"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 030 UNCLASSIFIED

TITLE--LARGE OBJECTS FROM AERATED POROUS SLAG CONCRETE -U- PROCESSING DATE--30OCT70

AUTHOR-(03)-ROZENFELD, L.M., BORISOVA, A., POGULYAYEV, S.

COUNTRY OF INFO--USSR

SOURCE--BUDIVEL'NI MATER. KONSTR. 1970, (1), 9-11

DATE PUBLISHED----------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SLAG, CONCRETE, ELECTRIC POWER PLANT, INDUSTRIAL WASTE, ELASTIC MODULUS, FROST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0796 STEP NO--UR/0635/70/000/001/0009/0011

CIRC ACCESSION NO--AP0124465

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0124465 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLY ASH FROM THE LUGANSK ELEC. POWER STATION WAS SUCCESSFULLY USED TO MANUF. POROUS SLAG CONCRETE. UNDER OPTIMUM TECHNOL. CONDITIONS, CONCRETE WITH A BULK D. OF 1000 KG-M PRIME3 HAD THE FOLLOWING PHYS. MECH. PROPERTIES: CRUSHING STRENGTH 75 KG-CM PRIME2, DYNAMIC MODULUS OF ELASTICITY 35,600 KG-CM PRIME2, COEFF. OF FROST RESISTANCE AFTER 50 FREEZING THAWING CYCLES, EQUALS 1.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr: AP0047228 Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, 1970, Nr 1, pp 93-97

Piruzyan, L. A.; Kaplan, Ye. Ya.; Maksimova, I. A.; Rozenfel'd, M. A.

# CHANGES IN THE CONTENTS OF FREE RADICALS (FR) IN THE ORGANS OF MICE UNDER CONDITIONS OF HYPO- AND HYPEROXY

*Institute of Chemical Physics Academy of Sciences USSR*

Experimental data are discussed bearing on the kinetics of changes in the contents of free radicals in mice organs under conditions of hyperoxy and hypoxy. In the case of hyperoxy the character of changes are similar in the liver, the heart, the brain, the lungs and the muscles. A tendency towards an increase of the free radicals contents in observed after 48 hours which is thereafter followed by a decrease after 72 hours. A fairly well expressed increase of free radical activity is observed in all the organs examined after 96 hours.

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REEL/FRAME
19790730

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

AP0047228

An increase of the exposure time of hypoxy is followed by a monotonous character of changes of free radicals concentration in the liver, the brain and the lungs of the experimental animals.

During the first 25 hours an increase of free radicals activity is noted which is later followed by a decrease going below control figures.

However free radicals concentration changes rates are unequal in different organs.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--MICROCALORIMETRIC INVESTIGATIONS OF THE PROCESS OF BLOOD COAGULATION -U-

AUTHOR-(03)-PIRUZYAN, L.A., ROZENFELD, M.A., GLEZER, V.M.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 2, PP 299-302

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD COAGULATION, CALORIMETRY, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0950 STEP NO--UR/0216/70/000/002/0299/0302

CIRC ACCESSION NO--AP0109107

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 022

UNCLASSIFIED

CIRC ACCESSION NO--AP0109107 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CALORIMETRIC METHOD WAS USED FOR THE STUDY OF THERMAL EFFECTS CONNECTED WITH BLOOD COAGULATION. THERMOGRAMS WERE OBTAINED FOR THE FIRST TIME AND THE TOTAL QUANTITY OF HEAT FREED OWING TO THE PROCESS OF BLOOD COAGULATION WAS DETERMINED. CALORIMETRIC DATA CORRELATED WELL WITH TROMBOELASTOGRAPHIC VALUES. THE HIGHLY SENSITIVE CALORIMETRIC METHOD MAY BE USED AS A NEW TEST FOR THE INVESTIGATION OF THE COMPLICATED PROCESS OF BLOOD COAGULATION.

FACILITY: INSTITUTE OF CHEMICAL PHYSICS, ACADEMY OF SCIENCES, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 591.1:616-006

PIRUZYAN, L. A., KAPLAN, Ye. Ya., MAKSIMOVA, I. A., and ROZENFEL'D, M. A.,
Institute of Chemical Physics

"Changes in the Content of Free Radicals in Mouse Organs During Hypoxia and Hyperoxia"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1970, pp 93-99

Abstract: Experiments on mice showed that during hyperoxia changes in free radical activity are the same in the liver, heart, brain, lungs, and muscles. The content of free radicals increases on the 2nd day, decreases on the 3rd day, and increases markedly on the 4th day in all the organs. During hypoxia, changes in the concentration of free radicals are also the same in liver, spleen, brain, and lungs. Free radical concentration increases on the first day and after that decreases below control values. However, the rate of change varies from organ to organ. For example, in the lungs and spleen the free radical level falls below controls on the 3rd day and continues to fall thereafter, whereas in the brain and liver this pattern is not observed until the 4th day. It was suggested that changes occurring in free radical activity as a result of hypoxia and hyperoxia may be one of the factors responsible for the impairment of certain physiological systems and metabolic processes associated with these states.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

ROZENFEL'D, M. Z.

"The Construction and Properties of Certain Classes of Strongly Regular Graphs"

Uspekhi Mat. Nauk. [Successes in Mathematical Science], 1973, 28, No 3, pp 197-198 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V377)

Translation: A graph is called strongly regular with parameters ($n$, $n_1$, $a^1_{11}$, $a^2_{11}$), if it has $n$ points, the power of each point is equal to $n_1$ and each pair of neighboring points is connected by $a^1_{11}$ different paths of length 2, while each pair of non-neighboring points is connected by $a^2_{11}$ such paths. This work describes an algorithm for construction of all strongly regular graphs with accuracy to isomorphism and presents the results of the operation of a computer program realizing this algorithm.

All strongly regular graphs with number of points $\leq 28$ were constructed. With the parameters (28, 12, 6, 4), four nonisomorphic graphs were produced, with parameters (27, 10, 1, 5) one graph was produced, with parameters (26, 10, 3, 4) -- ten, with parameters (25, 12, 5, 6)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

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ROZENFEL'D, M. A., Uspekhi Mat. Nauk., 1973, 28, No 3, pp 197-198

-- fifteen, two graphs were produced with parameters (16, 6, 2, 2,) and one each with parameters (25, 8, 3, 2), (21, 10, 5, 4), (17, 8, 3, 4), (16, 5, 0, 2), (15, 6, 1, 3), (13, 6, 2, 3) and (10, 3, 0, 1). The results are also presented from a study of the properties of graphs with parameters (25, 12, 5, 6) and (26, 10, 3, 4) (in the language of contiguity matrices). The results produced are compared with the results of a work by Shrikkhand and Bkhat Basanti (RZHMat, 1972, 10V346). Attention is turned to inaccuracies contained in this work. In particular, a permutation is presented, isomorphically converting one of the graphs with parameters (26, 10, 3, 4) to another, which Shrikkhand and Bkhat Basanti considered nonisomorphic.

2/2 V. Titov



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC: 8.74

ARLAZAROV, V. L., LEMAN, A. A., ROZENFEL'D, M. Z.

"Macro-Language"

Makro-yazyk. In-t probl. upr. (avtomatika i telemekh.) (cf. English above. Institute of Control Problems [Automation and Remote Control]), Moscow, 1970, 14 pp, 10 k. "Knizh. letopis", 1971, No 28, 45 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V507 K)

[No abstract]

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 533.601.18

IVANOVSKIY, A. I. and ROZENFEL'D, S. Kh.

"Solving Intrinsic Problems of Aerodynamics in a Transient Regime by Means of a Model Kinetic Equation"

Novosibirsk, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 2, March-April 1972, pp 23-28

Abstract: A method is developed, which is based upon the use of a model kinetic equation with the collision frequency $\omega = v/l$ ($l$ is the mean free path, $v$ is the modulus of molecular velocity). The method is tested on several classical problems. It is shown that the proposed method provides the correct limit transition both to free-molecular flows and to continuous flows. At the same time, without imposing any limitations upon the geometry of the region and the dimensionality of the problem, it permits flows with arbitrary Knudsen numbers to be described by very economical means. 4 figures. 4 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

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SECTION VI

SO SELECTED ... FACILITIES PCS-89 SEPT 71

Name: Institute of Biochemistry and Physiology of Microorganisms, Pushchino

Description:

(U) During this quarterly reporting period, five new articles were located from the Institute of Biochemistry and Physiology of Microorganisms at Pushchino. On the basis of these articles, it was possible to identify 13 new personalities with the institute. The personalities, the subjects of the articles, and the dates are given below:

| | | |
|---|---|---|
| Beker, M. Ye. | α-oxoglutaric acid | 1969(65) |
| Boronin, A. M. | antibiotic production | 1970(66) |
| Dialas, Ya. N. | candida lipolytica | 1971(67) |
| Kaimin'sh, Z. A. | α-oxoglutaric acid | 1969(63) |
| Karklin'sh, R. Ya. | α-oxoglutaric acid | 1969(63) |
| Liyapin'sh, G. K. | α-oxoglutaric acid | 1970(65) |
| Mindlin, S. Z. | antibiotic production | 1970(66) |
| Peltsmane, I. Zh. | α-oxoglutaric acid | 1970(65) |
| Rozenfel'd, S. M. | candida lepolytica | 1971(67) |
| Slava, V. A. | α-oxoglutaric acid | 1971(65) |
| Tskhomariya, S. M. | α-oxoglutaric acid | 1971(65) |
| Yakobson, Yu. O. | α-oxoglutaric acid | 1971(65) |
| Zarinya, D. B. | α-oxoglutaric acid | 1971(65) |

Two of the five new articles were authored by personalities already identified with the Institute of Biochemistry and Physiology of Microorganisms. One of these articles dealt with penicillium brevi compactum(68) and the other with methane oxidizing bacteria(69). Reference 65 was jointly issued from the above institute and the Institute of Microbiology imeni A. Kirkhenshteyn Riga, possibly indicating some joint work between the two facilities.

KOZENFEL'D, S. M.



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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

ROZENFEL'D, T. K.

"One Form of Functional Divisibility of Boolean Functions"

Aktual'n. Vopr. Tekhn. Kibernetiki [Pressing Problems in Engineering Cybernetics -- Collection of Works], Moscow, Nauka Press, 1972, pp 184-189 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V425).

