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USSR

MEN'SHOV, A. K., Kosmicheskaya ergonomika (Space Ergonomics), Leningrad, "Nauka," 1971, 295 pp

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USSR UDC: 621.396.967:621.396.62

MEN'SHOV, B. N.

"Range-Finding Errors in Highly Accurate Radar Stations Using Logarithmic Amplification Systems"

Tr. Leningr. in-ta tochnoy mekh. i optiki (Transactions of the Leningrad Institute of Precision Mechanics and Optics) 1970, No. 69, pp 59-65 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3G46)

Translation: The error in determining the range for any variant of intermediate-frequency amplifier for any number of i-f amplifier stages with a logarithmic characteristic is examined. For broad-band receivers with ΔF = 10 to 25 MHz and a coefficient of amplification, K_H = 3 to 6, the range-finding error is 2 to 8 meters. Two illustrations, bibliography of four. V. Ch.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR UDC 517.512.2

MEN'SHOV, D., Corresponding Member of the Academy of Sciences USSR, Moscow State University imeni M. V. Lomonosov

"Application of Cesàro's Summation Methods of Negative Order to Fourier-Lebesgue Series"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 2, 1973, pp 271-273

Abstract: It is known that any trigonometric Fourier series of the summable function f(x) converges in measure to this function on the segment $[-\pi, \pi]$, and in such case, as is known, for any Fourier-Lebesgue series it is possible to determine the subsequence of its partial sums which converges almost everywhere on $[-\pi, \pi]$. The question arises whether an analogous statement is valid if, instead of convergence, Cesàro's method of some negative order α is taken. The article outlines the proof for the following theorem:

There exists a function f(x) summable on $[-\pi, \pi]$ for which the corresponding sequence

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

MEN'SHOV, D., Doklady Akademii Nauk SSSR, Vol 210, No 2, 1973, pp 271-273

$$U_{m_j}^{(\alpha)}(x, f), \quad j = 1, 2, \ldots,$$

diverges on a set of positive measure lying on $[-\pi, \pi]$, whatever the increasing sequence of natural numbers m_j $(j = 1, 2, \ldots,)$ may be and whatever α may be satisfying the inequality $-1 < \alpha < 0$.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

UDC 517.522.3

MENSHOV, D. (Moscow)

"Properties of Cesàro's Means of Negative Order and Some Other T-Means for Fourier Series of Continuous Functions"

Moscow, Matematicheskiy Sbornik, Vol 86, No 3, Nov 71, pp 419-445

Abstract: It is known that any measurable function, finite almost everywhere on the segment $[-\pi,\pi]$, can be varied on a set of arbitrarily small measure in such a way that a continuous function will be obtained whose Fourier series converges uniformly on $[-\pi,\pi]$. It is not known if this theorem will be true if Cesàro's summation methods of negative order are considered instead of ordinary convergence. However, the article proves a theorem which gives a partial answer to this question.

Theorem 1. Let $\alpha < 0$ and $\alpha \neq -1, -2, \ldots$. Then for any measurable function $f(x)$, finite almost everywhere on $[-\pi,\pi]$, and for any positive number σ it is possible to define the measurable set E, the function $g(x)$, and the increasing sequence of natural numbers

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

MEN'SHOV, D., Matematicheskiy Sbornik, Vol 86, No 3, Nov 71, pp 419-445

$$m_\nu \quad (\nu = 0, 1, 2, \ldots), \tag{1}$$

which satisfy the following conditions:

α^0) g(x) is continuous for all real x and has the period 2π;

β^0) $\operatorname{mes} E > 2\pi - \sigma$, $E \subset [-\pi, \pi]$;

γ^0) $g(x) = f(x)$ $(x \in E)$;

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

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MEN'SHOV, D., Matematicheskiy Sbornik, Vol 86, No 3, Nov 71, pp 419-445

δ°) Cesáro's means

$$C_{m_\nu}^{(a)}(x, g) \quad (\nu = 0, 1, 2, \ldots)$$

converge uniformly to g(x) on the whole x-axis, given $\nu \to \infty$.

Theorem 1 is the direct corollary of Theorem 2: Let method T, defined by the triangular matrix

$$T = \| c_{mk} \| \quad (m, k = 0, 1, 2, \ldots),$$

be a method of the type $R^{(\beta)}$, $\beta > 0$. Then for any measurable function f(x), finite almost everywhere on $[-\pi, \pi]$, and for any

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

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MEN'SHOV, D., Matematicheskiy Sbornik, Vol 86, No 3, Nov 71, pp 419-445

positive number σ it is possible to define the measurable set E, the function g(x), and the increasing sequence of natural numbers (1) which satisfy conditions α°), β°) and γ°) of Theorem 1, as well as the following conditions:

ε°) The sequence of functions

$$T_{m_\nu}^{(\beta)}(x, g) \quad (\nu = 0, 1, 2, \ldots)$$

converges uniformly to g(x) on the whole x-axis, given $\nu \to \infty$.

The author outlines the proof of Theorem 2.

