

Žurn. eksp. i teor. fis, 31, fasc. 4, 722-723 (1956) CARD 2 / 2 PA - 1898

be considered to be a straight-lined trajectory in the domains in which retardation is still essential. One finds  $T = 2T_0 - T_1$ , where  $T_0$  denotes the ionization deceleration of the electron alone, and  $T_1$  an interference term. When computing  $T_1$  it is of essential importance that the transversal difference of the components of the pair be considerably greater than the longitudinal difference. In the integral expression for  $T_1$  the limiting value for the dielectricity constant  $\epsilon$  of the medium at high frequencies is essential. We finally find:

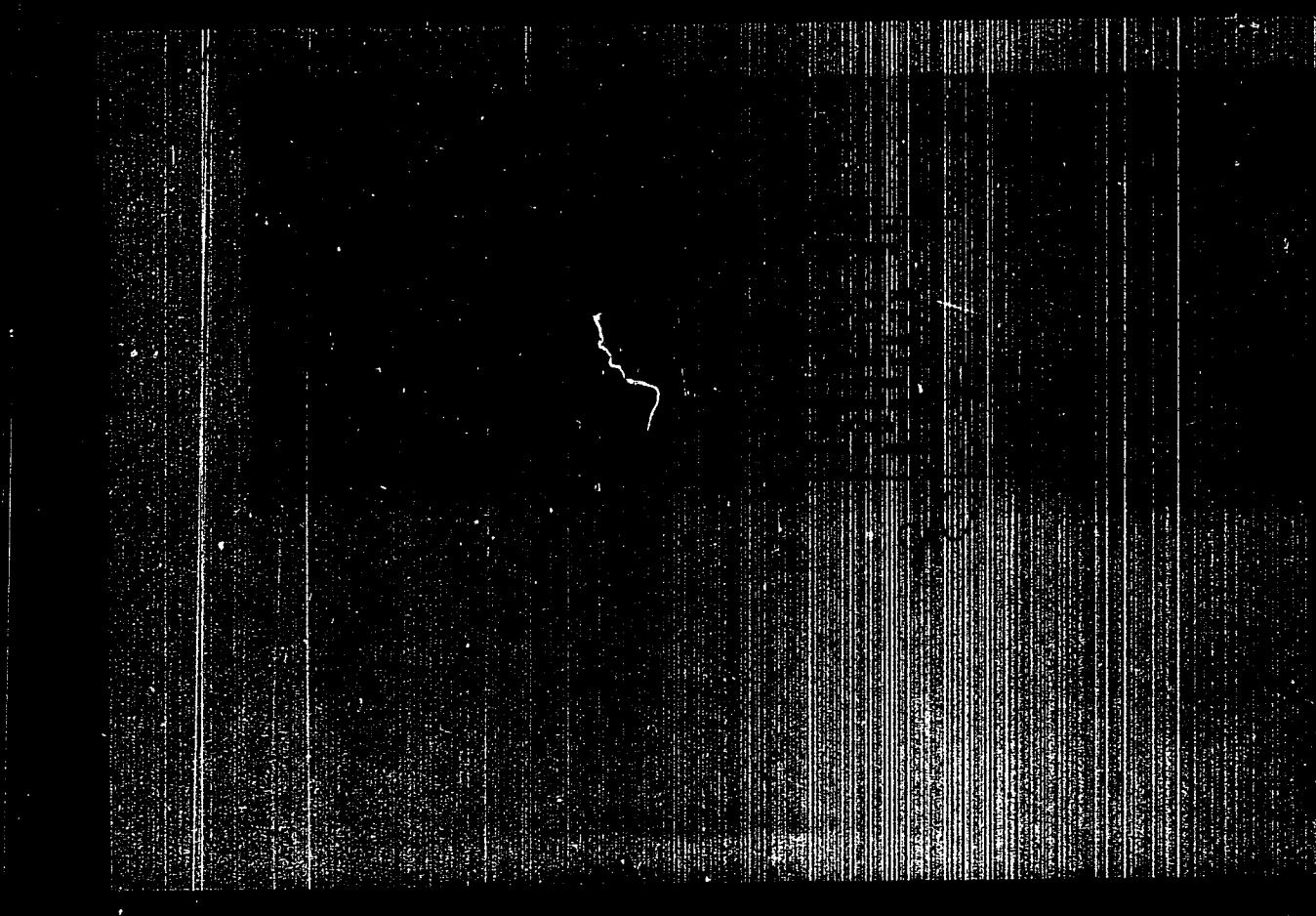
$$T_1 = (ce^2 \lambda^2 / \pi) \int (\cos k_x s / (k_x^2 + k_y^2 + \lambda^2))$$

$dk_x dk_y = 2e^2 c \lambda^2 K_0(s \lambda)$ . Here  $K_0$  denotes a corresponding BESSEL function and it holds that  $s = (x_2 - x_1)$ . The convergence of this integral for  $T_1$  means

that in the interference effect the large distances (for which macroscopic observation is permitted) are of importance. The analogous integral for  $T_0$  is known to diverge and must be limited by a certain maximum value of the transversal wave vector  $k_m$ . In the case of great  $s$  ( $s \lambda \gg 1$ ) the interference effect vanishes. At  $s \lambda \ll 1$  it is possible to use the representation

$K(z) = \ln(2/\gamma z)$  with  $\gamma = e^C = 1,781$  and it is then true that  $T_1 = -2e^2 c \lambda^2 \ln(r_{\max}/s)$  with  $r_{\max} = 2/\gamma \lambda$ . If  $T$  is written down in an analogous form:  $T_0 = ce^2 \lambda^2 \ln(r_{\max}/r_{\min}) = a(\hbar/mc) \sqrt{mc^2 E_m}$  ( $a=1,85$ , it is possible to represent  $T$  in the form  $T = 2T_0 \ln(s/r_{\min}) / \ln(r_{\max}/r_{\min})$ ). The quantity  $E_m$  entering into  $r_{\min}$  denotes the maximum energy that is transferred to the atom of the electron.

INSTITUTION:



AUTHOR: Geshkenbeyn, B.V.

56-6-46/47

TITLE: The Influence Exercoised by the Finite Dimensions of the Nucleus Upon the Effects Connected with the Nonconservation of Parity in  $\beta$ -Decay (Vliyaniye konechnykh razmerov yadra na efekty, svyazannyye s nesokhraneniym chetnosti v  $\beta$ -raspade)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957, Vol. 33, Nr 6(12), pp. 1535-1536 (USSR)

ABSTRACT: For  $\beta$ -decay, especially for the forbidden transitions, the influence of the nuclear field is of essential importance. The wave function of the electron is here constructed in the same manner as in a previous work by V.B. Berestetskiy et al. [Ref. 1]. It is explicitly written down. For the Hamiltonian of  $\beta$ -interaction the author puts:

$$H = \sum \left\{ g_i (\bar{\psi}_2 O_i \psi_1) (\psi_e O_i \frac{1-\beta_5}{2} \psi_\nu) + g_i' (\bar{\psi}_2 O_i \psi_1) (\bar{\psi}_e O_i \frac{1+\beta_5}{2} \psi_\nu) \right\}$$

where summation must be carried out over  $i = S, T, V, A, P$ . If the theory of the two-component neutrino is correct,  $g_1 = 0$  corresponds to the simultaneous emission of a neutrino and an antineutrino, and  $-g_1 = 0$  corresponds to the emission of the neutrino. The results obtained for

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The Influence Exercised by the Finite Dimensions of the Nucleus 56-6-46/47  
Upon the Effects Connected with the Nonconservation of Parity in  $\beta$ -Decay

the permitted  $\beta$ -transitions and for the transitions forbidden in the first order are expressed by the known tabulated functions  $L_0, M_0, N_0, P_0, Q_0, R_0, L_1, P_1$  [Ref. 6,7,8]. Taking account of the finite nuclear dimensions does not modify the results obtained for the permitted and unique transitions  $\Delta j = 2(j_0)$ . The finite nuclear dimensions are essential only for the transitions  $0 \rightarrow 0(j_0)$ , if the pseudoscalar variant furnishes an essential contribution towards  $\beta$ -decay. The axial component is here assumed to be lacking. On this assumption the expression for the longitudinal polarization of the electrons and for the angular correlation electron-neutrino are explicitly written down. At  $Z\alpha^2 \ll 1$  the finite dimensions of the nucleus are not essential and the aforementioned expressions can be explicitly written down. If the pseudoscalar variant is lacking, and if the neutrino is a two-component one, (and if  $\hat{p}$  is real), the value of polarization differs only little from  $v/c$  ( $\sim 3\%$ ). In the case of the existence of a pseudoscalar variant, polarization can differ from  $v/c$  only in the comparatively narrow interval of

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The Influence Exercised by the Finite Dimensions of the Nucleus <sup>56-6-46/47</sup>  
Upon the Effects Connected with the Nonconservation of Parity in  $\beta$ -Decay

the values  $\lambda_p$ . If the neutrino is not a two-component one, polarization may apparently take any form. There are 9 references, 5 of which are Slavic.

SUBMITTED: September 30, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHOR: Geshkenbeyn, B. V. SOV/56-34-5-57/61

TITLE: On the  $\beta$ -Transitions 0-0 With Change of Parity  
(0  $\beta$ -perekhodakh 0-0 s izmeneniyem chetnosti)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,  
Vol. 34, Nr 5, pp. 1349-1350 (USSR)

ABSTRACT: At present an examination of the possible variants of the  $\beta$ -decay interactions is performed. Before, it was assumed to be proved by experiments that the vector interaction and the axial vector interaction do not supply any contribution to the process of  $\beta$ -decay. At present, however, these experiments are regarded as questionable. If the universal scheme of all weak interactions is correct only the A- and the V-variant are present in  $\beta$ -decay. As is known the spectrum of the transitions 0-0 (sic) with a high degree of accuracy agrees with the Fermi spectrum, i.e. the factor of correction also depends on the energy. This distribution now is to direct attention to the fact that the form of the spectrum 0-0 (sic) of the transitions agrees well with the A-variant. The V-variant does not participate because of the selection rules. In this work also the formulae for the polarisation of the

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On the  $\beta$ -Transitions 0-0 With Change of Parity SOV/56-34-5-57/61

decay electrons and for the electron-neutrino angular correlation are given. The wanted formulae are obtained from the formulae for the T-P-variant by the author (Ref 4). There are 4 references, 2 of which are Soviet.

