excitation of this nucleus. Unfortunately, such experiments have not yet been made. The authors thank V. I. Mamasakhlisov for his supervision and constant interest. There are 2 figures, 1 table, and 12 references, 7 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR
(Physics Institute of the Academy of Sciences of the
Gruzinskaya SSR)

SUBMITTED: March 31, 1959

Card 4/4

KOPALEYSHVILI, T.I.; VASHAKIDZE, I.Sh.; MEMSAKHLISOV, V.I.;
CHILASHVILI, G.A.

Alpha-deuteron model of the L_6 nucleus. Trudy Inst. fiz.
AN Gruz. SSR. 7:231-245 (1960). (MIRA 14:10)
(Lithium)

CHILASHVILI, G. A.

82425
S/056/60/038/03/26/033
B006/B014

24.6510

AUTHORS:

Vashakidze, I. Sh., Kapaleyshvili, T. I., Mamasakhlisov, V. I.,
Chilashvili, G. A.

TITLE:

The Structure of the Be^9 Nucleus

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 3, pp. 937-941

TEXT: Investigations conducted by other authors seem to indicate that the Be^9 nucleus consists of two alpha particles and one neutron. Suh has proved that the binding energy of the Λ particle in the hypernucleus ΛBe^9 can be made to agree with experiments only if one assumes that this particle moves in the field of the two alpha particles. Similarly, one may assume for the ordinary Be^9 nucleus that the neutron moves in the field of the two alpha particles. In the article under review, the authors want to find out whether such a system is stable, and how the energy spectrum of the nucleus can be interpreted with the help of this model. The Hamiltonian on which investigations are based reads: $H = -(\hbar^2/2\mu_\alpha)\Delta_u -$

Card 1/3

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(1)

The Structure of the Be⁹ Nucleus

82425
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B006/B014

$$- (\hbar/2\mu)\Delta_{\rho} + V_{n\alpha}(|\vec{\rho}-\vec{u}/2|) + V_{n\alpha}(|\vec{\rho}+\vec{u}/2|) + V_{\alpha\alpha}(u) + C_{\alpha\alpha}(u)$$
; \vec{u} denotes the radius vector of the alpha particles, ρ is the radius vector of the neutron with respect to the center of mass of the two alpha particles, $V_{n\alpha}$ and $V_{\alpha\alpha}$ are the possible energies of the $n\alpha$ - and/or $\alpha\alpha$ -interaction, $C_{\alpha\alpha}$ is the possible energy of the Coulomb interaction, $\mu_{\alpha} = 2M$, $\mu = 8M/9$, M is the nucleon mass. According to Suh $V_{nn} = -V_0 e^{-\beta^2 r^2}$ ($\beta^2 = 0.266 \cdot 10^{26} \text{ cm}^{-2}$).

The energy levels of the Be⁹ nucleus are computed by considering the vibrations along the axis of symmetry and around the center of mass of the two alpha particles. In a table, the excitation energies computed from formula (8) are compared with experimental data (Refs. 7, 3). Agreement is satisfactory. Levels with 9.3, 12.4, 14.1, and 15.5 Mev, which so far have not been found experimentally, are obtained theoretically. Their existence appears plausible. On the other hand, two very close levels 17.27 and 17.47 Mev, were found experimentally, to which only one theoretical (rotational) level with 17.2 Mev corresponds. Either there is really only one or there occurs a level splitting which is not covered by (8). From the results it may be concluded that all Be⁹ levels consist of

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Card 2/3

The Structure of the Be^9 Nucleus

82423
S/056/60/038/03/26/033
B006/B014

two groups: vibrations along the symmetry axis, with the excess neutron being in the ground state, and vibrations along the symmetry axis, with the excess neutron being in the first excited vibrational state. The groups are characterized by $n_2 = 0$ and $n_1 = 1$ (the quantum number n_1 corresponds to vibrations along the symmetry axis, n_2 to vibrations around the center of mass). It follows that n_2 is not greater than unity. Finally, the results obtained are compared with data on the ΔBe^9 hyper-nucleus. The authors thank the collaborators of the Vychislitel'nyy tsentr Akademii nauk Armyanskoy SSR (Computing Center of the Academy of Sciences of the Armyanskaya SSR), as well as F. M. Ter-Mikayelyan and R. A. Aleksandryan for having computed the function tables on a "Yerevan" computer. There are 1 figure, 1 table, and 8 references, 1 of which is Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: October 1, 1959

Card 3/3

X

85683

S/056/60/038/006/025/049/XX
B006/B070

24.6100
AUTHORS:

Kopaleyshvili, T. I., Vashakidze, I. Sh., Mamasakhlisov,
V. I., Chilashvili, G. A.

TITLE: The Alpha - Deuteron Model of the Li^6 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 6, pp. 1758-1764

TEXT: A detailed discussion is given of the possibility of considering the Li^6 nucleus to be made of an alpha particle and a deuteron. The energy of the relative motion of these subsystems of alpha and deuteron is calculated on the basis of one of the assumptions, and it is shown that this energy has a minimum in the region of negative values. Among others, a paper by Biel (Ref. 7) is discussed in the introduction; Biel has studied the binding energies of Be^8 and C^{12} nuclei on the alpha-particle model and obtained a good agreement with the experiment by a proper choice of a mixture of Serber-type and symmetric forces. In following Biel, the present authors assume that both the forces between two nucleons and their

Card 1/4

85683

The Alpha - Deuteron Model of the Li^6 Nucleus

S/056/60/038/006/025/049/xx
B006/B070

wave functions have a Gaussian form. It is further assumed that the six-nucleon system of the Li^6 nucleus consists of two coupled subsystems, an alpha particle and a deuteron, which continually exchange nucleons, and that this system has an energy minimum. Parameters are defined which characterize the Li^6 nucleus in the ground and the excited states. The eight possible states of a nucleon are defined by its spin, isospin, and belonging to one of the two subsystems, and have the form (a, b, c) where a, b, c, = 1, 2. These states are numbered from 1 to 8, and these numbers are used to characterize, for example, the wave functions. Thus, for example, the spatial part of the wave function of the Li^6 nucleus is represented by $\psi(1234;56)$, where the first four indices refer to the nucleons of the alpha subsystem and the last two to the d-subsystem. Since an analytical determination of the energy is not possible on account of the complicated expressions, a numerical calculation is suggested. Energy curves for the ground state of Li^6 are found and shown in Fig. 1 (Serber-type forces, Curve 1; symmetric forces, Curve 2). The ordinate of the curves is taken to be the difference $E(\lambda)-E(0)$, where $E(0)$ is the energy of the system when the alpha particle and the deuteron are separated by an