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USSR

MEN'SHOV, D., Moscow

"Limits of Indeterminancy in Measure of T-Average Trigonometric Series"

Moscow, Matematicheskiy Sbornik, Vol. 81 (123), No 4, Apr 70, pp 465-524

Abstract: The linear method of summation of an infinite series of numbers

$$S_m (m = 0, 1, 2, \ldots) \qquad (1)$$

is defined as follows: take the matrix

$$T = \|c_{nk}\| \ (n, k = 0, 1, 2, \ldots). \qquad (2)$$

We say that the series (1) is summed by a linear method defined by the matrix T to the value S if the series

$$T_n = \sum_{k=0}^{\infty} c_{nk} S_k \qquad (3)$$

converges for any value $n = 0, 1, 2$ and if the sequence of sums T_n of these series

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MEN'SHOV, D., Matematicheskiy Sbornik, Vol 81(123), No 4, Apr 70, pp 465-524

satisfies the condition

$$\lim_{n\to\infty} T_n = S. \qquad (4)$$

The linear method of summation determined by the matrix T is called the T-method. The values T_n ($n = 0, 1, 2, \ldots$) determined from the equality (3) are called the T-averages of the sequence (1) corresponding to the given T-method. The T-method is called regular if any sequence converging to a finite value S is summed by this method to the same value S. A linear method determined by the matrix T is called finite-row, if any row of the matrix T contains only a finite number of elements different from zero. This paper considers the T-averages of the partial sums of the trigonometric series

$$\Sigma' = \frac{a_0}{2} + \sum_{j=1}^{\infty} (a_j \cos jx + b_j \sin jx) \qquad (5)$$

for finite-row methods of summation determined by matrix (2). The following theorem is proved: for any measurable functions $F(x)$, $G(x)$ satisfying the inequality

$$G(x) \leq F(x) \qquad (6)$$

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MEN'SHOV, D., Matematicheskiy Sbornik, Vol 81(123), No 4, Apr 70, pp 485-524

almost everywhere on the segment $[-\pi, \pi]$ and for any regular finite-row Σ-matrix determined by the matrix (2) with real elements, one can find a trigonometric series (5) satisfying the conditions

$$1)\quad F(x) = \overline{\lim_{n\to\infty}}\,(\text{mes}, [-\pi, \pi]) T_n(x, \Sigma'), \quad G(x) = \underline{\lim_{n\to\infty}}\,(\text{mes}, [-\pi, \pi]) T_n(x, \Sigma'), \qquad (7)$$

where $T_n(x, \Sigma')$ is determined from the equalities

$$T_n(x, \Sigma') = \sum_{k=0} c_{nk} S_k(x) \quad (n = 0, 1, 2, \ldots),$$

where $\quad S_0(x) = \frac{a_0}{2}, \quad S_k(x) = \frac{a_0}{2} + \sum_{j=1}^{k} (a_j \cos jx + b_j \sin jx) \quad (k = 1, 2, \ldots),$

and 2) $\lim_{n\to\infty} a_n = 0, \quad \lim_{n\to\infty} b_n = 0.$ The following theorem follows from the first

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MEN'SHOV, D., Matematicheskiy Sbornik, Vol 81(123), No 4, Apr 70, pp [illegible]-524

theorem if it is assumed that $F(x) = G(x)$. Let the T-method satisfy the conditions of the first theorem. Then for any measurable function $F(x)$ defined almost everywhere on $[-\pi, \pi]$, one can find a trigonometric series (5) satisfying the condition 2) which is summed in measure by the T-method to $F(x)$ almost everywhere on $[-\pi, \pi]$.

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1/2 014

TITLE--DETERMINATION OF MOLECULAR WEIGHTS USING SEDIMENTATION, DIFFUSION, AND VISCOSITY DATA -U-

AUTHOR-(03)-TIMOFEYEVA, G.I., DUBROVINA, L.V., MENSHOV, V.N.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(6), 1374-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR WEIGHT, POLYESTER RESIN, FLUID VISCOSITY, DIFFUSION COEFFICIENT, SEDIMENTATION SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1014 STEP NO--UR/0459/70/012/006/1374/1378

CIRC ACCESSION NO--AP0136441

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UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 014

CIRC ACCESSION NO--AP0136441

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DETN. OF THE MOL. WTS. OF POLYESTERS PREPD. FROM SEBACOYL DICHLORIDE AND PHENOLPHTHALEIN OR TEREPHTHALOYL DICHLORIDE AND 9,9,DIS(4,HYDROXYPHENYL)FLUORENE BY THE COMBINED SEDIMENTATION VISCOSITY METHOD (P. I. FLORY, ET AL., 1952) GAVE MORE RELIABLE AND REPRODUCIBLE RESULTS THAN DETNS. BY THE VISCOSITY OR DIFFUSION METHODS. THE DIFFUSION COEFFS. AS DETD. BY CENTRIFUGING ARE SUBJECT TO CONSIDERABLE ERROR. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MODERN DRUGS OF STEROID STRUCTURE -U-

AUTHOR-(04)-GRINENKO, G.S., SHNER, V.F., MENSHOVA, N.I., SUVOROV, N.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(2), 175-84

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CORTICOSTEROID, DRUG TREATMENT, MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0122 STEP NO--UR/0063/70/015/002/0175/0184

CIRC ACCESSION NO--AP0138987

UNCLASSIFIED

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2/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138987

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW COVERING MODIFIED CORTICOSTEROIDS, GESTAGENS, ANABOLIC PRODUCTS, AND THEIR RELATION TO MODERN MEDICAL PRACTICE.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

MEN'SHOVA, V. M.

Life Support System

SO: JPRS 53801
12 AUG 71

UDC 613.693:629.7.048.4:612.223.11]:661.183.124

AMINOSILICAGELS: REGENERABLE SORBENTS FOR ABSORBING CARBON HYDROGEN SULFIDE AND WATER VAPOR

(Life Support System)

[Article by I. A. Denilychev, V. V. Strelko, T. N. Burushkina, V. K. Cherkasov, [redacted] Avetisyants and [redacted] Men'shova; Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 5, No 1, 1971, pp 77-79, submitted 24 February 1969]

One of the principal requirements imposed on atmospheric purification systems in spaceships is the capacity for effectively absorbing carbon dioxide exhaled by man. The carbon dioxide adsorbents used are unregenerable chemical adsorbents of the type of different peroxide compounds of alkali metals and regenerable sorbents: synthetic zeolites (N. S. Torocheshnikov, et al.; Smylie and Reumont).