SUBMITTED: February 24, 1958

1. Beta decay--Analysis
2. Particle transitions--Analysis
3. Mathematics--Applications

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21(8), 24(5)

SOV/56-35-5-26/56

AUTHOR: Geshkenbeyn, B. V.

TITLE: Polarization of Internal Conversion Electrons Which Follow a  $\beta$ -Decay (Polarizatsiya elektronov vnutrenney konversii, sleduyushchey za  $\beta$ -raspadom)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958.  
Vol 35, Nr 5, pp 1235-1242 (USSR)

ABSTRACT: Because of the non-conservation of parity in  $\beta$ -decay, the nucleus remaining after decay is polarized in the direction of the emitted electron. The mother nucleus is assumed to be not polarized, and the direction in which the neutrino is emitted is not recorded. If, after decay, an internal conversion occurs, the conversion electrons must be polarized. This phenomenon was already investigated in the case of the conversion in the K-shell and without taking the electric nuclear field into account, by Berestetskiy and Rudik (Ref 1). The electric field of the nucleus, however, exercises considerable influence upon the effect of inner conversion, and it modifies the conversion coefficient; thus, it also exercises considerable influence on the conversion electrons. In the present paper the author there-

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SOV/86-35-5-26:56

Polarization of Internal Conversion electrons which Follow a  $\beta$ -Decay

fore investigates the correlation between the polarization of conversion electrons and the direction of emission of the electrons in preceding  $\beta$ -decay, always taking the nuclear electric field into account. Conversion may occur in any shell. For the special case of electrons converted in the K-shell, the nuclear electric field causes a considerable effect, as a result of which an appreciable transverse polarization component occurs in magnetic transitions; for electric transitions a considerable increase of the amount of polarization is found. The author in conclusion thanks V. B. Berestetskiy and A. P. Rudik for raising the problem and discussing it, and he also expresses his gratitude to A. I. Alikhanov, Academician, and to V. A. Lyubimov for their interest; finally, he thanks Professor L. A. Sliv for solving integrals. There are 5 references, 3 of which are Soviet.

SUBMITTED: May 31, 1958

Card 2, 2

GESHKENEYIN, B. V., Candidate Phys-Math Sci (diss) -- "Some effects connected with the failure to retain an even number in beta-decomposition". Moscow, 1959. 9 pp (Acad Sci USSR, Inst of Theoretical and Experimental Phys) (KL, No 24, 1959, 124)

ГЕСИКАНБЕЯ, В.В.

21(1.8); 24(5)      **PHASE I BOOK EXPLOITATION**      307/3369

Vesoyasnaya meshchazovskaya konferentsiya po kvantovoy teorii polya i teorii elementarnykh chastits. Uzhgorod, 1958

Problemy sovremennoy teorii elementarnykh chastits. No. 2. Trudy Konferentsii... (Problems in the Modern Theory of Elementary Particles. No. 2: Transactions of the All-Union Inter-Vus Conference on the Quantum Field Theory and the Theory of Elementary Particles). Uzhgorod, Zakarpatskoye oblastnoye im-vo, 1959. 214 p. 5,000 copies printed.

M.I. Yu. Lomazda, Moscow; Tech. Ed.: M. Belous.

**FOREWORD:** This book is intended for physicists, particularly those concerned with problems in the field of elementary particles and the quantum theory.

**CONTENTS:** This book contains articles on elementary particles originally read at the All-Union Inter-Vus Conference held at Uzhgorod State University on October 25, 1958. Among the topics discussed are: the spinor field theory, the fusion theory, Lorentz contractions, parity studies, nucleon-nucleon scattering, etc. English abstracts accompany each article. References follow each article.

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S/048/59/023/012/006/009  
B006/B060

24.6520

AUTHOR: Geshkenbeyn, B. V.

TITLE: The Polarization of Internal Conversion Electrons After  
 $\beta$ -Decay 19 21

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,  
Vol. 23, No. 12, pp. 1480 - 1486

TEXT: A nucleus resulting from  $\beta$ -decay will be polarized, due to non-conservation of parity, in the direction of the  $\beta$ -emission. A non-polarized parent nucleus is assumed. The direction of the path of the outgoing neutron may not be recorded. In the case of internal conversion after  $\beta$ -decay the conversion electrons must have a definite polarization. This polarization is theoretically investigated here. The

polarization vector  $\langle \vec{\sigma} \rangle$  of the conversion electrons is defined by  
 $\langle \vec{\sigma} \rangle = a(\vec{v}\vec{n})\vec{n} + b(\vec{v} - (\vec{v}\vec{n})\vec{n})$ , where a and b are constants, depending on nuclear spin, kind and multipolarity of radiation and on the transition

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Electrons After  $\beta$ -Decay

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energy,  $\vec{v}$  denotes the velocity of the  $\beta$ -electron and  $\vec{n}$  the unit vector in the outgoing path direction. When denoting the nuclear spin before  $\beta$ -decay with  $I$ , the nuclear spin after  $\beta$ -decay with  $I_1$ , and the spin after conversion with  $I_2$ , the following expression is obtained for arbitrary pure M-transitions from the K-shell or from a shell with  $l_1 = 0$ ,  $j_1 = 1/2$  and  $\kappa_1 = -1$ :

$$\langle \vec{\sigma} \rangle = \alpha \frac{j(j+1) + I_1(I_1+1) - I_2(I_2+1)}{2j(j+1)I_1(1+|\eta_K^{(0)}|^2)} \left\{ (\vec{v}\vec{n})n \right.$$

$\left. + \sqrt{j(j+1)} \operatorname{Re} \eta_K^{(0)} (\vec{v} - (\vec{v}\vec{n})\vec{n}) \right\}$ .  $\eta_K^{(0)}$  is given by the generalized formula (5). In special cases like  $Z = 0$   $\eta_K^{(0)} = 0$  holds and for large  $Z$  and

low energy of the conversion electrons  $\eta_K^{(0)}$  becomes  $\eta_K^{(0)} = \sqrt{\frac{j}{j+1}}$ .

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B006/B060

Table 1 shows  $\eta_K^{(0)}$  values for  $Z = 80$ ,  $j = 1, 2, 3$  and for different  $\omega/m$  (computed by means of the values of the radial integrals  $R$  by L.A. Sliv). Similar conclusions are made for pure E-transitions. Formula (9) gives  $\eta_K^{(1)}$  for conversion from the K-shell, for free electron approximation

$$\eta_K^{(1)} = -\sqrt{\frac{1}{j+1}} \frac{2\varepsilon_2}{\varepsilon_2 - m} \text{ holds, where } \varepsilon_2 \text{ denotes the energy of the conver-}$$

sion electron. Table 2 gives  $\eta_K^{(1)}$  for  $Z = 80$ . The values of

$$\eta_{L_I}^{(1)} / \left(1 + |\eta_{L_I}^{(1)}|^2\right) \text{ for conversion from the } L_I\text{-shell for different } Z \text{ and}$$

$\omega/m$  are compiled in Table 3. Table 4 shows  $\eta_{L_{II}}^{(1)}$  for  $j = 2$ ,  $Z = 57, 65,$

$73$  and  $81$  and different  $\omega/m$  between  $0.1$  and  $0.7$  ( $\omega$  denotes the transition energy). The author then investigates mixed electromagnetic transitions. Finally the polarization of conversion electrons emitted in

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The Polarization of Internal Conversion  
Electrons After  $\beta$ -Decay

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cascades together with one or more  $\gamma$ -quanta is briefly discussed. The author thanks V. B. Berestetskiy and A. P. Rudik for posing the problem and discussing results, A. I. Alikhanov and V. A. Lyubimov for interest, and L. A. Sliv for supplying the radial integrals. There are 5 tables and 3 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki  
Akademii nauk SSSR (Institute of Theoretical and  
Experimental Physics of the Academy of Sciences, USSR)

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21(8),24(5)

AUTHORS: Geshkenhayn, B. V.,  
Nemirovskaya, S. A., Rudik, A. P.

SOV/56-36-2-26/63

TITLE: The Polarization of the  $\beta$ -Electrons From RaE (Polarizatsiya  $\beta$ -elektronov RaE)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 36, Nr 2, pp 517-525 (USSR)

ABSTRACT: After the nonconservation of spatial parity had become known, the  $\beta$ -decay of RaE was investigated by several research scientists. Lewis (Lyuis)(Ref 1), Fujita (Fuzhita) et al. (Ref 2) also pointed out the possible nonconservation of time parity, and Alikhanov showed by experiment (Ref 3) that the longitudinal polarization of  $\beta$ -electrons from RaE deviates from  $v/c$  and that the degree of deviation characterizes the measure of the nonconservation of parity with respect to time. Also in the present paper the authors derive a formula for the longitudinal polarization of the  $\beta$ -electrons, viz. for S- and T- interaction as well as for V-A - interaction, basing upon the results of references 7 and 8. Numerical results are given by a number of tables. Thus, table 1 shows  $\langle \xi \rangle / (v/c)$  for

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The Polarization of the  $\beta$ -Electrons From RaE

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S- and T- interaction and table 2 shows the same for V-A at  $r_0 = 1.17 \cdot 10^{-13}$ . Tables 5 and 6 show  $\langle \delta \rangle / (v/c)$  at

$F^2 = 6 \cdot 10^{-3}$  (V-A), figure 7 shows  $\langle \delta \rangle / (v/c)$  for S- and T- interaction types for various F values. The experimental data relating to the magnitude of the polarization of the RaE  $\beta$ -electrons considerably restrict the region of a possible violation of time parity. VA-interaction type: In the case of nonconservation of time parity the measured extremal polarization excludes  $F < 0$  at  $F^2 = 6 \cdot 10^{-3}$  and  $F^2 = 3 \cdot 10^{-3}$ . For  $F > 0$  experimental and theoretical results agree for

$x \approx 0.2 (F^2 = 6 \cdot 10^{-3})$  or  $0.7 (F^2 = 3 \cdot 10^{-3})$ .

