

SHAMRAYEVSKAYA, T.A., LESNICHY, Yu.N., SHCHEGOLEVSKAYA, N.A.
SOKOLOV, S.I.

Study of the conditions for mutual compensation of the effects due to positive and negative birefringence.

Report presented at the 13th Conference on high-molecular compounds
Moscow, 8-11 Oct 62

SHAMRAYEVSKIY, I.M.; RADCHENKO, V.G.

Technology of making boiler cylinders at the "Krasnyi Kotel'shchik"
plant, Proizv. opyt v obl. svar. no.1:5-27 '56. (MLRA 9:10)

(Boilers--Welding)

10/10/56
BARSHTEYN, I.K., kandidat tekhnicheskikh nauk.; RUBIN, M.M., kandidat tekhnicheskikh nauk.; SIZIN, N.R., inzhener.; SHAMRAYEVSKIY, I.M.; inzhener.; SHUTOV, V.I., inzhener.; YAKUBENKO, A.A., inzhener.

Adjustment and investigation of TP-230-3 boilers with slag-tap furnaces.
Elek. sta 27 no.10:4-12 0 '56. (MIRA 9:12)
(Boilers)

SHAMRAYEVSKIY, S.M.

[Present-day problems in electrosurgery; principle of bi-activity] Sovremennye problemy elektrokhirurgii; printsip biaktivnosti. Moskva, Medgiz, 1950 227 p. (MLRA 8:7)
(Electrosurgery)

SHAMRAYEVSKIY, S.M.

Concentration of solutions in electrophoresis. Vop.kur.fizioter. i
lech.fiz.kul't. 22 no.4:8-11 J1-Ag '57. (MIRA 10:11)
(ELECTROPHORESIS)

SHAMRAYEVSKIY, S.M.

Basic principles of the structure of biactive electrodes. Med.prom.
13 no.10:30-37 0 '59. (MIRA 13:2)

1. Ternopol'skiy meditsinskiy institut.
(ELECTRODES) (ELECTROSURGERY)

SHAMPAYEVSKIY, S.M.

Electrosurgical operation on the skin by the biactive method.
Vop. onk. 6 no.5:62-71 My '60. (MIRA 14:3)
(SKIN--TUMORS) (ELECTROSURGERY)

KOMOROVSKIY, Yu.T., dots.; SHAMRAYEVSKIY, S.M., dots.

Use of biactive electrodes in gastro- and esophagojunoduodeno-
plasty. Nov.khir.arkh. no.11:51-57 '61. (MIRA 14:12)

1. Kafedra obshchey khirurgii (zav. - dots. Yu.T. Komorovskiy)
i kafedra fiziki (zav. - dots. S.M. Shamrayevskiy) Ternopol'skogo
meditsinskogo instituta.

(ELECTRODES) (STOMACH—SURGERY)
(DIGESTIVE ORGANS—TRANSPLANTATION)

PASYNKOV, Yefim Izrailevich. Primal uchastiye SHAMRAYEVSKIY, S.M.,
dots.; MANIKOV, M.Ye., red.; ZUYEVA, N.K., tekhn. red.

[General physiotherapy] Obshchaia fizioterapiia. Moskva,
Medgiz, 1962. 350 p. (MIRA 15:3)
(PHYSICAL THERAPY)

LIPNITSKIY, N.V.; KANTOR, A.A., dotsent; SHAMRAYEVSKIY, S.M., dotsent

Treatment of chronic hypertrophic rinitis by means of special
co. ulating biactive electrodes. Zhur. ush. nos. i gorl. bol.
23 no.6:79 80 N-D '63. (MIRA 17:5)

1. Iz kafedry bolezney ukha, gorla i nosa (zaveduyushchiy - dotsent
A.A. Kantor) i kafedry fiziki (zaveduyushchiy - dotsent S.M.
Shamrayevskiy) Ternopol'skogo meditsinskogo instituta.

ПАВЛОВ, Яефим Израилевич. Prinimall uchastiyo: SHAMRAYEVSKIY,
S.L., dots.; FRITZLOV, K.N., kand. med. nauk; MANIKOV,
K.Ye., red.

[Physiotherapy] Fizioterapiia. Izd.2. Moskva, Meditsina,
1966. 310 p. (MIRA 19:1)

ZINCHENKO, A.P.; SHAMREY, R.K.

Neuroallergic pathogenesis of multiple sclerosis. Vop.
psikh. i nevr. no.9:214-226 '62. (MIRA 17:1)

I. Voenno-meditsinskaya ordena Lenina akademiya imeni
Kirova.

SHARBEY, P.K. (Leningrad)

Brain tissue auto-antibodies in neural diseases. Zhur. nevr. i
psikh. o3 no.6:814-818 '63. (MIRA 17:6)

1. Kafedra nervnykh bolezney (rach. - prof. S.I. Karchikyan,
nauchnyy rukovoditel' - prof. A.G. Panov) i kafedra mikrobic-
logii (nach. - prof. A.A. Sinitskiy, nachnyy rukovoditel' -
starshyy nachnyy sotrudnik P.I. Remezov) Voenno-meditsinskoy
ordena Lenina akademii imeni S.M. Kirova.

SHAMIRKOV, N., inzh.; ZHIYKOV, V., inzh.

Ventilated open roof for houses of the 1-468 series. Zhil.

atrot. no.8:24 '65.

(MIRA 18:8)

MOLCHANOV, A.P., inzh.; NIKULIN, K.K., arkhitekt; SHAMRIKOV, N.I.,
inzh.

Building a new shop for the Sinarskaya pipe plant. Prom.
stroi. 39 no.8:9-12 '61. (MIRA 14:9)
(Sinarskaya--Construction industry)

SHANR, E. V., N.I., Inst.; VONMURKOV, V. I., Inst.

Experimental use of post slabs of cellular concrete reinforced by
rods. Prom. stroit. 12 no. 7:39-40, '65.

(MIRA 18:8)

SHAMRIN, F. I.

25201. SHAMRIN, F. I. Izvrashehenny Tip Sutochnoy Krivoy Temperature Tela.
Sov. Meditsina, 1949. No. 8, S. 35-36.

SC: Letopis' No. 33, 1949

KATSENELENBOGEN, E.D.; IOFIS, Ye.A.; STREL'TSOV, M.V.; SHAMRINSKIY, A.I.;
GECDAKOV, A.I.; ZHERDETSKAYA, N.N., redaktor; PANKRATOVA, M.A.,
tekhnicheskiy redaktor

[Laboratory processing of photographic materials] Laboratornais
obrabotka fotomaterialov. Pod red. E.A. Iofisa. Moskva, Gos.
izd-vo "Iskusstvo," 1956. 200 p. (Biblioteka fotoliubitelia, no.3)
[Microfilm] (MIRA 10:1)
(Photography)

KATSENELENBOGEN, E.D.; IOFIS, Ye.A., kand.tekhn.nauk; STREL'TSOV, M.V.;
SHAMRINSKIY, A.I.; GEODAKOV, A.I.; ZHERDETSKAYA, N.N., red.;
SIDOROVA, A.A., tekhn.red.

[Laboratory processing of photographic materials] Laboratornaia
obrabotka fotomaterialov. Izd.2., ispr. i dop. Pod red. E.A.
Iofisa. Moskva, Gos.izd-vo "Iskusstvo," 1959. 206 p. (Biblio-
teka fotoliubitelia, no.3) (MIRA 13:1)
(Photography--Developing and developers)
(Photography--Printing processes)

СПАМЕР, Д. А.

1315. Issledovaniye piroeffekta, p'ezoelektricheskikh svoystv i polnoy
polarizatsii polikristallicheskogo titana bariya. L., 1954. 12s. 21sm. (Leningr.
gos. ped. in-t im. A. I. Gertsena. Kafedra eksperim. Fiziki). 100 ekz. B. ts.—
[54-52850].

