

ZHABOTINSKIY, A.M.; MALENKOV, A.G.; YASINOV, N.M.; GUSSAK, L.A.; SHABAE, L.M.

Content of cancerogenic and toxic combustion products in exhaust gases of combustion engines with spark and antichamber-torch ignition. Izv. AN SSSR. Ser. biol. no.6:908-912 N-D '64.

(MIRA 17:11)

1. Institute of Chemical Physics, U.S.S.R. Academy of Sciences and Institute of Experimental and Clinical Oncology, U.S.S.R. Academy of Medical Sciences.

SHABAN, L.M.

Some experimental data on precancer. Vest. AMN SSSR 19
no.11:17-23 '64. (MIRA 18:3)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR,
Moskva.

SHABAN, I.M.

Some fundamental trends of research in the United States in the
realm of carcinogenesis and prophylaxis of cancer. Vest. AMN
SSSR 19 no.11s76-80 '64. (MIRA 18:3)

SHABAD, I.M.; (1964), I.M.; (1964), I.M.

Role of the deposition of a carcinogenic substance in the pathogenesis of pulmonary cancer; experimental studies. Vop. onk. 10 (MIRA 18:3) no.6:65-72 '64.

1. Iz laboratorii profilaktiki kantserogennykh vozdeystviy, otdela po izucheniyu kantserogennykh agentov (zav. - deystvitel'nyy chlen AMN SSSR prof. I.M.Shabad) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N.Bickhin). Adres avtorov: Moskva, I-110, ul. Shchepkina 61/2, korpus 9, Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

CHARNIK, I.K., prof.; Mikhaylov, L.D., (prof. BOYARCHIKOV, V.A., kand. med. nauk;
KORCHENKO, V.P., kand. med. nauk

Proceedings of the 91th meeting of the Scientific Society of
Oncologists of Moscow and Moscow Region. Top. onk. 11 no.4:
100-105 '65. (LIPA 18:7)

SHABAD, Leon Manusovich; POPOVA, G.F., red.

[Prevention of cancer] Preduprezhdenie rakā. Moskva,
Meditsina, 1965. 51 p. (NARA 351,000)

SHABAD, L.N., prof., red.; TURUSOV, V.S., red.

[Mechanisms of carcinogenesis; transactions...] Mekha-
nizmy kantserogeneza; trudy... Moskva, Meditsina, 1965.
236 p. (MIRA 18:10)

1. Simpozium po mekhanizman kantserogeneza. 2. Deystvi-
tel'nyy chlen ANU SSSR (P. r. Shabad).

SHABAD, L.M., prof. (Moskva)

New international center for cancer research. Priroda 55
no.1:115-117 Ja '66. (MIRA 19:1)

SHABAD, L.M., prof.; BOYADZHAN, V.A., kand.med.nauk

Minutes of the 101st Conference of the Scientific Society
of Oncologists of Moscow and Moscow Province. Vop.onk. 11
no.11:107-109 '65. (MIRA 19:1)

i. Deystvitel'nyy chlen AMN SSSR (for Shabad).

SHABAD, L.M., prof.; RABINOVICH, Ye.A.

Proceedings of the 102d Conference of the Scientific Society
of Oncologists of Moscow and Moscow Province, January 28, 1965.
Vop. onk. 11 no.12:101-102 '65. (MIRA 19:1)

1. Deystvitel'nyy chlen AMN SSSR (for Shabad).

SHABAD, L.M.; KHESINA, A.Ya.

Spectral-luminescent determination of 3,4-benzopyrene in
high-purity industrial paraffins. Zav. lab. 31 no.11:
1345-1347 '65. (MIRA 19:1)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

SRABAD, M.

Awards of the Scientific and Technical Society of Power Industry
conferred to Leningrad peat specialists. Torf.prom. 39 no.2:
32-33 '62. (MIRA 15:5)

(Peat machinery)

VINOGRADOV, A.; GAPONOV, V.; VOLOSHIN, A., inzh.; PUSHKIN, D., instruktor;
IGNATENKO, N.; IVANOV, A.; MALANCHENKO, I.; FUBLEY, Ye.; SHABAD, M.

Readers' letters. NTO 3 no.8:54-55 Ag '61. (MIRA 14:9)

1. Chlen byuro avtodorozhnoy seksii Leningradskogo oblastnogo pravleniya Nauchno-tehnicheskogo obshchestva gorodskogo khozyaystva i avtotransporta (for Gaponov). 2. Tsentral'noye pravleniye Nauchno-tehnicheskogo obshchestva mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva (for Pushkin). 3. Predsedatel' Belgorodskogo oblastnogo pravleniya Nauchno-tehnicheskogo obshchestva pishchevoy promyshlennosti (for Ignatenko). 4. Predsedatel' soveta pervichnoy organizatsii Nauchno-tehnicheskogo obshchestva "Len-energo" (for Shabad).

(Technological innovations)

SHABAD, M.A., inzhener.

Automatic reclosing system operating from relay protection and
with the application of RPV-52 relays. Energetik 5 no.2:20 F '57.
(MLRA 10:3)

(Electric circuit breakers) (Electric relays)

SHABAD, M. A.

AUTHOR: Shabad, M.A., Engineer 91-58-7-19/27

TITLE: The Increase in Sensitivity of Control of the Current Circuit of the Differential Protection of Bus Bars (Povysheniye chuvstvitel'nosti kontrolya ispravnosti tokovykh tsepey differentsial'noy zashchity shin).

PERIODICAL: Energetik, 1958, Nr 7, pp 35-36 (USSR).

ABSTRACT: This supervision device consists of a current relay of the "ET-521" type. The sensitive relays of "ET-521/0.2" and "ET-521/0.6" type have an insufficient thermal stability. Therefore, the Tsentral'naya sluzhba releynoy zashchity Lenenergo (Central Service of the "Lenenergo" Relay Protection) suggested using the relay of the "ETD-551" type, which has a high sensitivity, though its operation power is 8 times lower than that of the "ET-521" type relay. The details of this relay and the equation for determining its secondary short-circuit current are given. This relay was inserted, at one of the substations, into the null-conductor of the differential protective system for collector bars grouping 13 current transformers. The test of sensitivity of supervision was effected by means of a separate current source connected with an insulating current transformer. The value of sensitivity was 320 ma.

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91-58-7-19/27

The Increase in the Sensitivity of Control of the Current Circuit of
the Differential Protection of Bus Bars.

There is 1 circuit diagram.

1. Electric relays--Applications
2. Electric relays
--Properties--Mathematical analysis

Card 2/2

SHABAD, M.A., inzh.

Young power engineers are fighting for technological progress.
Energetik 8 no. 10:35-36 0 '60. (MIRA 14:1)
(Electric power)

SHABAD, M.

Results of a competition of Leningrad power engineers. NTO 3
no. 5:45 My '61. (MIRA 14:5)

1. Predsedatel' soveta nauchno-tekhnicheskogo obshchestva
energeticheskoy promyshlennosti Leningradskoy elektroenergeti-
cheskoy sistemy. (Leningrad Province—Power engineering)

SHABAD, M. A.

New works of Leningrad peat specialists. Torf. prom. 40 no.3:
37-39 '63. (MIRA 16:4)

(Peat machinery—Technological innovations)

SHABAD, V.K., inzh.; LYUBINA, V.S., inzh.

Regulation of a large synchronous compensator in order to
increase its load carrying capacity in inductive operation.
Elektrichestvo no.1:70-74 Ja '65. (MIRA 18:7)

1. Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina.

ALEKSANDROVA, V.P.; BEREZINA, N.K.; BERNSHTEYN, A.I.; BERNSHTEYN, S.E.;
BLOKH, R.L.; ZINKOVETSKAYA, T.S.; IDESIS, Ye.S.; SMOLENKOVA, O.N.;
TOSHINSKIY, I.I.; TSARFIS, P.G.; SHABAD, Ye.T.; SHEYNBERG, O.A.

