

JAGIELSKI, J.; NOLIS, J.; ROBACZYNSKA, G.

Electrocardiogram of the newborn infant. Kardiol. Pol. 7
no.2:87-96 '64.

1. Z Ośrodka Kardiologicznego PSK nr 1 (Kierownik: prof, dr
Z. Kowarzykowa) i z I Kliniki Położnictwa i Chorob Kobięcych
Akademii Medycznej we Wrocławiu (Kierownik: prof. dr K.
Nowosad).

NOWOSAD, Kazimierz; NOLIS, Jadwiga; ROBAOZYNSKA, Gabriela;
GIASTON-MALDIEFFCZA, Wacława; KRÓL, Liliana; BARON, Adam

Treatment of neonatal hemolytic disease by means of exchange
blood transfusions in the past 15 years (1949-1964). Ginek.
Pol. 36 no.8:847-852 Ag 1965.

1. 2 I Kliniki Położnictwa i Chorob Kobiecych Akademii Medycznej
we Wrocławiu (Kierownik: prof. dr. med. K. Nowosad).

KOWARZYK, Bogna; KOWARZYKOWA, Zofia; NOWOSAD, Kamilawa; JAGIELSKI, Jozef;
NOLIS, Janina; UREC, Mieczyslaw

The problem of vectorcardiographic investigations in the newborns.
Ginek. Pol. 36 no.8:883-890 Ag 1961.

1. 2 Ośrodka Kardiologicznego: P&K Nr. 1 we Wrocławiu (Kierownik:
prof. dr. med. Z. Kowarzykowa) i z Kliniki Położnictwa i Chorob
Kobiet Akademii Medycznej we Wrocławiu (Kierownik: prof. dr.
med. K. Nowosad).

JAGIELSKI, Jozef; KOLISOWA, Jadwiga

Axoncardiograms of the QRS complex in newborn twins. *Ginek. Pol.*
36 no.8:891-896 Ag '65.

1. Z Ośrodka Kardiologicznego przy PSK Nr. 1 we Wrocławiu
(Kierownik: prof. dr. med. Z. Kowarszykova) i z I Kliniki
Pozoznictwa i Chorob Kobięcych Akademii Medycznej we Wrocławiu
(Kierownik: prof. dr. med. K. Nowosad).

ANDREASIK, Zbigniew; ANDREASIK, Irena; DZIERZKOWA, Wanda; DELISSWA, Jadwiga

Recurrent jaundice in the course of pregnancy. Ginek. Pol. 36 no.8:
931-934 Ag '65.

1. Z II Kliniki Chorob Wewnętrznych Akademii Medycznej we Wrocławiu (Kierownik: prof. dr. med. A. Falkiewicz), z I Kliniki Położnictwa i Chorob Kobiety Akademii Medycznej we Wrocławiu (Kierownik: prof. dr. med. K. Nowosad) i z Pracowni Serologicznej Wojewódzkiej Stacji Krwiodawstwa we Wrocławiu (Kierownik: dr. med. W. Dzierzkowa).

NOWOSAD, Kazimierz; HEIMERATH, Tadeusz; JOLISZKA, Jadwiga;
GIASTON-MAIOLEPSZA Weronika

Role of listeriosis in pregnancy complications and its spreading
in wards for newborn infants. Ginek. Pol. 36 no.8:939-944 Ag '64.

1. Z I Kliniki Położnictwa i Chorob Kobietych Akademii Medycznej
we Wrocławiu (Kierownik: prof. dr. med. K. Nowosad).

HEIMRATH, Tadeusz; NOLIS, Tasio

Premature separation of normally located placenta. Afibrinogenemia.
Case report. Polski tygod.lek. 15 no.33:1280-1282 15 Ag '60.

1. Z I Kliniki Położnictwa i Chorob Kobietych A.M. we Wrocławiu;
kierownik: doc. dr Kazimierz Nowosad.
(PLACENTA PRAEVIa blood)
(AFIBRINOGENEMIA in pregn.)

ROBACZYNSKI, Jerzy; NOLIS, Tasio

Damage to the fetal extremities caused by encirclement by
the umbilical cord. Ginek. pol. 34 no.4:519-523 '63.

1. Z I Kliniki Poloznictwa i Chorob Kobietych AM we Wroclawiu
Kierownik: prof. dr med. K. Nowogad.

(UMBILICAL CORD) (EXTREMITIES)
(ABNORMALITIES) (FETAL DISEASES)
(INFANT, NEWBORN, DISEASES)

NOWOSAD, Kazimierz, prof. dr.; WAWRZKIEWICZ, Marian; NOLIS, Tasio; WIECZOREK, Eligiusz.

Contribution to the clinical picture of preinvasive cancer of the uterine cervix. Pol. tyg. lek. 20 no.12:434-436 22 Mr '65

1. Z I Kliniki Położnictwa i Chorob Kobietych Akademii Medycznej we Wrocławiu (Kierownik: prof. dr. K. Nowosad).

WAWRZKIEWICZ, Marian; NOLIS, Tasio

Invasive cervical cancer in pregnant women. Pol. tyg. lek.
20 no.20:721-723 17 My '65.

1. Z Kliniki Poloznictwa i Chorob Kobietych AM we Wroclawiu
(Kierownik: prof. dr. K. Nowosad).

NOLIS, Tasio; NOLISOWA, Jadwiga

Umbilical infections of newborn infants. Ginek. Pol. 36 no.8:
897-901 Ag '65.

1. Z I Kliniki Poloznictwa i Chorob Kobietych Akademii Medycznej
we Wroslawiu (Kierownik: prof. dr. med. K. Nowosad).

GIERON-ZASADZIENIOWA, M.; HALAZINSKA, L.; NOLISOWA, J.; UJEC, M.;
ROBACZYNSKA, G.; JAGIELSKI, J.

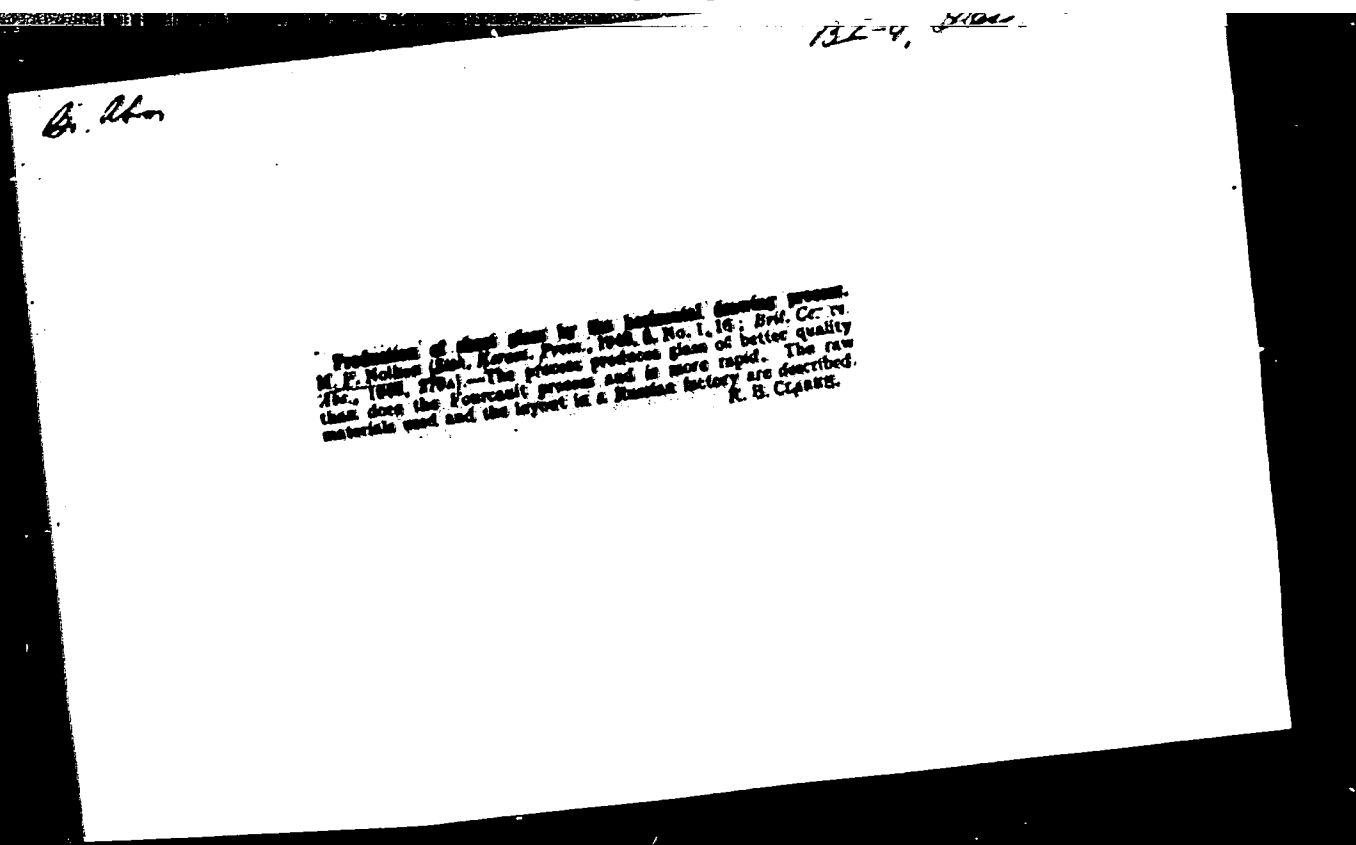
Auricular pararrhythm in newborn infants. Kardiol. Pol. 7
no.3:211-216 J '64.