SO: Knizhnaya Letopis, Vol. 1, 1955

ETTEL', Abram Vladimirovich; GUSACHENKO, K.I., inzh., retsenzent; SLUZHEV-
SKIY, TS.Ya., inzh., retsenzent; SHAMRO, G.A., inzh., retsenzent;
·RUVINSKIY, G.M., inzh., retsenzent; PADRUL', Z.Ya., inzh., red.;
FAL'KO, O.S., red. izd-va; EL'KIND, V.D., tekhn. red.

[Technology of agricultural machinery manufacturing] Tekhnologiya
sel'skokhoziaistvennogo mashinostroeniya. Moskva, Gos.naukno-
tekhn. izd-vo mashinostroita. lit-ry, 1961. 287 p. (MIRA 14:6)

1. Rostovskiy-na-Donu tekhnikum sel'skokhozyaystvennogo mashino-
stroyeniya (for Gusachenko, Sluzhevskiy, Shamro). 2. Kirovograd-
skiy tekhnikum sel'skokhozyaystvennogo mashinostroyeniya (for
Padrul')

(Agricultural machinery industry)

ВННШПД, V

KRUGLYAK, G.; SHAMRO, V.

More attention should be given to the mechanization of labor-consuming processes in technical maintenance work. Avt.transp. 32 no.9:14-15 S '54. (MLRA 7:11)

1. Avtobaza No. 1 Moskovskogo metrostroya.
(Automobiles--Maintenance)

KRUGLYAK, G.; SHAMRO, V.

Using the unit method of repairing automobiles in automobile
transport organizations. Avt. transp. 33 no.5:19-20 My '55.
(Motor trucks--Repairing) (MLRA 8:8)

UBIYKO, A.M., inzh.; SHAMRO, Yu.A., inzh.; SEREDA, R.S., inzh.

Electromagnetic switch for explosionproof electric distribution devices in mines. Elektrotehnika 35 no.1:51-53
Ja '64. (MIRA 17:2)

SUBJECT: USSR/Luminescence

48-3-17/26

AUTHORS: Kosman M.S. and Shamro Z.A.

TITLE: Pyroeffect and Piezoeffect in Polycrystalline Barium Titanate
(Piroeffekt i p'yezoeffekt v polikristallicheskom titanate bariya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya fizicheskaya, 1957, Vol 21, #3, pp 399-401 (USSR)

ABSTRACT: The pyroeffect in polycrystalline samples of barium titanate and its connection with the piezoeffect was investigated.

One of the experiments ran as follows: a barium titanate sample was subjected to polarization during 5 minutes with a field of 1,600 v/mm intensity at 20°C, and then its electrodes were connected by a circuit with a galvanometer. Immediately after polarization, a current could be detected in the circuit, even at the constant temperature of the sample, but very soon, in 30 min., it became immeasurably small. The statical piezomodulus of the sample was measured and proved to be 1.2×10^{-6} CGSU.

Card 1/3

TITLE:

48-3-17/26
Pyroeffect and Piezoeffect in Polycrystalline Barium Titanate
(Piroeffekt i p'yezoeffekt v polikristallicheskom titanate bariya)

Then the sample was heated and pyrocurrent was generated. The curve of current intensity, shown by Curve 1 in Fig 1, had 2 maxima: one corresponding to the transition of the titanate lattice from the orthorhombic modification into tetragonal one, and the other, at Curie point, i.e. 120°C, corresponding to the transition into cubic modification.

The sample was cooled down and then subjected to the second polarization under the same conditions but during 30 min. The piezomodulus was measured to be 1.56×10^{-6} CGSU. By heating the sample, the pyrocurrent was generated again, and its run was shown by Curve 2 in Fig 1.

The quantity of electricity generated was proportional to the value of initial piezomodulus.

If a sample subjected to polarization is heated to a temperature lower than the Curie point, and then is cooled down, the pyrocurrent arises both during heating and cooling; the quantity of electricity flowing in the circuit during heating

Card 2/3

TITLE:

48-3-17/26
Pyroeffect and Piezoeffect in Polycrystalline Barium Titanate
(Piroeffekt i p'yezoeffekt v polikristallicheskom titanate
bariya)

is equal to that flowing during cooling, but is of the opposite sign. This reversibility is observed in all cycles of heating-cooling, beginning from the second cycle. During the first cycle, some loss of charge is observed at the transition into orthorhombic modification.

Similar experiments were also carried out under somewhat modified conditions, and their results are presented in the graphical and tabular form.

The paper contains 3 figures and 1 table. No references are cited.

INSTITUTION: Leningrad State Pedagogical Institute im. Herten.

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.
Card 3/3

67194

SOV/58-59-7-15707

24.7800

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, pp 149 - 150 (USSR)

AUTHORS:

Kosman, M.S., Shanro, Z.A.

TITLE:

The Pyro- and Piezo-E electric Effect in Polycrystalline Barium Titanate

PERIODICAL:

Uch. zap. Leningr. gos. ped. in-ta. im. A.I. Gertsena, 1958, Vol 148, pp 55 - 57

ABSTRACT:

The pyro- and piezo-electric properties of polycrystalline samples of BaTiO₃ with various degrees of polarization were studied in the 180 to 260°C temperature range. The samples were polarized at various temperatures ranging from room temperature to temperatures somewhat below the Curie point; the duration of polarization also varied from sample to sample. As the temperature varied within the above-mentioned limits the charge variation on the faces of the samples amounted to 10⁻⁶ q/cm², so that it proved possible to study the pyro-effect with the aid of a galvanometer. The high capacitance of the samples made it possible to measure the voltage on the faces in an open circuit, using an electrometer. It was found that the rate of temperature variation, the temperature, the duration of polarization of the given sample, and the interval of temperature variation all affected the course of the curve

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607/58-59-7-15707

The Pyro- and Piezo-Electric Effect in Polycrystalline Barium Titanate

of the pyro-current versus the temperature. When a sample is heated, the current is opposite to what it is when the sample is cooled; however, the absolute values of the current are equal in the two cases. The curves of samples polarized at room temperature exhibit two maxima: a sharply expressed maximum at the Curie point (which is 158°C for the samples under investigation) and a less pronounced one at $\approx 50^\circ\text{C}$. If such a sample is cyclically heated and cooled without overstepping the Curie point, all the cycles beginning with the second one repeat themselves (a maximum at 50°C develops only in the first cycle). Overstepping the Curie point during heating leads to the depolarization of the sample, and when it is subsequently cooled, it loses all its pyro- and piezo-electric properties. If the samples are polarized at temperatures somewhat below the Curie point, the curves of the pyro-current versus the temperature do not exhibit a maximum at 50°C. More protracted polarization at these temperatures strongly alters the properties of the samples: heating such samples at temperatures exceeding the Curie point (up to 260°C), even for a long period of time, does not lead to complete depolarization. The residual piezo-modulus reveals a whole spectrum of values that have differing depolarization temperatures (depolarization time has practically no effect on the magnitude of these values). Different conditions of polarization result in samples with different piezo-modulus temperature dependences. We may conclude that in BaTiO₃ several ferro-

4

Card 2/3

times and an effective dielectric constant attaining values of 10⁷ to 10⁸ polarization with high relaxation

9,2180

S/181/60/002/009/009/036
81068
B004/B056

AUTHOR: Shamro, Z. A.

TITLE: Some Peculiarities of the Piezoelectric Effect in Barium Titanate

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2085-2088

TEXT: The author aimed at finding the optimum polarization conditions under which a time-constant maximum value of the piezo-modulus in BaTiO₃ may be obtained within the shortest time and at the lowest intensity of the polarizing field. Ten samples of BaTiO₃ polycrystals were investigated, whose Curie points were between 130° and 150°C. The most effective polarization was found only some degrees below the Curie point. The author describes this method as "hot polarization" and stresses its advantage. As shown by Table 1, the maximum of the piezo-modulus is attained at a certain intensity of the polarizing field, which could not be observed at room temperature. Moreover, a time of a few minutes or seconds suffices for hot polarization to attain the maximum value. In the case of too long hot polarization, the piezo-modulus, however, again decreases (Table 2, Fig.).