ST-interaction type: At  $F^2 = 6 \cdot 10^{-3}$  and  $F^2 = 3 \cdot 10^{-3}$   $F < 0$  is excluded and at  $F > 0$  agreement is found for any such  $F^2$  values within the range of  $x \approx 1.7$ .

The authors finally thank Academician A. I. Mikhaylov for

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The Polarization of the  $\beta$  -Electrons From RaE

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suggesting this work and for his discussions, and they also thank B. L. Ioffe and V. A. Lyubimov for discussions. There are 9 tables and 12 references, 2 of which are Soviet.

SUBMITTED: July 24, 1958 (initially) and October 28, 1958 (after revision)

Card 3/3

85697

S/056/60/03B/006/040/047/AA  
B000/B070

24,6200

AUTHORS: Geshkenbeyn, B. V., Rudik, A. P.

TITLE: The Relationship Between the Polarization of  $\beta$ -Electrons and the Form of the  $\beta$ -Spectrum <sup>71</sup>

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1894 - 1895

TEXT: The coefficient of the form of the  $\beta$ -spectrum is given by  $C(W) = \sum_i M_i(Z, W) f_i(W, X)$ ; and the longitudinal polarization of  $\beta$ -electrons is given by  $\langle \sigma \rangle = \frac{v}{c} \frac{\sum_i M_i(Z, W) f_i(W, X) a_i(Z, W)}{\sum_i M_i(Z, W) f_i(W, X)}$  ( $Z$  - atomic number of the nucleus;  $W$  and  $v$  - energy and velocity, respectively, of  $\beta$ -electrons;  $X$  - nuclear matrix elements;  $M_i$  and  $a_i$  - complex functions describing the motion of the electrons in the Coulomb field of the daughter nucleus; the function  $f_i$  depends on the electron energy and the matrix elements). Both these formulas are briefly discussed in the present paper  
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The Relationship Between the Polarization of  $\beta$ -Electrons and the Form of the  $\beta$ -Spectrum S/056/60/038/006/040/049/XX  
B006/B070

It is pointed out that for Fermi form of the spectrum, the polarization of  $\beta$ -electrons is practically coincident with  $v/c$ . As, however, first forbidden  $\beta$ -decays are also known where the longitudinal polarization of  $\beta$ -electrons is essentially different from  $v/c$ , the spectrum is not of Fermi type. In this connection the classical example of RaE ( $1^- \rightarrow 0^+$ )  $\beta$ -decay is discussed. The  $\beta$ -decay of Au<sup>198</sup> ( $2^- \rightarrow 2^+$ ) is also discussed, for which the longitudinal polarization of  $\beta$ -electrons is widely divergent from  $v/c$  for small energies (according to data of A. I. Alikhanov et al.) For high energies it is equal to  $v/c$ . These deviations are explained by a deviation of the spectrum from the Fermi form. The cases for P<sup>32</sup> and In<sup>114</sup> are analogous (see L. A. Mikaelyan and P. Ye. Spivak) Academician A. I. Alikhanov and V. A. Lyubimov are thanked for their interest in the work. There are 10 references: 6 Soviet, 3 US, and 1 Canadian.

SUBMITTED: February 15, 1960

Card 2/2

VALUYEV, B.N.; GESHKINBYN, B.V.

Determining the relative parity of  $\Sigma$ - and  $\Lambda$ -particles in  
the  $\Sigma \rightarrow \Lambda + e^+ + e^-$  reaction. Zhur. eksp. i teor. fiz.  
39 no.4:1046-1048 0 '60. (MIRA 13:11)  
(Particles (Nuclear physics))

GESHKENBEYN, B.V.; POPOV, V.S.

Radiative corrections to  $\beta$ -decay. Zhur.eksp.i teor.fiz. 41  
no.1:199-204 J1 '61. (MIRA 14:7)  
(Beta rays) (Radioactive substances--Decay)

GESHKENBEYN, B. V.; POPOV, V. S.

"On the Radiative Corrections to  $\beta$ -Decay"

report presented at the 11th Intl. Conference on High Energy Physics,  
Geneva, 4-11 July 1962

Institute of Theoretical and Experimental Physics

GESHKENBAYN<sup>E</sup>, B. V. and IOFFE, B. L. ①

"The Restrictions on Coupling Constants Value in Field Quantum Theory"

report presented at the Intl. Conference on High Energy Physics, Geneva,  
4-11 July 1962

Inst. of Theoretical and Experimental Physics, Moscow, USSR



S/056/62/043/005/037/058  
B102/B104

AUTHORS: Geshkenbeyn, B. V., Ioffe, B. L.

TITLE: An experimental possibility of verifying hypotheses on the nature of resonances

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1841 - 1842

TEXT: It is shown that there is no need to attribute all of the numerous recently discovered narrow mesonic or baryonic resonances to real particles. Since the mass of many resonances differs only little from the sum of masses of any particles C and D, the resonance Z can be assumed to correspond with a CD bound state, its width being determined by the transitions  $C+D \rightarrow A+B$ , or it can be assumed that Z is a Breit-Wigner resonance level of the system A+B. In any case Z is assumed to have a non-zero isotopic spin. Here an experimental possibility is discussed which makes it possible to decide if the first mentioned hypothesis is tenable. This possibility is based on the fact that, if Z is a CD bound state with small binding energy ( $e^2 \epsilon^2 \sim \Delta M_{Cj}, \Delta M_{Dj}, \dots = M_C + M_D + M_Z$ ), the mass difference  $\Delta M_{Zj}$

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different isotopic components of the resonance have to equate the mass difference of the initial particles forming these components. This will not be valid if  $Z$  is a Breit-Wigner resonance level of  $A+B$ . This method is applied to the  $Y_1$ -resonance and the  $K_A$ -resonance.  $Y_1$ :  $I=1, s=-1, M = 1385$  Mev.  $Y_1$  can be considered as an  $NK$  bound state; ( $Y_1^+$  a  $pK^0$ ,  $Y_1^-$  an  $nK^-$ , and  $Y_1^0$  a 50:50 mixture of  $pK^-$  and  $nK^0$  bound states). The mass differences will be

$$M_{Y_1^+} - M_{Y_1^-} = (M_p + M_{K^0}) - (M_n + M_{K^-}) = 2.6 \text{ Mev.}$$

$$M_{Y_1^+} - M_{Y_1^0} = (M_p + M_{K^0}) - \frac{1}{2} (M_p + M_{K^-} + M_n + M_{K^0}) = 1.3 \text{ Mev.}$$

the latter is given without correction for  $pK^-$  Coulomb interaction. With it, 1.8 Mev result.  $K_A$ :  $I = 1/2, M = 1650$  Mev. This resonance can be considered as a  $\Lambda K$  bound state (+1/2 component:  $\Sigma^+ K^0 + \Sigma^0 K^+$ ; -1/2 component:  $\Sigma^- K^+ + \Sigma^0 K^0$ ). The mass difference is

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$$M_{\Sigma^+} - M_{\Sigma^-} = \frac{1}{3}(M_{\Sigma^+} + M_{K^+}) + \frac{1}{3}(M_{\Sigma^-} + M_{K^+}) - \\ - [\frac{1}{3}(M_{\Sigma^-} + M_{K^+}) + \frac{1}{3}(M_{\Sigma^+} + M_{K^+})] = -3.1 \text{ MeV.}$$

if the first hypothesis is correct. With correction for Coulomb interaction, one obtains -2.5 Mev. Similar considerations of the  $\Sigma$ -hyperon resonance show that  $\Sigma$  cannot be a  $\Lambda^*$  bound state; the experimentally observed mass differences differ too much from the calculated ones. ✓

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: June 5, 1962

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S/056/63/044/004/017/044  
B102/B186

AUTHORS: Geshkenbeyn, B. V., Ioffe, B. L.

TITLE: Restrictions as to the magnitude of the coupling constant in quantum field theory. I.

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 4, 1963, 1211 - 1227

TEXT: It is shown that, based on the general principles of quantum field theory, without any additional assumptions or model representations, the necessity of an upper boundary for the coupling constant  $g^2$  for given masses can be proved. For this purpose the Green function is represented by the Lehmann-Källén expansion, and the dispersion relation for the vertex part  $\Gamma(\kappa^2)$  is used to obtain the limiting inequality

$$\frac{g^2}{2\pi} \int_{(m_1+m_2)^2}^{\infty} \frac{|\Gamma(\kappa^2)|^2 \rho(\kappa^2)}{(\kappa^2 - m^2)^2 \kappa} d\kappa^2 < 1. \quad (10)$$

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B/056/63/044/004/017/044  
B102/B186

Restrictions as to the magnitude...

from

$$\int_{(m_b+m_c)^2}^{\infty} \frac{\rho(\kappa^2)}{|D(\kappa^2)|^2} \frac{1}{(\kappa^2 - m_a^2)^2} d\kappa^2 \ll 1. \quad (5)$$

$$\rho(\kappa^2) = (2\pi)^4 \sum_n |a_{an}|^2 \quad (6)$$

$$a_{an} = \langle 0 | A | 0 \rangle | \Phi_n \rangle,$$

and

$$\rho_{\text{physical}} = (1/2\pi) g^4 |D(\kappa^2)|^2 |\Gamma(\kappa^2)|^2 q(\kappa^2) / \kappa, \quad (9)$$

$$q(\kappa^2) = \sqrt{[\kappa^2 - (m_b + m_c)^2][\kappa^2 - (m_b - m_c)^2]} / 2\kappa.$$