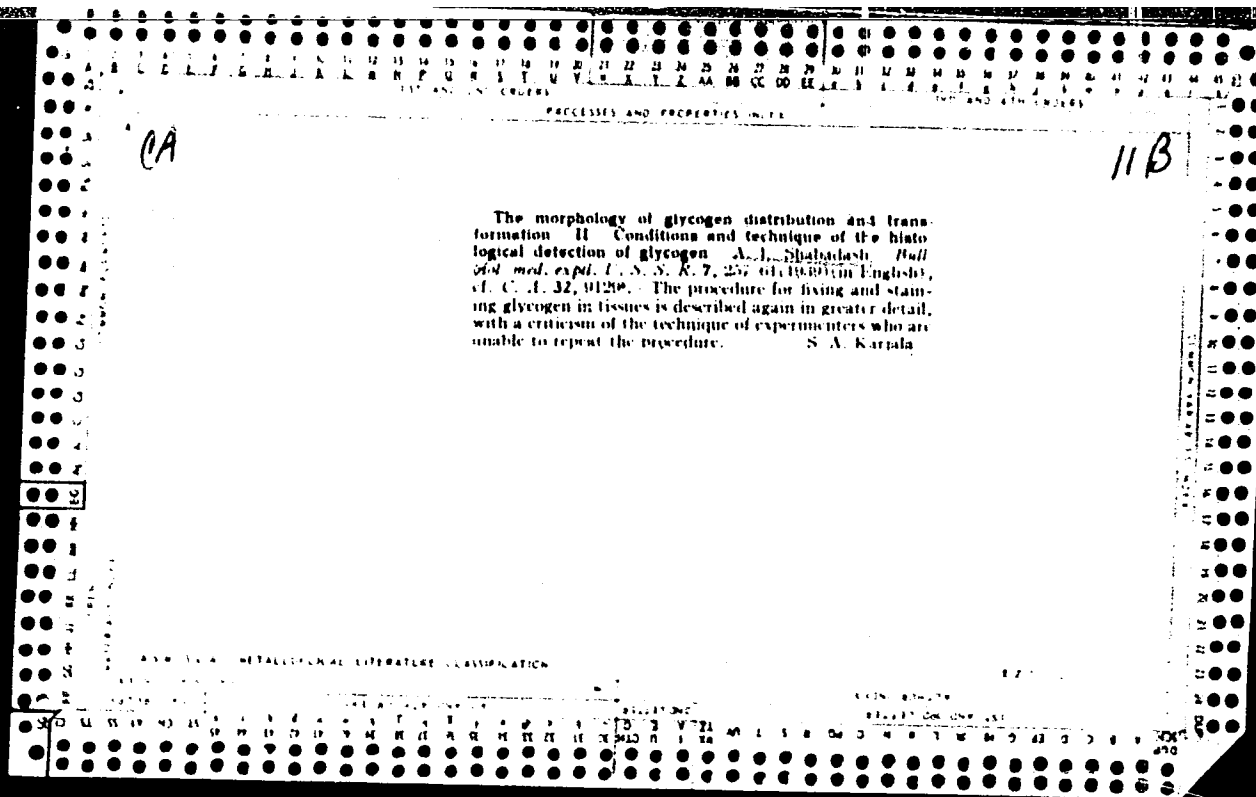
Professor E.IA. Stavskaja; obituary. Vop. kur., fizioter. i lech.
fiz. kul't. 26 no. 2:191 Mr-Apr '61. (MIRA 14:4)
(STAVSKAIA, EVGENIIA IAKOVLEVNA, 1892-1960)

ETIN, Il'ya Zinov'yevich; SHABADAKH, Askol'd Nikolayevich;
POLONSKIY, Mikhail Vladimirovich; KAMNEV, P.V., red.;
TELYASHOV, R.Kh., red.izd-va; BELOGUROVA, I.A., tekhn.
red.

[Automation of forging processes and the measurement of forgings
on forge presses with the help of radioisotopes] Avtomatizatsia
protseessov kovki i izmerenie pokovok na kovochnykh pressakh pri
pomoshchi radioaktivnykh izotopov. Leningrad, 1963. 25 p.
(leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen pe-
redovym opytom. Seria: Kovka i shtampovka, no.2) (MIRA 16:5)
(Forging) (Automation)
(Radioisotopes--Industrial applications)

SHABAD-IVANOVA, M.P. (Rava-Russkaya)

Concerning N.A.Ioffa's article "The problem of cancer in the light
of embryological data" (Arkhiv patologii, no.1, 1958). Arkh.pat.
21 no.10:72-74 '59. (MIRA 14:8)
(CANCER) (IOFFA, N.A.)

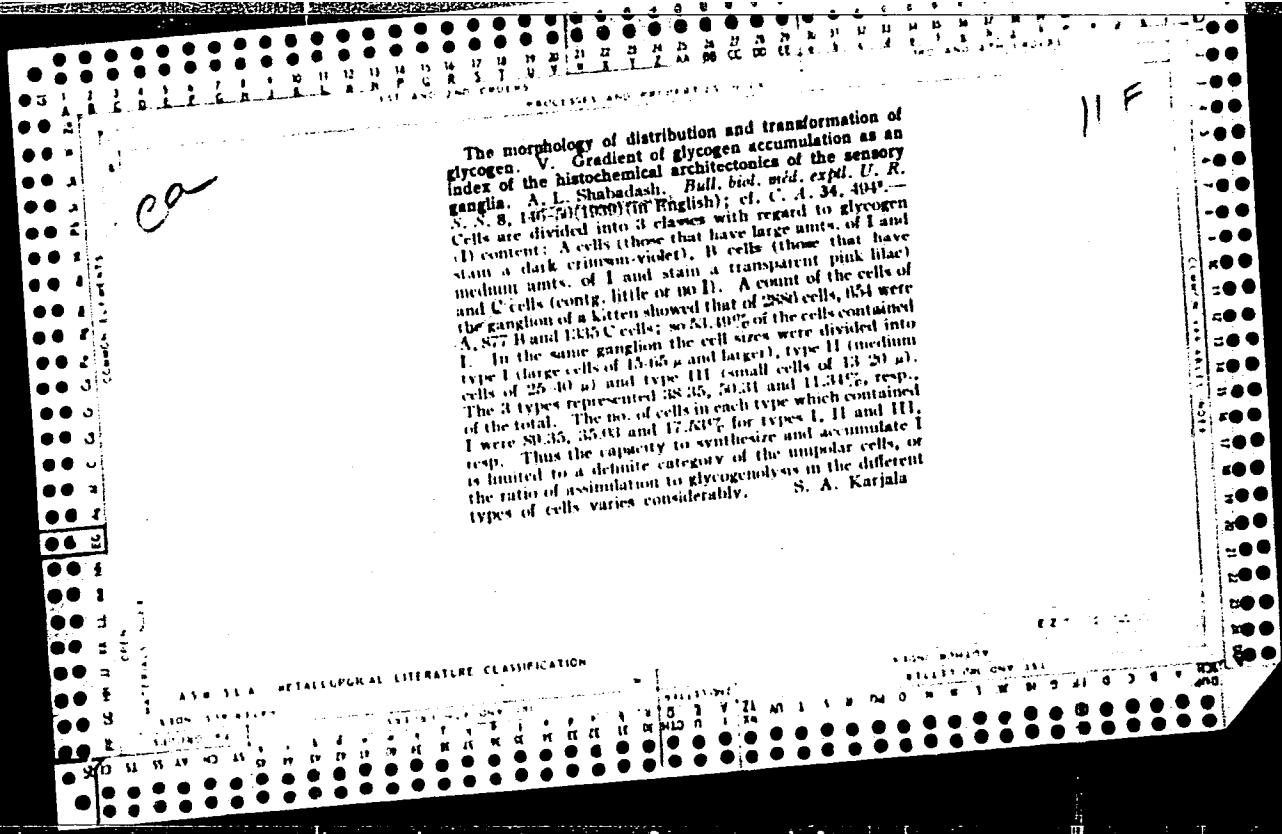


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Morphology of glycogen distribution and transformation III. Cytology of glycogen accumulation in the motor cells of the normal nervous system A. L. Shabadash. *Bull. Biol. Med. Exptl. U. R. S. S. R.* 7: 323-7 (1967) in English. of C. A. 33, 687P. The normal resting or recently recovered nerve cell contains glycogen (I), although variations in carbohydrate metabolism from one kind of nerve cell to another gives rise to many types of I accumulation. All the motor cells of a definite level of the motor nucleus show the same typical degree of I accumulation at the same time. The granules of "normal" I are characteristic and readily distinguished from pathol. I inclusions which appear as large coarse structureless deposits which distort the shape of the cells. I is found as a normal component of the Nissl tigroid, where it is probably combined with protein. IV. Glycogen in the cells of the gasserian and spinal ganglions of normal animals. R. V. Rezentovich and A. L. Shabadash. *Ibid.* 8, 29-31. The normal, pseudounipolar nerve cells of the gasserian and spinal ganglions of mammals in a relatively quiescent state and under proper conditions of nutrition contain glycogen. S. A. Karjala.