Card 1/2

Some Peculiarities of the Piezoelectric
Effect in Barium Titanate

S/181/60/⁸¹⁰⁶⁸002/009/009/036
B004/B056

Herefrom the author concludes that the piezo-modulus is composed of several qualitatively different "hard" and "soft" components. There are 1 figure, 2 tables, and 5 references: 4 Soviet and 1 US. X

ASSOCIATION: Nikolayevskiy gosudarstvennyy pedagogicheskiy institut im.
V. G. Belinskogo
(Nikolayev State Pedagogical Institute imeni V. G.
Belinskiy)

SUBMITTED: September 26, 1958 (initially) and
February 12, 1960 (after revision)

Card 2/2

ACCESSION NR: AT1012705

S/0000/63/000/000/0368/0371

AUTHOR: Myasnikov, A. L.; Akhrem-Akhrezovich, R. M.; Kakurin, L. I.; Pushkar', Yu. T.; Mukharlyanov, N. M.; Georgiyevskiy, V. S.; Tokarev, Yu. N.; Senkevich, Yu. A.; Katkovskiy, B. S.; Kalinina, A. N.; Cherepakhin, M. A.; Chichkin, V. A.; Filosofov, V. K.; Shamrov, P. G.

TITLE: Effect of prolonged hypokinesia on blood circulation in man

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 368-371

TOPIC TAGS: isolation, prolonged isolation, isolation chamber, isolation effect, bioelectric activity

ABSTRACT: Four young men 22 to 24 were subjected to voluntary bedrest for a period of 20 days. Tests on pulse, arterial pressure, rate of blood flow, venous pressure, etc., were run before and after the completion of the experiment. These tests were performed at rest and after functional exercises (30 knee bends at the rate of one every 1.5 sec). During the period of bedrest, pulse frequency diminished on the average by 14 strokes per minute; the arterial pressure diminish-

Card

1/2

ACCESSION NR. AT4042705

ed by 11.2 mm of Hg. Stroke volume diminished on the average by 6 ml, while the minute rate of blood flow was reduced by 1.6 liters. After completion of the bed regime, pulse frequency rose by 18 to 34 strokes per minute, while systolic pressure and minute blood volume increased. Deep knee bends brought about characteristic increases in the pulse rate and changes in arterial pressure and phases of the cardiac cycle. The length of time required for these indices to return to normal increased from three minutes to seven minutes. It can be assumed that similar functional changes in the cardiovascular system will take place in man after his return to normal gravity following prolonged weightlessness.

ASSOCIATION: none

SUMITTED: 27Sep63

ENCL: 00

SUB CODE: 15

NO REF SOV: 000

OTHER: 00

Card

2/2

ZHILIN, E.A.; PETRENKO, V.P.; SHAMRUK, G.V.; YANUSH, Yu.N.

Shortcomings in the planning, designing and assembling of the
turbocompressor plant of a compressor station. Gaz. prom. 4
no.3:49-50 Mr '59. (MIRA 12:5)
(Gas, Natural--Pipelines) (Compressors)

SHAMRUK, S.G.

To live and work in the communist way. Apt. delo 11 no.2:49-51 Mr-
Ap '62. (MIRA 15:5)

(VOLOZHIN---DRUGSTORES)

SHAMRUK, S.G. (MIRA)

1st congress of the pharmacists of White Russia. Apt. delo 13
no.5:78-80 S-G. 164. (MIRA 18:3)

SHAMSA DINSKAYA, I.M., aspirant

Health of mother and child following eclampsia suffered in the past.
Azerb. med. zhur. no. 10:24-31 0 '60. (MIRA 13:10)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. R.N. Guseynov) Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta imeni N. Narimanova (direktor - zasluzhenny deyatel' n nauki, prof. B.A. Eyvazov).

(PREGNANCY, COMPLICATIONS OF)

SHAMSADINSKAYA, N.M., aspirant

Eclampsia in records of the First Midwife and Gynecological
Clinic of the Azerbaijan State Medical Institute for the
decade 1947 to 1956. Azerb.med.zhur. no.4:74-77 Ap '59.
(MIRA 12:6)

1. Iz I akishersko-ginekologicheskoy kafedry (zav. - zasluzh.
deyatel' nauki, prof.F.N.II'in [deceased]) Azerbaydzhanskogo
gosudarstvennogo meditsinskogo instituta imeni N.Narimanova.
(AZERBAIJAN--PUERPERAL CONVULSIONS)

SHAMSA DINSKAYA, N.M.

Eclampsia in Azerbaijan. Dokl. AN Azerb. SSR 16 no.9:901-906 '60.
(MIRA 13:12)

1. Meditsinskiy institut imeni N. Narimanova AN AzSSR. Preds-
tavleno akademikom AN AzSSR A. I. Karayevym.
(Azerbaijan--Convulsions)

SHAMSADINSKAYA, N.M.

Effect of the time of year on the appearance of eclampsia
under the climatic conditions of Baku. Azerb. med. zhur.
no.10:40-44 0 '61. (MIRA 15:6)

1. Iz kafedry akusherstva-ginekologii II (zav. - prof.
R.N. Guseynov) Azerbaydzhanskogo meditsinskogo instituta
imeni N. Narimanova.

(PUERPERAL CONVULSIONS)
(BAKU--WEATHER--MENTAL AND PHYSIOLOGICAL EFFECTS)

SHAMSADOV, M. M. (DECEASED)

A New Method for the Determination of the Roots of Transcendent Functions p. 73

TRANSACTIONS OF THE FINE TECHNICAL CENTER OF MATHEMATICS AND PHYSICS
TRIOUY VE.PAY REPUBLICANETNY KAZHESHISI. P. KAZHAYCE I KEMISHI, 1962
pagan, published by the Publishing House of the AS KAZAKE SSR, ALMA-ATA, 1962

SHANSEURIN, V. M.

Chief, Sverdlovsk Department, State Inspection for Raw Hide Quality, MLP, USSR

"Carry out successfully the anti-gadfly measures in 1953."

SO: Veterinariya, 30, No 2, p. 29, Feb. 1953. Trans. #121, by L. Lulich, Unclassified.

BLASHKOVSKIY, L., inzh.; SHAMSEYEV, K., inzh.

Using the SKR-11 conveyer in crosscutting. Mast. ugl. 7 no. 6:12
Je '58. (MIRA 11:7)

(Conveying machinery)
(Coal mines and mining)

USSR / Human and Animal Morphology, (Normal and Pathological), S
Nervous System.

Abs Jour : Ref Zhur - Biol., No 21, 1958, No 97053

Author : Shamseyeva, G. G.

Inst : Karaganda Medical Institute

Title : On Junctions of the Superior Cervical Sympathetic Ganglion
with the Nodular Ganglion of the Nervus Vagus.

Orig Pub : Tr. Karagandinsk. med. in-ts, 1971, 1, No. 2, 118-120

Abstract : In humans of various ages, and in cats (296 subjects) it was shown that in man the superior cervical sympathetic ganglion (SCSG) and nodular ganglion of nervus vagus (NGNV) may be found in a joint connective tissue capsule. In SCSG, a considerable quantity of NGNV was found. In cats, SCSG and NGNV adjoin tightly to each other and a joint capsule was discovered in most cases. Between SCSG and NGNV, there are short anastomoses; frequently, SCSG and NGNV fuse partially and fully

Card 1/2

S

Country : USSR
Category: Human and Animal Morphology (Normal and Pathological).
Nervous System: Peripheral Nervous System.