Card 2/4

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The Alpha - Deuteron Model of the Li^6 NucleusS/056/60/038/006/025/049/XX
B006/B070

infinite distance. The fact that these curves have a minimum shows that the nucleon system considered is stable. The minimum in both the cases is found for $\lambda = 0.0316 \cdot 10^{26} \text{cm}^{-2}$; the energy minima are at -1.58 Mev (Serber-type) and -1.42 Mev (symmetric forces). Finally, the excited state 0^+ ($T=1$) of the Li^6 nucleus is studied. Fig. 3 shows the curve $E^*(\lambda) - E^*(0)$ as a function of λ for a mixture of Serber-type and symmetric forces. This curve has also a minimum (0.66 Mev) for the same value of λ as in the ground state; it has also a maximum at $0.0158 \cdot 10^{26} \text{cm}^{-2}$. The value of excitation energy is found to be 4.77 Mev, which does not agree well with the experimental value of 3.57 Mev. The origin of this divergence is discussed. D. A. Kveselay and Ye. N. Dekanosidze of the Vychislitel'nyy tsentr AN Gruzinskoy SSR (Computation Center of the AS Gruzinskaya SSR), and R. A. Aleksandryan and F. M. Ter-Mikaelyan of the Vychislitel'nyy tsentr AN Armyanskoy SSR (Computation Center of the AS Armyanskaya SSR) are thanked for the calculations. There are 3 figures and 11 references: 3 Soviet, 3 British, 2 US, 1 French, 1 Italian, and 1 Dutch.

Card 3/4

85683

The Alpha - Deuteron Model of the Li^6 Nucleus S/056/60/038/006/025/049/XX
B006/B070

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of
Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: December 19, 1959

X

Card 4/4

83189

S/056/60/039/002/026/044
B006/B056

24.6600
AUTHORS:

Vashakidze, I. Sh., Kopaleyshvili, T. I.,
Chilashvili, G. A.

TITLE: Investigation of the (n,p) Reaction on the ^{Li}6 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 2(8); pp. 393-396

TEXT: It was the purpose of the present paper theoretically to determine the proton angular distribution in the (n,p) reaction on ^{Li}6 in consideration of the neutron-proton correlation in the ^{Li}6 nucleus. The authors investigated the (n,p) reaction on the ^{Li}6 nucleus on the basis of the alpha-deuteron model of this nucleus, which had been worked out in earlier papers (Refs. 4, 5). They assume that the use of this model may lead to a better agreement between theory and experiment. It is assumed in this connection that the neutron and the proton, which are above the closed shell, form a bound state, so that the characteristic of the departure of the proton caused by the incidence of a neutron is due not only to direct interaction between these two particles (as assumed in the generally accepted

Card 1/2

83189

Investigation of the (n,p) Reaction on the
Li⁶ Nucleus

S/056/60/039/002/026/044
B006/B056

theory), but also to an interaction between the incident neutron and the neutron bound to the proton. A consideration of neutron-proton coupling in the nucleus must lead to an increase of the cross section at large angles when calculating the reaction cross sections, which corresponds to the experimental results obtained. A formula for calculating the angular distributions, formula (11) with (12) and (13) as definition formulas, is obtained and discussed. The numerical results of (11) are graphically represented for a 14-Mev energy of the incident neutron and oscillator-potential parameters of $r \approx 1 \cdot 10^{-13}$ cm (curve I) and $r \approx 1.2 \cdot 10^{-13}$ cm (curve II). The diagram also contains the experimental values. Both curves satisfactorily represent the experimental results (which have considerable error limits). Curve II does so somewhat more satisfactorily. In any case it is shown that a consideration of a proton-neutron coupling in the nucleus actually leads to an increase of the total (n,p) cross section at large scattering angles. The authors finally thank V. I. Mamasakhlisov for his interest and discussions. There are 1 figure and 6 references: 2 Soviet and 4 US.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of
Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: March 1, 1960

Card 2/2

S/056/60/039/003/018/045
B004/BQ60AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., Mamasakhlisov,
V. I., Chikashvili, G. A.TITLE: Resonance Scattering¹⁹ of Gamma Quanta on the Li⁷ NucleusPERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 3 (9), pp. 666-668

TEXT: The authors studied the resonance scattering of gamma quanta on the Li⁷ nucleus with the excitation of levels 1/2⁻ (0.477 Mev) and 5/2⁻ (7.46 Mev) (Fig. 1). The calculation of the 5/2⁻ level by means of a model of the oscillator potential, and with the spin-orbit interaction taken into account, is first discussed along with the conception of this level as the rotation of a rigid rotator consisting of an α -particle and a triton (Li⁷ = α + t), and the equation obtained in a previous paper (Ref. 2) concerning the quadrupole moment of Li⁷ is then written down:
 $Q_0 = (68/49)\bar{r}^2$ (1), where \bar{r}^2 denotes the mean square distance between

Card 1/3

Resonance Scattering of Gamma Quanta on the
Li⁷ Nucleus

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B004/B060

alpha particles and triton. The following relation is written down for an ellipsoid of revolution equivalent to this rotator:

$$3ZR^2\beta/\sqrt{5\pi} = (68/49)\bar{r}^2 \quad (2). \quad Z = 3, R = \text{radius of the equilibrium sphere, } \beta = \text{deformation parameter of the Li}^7 \text{ nucleus. Data supplied in a paper by A. S. Davydov and G. F. Filippov (Ref. 3) are made use of to write down equation (3) for the magnetic moment, and from (1) and (3) the following correlation function is obtained by substituting the data found by V. Yu. Gonchar, Ye. V. Inopin, S. P. Tsvtko (Ref. 4):}$$

$I(\theta) \sim [1 + 1.22P_2(\cos\theta) + 2.77P_4(\cos\theta)] \quad (4).$ θ is the angle between the

absorbed and emitted γ -quanta. Fig. 2 shows this function on the assumption of a single-particle- and a collective excitation. The value $1.5 \cdot 10^{-13}$ sec was calculated for the lifetime of the state $1/2^-$ (0.477 Mev) of the Li⁷ nucleus, when single-nucleon excitation was assumed, and the value $0.96 \cdot 10^{-13}$ was found when the alpha particle - triton pattern was assumed. The value found experimentally is $1.09 \cdot 10^{-13}$ sec. The assumption of the level $1/2^-$ (0.477 Mev) being caused by spin reversal