Translation: Necessary and sufficient criteria are produced for divisibility, convenient for practical utilization.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Organophosphorus Compounds

USSR

UDC: 577.153

BRESTKIN, A. P., BRIK, I. L., VOLKOVA, R. I., MAYZEL', YE. B. and ROZENGARD, YU. V., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad

"Effects of the Ionic Strength and Organic Solvents on the Interaction of Cholinesterases with Substrates and Organophosphorus Inhibitors"

Moscow, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

Abstract: The effect of various concentrations of KCl on the reactivity of acetylcholinesterase (A) from bovine erythrocytes and butyrylcholinesterase (B) from equine blood serum with respect to two substrates, acetylcholine and phenyl acetate, and two organophosphorus inhibitors, $C_2H_5(CH_3)P(O)SC_2H_4SC_2H_5$ (Gd-7) and $C_2H_5O(CH_3)P(O)SC_2H_4S^+(CH_3)C_2H_5 \cdot CH_3^-$ (Gd-42), was studied. With increasing concentrations of KCl, the reactivity of A and B decreased towards the cationic substrate acetylcholine and Gd-42 because of a decrease in the Coulomb interaction with the anionic center of the enzymes, whereas it increased towards the non-cationic substrate PhOAc and Gd-7 because of an increase in hydrophobic interaction with the hydrophobic sections of the active surface of the enzymes. In the acidic

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

pH range, in which ionization of the anionic center was depressed, the inhibiting effect of KCl on the rate of the reaction of A and B with Gd-42 was less pronounced. Changes in the effect of the ionic strength at pH 5.5-8.2 on the inhibiting action of Gd-42 towards A and B made it possible to estimate the pK of the anionic center of A and B at 6.1 and 6.8, respectively. The effects of $C_2H_5OH$, $C_3H_7OH$, iso-$C_3H_7OH$, $C_4H_9OH$, iso-$C_4H_9OH$, sec-$C_4H_9OH$, and tert-$C_4H_9OH$ on the anticholinesterase activity of organophosphorus inhibitors $C_2H_5O(CH_3)P(O)S(CH_2)_nC(CH_3)_3$ (series LG) and $C_2H_{2n+1}O(CH_3)P(O)SC_4H_9$ (series GA) were studied in experiments with B. The alcohols reduced the anticholinesterase activity of the organophosphorus compounds by worsening their hydrophobic interaction with the non-polar sections of B and also by altering the structure of these sections. The hydrophobic section in the region of the esterase center of B was more resistant to the action of alcohols than that in the region of the anionic center. The maximum effect in reducing the activity in the series LG was produced by iso-$C_4H_9OH$, to which hydrophobic regions in the region of the anionic center are particularly sensitive, while the maximum

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

effect in reducing activity in the series GA was exerted by tert-$C_4H_9OH$, which affects primarily the region of the esterase center.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 577.153

BRESTKIN, A. P., ROZENGART, E. V., SOBOLEVA, I. N., KHROMOV-BORISOV, N. V., INDENBOM, M. L., TIKHONOVA, L. N., ABDUVAKHABOV, A. A., and TOREMURATOV, K., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenova, Academy of Sciences USSR, Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad, and Tashkent State University imeni V. I. Lenin

"Unproductive Bonding of Cholinesterase Substrate"

Moscow, Doklady Akademii Nauk SSSSR, Vol 205, No 3, 1972, pp 717-720

Abstract: Experiments have shown that the rate-limiting step in the Michaelis-Menton substrate reaction is the acylation or deacylation rather than the initial formation of the Michaelis complex. The specificity of the cholinesterase is also determined by the latter steps in the reaction and it is only the L optical isomer of acetyl-$\beta$-methylcholine which is hydrolyzed by the acetylcholinesterase. The D isomer is an inhibitor at it is adsorbed on the active sites but not subsequently removed. The system can be generalized as follows:

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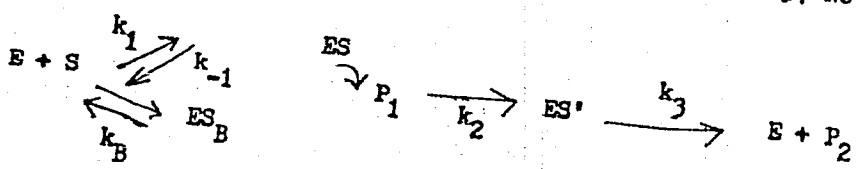
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

BRESTKIN, A. P., et al., Doklady Akademii Nauk SSSR, Vol 205, No 3, 1972, pp 717-720




where E is the enzyme; S, the substrate; ES, the Michaelis complex; ES', the acylating enzyme; $ES_B$, the unproductive complex; and $P_1$ and $P_2$, the products of the reaction - alcoholsa and acids. The general implications of differences in the relative magnitudes of $k_1$, $k_{-1}$, $k_2$, $k_3$, and $k_B$ are presented. Actual data are given for five substrates.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 025

UNCLASSIFIED

TITLE--CATALYSTS FOR DEHYDROCYCLIZATION OF N PARAFFINS -U-

PROCESSING DATE--04DEC70

AUTHOR-(05)-KAZANSKIY, B.A., SLINKIN, A.A., POLININ, V.L., ROZENGART, M.I., DULOV, A.A.

COUNTRY OF INFO--USSR

R

SOURCE--U.S.S.R. 265,076

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIZATION, ALKANE, HIGH TEMPERATURE HEAT TREATMENT, POLYMER, ALIPHATIC KETONE, CHROMIUM OXIDE, CATALYST, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1745

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136985

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 025

UNCLASSIFIED

CIRC ACCESSION NO--AA0136985 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRODUCT OF THERMAL TREATMENT (400-600DEGREES) OF A POLYMER BASED ON PURE METHYL BETA,CHLOROVINYL KETONE OR WITH AN ADDITIVE CONSISTING OF 0.1-5 WT. PERCENT CR SUB2 O SUB3 IS USED AS A CATALYST FOR DEHYDROCYCLIZATION OF N PARAFFINS.

FACILITY: INSTITUT ORGANICHESKOY KHIMI I IM. N. D. ZELINSKOGO.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

UNCLASSIFIED

009

TITLE--ROLE OF CYCLOHEXANE IN THE DEHYDROCYCLIZATION OF N-HEXANE ON A CHROMIUM CATALYST -U-

PROCESSING DATE--30OCT70

AUTHOR-(05)-ISAGULYANTS, G.V., ROZENGART, M.I., DERBENTSEV, YU.I., DUBINSKIY, YU.G., KAZANSKIY, B.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 600-2

DATE PUBLISHED-------70

R

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLOHEXANE, HEXANE, CARBON ISOTOPE, CATALYST, BENZENE, CATALYTIC CRACKING, HEXENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1079

STEP NO--UR/0020/70/191/003/0600/0602

CIRC ACCESSION NO--AT0124736

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

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UNCLASSIFIED

CIRC ACCESSION NO--AT0124736 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A FLOW METHOD WAS USED TO ANALYZE THE REACTION PRODUCTS OF HEXANE CYCLOHEXANE (TAGGED WITH PREMIX C) AT 530DEGREES ON AN ALUMINOSILICATE CATALYST. THE CRACKING PRODUCTS WERE ISOHEXANES, HEXANE, HEXENES, CYCLOHEXANE, AND C SUB6 H SUB6; IT WAS SHOWN THAT CYCLOHEXANE IS NOT FORMED IN THE OVERALL PROCESS AND CANNOT BE AN INTERMEDIATE IN DEHYDROCYCLIZATION OF HEXANE TO C SUB6 H SUB6. C SUB6 H SUB6 IS FORMED FROM CYCLOHEXANE SOMEWHAT MORE RAPIDLY THAN IT IS FROM HEXANE. THE ADSORPTION COEFFS. OF CYCLOHEXANE AND HEXANE ON THE CATALYST APPEAR TO BE VERY SIMILAR.

FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--FORMATION OF COKE IN STATIONARY AND FLUIDIZED BEDS OF AN ALUMINA, CHROMIA, POTASSIA CATALYST DURING N HEPTANE DEHYDROCYCLIZATION -U-

AUTHOR-(05)-NOVIKOVA, L.A., IVANOVA, N.G., ROZENGART, M.I., KONONOV, N.F., MEDVEDOVSKAYA, I.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 37-41.

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COKE, FLUIDIZED BED, ALUMINA, CHROMIUM OXIDE, POTASSIUM OXIDE, CATALYST ACTIVITY, CYCLIZATION, HEPTANE, AROMATIC HYDROCARBON/(U)KA237 CATALYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2101 STEP NO--UR/0204/70/010/001/0037/0041

CIRC ACCESSION NO--AP0125685

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 012

UNCLASSIFIED

CIRC ACCESSION NO--AP0125685 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INCREASED COKE FORMATION DUE TO INCREASED CONTACT TIME AND TEMP. IN A STATIONARY BED OF 2.9 TIMES 2.2 MM PARTICLES OF AL,CR,K OXIDE CATALYST KA,237 WAS ABOUT THE SAME AS THAT IN A FLUIDIZED BED OF 63-84 MU PARTICLES OF THE SAME CATALYST DURING DEHYDROCYCLIZATION OF N HEPTANE (I) AT 510-40 AND 510-50DEGREES, RESP., BUT THE INCREASE WAS NONLINEAR IN THE CASE OF THE STATIONARY CATALYST LAYER. COKE DEPOSITS DECREASED MONOTONICALLY THROUGH THE LATTER BUT WERE EVENLY DISTRIBUTED IN THE FLUIDIZED BED. AT 510DEGREES AND AN INPUT RATE OF SIMILAR TO 0.5 HR PRIMENEGATIVE1 WHEN THE COKE YIELD WAS 1.2PERCENT, AROMATIC HYDROCARBON YEILDS INCREASED FROM 41.9 TO 63.2 AND 55.1PERCENT AS THE LENGTH OF THE RUN WAS RAISED FROM 1 TO 2 AND 3 HR, BUT WHEN A HEPTANE FRACTION (31.4PERCENT N HEPTANE, 46.4PERCENT OTHER ALKANES, 21.2PERCENT ISOHEPTANES, 17.2PERCENT NAPHTHENES, AND 5PERCENT AROMATIC HYDROCARBONS) WAS SUBSTITUTED AND THE COKE YIELD WAS 5.1PERCENT, AROMATIC HYDROCARBON YIELDS DECREASED FROM 24.9 TO 18.5 AND 15.6PERCENT. AT 548DEGREES, WHEN COKE YIELDS WERE 1.9 AND 8.6PERCENT, AROMATIC HYDROCARBON YIELDS FROM RUNS OF THE RESP. LENGTHS WERE 69.9, 69.0, AND 70.5PERCENT FOR I AND 44.9, 33.9, AND 18.0) FOR THE HEPTANE FRACTION. REDUCED CATALYTIC ACTIVITY WAS MARKED ONLY FOR A COKE CONTENT IS GREATER THAN OR EQUAL TO 8PERCENT.