Abs Jour: RZhBiol , No 2, 1959, No 7532

Author : Shanseyeva, G.G.
Inst : Karaganda Medical Institute
Title : On the Age Group Morphology of the Superior Cervical
Sympathetic Ganglion.

Orig Pub: Tr Karagandinsk med in-ta, 1957, 1, No 2, 121-
127

Abstract: The superior cervical sympathetic ganglion (SCSG)
of man and cat was studied on 264 subjects by means
of preparation and impregnation according to Bil-
shovsky-Gross-Lavrent'yev and Campos. It was noted

Card : 1/3

Country : USSR
Category: Human and Animal Morphology (Normal and Pathological).
Nervous System Peripheral Nervous System.

S

Abstr Jour: RZhBiol., No 2, 1959, No 7532

that SCSG of man at various stages of development has a very different form. The changes of form, dimensions and structure of SCSG beginning with fetus and up to 80 years of age are described. Analogous changes were noted in cat. The nerve cells of SCSG of human fetus are considerably larger than of cat fetus. Towards the time of birth the differentiation of SCSG is more significant in man than in cat; on the contrary, in the beginning of the postembryonal period in cat it is more intensive than in man. In old age the degenerative changes in SCSG are more significant in man than in cat. Pigment in the cells of SCSG

Card : 2/3

S-13

USSR / Human and Animal Morphology, (Normal and Pathological). 3
Nervous System.
Abs Jour : Ref Zhur - Biol., No 21, 1958, No 97054
Author : ~~Shansoyan, G. G.~~
Inst : Karaganda Medical Institute.
Title : On Age Morphology of the Nodular Ganglion of the Nervus Vagus.
Orig Pub : Tr. Karagandinsk. med. in-ta, 1957, 1, No. 2, 128-132

Abstract : The nodular ganglion (NG) of the nervus vagus in the 3 1/2 to 7 month old human fetus is of a spindle-shaped form with dimensions of 4 x 2 to 7 x 3 mm. With age, the dimensions of NG as well as of its nerve cells increase. In an adult man, NG is located somewhat lower than in a fetus and its size is 1.5 - 2 cm. At the age of 17-18 years, the nerve cells of NG reach their definitive size. In advanced and old age, the cells of NG are less tightly spaced and diffuse. An increase of the quantity of atrophic and deformed cells is noted; the

Card 1/2

10

SIANS A, 3.3.

Novaja Kharkovskaja meandjorodnaja telefonnaia stantsija. [The new Kharkov interurban telephone exchange]. (Vestnik sviazi. elektrosviaz'. 1947, no. 4, p. 5). SIC: 484.VL5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

SHAMSHANOVICH, I., inzh.; AZBEL', B., inzh.

New system of wages for workers engaged in installing the electric
wiring. Na stroi. Mosk. l no.8:20-21 Ag '58. (MIRA 11°10)
(Wages)

SHAMSHANOVICH, I., inzh.

Standard plans for work organization of electric wiring operations. Na stroi. Mosk. ? no.6:6-7 Je '59. (MIRA 12:8)
(Electric wiring)

SHAMSHANOVICH, I., inzh.

Improve technology of electric-wiring operations. Na.stroi.
Mosk. 2 no.8:10-11 Ag '59. (MIRA 12:12)
(Electric wiring)

MIKHAYLOV, Fedor Kuz'mich; SHAMSHATOV, Ibragim Shamshatovich;
SAVOS'KO, V.K., kand. Ist. nauk, otv. red.; LEVIN, M.L.,
red.

[Popular movement for the reclamation of the virgin lands in
Kazakhstan, 1953-1960] Narodnoe dvizhenie za osvoenie tselin-
nykh zemel' v Kazakhstane, (1953-1960 gody). Alma-Ata, Izd-
vo AN Kaz.SSR, 1964. 359 p. (MIRA 17:5)

318 D. V. Ulyayev, Arist. M. Kovich.

To the problem of the drilling resistance of rocks Leningrad, Glav. red. geolo-
gicheskoi i geodeticheskoi lit-ry, 1937. 4 p. (48-34764)

TN79.55

SHAMSHEV, Filipp Aristarkhovich; VOZDVIZHNSKIY, B.I., redaktor; BABINTSEV,
N.I., redaktor; KRYNOCHKINA, K.V., tekhnicheskii redaktor.

[Principles of exploratory drilling] Osnovy razvedochnogo bureniya.
Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr.
1956. 138 p. (Boring) (MLRA 9:5)

SHAMSHEV, F.A.

Exploratory drilling equipment. Razved.i okhr.nedr 22 no.5:
21-23 My '56. (MLRA 9:9)

1. Leningradskiy gornyy institut.
(Boring)

SHAMSHEV, F.A.; NOMOKONOV, M.K.; SMIRNOV, F.N.; TARAKANOV, S.N.; YAKOVLEV, A.M.

Theory of vibrational drilling. Razved.i okh.nedr 23 no.8:18-21 Ag '57
(MIRA 10:11)

1. Leningradskiy gornyy institut imeni G.V.Plekhanova.
(Boring)

SHAMSHEV F.A.
UTKIN, I.A.; SHAMSHEV, F.A.

New machinery used in exploratory drilling. Sov. geol. no.60:190-200
'57. (MIRA 11:3)

1. Leningradskiy gornyy institut i Vsesoyuznyy nauchno-issledovatel'-
skiy institut metodiki i tekhniki razvedki.
(Drilling machinery)

PHASE I BOOK EXPLOITATION

SOV/2400

14(5)

Shamshev, F.A., N.P. Knyupfer, N.I. Nikolayev, S.H. Tarakanov, and Ye.A. Sal'ye

Razvedochnoye bureniye (Exploratory Drilling) Moscow, Gosgeoltekhizdat, 1958. 485 p. Errata slip inserted. 20,000 copies printed.

Ed. (Title page): F.A. Shamshev; Ed. (Inside book): V.A. Boravlev; Ed. of Publishing House: N.B. Nekrasova; Tech. Ed.: O.A. Gurova.

PURPOSE: This textbook is intended for petroleum geology and engineering students in schools of higher learning and for engineering personnel engaged in exploratory drilling.

COVERAGE: The book covers the main theoretical and practical aspects of exploratory drilling. Equipment and methods are described and their effectiveness evaluated. Data on oil drilling tools and auxiliary equipment include specifications and diagrams. N.P. Knyupfer prepared the chapter on measurement in directional drilling including the deflection of boreholes. N.I. Nikolayev contributed the data on rotary and turbo-drilling,

Card 1/12

Exploratory Drilling

SOV/2400

percussion and electrodrilling, and on flushing, blasting, and cementing operations. Part I of the book was written by S.N. Tarakanov, Parts II and III by F.A. Shemshev. The chapter on the organization of exploratory drilling was compiled by Ye.A. Sal'ye. The author thanks Ye.F. Epshteyn, N.I. Lyubimov, and V.A. Boravlev. Of particular interest are the chapters dealing with turbodrilling and electrodrilling, and the information on shooting methods, bit design, and bit wear. Various approaches to rock penetration are analyzed and the specific considerations calling for the use of one or another type of bit are given. Extensive information is also available on percussion-type drilling techniques including the application of vibration methods. There are 114 references: 113 Soviet and 1 German.

TABLE OF CONTENTS:

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Classification of Drilling Methods Based on the Mode of Rock Fracturing at the Bottom Hole	5
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Shamshev, F. A.

AUTHORS: Volosyuk, G.K., Shamshev, F.A. 132-58-4-5/17

TITLE: First Results of the Use of Domestic Diamonds for Drilling
Prospecting Holes (Pervyye itogi primeneniya otechestvennykh
almazov dlya bureniya razvedochnykh skvazhin)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 4, pp 19-21 (USSR)

ABSTRACT: The discovery of diamond deposits in the USSR will radically
change the method of drilling bore holes in hard and very
hard rocks. Experiments were carried out, using boring bits
made of diamonds from the Yakutiya deposits as well as foreign
diamonds. It was found that the domestic diamonds were more
resistant and would bore more quickly than the imported ones,
as well as being less expensive. Taking all things into con-
sideration, it was determined that diamond drilling was less
expensive than shot drilling.
There are 2 graphs.