Although a system for air purification based on synthetic zeolites has been well developed, it has a number of serious inadequacies. In particular, the use of zeolites makes it necessary to use preliminary air drying to the dew point: 60-70°; considerable energy expenditures are required for the thermovacuum regeneration of synthetic zeolites.

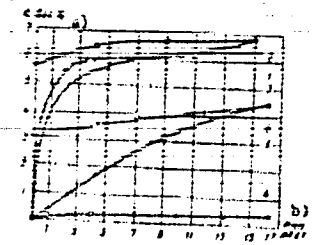

Fig. 1. Isotherms of CO_2 and H_2S adsorption and desorption on aminosilicagel. 1) isotherm of CO_2 adsorption; 2) isotherm of CO_2 desorption; 3) isotherm of CO_2 adsorption in presence of water vapor; 4) isotherm of CO_2 adsorption in control sample; 5) isotherm of H_2S in presence of water vapor; 6) isotherm of H_2S desorption. a) % by weight; b) P mm Hg.

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USSR UDC 591.524.1:681.142.33

MENSHUTKIN, V. V., Institute of Evolutionary Physiology and Biochemistry, Academy of Sciences USSR, Leningrad

"Use of Digital Computers to Model Populations and Communities of Aquatic Animals"

Moscow, Zoologicheskiy Zhurnal, No 4, 1971, pp 461-473

Abstract: Mathematical interpretation of ecological concepts and terms is a prerequisite for mathematical modeling in ecological research. Forty-six concepts and quantities (e.g., individual, stage of development, ambient temperature, energy assimilated by an individual, biomass, etc.) based on set and graph theories are used to construct 16 models of populations and communities of aquatic animals, ranging from very simple fish populations and abstract populations of crustaceans and mollusks to concrete pelagic fish communities in Lake Dal'noye (Kamchatka). The complexity of all the models is evaluated and in the case of concrete models, the degree of similarity to the original is discussed. The various models described reveal the flexibility and efficiency of computers in studying populations and communities of aquatic animals. While the proposed method of mathematical interpretation of ecological concepts needs to be refined, even in its present form it can be applied to the problems involved in rational exploitation of the natural resources found in bodies of water.

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Hydrobiology

USSR UDC 581.526.325:51

MENSHUTKIN, V. V., and PRIKHOD'KO, T. I.

"Model Investigation of Vertical Distribution and Production of Phyloplankton"

Kiev, Gidrobiologicheskiy Zhurnal, No 2, Vol 7, Mar/Apr 71, pp 5-10

Abstract: The article describes a mathematical model for vertical distribution and production of phyloplankton on a digital computer. Input information consists of water surface illumination, water temperature distribution by depth and with time, and the initial concentration of biogenic elements. The investigation produces a dynamic picture of phyloplankton production in the total water supply, as well as the vertical distribution of phytoplankton biomass and biogenic concentration conforming to direct observation data on these factors.

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1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--SIMULATION OF A PUPULATION OF PLANKTONIC CRUSTACEANS WITH THE AID OF AN ELECTRIC COMPUTER -U-

AUTHOR-(02)-MENSHUTKIN, V.V., PRIKHODKO, T.I.

COUNTRY OF INFO--USSR

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 341-347

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MODEL, CRUSTACEA, PLANKTON, FOOD REQUIREMENT, FOOD, COMPUTER APPLICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1278 STEP NO--UR/0213/70/010/002/0341/0347

CIRC ACCESSION NO--AP0109362

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STATISTICAL MODEL OF A POPULATION OF PLANKTONIC CRUSTACEANS WAS REALIZED ON A DIGITAL COMPUTER. THE MODEL WAS USED TO STUDY THE DEPENDENCE OF NUMBERS, BIOMASS, PRODUCTION AND STRUCTURE OF THE POPULATION UPON THE CONDITIONS OF FEEDING. THE EFFICIENCY OF THE PRODUCTION PROCESS IS MAXIMAL WHEN THE QUANTITY OF FOOD CORRESPONDS OF FOOD REQUIREMENTS OF THE POPULATION. THE EFFICIENCY BECOMES LOWER AT FOOD SURPLUS OR DEFICIENCY.

FACILITY: INSTITUT EVOLYUTSIONNOY FIZIOLOGII I BIOKHIMII AN SSSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR UDC 591.553-551.481:001.57

MENSHUTKIN, V. V., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR

"Modeling of the Processes of Investigating and Exploiting a Lake Ecological System"

Moscow, Zhurnal Obshchey Biologii, No 1, 1972, pp 15-20

Abstract: The purpose of the article is to show that the methods of operations research theory can be applied to the study of the interaction of man with natural ecological systems. The model takes into account both the phenomena that occur in a lake ecosystem and the effects of human activities (not only fishing and other forms of commercial exploitation but also scientific research). Two types of information are sought: (a) theoretical, i.e., fundamental data on the structure and mutual relations of the elements of an ecosystem and (b) operational, i.e., observations on the state of the individual components of a specific ecosystem at a particular time. The precision with which the theoretical and operational information is obtained is a function of the desired degree of efficiency in exploiting the resources of a given ecosystem.