ASU 354 METALLURGICAL LITERATURE CLASSIFICATION



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PROCESSING AND PROPERTIES INDEX

An improved histochemical test for glycogen and its theoretical basis. A. L. Shabadash (Neurosurgical Inst. and Stomatological Inst., Moscow). *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1947, 745-80.—Histochem. stabilization of glycogen (I) is effected with neutral or acid solns., based on 100 ml. 96% EtOH to which 10 ml. 40% HCHO is added just before use. A neutral fixative, on this base, may contain 1.8 g. Cu(NO₃)₂ and 0.9 g. Ca(NO₃)₂; or 3.25 g. Cd(NO₃)₂; or 1.8 g. Ca(NO₃)₂ and 0.45 g. phlorizin (II); or 2.7 g. Zn(NO₃)₂ and 0.45 g. II. An acid fixative may contain 9 g. Ca picrate and 1 g. AcOH; or 9 g. Ca picrate and 1 g. ClCH₂COOH; or 3.5 g. phosphotungstic acid. In each case the acid is added just before use. Fixation causes no decomp. of I; chem. behavior and tissue structure are retained. Subsequent color tests for polysaccharides are thus more reliable than in prior methods. The variations in fixative compn. permit adaptation to many tissues and conditions. For best fixation of unchanged I in lung tissue, injection of the fixative into the blood stream should be under strong pressure. The preferred colorimetric assay for I (polysaccharides and their complexes) is selective oxidation of OH groups with alc. periodate to CHO groups, which give an intense lasting reddish-violet color with fuchsin-H₂SO₄. 93 references. Julian F. Smith

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

TECHN. DIVISION

1ST AND LETTER

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Shabadash, A.L.

✓ Shabadash, A. L.: Problemy gistokhimicheskogo issledovaniya glikogena normal'noi nervnoi sistemy (The Histochemical Study of the Glycogen of the Normal Nervous System). Moscow: Gosudarst. Izdatelstvo Med. Lit. 1949. 11 R. 70 Kop. Reviewed in *Ukrain. Khim. Zhur.* 22, 111(1950).

SHABADASH, A. L.

PA 3/50T65

USSR/Medicine - Glycogen Blood 11 Sep 49

"Glycogen in the Blood as a Differential Hematological Index," A. L. Shabadash, Moscow Inst of Stomatol, 4 pp

"Dok Ak Nauk SSSR" Vol LXVIII, No 2

A new selective histochemical method disclosed glycogen and polysaccharide complexes in the blood. Found every granulocyte had a typical form and level of polysaccharides. Monocytes and lymphocytes, contained polysaccharides, which were chemically like basophil, while thrombocytes had

3/50T65

USSR/Medicine - Glycogen (Contd) 11 Sep 49

glycogen inclusions. Glycogen proved to be a valuable index in explaining possibilities of hemopoiesis. Submitted by Acad N. M. Anichkov 11 Jul 49.

3/50T65

SHABADASH, A. L.

Shabadash, A. L.

Problems of histochemical investigation of glycogen of the normal nervous system. Identification of biological properties and differences of neurons. A. L. Shabadash. Reviewed by Ye. Ya. Rashba, Ukr. biokhim. zhur., 22, No. 1, 1950.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

CA

Decalcification of bone by neutral salt solutions. A. ...
Shaludash (Stomatol. Med. Inst., Moscow). Doklady
Akad. Nauk S.S.S.R. 70, 811-14(1950).—Ca is best
removed from bones, teeth, etc., *in vitro* by extr. with
N and 2 N NH₄ citrate soln. at pH 7.1-7.3 for 64-72
hrs. at 37-9°. K and Na salts are less effective; oxalate
effective. The prepd. specimens may be readily sectioned
for histology. The process suggests the possible mode of
mobilization of bone Ca *in vivo*. G. M. Kosolapoff

1. SHABADASH, A.L.
2. USSR (600)
4. Glycogen
7. Glycogen in the cerebral cortex in normal and pathological states, Ukr.biokhim. zhur. 23 no. 3, 1951.

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

SHABADASH, A.I.; ANICHKOV, N.N.

Histochemical detection of tigroid in the nerve cells. Dokl. AN SSSR 91 no.
2:405-408 J1 '53. (MLBA 6:6)

1. Moskovskiy meditsinskiy stomatologicheskiy institut Ministerstva zdравo-
okhraneniya RSFSR. 2. Akademiya nauk SSSR (for Anichkov). (Nerves)

SHARADASH, A.L.

Histochemical detection of tigroid neural cells. Doklady Akad. nauk
SSSR 91 no.2:405-408 11 July 1953. (CJML 25:1)

1. Presented by Academician N. N. Anichkov 8 May 1953. 2. Moscow
Medical Stomatological Institute of the Ministry of Public Health USSR.

SHABADASH, A.L.

Cytological and histochemical study of the action of ionizing radiations
on the animal organism. Itogi nauki. Biol. nauki no.1:171-188 '57.
(RADIATION--PHYSIOLOGICAL EFFECT) (CELLS) (MIRA 11:3)

20-114-3-57/60

AUTHOR: Shabadash, A. L.

TITLE: Histochemistry of the Mitochondria Ribonucleoproteins in a Nerve Cell (Gistokhimiya ribonukleoproteidov mitokhondriy nervnoy kletki)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 3, pp. 658-661 (USSR)

ABSTRACT: In the examination of nerve tissue, more of the attention is usually concentrated on the specific intercellular neuron organoids and on the connecting apparatus, the synapses. Since the discovery of neurofibrillae and tigroids, several scientists have attempted to determine the correlations of the functional and morphological changes in the neurons. Most successful was the analysis of the pathological dissection material. Here the long lasting and massive transformations of the nerve elements obviously lead to the generally known types of damages of the cells and their appendices. However, the experience of pathological conclusions proved to be insufficient for a comprehension of the quick happening physiological processes. Subsequent critical examination of data found in relevant scientific publications shows that

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20-114-3-57/60

Histochemistry of the Mitochondria Ribonucleoproteins in a Nerve Cell

in mammals the tigroids and the neurofibrillae remain constant in the steady change of different physiological states, if the experimental load of the nervous system does not exceed a critical limit. In all scientific papers of the last two years, which otherwise frequently are of great value, two objective factors are being neglected: the intensity and the duration of the stimulating action which actually approach a traumatic effect, and also the time spans of the responding reaction of the nervous system which are realized during the course of several hours or even days. An analysis of these processes taking into account the time parameters demonstrates that the described changes in the ribonucleoproteins (RNP) cannot be direct original consequences of the experimental conditions: they have to be considered as results of a step reaction of several terms, the mechanism and exponential of which require clarification. Although the results of more recent investigations or tigroids are, in essence, in agreement with investigations conducted fifty years ago, there cannot be any doubt that RNP play an important part in the biology of the nerve cell. Their localization is not restricted to the tigroid lumps. The most urgent task in this field would be to conduct a simultaneous investigation

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Histochemistry of the Mitochondria Ribonucleoproteins in a Nerve Cell 20-114-3-57/60

RNP. There are 21 references, 3 of which are Soviet.

ASSOCIATION: Institute of Biological Physics AS USSR
(Institut biologicheskoy fiziki Akademii nauk SSSR)

PRESENTED: February 20, 1957, by A. V. Palladin, Member of the Academy

SUBMITTED: February 16, 1957

Card 4/4

IVANITSKAYA, Ye.A.; KUZIN, A.M.; MAMUL', Ya.V.; SHABADASH, A.L.

Changes in the sorption properties of the liver following whole-body
X irradiation [with summary in English]. Biofizika 3 no.2:220-225
'58. (MIRA 11:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(LIVER) (X RAYS--PHYSIOLOGICAL EFFECT)

USSR / Human and Animal Morphology, Normal and Pathological.
Nervous System. Central Nervous System.

S-2

Abs Jour : Ref Zhur - Biol., No 18, 1958, No 83632

of TL are an adequate index of the biologic processes in the neuron, requires more accurate definition. The variation of TL represents the sum total of continuous transformations and therefore characterizes intermediary secondary variations of the state of the neurons. For the full study of the reaction mechanism of the neurons, clarification is needed as to the interrelationship of TL containing a limited quantity of ferments, and mitochondriae appearing as carriers of ferments necessary for the re-synthesis of RNP. There has been elaborated a new method for the detention of mitochondriae according to the presence within them of RNP, the relative content of which in mitochondriae is higher than in TL. Isoelectric spots of mitochondriae and of TL vary, which allows for the selective appearance of either of the specified components of the neuron, depending on the pH of the medium. The proposed

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SHABADASH, A.L.

Ribonucleoproteins in the mitochondria of nerve cells as indicators
of their functional activity. Biul.MOIP. Otd.biol. 63 no.2:172
Mr-Apr'58 (MIRA 11:7)

(MITOCHONDRIA)
(NUCLEOPROTEINS)

20-119-5-51/55

AUTHORS: Tsanev, R. G., Shabadash, A. L.