ASSOCIATION: VITR i Leningradskiy gornyy institut (VITR and the Leningrad
Mining Institute)

AVAILABLE: Library of Congress

Card 1/1 1. Diamond drills-Test results 2. Drills-Domestic diamond
3. Diamonds-Applications

Shamshev, F.A.

132-58-4-14/17

AUTHORS: Vozdvizhenskiy, B.I., Shamshev, F.A., Meyerson, Ye.G., Bubnov
Ye.S., Medvedev, N.V.

TITLE: On the question of the Selection of a Motor for Test Well
Boring (K voprosu o vybore zaboynogo dvigatelya dlya raz-
vedochnogo bureniya)

PERIODICAL: Razvedka i Okhrana Nedr. Nr 4, 1958, pp 57-59 (USSR)

ABSTRACT: This article is written in support of the point of view
expressed by N.G. Zhilkin in his booklet "The Motor for
Test well-Boring," which was criticized by M.T. Gusman and
A. A. Minin in the periodical "Neftyanoye khozyaystvo", 1957,
Nr 12, pp 66-68. The author of the booklet suggested the
use of the electric perforator on tubes and the critics
prefer the turbo-perforator of a small diameter or the
electric perforator on ropes.

AVAILABLE: Library of Congress

Card 1/1 1. Drilling machines--Equipment

MARAMZIN, Aleksandr Vasil'yevich; SHAMSHEV, F.A., doktor tekhn.nauk, prof.,
nauchnyy red.; BARKOVSKIY, I.V., vedushchiy red.; YASHCHURZHINSKAYA,
A.B., tekhn.red.

[Drilling wells in the Far North (in permafrost)] Burenie skvazhin
v usloviakh Krainego Severa (v mnogoletnei merzlotе). Leningrad,
Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, Leningr.
otd-nie, 1959. 209 p. (MIRA 12:4)

(Boring)

SHAMSHEV, F. A.

Further improvement of existing methods of prospecting drilling.
Razved. i okh. nedr 28 no.5:32-34 My '62. (MIRA 15:10)

1. Leningradskiy gornyy institut.

(Boring)

UTKIN, I.A.; ~~SHAMSHEV, F.A.~~

Ways of developing the technology and methodology of test drilling.
Zap. LGI 41 no.2:3-6 '61. (MIRA 16:5)
(Boring)

SHANSHEV, F.A.; MARSHALOV, A.F.

Certain technical and economic data concerning core and
non-core prospecting drilling. Razved. i okh. nedr. 30 no.3:
33-35 Nr '64 (MIRA 18:1)

1. Leningradskiy gornyy institut.

CHAMSHEV, F.A.

Most important problems in perfecting the technology and
equipment employed in prospect drilling. Razved. i okh.
nedr 30 no.10:32-34 0 '64. (MIRA 18:11)

1. Leningradskiy gornyy institut.

VASIL'YEV, V.K.; SHOR, M.I.; SHAMSHEV, L.P.; IOSIF, Ye.A., kandidat
tekhnicheskikh nauk, redaktor; ZHERDITSKAYA, N.N., redaktor;
PANKRATOVA, M.A., tekhnicheskiy redaktor.

[Negative and positive photographic material] Negativnye i
positivnye fotomaterialy. Pod red. Ye.A.Iosifa. Moskva, Gos.
izd-vo "Iskusstvo." (Biblioteka fotoliubitelia no.2) 1955.
100 p. (MLRA 8:11)
(Photography--Appratus and supplies)

VASIL'YEV, Vladimir Konstantinovich; SHOR, Matvey Iosifovich; SHAMSHEV,
Leonid Petrovich; IOFIS, Ye.A., kand.tekhn.nauk, red.; ZHER-
DETSKAYA, N.N., red.; MALEK, Z.N., tekhn.red.

[Negative and positive photographic materials] Negativnye i pozi-
tivnye fotomaterialy. Izd.2-e, ispr.1 dop. Pod red. E.A.Iofisa.
Moskva. Gos.izd-vo "Iskusstvo," 1959. 114 p. (Biblioteka foto-
liubitelia, no.2). (MIRA 12:9)
(Photography--Equipment and supplies)

SHAMSHEV, V. N.

Investigation of the spin-orbital level splitting in helium-5
 by scattering of polarized neutrons on helium-4. I.
 Levintov, A. V. Miller and V. N. Shamshev. *Doklady
 Akad. Nauk S.S.S.R.* 163: 803-81965. Earlier expts. of
 Huber and Baldinger (*C.A.* 46: 10003c) and of Seagrave
 (*C.A.* 48: 2489e) have led to contradictory conclusions con-
 cerning the $P_{1/2}$ -level in He. These conclusions were based
 on a phase analysis of the data for elastic scattering of neu-
 trons by He. Further information can be obtained by
 measuring the dependence of the polarization upon the
 scattering angle. The authors actually measure the
 azimuthal asymmetry of the neutrons scattered from a partly
 polarized beam of 3.43-m.e.v. neutrons which is produced
 by bombardment of a Pb target with 800-e.kv. deuterons.
 The results confirm the conclusions of S. E. Gora

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 [Signature]

Instit Chem Physics, A S USSR

SHAMSHEV, V. N., LEVINTOV, I. I., MILLER, A. V., and TARUMOV, E. Z.,

"A New Method of Measuring Fast Neutron Polarization."

Short communications and prepared remarks for the International Conference
on Nuclear Reactions held at Amsterdam, 2-7 July, 1956. E-3543, 19 Jun '56.

USSR/Nuclear Physics - Instruments and Installations. Methods of Measurement and Investigation

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33829

Author : Lepitskiy, Yu. Ya., Levintov, I. I., Slivkov, I. N., Shamshev, V. N.

Institution : Institute of Chemical Physics, Academy of Sciences USSR

Title : Focusing System of Ionic Accelerating Tube

Original Periodical : Zh. tekhn. fiziki, 1956, 26, No 4, 733-739

Abstract : A method is given for the calculation of an ion-optical system of a 6-section accelerating tube of one Mv and the experimental results are listed. The principal focusing system consists of 2 electrodes, located directly past the output opening of an ion source. This system produces a converging beam of ions. The position of the point of convergence can be varied over a wide range by varying the potential V_1 on the first of the above electrodes. Thus, the variation of the value of V_1 (over a range from 8 to 32 kv) is a convenient

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USSR/Nuclear Physics - Instruments and Installations. Methods of
Measurement and Investigation

C-2

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33829

method of regulating the diameter of the beam on the target. A setup is described for measuring the ion current and for visually observing the beam near the target. The developed focusing system has made it possible to obtain at the output of the tube a conveniently adjustable ion beam with a current of up to $800 \mu\text{a}$ continuously and up to 2 ma in pulses.

Card 2/2

LEVINSON, Y.Y., MELIK, A.V., SHAMSHOV, V.H.

"Measurement of Polarization of (D-T) Neutrons at $E_n = 1400$ KeV

USSR Acad. Sci. and Inst. of Chemical Physics

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

SHAMSHEV, V. N.

19
V. Focusing system for an ion-accelerator tube. Yu. Ya.
Lapitskij, I. I. Levintov, I. N. Sil'kov, and V. N. Shamshev.
Soviet Phys. Tech. Phys. 1, 714-20(1957)(English transla-
tion).-- See C.A. 50, 14373d.