Card 2/3

Resonance Scattering of Gamma Quanta on the
Li⁷ Nucleus

S/056/60/039/003/018/045
B004/B060

of triton, not of the nucleus, is therefore in better agreement with
experimental results. There are 2 figures and 5 references: 4 Soviet and
1 US.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State
University). Institut fiziki Akademii nauk Gruzinskoy SSR
(Institute of Physics of the Academy of Sciences,
Gruzinskaya SSR)

SUBMITTED: March 31, 1960

Card 3/3

20458
S/056/61/040/002/018/047
B102/B202

24.6600
AUTHORS: Vashakidze, I.Sh., Kopaleyshvili, T.I., Chilashvili, G.A.

TITLE: Neutron polarization on disintegration of Be^9 nuclei
by circularly polarized gamma quanta

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,
v. 40, no. 2, 1961, 491 - 492

TEXT: As is known, circular polarization of gamma quanta can be determined from the polarization of photoprotons or photoneutrons which are emitted by nonpolarized nuclei. This is of interest in connection with the discovery of the non-conservation of parity in weak interactions. The best targets for low quantum energies proved to be H^2 or Be^9 . No photoneutron polarization has hitherto been observed in Be^9 ; for this reason, the authors theoretically studied the polarization of photoneutrons which are released by circularly polarized quanta. They obtained the following expression for the z-component (in the direction of the inciding quantum) of the polarization vector of photoneutrons from Be^9 :

Card 1/4

20458

S/056/61/040/002/018/047

B102/B202

Neutron polarization on disintegration...

$$P_z(\pm 1) = \pm \frac{0,5 \{1,28A_0^2 - A_2^2 - [2A_0 A_2 \cos(\eta_0 - \eta_2) + 1,53A_2^2] P_2(\cos \theta)\}}{A_0^2 + 2A_0 A_2 \cos(\eta_0 - \eta_2) P_2(\cos \theta) + 2,14 A_2^2 - 0,76A_2^2 P_2(\cos \theta)}, \quad (1)$$

$$A_0 = \int R_{0,1/2} R_{1,1/2} r^2 dr, \quad A_2 = \int R_{2,3/2} R_{1,1/2} r^2 dr,$$

where $\eta_0 = \eta_{0 \ 1/2}$, $\eta_2 = \eta_{2 \ 3/2} = \eta_{2 \ 5/2}$ are the scattering phases, and θ is the scattering angle of the photoneutrons; the upper and the lower sign correspond to right- and left-handed quantum polarization, respectively. Since the direction of the axis can be arbitrarily chosen P_x and P_y coincide after averaging over φ . Formula (1) contains the scattering phases η_0 and η_2 , and the radial integrals A_0 and A_2 . These quantities can be easily determined with the aid of the potential parameters of the neutron in the Be^9 nucleus, i.e., $V_{1 \ 3/2} = 12.16$ Mev, $V_{0 \ 1/2} = 3$ Mev and $r_0 = 5 \cdot 10^{-13}$ cm if the quantum energy is known. Thus, the angular dependence of the z-component of the polarization vector of the photoneutron can be determined. It is shown in the figure for quantum energies of 2, 3, 4, and 20 Mev. These energies

Card 2/4

20458

S/056/61/040/002/018/047

3102/3202

Neutron polarization on disintegration...

were chosen because the elastic scattering cross section of photoneutrons in this range is sufficiently large (of the order of some barns); besides, also the photonuclear process has a maximum cross section at 2-4 Mev so that these energies are especially adequate for obtaining a high degree of efficiency. With $E_{\gamma} = 20$ Mev the sign of circular polarization can be determined only by the photonuclear reaction. As may be seen from the diagram, neutron polarization attains almost 50% at certain angles; according to the direction of circular polarization of the quanta, photoneutron polarization has different signs. The curves in the diagram hold for right-handed polarization of the quantum. The authors thank V.I. Mamasakhlisov and S.G. Matinyan for discussions. There are 1 figure and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: E. Guth, C. Mulin, Phys. Rev. 76 234, 1949.

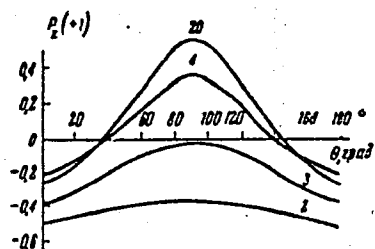
ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University) Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: May 23, 1960

Card 3/4

Neutron polarization on disintegration ...

20458
S/056/61/040/002/018/047
B102/B202



Card 4/4

CHILASHVILI, G.A.

~~Problem of three particles interacting with a nonlocal factorable potential.~~ Soob. AN Grus. SSR 32 no. 1:43-50 0 '63. (MIRA 17:9)

1. Tbilisskiy gosudarstvennyy universitet. Predstavleno akademikom V.I.Mamasakhlisovym.

CHILASHVILI, G.A.