KHIM. IM. ZELINSKOGO, MOSCOW, USSR. FACILITY: INST. ORG.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

ROZENGART, V. I. [redacted]

UDC 577.1:615.7/9

"Metabolism of Organophosphorus Compounds in the Animal Organism"

V sb. Khimiya i primenenive fosfororgan. soyedin. (Chemistry and Application of Organophosphorus Compounds -- collection of works), Moscow, Nauka Press, 1972, pp 89-97 (from RZh-Biologicheskaya Khimiya, No 13, Jul 72, Abstract No 13F2140)

Translation: Survey. A study was made of the data on means of enzyme conversions of organophosphorus compounds, basically the processes which although they have no direct bearing on the toxygenic reaction, play a very important role in determining many of the properties of organophosphorus compounds, in particular, their selective toxicity. A most detailed study was made of the following enzymic conversions of organophosphorus compounds: hydrolysis (phosphatase, carboxyesterase, amidase effects, N-desalkylation), oxidation, reduction, dehydrochlorination and transalkylation.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 577.153.9.014.05

ROZENGART, V. I., CHINGISOVA, R. A., SHMELEVA, V. G., and SHCHERBAK, I. G., Chair of Biochemistry, First Leningrad Medical Institute imeni I. P. Pavlov

"Breakdown of an Organophosphorus Cholinesterase Inhibitor in Animal Tissues"

Moscow, Voprosy Meditsinskoy Khimii, No 3, 1971, pp 266-270

Abstract: The purpose of the work was tostudy the ability of rat tissues (liver, kidneys, brain) and blood to detoxify LG-63 (O-ethyl-S-hexyl methylthiophosphonate), an organophosphorus cholinesterase inhibitor. A mixture of tissue and LG-63 was incubated at 37°C for up to 6 hours, after which the amount of free inhibitor was determined by an enzymatic method based on chromatographic separation of the inhibitor and its subsequent detection from its ability to inhibit esterase. Regardless of the original concentration of the inhibitor, the various tissues could not decompose more than 50 to 60% in 6 hours; blood decomposed only 25 to 30% of the substance in the same period of time. From practical point of view, therefore, LG-63 cannot be effectively detoxified because the symptoms of poisoning develop very rapidly and the inhibition of cholinesterase by the tissues ends completely within one hour.

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Pharmacology and Toxicology

USSR

UDC 577.153

BOGOLYUBOVA, G. M., KARPINSKAYA, Ye. V., KULIKOVA, A. I., and ROZENCART, V. I.,
Chair of Biochemistry, First Leningrad Medical Institute imeni Academician I. P. Pavlov

"The Protective Effect of Substrates During Inhibition of Various Cholinesterases by an Organophosphorus Inhibitor"

Moscow, Biokhimiya, Vol 36, No 5, 1971, pp 1,075-1,081

Abstract: The reaction between the organophosphorus inhibitor GD-7 O-ethyl S-ethylmercaptoethyl methylthiophosphonate and three different cholinesterases -- horse serum cholinesterase (HSC), bull erythrocyte acetylcholinesterase (BEA), and squid optical ganglion cholinesterase (OGC) -- was investigated in the presence of three substrates -- acetylcholine (AC), proprionylcholine (PC), and butyrylcholine (BC) -- in various concentrations. It was found that the rate constant of the reaction of the organophosphorus inhibitor with the enzymes is decreased in the presence of the substrates. A quantitative correlation was established between the reduction in the above rate constant and the concentration of the substrates. OGC is protected by AC more than by PC or BC, while HSC and BEA are protected equally by any one substrate. When BC is present in sufficiently high concentrations,

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USSR

BOGOLYUBOVA, G. M., et al., Biokhimiya, Vol 36, No 5, 1971, pp 1,075-1,081

the organophosphorus inhibitor becomes totally inert, because it cannot interact with butylated cholinesterase. It is believed that the hydrolysis of BC by OGC and HSC is inhibited by the formation of acylated enzymes, while the hydrolysis of AC and PC is inhibited by deacylation.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 615.217.34.099.07:616-008.934.5

ROZENGART, V. I., CHETVERIKOVA, Ye. K., and MOZGOVAYA, I. A., Chair of Biochemistry, First Leningrad Medical Institute imeni I. P. Pavlov

"Carbohydrate Metabolism During Intoxication by the Cholinesterase Inhibitor O-Ethyl S-Hexyl Methylthiophosphonate"

Moscow, Voprosy Meditsinskoy Khimii, No 4, 1971, pp 403-407

Abstract: Intraperitoneal injection of white rats with 10 mg/kg of the cholinesterase inhibitor O-ethyl S-hexyl methylthiophosphonate (LG-63) produced symptoms of intoxication within 10 to 15 min and death 15 to 30 min later, at which time the animals were dissected and their organs analyzed chemically. LG-63 decreased the glycogen content of the liver, while increasing the sugar content of the blood and liver, and also the amount of bisulfite-binding substances, pyruvic acid, and ketone bodies. Ketone bodies and pyruvic acid accumulated in the skeletal muscles and myocardium, but decreased in the brain. One of the causes of these metabolic disorders may be hypoxia, which usually develops after intoxication by organophosphorus compounds.

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Pharmacology and Toxicology

USSR

UDC 612.82.015.3.014.46:577.153.9.025.3

DVORKIN, V. YA., ROZENGART, V. I., TOPILO, A. P. and CHETVERIKOV, D. A., Laboratory of the Regulation of Brain Metabolism, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, and Chair of Biochemistry, First Medical Institute imeni I. P. Pavlov, Leningrad

"Mechanisms of Action of Organophosphorus Cholinesterase Inhibitors on Phospholipid Metabolism in the Brain"

Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, Jan/Feb 70, pp 63-69

Abstract: Poisoning of rats with the cholinesterase inhibitor O-ethyl-S-hexylmethylthiophosphonate (LG-63) in a sublethal dose did not affect the content or rate of metabolism of phosphate groups of phospholipids in the brain, whereas poisoning of mice with LG-63 in the same dose (5 mg/kg) significantly lowered the intensity of phospholipid metabolism in the brain. The difference was due to the fact that in mice, poisoning with LG-63 was accompanied by a pronounced drop in body temperature (by 9.2°C), while the drop in body temperature of rats (2.7%) was insignificant. Poisoning with LG-63 of rats subjected to acute hypoxia (created in a chamber with an air pressure

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USSR

DVORKIN, V. YA., et al., Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, Jan/Feb 70, pp 63-69

of 240 mm Hg) produced a greater decrease in the rate of phospholipid metabolism in the brain and a more pronounced hypothermia than in rats poisoned with LG-63, but not subjected to hypoxia. This indicated that an inhibiting action of LG-63 on the brain phospholipid metabolism was exerted only when administration of this poison was followed by a significant drop in body temperature. When the body temperature of mice was kept at a normal level after poisoning with LG-63, the rate of phospholipid metabolism in the brain increased. The lethality of the poisoned mice also increased evidently the development of hypothermia in mice was a protective reaction.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr. AP0036568

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Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16, Nr 1, pp 63-69

# ANALYSIS OF THE EFFECT OF PHOSPHOORGANIC CHOLINE ESTERASE INHIBITORS ON PHOSPHOLIPIDS METABOLISM IN BRAIN

Dvorkin, V. Ya.; Rozengart, V. I.; Tofilo, A. P.; Chetverikov, D. A.

Laboratory of Brain Metabolism Regulation, I. P. Pavlov Institute of Physiology and The Department of Biochemistry I. P. Pavlov I-st Medical Institute, Leningrad

The effect of intoxication by phosphoorganic choline esterase inhibitor (LG-63) on the content and rate of exchange of phosphate groups of phospholipids in rat and mice brain has been studied. In rat the intoxication with sublethal doses of LG-63 had no effect on the rate of phospholipids renewal in brain. On the oter hand the administration of LG-63 into mice at the same dose leads to decrease in the metabolism of phospholipids by 27% as compared to the control. The different picture obtained is explained by the significant body temperature fall in mice (an average by 9.2°). In rats the hypothermia was at a much low level. Intoxication of hypoxic rats with LG-63 leads to more pronounced decrease in phospholipids exchange in brain and to more pronounced hypothermia as compared to rats suffered with oxygen insufficiency only. So the inhibitory action of LG-63 on brain phospholipids metabolism was detected only when intoxication with LG-63 was followed by the significant decrease in body temperature.

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Pharmacology and Toxicology

USSR

UDC 577.153

NOVGORODSKAYA, A. M., ROZENGART, V. I., and SHCHERBAK, I. G., Chair of Biochemistry, First Medical Institute imeni Akad. I. P. Pavlov, Leningrad

"In vivo Inhibition of Cholinesterase Activity by the Organophosphorus Compound LG-63"

Moscow, Biokhimiya, No 1, 1971, pp 72-80

Abstract: The inhibitory effect of LG-63 (O-ethyl-S-hexy methylthiophosphonate) on cholinesterase activity was studied in various tissues (small intentine, myocardium, skeletal muscle, brain, blood hemolysate, gastric wall, lung, kidney, liver) of rats injected intraperitoneally or intramuscularly with different doses of the compound. A sublethal dose (5 mg/kg) markedly inhibited the enzyme in all the tissues studied except the kidneys regardless of the mode of administration. A much smaller dose (0.25 mg/kg), on the other hand, altered the distribution of LG-63 considerably and the more of administration was a major factor. For example, cholinesterase activity in the liver and gastric wall was inhibited more by intraperitoneal injection of LG-63 than by intramuscular injection. The highest concentrations of LG-63 were invariably found in the liver, whereas no significant amounts could be detected in the kidneys. The latter phenomenon suggests that either the

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USSR

NOVGORODSKAYA, A. M., et al., Biokhimiya, No 1, 1971, pp 72-80

kidneys take no part in the elimination of unchanged LG-63 molecules from the body or the inhibitor bypasses the site of cholinesterase localization in the organ. No relationship was observed between the distribution of LG-63 and the original level of chloinesterase activity or tissue sensitivity to the substance.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

UNCLASSIFIED

TITLE--EFFECT OF THE STRUCTURE OF ORGANOPHOSPHORUS INHIBITORS ON THE RATE OF REACTIVATION OF INHIBITED CHOLINESTERASE -U-

PROCESSING DATE--16OCT70

AUTHOR-(03)-AGABEKOVA, I.I., ROZENGART, V.I., SITKEVICH, R.V.

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 53-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, CHOLINESTERASE INHIBITOR, PAM ANTIDOTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0639

STEP NO--UR/0218/70/035/001/0053/0057

CIRC ACCESSION NO--AP0117865

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

CIRC ACCESSION NO--AP0117865 UNCLASSIFIED PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABILITY OF CHOLINESTERASE INHIBITED BY NORMAL AND BRANCHED HYDROCARBON RADICALS OF VARIOUS ORG. PHOSPHORYLATED INHIBITORS TO BE REACTIVATED BY THE ACTION OF 2,PYRIDINE ALDOXIME METHIODIDE WAS STUDIED. THE REACTION RATE FOR O,ALKYL,S,BUTYLMETHYLTHIOPHOSPHONATES, O,ISOALKYL,S,BUTYMETHYLTHIOPHOSPHONATES, AND O,PINACOLYL,S,BUTYLMETHYLTHIOPHOSPHONATE VARIED INVERSELY WITH THE LENGTH OF THE ALKOXYL RADICAL. THE DECREASED DEGREE OF DEACTIVATION WITH LONG ALKOXYL RADICALS IS PROBABLY DUE TO APPEARANCE OF STERIC INHIBITORS AGAINST APPROACH OF THE REACTIVATOR TO THE PHOSPHORYLATED ENZYME.