TITLE: Qualitative Changes Observed in Ribonucleoproteins in the Case of Damage to and Regeneration of Skin Fibroblasts and Skin Epithelium (Kachestvennyye izmeneniya ribonukleoproteidov pri povrezhdenii i regeneratsii fibroblastov i epiteliya kozhi)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 5, pp. 1024 - 1027 (USSR)

ABSTRACT: The nucleoprotein analysis is in modern cytochemistry used for the characterization of the biological reactivity of cells (References 1-3). But this is usually done in a one-sided manner: only on the basis of quantitative parameters, i. e. of the consumption of or the increase in ribo- (RNP) or desoxyribonucleoproteins (DNP) (References 1,4,5). This estimation only is of use for extreme situations, that means for a comparison of the initial levels of the "norm" and the results of long-lasting transformations which, in the end, lead to considerable quantitative changes of the cell components. In previous papers the second author proved that the functional

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20-119-5-51/59

Qualitative Changes Observed in Ribonucleoproteins in the Case of Damage to and Regeneration of Skin Fibroblasts and Skin Epithelium

author (Reference 3) for the coloring of sections at different pH-values does not only permit to determine in which concrete cell-microstructures ribonucleic acid is concentrated, but also permits to determine the physical-chemical differences of RNP. The experiments were performed with white rats. A piece of skin about 5 mm in size was cut out at their backs. About 3-5 days later the wound together with the surrounding skin was fixed with Shabadash-fixator. In the same microsection cells in 3 different states could be compared: 1) Normal cells of skin epidermis and fibroblasts, 2) the same cells of the granulation tissue, and 3) the same cells, but injured during the cutting out of the skin. The widely spread opinion that the intensity of coloring is proportional to the total amount of ribonucleic acid in the cell was not confirmed. The new histochemical method precisely determines the physical-chemical characteristic of RNP, especially the degree of the blockade of the phosphate groups. At the same time the cytological

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20-119-5-51/59

Qualitative Changes Observed in Ribonucleoproteins in the Case of Damage to
and Regeneration of Skin Fibroblasts and Skin Epithelium

SUBMITTED: January 24, 1958

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SHABADASH, A.L.

21(6): 17(0) PHASE I. BOOK EXPLOITATION 507/2608

International Conference on the Peaceful Uses of Atomic Energy. 24, Geneva, 1958

Doklady sovetskikh uchenykh: radiobiologiya i radiatsionnaya medicina (Reports of Soviet Scientists; Radiobiology and Radiation Medicine) Moscow, Izd-vo diaz. upr. po iepol'zovaniyu atomnoy energii. Pri Sovetskiy Ministrov SSSR, 1959. 429 p. 3,000 copies printed. (Series: Vozrozhdeniya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Trudy, tom 2)

General Ed.: A.V. Lebedevskiy, Corresponding Member, USSR Academy of Medical Sciences; Ed.: Z.S. Shirkova; Tech. Ed.: Ye.I. Masal'.

PURPOSE: This book is intended for physicians, scientists, and engineers as well as for professors and students at vuzesa where radiobiology and radiation medicine are taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains 14 reports edited by Candidates of Medical Sciences S.Y. Levitskiy and V.Y. Sedov. The reports cover problems of the biological effects of ionizing radiation, future consequences of radiation in small doses, genetic effects of radiation, treatment of radiation sickness, uses of radioactive isotopes in medical and biological research, uses of atomic energy for diagnostic and therapeutic purposes, soil absorption of uranium fission products and their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

Reports of Soviet Scientists (Cont.) 507/2608

HIMENOV, M.M., and D.A. NIKITICH. Changes Appearing in the Marrow System Following the Ionizing Radiation Accident (Report No. 2315) 74

YONKILIN, A.Y. Role of Supravital Oils in the Pathogenesis of Radiation Sickness (Report No. 2332) 95

SHVETZ, E.F. Primary Reactions in Nucleopides Under the Action of Ionizing Radiation (Report No. 2248) 105

BAZIN, A.M., and A.L. SHABADASH. The Importance of Change in the Native State of Neuloproteins in Radiation Injury (Report No. 2319) 110

FRANK, G.M., E.A. ALKHAJIMOVA, and A.D. SUSHKOVA. Some Problems in the Biophysical Analysis of Radiobiological Effects (Report No. 2237) 125

SHVETSKIKH, E.Ya. Some Issues and Cell Reactions to the Ionizing Radiation (Report No. 2000) 139

ALYMENTSEV, G.I., and A.L. SHABADASH. Electron Paramagnetic Resonance Spectra of Irradiated Amino-Acids, Peptides, Proteins, and Apoptolized Tissues (Report No. 2172) 152

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Cytochemical Changes in Nucleoproteins of Nerve Cells SOV/20-128-6-55/63
in Mammals Observed at Early Stages of Radiation Injuries

for determining the RNP (dyeing with methylene blue at different pH-values). Very acid pH-values of the isoelectric points (IEP) of the mitochondria and of the tigroids in afferent ganglionic neurons, as compared with similar indices of motoneurons of the spinal cord, and of the neurons of the cerebral hemispheres, were characteristic of normal (control-) rats (Table 1). Histochemical changes in the IEP of the RNP in mitochondria, in the tigroid and cytoplasm, showed - after one single total- γ -irradiation - sharp disturbances (characteristic of each neuron category) of the physicochemical state of nucleoproteins of the cytoplasm and of the organoids (Table 2). The quantitatively biggest changes were detected in the mitochondria of the afferent cells, followed - in decreasing order - by the shifting in the mitochondria of the motoneurons of the 4th, 3rd and 5th layers of the cerebral cortex, in the tigroid of the motoneurons, and finally in the tigroid of the cells of the cerebral cortex. The most considerable changes in RNP were determined in structures which normally have low IEP. As had been proved before (Refs 16-20), basic dyes are bound by RNP thanks to the free phosphoric acid groups, and their ✓

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Cytochemical Changes in Nucleoproteins of Nerve Cells SOV/20-128-6-55/63
in Mammals Observed at Early Stages of Radiation Injuries

quantity bound is proportional to that of these free groups. Therefore, the weaker coloring suggests considerable changes in the composition of the polymeric molecule. The colorable zone is much restricted by the IEP shifting. The duration of this shifting is different for individual organoids and cells, or types of neurons respectively. Characteristic shiftings also occur in the "diffuse" RNP of the cytoplasm. The IEP shiftings are particularly strong in the ganglionic cells. Thus, the method used by the authors made it possible to detect cytochemical changes in the central nervous system owing to total irradiation. As the computation scale of pH is logarithmic and corresponds to very big quantitative changes of acid and alkaline groups in the RNP colloidal salts, the physicochemical modification of RNP in the mitochondria can hardly be overrated. The authors' data are in agreement with the biochemical publication data on the influence of ionizing radiation on nucleoproteins (Refs 5, 7, 11, 13, 22, 25). There are 1 figure, 2 tables, and 26 references, 18 of which are Soviet. ✓

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SHABADASH, H.L.

USSR

reports to be submitted to the 1st Intl Congress of Histochemistry and Cytochemistry, Paris, France, 28 Aug-3 Sep '60.

FRIGINSKY, V. Ya. - "The nucleic acids of the nerve cell's nucleus and cytoplasm"

DEKHOV, M. V., VILCHINSKIY, V. V. and SUBOROTNY, M. - "The histochemistry of extramembranous structures in biological conditions"

FRIGINSKIY, A. Ya. - "Some aspects of the metabolism of the transitional epithelium"

GERBILYEV, G. B. - "The studies on the cell nucleoproteins with the aid of phenol fractionation procedure"

GRIGOR'YEV, I. A., REISEL, M. M., BRUGLBERG, Ye. M., BARSKIY, I. Ya. and GURKINA, A. V. - "Ultraviolet fluorescence microscopy as a new field of histochemistry"

SPYAZINA, G. D. - "Histochemical characteristics of diphtheric polyneuritis"

FRANCOY, I. B. - "The determination of sulphydryl groups of proteins by means of the inhibitory method of 5,5'-dithiobis(2-nitrobenzoic acid) method"

MAZUREK, B. V. - "Cytological and autoradiographic analysis of the nucleic acids in the synthesis of cellular protein"

CELONSKAYA, G. V. - "The evolution of the protein-polysaccharide composition of cardiac connective tissue in the development of rheumatic process"

FULENOV, A. L. - "Histochemical contribution to the study of dl-monocephalo-hypophysial secretion"

KORTVALOV, V. V. - "Some mechanisms controlling the chemical activity of the neuron mitochondria" (A summary of this report has been received by the organizers of the Congress and is included in Group I)

MAZUREK, B. V. - "Histochemistry and the nervous system (This is a proposed report of which the exact title is not yet known. It is listed by general subject matter under Group III)"

FRISNOV, M. A. - "Histochemistry in experimental cancer chemotherapy"

RODIN, G. I. - "Comparative histochemistry of neurons differing in their function"

SHABADASH, H. L. - "Presence of ribonucleoproteins in mitochondria of different animal cells and their functional importance" and "Cytochemical and cytophysical peculiarities of nerve tissues biological organization"

FRANCOY, I. B. - "Histochemical examinations of connecting tissues in the light of recent pathological studies"

RUSTOMOVSKIY, A. A. - "A comparative physical and chemical characteristic of procollagen and collagenases"

VASIL'YEV, M. - "Histochemical studies of the connective tissue changes observed in the source of development of induced sarcoma in rats"

ZHARSKIY, I. B. - "Proteinic and nucleic composition of nucleolus structures"

ZHARSKIY, I. B. and FERYUCHENKOVA, K. A. - "On the role of cell nucleus and its fractions in protein biosynthesis measured by the incorporation of labeled amino acids"

26

SHABADASH, A. I.