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UDC 576.858.75.095 5

USSR

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., MYASNIKOVA, I. A., MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STANIANOVA, V. M., Institute of Birology imeni D. I. Ivanovskiy, Academy of Medical Sciences, USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the 1968-1969 Influenza Epidemic. Communication 1: Biological Properties of Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuramidase and eluent activities, stability against UV light, and pathogenic and toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar strains isolated in the USSR. The latter strains did not differ significantly from the former. On the basis of the test results, it is assumed that evolution of the A2 virus in nature does not involve reversion to strains of group AO. Additional studies with laboratory varieties are required to elucidate this problem.

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UDC 62-50

USSR

MENSKIY, B. M.

Printsip Invariantnosti v Avtomaticheskom Regulirovanii i Upravlenii (The Principle of Invariance in Automatic Regulation and Control), Moscow, "Mashinostroyeniye", 1972, 247 pp

Abstract: The book outlines the fundamentals of the theory of invariance. The greatest consideration is given to the invariance of a controlled quantity relative to a primary perturbation and of error invariance relative to the controlling action in an automatic control system. Combined systems and systems with auxiliary links within the control loop are considered. Also investigated is the invariance of an arbitrary function of coordinates and external actions of a nonlinear, multidimensional, automatic control system. The book is written for engineers and scientific workers involved in automatic control and the calculation of dynamic systems. It may be of use to graduate students and advanced undergraduates majoring in the appropriate fields.

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USSR

MENSKIY, B. M., Printsip Invariantnosti v Avtomaticheskom Regulirovanii i Upravlenii, Moscow, 1972

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

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MENSKIY, B. M., Printsip Invariantnosti v Avtomaticheskom Regulirovanii i Upravlenii, Moscow, 1972

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UDC 576.858.095.383.095.18:615.273.53

USSR

~~MENTKEVICH, I. M.~~, ZHDANOVA, L. V., ORLOVA, T. G., and SOLOV'YEV, V. D., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Effect of Heparin on Interferon Induction and Interference Caused by Viruses and Synthetic Polynucleotides"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 401-404

Abstract: Chick embryo cells infected with Newcastle disease virus (NDV) and vesicular stomatitis virus (VSV) were treated with heparin to study the role of interferon in homologous and heterologous viral infections and in the defense reaction caused by synthetic interferon inducer (poly I:C). Although heparin had no effect on interferon activity itself, it did inhibit interferon production stimulated by the viruses and by poly I:C, even when poly I:C was combined with DEAE-dextran. Interference of NDV reproduction remained unchanged when cultures treated with heparin were infected with a homologous virus, while a great degree of suppression of such interference was noted in heparin-treated cultures infected with both NDV and VSV. This indicates that the interferon system is not involved in the interaction between homologous viruses, but that it is involved in heterologous interference. The effect of heparin on the action of poly I:C and a combination of poly I:C and DEAE-dextran indicates also that

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MENTKEVICH, L. M., et al, Voprosy Virusologii, No 4, Jul/Aug 72, pp 401-404

the interferon system is involved in the action of these synthetic polynucleotides. In addition to suppressing interferon production, heparin also reduced cellular DNA and RNA synthesis. Thus inhibition of DNA and RNA synthesis may be the path by which heparin suppresses interferon production.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UDC 576.858.13.098.31.095.383

USSR

LINITSKAYA, G. L., ZHDANOVA, L. V., MENTKEVICH, L. M., and GALEGOV, G. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Effect of Interferon on Induction of Alkaline and Acid DNA-ses in Cell Culture Infected With Vaccinia Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

Abstract: The effect of interferon on virus-induced synthesis of alkaline (early) and acid (late) DNA-ses was studied. It was found that both enzymes are highly sensitive to interferon and were significantly inhibited by it even in the lowest dose studied. The highest concentration tested completely blocked their synthesis. However, the interferon concentrations used were not sufficient to inhibit production of the infectious virus. Interferon prevents the combination of cell ribosomes with viral RNA to form viral polysomes and, eventually, virus-specific early proteins. As a result, synthesis of viral DNA polymerase and, consequently, of viral DNA is inhibited. This process did not occur in the system studied. Evidently DNA polymerase is less sensitive to the effect of interferon. The tests suggest that vaccinia virus can

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

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LINITSKAYA, G. L., et al, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

multiply in cells in the absence of synthesis of both early and late DNA-ses.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INVESTIGATION OF HOMOLOGOUS INTERFERENCE OF NEWCASTLE DISEASE VIRUS. COMMUNICATION II: HOMOLOGOUS INTERFERENCE CAUSED BY PARTIALLY

AUTHOR-(02)-ZHDANOVA, L.V., MENTKEVICH, L.M.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 295-297

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEWCASTLE DISEASE VIRUS, INTERFERON, TISSUE CULTURE, IRRADIATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1842 STEP NO--UR/0402/70/000/003/0295/0297

CIRC ACCESSION NO--AP0125453

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

2/2 027 UNCLASSIFIED PROCESSING DATE--30OC170

CIRC ACCESSION NO--AP0125453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARTIAL INACTIVATION WITH ULTRAVIOLET AND GAMMA RAYS OF NEWCASTLE DISEASE VIRUS RETAINING FROM 50 TO 0.2PERCENT OF THE INITAL INFECTIVITY STIMULATED INTERFEROGENICITY OF THE PREPARATIONS BOTH IN ANIMALS (SERUM INTERFERON) AND IN CHICK EMBRYO CULTURES. IN CONTRAST, THE INTERFERING ACTIVITY OF IRRADIATED VIRUSES FOR HOMOLOGOUS STRAINS WAS MARKEDLY REDUCED. FACILITY: INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII IMENI N. F. GAMALEV AMN SSSR, MOSKVA.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE RIEMANN METHOD IN THE INVERSE PROBLEM OF SCATTERING THEORY -U-

AUTHOR-(02)-GUGUSHVILI, E.I., MENTKOVSKY, YU.L.