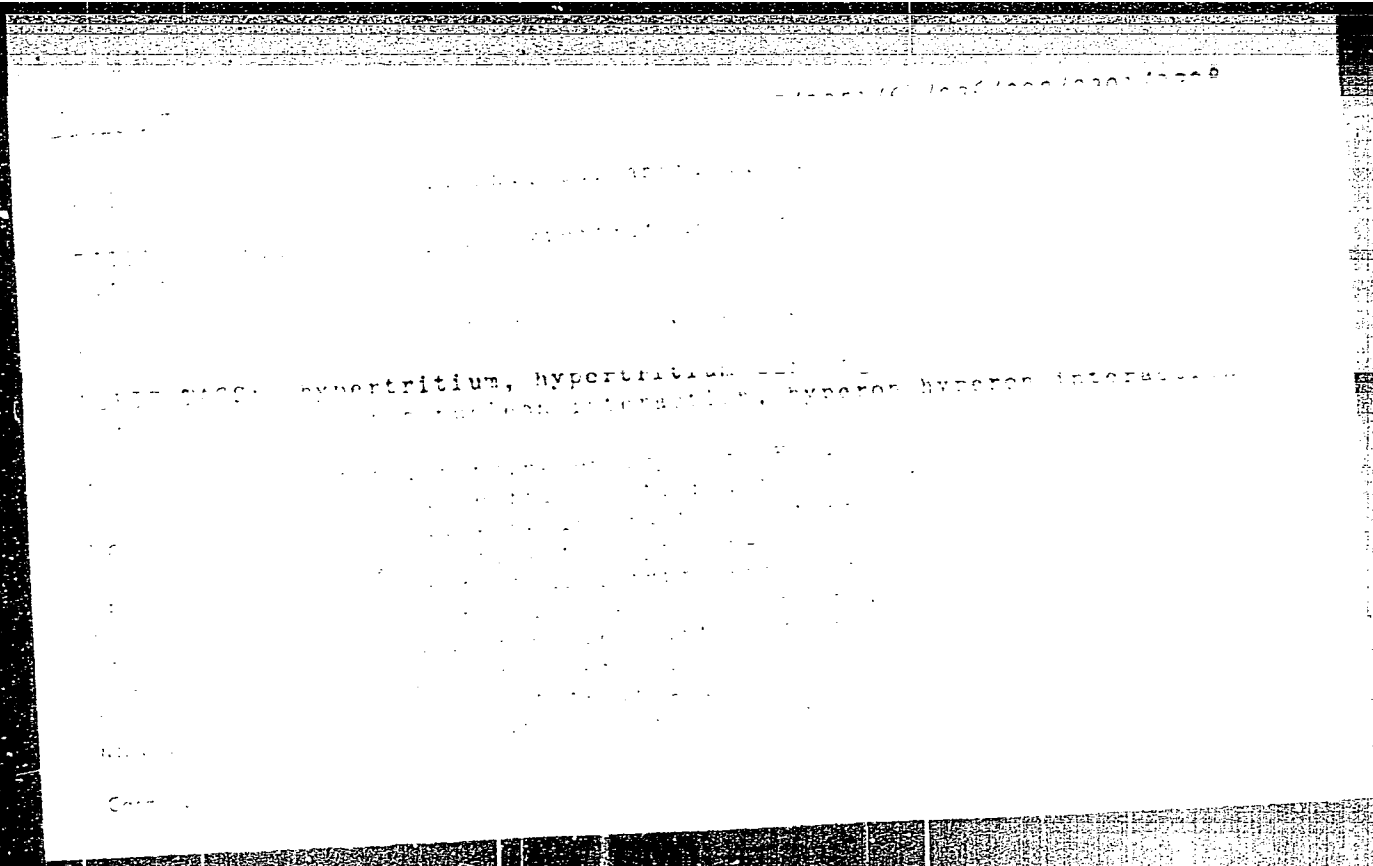
Problem of three nonidentical particles interacting with a
nonlocal factorable potential. Sborn. AN Gruz. SSR 33 no. 1:
35-41 Ju '64. (MIRA 17:7)

I. Tbiliskiy gosudarstvennyy universitet. Predstavleno aka-
denikom V.I. Mamasakhlisovym.

CHILASHVILI, G.A.

Application of a factorizing potential to the Li^6 nucleus.
Soob. AN Gruz. SSR 34 no.2:297-304 My '64. (MIRA 18:2)

1. Tbilisskiy gosudarstvennyy universitet. Submitted April 22, 1963.



L 18317-65

ACCESSION NO: AF5000640

account the irregularity of the AH3 system, Mitra's approximation of the

NO PIF 2/11/44

OTHER: 100

Card 10

ACCESSION NR: AP4042786

S/0020/64/157/003/0557/0560

AUTHORS: Vashakidze, I. Sh.; Chilashvili, G. A.

TITLE: Binding energy of hypertritium in the case of nonlocal interaction

SOURCE: AN SSSR. Doklady*, v. 157, no. 3, 1964, 557-560

TOPIC TAGS: hyperon, tritium, binding energy, lambda particle, sigma particle

ABSTRACT: A study is made of hypertritium under the assumption of a nonlocal factorizing interaction between any pair of particles, using the Gell-Mann global symmetry hypothesis (Phys. Rev. v. 106, 1296, 1957). The total energy of the Λ^3 hypernucleus is found by solving a system of coupled integral equations with allowance for the $\bar{\Lambda}N \leftrightarrow \Sigma N$ transitions. These transitions were not taken into account in other similar calculations. The coupled Schroedinger equa-

Card 1/3

ACCESSION NR: AP4042786

tions are first written down for hypertritium with allowance for $\Lambda \rightleftharpoons \Sigma$ transitions in the case of local interaction, after which the transition is made to the equations for a nonlocal factorizing interaction. This system can be reduced by integration with respect to the angles to a system of three one-dimensional integral equations, which can be easily solved with the aid of computers. Account is taken of the fact that the binding energy of the hypertritium differs little from the binding energy of the deuteron, and an approximation considered by Mitra (Nucl. Phys. v. 32, 429, 1962) can therefore be used. In this approximation the eigenvalues of the energy are determined from the vanishing of an eight-order determinant. The smallest root of this determinant corresponds to a total hypertritium binding energy of 2.904 MeV, which is in satisfactory agreement with the experimental value 2.3 MeV. If the $\Lambda \rightleftharpoons \Sigma$ transitions are not included, the binding energy obtained is 4.6 MeV, showing that the transitions cannot be neglected. It is thus shown that by using the model of global symmetry and taking the interaction between the par-

Card 2/3

ACCESSION NR: AP4042786

ticles in the form of a nonlocal factorizing potential in the Yamaguchi form, the observed total binding energy of hypertritium can be explained by taking the $\Lambda \leftrightarrow \Sigma$ transitions into account. "We thank V. G. Solov'yev for continuous interest and discussions, V. I. Ogiyevetskiy for advising us on problems in the field of strong interactions, and A. V. Rakit'skiy for programming the problem." Orig. art. has: 14 formulas. Report presented by N. N. Bogolyubov.

ASSOCIATION: Ob'yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 12Feb64

ENCL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 006

Card 3/3

1.1851-13
ACCESSION NO: 1.1851-13

AUTHOR: Chilashvili, S. A.
Chilashvili, S. A.

TITLE: Investigation of the analytic properties of the scattering amplitude in the nonrelativistic three-body problem

SOURCE: AN SSSR. Doklady*, v. 158, no. 6, 1964

TOPIC TAGS: analytic function, meromorphic function, Poincaré, scattering amplitude, angular momentum

ABSTRACT: The authors indicate that earlier attempts to study the singularities, especially moving branch points, of the scattering amplitude in the complex angular momentum plane are incomplete, and investigate the analyticity of the scattering amplitude for the three-body problem in which a free particle is scattered by the bound state of the two other particles. It is shown that the scattering amplitude is analytic in the complex angular momentum plane, except for a branch cut along the real axis.