$\Gamma(\kappa^2) = \Gamma(m_a^2, m_b^2, m_c^2, \kappa^2)$ ;  $m_a$  is the mass of the boson considered,  $m_b$  and  $m_c$  are the masses of the nearest (with respect to the sum of masses) particles b and c into which particle a may decay. The vertex part  $\Gamma(\kappa^2)$  is assumed to be an analytic (holomorphic) function of  $\kappa^2$  in the complex plane with a cut along the real axis beginning at  $\kappa^2 = (m_b + m_c)^2$ . At the real axis to the left of this point  $\Gamma(\kappa^2)$  is real. At  $\kappa^2 = m_a^2$ ,  $\Gamma(m_a^2) = 1$ .  $\Gamma(\kappa^2)$  has no poles in

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S/056/63/044/004/017/044  
B102/B186

Restrictions as to the magnitude...

the complex plane. Under these assumptions the boundary for  $g^2$  is obtained from the condition that the function

$$\Phi = 2(m_b + m_c) \int_{(m_b + m_c)^{-1}}^{\infty} \frac{\Gamma(x^2) \Gamma(x^2)}{(x^2 - m_a^2)^2 x} dx^2 \quad (11)$$

has a minimum. For  $1 - \alpha \ll 1$ ,

$$\Phi_{min} = \frac{\pi}{4} \sqrt{\frac{1-\lambda}{1-\alpha}} = \frac{\pi}{4} \sqrt{\frac{2\mu}{\Delta}} \quad (21)$$

is obtained where

$$\beta = \sqrt{(1-\alpha)(\alpha-\lambda)} \left[ \frac{\pi}{2} + \arcsin \frac{2\alpha - 1 - \lambda}{1-\lambda} \right],$$

$$L(x) = \sqrt{(x-1)(x-\lambda)} \ln \frac{(\sqrt{x-\lambda} + \sqrt{x-1})^2}{1-\lambda}.$$

and  $\mu = m_b m_c / (m_b + m_c)$ . This results in the relation  $g^2 \ll 16 m_a^2 \sqrt{\Delta/2\mu}$ . This

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S/056/63/044/004/017/044  
B102/B186

Restrictions as to the magnitude...

agrees with the previously obtained result that for small binding energies the coupling constant decreases in proportion to  $\sqrt{\Delta}$ . For neutron-proton scattering, for example,  $g^2 = 12a_D^2 \sqrt{\Delta}/2\mu$ .  $\phi_{\min}$  can also be determined analytically by means of a conformal transformation. In this case

$$\phi_{\min} = \frac{\pi}{4} \frac{\sqrt{1-\lambda} + \sqrt{1-\alpha}}{\sqrt{1-\alpha}(1 + \sqrt{1-\alpha})} \quad (28)$$

is obtained. Similar calculations are made for the case of  $a$  being a fermion. Only in the nonrelativistic case ( $1-\alpha \ll 1$ ), are simple relations obtained:

$$\phi_{\min} = \frac{\pi}{4} \sqrt{\frac{1-\lambda}{1-\alpha}} (1 + \sqrt{\lambda}), \quad (59)$$

$$g^2 < 4\sqrt{\Delta/2\mu} m_p/m_n, \quad \mu = m_p m_n / (m_p + m_n). \quad (60).$$

For  $\pi N$  interaction

$$g^2 < 2\pi/3 \phi_{\min} = 85 \quad (74)$$

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$$f^2 = (\mu/2m)^2 g^2 < 0.47. \quad (75).$$

Restrictions as to the magnitude...

S/056/63/044/004/017/044  
B102/B186

Finally it is discussed what will happen in the nonphysical region  $g^2 > g_{\max}^2$ .

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute  
of Theoretical and Experimental Physics)

SUBMITTED: August 15, 1962

Card 5/5



ACCESSION NO: AP3007291

8/00/63/047/002/0346/0348

AUTHORS: Gashkenbeyn, B. V.; Inzhe, B. L.

TITLE: Trajectory of Regge vacuum poles

55

SOURCE: Zhur. eksper. i teoret. fis., v. 45, no. 2, 1963, 346-348

TOPIC TAGS: Regge pole, trajectory, vacuum pole

ABSTRACT: Certain restrictions on the behavior of the vacuum pole trajectory  $L_0(t)$  of the partial amplitude in the annihilation channel of high-energy scattering, as a function of the momentum transfer  $t$ , are established on the following properties of the vacuum-pole trajectory: 1)  $L_0(0) = 1$ ; 2)  $L_0(t)$  is an analytic function of  $t$  in the complex  $t$ -plane with a cut along the real axis from  $4\mu_\pi^2$  to infinity ( $\mu_\pi$  is the pion mass). A conformal-mapping technique is used. It is found that  $\text{Re } L_0(t) > 1.4$  and  $|L_0(t/4\mu_\pi^2)|^2 \approx 0.75$ . The authors are grateful to I. Ya. Pomeranchuk for useful discussions." Orig. art. has 14 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: 15Feb63

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: PH  
Card 1/1

NO REF SOV: 006

OTHER: 006

GESHKENBEYN, B.V.; IOFFE, B.L.

Restrictions on the coupling constants and vertex part of three  
particle interaction in quantum field theory. Zhur. eksp. i teor.  
fiz. 45 no.3:555-564 S '63. (MIRA 16:10)

1. Institut teoreticheskoy i eksperimental'noy fiziki.  
(Quantum field theory)

ACCESSION NR: AP4025922

S/0056/64/046/003/0902/0904

AUTHORS: Geshkenbeyn, B. V.; Ioffe, B. L.

TITLE: Restrictions imposed by the analyticity conditions on the cross section for the conversion of an electron positron pair into a pion pair

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 46, no. 3, 1964, 902-904

TOPIC TAGS: S matrix theory, field theory, elementary particle interaction, S matrix analyticity, form factor, charged pion form factor, pair conversion, pair conversion cross section

ABSTRACT: The authors assume that the electromagnetic form factor  $F(x)$  of the charged pion has the following properties as a function of complex  $x$ : it is analytic in the entire cut complex plane, it is real on the real axis to the left of  $x = 1$ , it grows no faster than

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ACCESSION NR: AP4025922

a finite power as  $x$  goes to infinity in complex directions, and it is normalized to 1 at  $x = 0$ . From these properties they derive restrictions on the cross section for  $e^+ + e^- \rightarrow \pi^+ + \pi^-$  averaged over the energy. This work is related to previous work of the authors (Geshkenbeyn and Ioffe, ZhETF v. 44, 1211, 1963). "The authors express their gratitude to L. B. Okun' for useful remarks." Orig. art. has: 7 formulas.