5
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B.M.R.
conf

V. N. SHAMSHEV, I. I. LEVINTOV and A. V. MILLER

"A New Method of Measurement of Neutron Polarization and n-He⁴
Phase Analysis," Nuclear Physics (Amsterdam), 3, No. 2, p. 221, 1957

Inst. Chemical Physics, AS USSR
English translation

V. N. SHAMSHEV, I. I. LEVINTOV, A. V. MILLER and E. Z. TARBUKOV

"Dependence of (D+D) Neutron Polarization on Deuteron Energy"
Nuclear Physics (Amsterdam), 3, No.2, p. 237, 1957

Inst. Chemical Physics, AS USSR

English translation

14-00000, V. 17

AUTHOR LEVINTOV I.I., MILLER A.V., SHAMSHEV V.N. PA - 2672

TITLE A new method for measurement of neutron polarization and phase analysis of $n - He^4$. (Novyy metod izmereniya polarisatsii neytronov srednykh energiy i fasovoy analiz rasseyaniya $n-He^4$. Russian.)

PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 32, Nr 2, pp 274 - 283 (USSR). Received: 5/1957 Reviewed: 6/1957

ABSTRACT The measuring method mentioned in the title has an efficiency of ~ 1 in the energy domain of 1 - 20 MeV and practically no background of a counter. As an intermediary result it rendered a precise description of the phase analysis of scattering $n - He^4$ and the measuring of the polarization of ($D-D$)-neutrons for thick and thin targets within the energy domain $E_d = 400 - 1800$ keV possible. As scattering material He^4 was used by the authors in their analyzer. Polarization properties of this nucleus are discussed in detail. Thin proportionality counters filled with helium served as measuring devices. The reaction ($D+D$) served as a source of the polarized neutrons.

Measuring of the azimuthal asymmetry of the scattering $n-He^4$.
The measuring device is discussed on the basis of a sketch.

CARD 1/2

Shamshev, V.N.

AUTHOR LEVINTOV I.I., MILLER A.V., TARUMOV E.Z., SHAMSHEV V.N., PA .. 2693

TITLE The Dependence of the Polarization of (D+D)-Neutrons on the Energy of Deuterons.

PERIODICAL (Zavisimost' polarizatsii (D+D)-neytronov ot energii deytonov -Russian) Zhurnal Eksperim. i Teoret.Fiziki 1957, Vol 32, Nr 2, pp 375-376 (USSR) Received 5/1957 Reviewed 6/1957

ABSTRACT A method described by I.I.Levintov et al., Zhurneksp. i teor. fis, Vol 32 Nr 2, 274 (1957) facilitates the measuring of the polarization of (D+D) neutrons in dependence on deutron energy. The authors had at their disposal the acceleration tube of the Institute for Chemical Physics of the Academy of Science of the USSR., which furnishes deuterons with a maximum energy of 1800 keV. Polarization was measured on a thin and on a thick zirconium target. The situation of the rotation center of the counters and the values of the apertures of the 5 channels of the discriminator are given. The values of asymmetry measured by means of the thick target are shown together in a table. The maximum polarization of (D+D) neutrons computed from these data is demonstrated in a diagram. The results thus found are to be regarded as "yield" of the polarization. This "yield" of the polarization of (D+D)-neutrons (at an angle of $\theta_n = 49^\circ$ in the laboratory system) at first (about from $E_d=0$ to 0.9 MeV) increases considerably and later only slightly. For the second series of measurements a thin zirconium target (150 keV) was used. In the case of a long duration of bombarding of the target with D-ions a renewed distribution of the deuterium layer takes place and the thickness of the target changes. There-

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The Dependence of the Polarization of (D+D)-Neutrons on PA - 2693
the Energy of Deuterons.

fore, the thin targets were exchanged after operation of from 20 to 30 hours. A further table contains the here measured values of asymmetry and a diagram illustrates the herefrom computed values of P_{max} for (D+D)-neutron. The results found here, in spite of a very different method of measurements, agree with the results obtained by R.W. MEIER et Al., Helv. Phys. Acta, 27, 577 (1954). Polarization of the (D+D)-neutrons up to $E_d=1,8$ MeV therefore depends monotonously on the deuteron energy.
(2 ill. and 2 tables)

ASSOCIATION Institute for Chemical Physics of the Academy of Science of the USSR
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SUBMITTED 1.10.1956
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Card 2/2

56-34-4-53/60

AUTHORS: Levintov, I. I. Miller, A. V. Shamshev, V. H.

TITLE: The Measuring of the Polarization of (D+T) Neutrons at a Deuteron Energy of 1800 keV (Izmereniye polarizatsii (D+T) neytronov pri energii deytronov 1800 keV)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 4, pp. 1030 - 1032 (USSR)

ABSTRACT: The reaction $T(d, n)He^4$ at a deuteron energy of $E_d = 1.07$ keV passes the level $3/2^+$ of the nucleus He^5 formed by deuterons. For this reason the neutrons obtained at this energy can not be polarized. At $E_d = 2$ MeV already a noticeable amount (about 50 %) of higher d states is obtained. The explanation of the polarization degree of the neutrons produced in this very important reaction would be of interest. The polarization of the (D + T) neutrons was measured according to an earlier described method (Ref 1), in which a thin tantalum target saturated with helium was used, the target being coolable to a large extent; thus the ion current could be increased to 60 microamperes. The control test consisted in turning the

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The Measuring of the Polarization of (D+T) Neutrons at a Deuteron Energy of 1800 keV

counters in a direction vertical to the impinging neutron current. Also the possibility of the occurrence of a parasitary asymmetry was checked and it was found that the counting velocities in both positions of the counters coincide up to 0.5 %. The results obtained for the azimuthal asymmetry of scattering in various angles of emission of the neutrons from the target are shown in a table: it holds that

θ_n	45	67.5	90	112.5	135
P_n (%)	7 ± 3	12 ± 3	10 ± 3	2 ± 3	0 ± 5

With increasing energy of the deuterons polarization will increase as well. The determination of the degree of polarization of the neutrons with a neutron energy of about 8 MeV, where the existence of a resonance is assumed, would be of especial interest. At present the author measures the polarization of the neutrons originating from the reaction $D(T,n)He^4$, for greater deuteron energies. There are 1 table and 3 references, 2 of which are Soviet.

Card 2/3

The Measuring of the Polarization of (D+T) Neutrons at a Deuteron Energy of 1800 keV 56-34-4-53/60

ASSOCIATION: Akademiya nauk SSSR
(AS USSR)

SUBMITTED: January 18, 1958

1. Neutrons-Polarization

Card 3/3

KORITSKIY, A.T.; MOLIN, Yu.N.; SHAMSHEV, V.N.; BUBEN, N.Ya.;
VOYEVODSKIY, V.V.

Study of radicals by means of electronic paramagnetic resonance during the irradiation of polyethylene by fast electrons. *Vysokom.sosd.* 1 no.8:1182-1193 Ag '59.
(MIRA 13:2)

1. Institut khimicheskoy fiziki AN SSSR.
(Polyethylene) (Radicals(Chemistry))

SHARSTEV, V. N.

06715
5-5909(03,127,173) 5/130/60/000/006/030/045

AUTHORS: Molin, Yu.N., Kostitskiy A.T., Semenov, A.G.,
Huber, E.Ja. and Sharstev, V.N.