"Cytochemical Bases of the Organization of Biopotentials of the Nerve Cell."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Institute of Biological Physics, Academy of Sciences USSR, Moscow.

TSANEV, R.G.; SHABADASH, A.L.

Some cytochemical indications of injury and regeneration in
the epithelium and fibroblasts of the skin. Biul.MOIP. Otd.
biol. 65 no.3:145-146 My-Je '60. (MIRA 13:7)
(SKIN) (NUCLEOPROTEINS) (REGENERATION (BIOLOGY))

SHABADASH, A.L.; KRASKINA, N.A.

Some cytochemical characteristics of cells of the plasmatic series. *Biul.MOIP. Otd.biol.* 65 no.3:151-152 My-Je '60.

(MIRA 13:7)

(CELLS)

SHABADASH, A.L.; ZELIKINA, T.I.; AGRACHEVA, N.D.

Cytochemical changes in the mammalian nervous system following
local X irradiation; preliminary report. Radiobiologia 1 no.1:
42-44 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(X RAYS--PHYSIOLOGICAL EFFECT)
(NERVOUS SYSTEM)

SHABADASH, A.L.

Evolutionary complication of radiation aftereffects and role of the nervous system in radiation sickness. Radiobiologia 1 no.2:212-222
Radiobiologia 1 no.2:212-222 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(RADIATION SICKNESS) (NERVOUS SYSTEM)

SHABADASH, A.L.; ZELIKINA, T.I.; AGRACHEVA, N.D.

Cytochemical reactions of mitochondrial ribonucleoproteins and tigroid granules of nerve cells during the first minutes after gamma irradiation. Dokl.AN SSSR 136 no.1:222-225 Ja '61. (MIRA 14:5)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom L.S.Shtern.

(NUCLEOPROTEINS) (GAMMA RAYS--PHYSIOLOGICAL EFFECT)
(NERVES)

SHABADASH, A. L. (USSR)

"Cytochemical Features of Nerve Cells and Their Radiobiological
Reactivity."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

ZARKH, Ye.N.; ZELIKINA, T.I.; SHABADASH, A.L.; SHUNGSKAYA, V.Ye.

Methods of studying certain characteristics of the tigroid in
the spiral cochlear ganglion of the inner ear. Biofizika 6
no. 2:233-237 '61. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(EAR—INNERVATION)

21 6300

88578

S/O20/61/136/001/035/037
BC16/B052

AUTHORS: Shabadash, A. L., Zelikina, T. I., and Agracheva, N. D.

TITLE: Cytochemical Reactions of Ribonucleoproteids of Mitochondria and the Tigroid of Nerve Cells Within the First Minutes After Exposure to Gamma Rays

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No.1, pp. 222-225

TEXT: The authors continued analyzing the role of the central nervous system in the "radiation reaction" of white rats. In Refs. 1 - 3, they had proved that already 30 minutes after one single exposure to γ -rays, the stimulus threshold of neurons in the central nervous system of mammals is disturbed by considerable histochemical changes. In this paper, the authors attempted to explain the shortest period of time necessary for the occurrence of physicochemical disturbances in the neuron structure, which can be registered by their methods. Studies on the isoelectric point (i.e.p.) of ribonucleoproteids (RNP) in the organoids of nerve cells showed that fundamental changes are by no means early processes of damage, but very early biological processes similar to the damage of blood-forming

X

Card 1/3

Cytochemical Reactions of Ribonucleoproteids of Mitochondria and the Tigroid of Nerve Cells Within the First Minutes After Exposure to Gamma Rays

88578

S/020/61/136/001/035/037
BC16/B052

organs. They are exactly located in concrete structures. The experimental conditions are described in Ref. 2. The radiation intensity was 100 r/min, and the exposure time was 10 min for a dose of 1000 r. The changes of i.e.p. were determined from the intensity of selective sorption of methylene blue as dependent on the pH of the medium. The earliest changes in the nervous cells occur in i.e.p. shifts of the RNP of their mitochondria and tigroid clumps in alkaline direction. Table 1 gives the quantitative changes of i.e.p. in the last-mentioned organoids of various categories of neurons within 1, 5, 10, 12, 17, 30, 40, 50, and 60 min. Hence, the authors found that the largest i.e.p. shifts are characteristic of mitochondria of afferent ganglionic cells. A similar shift is also characteristic of the RNP of mitochondria of the fourth layer of the cerebral cortex (parietal region). Only physico-chemical characteristics are considerably disturbed, whereas the morphological ones remain unchanged. Within the first minutes, the above shifts differed in mitochondria and tigroid. Hence, the authors conclude that not the participation of RNP in any structure is decisive for the extent and moment of the shift, but the

Card 2/3

X

S.H. SHABDASH, A.L.

SESSION B-5-7 : Response of Brain and Nerve

(n)
Cytochemical Analysis of Cells of the Central Nervous System in the Latent Period of Radiation Damage

A. L. Shabadash, T. I. Zepkina and N. D. Agrachera

The cytochemical investigation of ribonucleoprotein (by the method of Shabadash) showed that even during the first minute following the total-body irradiation of white male mice (LD₁₀₀) there were considerable shifts in the isoelectric point (IEP) of the mitochondria of the afferent neurons and brain cortex cells. The alkaline shift of IEP increases also during the subsequent 20 min (by 1.0 to 1.4 pH units) and is maintained for several days. The curve of the quantitative indices of deviation from the mean standard is wavy; during the first hours one notes several peaks; at 24 hr a plateau, which passes gradually into the standard level at 48 hr; there follows another rise, with a maximum during the 4th day, while during the period of clinical manifestations one observes a complex alteration of IEP deviations in the alkaline and acid directions. It is known that the electro-colloidal changes of ribonucleoproteins substantially alter the reaction between the mitochondrial enzymes and their substrates; this, in turn, distorts the metabolism and the functioning of the most important neuron categories; cytochemical shifts are more marked than visible disturbances in the microstructure of organelles. The screening of the head or trunk shows that the observed physico-chemical changes are the sum of direct radiation effects on the central nervous system and of the distance (including the reflex) processes. The 'latent period' of radiation damage of mammals virtually does not exist since the cytochemical 'pathology' of the neuron mitochondria is revealed permanently and predetermines the disturbance of normal correlations of the entire body. When radiation illness is in full swing, distinct damage to the neuron mitochondria in the higher trophic centres of the hypothalamus can be seen.

Institute of Biological Physics of the Academy of Sciences of the USSR, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

SHABARASH, A.L.; AGRACHEVA, N.D.; ZEMIKINA, T.I.

Periodicity of cytochemical changes in the ribonucleoproteins
in the cells of the central nervous system in the latent period
and in the initial stage of the clinical appearance of radiation
injury. Radiobiologia 2 no.1:105-114 Ja '62 (NIRA 18:2)

SHABADASH, A.L. (Moskva, G-151, prospekt Kutuzova, 24, kv. 114); KHEYFETS,
Yu.B.

Cytochemistry of the blood glycogen in mammals after a single
total-body X-ray irradiation. Arkh. anat., gist. i embr. 43
no.12:29-35 D'62 (MIRA 17:5)

1. Institut biologicheskoy fiziki AN SSSR. Adresa Kheyfetsa:
Moskva, Institut biologicheskoy fiziki AN SSSR.

SHABADASH, A.L.; ZELIKINA, T.I.; AGRACHEVA, N.D.

Cytochemical indications of inhibited states of cells of the
central nervous system in mammals. Dokl. AN SSSR 145 no.3:657-
660 JI '62. (MIRA 15:7)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno
akademikom I.S. Beritashvili.
(MITOCHONDRIA) (INHIBITION)

KHEIFETS, Yu.B., mladshiy nauchnyy sotrudnik; SHABADASH, A.L., prof.

Characteristics and differences of glycogen loss by leucocytes
after X-ray irradiation of the blood in vitro and in the body.
Vop. radiobiol. [AN Arm. SSR] 3/4:235-240 '63.