FACILITY: DEP. BIOCHEM., I. LENINGRAD. STATE MED. INST., LENINGRAD, USSR.

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UDC 542.91+541.69:547.1'118

ABDUVAKHABOV, A. A., GODOVIKOV, N. N., KABACHNIK, M. I., KRIVOROTOVA, L. S., MIKHAYLOV, S. S., and ROZENGART, V. I., Institute of Heteroorganic Compounds, Academy of Sciences USSR, and First Leningrad Medical Institute imeni I. P. Pavlov

"Reaction of O-n-Alkyl S-(β-ethylmercaptoethyl) Methylthiophosphonates and Their Methylsulfomethylates With Acetylcoholinesterase"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 72, pp 1169-1172

Abstract: The authors studied the reaction of acetylcholinesterase with O-n-alkyl S-(β-ethylmercaptoethyl) methylthiophosphonates and their methylsulfomethylates to determine whether there is a hydrophobic site in the region of the esterase center of this enzyme. It was found that there is one hydrophobic site in the immediate vicinity of the esterase center of AChE, with alkyl radicals of the alkoxyl group sorbed at this site. The overall extent of this site corresponds to the n-butyl radical. The ability of these compounds to react with AChE depends to a considerable extent on their sorbability on the enzyme active surface, both through hydrophobic interactions and through ionic sorption.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

ROZENGART, Ye. V.

JPRS 55330

2 March 1972

INTERACTION OF HYDROPHOBIC ORGANOPHOSPHOROUS INHIBITORS AND SERUM CHOLINESTERASE IN THE PRESENCE OF ALIPHATIC ALCOHOLS AT DIFFERENT pH

UDC 577.153

[Article by A. P. Brestkin, Ye. B. Maysel', and Ye. V. Rozengart, Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, USSR Academy of Sciences, Leningrad; Moscow, Biokhimiya, Russian, Vol 36, No 6, 1971, pp 1229-1232]

A study was made on the effect of 0.54 M isopropyl, n-butyl, and isobutyl alcohols on the ability of organophosphorous inhibitors (OPI) of the LG series: $C_2H_5O(CH_3)P(O)S(CH_2)_nC(CH_3)_3$ ($n$ = 2, 4, 5, and 6) and the GA series: $C_nH_{2n+1}O(CH_3)P(O)SC_4H_9$ ($n$ = 3, 7, and 10) to inhibit cholinesterase at different pH (5.0, 6.0, 7.5, 8.5, and 9.5). The pH dependence of OPI effectiveness is a bell-shaped curve with an indistinct maximum in the pH range of 7.5 to 9. It was demonstrated that for all the pH studied, these alcohols had the same effect on the structure of the hydrophobic sections in the region of the anionic and esterasic centers of the active surface of cholinesterase extracted from horse blood serum.

Earlier [1-4] we studied the effect of aliphatic alcohols on the anticholinesterasic effectiveness of several hydrophobic organophosphorous inhibitors (OPI). An investigation of both OPI series [5] (LG series and GA series) enabled us to evaluate the effect of these alcohols on the structure of the hydrophobic sections situated in the anionic and esterasic region of the cholinesterase (CE) active surface of horse blood serum (KF 3.1.1.8) [4].



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

UNCLASSIFIED

TITLE--DETERMINATION OF THE LOCATION OF A SHORT CIRCUIT ON LINES WORKING WITH TRANSFORMERS AND AUTO TRANSFORMERS -U-

PROCESSING DATE--27NOV70

AUTHOR-(02)-AYZENFELD, A.I., ROZENKNOP, M.P.

COUNTRY OF INFO--USSR

SOURCE--ELEKT. STANTSII (USSR), VOL. 41, NO. 3, P. 66-9 (1970)

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ELECTRIC TRANSFORMER, CIRCUIT FAILURE, CIRCUIT ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0504

STEP NO--UR/0104/70/041/003/0066/0069

CIRC ACCESSION NO--AP0135967

UNCLASSIFIED

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CIRC ACCESSION NO--AP0135967 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXISTING METHODS OF DETERMINATION OF THE POSITION OF A SHORT CIRCUIT USING LOCATING APPARATUS IS NOT APPLICABLE TO LINES WORKING WITH POWER TRANSFORMERS (AND AUTO TRANSFORMERS). THIS IS BECAUSE THERE ARE NOT VOLTAGE TRANSFORMERS ON THE H. V. SIDE OF THE POWER TRANSFORMER AND ALSO BECAUSE IT IS IMPOSSIBLE, IN SOME CASES, TO USE CURRENT TRANSFORMERS ON THE OVERHEAD LINES FOR SUPPLYING THE LOCATING APPARATUS. A METHOD IS DESCRIBED TOGETHER WITH FORMULAE, FOR THE DETERMINATION OF THE POSITION OF A SHORT CIRCUIT ON LINES WITH VARIOUS CIRCUIT ARRANGEMENTS.

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USSR UDC: 681.3.06:51

ROZENKNOP, V. D., ROYTVAN, A. I., LIFSHITS, V. N.

"Expanding the Library of Standard Programs for the TAM-22 Translator"

V sb. Primeneniye vychisl. tekhn. v elektrotekhn. prom-sti (Using Computer Technology in the Electrical Engineering Industry--collection of works), Moscow, 1971, pp 272-274 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V591)

[No abstract]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR UDC: 681.3.06:51

ROZENKNOP, V. D., ZUYEV, G. Ya.

"Supervisory Program for a Conditional Computer"

V sb. Primeneniye vychisl. tekhn. v elektrotekhn. prom-sti (Using Computer Technology in the Electrical Engineering Industry--collection of works), Moscow, 1971, pp 274-288 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V593)

Translation: The authors consider the functions of a controlling (supervisory) program and certain requirements for the hardware part which, when they are met, permit development of a control program enabling a time-sharing mode and also operation of several programs in a multiple--program mode. A block diagram of the supervisory program is described for a conditional computer. V. Mikheyev.

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USSR

(3)

UDC 681.178.9

KAShchEYeV, A. M., KISELEV, V. M., LETYaGIN, Yu. V., NOVIKOV, V. A., ROZANOV, Ye. V., ROZENKRANTs, Yu -K. V. and ShAPIRO, B. I.

"A Device for Recording Pulse Signals"

USSR Author's Certificate, Class G 01 d 9/36, G 06 m 3/00, No 334478, filed 25 Dec 70, published 23 May 72 (from RZh-Avtomatika Telemechanika i Vychislitel-naya Tekhnika, No 3, Mar 73, Abstract No 3 A378 P)

Translation: A device is proposed for recording pulse signals, containing "AND" circuits and an "OR" circuit, the latter attached to a decoder connected with electromagnetic recording machines. To ensure a quantitative evaluation of the information recorded over time, a reduction of deviations, and a simplification of service, the device contains a time code shaper connected directly and through the control block to distributors attached to the numeric code sensors, connected in turn to the corresponding AND circuits. The AND circuits are connected to the OR circuit. The outputs of the time code shaper are connected to the electromagnetic recording machines, and electromagnetic relays are connected to a pulse group generator. One illustration.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr. AP0045146 Abstracting Service: CHEMICAL ABST. Ref. Code 21R0138

91302a Flow of rubber mixtures through dies of varying length during extrusion. Guber, F. B.; Bartenev, G. M.; Rogenoer, I. N.; Vershinina, O. Yu. (Nauch. Issled. Inst. Rezin. Prom., Moscow, USSR). *Kauch. Rezina* 1970, 29(1), 26-9 (Russ). The flow of SKS-30 ARKM-15 and SKN-26M (I) rubber mixts. (contg. variable amts. of plasticizer and filler) through dies having a length-to-diam. ratio of 0.5-5.0 was studied. The flow of rubber mixts. through short dies at crit. pressures (which caused the accumulation of highly elastic deformation) was accompanied by elastic turbulence. The elastic turbulence was characterized by slippage of rubber mixts. through the extruder. The surface of the extrudate deteriorated and its diam. increased due to elastic turbulence. Increased content of carbon black (II) brought about improved surface quality and smaller extrudate diam., e.g., I filled with 40-60 parts II per 100 parts I exhibited markedly improved properties. Thus, the properties of the extrudates were mainly detd. by their elastic properties. The shrinkage of extruded mixts. was inversely proportional to the length of the extruder.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC: 8.74

ROZENSHTEYN, G. Sh., YABLONSKIY, A. I.

"Randomized Strategy in a Simple Teaching Model"

Moscow, Izbr. tr. Vses. mezhvuz. simpoz. po prikl. mat. i kibernet., Gor'kiy, 1967 (Selected Works of the All-Union Intercollegiate Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967), "Nauka", 1973, pp 213-216 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V690 by the authors)

Translation: The paper deals with the problem of decision making in the case where averaging over a set is not equivalent to time averaging. The analysis is based on the example of behavior of an automaton in a random medium which is described as a controlled Markov process. An optimum algorithm is proposed for such behavior for which randomized decision making is essential on each stage to minimize the conditional risk rather than the average risk.

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USSR

UDC 577.4

ROZENSHTEYN, G. SH, and YABLONSKIY, A. I.

"On Games of One Class of Stochastic Automata with Multiple Actions"

V sb. Teoriya igr (Theory of Games--collection of works), Yerevan, 1973, pp 282-285 (from RZh Matematika, No 11, Nov 73, Abstract No 11 V532)

Translation: The functioning in a random environment of a group of interacting automata using a randomizing algorithm determined in the paper is examined (a game of stochastic automata). The convergence of strategies of the group in a game with common interests and an antagonistic game of automata are studied (a number of theorems are proved). A new class of automaton games is suggested--controllable games.