TITLE: Apparatus for the Observation of E.P.R. Spectra of
Solids During Their Irradiation by Fast Electrons

PERIODICAL: Pribury i tekhnika eksperimenta, 1960, No. 4,
pp. 75 - 77

TEXT: The electron paramagnetic resonance method (E.P.R.) is being widely used to study the properties of radicals in materials subject to ionizing radiation. Usually, such studies are carried out in two stages. In the first stage, the sample is irradiated and in the second the E.P.R. spectrum is recorded. This method is not always convenient because it is not possible to determine short-period processes taking place in the specimen. In order to remove this disadvantage the present authors have designed an apparatus in which the specimen can be irradiated in situ in the E.P.R. spectrometer. The E.P.R. spectrometer, employing a high-frequency modulation of the magnetic field and working on a wavelength of about 3.2 cm, was described in detail by Semenov and Huber in Ref. 5. The

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absorbing cell in the spectrometer is in the form of an H₀₁₂ rectangular resonator with a Q-factor of about 1 000. The source of the ionizing radiation was the electron accelerator of the Institute of Chemical Physics of the AN USSR, which gives electrons of up to 2 Mev in energy. Fig. 1 shows the method of introducing the electron beam into the resonator of the spectrometer. The electrons are introduced through a cylindrical channel in one of the pole pieces of the magnet so that they enter along the lines of the pole-piece face is 6 mm. The channel, therefore, is the pole-piece face is 6 mm. The nonuniformity in the uniformity of the magnetic field is 0.8 G/cm in the direction of the axis of the channel but very small in the perpendicular direction. Since usually the E.P.R. line width in solids is of the order of 10 G, such a nonuniformity does not reduce the resolution of the spectrometer when the thickness of the specimen is of the

Card 2/5

order of 1 or 2 mm. The entire apparatus is placed in a special enclosure which screens it from X-rays. In the region in which the resonator and the high-frequency field modulator. The constant magnetic field and the modulation fields are adjusted by remote control. The power is introduced into the resonator through rectangular waveguides having a total length of about 25 m. There had practically no effect on the sensitivity and stability of the spectrometer. The electron beam current was monitored by an ionization chamber (5 in Fig. 1) which was placed above the specimen 8. Additional magnets were provided for controlling the beam. The ionization chamber was in the form of two foils, each 3 μ thick, between separated by a gap of 5 mm. Ions produced in the foils are attracted by an electric field derived from a storage battery of 100 V. The dose delivered to the specimen was determined from the formula:

$D = AIt$

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— E032/E214
Apparatus for the Observation of E.P.R. Spectra of Solids
During Their Irradiation by Fast Electrons

where I is the electron current in μA at the beam shutter
(Fig. 1)
 t is the time of irradiation and
 A is a constant for the given substance.

The letter constant is given by:

$$A = \frac{dE}{dI} \cdot \frac{j}{I}$$

where dE/dI is the rate of loss of energy in the irradiated specimen in eV/cm^2
 n is the number of electrons in $1 \mu A$ of beam current,

$1/I$ is the ratio of current densities at the beam shutter and at the specimen.

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The constant A was determined in special experiments in which the specimen was placed by special probes having the same dimensions as the specimen. In the measurements reported in the present paper the dose rate was varied between 3×10^6 and 3×10^7 rad/sec. The temperature of the specimen was varied by blowing a stream of nitrogen from a dewar filled with liquid nitrogen. In this way any temperature between -150 and $+150$ C can be obtained to within ± 1 C. The specimens were in the form of discs 3 or 5 mm in diameter and 2 mm thick. The discs were placed in the resonator at the end of a thermocouple. Acknowledgments are expressed to V.V. Vojvodinsky for his interest in the present work. There are 7 figures and 7 references; 6 Soviet and 1 English.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR
(Institute of Chemical Physics of the AS USSR)

SUBMITTED: November 12, 1959

Card 3/5

33104
S/638/61/001/000/029/056
B116/B102

54300

1273

AUTHORS: Buben, N. Ya., Koritskiy, A. T., Shamshev, V. N.
TITLE: Effect of additions on the formation of free radicals during paraffin radiolysis
SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 192-195

TEXT: One and a half years ago, at the IKhF AN SSSR, direct measurements were started of the concentration and the radiative yield in free radicals in the solid phase at different temperatures by means of electron paramagnetic resonance. V. L. Tal'roze, Yu. N. Molin, V. V. Voyevodskiy and the authors have found already that at low temperatures the dependence of the free radical concentration in the frozen hydrocarbons and in polymers is non-linear already at low doses. If the doses are several hundred mrad the curve practically does not rise on further irradiation, although the forming radicals are stable. Later, the authors found that the conditions under which the radicals are formed vary considerably if a
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Effect of additions on the ...

small amount of additions is introduced into the irradiated body. E.g., paraffin was irradiated with 1.6-Mev electrons at -100°C . The spherical (diameter: 4-5 mm) specimens were fixed to a thermocouple and inserted into the resonator of the apparatus. The paraffin temperature was kept constant with cold nitrogen. The radical concentration in the paraffin was determined by comparing the signal intensity of the specimen with that of the calibration substance ($\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$). Already a small amount of CCl_4 additions reduces the radical concentration. The same effect is produced by an addition of hexachloro benzene and a somewhat weaker effect is produced by a benzene addition, while heptylene, octylene, and ionyl alcohol additions produced no effect. In all experiments the total concentration of the radicals decreased. At the beginning of irradiation (up to 20-30 mrad), if CCl_4 additions were present, an additional narrow line was observed besides the ordinary spectrum of the alkyl radical. The intensity of this line rapidly increased up to a certain value. This is explained as follows: Electron excitation in paraffin can be transferred relatively easily. Very probably the hydrogen atom is detached under formation of an alkyl radical where the C-H bonds (e.g. near the molecules of the additions) are weakened. This causes an irregular distribution of the radicals which

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Effect of additions on the ...

may lead to recombination of the radicals under formation of double bonds and cross links. The deletion of the radicals, thus rendered more easy, causes a decrease in the concentration. Probably also the relatively rapid decrease in the radical yield due to an increase in the dose during the radiolysis of solid substances is related to the irregular radical distribution. This is confirmed (1) by a strong increase in the alkyl radical-yields during polyethylene radiolysis, which is preceded by the formation of a large number of double bonds due to irradiation (A. T. Koritskiy, Molin, V. N. Shamshev, N. Ya. Buben, Voyevodskiy); (2) formation of conjugate double bonds observed in the analysis of infrared spectra of polyethylene irradiated at low temperatures, (N. A. Slovokhotova, A. T. Koritskiy, N. Ya. Buben, Kargin). The authors will continue their investigations into the effect of additions on the radical yield in the radiolysis of frozen hydrocarbons and polymers. There is 1 figure. X

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

Card 3/3

37433

S/190/62/004/005/009/026
B110/B144

5.46: :
AUTHORS:

Molin, Yu. N., Koritskiy, A. T., Shamshev, V. N., Buben, N. Ya.

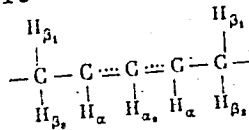
TITLE:

Temperature changes in the epr spectra of allyl and other radicals in irradiated polymers

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 690-695

TEXT: Oriented samples obtained by fourfold stretching of isotropic polyethylene were irradiated with fast electrons (1.6 Mev, 200 Mrad) and kept at 80°C in an N₂ stream until complete recombination of alkyl radicals was reached. The basic structure of the epr spectra of the allyl radical



of irradiated isotropic low-pressure polyethylene is explained by

Card 1/3

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B110/B144

Temperature changes in the epr spectra ...

interaction of the unpaired electron with β -protons, and the temperature change of the spectrum is explained by a change of the interaction constant. The five separate components of the spectrum at high temperature correspond to the interaction of the unpaired electron with four β -protons. At low temperature, the β_1 - and β_2 -protons of spectra with seven components are not equivalent, and $\Delta H_{\beta_2} = 2\Delta H_{\beta_1}$. A reversible change

of the spectrum with temperature was found. β -protons are equivalent at 60°C, and at 35°C $\Delta H_{\beta_2} = 2\Delta H_{\beta_1}$. The components of the two spectra show doublet separation owing to interaction with the α_0 -proton. For isotropic polyethylene at 95 and -90°C and for oriented polyethylene at 80 and -110°C the authors obtained $\Delta E_{\beta_1} = 19; 13; 18.5; 13.5;$

$\Delta H_{\beta_2} = 19; 26; 18.5; 27; \Delta H_{\alpha} = -; -; 20.5; 19; \Delta H_{\alpha_0} = -; -; 5.5; 5.5$, respectively. The different values of β -hydrogen at low temperatures are caused by a distorted geometrical structure of the radical, which is due to the influence of the crystal lattice of the polymer. Tensions thus occur in the allyl radical at low temperatures.