1. Z II Kliniki Poloznictwa i Chorob Kobiacych Akademii
Medycznej (Kierownik: prof. dr K. Jablonski); z I Kliniki
Poloznictwa i Chorob Kobiacych Akademii Medycznej (Kierownik:
prof. dr K. Nowosad) i z Ośrodka Kardiologicznego PSK nr 1
we Wrocławiu (Kierownik prof. dr Z. Kowarzykowa).

NOLIS, Tasios; NOLISOWA, Jadwiga

Umbilical infections of newborn infants. Ginek. Pol. 36 no.8:
897-901 Ag '65.

1. Z I Kliniki Położnictwa i Chorób Kobietych Akademii Medycznej
we Wrocławiu (Kierownik: prof. dr. med. K. Nowosad).

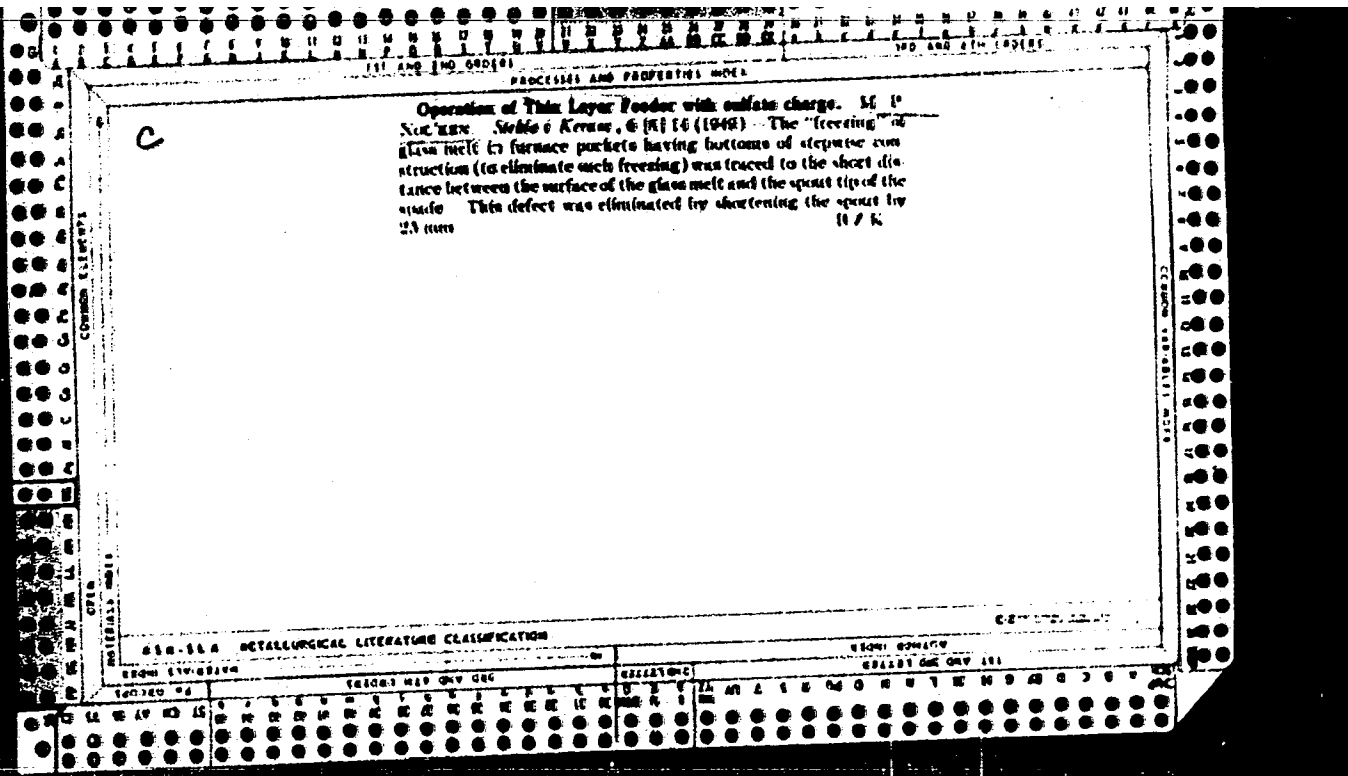


Production of sheet glass by the horizontal drawing process.
M. F. Nollner (Pat. Comm. France, 1904, No. 1,16; Brit. Pat. No. 1,166, 1904, 270a).—The process produces glass of better quality than does the Fourcault process and is more rapid. The raw materials used and the layout in a Russian factory are described.
R. B. CLARK.

Brit. Ab.

*B. 9 Glass; Ceramics;
Refractories*

Materials for grinding applications. M. P. Mallon (Sud. Korea).
1948, 6, No. 5, 26; Brit. ceramic Abstr., 1948, (5A).
BATT. CERAM. RES. ASS. (CL)



Polishing

Polishing heads of a new construction. *M. P. Nollen (Stallo & Keramika, 1953, 16, No. 2, 6; Glass Ind., 1954, 85, 453).*—The polishing head of the machine is 24 in. diam. and carries three 6-in. diam. rotating abrasive wheels spaced close together. The advantages of the design are (1) more uniform distribution of a larger pressure, (2) more uniform temp. on the surface being worked and a reduced tendency to crack, and (3) the discs are easily replaced. The polishing time was reduced from 135 to 82 min., with economy of felt, rouge, and energy. *J. A. Suonan.*

get by

AUTHOR:

Nol'ken, M. P.

SOV/72-58-9-3/20

TITLE:

Experience in the Introduction of Simultaneous Bilateral Grinding of Sheet Glass (Iz opyta osvoyeniya odnovremennoy dvustoronney shlifovki listovogo stekla)

PERIODICAL:

Steklo i keramika, 1958, Nr 9, pp 7 - 12 (USSR)

ABSTRACT:

This method of glass grinding offers considerable advantages as compared to a separate working of each glass surface. It permits to save working space and equipment and to produce high-quality glass. In order to solve the problem which are connected with this method a small continuous test plant was constructed in glass works. This plant operated according to the system due to Ya.I.Andrusenko and M.D.Tamarin. It was designed in the Orgstekle (PKB, Institute of Glass). The designs of the grinding machines of this system are portrayed in figures 1,2 and 3. Ya.I.Andrusenko suggested a hydraulic pulse generator for the stabilisation of the level of the system, as can be seen from figure 4. During the first period of test runs grinding plates were examined which had different arrays of slots. In

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Experience in the Introduction of Simultaneous
Bilateral Grinding of Sheet Glass

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figure 5 the two specimens are shown which meet the requirements. The experimental evidence is presented in a table. It was found that hydraulic and mechanical pulse generators both operate satisfactorily. The mechanical type, however, is more simple, cheaper to produce and shows less wear. As a conclusion it is stated that the grinding of both glass surfaces proceeds with equal intensity and that the simultaneous bilateral grinding offers great advantages. These experiments furnished the required experience for the design of highly efficient continuous grinding machines. There are 5 figures and 1 table.

Card 2/2

VEYNBERG, K.L.; KOSSOY, B.S.; NOL'KEM, M.P.; REZNIKOV, M.I.; KADANER, N.I.,
red. izd-va; HUDAKOVA, N.I., tekhn. red.

[Equipment for glass plants] Oborudovanie stekol'nykh zavodov. Pod
red. M.I.Reznikova. Izd.2., ispr. i dop. Moskva, Gos. izd-vo lit-
ry po stroit., arkhitekt. i stroit. materialam, 1961. 618 p.
(MIRA 14:8)

(Glass manufacture—Equipment and supplies)

VEYNBERG, Kal'men Lipmanovich; GURFINKEL', Isaak Yevgen'yevich[deceased];
KOTLYAR, Abram Yevseyevich; NOL'KEN, Maksimilian Petrovich;
ORLOV, Anatoliy Nikolayevich; KHERSONSKIY, Sergey Semenovich;
SHKOL'NIKOV, Yakov Abramovich; BROMLEY, P.V., retsenzent;
ZALIZNYAK, A.A., retsenzent; KISELEV, N.V., retsenzent; KLEGG,
D.I., retsenzent; SHVAGIREV, Ya.D., retsenzent; DUKHOVNIY, F.N.,
red.; TRISHINA, L.A., tekhn. red.

[Equipment and mechanization of glass factories]Oborudovanie i
mekhanizatsiia stekol'nykh zavodov. [By] K.L.Veinberg i dr. Mo-
skva, Rostekhizdat, 1962. 451 p. diagrs. (MIRA 15:10)
(Glass—Equipment and supplies)

CECH,M.; HOSKOVA,A.; NOLL,A.

Transaminase activity in healthy infants and its relation to
neonatal jaundice. Cesk. pediat. 20 no.1:23-29 Ja '65

1. I. detska klinika lekarske fakulty University J.E. Purkyne
v Brne (prednosta - prof. dr. Z. Brunecky, CSc.)

HOSKOVA, A.; CECH, M.; HOLL, A.

About the possibility of glucose-6 phosphate dehydrogenase deficiency in our country. Cas. lek. cesk. 104 no.10: 262-265 12 Mr'65.

1. I. detaka klinika lebarske fakulty University J.E. Purkyně v Brne (prednostat prof. dr. Z. Brunecky, CSc.

NOLL', I. F.

Grain

Raising high yields of grain crops. Dost. sel'khoz. No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

NOLL, J., inz.

Distribution of fiber circulation during fragmentation.
Bul VUPC 6 no. 3: 3-17 '63.

1. Research Institute of Paper and Cellulose, Prague.

NOLL, Jaroslav, inz.

Relations and phenomena during paper web formation. Pt. 1.
Papir a celuloza 19 no. 7:192-194 J1 '64.

1. Research Institute of Paper and Cellulose, Worksite
Prague.

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NOH, Jaroslav, inz.; PAWEK, Bedrich, inz.; VASAK, Jaroslav, inz.

Control of the papermaking machine operation. Papir
a celuloza 19 no.2:253-257 3 '64.