Abstract by the author.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

ANTIK, A. P., ARSHAVSKIY, V. V., and ROZENSHTEYN, G. Sh., Moscow Scientific Research Institute of Psychiatry, Ministry of Public Health, RSFSR

""II. The Role of Motivation Centers in the Control of Convulsive Brain Activity"

Moscow, Biofizika, Vol 17, No 4, 1972, pp 681-686

Abstract: The second part of an experimental study of a control model of convulsive brain activity, conducted in 1968-1969, is presented. The first part was published in the previous issue of this journal. The present article contains experimental material obtained from cats, rabbits, and rats, and from experimental corazole and audiogenic models of convulsive activity. This material confirms the basic results of a qualitative model of epilepsy; these can be reduced to the following. Epileptic activity originates during a delay in "media reversion," when high-amplitude potentials appear in the cortex; these are signals announcing the approach of the system to a "dangerous" state. This state arises because the organism receives an additional flow of impulses into the "negative" motivation centers, and a decrease in the flow of impulses into the "positive" centers. Electrical stimulation of the "negative" zones of the hypothalamus brings about the development and



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ANTIK, A. P., et al., Biofizika, Vol 17, No 4, 1972, pp 681-686

amplification of convulsive discharges in the cortex. The suppression of the convulsive activity in the cortex is linked to the creation of an additional flow of impulses in the "positive" motivation centers and a weakening of pulsation in the "negative" centers. Stimulation of "positive" zones of the hypothalamus brings about the weakening and cessation of convulsive activity in the cortex.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR UDC 614.72:661.718.2

ROZENSHTEYN, I. S., Sverdlovsk Scientific Research Institute of Industrial Hygiene and Occupational Diseases

"Toxicological Studies on Low Concentrations of Arsenic Trioxide in the Air"

Moscow, Gigyena i Sanitariya, No 1, 1970, pp 15-20

Abstract: Continuous inhalation of 60.7 $\mu$ g/m$^3$ pf arsenic trioxide by rats for three months caused the development of CNS inhibition, decrease in sulfhydryl groups, suppression of cholinesterase activity, and increase in concentration of blood pyruvic acid. Inhalation of 4.9 $\mu$ g/m$^3$ imparied conditioned activity, correlation of chronaxy in antagonistic muscles, and reduced the content of sulfhydryl groups in the blood. Both concentrations resulted in marked cummulation of arsenic and pathomorphological changes in various organs and tissues. However, a concentration of 1.3 $\mu$g/m$^3$ did not result in any functional, biochemical, or pathomorphological changes. The author recommends 1 $\mu$g/m$^3$ as the maximum daily permissible concentration of arsenic tiroxide in the air. An investigation of the air in the vicinity of a copper smelter revealed that the concentration of arsenic trioxide

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USSR

ROZENSHTEYN, I. S., et al., Moscow, Gigyena i Sanitariya, No 1, 1970, pp 15-20

exceeded the recommended level by a factor of 3 up to a distance of 3 km. Arsenic was found in the hair of children living in the vicinity. But insignificant amounts were found in the hair of children living 4 km from the smelter, where the concentration of arsenic trioxide in the air ranged from 0.5 to 0.9 $\mu$ g/m$^3$.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--FIELD EFFECT IN THE ORGANIC SEMICONDUCTOR CHLORANIL -U-

AUTHOR-(02)-PETROVA, M.L., ROZENSHTYN, L.D.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 961-2

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FIELD EFFECT, ORGANIC SEMICONDUCTOR, ORGANIC CRYSTAL, VOLT-AMPERE CHARACTERISTIC, PHTALOCYANINE, CHLORINATED ALIPHATIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1983 STEP NO--UR/0181/70/012/003/0961/0962

CIRC ACCESSION NO--AP0105057

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105057

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ORG. SEMICONDUCTORS WERE INVESTIGATED: METAL FREE PHTALOCYANINE, TETRACENE, AND CHLORANIL. WORK WAS CARRIED OUT ON THIN LAYERS OF THE COMPDS. OBTAINED BY VACUUM SUBLIMATION AND IN THE CASE OF CHLORANIL ALSO ON SINGLE CRYSTALS. A STRONG EFFECT OF THE FIELD WAS OBSD. ON SINGLE CRYSTALS OF CHLORANIL. V-A CHARACTERISTICS IN THIS CASE SHOW THAT AT POS. VOLTAGE ON THE FIELD ELECTRODE, THE COND. OF THE SINGLE CRYSTAL INCREASES. THIS INDICATES THAT THE CARRIERS INTRODUCED BY THE TRANSVERSE FIELD ARE ELECTRONS.

FACILITY: INST. POLUPROV., LENINGRAD, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr: AP0049911 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0181

105171w Electrical properties of an organic phthalocyanine semiconductor in the ferroelectric state. Vidadi, Yu. A.; Rozenshtein, L. D.; Chistyakov, E. A. (Inst. Poluprov., Leningrad, USSR). *Fiz. Tverd. Tela* 1970, 12(2), 634-5 (Russ). Temp. dependences are given of the films. The cond. of phthalocyanine is characterized by an exponential dependence on temp. with an energy of activation of ~2.0 eV. After the phase-transition current across the specimen decreases in time as a result of its polarization as in other ferroelec. materials. Cond. in the ferroelec. state in the region of the transition is higher than in the initial state and has a max. Polarization of the specimen is such because of the fact that the phase transition is accompanied by formation of dipoles. This leads to the appearance of new intermol. interactions leading to increased cond. Current-voltage dependence close to the temp. of the phase transition in the ferroelec. state is different from similar dependence in the semiconducting state and exhibits sublinearity even at low field intensities.

A. Libackyj

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REEL/FRAME
19801847

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr.: AP0029326 Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 1, pp 15-20

# SANITARY-TOXICOLOGIC EVALUATION OF LOW CONCENTRATIONS OF ARSENIOUS ANHYDRIDE IN THE ATMOSPHERE

Rozenshteyn, I.S.

A 24-hour inhalation poisoning of albino rats for a period of 3 months was carried out with arsenious anhydride at concentrations of 60.7±0.8; 4.9±0.13; 1.3±0.08 mcg/m³. The first two concentrations were found to produce functional, biochemical and morphological changes and the cumulation of arsenic was noted in the animal bodies as well. The daily average maximum permissible concentration of arsenious anhydride in the atmosphere is suggested to be set at a level of 1 mcg/m³.

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REEL/FRAME
19680898

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 621.8.014.462

ROZENTAL', D. L., Laboratory of Cell Physiology, Institute of Cytology, Academy of Sciences USSR, Leningrad

"Effect of Temperature on Sorption of the Vital Dye Heliogen Blue by Membrane Structures of the Crab Nerve"

Leningrad, Tsitologiya, No 4, 1971, pp 454-462

Abstract: Sorption of the vital anionic phthalocyanine dye Heliogen blue (HB) by crab (Carcinus maenas) nerve (isolated from a podite) was studied after exposure of the nerve to temperatures of 35, 60, and 80°C. Various fractions of HB absorbed by the nerve were analyzed: dissolved and weakly bound, ion-bound and strongly bound. A temperature of 35°C did not impair excitability. It caused slight changes in the sorption of HB (+17") affecting only the ion-bound fraction. At 60°C the strongly bound fraction increased considerably (+395%) while the ion-bound fraction increased moderately (+67%). However, further elevation of the temperature to 80°C resulted in decreased sorption. The shifts in sorption following exposure to heat are indicative of structural alterations in membrane proteins. The weakening in sorption capacity after elevation of the temperature to 80°C may be due to a decrease in the number of groups capable of binding the dye.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Acc. Nr.: AP0046772 R Ref. Code: UR0113 4

USSR

UDC 621.785.545

SHEPELYAKOVSKIY, K. Z., Doctor of Technical Sciences, VOSKRESENSKIY, V. V., Candidate of Technical Sciences, LAPSHIN, M. P., SUKHIN, S. S., CHUDNOVSKIY, V. S., ORLOVSKIY, A. G., ROZENTAL', G. A., and STEPIN, A. L., Moscow Evening Metallurgical Institute, Moscow Auto Plant imeni Likhachev

"High-Frequency Thyristor Converter for Induction Hardening Installations"

Moscow, Avtomobil'naya Promyshlennost' (Motor Vehicle Industry), No 1, 1970, pp 28-29

Translation: A thyristor frequency converter and a dynamoelectric one are compared. The power circuit and control and protection circuits of a 100 kw 2500 cps thyristor converter for an induction hardening installation are described. (4 illustrations)

18 81

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19790076

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC: 543.544.42+577.155.2

ROZENTAL', G. F., and GREN, E. Ya., Institute of Organic Synthesis, Academy of Sciences, Latvian SSR, Order of the Red Banner of Labor

"Purification of Snake Venom Phosphodiesterase from Contaminating Eudonucleases"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Khimicheskaya, No 5, 70, pp 623-626

Abstract: A method for determining eudonucleases in the presence of large amounts of exonucleases was described. The method was based on gel filtration of partially digested high molecular RNA by a mixture of nucleases. Purification of Vipera lebetina venom on sulfoethylcellulose had shown that along with the separation of venom phosphodiesterase from 5'-nucleotidase, phosphodiesterase was also purified from eudonucleases (1000-fold). In the process of experimentation for obtaining a phosphodiesterase containing minimal amounts of accompanying nucleolytic activities, attempts were also made with chromatography of viper venom on sefadex G-100, KM-cellulose and DEAE-cellulose. Data showed their effectiveness also for the venom of other snakes as well as for studying the structure of polynucleotides and nucleic acids.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 621.375.82

KALMYKOV, A. A., and ROZENTAL', G. N.

"Ionizing Properties of Glows on Dielectric and Metallic Surfaces Irradiated by Ruby Laser Light"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 12-18 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D898 from authors' abstract)

Translation: A study was made of the properties of glows on metallic and dielectric surfaces which interact with giant-pulse laser radiation, from the standpoint of their ionizing properties. Using the quantity of the current in the ionization chamber, it was possible to judge the spectral composition of the glows and the propagation of the radiation in the chamber volume. The amount of energy emitted by a glow in a given spectral interval was determined. Bibliography with seven titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

POLYAK. D. G., ROZENTAL', G. O.

"Increasing the Accuracy of Statistical Modeling of Queueing Systems"

Avtomatika i Vychisl. Tekhn. [Automation and Computer Technology], 1972, No 6, pp 54-58 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V313, by the authors).

Translation: Two methods are suggested for decreasing the dispersion of estimates for the stable characteristics of queueing systems with static modeling of the systems by digital computer. It is assumed that the random processes being averaged are regenerating. The first method consists in the introduction of a set of supplementary events and modeling the random processes averaged for the case when these events occur. The second method consists in preliminary partial averaging of the random processes modeled in defined intervals according to certain parameters. In particular, this method is used to produce new estimates for the probability of loss of a request, more accurate than earlier estimates in many cases studied. Furthermore, the article suggests an economical method of decreasing the bias of estimates.



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 537.591

BUGAYEV, E. V., KOTOV, Yu. D., and ROZENTAL', I. L.