ASSOCIATION: None

SUBMITTED: 12Jul63

DATE ACQ: 16Apr64

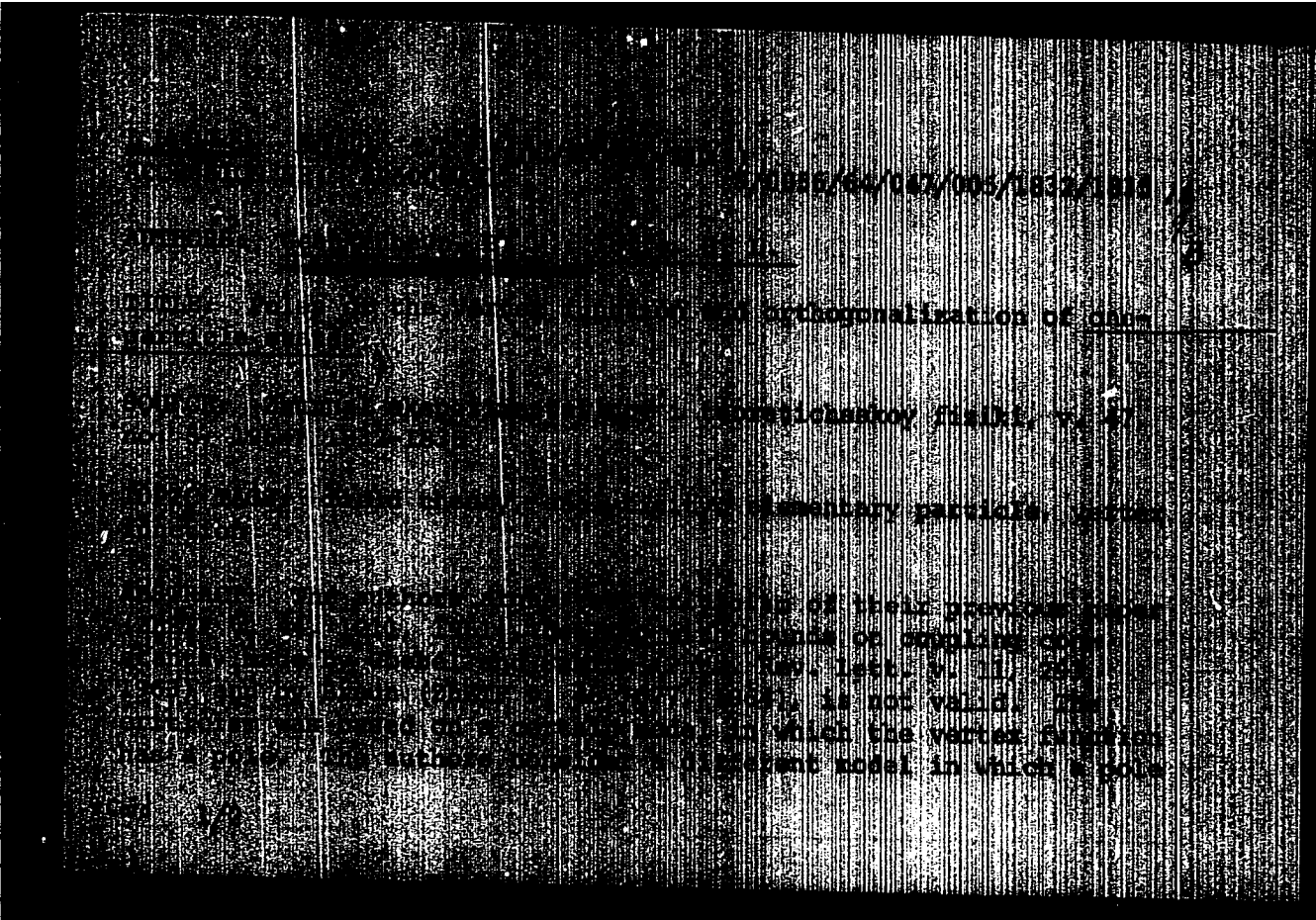
ENCL: 00

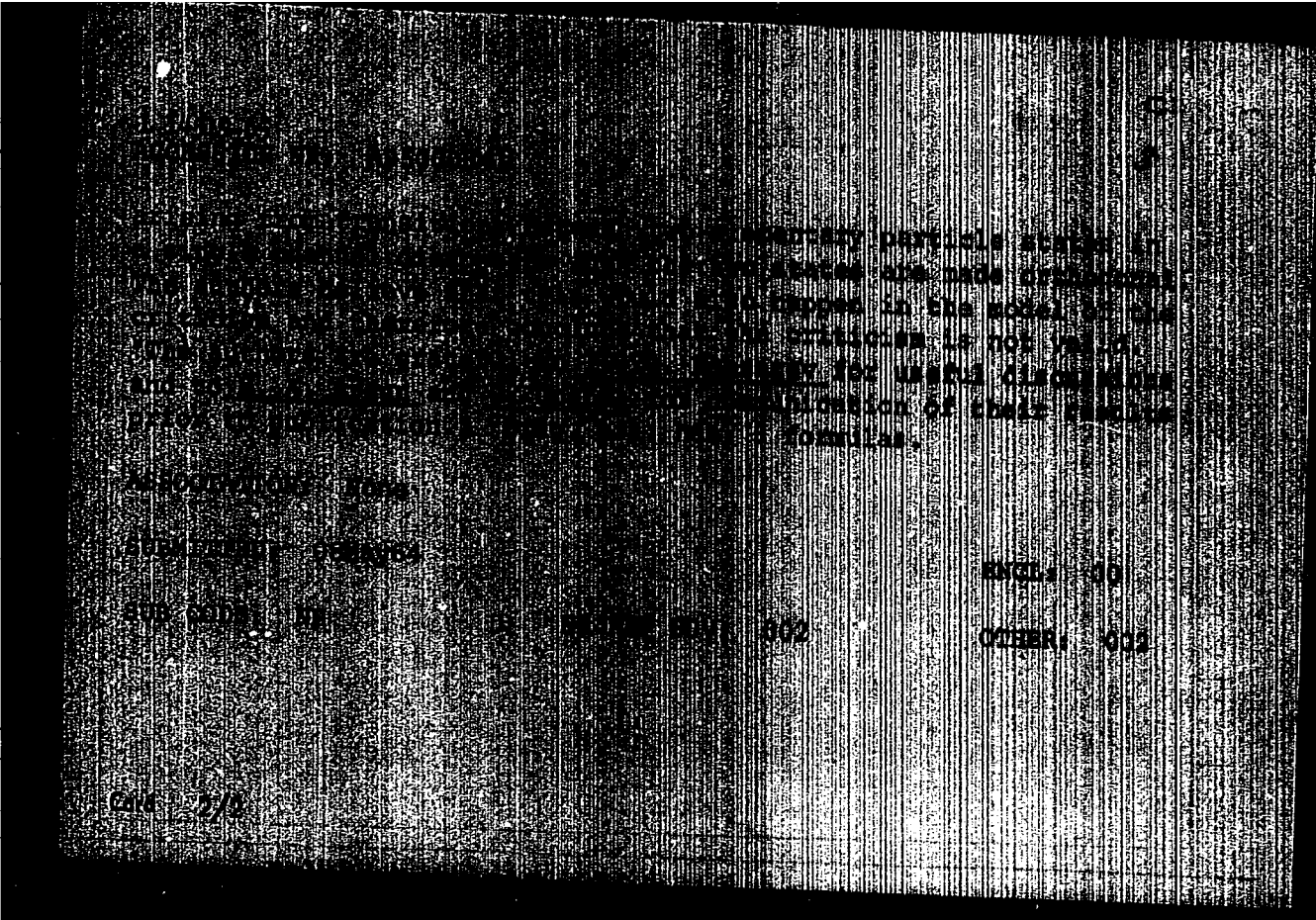
SUB CODE: PH

NO REF SOV: 004

OTHER: 000

Card 2/2





L 2149-66 EWT(m)/T/EWA(m)-2

ACCESSION NR: AT5022128

UR/3138/64/000/299/0001/0008

AUTHORS: Gashkenbeyn, B. V.; Ioffe, B. L.

TITLE: On  $K^* \rightarrow K\pi\pi$  decay

SOURCE: U.S.S.R. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 299, 1964. O raspade  $K^* \rightarrow K\pi\pi$ , 1-8

TOPIC TAGS: K meson, pi meson

ABSTRACT: The probability of  $K^* \rightarrow K\pi\pi$  decay is calculated in  $SU_3$  theory on the basis of the hypothesis that  $\omega$  and  $\phi$  mesons are a mixture of a singlet and the  $T = 0, Y = 0$  component of a unitary octet (S. Okubo. Phys. Lett., 5, 165, 1963; S. L. Glashow. Phys. Rev. Lett., 11, 48, 1963). The obtained ratio of the probabilities of  $K^* \rightarrow K\pi\pi$  and  $\omega \rightarrow 3\pi$  decays is

$$\frac{W(K^{*+} \rightarrow K^+ \pi^+ \pi^0) + W(K^{*0} \rightarrow K^0 \pi^+ \pi^-)}{W(\omega \rightarrow \pi^+ \pi^- \pi^0)} = \alpha \frac{M_{K^*}^2 F(M_{K^*}, m_\pi)}{M_\omega^2 F(M_\omega, \pi)}$$

which leads to the following experimentally observable value of the ratio of the Card 1/2

L 2149-66

ACCESSION NR: AT5022128

width of  $K^* \rightarrow K\pi\pi$  decay to the total width of  $K^*$ :

$$\frac{\Gamma(K^* \rightarrow K\pi\pi)}{\Gamma_{K^*}} = 0,015 \alpha^2 \frac{\Gamma_{\omega \rightarrow 3\pi}}{\Gamma_{K^*}} = 0,0024 \alpha^2 = 0,001$$

for a value of the mixing parameter of  $\alpha = 0.64$ . Experimental observations of  $K^* \rightarrow K\pi\pi$  decays and their comparison with the theoretical prediction allow independent determination of the mixing parameter if the above hypothesis is valid. The authors thank V. V. Vladimirov, L. B. Okun', and V. M. Shekhter for useful discussion and remarks. Orig. art. has: 16 formulas. 9

ASSOCIATION: none

SUBMITTED: 01Dec64

ENCL: 00

SUB CODE: NP

NO REF SOV: 000

OTHER: 005

Card 2/2









L 1111-66. EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5019592

UR/0386/65/001/008/0023/0028

AUTHOR: Geshkenbeyn, B. V.; Ioffe, B. L.; Marinov, M. S.; Roginskiy, V. I.

43  
44.65

TITLE: Incompatibility of relativized unitarity SU(6) symmetry

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 6, 1965, 23-28

TOPIC TAGS: particle symmetry, unitary symmetry, quark model, nuclear scattering, nuclear particles

44.65

ABSTRACT: Scattering amplitudes are studied for singlet-quark and quark-quark scattering in the SU(6) model. The approximations which are encountered are appropriate for any relativized quark model. The results are compared with those of the SU(6) model and the quark model. The authors are grateful to V. I. Ritus, V. I. Pavlov, and K. A. Ter-Martirosyan for consultation and valuable advice.

ASSOCIATION: Otdeleniye yadernoy fiziki Akademii nauk SSSR (Department of Nuclear Physics, Academy of Sciences, SSSR)

SUBMITTED: 10 May 65  
Card 1/1

44.65 ENCL: 00  
NO REF SOV: 000

SUB CODE: NP  
OTHER: 005

GESHKENEYN, B.V.

Electroproduction of an  $N_{3/2}$  (1238) isobar in the SU(6)-  
symmetry scheme. Fis'. v red. Zhur. eksper. i teor. fiz. 1  
no.5:5-8 Je '65. (MIRA 18:11)

1. Otdeleniye yadernoy fiziki AN SSSR. Submitted April 19,  
1965.

L 14440-66 EWT(m)/T

ACC NR: AT6002502

SOURCE CODE: UR/3138/65/000/377/0001/0007

AUTHOR: Geshkenbeyn, B. V.

ORG: none

28  
22  
3+1

TITLE: Electroproduction of the  $N_{3/2}$  (1238) isobar in relativistic SU(6) symmetry (SU(6)<sub>w</sub>)

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 377, 1965. Elektrozhdaniye izobary  $N_{3/2}(1238)$  v skheme relyativistaskoy SU(6) simmetrii (SU(6)<sub>w</sub>), 1-7

TOPIC TAGS: particle symmetry, unitary symmetry, nuclear isobar, particle physics, electron interaction, nuclear interaction

ABSTRACT: The author applies the representation of <sup>17</sup>SU(6) symmetry to the process  $e + p \rightarrow e + N_{3/2}$  (1238).

This reaction is studied in a system  $K$  where the velocity of the proton before collision  $\vec{v}_1$  and the velocity of the isobar after collision  $\vec{v}_2$  are equal in magnitude

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2

L 14440-66  
ACC NR: AT6002502

and opposite in direction

$$\vec{v}_1 = -\vec{v}_2 = \vec{v}.$$

6

It is found that the formula for electroproduction of the isobar in  $SU(6)_w$  is the same as in the  $SU(6)$  system but that this formula must be applied in a "quasi-Breit" system  $K$  instead of in the laboratory system  $K'$ . A comparison of the formula for the laboratory system with experimental data gives the transition form factor. It is found that this coefficient coincides with the magnitude form factor for the proton at transmitted momenta from  $2F^{-2}$  to  $100F^{-2}$ . In conclusion I am grateful to Yu. A. Golf'and, B. L. Ioffe, I. Yu. Kobzarev, M. S. Marinov, I. Ya. Pomeranchuk and V. V. Sudakov for interest in the work and useful consultation. Orig. art. has: 1 table, 6 formulas.