(MIRA 17:6)

KHEYFETS, Yu.B.; SHABADASH, A.L.

Comparative study of early glycogen changes in the
leucocytes after irradiation in vivo and in vitro. Dokl.
AN Arm. SSR 37 no.2:103-106 '63. (MIRA 17:2)

1. Predstavleno akademikom AN Armyanskoy SSR G.Kh.
Bunyatyanom.

SHABADASH, A.L. (Moskva, G-151, pr. Kutuzova, 24, kv. 114); ZELIKINA, T.I.
(Moskva, Butyrskaya ul., 84, kv. 1; AGRACHEVA, N.D. (Moskva 2,
Truzhenikov per., 4, kv. 18)

Cytology and cytochemistry of ribonucleoproteins in mitochondria and tigroid of the cells of the central nervous system during the latent period of radiation sickness.
Arkh. anat., gist. i embr. 44 no. 2:3-9 F '63.

(MIRA 17:2)

1. Institut biologicheskoy fiziki AN SSSR (Moskva).

SHABADASH, A.L. (Moskva, G-151, pr. Kutuzova, 24, kv.114); YENENKO, S.O. (Moskva, ul. Belinskogo, 5, kv.7); DRLOVA, L.V. (Moskva, Leningradskiy pr., 78, korp. 5, kv.69);

Cytochemical examination of the glycogen of the central nervous system of frogs after gamma irradiation. Arkh. anat., gist. i embr. 44 no.15:26-36 Ny '63. (MIRA 17:6)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

SHABADASH, Arnold L.

"The histochemical peculiarities and equivalents of functional properties of the nervous tissue."

report submitted for 2nd Intl Cong, Histochemistry & Cytochemistry, Frankfurt, 16-21 Aug 64.

Inst of Biophysics, AS USSR, Moscow.

SHABADASH, A. L.; ZELIKINA, T. I.; AGRACHEVA, N. D.

Cytochemical characteristics of ribonucleoproteids and the
deoxyribonucleoprotein complex in the nucleolus of nerve cells.
Dokl. AN SSSR 155 no. 2:445-447 Mr '64. (MIRA 17:5)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno
akademikom A. N. Belozerskim.

SHABADASH, A.N.

USSR/ Physics - Spectral analysis

Card 1/2 Pub. 43 - 55/62

Authors : Shabadash, A. N., and Igonin, L. A.

Title : Quantitative analysis by means of ultraviolet absorption spectra of vapors

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 733-734, Nov-Dec 1954

Abstract : It is explained that ultraviolet absorption spectra of vapors of many organic compounds (particularly aromatic) are much more selective than the spectra of solutions of these compounds. Quantitative analysis methods by means of ultraviolet absorption spectra of vapors are intended only for analyses at room temperatures. In order to increase the analysis sensitivity the length of the absorption chamber used in the analysis must be extended to 4-5 m.

Institution : State Sc. Research and Planning Inst. of Plastics

Submitted :

Card 2/2 Pub. 43 - 55/62

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 733-734, Nov-Dec 1954

Abstract : The method makes it possible to analyze not only the substances which became completely vaporized in the chamber but also the vapors which are in equilibrium with the condensed phase. Three references: 1 USA, 1 English and 1 French (1941-1946). Drawing.

SHABADASH, A-N.

4

1960. Determination of methyl methacrylate by means of the ultra-violet absorption spectrum of the vapour. A. N. Shabadash and L. A. Igonin (State Sci. Res. and Planning Inst. of the Plastics Industry). *Zavod. Lab.*, 1960, 28 (11), 1324-1327.

The volatile material to be analysed is placed in an ampoule which is inserted in a special cell. The cell is evacuated; the ampoule is broken, and the absorption spectrum of the vapour is registered. The method is applied to the determination of the monomer in poly(methyl methacrylate) at 245 m μ . Soln. in dichloroethane are used. By means of a calibration graph the monomer can be determined within $\pm 0.05\%$ of the sample wt. G. S. SURIN

PM MT

SHABADASH, A.N.

PRIKHOT'KO, A.F.

24(7) p.3 PHASE I BOOK EXPLOITATION SOV/2365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-za, 1957. 499 p. 4,000 copies printed. (Series: Itsi Fizichnyy sbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavsterg, G.S., Academician (Resp. Ed., Deceased), Neperent, B.S., Doctor of Physical and Mathematical Sciences, Pabelinakiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Shabadash, A.N., V.F. Pshenitsyna, and V.M. Khisheva. Spectrophotometric Methods of Phase Control in Processing Acetic Anhydride

275

Yeliseyev, Yu. A., L.A. Igonin, and A.N. Shabadash. Vacuum Container for the IKS-1 Infrared Spectrometer

371

Gachkovskiy, V.F. Complex Structure and Nature of the Absorption Spectra and Fluorescence of Magnesium Phtaloocyanine and Chlorophyll

372

Gurinovich, G.P., I.M. Yermolenko, A.M. Sevchenko, and K.M. Solov'yev. Electron Spectra of Chlorophyll and Pheophytine and Metal-derivatives

375

Cherkasov, A.S. Effect of Spacing of Substitutes on the Absorption Spectra and Fluorescence of Meso-derivatives of Anthracene

381

Finkel'shteyn, A.I., N.I. Malkina, and G.P. Machin. Absorption Spectra in the Ultraviolet Range and the Molecular Structure of Triazine Derivatives

385

Card 24/30

SHABADASH, A.N.; PSHENITSYNA, V.P.; KHISHEVA, V.M.

Spectrophotometric method for vapor-phase analysis of the acetic anhydride production. Fiz. sbor. no.3:275-277 '57. (MIRA 11:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut promyshlennosti plasticheskikh mass.
(Acetic anhydride—Spectra) (Spectrophotometry)

SHABADASH, A. N., Candidate Tech Sci (diss) -- "Method and equipment for analysis of high polymers and tars using ultra-violet vapor absorption spectra". Moscow, 1959. 12 pp (Min Higher Educ USSR, Moscow Inst of Fine Chem Tech im M. V. Lomonosov), 180 copies (KL, No 24, 1959, 143)

85113

S/191/60/000/007/006/015
B004/B056

158107

AUTHORS:

Rayburd, S. M., Rodivilova, L. A., Vlasova, K. N.,
Shabadash, A. N., Igonin, A. A.

TITLE:

Investigation of the Hardening Process of Methylol Polyamide Resins

PERIODICAL:

Plasticheskiye massy, 1960, No. 7, pp. 20 - 22

TEXT: In Ref. 2, the authors supposed that the hardening of methylol polyamides takes place by the formation of ether cross links (CH₂-O-CH₂) or methylene cross links (N-NH₂-N). The present paper gives a report on the spectral-analytical investigation of the hardening process. The following substances were used: polyamide resin of the type 54/10 (molecular weight 25,000) obtained by polycondensation of caprolactam with AG- salt, further MPL-20 (MPL-20) and AMP (AMP) methylol polyamides of the type PF-2/10 (PFE-2/10), obtained by treatment of polyamide resin^s 54/10 with paraform in ethanol or benzyl alcohol. Structure, content of methylol and methoxyl groups, and solubility are given in a table.

Card 1/2

85113

Investigation of the Hardening Process of
Methylol Polyamide Resins

S/191/60/000/007/006/015
B004/BC56

Figs. 1,2 show the infrared spectra within the range $2800 - 3300 \text{ cm}^{-1}$ and $1000 - 1300 \text{ cm}^{-1}$ before and after hardening (30 hours heating to 150°C) of the resins, which were recorded by means of a MKC-11 (IKS-11) recording spectrometer. The absorption bands are discussed. After 30 hours of hardening, the IR-spectra of the various resins were rather similar to one another. The bands of the methylol- and ether groups ($1000 - 1100 \text{ cm}^{-1}$) vanished during heating; no bands characteristic of the $\text{CH}_2\text{-O-CH}_2$ groups occurred. Therefore, cross linking took place by the formation of methylene bonds. The authors mention a paper by D. N. Shigorin. There are 2 figures, 1 table, and 6 references: 5 Soviet and 1 US. X

Card 2/2

S/191/60/000/003/011/013
B016/B054

AUTHORS: Shabadash, A. N., Kharitonova, N. F.