"Cosmic Muons and the Neutrino"

Cosmicheskiye myuony i neytrino (cf. English above), Moscow, Atomizdat, 1970, 320 pp, ill., 1 r., 91 k. (from RZh-Fizika, No 4, Apr 71, Abstract No 4V446K)

Translation: Contents: Part I. Muons. Chapter 1. Electromagnetic Interactions of Muons. Chapter 2. Characteristics of Muon Flux at Sea Level. Chapter 3. Passage of Muons Through Matter. Chapter 4. Formation of High-Energy Muons. Chapter 5. Muons in Broad Atmospheric Showers, Chapter 6. Certain Conclusions. Part II. The Neutrino. Chapter 7. Introduction and Theoretical Aspects of Neutrino Physics. Chapter 8. Neutrino Experiments on Accelerators. Chapter 9. Search for the Neutrino From the Sun. Chapter 10. Neutrino Astrophysics. Chapter 11. Experiments With Neutrinos From Cosmic Rays.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 022 UNCLASSIFIED R PROCESSING DATE--11DEC70

TITLE--COSMIC RAYS AND COSMOLOGY -U-

AUTHOR-(03)-PRILUTSKIY, O.P., ROZENTAL, I.L., SHUKALOV, I.S.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--COSMIC RAY, COSMOLOGY, X RADIATION, COSMIC RADIO SOURCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO--FD70/605060/F09 STEP NO--HU/2506/70/029/000/0565/0568

CIRC ACCESSION NO--AT0144425

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144423

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RELATIONS BETWEEN VARIOUS COMPONENTS OF COSMIC RAYS, COSMOLOGICAL PARAMETERS AND SOURCES OF RADIATION ARE CONSIDERED. ANALYSIS OF THE PRODUCTION OF RADIO AND X RAY BACKGROUND RADIATION IS THE MAIN PART OF THIS REPORT.

FACILITY: AKADEMIIA NAUK SSSR, INSTITUT KOSMICHESKIKH ISSLEDOVANII, MOSCOW, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

1/2 031 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--CASCADE PROCESSES IN THE METAGALAXY -U-

AUTHOR-(02)-PRILUTSKIY, O.P., ROZENTAL, I.L.

R

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--METAGALAXY, CASCADE, ELECTRON, PHOTON, ELECTROMAGNETIC RADIATION, COSMIC RAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/G05061/B07 STEP NO--HU/2506/70/029/000/0051/0054

CIRC ACCESSION NO--AT0144434

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

2/2 031 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144434

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF HIGH ENERGY ELECTRONS AND PHOTONS WITH ELECTROMAGNETIC RADIATION IN THE METAGALAXY IS CONSIDERED. WE OBTAIN APPROXIMATE EXPRESSIONS FOR THE INTENSITY OF BACKGROUND RADIATION PRODUCED IN THESE PROCESSES. THESE RESULTS MAY BE USED FOR DENSITY ESTIMATIONS OF ELECTROMAGNETIC RADIATION IN THE METAGALAXY AND FOR SPECULATIONS ON THE EVOLUTION OF COSMIC RAY SOURCES.

FACILITY: MOSKOVSKII INZHERNERNO-FIZICHESKII INSTITUT, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC: 620.171.2

[redacted], LAPAURI, A. A., MEYERZON, M. B., and SUSHKOVA, O. M.,
State Scientific Research and Designing Institute of the Photographic Chemical Industry; All-Union Scientific Research Institute of Motion-Picture Photography, Moscow

"An Instrument for Measuring Internal Stresses in Films, and Film Deformation"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematofotografii, Vol I, No 1, Jan-Feb 72, pp 22-26

Abstract: The authors have designed, and thoroughly tested an apparatus, provisionally called the INPS, which is distinguished from other known units for testing and evaluating the mechanical processes of photographic films, by virtue of the possibility of the synchronous measurement, under the same climatic conditions, of the deformation kinetics at constant tension in one sample, and in another sample of the same film, measurement of the kinetics of the increase and relaxation of tensions with the maintenance of constant length of the sample. 5 figures. 9 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 681.325.65:621.374.33

IVAKIN, B. F., ROYZEN, V. Z., ROZENTAL', N. K., Leningrad Production Amalgamation "Krasnaya Zarya"

"A Logic Element"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290453, division H, filed 30 Jun 69, published 22 Dec 70, p 161

Translation: This Author's Certificate introduces: 1. A logic element which contains a symmetric magnetic system with control windings, and a contact system. As a distinguishing feature of the patent, the logical possibilities of the element are expanded by forming the magnetic system from a horizontal bridge and six vertical rods with control windings in sets of three on opposite sides of the horizontal bridge, a permanent magnet set in the middle of the horizontal bridge between the above-mentioned rods, and a double-arm rotating armature fastened over the permanent magnet in such a way that one of the arms touches the end faces of the right or left rods. 2. A modification of this element distinguished by the fact that control of the element is simplified by making the control windings with two sections, one section being on the upper half of one rod, while the other section is on the lower half of another rod.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 542.65

ROZENTAL', O. M.

"Problems of Ice Formation in Water and Solutions. I. Rearrangement of the Structure of Water and Ice Nucleation under the Effect of External Factors"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLVI, No 1, 1972, pp 191-192

Abstract: A study was made of the effect of an ultrasonic field on the increase in the proportion of oriented molecules and ice nucleation. The relaxation time of the water structure is several orders less than the oscillation period of the ultrasonic wave. Consequently, the structure of the water is entirely successfully rearranged under the effect of periodic loads in an ultrasonic field. The nucleation of the solid phase in supercooled water was investigated on the basis of O. Ya. Samoylov's structural model of water [Struktura vodnykh rastvorov elektrolitov i gidratatsiya ionov, USSR Academy of Sciences Press, Moscow, 1957]. Under the effect of such factors as impact loads, electrical or ultrasonic fields, the proportion of oriented molecules is increased, and ice nucleation in the supercooled water is facilitated. A formula is presented for calculating the wave intensity capable of insuring the required rearrangement:

$$I = W\nu = (N\rho/M)^2/_3E_1\nu,$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

ROZENTAL', O. M., Zhurnal Fizicheskoy Khimii, Vol XLVI, No 1, 1972, pp 191-192

where I is the intensity of the ultrasonic wave, W is the energy density at the wave front, $\nu$ is the vibration frequency, N is Avogadro's number, $\rho$ is the density of water, M is its molecular weight, $E_1$ is the energy density at the wave front per unit molecule.

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Microelectronics

USSR

PROKHOROV, NIKOLAY and ROZENTAL', YULIY

"Magnetic Microelectronics"

Riga, Nauka i Tekhnika, No 3 (128), March 1971, pp 11-13

Abstract: This article contains a discussion of the general state of the art in the construction of magnetic integrated circuits based on monocrystalline ferromagnetics. It is pointed out that the most intense research in this field is being done in the Soviet Union, the USA and Japan. In particular, the Moscow Institute of Electronic Control Machines is studying the problems of constructing devices based on magnetic integrated circuits for processing and storing digital data.

The physical-magnetic properties of monocrystalline ferromagnetics -- rare earth orthoferrites, uniaxial granites, and so on -- are discussed. The example of a plate several tens of microns thick cut from such a single crystal perpendicular to one of the crystallographic axes is taken as an example.

It is pointed out that a plate with stable cylindrical magnetic domains is a necessary but insufficient condition of constructing magnetic integrated

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USSR

PROKHOROV, NIKOLAY, et al., Nauka i Tekhnika, No 3 (128), March 1971, pp 11-13

circuits. Means of controlling the displacement of the domains in the plane of the plate must be studied. One means of such control is based on interaction of domains with local magnetic fields created by control currents flowing in thin-film conductors deposited on the surface of the plate, and other procedures are based on interaction of the cylindrical domains with the thin magnetic layer deposited on the surface of the plate and having various geometric configurations. The situations developing in these cases, including an example of magnetic integrated circuit are illustrated. It is noted that in contrast to discrete magnetic elements, magnetic integrated circuits have high speed (up to several megahertz) and high technological nature excluding manual labor. Significant advantages of the magnetic integrated circuits by comparison with semiconductor integrated circuits include high noiseproofness and radiation stability, low intake power and exceptionally high information density ($10^5$-$10^6$ bits/$cm^2$).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

Biophysics

USSR

KOKORIN, A. I., ZAMARAYEV, K. I., GRIGORYAN, G. L., IVANOV, V. P., and ROZANTSEV, E. G., Institute of Chemical Physics, Academy of Sciences USSR

"Measuring the Distance Between Paramagnetic Centers in Solid Solutions of Iminoxyl Radicals, Biradicals, and Spin-Labeled Proteins"

Moscow, Biofizika, No 1, 1972, pp 34-41

Abstract: The purpose of the work was to develop a method for measuring the distance between stable iminoxyl radicals from their ESR spectra and test it on the hemoglobulin molecule. The mean distance r between the N and O groups of iminoxyl spin labels was determined from their spectra. The distances between the paramagnetic groups of 11 different iminoxyl biradicals were measured by 3 different methods: (a) from the values of the dipole-dipole separation, (b) from the values of the second central moment of the spectrum, and (c) from the parameter $d_1/d$ (ratio of the total intensity of the extreme components of the spectrum to the intensity of the central component). The values of r determined by the different methods proved to be in good agreement with one another. Measurements of $d_1/d$ showed that the distance between the N and O groups decreased after the denaturation of human hemoglobin spin-labeled at β-93 cysteine and ГG-4 histidine. Dipole-dipole interaction was found to

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

KOKORIN, A. I., et al., Biofizika, No 1, 1972, pp 34-41

exist between $Fe^{+3}$ methemoglobin and the unpaired electron of the spin label attached to the SH-β-93 group.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 621.355.8.035.2

KAMINSKAYA, YE. A., UFLYAND, N. YU., and ROZENTSVEYG, S. A.

"The Influence of Increased Temperature on the Behavior of Nickel Oxide Electrodes"

Sb. rabot no khim. istochnikam toka. Vses. n.-n akkumulyator. in-t (Collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries) Vyp 7, 1972, pp 107-112 (from Referativnyy Zhurnal -- Khimiya No 8(II), 1973, Abstract No 8L234 by V. S. Levinson)

Translation: A study was made of the influence of temperature in the region 20-80°C on the processes occuring in nickel oxide electrodes of metallo-ceramic construction and containing beta and gamma NiOOH. During an increase in temperature from 20° to 50-80°, the coefficient of the utilization of the charging current decreased, especially if the charging voltage at the increased temperature resulted from the discharge at that same temperature. The electrode was discharged deeper and consequently, its strength was increased. The decrease in the strength of the electrode during alternations of high temperature and normal temperature cycles was significantly reduced. After storage at a higher temperature, the depth of discharge of the electrode increased. The presence in hermatically sealed NiCd batteries of excess

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KAMINSKAYA, YE. A., et al., Sb. rabot no khim. istochnikam toka. Vses. n.-n akkumulyator. in-t, Vyp 7, 1972, pp 107-112

metallic Cd providing a greater depth of discharge of the nickel oxide electrode leads to an improvement in the characteristics of the battery, intended for use under high temperature conditions.