SUB CODE: 20/  
18/      SUBM DATE: 23Jul65/      ORIG REF: 001/      OTH REF: 007

66  
Card 2/2

MAKAROV, D.I.; GOL'DBERG, A.S.; GESKIN, E.S.; GIL'MAN, S.M.; KRAVCHENKO, A.Ya.;  
GAMBAROV, V.I.

Simple control of air flow. Avtom. i prib. no.1:24-26 Ja-Mr '63.  
(MIRA 16:3)

1. Ukrainskiy gosudarstvennyy proyektnyy institut "Metallurgavtomatika"  
(for all except Kravchenko, Gambarov). 2. Metallurgicheskiy zavod  
imeni Petrovskogo (for Kravchenko, Gambarov).  
(Open-hearth furnaces) (Electronic control)



BEKTUROV, A.B.; IL'YASOVA, A.K.; GESKINA, R.A.

"Hydrated pentoxides" of vanadium. Zhur, neorg. khim. 7 no. 9:2134-  
2139 S '62. (MIRA 15:9)

(Vanadium oxide)

GESHEKO, Ye.I. [Heshko, IE.I.]; KUSHTA, G.P. [Kushla, H.P.];  
MIKHAL'CHENKO, V.P. [Mykhal'chanko, V.P.]

Temperature dependence of the intensity of roentgen interferences  
of tungsten over a temperature range of 300°--1100°K. Ukr. fiz.  
zhur. 8 no.12:1358-1363 D '63. (MIRA 17:4)

1. Chernovitskiy gosudarstvennyy universitet.

VENGRINOVICH, R.D. [Venhrynovych, R.D.]; GESHKO, Ye.I. [Heshko, IE.I.];  
KUSHTA, G.P. [Kushta, H.P.]; MIKHAL'CHENKO, V.P. [Mykhal'chenko,  
V.P.]

Temperature dependence of the intensity of X-ray interferences in  
nickel in the 300° - 1100°K temperature range. Ukr. fiz. zhur. 10  
no.2:196-205 F '65. (MIRA 1964)

1. Chernovitskiy gosudarstvennyy universitet.

USSR/Zooparasitology. Ticks and Insects as Disease Vectors.  
Mites.

G

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77027.

Author : Gadlin, Yu. I.; Geshkovich, N. L.; Gorchakovskaya,  
N.N.; Levit, A.B.

Inst :

Title : On the Problem of the Destruction in Nature of the  
Carrier of Tick Encephalitis of the Tick Ixodes per-  
sulcatus Sch.

Orig Pub: Dyul. Mosk. o-va ispyt. prirody. Otd. biol., 1957, 62,  
No 2, 43-49.

Abstract: Results of investigations during 1952-1955 in the  
deciduous forests of the Kuybyshevskaya oblast are  
presented. The duration was studied of the effect  
of a single anti-tick treatment of the forest floor

Card : 1/3

USSR/Zooparasitology. Ticks and Insects as Disease Vectors.  
Mites.

G

abs Jour: Ref Zhur-Dic1., No 17, 1958, 77027.

creased to 0.2-0.3 g/m<sup>2</sup>, or it can be replaced  
by GKbTsG in the same dosage.

Card : 3/3

GESHTOVT, N.

The observers should also be recognized. Radio no.10:17 0 '62.  
(MIRA 15:10)

1. Predsedatel' revisionnoy komissii Alma-Aginskogo radiokluba  
Dobrovol'nogo obshchestva sedeystviya armii, aviatsii i flotu.

(Radio operators) (Amateur radio stations)

GESHTOVT, Yu.N., aspirant; MAKAROV, V.S.; YEPANESHENKOV, I.B.;  
DAYNICHENKO, G.S., aspirant; GRYZEV, I.I.

Economic effectiveness of the use of herbicides. Zashch.  
rast. ot vred. i bol. 9 no.2:9-11, 32 '64.

(MIRA 17:b)

1. Kishinevskiy sel'skokhozyaystvennyy institut (for Daynichenko).
2. Nachal'nik Ul'yahovskoy stantsii zashchity rasteniy (for Grazev).
3. Severnyy filial Kazakhskogo instituta zashchity rasteniy, Kokchetav (for Geshtovt).
4. Starshiy agronom po zashchite rasteniy Nerchinskogo proizvodstvennogo upravleniya, Chitinskaya obl. (for Makrov).
5. Glavnyy agronom po zashchite rasteniy Gorodetskogo proizvodstvennogo upravleniya, Gor'kovskaya obl. (for Yepaneshenkov).

GESHVANTER, R.A.

Pararenal neoplasms. Khirurgia, Moskva no.9:65 Sept 1953. (GIML 25:5)

1. Of the Clinic of the Ukrainian Scientific-Research Institute of  
Blood Transfusion.



GESHVANTNER, R.A., starshiy nauchnyysostrudnik

Some data on the effect of transfusing blood and its components on the blood coagulating system in patients with acute gastroduodenal hemorrhages in peptic ulcer. Vop.pereb.krovi 4:107-115 '55.

(BLOOD--TRANSFUSION)

(MLR 9:12)

(PEPTIC ULCER)

(BLOOD--COAGULATION)

EXCERPTA MEDICA Sec. 6 Vol. 11/10 Oct. 57  
GESHVANTNER N. A.

6440. ARLOZOROV Z. G., GESHVANTNER N. A., ZALKINA A. P. and SHARGO M. I. Ukrainian Inst. of Blood Transfusion and Emerg. Surg., Kiev, USSR.  
\*Thromboplastin transfusion in patients with thrombocytopenia and haemorrhage (Russian text) VRAČ. DELO 1956, 9 (909-912)

The effectiveness of thromboplastin in stopping haemorrhage has been studied. Thromboplastin was given in the form of donor plasma rich in platelets (500,000 - 1,700,000 per cu. mm.). This was transfused in doses of 100 - 300 ml. Two groups of patients were treated, 18 with haemorrhage due to thrombocytopenia and suffering from Werlhof's disease and 53 patients with gastro-duodenal bleeding. The transfusion was combined with ascorbic acid and sometimes with whole blood or the globulin fraction of the plasma. Eight cases of Werlhof's disease showed lessening or cessation of haemorrhage, increase in the number of thrombocytes in the peripheral blood and reduction in bleeding time. Four cases showed improvement without increase in the number of platelets; 6 patients showed no improvement. The use of thromboplastin in patients with acute gastro-duodenal haemorrhage (due to ulcers) produced a reduction or cessation of the bleeding, normalization of the pulse and blood pressure, increase of appetite, sound sleep and well-being in the majority; some patients had an increase in the number of thrombocytes, but in some there was no improvement noted at all. The results showed that thromboplastin transfusion has a greater haemostatic effect than the use of ordinary plasma and that the effectivity increases with increased concentration of thrombocytes. This type of transfusion should be included in the treatment of various haemorrhages, particularly in thrombocytopenic patients.

Guseva - Moscow

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000514930005-4



APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000514930005-4"

After the transfusion of thromboplasmin, especially when combined with internal administration of "vikasol" and ascorbic acid, an increase in the prothrombin level, platelet count, and decreased coagulation time and blood flow were noted, these findings being noted more frequently than when blood was transfused.

As a result of their findings, the authors recommend the use of thromboplasmin as a hemostatic measure in the treatment of hemophilia due to thrombocytopenia and hemorrhages of other etiology. (U)

**QESHVANTNER, R.A.**, kandidat meditsinskikh nauk (Khar'kov)

Brief report on the work of the Kharkov Province Surgical Society  
in 1955. Nov.khir,arkh. no.2:86-87 Mr-Apr '57. (MLRA 10:8)  
(SURGERY)

GESHVANTNER, R. A.

Cystoid formation of the ligamentum teres uteri simulating an irreducible inguinal hernia. No.v khir.arkh. no.1:71 Ja-P '58 (MIRA 11:11)

1. Klinika neotlozhnoy khirurgii Khar'kovskogo nauchno-issledovatel'skogo instituta perelivaniya krovi.  
(LIGAMENTS---TUMORS)  
(CYSTS)

GESHVANTER, R.A., kand.med.nauk

Tactics in wounds of the common carotid artery. Veon.-med.zhur.  
no.8:23-26 Ag '58 (MIRA 12:1)  
(CAROTID ARTERY--SURGERY)

BY GUMBERG, H. M., Chief, med. nauk (Khar'kov)

Report on the work of the Kharkov Province Surgical Society for  
1958. Nov. Khark. arkh. no. 3:126-131, page 150. (HIRA 12:10)

1. Obshchestvo sekretar' Khar'kovskogo oblastnogo obshchestva  
khirurgov.

(KHARKOV PROVINCE SURGICAL SOCIETIES)



GESHVANTNER, R.A. (Khar'kov, ul. Petrovskogo, d.36, kv.9)

Acute hemorrhages in gastric tumors. Vop.onk. 5 no.7:46-71 '59.  
(MIRA 12:12)

1. Iz kliniki (rukovoditel' - prof. N.N. Milostanov) Ukrainского  
nauchno-issledovatel'skogo instituta perelivaniya krovi i neotlozh-  
noy khirurgii (dir. - starshiy nauchnyy sotrudnik Yu.M. Orlenko).

(STOMACH - neoplasms)

(HEMORRHAGE, GASTROINTESTINAL etiology)

GESHVANTNER, R.A.

Short account of the work of the Kharkov Province Society of  
Surgeons in 1959. Nov. khir. arkh. no.3:117-119 My-Je '60.  
(MIRA 15:2)

(KHARKOV PROVINCE SURGICAL SOCIETIES)

GAVRILOV, G. B.; GESHVANTNER, R. A.

Transfusion of dry plasma following prolonged periods of preservation. Probl. gemat. i perel. krovi no.4:50-51 '62.  
(MIRA 15:4)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta perelivaniya krovi i neotlozhnoy khirurgii (dir. - dotsent L. A. Ripyakh)

(BLOOD--COLLECTION AND PRESERVATION)  
(BLOOD--TRANSFUSION)

GESIAK, Mieczyslaw; PAWLOWSKI, Leszek

Strength of tire cord and economy in using it. Polimery tworzywa wielk 8 no.5:198-202 My '63.