COUNTRY OF INFO--USSR

SOURCE--(ITF-70-6) 1970. 13P. DEP. CFSTI

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--COULOMB SCATTERING, NUCLEAR SCATTERING, INVERSE PROBLEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0164 STEP NO--UR/0000/70/000/000/0001/0013

CIRC ACCESSION NO--AT0127738

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0127788

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAIN POINTS OF THE RIGOROUS SUBSTANTIATION OF THE PREVIOUSLY SUGGESTED SCHEME OF RESTORATION OF THE NUCLEAR POTENTIAL WHICH CORRESPONDS TO GIVEN DATA OF THE NUCLEAR COULOMB SCATTERING ARE CONSIDERED. FACILITY: AKADEMIYA NAUK UKRAINSKOI SSR, KIEV. INSTITUT TEORETICHESKOI FIZIKI.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

UDC 632.95

NAUMOV, YU. A., DREMOVA, V. P., KOST, A. N., [redacted], and SMIRNOVA, S. N.

"Substituted Amides, Esters of Pyromucic Acid, Furfuryl and Tetrahydrofurfuryl Esters of Carboxylic Acids and Their Repellent Activity"

Tr. VNII dezinfektsii i steriliz. (Works of All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, Vol 2, pp 24-30 (from RZh-Khimiya, No 16, 25 Aug 72, Abstract No 16N403 by T. K. YUDOVSKAYA)

Translation: Repellent properties are possessed by N,N-dialkylamides and esters of pyromucic acid (I acid), furfuryl esters (FE) and tetrahydrofurfuryl esters (TFE) of carboxylic acids. The reaction of furoyl chloride with secondary amines in C_5H_5N yields the following dialkylamides of I (shown are dialkyls, boiling point in °C/mm or melting point in °C, $n^{20}D$): Et_2, 91-2/0.5, 1.5060; Pr_2, 97-8/0.5, 1.4972; Bu_2, 113-4/0.5, 1.4929; $(iso\text{-}Bu)_2$, 101-2/0.5, 1.4910; $(CH_2)_5$, 57-8, ---; $(CH_2)_6$, 116-7/0.5, 1.5450; BuPh, 83, ---. The following esters of I are synthesized from I and the corresponding alcohol in the presence of H_2SO_4 or by the reaction of furoyl chloride with alkaline solutions of phenols (given hereinafter are the ester radical, boiling point in °C/mm and $n^{20}D$ or melting point in °C): C_5H_{11}, 91-3/0.5, 1.4719; C_6H_{13}, 104-5/0.5. 1.4720; C_7H_{15}, 118-20/0.5, 1.4711; C_8H_{17}, 125-6/0.5, 1.4713; C_9H_{19},

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

NAUMOV, YU. A., et al., Tr. VNII dezinfektsii i sterilizatsii., 1971, vyp 21, Vol 2, pp 24-30

119-20/0.5, 1.4688; $C_{10}H_{21}$, 136-7/0.5, 1.4665 (24°); cyclohexyl, 95-7/0.5, 1.5026 (30°); $PhCH_2$, 136-7/0.5, 1.5552; Ph, 41.2, ---; o-MeC_6H_4, 109-10/0.5, 1.5566, m-MeC_6H_4, 37-8, ---; p-MeC_6H_4, 58-9; o-$MeOC_6H_4$, 75-6; m-$MeOCH_6H_4$, 137-8/0.5, 1.5640; p-$MeOC_6H_4$, 85-6, ---; o-ClC_6H_4, 53-4, ---; p-ClC_6H_4, 81-2, ---; 2,4-$Cl_2C_6H_3$ 83-4, ---. FEs and TFEs are synthesized by the reaction of acid chlorides with the corresponding alcohols in a medium of C_5H_5N(shown are acid, boiling point in °C/mm and $n^{20}D$ first for FE, then for TFE): caproic acid, 110-3/0.8, 1.4580; 120-2/0.68, 1.4400; enanthic acid, 118-21/0.8, 1.4585, 135-7/0.8, 1.4428; caprylic acid, 128-30/0.8, 1.4580, 137-40/0.8, 1.4458; pelargonic acid, 118-20/0.5, 1.4590, 150-2/2, 1.4469; capric acid, 150-1/0.8, 1.4569, 138-40/0.8, 1.4480; pyromucic acid, 117-9/0.8, 1.5723, 124-6/0.8, 1.5038; benzoic acid, 146-7/0.8, 1.5423, 147-8/0.8, 1.5251; phenylacetic acid, 120-3/0.8, 1.4627; 135-6/0.8, 1.5129; phenoxyacetic acid, 145-6/0.8, 1.5379, 170-2/0.8, 1.5196; m-toluic acid, 145-7/0.8, 1.5423, 156-7/0.8, 1.5213. The highest repellent activity for fleas X. cheopis is possessed by dialkylamides of I in a dose of 40 g/sq m (86-100%, duration of action 8-10 days). FEs of enanthic and benzoic acids showed repellent activity for 4-8 days. Under field

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

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NAUMOV, YU. A., et al., Tr. VNII dezinfektsii i sterilizatsii, 1971, vyp 21, Vol 2, pp 24-30

conditions satisfactory repellence of mosquitos of the genus Aedes is afforded (when applied to the tissue in the proportion of 20 g/mg) by dipropylamide, piperidid and hexamethyleneimide of pyromucic acid and by TEEs of benzoic, phenosyacetic, enanthic and pelargonic acids [factor of repellent action for the first few days 78-87%, duration of action 6-10 days; activity referred to standard (DETA) was 0.5-0.8].