Card 1/3

L 11822-65

ACCESSION NR: AP4048034

7

continuation of the kernels of the appropriate integral equations leads to incorrect results, for reasons which are spelled out. It is shown, however, that if the matrix element that determines the probability of scattering by the bound state is expanded in a perturbation theory series each term of the expansion, taken in the impulse approximation, can be set in correspondence with a Feynman diagram, from which it can be deduced that the scattering amplitude is meromorphic in the complex angular momentum plane. The result is of interest in the sense that each term of the perturbation theory series may have a cut, whereas the series as a whole is a meromorphic function. A detailed exposition of the result is contained in Preprint R-1662 of the Joint Institute of Nuclear Research. In conclusion, we thank N. N. Bogolyubov and A. A. Logunov for their assistance and also B. A. Arbuzov, A. V. Yefremov, I. T. Todorov, and I. Khrustalev for fruitful discussions." This report was presented by N. N. Bogolyubov. Orig. art. has: 21 formulas.

Card 2/3

I 14822-65

ACCESSION NR: AP4048034

ASSOCIATION: Of "yedinenny*y institut yaderny*kh issledovaniy"
(Joint Institute of Nuclear Research)

SUBMITTED: 18Apr 64

SUB CODE: MA, NF

NR REF SOV: 003

ENCL: 00

OTHER: 004

Card 3/3

CHILASHVILI, G.A. [Chylashvili, H.C.]; SHELEST, V.P.

Analyticity of the amplitude of a compound particle in a field.
Ukr. fiz. zhur. 10 no.7:708-714 JI '65. (MIRA 18:8)

1. Institut fiziki AN UkrSSR, Kiyev.

CHILASHVILI, Sh.Ye., starshiy nauchnyy sotrudnik

TBIOT dust catcher. Bor'ba s sil. 2:108-113 '55.

(MLRA 9:5)

1. Tbilisskiy institut okhrany truda Vsesoyuznogo tsentral'nogo
soveta professional'nykh soyuzov imeni S.M.Kirova.
(DUST COLLECTORS)

NIZHARADZE, Aleksandr Ivanovich; CHILASHVILI, Shalva Yefimovich; AMITIN,
Iona Il'ich, spetsredaktor; DENISOVA, I.S., redaktor; KIRSAKOVA, N.A.,
tekhnicheskii redaktor

[Dust control in dry boreholes] Bor'ba s pyl'iu pri sukhom burenii
shpurov. [Moskva] Izd-vo VTsSPS Profizdat, 1956. 45 p. (MLRA 10:3)
(Boring) (Mine dusts)

CHILASHVILI, Sh. Ye., Cand. of Tech Sci -- (diss) "Study of the process of catching dust with a dry filter by suction of drilling dust emanating from the mouth of the bore hole." Tbilisi, 1957, 6 pp, (Georgian Polytechnical Institute im S. M. Kirov), (KL, 30-57, 111)

CHILASHVILI, Sh. Ye. kand. tekhn. nauk

Experimental study of the movement velocity of some forms of
drilling dust. Bor'ba s sil. 3:56-60 '59. (MIRA 12:9)
(MINE DUSTS)

NIZHARADZE, Aleksandr Ivanovich; GHILASHVILI, Shalva Yefimovich;
DENISOVA, I.S., red.; RAKOV, S.I., tekhn.red.

[Over-all dust control in underground mines] Kompleksnoe
obespylivanie podzemnykh vyrabotok. Moskva, Izd-vo VTSSPS
Profizdat, 1960. 107 p. (MIRA 14:1)
(Mine ventilation) (Dust collectors)

CHILASHVILI, Sh.Ye., kand.tekhn.nauk; BREGVADZE, M.Ye., starshiy nauchnyy
sotrudnik

Apparatus for deeping dust down in rod drilling. Sbor. rab. po silik.
no.3:55-58 '61. (MIRA 15:10)

1. Tbilisskiy institut okhrany truda.
(Boring) (Dust collectors)

NIZHARADZE, A.I.; CHILASHVILI, Sh.Ye.; DZHANIASHVILI, G.G.

Dry dust removal during pipe finishing. Metallurg 7 no.9:
32-33 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda,
g.Tbilisi.

(Pipe mills--Hygienic aspects)

L 15929-66

ACC NR: AF6004423

SOURCE CODE: UR/0051/66/020/001/0183/0184

AUTHOR: Bochkov, Yu. V.; Georgobiani, A. N.; Gershun, A. S.; Sysoyev, L. A.;
Chilaya, G. S.

ORG: none

42
B

TITLE: Ultraviolet electroluminescence of zinc sulfide

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 183-184

TOPIC TAGS: electroluminescence, zinc sulfide, single crystal, UV radiation

ABSTRACT: Ultraviolet electroluminescence was observed in pure single crystals of zinc sulfide grown from a melt under inert gas pressure. Specimens 150 μ thick were subjected to pulsed voltage with an amplitude of 4.5 kv, a duration of 1.7 μ sec and a duty factor of $1.5 \cdot 10^4$. The voltage was applied through indium electrodes. The luminescence of the specimens is stable at a constant voltage and increases approximately exponentially with voltage. A voltage increase from 2.7 to 4.5 kv increases the luminescence intensity by approximately one order of magnitude. It is assumed that this luminescence is due to recombination of electron-hole pairs created by

Card 1/2

UDC: 535.376-3

2

I 15929-66

ACC NR: AP6004423

electric discharge in the crystal. There is a sharp cutoff in luminescence at 330 mμ due to the natural absorption of the crystal lattice. It is shown that this emission could not be caused by air breakdown in microcracks. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 27Jul65/ ORIG REF: 001/ OTH REF: 000

Card 2/2

I 26360-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD
ACC NR: AP6012501 SOURCE CODE: UR/0181/66/008/004/1273/1275
AUTHOR: Bochkov, Yu. V.; Georgobiani, A. N.; Chilaya, G. S.
ORG: Physics Institute im. P. N. Lebedev AN SSSR, Moscow (Fizicheskiy institut AN SSSR)
TITLE: Some electrical characteristics of zinc sulfide single crystals
SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1273-1275
TOPIC TAGS: zinc sulfide, single crystal, electric property, crystal anisotropy
ABSTRACT: The authors study the electrical characteristics of large ZnS single crystals grown from the melt at 850°C under inert gas pressure by a new method developed under the direction of L. A. Sysoyev. These are hexagonal crystals with no traces of cubic structure so that contact and surface phenomena have no effect on the electrical measurements. The specimens studied had dimensions of 4 x 48 mm. The temperature curve for electrical conductivity is approximated by two straight lines in $\ln\sigma$ and $1/T$ coordinates. The slope of the low-temperature line corresponds to an activation energy of 1.25 ± 0.07 ev, while the high-temperature section corresponds to an energy of 1.6 ± 0.06 ev. This section may probably be attributed to natural conductivity since data in the literature give the thermal width of the forbidden band as 3.2 ± 0.2 ev. Extrapolation of the low-temperature section to room temperature gives
Card 1/2