1. Instytut Przemyslu Gumowego, Lodz.

GEJAK, Mieczyslaw

Fatigue testing of tire cord. Polityka techniczna 1964  
no.5:188-192. Ny'64.

1. Institute of the Rubber Industry, Warsaw.

GESING, R

Foresters' tasks in the afforestation campaign. p.1

LAS POLSKI. (Ministerstwo Lasnictwa oraz Stowarzyszenie Naukowo-Techniczne  
Inzynierow i Technikow Lasnictwa i Drzewnictwa) Warszawa, Poland  
Vol.29, no.5 May. 1959

Monthly list of East European "Accessions (EBAI) LC, Vol.9, no.2, Feb. 1960

Uncl.

JAGIELSKI, Mieczyslaw; GESING, Roman, mgr inz.; LISTOWSKI, Anatol, prof. dr

Jubilee in honor of the 75th anniversary of the birth of Prof.  
Stanislaw Bac. Gosp wodna 22 no.12:560 D '62.

1. Minister Rolnictwa, Warszawa (for Jagielski).
2. Minister Lesnictwa i Przemyslu Drzewnego, Warszawa (for Gesing).
3. Sekretarz Wydzialu V Polskiej Akademii Nauk, Warszawa (for Listowski).

GESING, Roman, mgr inz.

Major problems of water management in the public administration  
of forests and wood industry. Gosp wodna 23 no. 33 (316-323)  
Ag-S '63.

1. Minister of Forestry and Wood Industry, Warsaw.



GNSIK, I.I.; KONONENKO, V. (Berdiansk)

Reorganization of medical service for industrial workers. Vrach.  
delo no.7:104-106 JI '60. (MIRA 13:7)  
(BERDYANSK--LABOR AND LABORING CLASSES--MEDICAL CARE)

GOL'DFARB, E.M., kand. tekhn. nauk; GESKIN, E.S., inzh.;  
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374 Ap '64. (MIRA 17:8)

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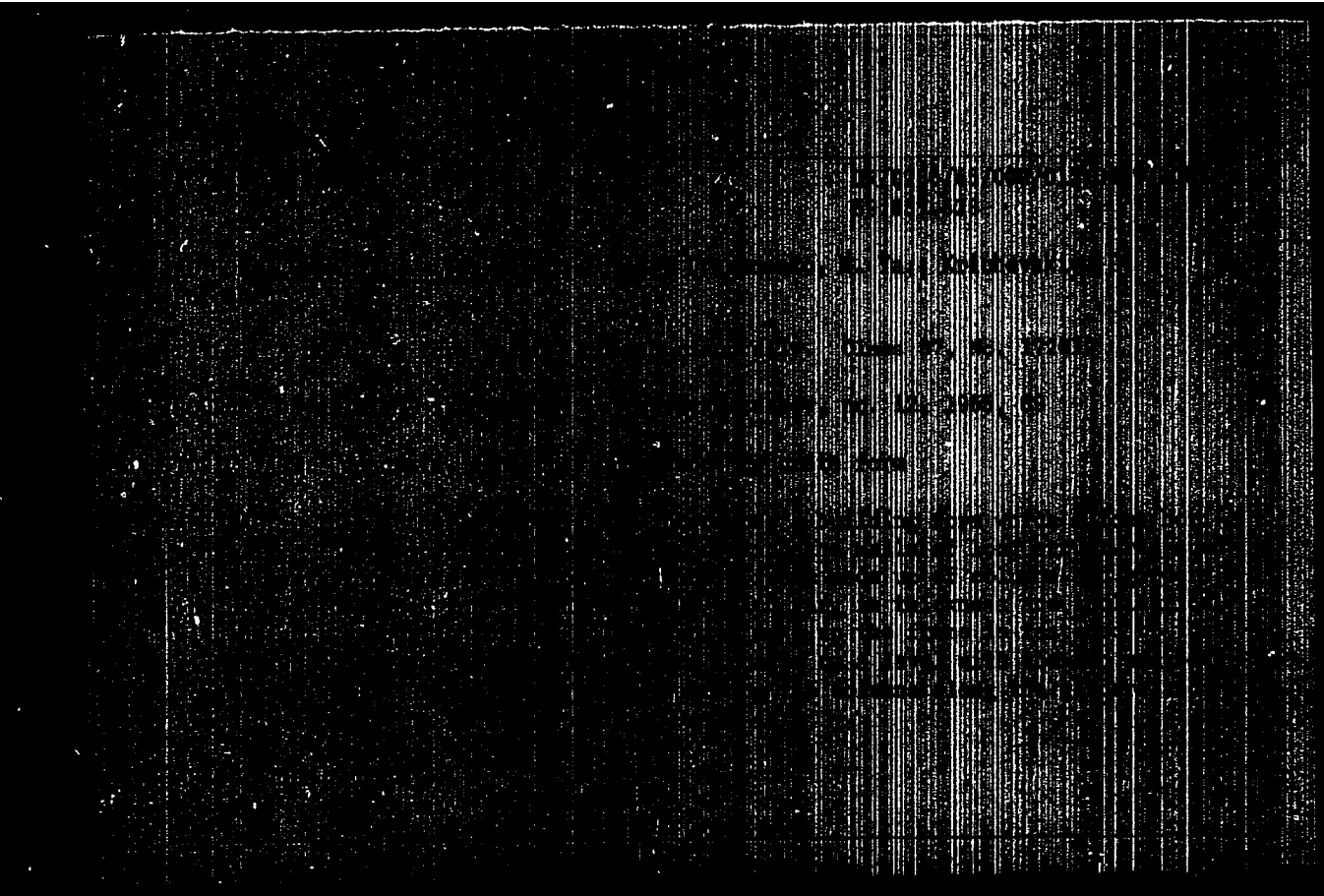
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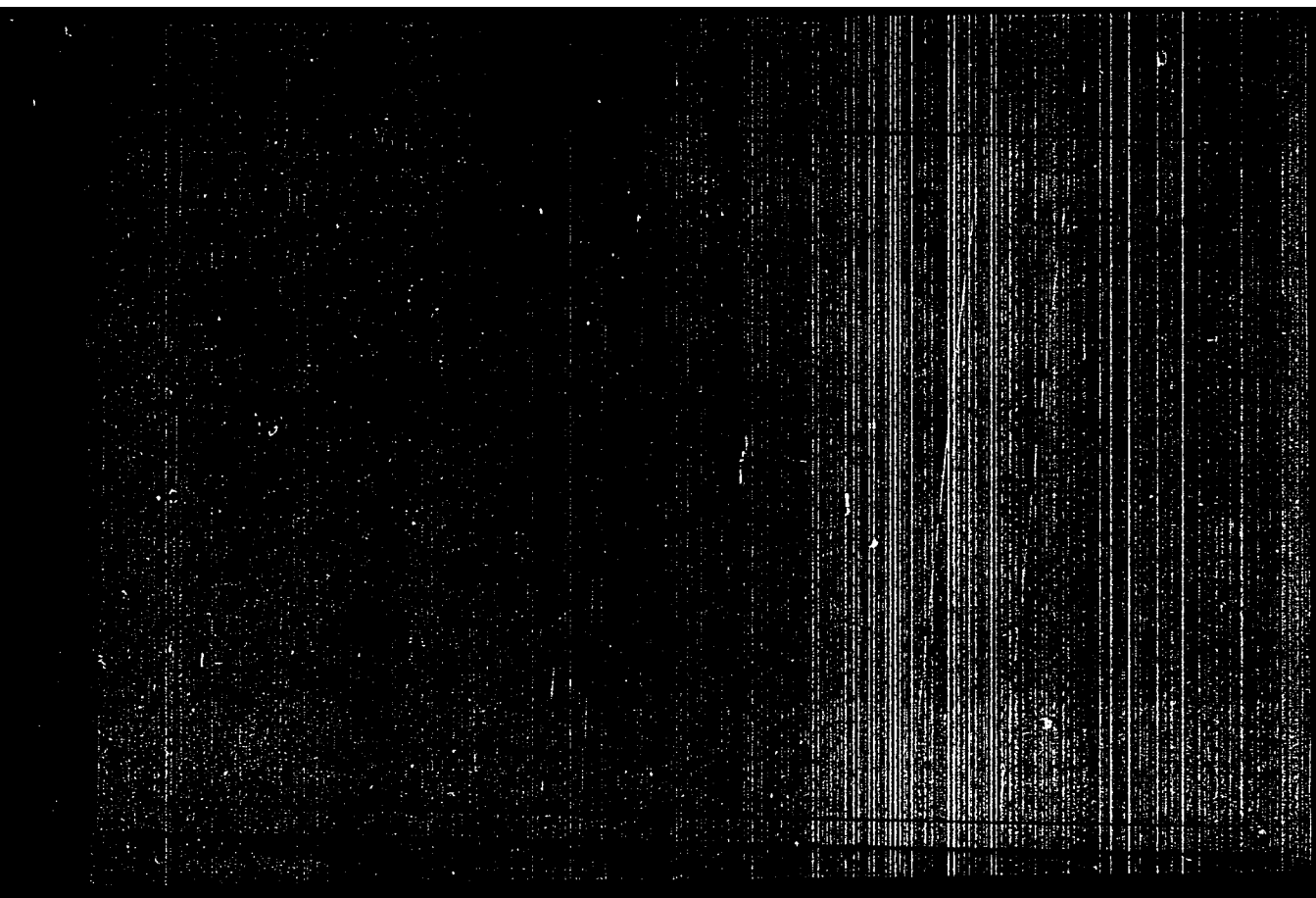
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(Foundations)