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USSR UDC 615.371:576.858.25/.015.45:612.42

MENYAVTSEVA, T. A., Tomsk Medical Institute

"Cellular Reactions in Peripheral Lymphoid Tissues to an Adsorbed Tissue Vaccine Against Tick Borne Encephalitis"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 86-90

Abstract: Studies were conducted with guinea pigs to determine changes in cellular composition in lymph nodes and spleens of animals injected into the right posterior extremity with a tick borne encephalitis vaccine, consisting of a formalin treated filtrate of chick embryo fibroblasts. The results were compared with untreated animals and guinea pigs injected with a filtrate from uninfected chicks. Immunized animals were injected subcutaneously twice with a 1 week interval with 1 and 2 ml, respectively, of the filtrate. The animals were sacrificed at different periods of time following each injection, smears of lymph nodes and spleens were prepared, fixed in methanol, and stained with azure-II-eosin. The results showed that cellular changes were most pronounced in the regional lymph nodes and the spleen; changes in distal lymph nodes were less intense. There was a sharp increase in the percentage of reticular cells in the lymph nodes after the

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MENYAVTSEVA, T. A., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 86-90

2d injection, as well as an increase in macrophages and cells of the plasmacytoid series; in the distal lymph nodes the number of macrophages decreased significantly, despite an increase in the number of reticulocytes. The percentage of prolymphocytes in the lymph nodes fell significantly after the first injection and thereafter did not change. The spleens showed an accumulation of plasmacytoid cells which commenced with the first filtrate injection. In addition, there was an overall tendency for the neutrophils to increase. Evaluation of the erythroid series showed a statistically significant increase in spleen basophils 7 days after the 2d injection; eosinophils and monocytoid cells also increased, while the number of monocytes with Kurloff's bodies decreased. The spleen index continued to increase during the period of observation. Essentially similar, but generally less intense, histologic changes were seen in animals injected with the nonvirus-containing filtrate. This indicates that at least a portion of these changes are nonspecific in nature, and may represent a stress response.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PHENOL PURIFICATION -U-

AUTHOR-(05)-MENYAYLO, A.T., GURDVICH, R.E., VOLKOVA, T.S., YAKOVLEVA, A.K., POKROVSKAYA, I.YE.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,104

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

DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CHEMICAL PATENT, ION EXCHANGE RESIN, CHEMICAL PURIFICATION/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1758 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0146995

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--04DEC70

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CIRC ACCESSION NO--AA0136998

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENOL PURIFICATION IS CARRIED OUT OVER ION EXCHANGE RESIN KU2, AT 90-100DEGREES, PH 6-7, AND VOL. RATE 1.5-2.5 HR PRIME NEGATIVEL.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CATALYTIC PURIFICATION OF PHENOL -U-

AUTHOR-(05)-MENYAYLO, A.T., POKROVSKAYA, I.YE., AEROV, M.E., GUROVICH, R.E., VOLKOVA, T.S.

COUNTRY OF INFO--USSR

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SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(2), 92-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CHEMICAL PURIFICATION, ION EXCHANGE RESIN/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0737 STEP NO--UR/0064/70/046/002/0092/0094

CIRC ACCESSION NO--AP0119644

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--23OCT7C

2/2 007

CIRC ACCESSION NO--AP0119644

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENOL (AFTER DISTN. AND DRYING) WAS PURIFIED BY CONTACT WITH THE KU 2 RESIN (ACTIVATED BY CONTACT WITH 10PERCENT HCL, AND DRIED), AT 75-100DEGREES AND FLOW RATE 1 VOL.-HR TO QUANT. REMOVE MESITYL OXIDE, ALPHA METHYLSTYRENE, AND HE SUB2 PHCOH (INITIAL CONCNS. WERE 0.083, 0.0045, AND 0.063 WT. PERCENT, RESP.), WHILE THE CONCN. OF BZME REMAINED CONST. (0.9 WT. PERCENT). PURIFICATION BY CONTACT WITH AN ALUMINOSILICATE CATALYST WAS LESS EFFECTIVE.

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UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 014

TITLE--ADIPALDEHYDE -U-

AUTHOR-(04)-POKROVSKAYA, I.YE., MENYAYLO, A.T., RYZHANKOVA, A.K., MISHINA, L.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,761

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

DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, CYCLOHEXENE, OXIDATION, DICARBOXYLIC ACID, ALDEHYDE, TERTIARY AMINE, ALIPHATIC AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1733 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0152005

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0152005

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADIPALDEHYDE WAS PREPD. BY TREATING CYCLOHEXENE WITH O SUB3 IN AN ORG. SOLVENT IN THE PRESENCE OF AN ALIPHATIC TERTIARY AMINE.

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USSR UDC 669.295.31

KARYAZIN, I. A., REZNICHENKO, V. A., KHALIKOV, F. B., VORONETCHIK, A. I., MEINYAYLOVA, G. A., KIPRICH, N. A., and GORDEUCHIK, R. A., Moscow

"Oxidation of High-Titanium Slag on Heating in Atmospheres of Air and Water Vapors"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 37-43

Abstract: An experimental study was made of the oxidation of high-titanium slag of various fractional compositions and containing 10-12% FeO on heating up to 1000°C in air and in water vapor atmospheres. The oxidation dependences of titanium slag on the type of the oxidizing medium (oxygen of air, water vapor) and the temperature and size of slag comminution are discussed by reference to diagrams. The oxidation rate of slag in air was found to be considerably higher (twice as high at 700°C) than in water vapors. Under conditions of complete oxidation at temperatures from 300 to 1000°C, the highest oxidation degree is attained at 700°C, yielding in both oxidizing media products of similar chemical composition. On heating up to 700°C, the oxidation process of slag proceeds in two stages; the first is determined by a selective oxidation of titanium of lower valencies (below 400°C), and the second stage begins at temperatures over 500°C and depends on intensive oxidation of bivalent iron. Three figures, one table, ten bibliographic references.