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S/O20/62/142/001/019/021
B145/B101

5.4600

11.1510

AUTHORS: Koritskiy, A. T., Shamshev, V. N., and Buben, N. Ya.

TITLE: Energy transfer in radiolysis of toluene with admixtures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 1, 1962, 120-122

TEXT: The effect of small admixtures of CCl_4 , benzoyl peroxide, and CS_2 on radiation yields of radicals obtained when irradiating frozen toluene, and on the epr spectrum was studied by measuring the electron paramagnetic resonance (epr). When toluene containing the dissolved admixtures was cooled rapidly, it was obtained in an amorphous form. The arrangement of the apparatus and the method of determining the yields of free radicals had been described before (Yu. M. Molin, A. T. Koritskiy, A. D. Semenov et al., Pribory i tekhn. eksperim., no. 6 (1960); A. T. Koritskiy, Yu. N. Molin et al., Vysokomolek. soyed., 1, 1182 (1959)). An increase of the initial yield, G, of radicals by 4 to 5 times was observed with a CCl_4 molar part of $5 \cdot 10^{-4}$ at $-160^\circ C$. The shape of the epr spectrum corresponds to a superposition of spectra of the $\dot{C}Cl_3$ and $\dot{C}_6H_4-CH_3$ radicals. With a

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Energy transfer in radiolysis ...

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molar part of $5 \cdot 10^{-4}$ of benzoyl peroxide or of 10^{-2} of CS_2 , G was increased by 3 and 5 to 6 times, respectively. The spectra of the radicals formed from CS_2 added to toluene are asymmetric and rather complex. Therefore, it has not yet been possible to identify the radicals. When using crystalline toluene, no increase in yield due to admixtures could be observed. Apparently, an energy transfer to the molecules of the substance added, or to complexes between the two types of molecules takes place. A considerable part of the resulting radicals originated from the molecules of the admixture and from the neighboring toluene molecules. There are 2 figures and 14 references: 10 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: S. Lipsky, M. Burton, J. Chem. Phys., 31, no. 5, 1221 (1959); Nottingham discussion on energy transfer, apr. 1959, Dissc. Farad. Soc., no. 27 (1959); S. Okamura, M. Tomonobu, Memoirs of the Faculty of Engineering Kyoto University, 21, 3, 294 (1959); J. P. Manion, M. Burton, J. Phys. Chem. 56, 560 (1952).

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: July 24, 1961, by V. N. Kondrat'yev, Academician

SUBMITTED: July 18, 1961

Card 2/2

S/844/62/000/000/093/129
D204/D307AUTHORS: Buben, N. Ya., Koritskiy, A. T. and Shamshev, V. N.

TITLE: The effects of additives on the low-temperature radiolysis of polyethylene (PE)

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 540-546

TEXT: The kinetics of free radical formation in high-pressure PE (by itself or with additions of CCl_4 or benzene) irradiated with fast electrons, were studied by EPR^4 spectroscopy, using methods described earlier (Priboiy i tekhnika eksperimenta, no. 6, 73 (1960); Vysokomolekularnyye soyedineniya, 1, 1182 (1959)). At -170°C , with 5% additions and doses of 0.25 - 7 Mrad, signals were detected from radicals forming from CCl_4 molecules, which were superimposed on the usual spectrum of irradiated PE and which rapidly disappeared at -50°C ; no such signals were again detected when the specimens were warmed up to 30°C , cooled and re-irradiated, showing that the radio-

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D204/D307

The effects of ...

lysis products of CCl_4 are lost to the system or combine with the PE. Similar phenomena were observed in PE containing 10% of C_6H_6 . At -125°C , ~10% addition of C_6H_6 lowered the initial energy yield (G) by 30 - 40% (for doses up to ~30 Mrad), but lowered G only slightly at higher doses (up to ~270 Mrad). A 1.5% addition of CCl_4 did not initially affect G, but led to a rapid slowing down of the rate of radiolysis at doses of 50 - 100 Mrad. This was particularly noticeable when the amount of CCl_4 was raised to 9%. The rates of radical accumulation in PE (pure and with 9% C_6H_6) become lower when the temperature was raised from -150 to -67°C , but only at doses exceeding 5 Mrad. The presence of CCl_4 led, however, to a considerable decrease in the rate of radical accumulation when the temperature was raised. The radiolysis products of CCl_4 are CCl_3 and Cl (atom or ion); the quantity G_{CCl_3} is estimated to be ~100 times greater in PE/ CCl_4 than in pure CCl_4 , at -150°C . The Cl is

Ca

Card 2/3

MIKHAYLOV, V.G., prof., doktor tekhn.nauk; SIMILEYSKIY, M.G., kand.tekhn.
nauk; SHAMSHIN, V.N., inzh.

New bits for auger boring of blast holes. Gor.zhur. no.12:58-59
D '63. (MIRA 17:3)

1. Novocherkasskiy politekhnicheskiy institut.

MOLIN, Yu.M.; KORITSKIY, A.T.; SHAMSHEV, V.M.; BUBEN, N.Ya.

Temperature changes in the electron paramagnetic resonance spectra of allyl and some other radicals in irradiated polymers. Vysokom. soed. 4 no.5:690-695 My '62. (MIRA 15:7)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR.
(Polymers) (Radiation) (Radicals (Chemistry)--Spectra)

ALFIMOV, M.V.; BUBEN, N.Ya.; PRISTUPA, A.I.; SHAMSHEV, V.N.

Excitation of triplet states of naphthalene and benzene molecules
by fast electrons. Izv.AN SSSR.Ser.khim. no.8:1525 Ag '63.
(MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Naphthalene--Spectra) (Benzene--Spectra)

BUBEN, N.Ya.; MOLIN, Yu.N.; PRISTUPA, A.I.; SHAMSHEV, V.N.

Electron paramagnetic resonance spectrum of the cyclohexyl radical formed in the radiolysis of cyclohexane in the gas-crystal state. Dokl. AN SSSR 152 no.2:352-355 S '63.

(MIRA 16:11)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom N.N.Semenovym.

KORITSKIY, A.T.; SHAMSHEV, V.N.

Energy transfer during radiation oxidation of aromatic hydrocarbons. Dokl. AN SSSR 153 no.1:111-113 N '63.
(MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom V.N. Kondrat'yevym.

L 20-70-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(j)/EWA(h)/EWA(1) Pc-4/
 Pr-4/Ps-4/Peb RPL/ASD(a)-5/SSD/AFWL/AS(mp)-2/RAEM(c)/RAEM(1)/ESD(gs)/
 ESD(t) WH/RM
 ACCESSION NR: AP4038528 S/0020/64/156/003/0630/0633 3

AUTHOR: Alfimov, M.V.; Buben, N.Ya.; Pristupa, A.I.; Shamshev, V.N.

TITLE: Excitation of triplet states of naphthalene / molecules in solid solution by fast electrons

SOURCE: AN SSSR. Doklady*, v. 156, no. 3, 1964, 630-633

TOPIC TAGS: molecular triplet state, organic molecule, fast electron irradiation, naphthalene solid solution, electronic paramagnetic resonance

ABSTRACT: Irradiation of organic molecules with fast electrons may result in the formation of molecular triplet states which have a higher chemical activity. The observation of the latter is possible by the method of electronic paramagnetic resonance of molecules at the fluorescence energy levels (see C.A. Hutchison and B.W. Mangam, J. Chem. Phys. 29, 952, 1958). The present paper deals with the use of this method for the determination of concentration of molecules in the triplet state on irradiation of solid naphthalene solutions by fast electrons. Mixtures of polymethyl methacrylate and polystyrene with naphthalene were used as specimens. Samples of about

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