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UDC 541.136

KAMINSKAYA, YE. A., UFLYAND, N. YU., ROZENTSVEIG, S. A. (deceased)
Scientific Research Institute of Storage Cells, Leningrad

"Behavior of Higher Nickel Oxides in KOH Solutions Containing Lithium"

Moscow, Elektrokhimiya, Vol 7, No 12, Dec 71, pp 1839-1841

Abstract: The activating action of lithium towards the nickel oxide electrode at room temperature increases with increased quantity of the adsorbed lithium, until the atomic ratio of Li/Ni approaches 0.05-0.06. With higher lithium content in the electrode, lithium nickelate is formed. The appearance of this new structure decreases the depth of the charge on nickel oxides, lowering the coefficient of the utilization of nickel. The electrochemical behavior of nickel oxide electrodes in KOH solutions containing lithium depends basically on the quantity of lithium adsorbed by the higher nickel oxides. Lithium ion adsorption rate increases with the increase in the concentration of KOH and LiOH in the electrolyte.

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UDC 666.31/.39

SMIRNOV, V. V., ROZENTSVEYG, S. M., and POPOVA, I. A., "Elektrokeramika" Scientific-Production Association

"Causes of Bulging in Porcelain Insulators"

Moscow, Steklo i Keramika, No 5, May 70, pp 25-27

Abstract: Experiments showed that bulging on porcelain insulators may occur due to an improper annealing regimen, but will also occur with contamination of the porcelain mass by minute quantities of finely dispersed silicon carbide -- quantities of the order of more than 0.0005%. Visually this effect will be identical regardless of any of the two causes mentioned. The presence of more than 0.005% of silicon carbide will result not only in the appearance of nodules, but also in swelling of the finished product.

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USSR UDC 517.925.12

KUKLES, I. S., ROZET, I. G., Samarkand State University imeni A. Navoi

"On Singular Separatrix Cycles of a Quadratic Differential Equation Having a Straight Line As Solution"

Minsk, Differentsial'nyye Uravneniya, Vol 7, No 10, Oct 71, pp 1813-1818

Abstract: The quadratic equation

$$\frac{dy}{dx} = \frac{Q_2(x, y)}{P_2(x, y)}$$

($Q_2(x, y)$, $P_2(x, y)$ are complete second-degree polynomials), which has a straight line as solution, is usually considered in the form

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KUKLES, I. S. et al, Differentsial'nyye Uravneniya, Vol 7, No 10, Oct 71, pp 1813-1818

$$\frac{dy}{dx} = \frac{Q_2(x, y)}{xy}$$

The study is made in Poincaré's circle. The article considers the case where the singular points on the axis $y = 0$ are on different sides of the solution $x = 0$, while the singular points on the axis $x = 0$ and on the diameter (for which $x \neq 0$) are on one side of the axis $y = 0$ (multiple singular points of the saddle point type on the vertical diameter in the finite part of the plane or on the diameter are possible). It is shown that in this case exact necessary and sufficient conditions can be given for the existence of singular separatrix cycles with two types of essential elements.

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UDC 517.917

ROZET, I. G.

"On Nonlocal Generation of a Limit Cycle From a Particular Separatrix Cycle"

Tr. Samarkand. un-ta (Works of Samarkand University), 1970, No. 181, pp 152-161 (from RZh-Matematika, No 4, Apr 71, Abstract No 4B209)

Translation: Necessary and sufficient conditions for the nonlocal generation of a limit cycle for the equation

$$\frac{dy}{dx}=\frac{-x+\lambda y+ax^2+bxy+cy^2}{y(1+\alpha x)}$$

are derived in the form of necessary and sufficient conditions for the existence of particular separatrix cycles. Authors abstract.

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USSR UDC 517.917

KUKLES, I. S. and ROZET, I. G., Samarkand

"Certain Signs of the Absence of Limit Cycles"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy--Matematika, No. 5, May 70, pp 53-56

Abstract: Signs of the absence of limit cycles for a differential equation of the type

$$y\, dy/dx = -x + \lambda y + ax^2 + bxy + cy^2 \qquad (1)$$

are considered for the case $a \neq 0$ and for the case $a = 0$. Criteria for the absence of limit cycles for an equation of the type (1) in the case $a \neq 0$ have been given previously and it was shown that if $\lambda \geq b/a$, the origin of the coordinates for equation (1) is acyclic, as shown by a comparison with a topographical system obtained from (1) for $\lambda = b = 0$. Criteria for the absence of limit cycles presented in this article for the case $a \neq 0$ are more general than the above criteria, which follow from those presented here as special cases.

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KUKLAS, I. S. and ROZET, I. G., Izvestiya vysshikh uchebnykh zavedeniy--Matematika, No. 5, May 70, pp 53-56

It is shown that if the expression

$$|\lambda| \geq |c/b| \text{ holds,}$$

an equation of the type

$$y\, dy/dx = -x + \lambda y + bxy + cy^2$$

does not have limit cycles.

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Acc. Nr: AP0047200 Ref. Code: UR0504

PRIMARY SOURCE: Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1, pp 31-33

# THE CONDITION OF THE COAGULATING AND ANTICOAGULATING SYSTEMS OF THE BLOOD IN PATIENTS WITH HYPERTENSIVE DISEASE IN HYPERTENSIVE CRISES AND DISORDERS OF CEREBRAL CIRCULATION

*G. I. Rozgon, V. N. Palyanitsa*

Summary

As a result of the investigations conducted it was revealed that in persons with crises of II degree, transitory disorders of cerebral circulation and ischemic strokes there took place inhibition of the indices of the anticoagulating system of the blood and increase of the coagulating activity. Hemorrhargic strokes were accompanied by an inconsiderable decrease of the coagulating system and increase of the fibrinolytic activity.

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USSR UDC 612.017.1.014.46:615.357.453+612.017.1.014.482

NIKOLAYEV, A. I., SAFAYEVA, I. B., and ROZGON, M. I., Tashkent Medical Institute

"Comparative data on the Effects of Hydrocortisone and Irradiation on Immunogenesis"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 70, pp 64-68

Abstract: The effects of hydrocortisone (90 mg/kg) and irradiation (700 r) on the number of live nuclear and antibody-forming cells in the spleen of intact mice and mice immunized with sheep erythrocytes were studied at various times before and after exposure to the above factors. The effects of irradiation and hydrocortisone during the first 10 days were of the same type. As compared to the controls, the number of live nuclear cells in irradiated mice and by a factor of 8 in mice receiving hydrocortisone. Twenty-four hours after irradiation and injection of cortisone, the absolute number of antibody-forming cells was the same as in the control. After 72 hours, these cells decreased in animals receiving hydrocortisone to one-third the number in controls, whereas in irradiated mice the number was approximately the same. Irradiation injures mainly the poorly differentiated cells of lymphoid tissue, severely depresses the proliferation of nuclear and antibody-forming cells, and lengthens the inductive phase of antibody formation. Hydrocortisone destroys all types of lymphoid cells, has little



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NIKOLAYEV, A. I., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 70, pp 64-68

effect on the proliferation of antibody-forming cells during the first few days after immunization, and has no significant influence on the duration of the inductive phase of antibody formation.

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PULATOV, I. R., DANILOVA, R. I., ROZGON, M. I., and RIZAYEVA, F. N., Tashkent Scientific Research Institute of Vaccines, and Sera, Tashkent

"Comparative Characterization of Immunomorphological Reactions upon Experimental Administration of the Venom of the Central Asian Blunt-Nosed Viper"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 12, Dec 71, pp 45-47

Abstract: Changes in the immunomorphological reactions of mice upon intravenous injection of the venom of the Central-Asian blunt-nosed viper (in a dose of $LD_{50}$) were investigated. In response to the venom, formation of antibodies to the liver took place. Profound progressive dystrophy of the liver and spleen developed. Hemodynamic shifts were also observed. The content of nucleic acids and of glyoogen in the liver decreased. Immunization of the poisoned animals by intravenous injection of ovine erythrocytes on the second day after administration of the venom increased the amount of antibody-forming cells in the spleen. The formation of plasmatic cells in the spleen and immunogenesis were inhibited by the venom.

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SOL'SKAYA, L. L., and ROZGON, M. L., Biochemical Department of the Central Scientific Research Laboratory of the Tashkent Medical Institute

"An Investigation on the Cellular Level of the Formation of Antibodies to Salm. Typhimurium in Mice of Various Ages"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 10, 1971, pp 48-52

Abstract: To elucidate the effect of age on immunological reactions, 270 mice aged 1 day to 120 days were given intraperitoneally an immunizing dose (150 million bacteria per 16-20 g mouse) of Sal, typhimurium containing the O-antigen. The animals were sacrificed on the 4th day after vaccination, and their spleen, cecum, and mesenteric lymph nodes as well as serum antibodies were investigated. In the spleen, the number of cells (per $10^6$ karyocytes) producing antibodies to O-antigen did not increase in 4-day old mice, just began to increase in 6-day old mice, and was significantly increased in 41-day old mice, resulting in a measurable increase in the serum titer of specific antibodies. The specific immunological reaction was even less pronounced in the cecum and mesenteric lymph nodes of young mice. However, these structures developed a larger number of cells producing antibodies to sheep erythrocytes. The nature of this cross reaction remains unclear.

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UDC 576.858.5.097.2.077.3

CHEPULIS, G.-K. S., ZHDANOV, V. M., NAS, I., CHERBA, I., and ROZHA, K., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow, Institute of Microbiology, Medical University, Hungarian People's Republic, Budapest, and Microbiological Scientific Research Group, Academy of Sciences Hungarian People's Republic

"Detection of Cellular Antigens in Myxoviruses and Paramyxociruses by the Immunodiffusion Method"

Moscow, Voprosy Virusologii, No 1, Jan/Feb 71, pp 62-70

Abstract: Several types of immunodiffusion methods which so far had been used only in the study of adenoviruses, plant viruses, and a few other viruses were used to study the antigenic composition of myxoviruses and paramyxoviruses. The methods used were double gel diffusion, immuno-electrophoresis, and immuno-osmophoresis. The viruses included in the study were Group A Hong Kong influenza virus, fowl plague virus (strain Weybridge), Group A influenza virus (strain WSN) and $A_2$ virus (strain England/64 and Hong Kong/68) and Newcastle disease virus (strain Tonlinskiy and Hertford-shire) and Sendai virus (strain No 960). The viruses were cultured on chick embryo cultures and primary cultures of chick fibroblasts. The viruses were

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CHEPULIS, G. -K., et al., Voprosy Virusologii, No 1, Jan/Feb 71, pp 62-70

purified by column chromatography with a special cellulose fiber material, andconcentrated by dialysis of purified preparations against polyethylene glycol of molecular weight 6,000. $S^-$ and $V^-$ antigens were obtained by washing the virus preparations with ether. Virus antigens were separated by adsorption and elution. Virus-specific antigens were detected and also several cellular antigens included in the composition of virus particles. Three of these cellular antigens were identified as group $A_1$ species-specific, and Forsman antigens. It was established that the cellular antigens are located not only at the surface of the virus particles, but also in the deeper structures of the virus particles. Also, experimental data indicate that cellular antigens are not simply mechaniaally admixed impurities; rather, they are essential components of the virus particles.