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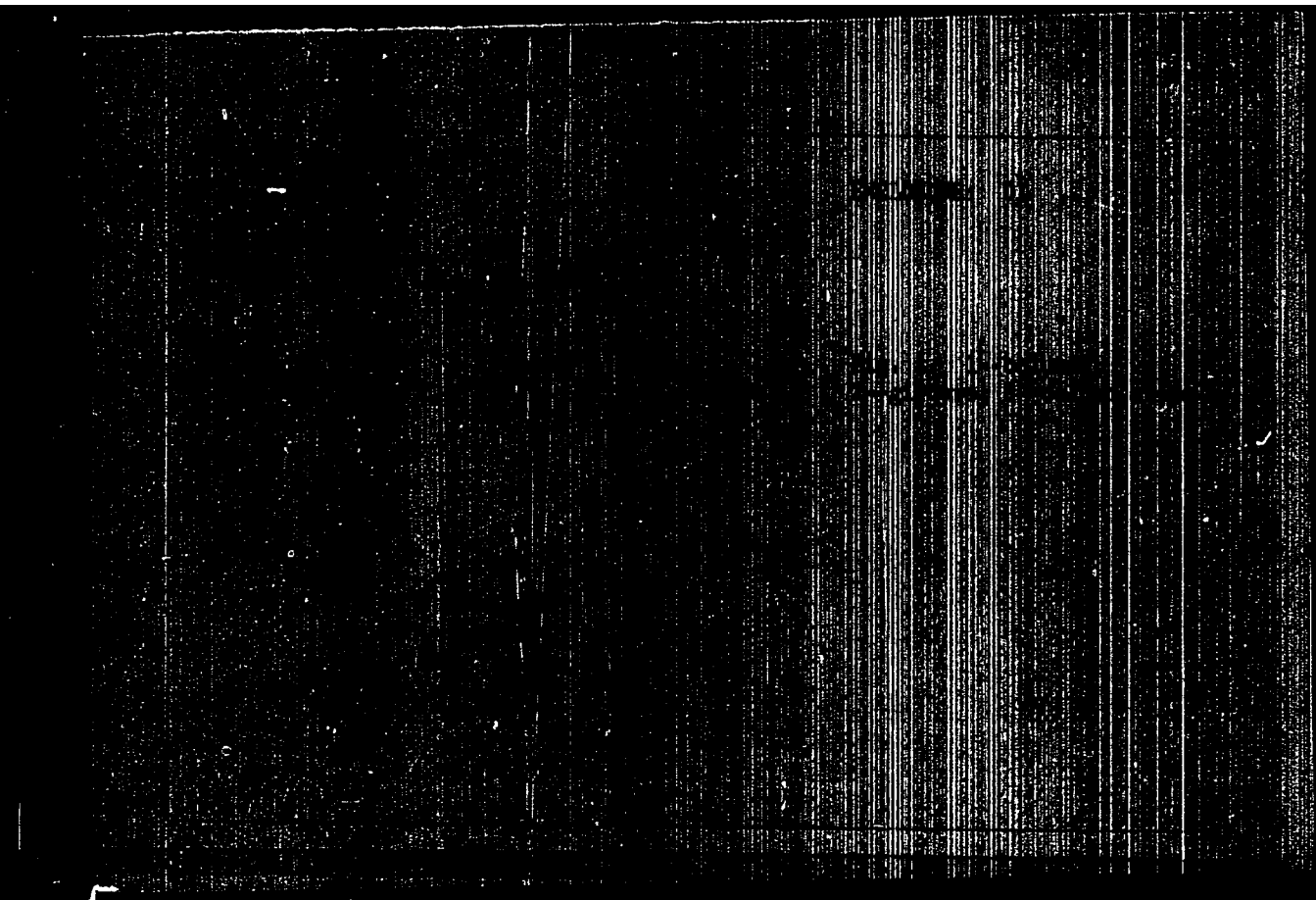


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GESKIN, I. Z.

Multiple hemorrhagic pseudosarcomatosis with laryngeal and pharyngeal involvement. Vest. oto-rin., 14, No 4, 1952.'



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1. Dnepropetrovskiy truboprokatnyy zavod im. Lenina.  
(Rolling (Metalwork))

PIVEN', O.Ye.; GESKINA, D.S.

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1. GESKINA, YE.G.
2. USSR (600)
4. Vegetables
7. "Regional classification of varieties of vegetables, vine crops and tuber root plants according to natural zones of the Autonomous Soviet Socialist Republics and the territories and provinces of the R.S.F.S.R." Reviewed by Ye. G. Geskina. Sad i og. no.9, 1952.

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1. Katedra farmakognosie farmaceutickej fakulty UK [University  
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GESLER, V.

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transp. 35 no.12:22-24 D '57. (MIRA 11:1)

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GESLER, V., kand.tekhn.nauk; SHAKHBAZOV, O., inzh.

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areas. Avt. transp. 39 no.5:43-46 My '61. (MI:A 14:5)  
(Motor vehicles--Brakes)

KANAVETS, P.I.; GESS, B.A.; MELBNT'YEV, P.N.; CHERNYSHEV, A.M.;  
CHERNYKH, V.I.; SPORIUS, A.E.

Method of chemical catalysis for nodulizing finely ground  
materials without sintering. Trudy IGI 22:5-30 '63.  
(MIRA 16:11)



ACCESSION NR: AP4010070

8/0129/64/000/001/0024/0027

AUTHORS: Gorbach, V.G.; Maly\*shev, K.A.; Guss, A.V.; Ustyugov, P.A.

TITLE: Effect of high temperature nonrecrystallizing work hardening on the mechanical properties of precipitation hardened steels.

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1964, 24-27

TOPIC TAGS: precipitation hardened steel, austenitic steel, work hardening, aging, high temperature work hardening, vanadium containing steel, brittleness, recrystallization, strength, impact strength

ABSTRACT: A study of austenitic steels (containing Cr-Ni-Mn, Cr-Ni-Mn-V and Cr-Mn-V) showed that high temperature work hardening affected their properties favorably after aging, increasing strength and impact strength. The high temperature work hardening decreased the transcrystalline brittleness developed by precipitation hardening. The partial growth of recrystallization by the high temperature work hardening does not eliminate the possibility of getting

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ACCESSION NR: AP4010070

higher mechanical properties (in comparison to properties of steels not subject to high temperature work hardening) by subsequent precipitation hardening. Austenitic steel containing 1.5% vanadium, when subjected to a combination of high temperature work hardening and aging has high mechanical properties even by partial recrystallization during the high temperature deformation process. Orig. art. has: 2 tables and 4 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 07Feb64 ENCL: 00

SUB CODE: ML

NO REF SOV: 002 OTHER: 000

Card 2/2

CHERNYSHEV, A.M.; GESS, B.A.; KANAVETS, P.I.; MELENT'YEV, P.N.;  
KISELEV, G.P.; TSYLEV, L.M.; BORISOV, Yu.I.; CHERNYKH, V.I.

Metallurgical properties of granules prepared by the  
method of chemical catalysis. Trudy IGI 22:39-49 '63.  
(MIRA 16:11)

KANAVETS, P.I.; GESS, B.A.; SPORIUS, A.E.; MELENT'YEV, P.N.;  
CHERNYSHEV, A.M.; CHERNYKH, V.I.; KHAYLOV, B.S.; BORISOV, Yu.I.

Experimental pilot plant stand for the nodulizing of finely  
ground materials by the method of chemical catalysis. Trudy  
IGI 22:57-69 '63. (MIRA 16:11)

CHERNYSHEV, A.M.; GESS, B.A.; KANAVETS, P.L.; MELENT'YEV, P.N.;  
KHODAK, L.Z.; SOKOLOV, G.A.; BORISOV, Yu.I.; CHERNYKH, V.I.;  
Prinimali uchastiye: VAVILOV, N.S.; MAKARCHENKO, V.G.;  
KISELEV, G.P.; VOLNISTOVA, R.A.; MOREYEVA, G.F.

Testing granules made by the method of chemical catalysis  
in a laboratory shaft furnace. Trudy IGI 22:70-78 '63.  
(MIRA 16:11)

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MELENT'YEV, P.N.; CHERNYKH, V.I.; KHROMYAK, R.P.;  
KHAYLOV, B.S.; BORISOV, Yu.I.; TSYLEV, L.M.; SOKOLOV, V.S.;  
Prinimali uchastiyev MARKIN, A.A.; GORLOV, M.Ya.;  
VORONOV, Yu.G.; BULAKHOV, K.A.; KREMYANSKIY, V.I.; ARSHINOV,  
G.P.; MAZUN, A.B.; PISARNITSKIY, I.M.; BOKUCHAVA, O.A.;  
KIRILLOV, M.V.; TSELUYKO, P.I.; POLYAKOV, G.O.; REZKOV, A.S.;  
ZHUGHKOV, M.I.; ROMASHKIN, A.S.; ZUBKOV, A.S.; KOZLOV, N.N.

Pilot plant for the nodulizing of finely ground charge mix-  
tures by the method of chemical catalysis. Trudy IGI 22:  
93-109 '63. (MIRA 16:11)

GESS, B.A.; CHERNYSHEV, A.M.; KANAVETS, P.I.; MELENT'YEV, P.N.;  
KHRUMYAK, R.P.; VORONOV, Yu.G.; TSYLEV, L.M.; CHERNYKH, V.I.;  
BORISOV, Yu.I.; SPORIUS, A.E.; Primalni uchastiye: TOLEROV,  
D.D.; MINKIN, V.M.; MARKIN, A.A.; GORLOV, M.Ya.; KHAYLOV, B.S.

Experimental blast furnace smelting with replacement in  
the charge of 20-per cent of the fluxed sinter by granules  
prepared by chemical catalysis. Trudy IGI 22:110-113 '63.  
(MIRA 16:11)

KANAVETS, P.I.; MELENT'YEV, P.N.; CHERNYKH, V.I.; GESS, B.A.;  
SPORIUS, A.E.; CHERNYSHEV, A.M.

Using chemical catalysis for nodulizing charge mixtures  
composed of various raw materials. Trudy IGI 22:114-125  
'63. (MIRA 16:11)



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YENIK, G.I.; IVLEVA, A.S.; GESS, B.A.; CHERNYSHEV, A.M.

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(Equations, Simultaneous) (Electric circuits)

CHERNYSHEV, A.M.; KISELEV, G.P.; QESS-de-KAL'VE, B.A.; TSYLEV, L.M.

Investigating certain properties of fluxed ore and fuel  
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(Sintering)

(Granular materials--Testing)