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Titanium

USSR UDC 669.295.31

REZNICHENKO, V. A., MENYAYLOVA, G. A., KARYAZIN, I. A., KHALIMOV, F. B., VOROBEYCHIK, A. I., and KIPRICH, N. A., Moscow

"Phase Transformations in the Process of Oxidation of High-Titanium Slag"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, 1973, pp 48-54

Abstract: The crystallo-optical method was used in a study of the processes taking place in the oxidation of a solid solution of anosovite, the principal phase of high-titanium slags. During the oxidation of high-titanium slags, crystallo-chemical transformations occur, during heating, in the anosovite lattice: below 400°C, oxidation reactions take place in titanium of lowest valencies in Ti^{4+} with TiO_2-separation in form of an independent phase; above 500°C, Fe^{2+} oxidizes to Fe^{3+} and the products of the reaction form with a part of free rutile a solid solution on the base of pseudobrookite ($Fe_2O_3 \cdot TiO_2$) lattice. The phase transformations in the case of maximum oxidation of anosovite by the oxygen of air and water vapors at 700°C and higher temperatures show a similar character: the reactions take place topochemically with the final formation of rutile and the solid solution on the base of pseudobrookite lattice. Three figures, three tables, 19 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UDC 669.295:549.6

USSR

REZNICHENKO, V.A., MENYAYLOVA, G.A., KARYAZIN, I.A., and VORONEYCHIK, A.I.

"Effect of Titanium Dioxide on Structure and Technological-Chemical Properties of High-Titanium Slags"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 49-54

Abstract: The degree of exposure of slags in sulfuric acid was studied by mixing 100-gram specimens of slag in sulfuric acid (89%) in a 1:1.9 ratio. Decomposition occurred with continuous heating (in the 190-210° range) and with stirring. After decomposition, the melt was exposed for 2 hours at 200°, then cooled and leached with water (6 hours at 75-80°). High-titanium slag obtained in the smelting of Irshinskiye ilmenite concentrates in ore-smelting electric furnaces were investigated. Mineralogical studies of specimens of high-titanium slags showed that the principal dominant phase is anosovite. Data showed that the presence in slag of excess titanium dioxide crystallizing as rutile strongly affects the degree of exposure of high-titanium slags in sulfuric acid. It was found that high-titanium slag can be used in making pigment titanium dioxide by the sulfuric acid method in the anosovite present is stoichiometric in composition, and if excess titanium dioxide is maintained in a small amount or is completely absent. In smelting titanium slags for the pigment industry, slag with constant chemical composition must be sought for,

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USSR

REZNICHENKO, V. A., et al, Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 49-54

where the principal components of the slag (TiO_2, Ti_2O_3, TiO, FeO, MgO, and Al_2O_3) must be entirely present as part of the anosovite without permitting crystallization of rutile.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 018

TITLE--ON THE METHODOLOGY OF CALCULATING METEOROLOGICAL REGIME FOR PLANT COMMUNITY -U-

AUTHOR--MENZHULIN, G.V.

M

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 2, PP 92-99

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, ATMOSPHERIC SCIENCES

TOPIC TAGS--MATHEMATIC MODEL, PLANT WEATHER EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0050/70/000/002/0092/0099

PROXY REEL/FRAME--1987/0869

CIRC ACCESSION NO--AP0104305

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 018

CIRC ACCESSION NO--AP0104305

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MATHEMATICAL MODEL WHICH DESCRIBES THE VERTICAL PROFILES OF MAIN PARAMETERS CHARACTERIZING METEOROLOGICAL REGIME IN PLANT COMMUNITY IS OFFERED. SUPPLEMENTARY TERMS ASSOCIATED WITH GEOMETRIC CHARACTERISTICS OF VEGETATIVE COVER ARE INTRODUCED INTO EQUATIONS OF DYNAMICS AND DIFFUSION OBTAINED FROM THE CONSIDERATION OF INTERACTION BETWEEN TURBULENT FLUXES OF HEAT AND VAPOUR AND PLANT ITEMS. COMPARISON OF CALCULATION RESULTS OF TURBULENCE CHARACTERISTICS FOR PLANTS WITH SOME EXPERIMENTAL DATA CONFIRM THE COMPETENCE OF THE INITIAL PREREQUISITES.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

Refractory Materials

UDC 666.764.62

USSR

ANTONOV, G. I. and YAN'SHINA, A. P., Ukrainian Scientific Research Institute of Refractories, and ZUBAKOV, S. M., and MENZHULINA, F. M., Institute of Metallurgy and Ore Dressing of the Academy of Sciences Kazakh SSR

"Periclase-Spinel Refractories Made of Natural-Brine Magnesium Oxide and Concentrated Chromite"

Moscow, Ogneupory, No 9, 1971, pp 35-40

Abstract: Periclase-spinel refractories made of pure materials (brine magnesium oxide and kimpersayskiy chromite) are compared with the corresponding refractories made of ordinary-grade magnesium oxide and chromite. Experimental articles fabricated in the test comparison were 230 x 115 x 65 mm in size and were molded on a hydraulic press at a pressure of 1200 kg/cm^2. For articles made from ordinary grade materials, silicate impurities were found to clearly affect compaction. In contrast, a high temperature for the onset of deformation under load (upwards of 1750°) was found to characterize articles made of brine magnesium oxide and concentrated kimpersayskiy chromite. These articles showed less linear (at a load of 2 kg/cm^2) and less additional (10 hr at 1750° exposure) shrinkage. The microstructure of articles made from pure materials showed a sizable fraction of periclase bonds not across silicates, but across secondary spinel. Two illustrations: six tables.