1. Research Institute of Paper and Cellulose, Worksite
Prague.

NOLL, Jaroslav, inz.

Relations and phenomena in making paper web. Pt.2. Papir a celuloza
19 no.8:219-222 Ag '64.

1. Research Institute of Paper and Cellulose, Worksite Prague.

KOVACS, Ervin, dr.; RANKE, Erno, dr.; KERTESZ, Mih. dr.; NOLL,
Kalman, dr.

Familial idiopathic hypocovertinemia (absence of the VII factor)
Orv. hetil. 96 no.14:378-383 3 Apr 55.

1. A Magyar Nephadsereg Egészségügyi Szolgálatának közleménye.
(HEMORRHAGIC DEATHESIS
factor VII defic., idiopathic, familial)

27287

S/161/61/003/008/017/034
B102/B202

9.4340

AUTHORS:

Nolle, E. L. and Galkin, G. N.

TITLE:

Generation centers in diffusion-type p-n junctions of silicon

PERIODICAL:

Fizika tverdogo tela, v. 3, no. 8, 1961, 2350-2354

TEXT: The reverse current passing through a p-n junction consists of two components: the diffusion current and the current caused by generation in the region of space charge of the semiconductor. At room temperature, the diffusion component of the reverse current in silicon p-n junctions is considerably lower than the second component. It is known that in silicon with p-n junctions mainly carriers whose levels lie near the center of the forbidden band are generated in the region of space charge. The authors study the carrier-generation centers in the region of space charge which had been generated by heat treatment in diffusional p-n junctions of silicon and determine the relationship between the generation centers and the recombination levels in p-type silicon. On the basis of Shockley's theory for the reverse-current density caused by generation in the space-charge region the authors theoretically obtain: $j_g = qW n_1 / (\tau_{p0} + \tau_{n0})$.

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B102/B202

Generation centers in ...

τ_{p0} and τ_{n0} are the lifetimes of the electrons and holes, in a strong p-type and strong n-type semiconductor. The authors experimentally studied the volt-ampere characteristics of the reverse current in p-n junctions produced from thermally treated (1235°C) p-type Si plate. In order to reduce the influence of surface effects on the reverse current, the authors chose large diode areas (0.12 cm²); immediately before the measurements the diodes were etched and the characteristics were measured in a vacuum thermostat (10⁻⁵ mm Hg). It was found that up to about 100°C the reverse current is voltage-dependent and mainly a generation current. The activation energy of the generation centers was determined from the slope of the straight line $I = f(1/T)$ and a value of 0.6 ± 0.06 eV was obtained. This corresponds to a position of the energy level of the centers in the middle of the forbidden band. At higher temperatures, the reverse current is determined by the diffusion component (activation energy 1.2 eV). The studies showed that a linear relation exists between the generation current and the concentration of the centers which form a recombination level in p-type silicon, that is at a distance of 0.35 eV from the valence band.

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Generation centers in ...

It can be assumed that in the p-n junctions studied a donor level of gold impurities acts as an active recombination level and an acceptor level of gold as an active generation level in the space charge region. The former is at a distance of 0.55 eV from the valence band, the latter lies in the middle of the forbidden band. Using the data of Bemski the author compares the reverse-current densities theoretically and experimentally. Good agreement was obtained for the individual samples. The carrier concentrations were calculated from the formula $n_1^2 = 1.5 \cdot 10^{33} T^3 \exp(-1.21/kT)$. The authors thank V. S. Vavilov for directing the studies and B. M. Vul, Corresponding Member AS USSR, for his interest and advice. There are 3 figures, 1 table, and 10 references: 1 Soviet and 9 non-Soviet. The two most important references to English-language publications read as follows: G. Bemski. Phys. Rev. 111, 6, 1515, 1958; D. J. Sandiford. J. Appl. Phys., 30, 12, 1981, 1959. X

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR Moskva
(Physics Institute imeni P. N. Lebedev AS USSR, Moscow)

SUBMITTED: March 10, 1961

Card 3/3

27288

S/181/61/003/008/018/034
B102/B202

24.7700

AUTHORS: Galkin, G. N., Nolle, E. L., and Vavilov, V. S.
TITLE: Recombination levels in p-type silicon occurring at high-temperature treatment
PERIODICAL: Fizika tverdogo tela, v. 3, no. 8, 1961, 2355-2361

TEXT: Heat treatment of silicon at temperatures above 1200°C leads to a strong increase of the surface recombination rate. The lifetime of the non-equilibrium carriers decreases to values of the order of 1 μsec and less. The nature of the recombination centers occurring in this connection has hitherto not been explained. In a previous paper (Galkin, FTT, II, 1, 8, 1960) it was demonstrated that in p-type silicon the dependence of the carrier lifetime on the injection level (with injection levels of the 0.005-0.05 ev) corresponds to the Shockley-Read law. The recombination level is at a distance of 0.13 ev from the valence band. At higher injection levels, however, no linear dependence could be observed. Hence the authors assumed that another level participates in recombination. This problem is studied in the present paper. The authors study the dependence

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B102/B202



Recombination levels in p-type ...

of the lifetime on the injection level in a wide range of the injection levels, the position of the recombination levels (generated by heat treatment) in the forbidden band and also their nature. First, they theoretically study recombination by local levels which lie in the forbidden band. They experimentally study the dependence of the lifetime of the non-equilibrium carriers on temperature and injection level in p-type single crystals with p-n junction by the "frequency" method of S. G. Kalashnikov and N. A. Penin (ZhTF, XXV, 1111, 1955). The p-n junction was produced by diffusing phosphor into p-type Si (20 min, 1230°C). This was made in quartz ampuls. Under the same conditions part of the specimens had been previously subjected to heat treatment (30 min - 2hr) in order to increase the concentration of the recombination levels. Ohmic contacts were obtained by melting Ag onto the n-type side and Al onto the p-type side. In order to keep the current which is due to surface generation and which passes through the p-n junction low, the junction area was chosen sufficiently large (0.12 cm²) and etched prior to the measurement. The lifetime was determined between -70 and +185°C and the injection levels between 0.01 and 0.6 ev. The initial carrier lifetime was at 50 μsec, resistivity was

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Recombination levels in p-type ...

~10 ohm·cm. The ratio between diffusion current and generation current component was determined from the volt-ampere characteristics of the current in forward direction. The characteristics ($v = f(\log I)$) have two linear sections of different slope. The first one (0.26 eV) corresponds to the current due to generation in the space-charge region, at higher voltages, current occurs due to diffusion. The majority carrier concentration p_0 was determined from the Hall-emf. It was constantly equal to $7.5 \cdot 10^{14} \text{ cm}^{-3}$ in the entire temperature range. It became constant after a 2.5 hour heat treatment (within the limits of measurement accuracy) which indicates a low concentration of the introduced centers. The curves $\tau(1 + \Delta n/p_0) = f(\Delta n/p_0)$ of specimens with annealing times of less than 1.5 hr were not linear. They corresponded approximately to formula

$$\tau \left(1 + \frac{\Delta n}{p_0} \right) = \left(\frac{1}{\tau_{01} + \tau_{02} \frac{\Delta n}{p_0}} + \frac{1}{\tau_{02} + \tau_{01} \frac{\Delta n}{p_0}} \right)^{-1} \quad (5)$$

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Recombination levels in p-type ...

Δn is the concentration of the electrons (minority carriers), p_0 that of the holes (majority carriers), τ the lifetime of the latter; the subscripts 0 and ∞ refer to an infinitely small or infinitely large injection level, 1 and 2 number the two existing recombination levels. Only with specimens that had been subjected to heat treatment for more than two hours these curves were linear. Heat treatment at temperatures exceeding 1200°C also leads to the generation of two donor-type recombination levels at distances of 0.1-0.2 and 0.35 ± 0.02 eV from the valence band. The concentration of the centers with the level $E_{t2} = 0.35$ eV increases with increasing time of heat treatment so that - in the case of long-lasting heat treatment - recombination by the first level can be neglected. The level $E_{t2} = 0.35$ eV may be explained by the presence of gold atoms in the crystal which, according to Collins et al., form donor levels in p-type Si which are at a distance of 0.35 ± 0.02 eV from the valence band. According to Bemski the gold concentration in Si subjected to heat treatment for 2.5 hours, should amount to 10^{13} cm⁻³. The reason of this gold impurity might be the quartz ampul which contained the Si during the heat treatment. The authors thank

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Recombination levels in p-type ...

S/181/61/003/008/01~~1~~/034
B102/B202

B. M. Vul, Corresponding Member AS USSR, and E. I. Adirovich for advice, B. Ya. Yurkov for help. There are 7 figures and 11 references: 4 Soviet and 7 non-Soviet. The three most important references to English-language publications read as follows: M. Lax. Phys. Rev., 119, 1502, 1960; C. B. Collins et al. Phys. Rev., 105, 1168, 1957; G. Bamski. Phys. Rev., 111, 6, 1515, 1958.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR Moskva
(Physics Institute imeni P. N. Lebedev AS USSR, Moscow)

SUBMITTED: March 10, 1961

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Card 5/5

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37949

S/181/62/004/005/051/055
B163/B138

AUTHORS: Nolle, E. L., Malovetskaya, V. M., and Vavilov, V. S.

TITLE: The effect of oxygen on the life-time of minority carriers in p-type silicon

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1374-1376

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TEXT: Single crystals of p-type silicon were obtained by zone melting without a crucible. Very low oxygen content was achieved by zone refinement in a hydrogen atmosphere or in vacuum. In the top part of the single crystal the oxygen concentration was increased by making part of the last passage in an atmosphere of moist hydrogen. The oxygen concentration was determined from the intensity of the infrared absorption band at 9.1 microns. The life-time was measured by B. D. Kopylovskiy's phase method at a low injection level. With oxygen content increasing from $5 \cdot 10^{16} \text{ cm}^{-3}$ to $1.5 \cdot 10^{17} \text{ cm}^{-3}$ the carrier life-time increases from 1.6 to 32 microseconds. Its temperature dependence was measured between 220 and 430°K and was found to diminish with temperature. The decrease is less for specimens with higher oxygen concentrations, and below 0°C, it increased

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ACCESSION NR: AF4034920

S/0181/64/006/005/1406/1412

AUTHOR: Vavilov, V. S.; Nolle, E. L.; Yagorov, V. D.; Vintovkin, S. I.