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JPRS
13 Nov 72

UDC 621.311.25:621.039

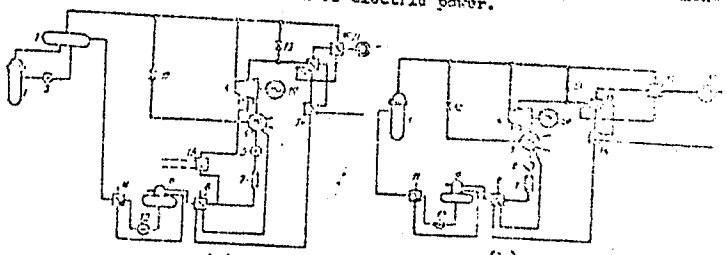
ATOMIC ELECTRIC POWER FOR HEAT SUPPLY

[Article by S. A. Zykov, doctor of technical sciences, A. Ye. Svichar, candidate of engineering sciences, and O. P. Zelenyak and V. P. Rozhalin, engineers: "Application of Atomic Electric-Power Stations for Centralized Heat Supply to Cities and Industrial Complexes"; Kiev, Energetika i Elektrifikatsiya, Russian, No 3, May-June 1972, pp 28-29]

Atomic power plants providing for heat supply to industrial complexes and cities and generation of electric power on a condensation regime for delivery of it to a power system (ATETs) have advantages over ATES (atomic-powered thermal electric-power stations). At an ATETs units of large capacity may be applied and the load factor of the reactors may be increased to the maximum, regardless of the number of hours of use of the maximum heat load during the year.

Diagrams of atomic units of such power plants are given in the figure: (a) represents an industrial heating ATETs; (b) and (c) are industrial ATETs. In the atomic blocks of (a) and (b), respectively, one condensation turbine is installed, with heat-supply and production steam takeoffs or with a production steam takeoff alone.

In block (c) with one reactor, two turbines are installed: one back-pressure turbine for distribution of industrial steam, and a second condensation turbine for the generation of electric power.



(a) (b)



ROZHALIN, V.P.

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UDC 536.24

ROZHANENKO, P. N., BOLOSHCHUK, A. YA., Moscow, Lumber Engineering Institute

"The Protection Effectiveness and the Heat Exchange When Air is Blown Into the Turbulent Boundary Layer of an Air Stream Through a Porous Preconnected Sector"

Moscow, Teplofizika Vysokikh Temperatur, No 5, 1970, pp 1025-1031

Abstract: In the article are presented the results of an experimental investigation of the protection effectiveness and heat exchange in case of the blowing of air into a turbulent boundary layer on a plate in the presence and in the absence of the boundary layer at the entry, at the beginning of a preconnected porous insert before the porous surface. 7 figures, 1 table, 8 bibliographic entries.

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ROZHANETS, R. V.

JPRS 61307
25 February 1974

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PERSONALITY DEVELOPMENT IN STUDENTS

UDC: 613.86-053.6

[Articles by M.P. Miroshnikov, R.V. Rozhanets, Candidate of Medical Sciences, Chair of Child and Adolescent Hygiene, First Moscow Medical Institute imeni I.M. Sechenov, Moscow, Gigiyena i Sanitariya, Russian, No 10, 1973, submitted 1[illegible] January 1973, pp 35-38]

Proper development of the personality and biosocial adaptation of the adolescent can be aided by organizing his education and socially useful activities in accordance with the individual distinctions of the prior period of development, which are manifested in already-formed characterological traits, capabilities, and direction of interests. Signs of unsatisfactory adaptation serve as the basis for analysis of unfavorable microsocial conditions. The ultimate goal of our investigation is to find the cause-and-effect link between internal and external factors determining the adjustment process.

Our first task was to demonstrate the correlation between some personality distinctions of junior-year students and their adaptation to the educational process as well as to the microsocial environment of the VUZ. We were concerned with establishment of a possible link between personality distinctions and academic achievement of students, their attitude toward studies and the existing educational process at the institute, satisfaction with their own position at the VUZ and social activity. In addition, an effort was made to assess the significance of personality distinction of students making up one group on the successful function of such a group.

We made a study of 740 first- and second-year students referable to three faculties (medical, sanitary-hygienic, and pharmaceutical) at the First Moscow Medical Institute imeni I.M. Sechenov. We investigated personality distinctions using a modification of the comprehensive method of studying personality (F.B. Berezin and M.P. Miroshnikov) and clinical observation. We assessed the attitude of the subjects toward studies and existing educational process at the VUZ, as well as their social activity by the method of "competent judges," i.e., by calling upon students of the

*From a paper delivered at the 16th All-Union Congress of Hygienists and Health Inspectors



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1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--CONDENSATION RESIN -U-

AUTHOR-(05)-NOVOSELTSEV, P.V., BRYZGALOVA, M.A., ZASOVA, V.A., TIKHVINSKAYA, M.YU., ROZHANOVSKAYA, G.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,682
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--06JAN70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CONDENSATION TYPE RESIN, CHEMICAL PATENT, PHENOL, FORMALDEHYDE, PHENYL ETHER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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CIRC ACCESSION NO--AA0111436 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CONDENSATION RESIN WAS PREPD. BY TREATING PH SUB2 O WITH HCHO FOLLOWED BY CONDENSATION POLYMN. WITH PHOH.

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ROZHANKOVSKIY, R. V., L'vov

UDC 621.372.061

"Synthesis of a Wide-Band Phase Converter from Circuits with Distributed RC-Parameters"

Kiev, Otbor i Peredacha Informatsii, No 27, 1971, pp 55-60

Abstract: A study was made of a possible means of constructing a wide-band phase converter from elements with distributed RC-parameters (RC-elements), that is, a phase converter convenient for implementation as a film micromodule. The basis of the proposed procedure is approximation of the rational transfer function of the complex frequency of the rational function of another complex variable describing circuits with RC-elements of identical length (URC-circuits). The method is illustrated in the specific example of constructing a phase converter for a phase shift of 90° in the 300-3,000 hertz frequency range with minimum possible phase error in this range. The approximations obtained can be used as the starting point for a simple process for optimization of the frequency-phase characteristics on a computer.

The stated problem was solved in two steps: 1) construction of the transfer function of the wide-band phase converter as a rational function of the complex frequency S using the results of approximating the functions by circuits with lumped parameters [A. A. Lanne, Optimal'nyy sintez lineynykh

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ROZENKOVSKIY, R. V., Otbor i Peredacha Informatsii, No 27, 1971, pp 55-60

elektricheskikh tsepey, Svyaz' Press, Moscow, 1969; B. B. Shteyn, et al., Odnopolosnaya modulyatsiya s pomoshch'yu fazovykh skhem, Svyaz'izdat Press, Moscow, 1959]; 2) application of the transformation

$$p = \mathrm{ch}\sqrt{sT}$$

to the derived transfer functions of the phase circuits in operator form.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

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UDC: 621.373.52:621.373.42

KOMISSARCHUK, A. A., ROZHANKOVSKIY, R. V.

"Investigation of a Sinusoidal Oscillator Based on a Circuit With Distributed RC Parameters"

Otbor i peredacha inform. Resp. mezhved. sb. (Selection and Transmission of Information. Republic Interdepartmental Collection), 1970, vyp. 25, pp 103-107 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D330)

Translation: The authors study harmonic distortions of the signals from a generator consisting of an emitter follower and a distributed RC circuit as a feedback link. Distributed circuits are analyzed and a study is made of the effect of circuit parameters on the shape of the emitted oscillations. Bibliography of three titles. Resumé.

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ROZHANKOVSKIY, R. V.

UDC 621.372.5/.6

"Study of Passive Phase Conversion Circuits with Distributed RC-Parameters"

Otbor i peredacha inform. Resp. mezhved. sb. (Information Sorting and Transmission. Republic Interdepartmental Collection), 1970, vyp. 24, pp 67-74 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A203)

Translation: This article contains an investigation of phase converters made of exponentially constricting and expanding circuits with distributed RC-parameters considering the source and load resistances. The optimal construction of the circuit is selected for which the transmission coefficient has maximum value. A procedure is given for engineering calculation of all the electrical and structural parameters of the phase converter. The bibliography has two entries.

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SAMSONOV, G. V., ROZHANSKAYA, T. I., MOSKVICHEV, B. V., MARGOLINA, N. A., SELEKHOVA, G. B., KOZHEVNIKOVA, P. YE.

UDC 66.067.38:62-278

"Study of the Permeability of Ultrafiltration Diaphragms"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, 1973, pp 2589-2592

Abstract: The results are presented from a study of the physical-chemical properties of Soviet anisotropic diaphragms based on cellulose acetate: the permeability and filtration rates as functions of the concentration and pressure gradients and the composition of the solution. The degree of trapping of the material by a given diaphragm depends primarily on the molecular weight of the material. The filtration rate depends on the type of diaphragm, the magnitude of the pressure gradient, the concentration and composition of the filtered solution. The dimensions of the ultrafilter pores are estimated. Integral pore distribution curves with respect to dimensions in the active layer of the membrane are plotted and interpreted. The active layer of the tested diaphragm is characterized predominantly by pores corresponding with respect to permeability to materials with a macromolecule diameter of 20-40 Å. The performed studies make it possible efficiently to select ultrafilters suitable for the concentration of biological preparations of defined molecular weight.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202710014-2

USSR

UDC 548.0:533.16

KUANG, LE, ROZHANSKIY, V. N., Institute of Crystallography, Academy of Sciences USSR

"Peculiarities of the Internal Structure of Threadlike Crystals of NaCl, KCl and KBr at High Temperatures"

Moscow, Kristallografiya, Vol 18, No 2, Mar-Apr 73, pp 413-415.

Abstract: The internal friction of threadlike crystals was measured in a vacuum installation. All curves showed a clear maximum in the temperature interval between 100 and 150° for measurements at frequencies up to 500 Hz. Some threadlike crystals showed a second maximum in the 30-70° C interval. The variation in height of the peak on oscillating amplitude and crystal thickness indicates that it is related to the movement of dislocations. This peak disappears in well-annealed crystals. However, the introduction of new dislocations by plastic twisting does not restore the peak. The annealing process eliminates not only dislocations, but also point defects, which are not restored by subsequent deformation; therefore, the peak probably results from the interaction of dislocations with point defects.

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