L 26360-66

3

ACC NR: AP6012501

an estimated resistivity of $\sim 10^{20} \Omega \cdot \text{cm}$. The degree of compensation was calculated at 10^{-2} . It was found that the electrical conductivity parallel to axis C_6 was no more than 2-3 times as great as that perpendicular to this axis. Photoconductive anisotropy was found to be 1.5. This contradicts the work of Limpicki et al. (A. Limpicki, P. R. Frankl, V. A. Brophy, *Phys. Rev.*, 107, 1238, 1957). In conclusion we thank M. V. Fok for discussing the results, L. A. Sysoyev for furnishing the zinc sulfide crystals and V. K. Kostin for assistance in preparation of the specimens. Orig. art. has: 1 figure.

SUB CODE: 20/

SUBM DATE: 05Aug65/

ORIG REF: 004/

OTH REF: 011

Card 2/2

CHIZAYEV, A.N.

The measurement of dielectric constants of liquid substances. A. N. Chizayev, J. Gen. Chem. (U. S. S. R.) 6, 273 (1934).—A preliminary study of the resonance method showed that exper. with electrolyte solutions of electrolytes were possible when the field of the induction coil was, in its greater part, outside the cell. The procedure that was finally adopted made use of a Hartley oscillator as the current source, the wave length of the signal being between 10 and 60 m. The resonant circuit consisted of a 2-plate variable capacitor of special design and 3 basket-weave coils connected in series. Inductive coupling to the oscillator and the aperiodic detector circuits, resp., was obtained by means of 2 of the coils. A glass dish const. the liquid whose dielect. const. was sought, was placed on top of the third coil. A calibration curve was plotted from the resonance points obtained with liquid nonconductors of known dielect. const. If the unknown was a conductor, the use of the curve necessitated corrections which were experimentally found by measuring the damping produced by absorption, etc., in the glass dish and whose value depended up the const. of the unknown. Frequency drifts were reduced by avoid-

ing vibration and keeping the anode and filament current const.; they were corrected for by alternate readings with the unknown and with dist. water (which served as one of the standards). The dielect. const. of NaCl, KCl and CuSO₄ solns. increased with the concn. (the observations were confined to solns. of sp. cond. not ex- ceeding 0.005 mho). The use of shorter waves will permit measurements of more concd. solns. than those so far studied. B. Soyevskoff

AD-1114 DETAILORGNAL LITERATURE CLASSIFICATION

CHIKVASHVILI, Ya. M.

General covariant wave equations. Acta physica Pol 26 no.5:1027-1028 N '64.

1. Kutaisi Branch of the Georgian Polytechnic Institute. Submitted July 24, 1964.

L 39773-66 ENT(m)/EWP(t) IJP(c) JD/GD-2
ACC NR:AP6013068 SOURCE CODE: UR/0048/66/030/004/0628/0632

AUTHOR: Bochkov, Yu.V.; Georgobiani, A.N.; Kisil', I.I.; Sysoyev, L.A.; Chilaya, G.B. 19
15
B

ORG: Physical Institute im. P.N. Lebedev, Academy of Sciences, SSSR (Fizicheskii institut Akademii nauk SSSR)

TITLE: Electroluminescence of bulk ZnS crystals /Report, Fourteenth Conference on Luminescence held in Riga, 16-23 September 1965

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 628-632

TOPIC TAGS: electroluminescence, zinc sulfide, semiconducting material, luminophor, single crystal, single crystal growth

ABSTRACT: The study was undertaken in view of the growing interest in II-VI semiconductors as representatives of the class of compounds with a broad forbidden band. Zinc sulfide belongs in this category and is the most thoroughly studied electroluminophor. However, most previous investigations of this electroluminophor did not satisfy the basic conditions for electric measurements on semiconductors: absence of surface effects and adequate uniformity of the specimens. For the present work the single crystals were grown from a melt in an inert gas by the Stockbarger technique; the crystallization was realized at 1850° C to insure growth of hexagonal specimens. A characteristic of the single crystals was pronounced cleavage along the (1120) planes; the single crystals were up to 30 mm in diameter and 100 mm long. Chemical analysis

Card 1/2

L 39773-66

ACC NR: AP6013068

4

showed that the crystals contained the following impurities: Cu about $10^{-4}\%$, Ni about $5 \times 10^{-6}\%$, Fe about $10^{-4}\%$, Mn about $5 \times 10^{-6}\%$, SO_4^{2-} under $10^{-4}\%$, and oxides under $10^{-4}\%$. The specimen plates were prepared as follows: the crystals were first oriented with reference to the cleavage plane and then wafers measuring 3 x 3 mm and 2 mm thick were cut by means of a corundum disk. The wafers were etched in acid and provided with ohmic contacts to eliminate surface effects. In the experiments measures were taken to minimize heating; these consisted in providing good heat conduction and using short exciting pulses (1.7 microsec) and a very low duty factor. The electroluminescence peaks at about 460 m μ ; the brightness is a linear function of the applied voltage. Further data are given on the ultraviolet electroluminescence spectrum of purer crystals. The experimental results are discussed in general terms; the emission is attributed to interband recombination. In conclusion, we desire to thank M.V.Fok for discussion of the results and valuable suggestions in the course of the work, V.K.Kostin for assistance in preparing the crystals, and A.N.Savin and G.G.Stolpovskiy for help in adjusting the electronic equipment. Orig. art. has: 4 figures.

SUB CODE: 20/

SUEN DATE: 00/

ORIG REF: 003/

OTH REF: 004

Card 212/11LP

CHILAYA, N.M.

Active prevention of cervical cancer and inflammatory gynecological diseases. Sov. med. 27 no.6:115-117 Je '64.

(MIRA 18:1)

1. Bol'nitsa No.7 (glavnyy vrach V.N. Uvarova, nauchnyy rukovoditel'
- prof. I.I. Benediktov), Sverdlovsk.

1. CHILAYEV, G. A., Eng.
2. USSR (600)
4. Electric Machinery, Synchronous
7. Installing synchronous compensators without the use of a crane.
Elek. sta. 23 No. 9, 1952.