TITLE: Radiative recombination in cadmium telluride as a result of excitation by fast electron pulses

SOURCE: Fizika tverdogo tela, v. 6, no. 5, 1964, 1406-1412

TOPIC TAGS: radiative recombination, cadmium telluride, CdTe, laser material, stimulated emission, semiconductor

ABSTRACT: The recombination radiation spectrum of CdTe excited by fast electrons was investigated in the photon energy interval from 0.7 to 1.6 eV and at temperatures between 10 and 300K. The p-type samples with resistivity of ~ 10 ohm-cm were excited by 1 MeV electron pulses of 2.5 μ sec duration from an electrostatic generator. The repetition frequency was 10 cps, and the current density per electron pulse varied between 0.3 and 0.5 mA/cm. Since a 30 hr exposure to this type of irradiation did not affect the recombination

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ACCESSION NR: AP4034920

radiation spectrum, it was assumed that the effect of the formation of radiation defects could be neglected. It was found that at 10K the recombination radiation spectrum consists of three intense bands with maxima at photon energies of 1.05 ± 0.01 , 1.47 ± 0.01 , and 1.59 ± 0.01 ev. The short-wave emission band is located in the region of the fundamental absorption band. Analysis of the data shows that vertical transitions with emission of optical phonons with zero momentum occur in CdTe and that the probability of such processes is high. According to criteria developed in: Basov, N. G., O. N. Krokhin, Yu. M. Popov. ZhETF, v. 4, 1961, p. 1203, it may, therefore, be possible to obtain laser action in CdTe at low temperatures when the nonequilibrium charge carrier concentration is considerably smaller than that corresponding to the degenerate state. Orig. art. has: 6 figures.

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR
(Physics Institute, AN SSSR)

Card 2/3

ACCESSION NR: AP4034920

SUBMITTED: 20Nov63

DATE ACQ: 20May64

ENCL: 00

SUB CODE: PK

NO REF SOV: 004

OTHER: 006

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VAVILOV, V.S.; ROLLE, E.L.; YEGOROV, V.D.

Recent data on the spectrum of recombination emission in cadmium
telluride following electron excitation. Fiz. tver. tela 7 no.3:
934-936 M_r '65. (MIRA 18:4)

1. Fizicheskiy institut imeni Lebedeva AN SSSR. Moskva i
Moskovskiy gosudarstvennyy universitet.

EWG(m)/EWP(k)

L 2982-66 EWA(k)/FBD/EWT(1)/EWT(m)/EEC(k)-2/ETC/T/EWF(t)/EWP(b)/EWA(m)-2/EWA(h)

ACCESSION NR: AP5023360 SCTB/LJP(c) WG/RDW/JD UR/0020/65/164/001/0073/0074

AUTHOR: Vavilov, V. S.; Nolle, E. L.

66
63
B

TITLE: Cadmium telluride⁴⁴ electron-beam pumped CdTe laser

SOURCE: AN SSSR. Doklady, v. 164, no. 1, 1965, 73-74

TOPIC TAGS: laser, semiconductor laser, CdTe, electron beam laser, recombination radiation ⁴⁴

ABSTRACT: The authors report attaining laser action in CdTe pumped by a beam of electrons. A sample 0.4 x 0.4 x 0.4 mm was cleaved from n-type CdTe with a hole concentration of 10^{14} cm^{-3} at room temperature. The polished front face of the sample was perpendicular to the two polished faces forming the cavity. The sample was attached to the cold finger of a cryostat maintained at 10-15K. The beam of 150-kev electrons was incident on the front face of the sample. The beam current was supplied in 0.4- μ sec pulses at a rate of 10 pulses per second. The short-wavelength radiation emitted perpendicular to the polished faces forming the cavity was shifted 20-30 \AA toward the longer wavelengths, as compared with radiation emitted from the front face exposed to the electron beam. When the current density was increased from 0.3 to 1 amp/cm², the intensity of emission increased.

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ACCESSION NR: AP5023360

3

by approximately two orders of magnitude (see Fig. 1 of Enclosure). Simultaneously, the width at half maximum decreased from 25 Å to approximately 3 Å (Fig. 2). At a current density of 1 amp/cm² the divergence in the horizontal plane perpendicular to the front face was about 15°. At an input power of the exciting electrons equal to 300 w, the output power within a solid angle of 15° was not less than 0.3 w. The narrowing of the spectral line to a value less than kT , a sharp increase in intensity, and the appearance of directionality at a current density of 1 amp/cm² indicated the onset of stimulated emission. The stimulated emission was attributed to exciton transitions. Orig. art. has: 2 figures. [CS]

ASSOCIATION: Fizicheskiy Institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR) _{u4}

SUBMITTED: 25Jan65

ENCL: 02

SUB CODE: EC

NO REF SOV: 008

OTHER: 002

ATD PRESS: 4109

Card 2/4

L 2982-66

ACCESSION NR: AP5023360

ENCLOSURE: 01

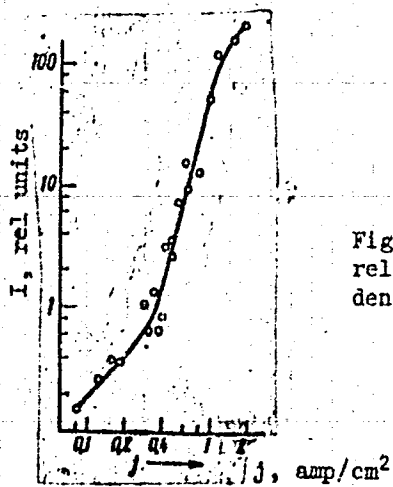


Fig. 1. The intensity of emission I (in relative units) as a function of current density j

Card 3/4

I. 2982-66

ACCESSION NR: AP5023360

ENCLOSURE: 02

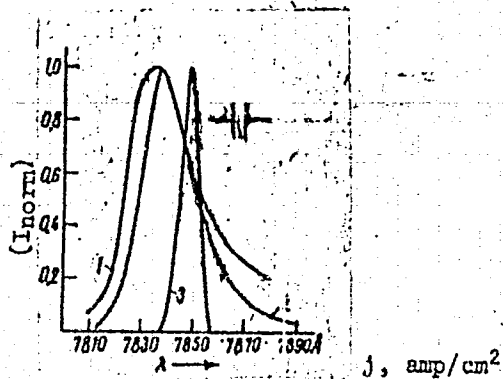


Fig. 2. Variation of the linewidth with the current density

- 1 - $j = 0.3 \text{ amp/cm}^2$; 2 - $j = 0.54 \text{ amp/cm}^2$;
- 3 - $j = 1.1 \text{ amp/cm}^2$.

BVK
Card 4/4

I 20/01-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(o) RDW/JD
ACC NR: AP6003819 SOURCE CODE: UR/0181/66/008/001/0286/0287

45

AUTHOR: Nolle, E. L.; Vavilov, V. S.; Golubev, G. P.; Mashtakov, V. S.

B

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Induced radiation of cadmium selenide due to electron excitation

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 286-287

TOPIC TAGS: light radiation, radiation intensity, light emission, light excitation

ABSTRACT: An attempt was made to obtain stimulated emission of light from calcium selenide excited with electron pulses. A specimen having the form of a rectangle parallelepiped $600 \times 400 \times 50 \mu$ was used for observation of the emission. The electron beam was incident on the largest surface of the specimen, while the emission was recorded from the specimen's side faces, the distance between which was 600μ . The measurements were made at 80K. The observation of emission from the side faces showed that the maximum of the spectral band is shifted by 35 Å to the longwave side as compared with emission recorded from the forward face irradiated with electrons. When current density was increased from 1 amp/cm^2 , a sharp increase in emission intensity was observed along with the simultaneous appearance of the directional effect of emission and a decrease of the width at the half-height of the band from 80 to 15 Å. At a current density of 2.5 amp/cm^2 , the emission spectrum has an equidistant struc-

Z

Card 1/2

L 20491-66

ACC NR: AP6003819

ture in the form of separate stages located 2.6 \AA from each other. These stages apparently are associated with the resonator modes. The maximum of emission was at $\lambda = 6950 \text{ \AA}$. The angle between the directions corresponding to the values of emission intensity equal to one-half of the maximum value was 12° at a current density of 2.5 amp/cm^2 . These data indicate that generation of stimulated emission occurs in cadmium selenide. Orig. art. has: 2 figures. [JA]

SUB CODE: 20/ SUBM DATE: 11Aug65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS:

4215

Card 2/2 *LJC*

L 21477-66 EWT(1)/EWT(m)/EWG(m)/EWP(t) IJP(c) RDW/JD/AT

ACC NR: AP6006842

SOURCE CODE: UR/0181/66/008/002/0532/0540

AUTHOR: Vavilov, V. S.; Nolle, E. L.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskii institut AN SSSR)

TITLE: Spontaneous and stimulated emission of recombination radiation of CdTe due to electron excitation 21, 44, 45

SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 532-540

TOPIC TAGS: recombination radiation, recombination emission, single crystal

ABSTRACT: An investigation was made of the emission of recombination radiation by nonalloyed single CdTe crystals due to excitation by 150-kev electrons. An electron tube with a constant high voltage which generated 150-kev electron pulses with a duration time from 0.25 to 10 μ sec was used. A beam of electrons was focused on a spot 1 mm in diameter, where the current density reached 3 amp/cm². The free path of 150-kev electrons in CdTe was about 40 μ . The emission spectrum of CdTe due to electron excitation consisted basically of four bands with photon energies close to 1, 1.4, 1.55, and 1.59 ev at T = 10K. It was possible that the emission bands at 1 and 1.55 ev in CdTe not

Card 1/2

L 21477-66

ACC NR: AP6006842

alloyed with impurities were associated with recombination through single- and double-charged acceptor vacancies of cadmium, whose energy levels are $E_v + 0.05$ and $E_c - 0.6$ eV, respectively. The emission band at 1.47 eV could be associated with recombination through foreign impurities. The intensity of the shortwave band increased exponentially with the temperature decrease $I \sim T^{-n}$, where $n = 0.5-1.5$, thus indicating the absence of a thermal barrier. The intensity of the band also increased with the excitation level according to the square law. At high excitation levels the intensity dependence changed into a linear one in the case of the highest-purity CdTe specimens, thus indicating the predominance of radiation emission recombination. Apparently, the shortwave emission band was linked with the annihilation of excitons. A direct coherent stimulated radiation emission of CdTe was observed in a region corresponding to the annihilation of excitons at a current density exceeding 0.3 amp/cm^2 for 10K and 1 amp/cm^2 for 80K. Orig. art. has: 1 formula and 8 figures. [JA]

SUB CODE: 20/ SUBM DATE: 11May65/ ORIG REF: 011/ OTH REF: 010
ATD PRESS: 4/2/8

Card 212 dda

L 32642-66 EWT(1)/EWP(c)/EWI(m)/EWP(c)/ETI IJP(c) JD/WII
ACC NR: AP6015473 (A) SOURCE CODE: UR/0101/66/000/005/1522/1527

AUTHOR: Vavilov, V. S.; Golubev, G. P.; Konorova, Ye. A.; Nolle, E. L.; Sergiyenko, V. F.

ORG: Physics Institute im. T. N. Lebedev AN SSSR, Moscow (Fizicheskiy institut AN SSSR) 53 B

TITLE: Recombination radiation of diamonds during excitation by electrons

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1522-1527

TOPIC TAGS: recombination radiation, diamond, excitation spectrum, electron beam

ABSTRACT: The authors study the recombination radiation spectrum of a diamond near the fundamental absorption edge and in the visible region. A pulsed beam of 150 kev electrons was used for excitation. The pulse duration was variable from 1.3 to 12 usec with a prr of 10 cps. The current density in the beam could be raised to 2 a/cm². The recombination radiation spectrum extended in the visible region from 580 to 320 mμ. Some specimens showed a narrow band with a maximum at 389 mμ. The radiation spectrum in the ultraviolet region consists of three bands with maxima at 235, 242.3, and 250 mμ. The integral intensity of the fundamental radiation band (maximum 235 mμ) is only 0.5-1% of the integral radiation intensity in the visible region. It is assumed that the bands at 242.3 and 250 mμ are phonon repetitions of the band at 235 mμ.

Card 1/2

L 32642-66

ACC NR: AP6015473

When the curve for this band is extended along the axis for phonon energy it appears asymmetric with a form approaching Maxwell distribution, which indicates that the radiation is due to recombination of free particles. The shape and position of the ultraviolet radiation bands, and the effect of excitation level and temperature on luminescence intensity show that luminescence is caused by annihilation of excitons with simultaneous radiation of phonons. Orig. art. has: 5 figures, 3 tables. [14]

SUB CODE: 20/

SUBM DATE: 21Oct65/

OTH REF: 006/

ATD PRESS: 5125

Card 2/2

Do

L 40050-66 EWT(1)/T IJP(c)---AT

ACC NR: AP6022024

SOURCE CODE: UR/0120/66/000/003/0176/0179

AUTHOR: Vavilov, V. S.; Nolle, E. L.; Yegorov, V. D.; Golubev, G. P.; Mashtakov, V. S.

ORG: Institute of Physics, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

47
B

TITLE: Outfit for studying the recombination radiation of electron-excited semiconductors

SOURCE: Pribery i tekhnika eksperimenta, no. 3, 1966, 176-179

TOPIC TAGS: semiconductor research, recombination radiation

ABSTRACT: Connected with the outfits described by C. Benoit et al. (Physics of Semiconductors, Paris, Dunod, 1964), an improved outfit developed by the authors is capable of exciting semiconductors by 150-keV electron pulses that have a current density of 3 amp/cm²; pulse duration, 0.25--10 μsec; repetition rate, up to 30 cps. Stimulated radiation of cadmium telluride was achieved in this outfit for the first time. An electron tube with a constant high voltage and a pulsed grid modulation is used for high-power electron excitation of semiconductors; a 20-section steatite tube has been actually used. A block diagram of the outfit, principal circuits of the pulse generator and synchronous detector, and the pulse shape of the electron beam are shown. A He cryostat permits studying the recombination radiation of semiconductors at temperatures down to 10K. "The authors wish to thank S. I. Vintovkin, V. S. Ivanov, and B. D. Kopylovskiy for their valuable advice connected with the development of the outfit." Orig. art. has: 4 figures. [03]

SUB CODE: 20, 09 / SUBM DATE: 25May65 / ORIG REF: 004 / OTH REF: 002

UDC: 539.293

Card 1/1 *gd*

ACC NR: AF7005333

SOURCE CODE: UR/0181/67/009/001/0122/0128

AUTHOR: Nolle, E. L.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Recombination via exciton states in semiconductors

SOURCE: Fizika tverdogo tela, v. 9, no. 1, 1967, 122-128

TOPIC TAGS: semiconductor carrier, exciton, radiative recombination, electron recombination, stimulated emission, impurity center

ABSTRACT: The purpose of the study was to clarify the role of excitons in the recombination of electrons and holes in semiconductors by analyzing the statistics of recombination via exciton states. A relation is derived between the exciton binding and dissociation coefficients and an equation obtained for the recombination rate with account taken of the additional recombination via impurity centers and of the radiative interband recombination. It is shown that the rate of recombination via exciton states can exceed the rate of interband radiative recombination at values of kT both higher and lower than the exciton binding energy. Various recombination parameters (forbidden band width, exciton lifetime, binding coefficient, and ratio of exciton and interband recombination) are estimated for a number of semiconductors (Ge, Si, GaAs, CdTe, CdS, ZnS). The stimulated emission from semiconductors in the presence of exciton states and the statistics of recombination with account taken of

Card 1/2

UDC: none

ACC NR: AP7005333

capture of the exciton by impurity centers is also discussed. It is shown that for the most part the conditions for stimulated emission are not satisfied in the presence of exciton states. In the case of low excitation level, the recombination rates of captured and of free excitons follow the bimolecular law. Under certain conditions, the recombination rate of the captured excitons may exceed that of the free electrons. The author thanks V. S. Vavilov for interest in the work and B. M. Vul, Yu. A. Kurskiy, M. V. Fok, and V. A. Chuyenkov for a discussion of the results. Orig. art. has: 2 figures, 15 formulas, and 1 table. [02]

SUB CODE: 20/ SUBM DATE: 30May66/ ORIG REF: 009/ OTH REF: 010/
ATD PRESS: 5116

Card 2/2

HOLLE, L.I.

Clinical aspects and therapy of toxic forms of Filatov's disease
(acute mononucleosis). Klin.med., Moskva no.4:48-51 Ap '50.
(CML 19:3)

1. Riga.

NOELLE, L. YA

22717 Nolle, L. Ya Klinicheskoye Znachenie Vitamina K Pri Krovotekheniyakh
Yazvennoi Oopezni I Khirurgicheskikh Operatsiyakh. Zdravookhranehnyy Sov
Patv, So. Z, 1949, S. 62-72.: Rezyumee Na Patysh. Yaz.

SO: Letopis', No. 30, 1949

NOLLE, L. Ya.

Polyarthrits syndrome in the pre-ictoric period of Botkin's disease. Klin. med., Moskva 29 no.7:52-55 July 1951. (CIHL 20:11)

1. Candidate Medical Sciences. 2. Riga.

~~MOLLE, I. Ya.~~, kandidat meditsinskikh nauk (Riga); LAZAREVA, H.S. (Riga);
MATS, Ye.I. (Riga)

Vaidman's test in Botkin's disease. Klin.med. 32 no.3:81 Nr '54.
(MIRA 7:5)
(Hepatitis, Infectious)

NOILE, I.Ya., kand.med.nauk; SHTERNBERG, D.B., kand.med.nauk

Candidomycosis of the internal organs. Sov.med. 22 no.3:92-99
№ '58. (MIRA 11:4)