TITLE: Spectroscopic Determination of Ethyl Benzene in Industrial Styrene

PERIODICAL: Plasticheskiye massy, 1960, No. 3, p..65

TEXT: The authors suggest a modification of the method of determining ethyl benzene in styrene developed at NIIPP (Scientific Research Institute of Plastic Products) (Ref.1). Instead of using purified styrene as a standard, which polymerizes while being stored, they suggest the following method which is free from this shortcoming. It is being applied in polystyrene production by the Kuskovskiy zavod (Kuskovo Works) to analyze samples of industrial styrene and its fractions. The optical density D of the 2873 cm^{-1} infrared absorption band is determined from ratio between the intensity I_0^1 of light absorbed by the sample at a wavelength of 2782 cm^{-1} (where light is only absorbed by styrene) and

Card 1/3

Spectroscopic Determination of Ethyl Benzene S/191/60/000/003/011/013
in Industrial Styrene B016/B054

the intensity I_{an} of the 2873 cm^{-1} band to be analyzed:

$D = \log \frac{I_o}{I_{an}}$. Here, it is not necessary to take every time the spectra

of the standard and of the styrene sample to be analyzed. The values of the two intensities can be directly determined from the spectrum of the styrene sample if it contains ethyl benzene. This method of determination also reduces the error due to other impurities with monotonic absorption in the respective range. A figure shows a calibration diagram for ethyl benzene determination. The diagram is plotted on the basis of standard solutions prepared with 0.25 and 3% of ethyl benzene in styrene. To analyze the solutions, the authors used an ИКС-11 (IKS-11) spectrometer. From the diagram, they conclude that the accuracy of analysis increases in determining low concentrations; therefore, the relative error is equal over the whole range of concentration measured here; it is $\pm 15\%$. In these determinations, other impurities of styrene are measured simultaneously; therefore, it is possible that the results concerning the

Card 2/3

Spectroscopic Determination of Ethyl Benzene S/191/60/000/003/011/013
in Industrial Styrene B016/B054

styrene content are too high on the basis of the 2873 cm^{-1} band. There are 1 figure and 2 Soviet references.

✓

Card 3/3

RAYBURD, S.M.; RODIVILOVA, L.A.; VLASOVA, K.N.; SHANADASH, A.N.; IGONIN, A.A.

Study of the solidification of methylol polyamide resins. Plast.
massy no.7:20-22 '60. (MIRA 13:10)
(Resins, Synthetic) (Polyamides)

S/020/61/41/006/015/021
B103/B147

AUTHORS: Igonin, L. A., Mirakhmedov, M. M., Turchaninova, K. I., and
Shabadash, A. N.

TITLE: Study of the infrared absorption spectra in the solidification
process of resole phenol formaldehyde resin

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 6, 1961, 1366-1368

TEXT: The infrared absorption spectra of resole phenol formaldehyde resin were studied in the course of its solidification between 20 and 200 °C. Commercial resole resin (production, Ref. 1: L. A. Igonin, M. M. Mirakhmedov, *Plasticheskiye massy*, No. 1 (1962) in print) was dried in vacuo as well as subjected to a molecular distillation at 80 °C in a vacuum of about 10^{-4} mm Hg. Then, the resin was cold-pressed with 220 kg/cm², subsequently the mold was heated with a rate of 1.5 °C/min to a given temperature at which it was kept for 15 min, and then cooled rapidly to room temperature. The pulverized resin was mixed with KBr powder and pressed in vacuo under a pressure of 10 tons/cm² to 1.45 mm thick sheets which were used as windows in the Hilger spectroscope H-800
Card 1/3 ✓

S/020/61/1.41/006/015/021
B103/B147

Study of the infrared absorption...

for photographing spectra. It is concluded from the spectra that increasing heating results in the following changes: The bands which are characteristic of the OH groups decrease owing to condensation of the resin. The wide band appearing at 1050 cm^{-1} corresponds to the stretching vibrations of the C-O ether bond. Its appearance is caused by the initial conversion of the methylol groups to ether bridges. This band decreases at 150°C and disappears completely at 170°C . The 1370 cm^{-1} band starts decreasing at 70°C . This is explained by reaction of the phenol-OH groups. The 1645 cm^{-1} band characteristic of the C=C bond becomes visible already at 130°C and increases with increasing solidification temperature. At high solidification temperatures ($170 - 200^{\circ}\text{C}$) the 1379 cm^{-1} band appears in the spectrum of solidified resins, which is attributed to the formation of methyl groups. It is concluded from the results that the number of OH groups decreases during solidification and that the polymer chains in the initial stages of solidification are polyoxybenzyl ethers formed by interaction between the methylol groups. Probably, the decomposition of the ether bridges is accompanied by the formation of active centers the recombination of which leads to the formation of stable steric networks (resites). The radical decomposition mechanism

Card 2/3

S/020/61/141/006/015/021

B103/B147

Study of the infrared absorption...

of the ether bridge is confirmed by the phenol hydroxyl entering the solidification reaction and by the appearance of the methyl group owing to the recombination processes of the free radicals forming. There are 1 figure and 7 references: 1 Soviet and 6 non-Soviet. The three references to English-language publications read as follows: R. E. Richards, H. W. Tompson, J. Chem. Soc., 1947, 1260; R. J. Grisenthwaite, R. F. Hunter, J. Appl. Chem., 6, 324 (1956); N. J. L. Megson, Phenolic Resin Chemistry, London, 1958, p. 33.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass
(Scientific Research Institute of Plastics) ✓

PRESENTED: July 21, 1961, by V. A. Kargin, Academician

SUBMITTED: July 20, 1961

Card 3/3

4

S/19C/62/004/003/018/023
B124/B'01

Study of the thermal ...

degradation of TD(s) performed at 450°C show absorption bands at 1365, 1365, and 2970 cm⁻¹ characteristic of the methyl group, and at 1735 and 1250 cm⁻¹ characteristic of the ester bond. The split absorption band at 1735 cm⁻¹ indicates the presence of terephthalic acid, whereas the split band at 1600 cm⁻¹ shows free DDP to be present. The infrared spectrum of the solid residue of TD(s) after thermal degradation at 450°C for 1 hour does not contain bands which are characteristic of methyl groups, whereas bands characteristic of the ester bond are established in the infrared spectrum of the solid residue exposed to thermal degradation at 500°C for 1 hour. These bands are lacking in the spectrum of the product exposed to thermal degradation at 600°C for 20 minutes. Absorption spectra of the solid residue of TD(s) and DDP in the region of 700 - 900 and 1600 cm⁻¹ show that the concentration of phenyl rings increases after degradation leading to the formation of polyphenylene-like structures. These conclusions were confirmed by the EMR spectra of the residues of thermal degradation of TD(s) at 450, 500, and 600°C. A. A. Berlin and L. A. Blyumenfel'd Vysokomolek. sojed., 2, 1494, 1960; Zhurnal strukturnoy khimii 1, 103,

Card 2/3

GOLUBENKOVA, L.I.; SHABADASH, A.N.; NIKONOVA, S.N.; AKUTIN, M.S.

Grafting of polymers to solid surfaces. Part: 1: Study
of the interaction of organosilicon compounds with glass
based on infrared absorption spectra. Vysokom.soed.
4 no.9:1354-1360 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut plasticheskikh
mass.

(Glass)
(Silicon organic compounds)

S/051/62/012/002/006/020
E202/E192

AUTHORS: Kuindzhi, B.M., Igonin, L.A., Gribova, Z.P., and
Shabadash, A.N.

TITLE: Photochromism and electron paramagnetic resonance
of α -(o,p-dinitrobenzyl)-pyridine (I)

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 220-223

TEXT: The authors discuss the mechanism of tautomeric radical conversions taking place in α -(o,p-dinitrobenzyl)-pyridine (I), caused by the exposure to light. (I) was prepared from α -(benzyl)-pyridine and recrystallized repeatedly from alcohol. The melting points of the yellow and violet forms were both the same (93 °C). I-N-CH₃- α -(o,p-dinitrobenzyl)-pyridine and N-CH₃- α -(o,p-dinitrobenzyl)-pyridine were also prepared, but neither of them showed any phototropic or paramagnetic properties. The e.p.r. spectrum was studied in a spectrometer with double modulation of the magnetic field and with synchronous detection and registration in the form of the first derivative. Arrangements were made to heat the sample directly in the resonator. The illumination was by unfiltered Hg-in-quartz lamp.
Card 1/2

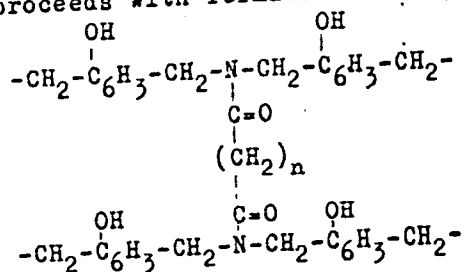
S/191/62/000/011/017/019
B101/B186

AUTHORS: Shabadash, A. N., Sirota, A. G.

TITLE: Spectroscopic study of the effect of dicarboxylic acids on the setting of novolac resins

PERIODICAL: *Plasticheskiye massy*, no. 11, 1962, 65-67

TEXT: A check was made of the assumption that the setting of phenol formaldehyde novolac resin with hexamethylene tetramine in the presence of dicarboxylic acids proceeds with formation of cross links of the type



Card 1/2

KUINDZHI, B.M.; IGONIN, L.A.; GRIBOVA, Z.P.; SHABADASH, A.N.