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

CHILAYEV, G.A.

PAVLOV, N.G., kandidat tekhnicheskikh nauk, dotsent; LANG, A.G., inzhener, retsenzent; [REDACTED] A., inzhener, redaktor; SOKOLOVA, L.V., tekhnicheskiiy redaktor

[Examples of crane calculations] Primery raschetov kranov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1954. 285 p. (MLRA 8:4)
(Cranes, derricks, etc.)

CHILAYEV, G.A., inzhener.

Modification of gondola cars for the transportation of peat. Elek.
sta. 27 no.3:55-56 Mr '56. (MLRA 9:8)
(Peat--Transportation) (Railroads--Freight cars)

LUR'YE, Zakhar Solomonovich; SYRKIN, Lazar' Isaakovich; GHILAYEV, G.A.,
otvetstvennyy redaktor; RYKOV, N.A., redaktor izdatel'stva;
ALADOVA, Ye.I., tekhnicheskiy redaktor

[Transport equipment and depots for coal beneficiation and briquette
factories] Transportnye ustroystva i sklady na ugleobogatitel'nykh
i briketnykh fabrikakh. Izd. 2-oe, ispr. 1 dop. Moskva, Ugletekh-
izdat, 1956. 322 p. (MLRA 10:3)

(Briquets (Fuel)) (Coal preparation)
(Mine haulage)

CHILAYEV, G.A.

CHILAYEV, G.A., inzhener.

Hoisting device for repairing synchronous compensators. Energetik
5 no.5:21-22 My '57. (MLBA 10:6)

(Hoisting machinery)

CHILAYEV, G. A.

CHILAYEV, G. A., inzhener.

Mobile hoisting tower for repair work. Elek. sta. 28 no. 5:72-73
My '57. (MLRA 10:6)

(Hoisting machinery)

CHILAYEV, G.A., insh.

Screw conveyor for removing ash from fly-ash collectors. Energetik 6
no. 1:9-10 Ja '58. (MIRA 11:8)

(Dust collectors)
(Conveying machinery)

CHILAYEV, G.A., insh.

Mechanized conveyance of fine ashes. Elek. sta. 31 no.3:77-79
Mr '60. (MIRA 13:8)
(Electric power plants) (Ash disposal)

CHILAYEV, Georgiy Andreyevich; BERLIN, Z.Kh., red.; SOBCHIEVA, Ye.M.,
tekhn.red.

[Fuel economy and fuel supply of large foreign electric power
stations] Toplivnoe khoziaistvo i toplivopodachi krupnykh
zarubezhnykh elektrostantsii. Moskva, Gos.energ.izd-vo, 1960.
134 p. (MIRA 14:4)
(Electric power plants--Equipment and supplies)

CHILAYEV, G.A.

Static overstrain of carrying ropes of cable cranes with fixed
ends. Trudy LPI no.211:116-120 '60. (MIRA 13:11)
(Cranes, derricks, etc.) (Wire rope)

CHILCZUR (✓), MICHAL

SURNAME, Given Names

Country: Poland

①

Academic Degrees: /not given/

Affiliation: Geographical Institute, Polish Academy of Sciences /original
version not given/

Source: Bratislava, Geograficky Casopis, Vol XIII, No 3, 1961, pp 161-175.

Data: "Contribution to the Problems of Exchange of Experiences on the Economic Development of Mountain Regions on the Example of the Carpathians

GPO 981643

CHILCZUK, Michal

Problems concerning the regeneration of human power; from studies
on the economic development of the Beshchady and the Lower
Beskids. Nauka polska 8 no.3:92-116 JI-S '60.

CHICZUK, Michal

Report on the activities of the Committee of Geographic Sciences
for 1963. Przegl geogr 36 no. 2:396-397 '64.

GHILCZUK, Michal

Joint debates of the reporting Session of the Committee of
Geographic Sciences of the Polish Academy of Sciences and
The Scientific Council of the Institute of Geography of the
Polish Academy of Sciences, March 9, 1963. (Unpubl. report).
36 no.1:187-189 '64

11/28

Possibility of determining the spin of ΔH^+ from the angular distribution for mesonic decay / D. Chlebowska and J. Szymanski (Inst. Badań Jądrowych, Warsaw). *Bull. acad. polon. sci., Sér. sci., math., astron. et phys.* 7, 643-9 (1959) (in English).—Energy and angular distribution in the decay $\Delta H^+ \rightarrow \rho + \pi$ are estd. after Szymanski's method (CA 53, 11013f) for s and p states separately. Dependence on the spin and p/s ratio, which cannot be detd. simultaneously, is small. J. Stecki

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CHILEU, D.

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BULGARIA

MILANOV, Milan, Dr, and CHILEV, Dimitur, Dr [Affiliation not given.]

"Viral Abortion in Cows."

Sofia, Veterinarna Sbirka, Vol 60, No 5, 1963; pp 7-8.

Abstract: Discursive report of studies in several collective dairy farms in the Burgas area, 1961-1962: findings indicate that one or more viral agents are a significant factor in bovine abortion there, and that the agents are closely related to viral abortion of ewes; some serologic studies indicate that the same agent may be involved in both.

1/1

BULGARIA

MATEVA, Dr. V., Veterinary Institute of Infectious and Parasitic Diseases cases, Sofia; MILANOV, Dr. M., and CHILEV, Dr. D., ODVS, Burgas

'New Methods for the Diagnosis of Hog Cholera'

Sofia, Veterinarna Sbirka, Vol 63, No 2, 1966, pp 9-10

Abstract: Hog cholera has been eradicated in Bulgaria: there has not been a single case in 1964. However, the danger that the infection may be carried in from abroad still exists. In view of the occurrence of African hog cholera in some European countries, it is also necessary to have methods whereby classical hog cholera can be identified and differentiated from the African form in case an outbreak occurs. A method for diagnosing classical hog cholera has been developed which involves biological tests by infection of young pigs treated:

1/2

CHILKOV, D.; MILANOV, M.

Studies on the enterotoxemias and necrotic hepatitis of sheep
in the Burgas District. Izv Vet inst zaraz parazit 8:153-158
'64.

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SOV/35-59-10-8186

3.15.50
Translation from: Referativnyy zhurnal. *Astronomiya i Geodeziya*, 1959, Nr 10, p 79
(USSR)

AUTHORS: Dmitriyev, A.A., Chili, A.V.