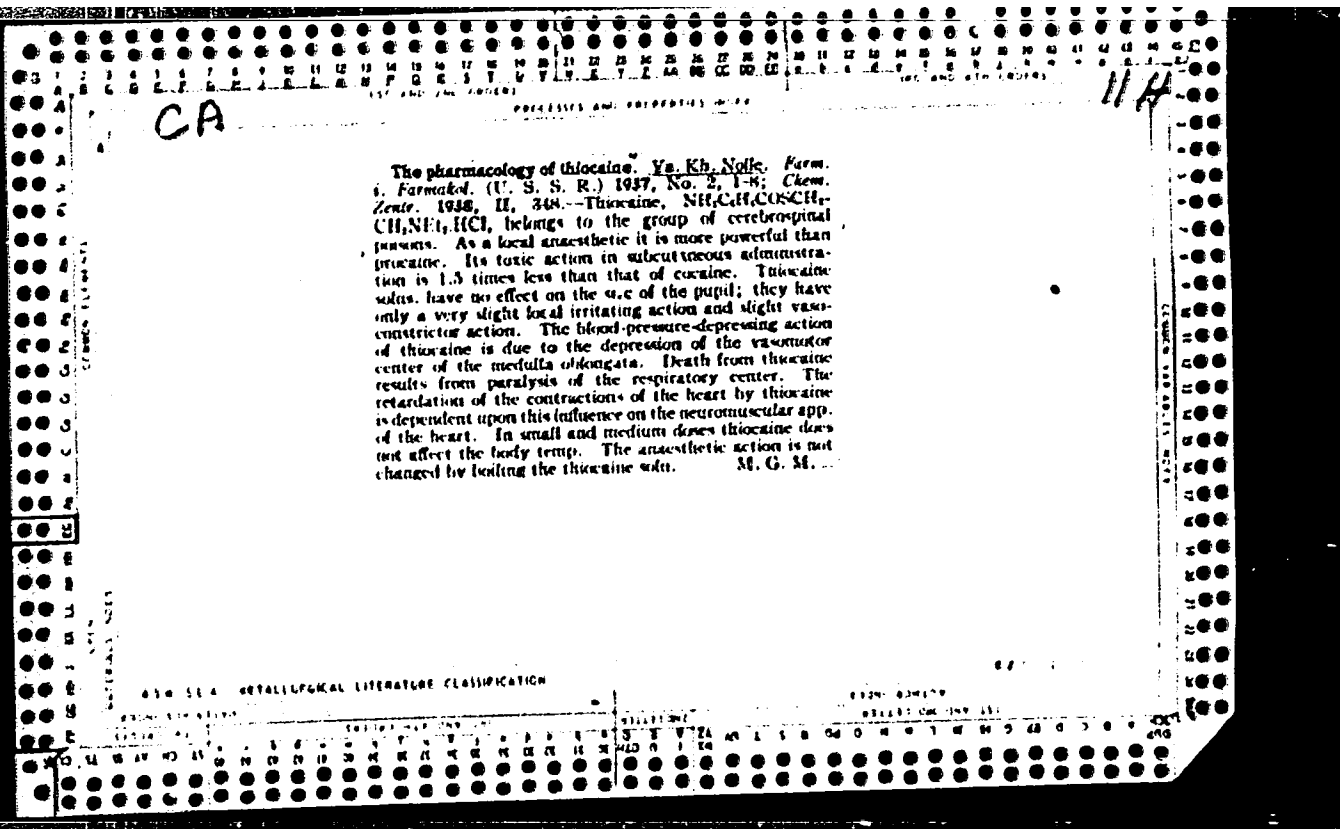
1. Iz patologoanatomicheskogo otdeleniya (zav. - prof. Ye.Ye. Gertsenberg) 6-y Gorodskoy klinicheskoy bol'nitsy (glavnyy vrach N.S.Shevyakov) Moskvy.

(MONILLIASIS, etiol. & pathogen.

internal organs, caused by antibiotic ther. (Rus))

(ANTIBIOTICS, inj. eff.

monilliasis of internal organs (Rus))



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112

Comparison of the action of Russian and imported acet. Yu. K. Nofe. *Farmatsiya i Farmakol.* 1937, No. 3, 6-7; *Chem. Zentr.* 1938, I, 2406. — The pharmacol. action of the product synthesized in Russia was compared with that of the prepn. of Riedel. The toxicities of the 2 prepn. were identical for white mice. With dogs the 2 prepn. in equal doses produced a quiet sleep lasting for several hrs. By intravenous injection both produced a reduction in blood pressure lasting for a short time without weakening the heart action. M. G. Moroz

COMMON ELEMENTS

COMMON VARIABLE ELEMENTS

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED

RECORDED FILED

RELATIONS

SEARCHED INDEXED

RECORDED FILED

RELATIONS

137 AND 138 546(12) PROCESSED AND PROPERTIES INDEX THE 137 AND 138 546(12)

CA 17

Stability and activity of some digitalis drugs. *in vitro* and *in vivo*. *Pharmazie* 6, No. 6, 25-6 (1943).—Solid digitalis preparations (tablets and powders) are stable and offer the most prolonged and most powerful action. Liquid preparations soon change and cease to be constant in activity. The inactivity, because of its high content of inactive ingredients which accelerate deterioration of the active glycosides, should be barred from the Pharmacopoeia.

ASB-514 METALLURGICAL LITERATURE CLASSIFICATION

137 AND 138 546(12) PROCESSED AND PROPERTIES INDEX THE 137 AND 138 546(12)

1. NOLLE, YA. KH.
2. SSSR (600)
4. Valerian
7. Biological method of evaluating valerian preparations.
Apt. delo No. 2, 1952

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

BELOVA, O.I.; HOLLE, Ya. Kh., professor, zaveduyushchiy farmakologicheskoy laboratoriyey; KUTOMOVA, Ye. N., direktor, zaveduyushchaya Tsentral'nyy nauchno-issledovatel'skim aptechaya institutom.

Liquid extract of Magnolia grandiflora as a new drug. Apt. delo 2 no. 2165-66 Mr-Ap '53. (MLBA 6:5)

1. Farmakologicheskaya laboratoriya Tsentral'nogo nauchno-issledovatel'skogo aptechnogo instituta Ministerstva zdavookhraneniya SSSR.
(Magnolia) (Hypertension) (Drugs)

LEVIN, A.I.; LETSIKH, Ye.S.; MUKHIN, V.A.; NOMBERG, M.I.

Balance of cell voltage and ways to economize electric power in the electrorefining of copper. *Izv.Vys. ucheb. zav.; tevet. met.* 5 no.1: 62-71 '62. (MIRA 15:10)

1. Ural'skiy politekhnicheskii institut, kafedra tekhnologii elektrokhimicheskikh proizvodstv.
(Copper—Electrometallurgy)

LEVIN, A.I.; NOBERG, M.I.

Optimum current density in the electrorefining of copper. (MIRA 16:1)
Isvet. mat. 35 no.9:29-37 8 '62.
(Copper—Electrometallurgy)

LEVIN, A.I.; LETSIKH, Ye.S.; MUKHIN, V.A.; NOMBERG, M.I.

Balance of bath voltage and ways to improve the operation of
electrolytic cells in copper electrolysis plants. TSvet. met.
35 no.11:52-57 N '62. (MIRA 15:11)
(Copper--Electrometallurgy)

NGMEROV, B.A.

Some methods of selecting rose seedlings according to morpho-physiological indices. Nauch.dokl.vys.shkoly; biol.nauki no.4:193-195 '65. (MIRA 18:10)

1. Rekomendovana Botanicheskim sadom Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

NOMEROV, Boris Aleksandrovich; POMALEN'KAYA, O.T., red.; GEORGIYEVA,
G.I., tekhn. red.

[Culture and varieties of roses in Moscow Province] Kul'tura
i sorta roz Moskovskoi oblasti. Moskva, Izd-vo Mosk. univ.,
1962. 192 p. (MIRA 16:2)
(Moscow Province--Roses)

NOMEROV, Boris Aleksandrovich; POMALEN'KAYA, O.T., red.

[Cultivation of roses in the central zone of the U.S.S.R.]
Kul'tura roz v srednei polose SSSR. 2. dop. izd. Moskva,
Izd-vo Mosk. univ., 1965. 220 p. (MIRA 18:7)

LEVIN, Aron Iosifovich; NOMBERG, Meyer Izrailevich

[Electrolytic refining of copper; handbook for an electrolytic cell operator] Elektroliticheskoe rafinirovanie medi; spravochnoe posobie elektroliznika. Moskva, Metallurgizdat, 1963. 216 p. (MIRA 17:12)

NOMEROV, B.A.

Fruit setting in selecting different parental pairs of roses.
Vest. Mosk. un. Ser. 6: Biol., pochv. 18 no.5:48-50 S-C '63.
(MIRA 16:10)

1. Botanicheskiy sad Moskovskogo universiteta.

НОМІКОС, 4.1

62

Conductivity of the liquid and cross-section of fused ternary reciprocal systems: I. N. Belyaev, A. G. Bergman, and L. I. Namikova (State Univ. Rostov-on-Don). *Doklady Akad. Nauk S.S.S.R.* 91, 1103-4 (1953).—Sp. cond. of the stable system: $AgCl-Tl_2SO_4$ and the unstable system $TlCl-Ag_2SO_4$ in the liquid phase in the system $Tl-Ag||Cl_2SO_4$ and the unstable section $TlBr-Ag_2SO_4$ in the system $Tl-Ag||Br_2SO_4$ were measured by a previously described method (C.A. 47, 2028). Isothermal curves of the cond. for the stable section $AgCl-Tl_2SO_4$ drop from the more conducting $AgCl_2$ to the less conducting Tl_2SO_4 . These isotherms are similar to the isotherms of the sp. cond. for the common systems with the eutectic point on the liquidus curves. The isotherms for the unstable section have sharp min. corresponding to the formation of Tl_2SO_4 and $Ag_2SO_4.Tl_2SO_4$. The min. cond. which corresponds to the formation of Tl_2SO_4 is less than the min. cond. of $Ag_2SO_4.Tl_2SO_4$. In the fused state of the three-component systems the equilibrium is displaced to the stable pair of salts or to the less dissociated components similar to ideal binary systems. In the case of fused salts in which exchange reaction or complex formation take place the components are incompletely dissociated. M. C.

KRYUKOV, P.A.; NOMIKOS, L.I.; AVGUSTINSKIY, V.L.; POGOREL'SKIY, N.S.

Rock solutions in the region of the Caucasian mineral waters.
Dokl. AN SSSR 157 no.5:1118-1120 Ag '64. (MIRA 17:9)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN
SSSR. Predstavleno akademikom A.P. Vinogradovym.

KOMIKOS, L.I.