Photochromism and electronic paramagnetic resonance in
 α -(o, n-dinitrobenzyl)-pyridine. Opt. i spektr. 12 no.2:
220-223 F '62. (MIRA 15:2)
(Pyridine--Spectra)
(Paramagnetic resonance and relaxation)

SHABADASH, A. N.; SIROTA, A. G.

Spectroscopic study of the effect of dicarboxylic acids on
the hardening of novolak resins. Plast. massy no.11:65-67
'62. (MIRA 16:1)

(Phenol condensation products—Spectra)
(Acids, Organic)

BERSHTEYN, V.A.; KRASIL'SHCHIKOVA, B.L.; NIKONOVA, S.N.; SHABADASH, A.N.

Mechanism of the effect of the thermochemical treatment of glass
fibers on the strength of polyester glass plastics. Plast.massy
no.10:30-35 '63. (MIRA 16:10)

PSHENITSYNA, V.P.; SHABADASH, A.N.; FREMEL', T.V.

Association phenomena in solutions of phenol formaldehyde
novolak resins of orthoregular structure. Dokl. AN SSSR 153
no.3:650-652 N '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut plasticheskikh mass.
Predstavleno akademikom V.A. Karginym.

PSHENITSYNA, V.P.; SHABADASH, A.N.

Spectroscopic analysis of the products of condensation of
para-substituted phenols with formaldehyde. Plast.massy
no.3:57-59 '64. (MIRA 17:3)

ACCESSION NR: AP4012089

S/0020/64/154/002/0369/0371

AUTHORS: Akutin, M.S.; Kovarskaya, B.M.; Shabadash, A.N.;
Konovalova, B.Ye.

TITLE: Pyrolytic method of block copolymer synthesis

SOURCE: AN SSSR. Doklady*, v.154, no.2, 1964, 369-371

TOPIC TAGS: pyrolytic synthesis, block copolymer, free radical interaction, block copolymer synthesis, SKN 26, ED 15, nitrile rubber-epoxide tar, polyethylene-polyisobutylene mixture

ABSTRACT: The authors have used the interaction of radicals formed during thermal destruction of two or more polymers for the synthesis of block copolymers. It was expected that new types of polymer materials would be formed by recombination of radicals at moderate heating. The interaction of polymers with reactive oligomers and interaction of two polymers had been studied, specifically, the mixture (1:1) of nitrile rubber SKN 26 with epoxide tar ED 15, low pressure polyethylene and tar ED 15, and polyethylene and polyisobutylene (mol. weight 200,000). For thermal destruction, temperatures of 2500 and 2200 were

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ACCESSION NR: AP4012089

used for 1 hour. The solubility of one of the components of the mixture before and after heating is given in a table. Infrared spectra of the components and of the product after heating are reproduced in two figures. These data indicate that heating of mixed polymers (in the absence of oxygen) actually results in the production of block copolymers owing to recombination of radicals. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass (State Research Institute for Plastic Materials).

SUBMITTED: 24Jul63 DATE ACQ: 14Feb64 ENCL: 00
SUB CODE: OH, MA NR REF SOV: 003 OTHER: 003

Card 2/2

CHIKEND, G.I.; SHABADASH, A.N.; GOROUNOV, V.N.; NAGIBINA, A.G.

Quantitative analysis of low-molecular divinyl polymers and divinyl
rubbers by means of infrared absorption spectra. Plast. massy
no. 4061-62 '64. (MIRA 18:6)

TUTORSKIY, I.A.; BOYKACHEVA, E.G.; POL'SMAN, G.S.; SHABADASH, A.N.;
DOGADKIN, B.A.

Structures of cyclic isomers of polyisoprenes. Vysokom. speed.
7 no.8:1394-1399 Ag '65. (MIRA 18:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.

16/000/002/0027/0029

L 11514-66 EWT(m)/T/EMF(j)/ETC(m) WW/EM SOURCE CODE: UR/0191/601
ACC NR: AP6005950 (A) Shabadash, A. N.; Akutin, M. S. 28
AUTHOR: Nikonova, S. N.; Golubenkova, L. I.; Shabadash, A. N.; Akutin, M. S. B

ORG: none

TITLE: Reaction of organosilicon compounds with glass fiber
SOURCE: Plasticheskiye massy, no. 2, 1966, 27-29

TOPIC TAGS: glass fiber, organosilicon compound grafting, coupling agent

ABSTRACT: A study has been made of the reaction of organosilicon compounds with glass fiber used in the manufacture of glass-reinforced plastics. An IR-spectroscopic method developed by the authors and involving immersion of the fiber in a special liquid, whose refractive index approaches that of glass, was used for direct identification of groups of organosilicon compounds grafted on the glass surface. The experiments were conducted with alkali and alkali-free glass fibers. The fiber was treated for 2 hr with the organosilicon compound or its organic analog. The untreated portion of glass fibers with trimethylchlorosilane (I) and a nonpolar solvent. Treatment of glass fibers with trimethylchlorosilane (I) or trimethylsilanol (II) resulted in the grafting of trimethylsilyl groups on the glass surface. The degree of grafting was higher when the glass was treated with I. Weak alkalis removed some of the trimethylsilyl groups by leaching the glass. Organosilicon compounds containing no reactive groups, trimethylchloromethane, and tri-

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Card 1/2

SUB CODE: 11/ SUBM DATE: 12Jan65/ ORIG REF: 007/ OTH REF: 004/ ATD PRESS: 3 fig-
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4199

Card 2/2

SHABADASH, B. I.

USSR/Electricity - Personalities

Jan 52

"Professor N. N. Shchedrin (His 60th Birthday and 30 Years of Scientific and Pedagogical Activity)," A. A. Gorev, V. A. Tolvinskiy, M. A. Shatelen, R. A. Alimov, N. I. Toperverkh, Kh. F. Fazylov, G. R. Rakhimov, M. Ye. Syrkin, B. I. Shabadash

"Elektrichestvo" No 1, p 92

Shchedrin has published more than 30 scientific works, most of them devoted to the calculn of short-circuit currents. Recently, he has concd on dc power transmission and has directed studies on long-distance power transmission by dc and ac at the Power Eng Inst, Acad Sci Uzbek SSR. Shchedrin is a member of the Permanent Commission on Short-Circuit Currents, Min of Elec Power Stations, the Commission on Long-Distance Power Transmission, Dept of Tech Sci, Acad Sci USSR, and of the Sci Council of the Sci Res Inst of DC.

201T16

AUTHORS: 1) Shchedrin, N. N., Doctor of Technical Sciences, Corresponding Member, Academy of Sciences, AS Uzbek SSR,
2) Ruzin, Ya.L., Docent, Candidate of Technical Sciences,
3) ~~Shabadash, B. I.~~, Docent

TITLE: G.I. Atabekov: "Theoretical Foundations of Relay Protection in High-Voltage Networks" (G.I. Atabekov. Teoreticheskiye osnovy relaynoy zashchity vysokovol'tnykh setey)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 95 - 96 (USSR)

ABSTRACT: 344 pages. Price 19.80 Roubles. Gosenergoizdat Publishing House, 1957. This is a book review. The volume under review is a revised edition of the author's book published in 1949. The book corresponds to a sufficiently high scientific-technical standard and may be considered as the first part of a work on the theory of relay protection. Two disciplines are combined in a corresponding manner: relay protection engineering and the theory for the calculation of short-circuits. Chapter 1: construction and application of complex equivalent circuits. Chapter 2: method of loci, applied to the investigation of the mode of operation of electric transmission lines. Chapter 3: method for the calculation of transient processes in high-voltage networks, Chap-

Card 1/3

G.I. Atabekov. "Theoretical Foundations of Relay
Protection in High-Voltage Networks"

SOV/105-58-7-32/32

ter 4: filters for the symmetrical component. Chapter 5: types of the foundations of the theory of the power control equipment. Chapter 6: distance protection. Chapter 7: high-frequency protection. Chapter 8: devices for the detection of the defective phase in systems with automatic single phase repeater connection. Chapter 9: differential current protection and directed differential protection (lines and bus bars). Chapter 10: devices which prevent an incorrect operation of the protection in the case of oscillations of the alternators and disturbances in the secondary circuits of the transformers. The book does not comprise all fields of relay protection engineering, but treats in a general form a series of important problems. Certain unclear facts and errors are pointed out. There is 1 Soviet reference.

ASSOCIATION: 2) Leningradskiy politekhnicheskii institut (Leningrad Polytechnical Institute) 3) Sredne-Aziatskiy politekhnicheskii institut (Central Asia Polytechnical Institute)

Card 2/3