TITLE: On Meteoric Streams and Precipitates

PERIODICAL: *Tr. Morsk. gidrofiz. in-ta AS USSR*, 1958, Vol 12, pp 181-190

ABSTRACT: Particles of meteoric origin entering the earth's atmosphere in a large quantity (~1,000 tons per day) affect its colloidal properties. This is particularly marked near the troposphere and in the stratosphere, where the temperature is lower than -40°C. At such a temperature any solid particles can become nuclei of crystallization and affect the precipitates. However, Bowen's conclusions (*RZhAstr*, 1954, Nr 8, 4614), attempting to establish a connection between the meteoric streams and the subsequent precipitates, are statistically poorly substantiated. The authors consider that the weak spot in Bowen's work is the fact that he examines the connection between meteoric streams and the subsequent precipitates at individual points. It is necessary to examine the probability of the occurrence of precipitates over a large territory. The authors chose 6 points

Card 1/3

69375

SOV/35-59-10-8186

On Meteoric Streams and Precipitates

on the USSR territory for which a sufficiently long series of observations of precipitates were available. For each day of the year, for a number of years, the number of points was determined at which precipitates were observed simultaneously. For each date i of year j , n_{ij} occurrences of simultaneous precipitations were obtained. In this way the introduced index characterizes the synchronous (the variation does not exceed ± 2 days) distant connections between precipitations. With the aid of the Student t -distribution the authors investigated whether it was possible to consider as random the fluctuations from day to day of the means for many years

$n_{iN} = \sum_{j=1}^N n_{ij}/N$; the non-random character of the peaks of the monthly average recurrence

was determined $n_{mN} = \sum_{j=1}^N \sum_{i=1}^m n_{ij}/mN$, where m is the number of days in the month. During

the times of increased rainfall, there is a heightened stability of the simultaneous appearance of precipitates. In order to find the reason for the appearance of peaks on the histogram of monthly average recurrences, one must look to the factors constantly manifested in definite dates, and not to the passage of occasional cyclones. The correlation of the dates of meteoric streams with the dates of the peaks has allowed me to establish a connection between them. The phase shift is found to be about 31 days, in Card 2/3

69375

On Meteoric Streams and Precipitates

SOV/35-59-10-8185

accordance with Bowen's conclusions. When it was checked as to whether there was a connection between the meteoric streams and the precipitations during phase shifts, differing from 31 days, it was confirmed that 31 days is the most probable period in the lag of intensification of precipitations in relation to the date of the encounter of Earth with the corresponding meteoric streams. Bibl. 11 titles.

B.M. Rubashev

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Card 3/3

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AUTHORS:

Dmitriyev, A.A. and Chili, A.V.

TITLE:

Meteor flows and precipitation

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 12, 1962, 6,
abstract 12G32 (Tr. Mosk. gidrofiz. in-ta, AN SSSR,
12, 1958, 181-190)

TEXT:

Particles of meteoric origin, entering the atmosphere in large amounts (~ 1000 tons per day), influence its colloidal properties. This is especially strongly apparent near the tropopause and in the stratosphere, where the temperature is below -40°. At such a temperature any solid particles may become crystallization nuclei and influence precipitation. The conclusions of Bowen (Izkhfiz., no. 11, 1954, 14093), who attempted to establish a relation between meteor streams and subsequent precipitation, were substantiated poorly in a statistical respect. The authors reckon the fact that Bowen examines the relation of meteor streams to subsequent precipitation at separate points to be a weak spot in his

Card 1/3

Meteor flows and precipitation

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D228/D307

work. It is necessary to consider the probability of appearance of precipitation on a large territory. The authors chose 6 points on the territory of the USSR where sufficiently long series of precipitation observations were available. The number of points, at which precipitation was observed simultaneously, was determined for each day of the year over a number of years. n_{ij} cases of simultaneous precipitation were obtained for each i of a year j . The index thus introduced characterizes the synchronous (the tolerance does not exceed ± 2 days) distant relations between precipitations. By means of Student's distribution t it was investigated whether the established non-random nature of the peaks of the average monthly frequencies

$$r_{mN} = \sum_{j=1}^N \sum_{i=1}^m n_{ij}/mN,$$

where m is the number of days in a month, can be reckoned as the random day-to-day fluctuations of the multiyear averages

Card 2/3

$$n_{iN} = \sum_{j=1}^N n_{ij}/N.$$

Meteor flows and precipitation

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D228/D307

The stability of the simultaneous appearance of precipitation rises the moment the raininess increases. The cause of the appearance of peaks on the histogram must be sought not in the passage of random cyclones, but in factors that appear constantly on definite dates. Comparison of the dates of meteor flows with those of the peaks allowed a relation to be established between them. A displacement happens every 31 days in accordance with Bowen's conclusions. Verification of the fact that there is no relation between meteor flows and precipitation for displacements, differing from 31 days, confirms that 31 days is the most probable time of lagging in the intensification of precipitation relative to the date when the earth encounters a corresponding meteor flow. 11 references.

[Abstracter's note: Complete translation]

CHIL'-GEVORGYAN, G.M.; BONETSKAYA, A.K.; SKURATOV, S.M.

Automation of a double calorimeter for measuring the kinetics of
polymerization reaction. Zhur.fiz.khim. 39 no.7:1794-1797 J1 '65.
(MIRA 18:8)

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Radiobiology

RUMANIA

POPESCU, Gh., Dr, Lt-Col, CAVULEA, O., Veterinarian, Lt-Col, APOSTOLESCU, R., Dr, MIU, C., Pharmacist, Maj, VOICU, V., Dr, Lt-Col, and CHILIANU, Gh., Lt., Cpt [affiliation not given]

"Observations Concerning the Effect of Radioprotection on Irradiated and Burned Animals."

Bucharest, Revista Sanitara Militara, Vol 62, No 2, Mar-Apr 66, pp 289-297.

Abstract: A report on an experimental study to determine the radioprotective effectiveness of cystamine and cystine for burned and irradiated animals. The study, which used 180 mature rats, showed that the protected animals, especially those irradiated with 400 oentgen units, showed a more attenuated evolution of the disease and a somewhat smaller intensity of histopathologic lesions. The difference in mortality between the protected animals and the controls was not significant.

Includes 7 figures, 2 tables and 12 references, of which 5 Rumanian, 2 Russian and 5 Western. -- Manuscript submitted 19 July 1965.