~~Significance of the pH value in mercurimetric determination of~~
chlorine ions. *Gidrekhin.mat.*24:51-52 '55. (MIRA 9:4)

1. *Gidrekhimicheskiy institut Akademii nauk SSSR, g. Novecherkassk.*
(Water, Underground) (Water--Analysis)

НОМИКОС, Л.И.; МЕГОПИК, И.Я.; КРЫКОВ, П.А.

Colorimetric determination of magnesium with titan yellow.
Gidrekhim.mat.24:52-55 '55. (MIRA 9:4)

I.Gidrekhimicheskiy institut Akademii nauk SSSR, g. Novocherkassk.
(Water, Underground) (Water--Analysis)

НОМИКОВ, Ю. П.

Effect of clay crust thickness on oil well cementing. Study
Akad. neft. prom. no. 2:167-184 '55. (MIRA 8:5)
(Oil well drilling)

NOMIKOSOV, Yu. P.

Moscow Order of Labor Red Banner Petroleum Inst imeni Academician I. M. Gubkin

NOMIKOSOV, Yu. P.- "Some problems of increasing the quality of cementing of oil wells."
Moscow Order of Labor Red Banner Petroleum Inst imeni Academician I. M. Gubkin.
Moscow, 1956.

(Dissertation for the Degree of Candidate in Technical Sciences.)

SO: Knizhnaya Letopis' No. 13, 1956.

NOMIKOSOV, Yu.P.

Basic problems relative to the organization and cost reduction
of drilling operations in the West Siberian Plain based on the
studies of the Novosibirsk Territorial Geological Administration.
Trudy SVIIGGIMS no.18:166-181 '61. (MIRA 16:7)
(West Siberian Plain--Oil well drilling--Costs)

NOMIKOSOV, Yu.P.

Studying the causes of pipe freezing. Controlling the freezing
of pipes by means of water. Trudy SNIIGGIMS no.18:182-191 '61.
(MIRA 16:7)

(Oil well drilling)

NOMIKOSOV, Yu.P.

Freezing of drill pipes in wells. Neft. khoz. 42 no.7:17-23
J1 '64. (MIRA 17:8)

NCMIKOSOV, Yu. F.

Stand for investigating the fracture of rock under high pressure.
Voprosy.davl. no.22:68-70 '82.

(MIRA 18:6)

1. Institut gornogo dela Sibirskogo otdeleniya AN SSSR.

Nomm E.

USSR/Diseases of Farm Animals - Diseases Caused by Viruses
and Rickettsiae.

R-3

Abs Jour : Ref Zhur - Biol., No 14, 1958, 64649

Author : Nomm, E.

Inst : -

Title : On Infectious Anemic in Horses and on Measures for
Preventing It.

Orig Pub : Eesti Pollumaj. Akad. teaduslike toode kogumik; Sb.
nauchn. tr. Est. s.-kh. akad., 1957, 3, 268-277.

Abstract : No abstract.

Card 1/1

- 14 -

~~NYM~~ ~~E.M.~~ [Noma, E.]; SAPOGOV, A.G.; SAPAROV, S.; SHAKHMARDANOV, Z.A.,
kand. veter. nauk; GRITSENYUK, N.

Throughout the Soviet Union. Veterinariia 37 no.1:94-96 Ja '60.
(MIRA 16:6)
(Veterinary medicine) (Kovalev, Saveli Leonovich, 1911-1959)

NÕMM, Ewald, dots., kand. veter. nauk; AVARSOO, H., red.; TÕNISSON, A.,
tekhn. red.

[Organization of veterinary medicine] Veterinaarorganisatsioon.
Tallinn, Eesti riiklik kirjastus, 1961. 247 p. (MIRA 15:5)
(Veterinary medicine)

KOMM, L.

Preliminary data on dusting seed clover with DDT. p.452

SOTSIALISTLIK PÕLLUMAJANDUS. Tallinn, Estonia. Vol. 14, no. 10, May 1959

Monthly List of East European Accessions (EEAI), IC. Vol. 8, No. 9, September 1959
Uncl.

Nomofilov, A. A.

20-6-12/42

AUTHORS: Bannik, B. P., Kopylova, D. K., Nomofilov, A. A.;

TITLE: Capture of a K^- -Meson With Emission of ΛH_2^5 (Zakhvat K^- -mezona s ispuskaniyem ΛH_2^5)

PERIODICAL: Doklady AN SSSR, 1957, Vol.116, Nr 6, pp. 939-942 (USSR)

ABSTRACT: The capture of a K^- -meson with subsequent emission of a ΛH_2^5 hyper-fragment was found in a stack of photoemulsions irradiated in great light. This capture is illustrated in a sketch. The particle entered the stack from outside, passed over a distance of 27,3 mm in the emulsion and subsequently stopped by producing a σ -star. Both from the range and the scattering of the particle $m = (823 \pm 160) m_e$ was found for the mass of the particle and from the ionization measurements resulted $m \approx 700 m_e$. Apparently a K-meson is concerned. A black trace of this star ends with a further star from which a pion is emitted. The second star occurred apparently with the decay of the stopped hyper-fragment into three charged particles. Each of these particles has the charge $Z \leq 2$. The scheme of decay of this star has the form $\Lambda H_2^5 - He^4 + p + \pi$. The kinetic energy of the decay products amounts to $Q_k = (34,2 \pm 0,4) MeV$. The total of the momenta of the formed particles $p = (13 \pm 26) MeV/c$. With this decay also a neutron with very little energy could be emitted. In this case the scheme of decay would be as follows: $\Lambda H_2^5 - He_2^4 + p + n +$

Card 1/2

Capture of a K^- - Meson With Emission of ΛH_2^5 .

20-6-12/42

+ π^- . The subsequently discussed cinematic analysis of the primary star allows a more precise identification of the hyper-fragment. F. In this case all possible combinations from 2, 3, 4 and 5 particles of the primary star are taken into consideration. It is not impossible that the hyperfragment can sometimes be formed in excited state and then by emission of a γ - quantum passes over into the ground state. In the concrete case investigated here, two combinations of particles are possible for which the binding energy B assumes none-negative values: 1st combination: ΛH_2^5 and p occurred with the decay of the excited hyperfragment ΛLi_3^6 . The binding energy amounts to $B_{\Lambda}^* = (2,2 \pm 0,7)$ MeV. The energy of the proton amounts to $E_p = (10,6 \pm 0,2)$ MeV in the center-of-gravity system. 2nd combination: ΛH_2^5 and n were formed with the decay of the excited hyper-fragment ΛLi_3^6 . The binding energy amounts to $B_{\Lambda}^* = (-0,9 \pm 2,0)$ MeV. The energy of the neutron in the center-of-gravity system amounts to $E_n = (9,9 \pm 1,1)$ MeV. There are 1 figure, 1 table, and 4 non-Slavic references.

ASSOCIATION: ^{United} Institute of Nuclear Research (Ob'yedinennyy institut yadernykh
 PRESENTED: June 1, 1957, by N.N. Bogolyubov, Academician issledovaniy)
 SUBMITTED: May 25, 1957
 AVAILABLE: Library of Congress
 Card 2/2

Nomofilov A. A.

AUTHORS: Bannik, B. P., Gulyanov, U. G., Kopylova, D. K., 56-2-3/51
Nomofilov, A. A., Podgoretskiy, M. I., Rakhimbayev,
B. G., Usmanova, M.

TITLE: Hyperfragments in Nuclear Emulsions (Giperfragmenty v yadernykh emul'siyakh)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol 34, Nr 2, pp 286-297 (USSR)

ABSTRACT: The present work investigates the properties and the relative frequency of the production of hyperfragments in two emulsion chambers, which are exposed to cosmic irradiation in the stratosphere. One of the chambers consisted of 600 μ thick emulsion layers of the Ilford type (Il'ford) G-5 and had been irradiated during the international expedition in the Po plains, the second chamber consisted of $\text{EMK}\Phi\text{H}$ layers of the P type (thickness 400 μ) and was irradiated in the Soviet Union. In this investigation shortly discussed here 6 T -mesons, 1 T -meson, 1 Λ^0 -particle, 4 K^- -mesons, 1 Σ^- -hyperon and 5 hyperfragments (of which 5 decayed with the emission of one pion) were found. Not one decay of a Σ^+ -hyperon or of a K^+ -meson was found, because the method used for

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Hyperfragments in Nuclear Emulsions

56-2-3/51

investigating the emulsion layers excluded the determination of such particles. In all cases the traces of secondary pions were coplanar within $2-3^\circ$. The decay of a particle with the mass $(860 \pm 50)m_e$ is shown by means of a diagram; this is obviously the decay $\tilde{J} \rightarrow \pi^+ + \pi^0 + \pi^0$ with the subsequent decay $\pi^0 \rightarrow \gamma + e^+ + e^-$. The mass of the K^- -meson was determined from the multiple scattering as well as from the remaining range and amounted to $(1100 \pm 250)m_e$. One of the particles developing in the five-membered star causes a small secondary destruction. With all possible variants of nuclear capture the total energy output is considerably greater than $m_\pi c^2$. The same applies to two of the three other σ_K -stars, too. Obviously all σ_K -stars found here developed in capturing K^- -mesons in the light nuclei of the emulsion. In the present work 10 hyperfragments were found which correspond to the criteria suggested by A. Filipkovskiy et al. (ref. 7). (Of these 10 hyperfragments five ended by mesonless decay, the remaining 5 by mesonic decay). For these processes decay the following decay schemes are proposed: $\Lambda He_2^2 \rightarrow He_2^2 + p + \pi^-$, $\Lambda He_2^2 \rightarrow He_2^2 + p + \pi^-$, $\Lambda He_2^5 \rightarrow He_2^5 + p + \pi^-$, $\Lambda He_2^4 \rightarrow He_2^4 + \pi^-$, $\Lambda Li_7^7 \rightarrow He_2^4 + 2p +$

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Hyperfragments in Nuclear Emulsions

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+ n + π^- . There are 4 figures, 3 tables, and 17 references, 5 of which are Slavic.

ASSOCIATION: United Institute for Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy) Tashkent Physico-technical Institute (Tashkentskiy fiziko-tekhnicheskiy institut)

SUBMITTED: July 12, 1957

AVAILABLE: Library of Congress

1. Nuclear emulsions-Hyperfragments determination

Card 3/3

AUTHOR:

Nomofilov, A. A.

20-1-15/58

TITLE:

τ' -Meson Decay With the Creation of an Electron-Positron Pair
(Vozmozhnyy sluchay raspada τ' -mezona s vyletom elektronno-
pozitronnoy pary).

PERIODICAL:

Doklady AN SSSR 1958, Vol. 118, Nr 1, pp. 59-60 (USSR)

ABSTRACT:

When investigating a staple of emulsions irradiated in the stratosphere L. U. Vannik found a decay of a heavy meson with the production of a pion as well as of an electron-positron pair. The heavy meson was produced in a star $\zeta + \text{On}$ with small energy separation. After 17 mm the heavy meson came to a stop within the emulsion. The mass of the particle is $m_1 = (860 \pm 50)m_e$ and was determined from the characteristics of the trace as well as from the residual range. The different traces occurring at this act of decay are shortly described. The geometrical data of this decay as well as the results of the measurements taken of the single traces are mentioned in a table. In this case we have obviously to deal with a decay of a τ' -meson $\tau' \rightarrow \pi^+ + \pi^0 + \pi^0$ with a subsequent decay $\pi^0 \rightarrow \gamma + e^+ + e^-$. As about 100 acts of decay have been found hitherto the act of decay discussed here did not occur completely unexpected. After the author had written this report he came to see a first

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γ '-Meson Decay With the Creation of an Electron-Positron Pair. 20-1-15/58

print of a work of Levi-Setti and Slater in which an analogous case was described.

There are 1 table, 1 figure, and 7 references.

ASSOCIATION: United Institute for Nuclear Research
(Ob"yedinennyy institut yadernykh issledovaniy).

PRESENTED: June 6, 1957, by N. N. Bogolyubov, Academician.

SUBMITTED: June 1, 1957

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Card 2/2

№ 0 f. 10 v. A. A

21(7)
AUTHORS:

Bayatyan, G. L., Gerasimovich, G. D., Komolov, A. A.,
Fedotkin, A. I., Shchepetov, A. I.

807/36-36-3-6/71

TITLE:

The Production of α -Mesons in the Interaction Between Protons
With Energies of ~ 9 Bev and Photomission Muons (μ -mesons)
 α -mesonov pri vzaïmodeystviiakh protonev s energiyey ~ 9 bev
s μ -mezoni fotoemal'sii)

PERIODICAL:

Izurnal eksperimental'noy i teoreticheskey fiziki, 1959,
Vol. 36, Pt. 3, pp. 690-693 (USSR)

ABSTRACT:

For the purpose of solving the problem of the interaction of
high-energy particles, it is of interest to trace the energy
region ϵ carried off by secondary muons. Grigorov and
Boris (Ref. 1) determined the energy ϵ of muons in the
interaction between particles ($E \sim 10^{10}$ ev) and light nuclei.
The present paper deals with investigations of the average
energy of α -mesons produced by ~ 9 Bev protons on photo-
emission of muons. KIMF emulsions of the type K (450 μ) were
used. Proton irradiation was carried out on the synchrotron
of the OJAI. Investigation was indirect; the electron-
positron pairs were investigated which had been produced by
the γ -quanta originating from π^0 -decay. For $E = 9.40/9.6$ an

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807/36-36-3-6/71

The Production of α -Mesons in the Interaction Between Protons With Energies
of ~ 9 Bev and Photomission Muons

estimate is $E \sim 0.5$. Figure 1 shows the measured distribution
of the angles of emission of electron-positron pairs, of the
fast charged particles of stars, found by following the traces
of primary protons and of stars, found by following the fast
secondary particles. For $E = 9.40/9.6$ and $E = 4.5/20.7$ is
obtained, which agrees well with the values of reference 1.
The mean energy of α -mesons is determined from $\epsilon = E_0/E_1$.
For $\epsilon = 1.0$ $E_0 = 750 \pm 100$ KeV is obtained. The mean energy
generated by a π -meson, according to $E_0 = 3/2 \cdot (m_0 c^2) E_1$, be-
comes $E_0 = 1.04 \cdot 71$. A more exact estimate gives 2.5 ± 0.6 . The
energy E_0 carried off by π -mesons therefore amounts to
 0.31 ± 0.09 of $40.2/20.07$. In conclusion, the authors thank V. Ya.
Bazh for discussing results, and V. P. Solomakhin for
assistance in the work of evaluation. There are 2 figures and
2 references, 5 of which are Soviet.

ASSOCIATION: Ob'edinennyy Institut yadernykh issledovaniy
(Joint Institute for Nuclear Research)

SUBMITTED:
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2004/0070

84580
Soviet

Van Shingen, Heikki, J., Quarmantier, J. H., Stabla,
G. O., Volkman, E., Weber, H. H., Wozniak, A. A.,
Fedorushko, I. I., Sivulsky, V. I.

TITLE: Inelastic Interactions of 9 Bev Protons With Nucleons
SYNOPSIS: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 4(10), pp. 937-960

TEXT: In an earlier work (Ref. 1), the authors carried out the
identification of pions and the measurement of their energies only
for slow particles. In the present work, the study of pp and pn inter-
actions is extended under conditions permitting the measurement of
the angular distribution of fast particles. An H₂K₂H₂F (MIRAC) spectron
was irradiated by 9-bev protons from the proton-synchrotron of the
Akhara Institute. The inelastic pp (161 events) and pn (94 events)
interactions were selected according to the criterion described in Ref. 1.
The average number of charged particles in pp interactions was 3.250±0.10

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and in pn interactions 2.910±0.14. The identification was made according
to Ref. 2 by means of the equation $d/d\phi = f(\phi)$ for pions and protons.
The identification was not certain in the range $(1.5 \leq \phi \leq 2.5)$ sr/s
where the curves for protons and pions intersected one another (Table 1).
The angular distribution of the secondary protons (in a.s.) from pp
interactions was strongly anisotropic; the same was true for the pions
(Fig. 2). The momentum distribution is shown only for the protons emitted
backwards (Fig. 3), because due to spurious scattering only the lower
limit of pp could be determined for forward emission. Fig. 4 gives the
angular distribution of protons in pn interactions, since there was no
difference in the values of angular distribution for pions and protons.
Interactions with multiplicities of 2, 3, and 4 for protons and pions are given in
Tables 2 and 3. The values of $\langle n \rangle$ and $\langle n^2 \rangle$ for protons and pions are given in
Table 2 for lower ($n = 2, 3, 4$) and higher ($n = 5, 6, 7$) multiplicities. The
values of $n = \sqrt{\langle n^2 \rangle}$ for the lower and higher multiplicities are given
in Table 3. The data show that the character of the interaction is only
slightly affected by the number of the secondary charged particles.

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The authors thank Z. I. Rikhsiziar and L. M. Isakhar for discussions.
There are 4 figures, 3 tables, and 7 references: 6 Soviet and 1 U.S.

ASSOCIATION: Ob'yedinennyy Institut yadernykh issledovaniy (Soviet
Institute of Nuclear Research)

SUBMITTED: May 12, 1960

Card 3/3

NUMOFLOW, A. H.

YAN SHU-FEN [Wang-Shu-fen]; VISHKI, T.; GRAMENITSKIY, I.M.; GRISHIN, V.G.;
DALKHAZHAY, N.; LEBEDEV, R.M.; KOMOFILOV, A.A.; PODGORNETSKIY, M.I.;
STRELITSOV, V.N.

Inelastic interactions between 9 Bev protons and nucleons. Zhur.
eksp. i teor. fiz. 39 no.4:957-960 O '60. (MIRA 13:11)

I. Ob'yedinennyy institut yadernykh issledovaniy.
(Particles (Nuclear physics))

32991

S/641/61/000/000/018/033
B10S/B102

24.6500

AUTHORS: Mikhaylina, K. M., Nomofilov, A. A., Romanova, T. A.,
Sviridov, V. A., Tikhomirov, F. A., Tolstov, K. D.TITLE: Interaction of 14.1-Mev neutrons with Li^6 and Li^7 SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey.
Moscow, 1961, 249 - 257

TEXT: Interaction of 14.1-Mev neutrons with Li^6 and Li^7 nuclei was studied both with targets prepared from Ilford E₁ photoemulsions bearing the lithium and with targets of metallic lithium isotopes. The latter method was used for small angles of the departing particles. The mean number of Li nuclei in the photoemulsion was $2.3 \cdot 10^{19} \text{ cm}^{-2}$. The integral neutron flux striking the emulsion at right angles was about 10^8 cm^{-2} . Altogether, 412 events were recorded on a 2.5 cm^2 area. 96 events were from the reaction $\text{Li}^6(n,t)\alpha$ with a cross section $\sigma = 27 \pm 6 \text{ mb.}$ Seven $\text{Li}^6(n,p)\text{He}^6$ reactions with a cross section of about 5 mb were found, moreover

Card 1/2

VISHKI, T.; GRAMENITSKII, I.M.; KORBEL, Z.; NOMOELLOV, A.A.; PODGORETSKIY,
M.I.; ROB, L.; STREL'THOV, V.N.; TUVDENDORZH, D.; KHVASTUNOV, M.S.

Inelastic interactions between protons and nucleons at an energy
of 9 Bev. Zhur.eksp.i teor.fiz. 41 no.4:1069-1075 0 '61.
(MIRA 14:10)

1. Ob'yedinennyi institut yadernykh issledovaniy.
(Protons) (Nucleons)