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6

UDC 677.4:54-171:539.16.04

USSR

SLATINA, S. D., KIRILENKO, YU. K., VOL'F, L. A., MEOS, [illegible] I., SHAPIRO, YE. I., VISHNYAKOVA, T. P., PANCHENKOV, G. M., VLASOVA, I. D., KAUCHANSKIY, D. A., and MARNAUSOV, V. A.

"Radiation Resistant Polyvinylalcohol Fibers Containing Ferrocene"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 786-787

Abstract: Polyvinylalcohol fibers containing ferrocene were obtained by impregnating a freshly formed or thermostabilized PVA-fibers with 5-18% solution of 1,1'-diacetylferrocenylformaldehyde resin /1,1'-DAFF/ in acetone. After the impregnation the material was heated to 140-160°C for 10-20 min, resulting in formation of chemical bonds between the hydroxyl groups of the PVA-fiber and the methylal group of 1,1'-DAFF resin (14-18% of chemically bound 1,1'-DAFF resin). The 1,1'-DAFF resin was obtained by polycondensation of diacetylferrocene with formaldehyde in ethanol at 50°C and in presence of sodium carbonate. The modified fiber was subjected to γ-radiation in presence of air oxygen. The strength and the elastic indicators of the ferrocene containing material were superior in comparison to the starting material.

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3

UDC 678.675:542.949

USSR

STARKOVA, A. N., SHAPIRO, Ye. I., KIRILENKO, Yu. K., MEOS, A. I., VOL'F, L. A., VISHNYAKOVA, T. P., and ZUMMEROV, S. R., Leningrad Institute of the Textile and Light Industries imeni S. M. Kirov, and Moscow Institute of the Petrochemical and Gas Industries imeni I. M. Gubkin

"Modification of Capron Fiber With Ferrocenaldehyde"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 447-449

Abstract: One of the basic weaknesses of polyamide fibers is low heat-resistance. Chemical methods for remedying this weakness (based mostly on processing with bifunctional compounds and formaldehyde to form intermolecular cross-links in the polymer), but almost nothing has been published on the use of other monoaldehydes which might act as modifying agents to strengthen the resistance of polyamides to thermo-oxidative destruction. The authors studied ferrocenaldehyde (FCA) as a modifier, in the case of the fiber Capron. Phosphoric acid was used to increase reactivity of the aldehyde groups; this acid reacts only slightly with Capron, and not at all with ferrocenaldehyde. Ethanol was the solvent used. It was found that treatment of Capron with FCA substantially increases the heat-resistance of this fiber. This is explained

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USSR

STARKOVA, A. N., et al., Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 447-449

on the basis of decreased concentration of free terminal amino groups during their blocking by an aromatic compound of FCA type, as is suggested by other published data. Graphic data are given on the strength, elongation and thermal properties of Capron, as these are affected by concentrations of FCA and H_3PO_4, and by heating.

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4

UDC 677.494.72

USSR

SLATINA, S. D., KIRILENKO, Yu. K., VOL'F, L. A., [redacted], KLIMENKO, I. B., GRACHEV, V. I., VISHNYAKOVA, T. P., and VLASOVA, I. D., Leningrad Institute of the Textile and Light Industries imeni S. M. Kirov, and Moscow Institute of the Petrochemical and Gas Industries imeni I. M. Gubkin

"Polyvinyl Fabrics Modified With Ferrocene-Containing Compounds"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

Abstract: Heteroorganic compounds are already widely used as modifiers of chemical fibers, and specific methods are known for imparting desired properties to fibers by the use of silicon- and boron-containing compounds. However, the use of ferrocene-containing compounds in this way has not been described, although these compounds impart a number of valuable properties to polymers, notably resistance to heat and radiation. Ferrocene-containing compounds are of further interest in having possible biological effects, including an effect on blood-formation. Polyvinyl alcohol (PVA) fiber was treated with 1,1-diacetylferrocene-formaldehyde (DAFF) resin, obtained by condensation polymerization with formaldehyde in the presence of Na_2CO_3 in ethanol. The freshly formed fiber was submerged for 1-5 minutes in 5-20% solutions of the resin, then heated at 140-180° for 10-20 minutes.

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USSR

SLATINA, S. D., Zhurnal Prikladnoy Khimii, Vol XLV, No 2, Feb 1972, pp 446-447

The fiber became resistant to the effect of hot water. Apparently, in the fiber-resin reaction there was condensation of the PVA hydroxyl groups with the resin methyl groups, so that simple ester bonds were formed between the two polymers; this was confirmed by comparison of the number of hydroxyl groups in the initial fiber, the resin-processed fiber, and the heated resin, and also by infrared data. Graphic data accompany the paper.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CHEMICAL STABILITY OF ELECTRON EXCHANGE FIBROUS MATERIALS -U-

AUTHOR-(04)-BURINSKIY, S.V., TAMAZINA, V.N., VOLF, L.A., MEOS, A.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. LENINGRAD 1970, 43(4), 851-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ION EXCHANGE RESIN, CHEMICAL STABILITY, FORMALDEHYDE, RESORCINOL, ALCOHOL, POLYMER, THIOUREA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0727 STEP NO--UR/0080/70/043/004/0851/0854

CIRC ACCESSION NO--AP0119634

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 020

CIRC ACCESSION NO--AP0119634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REPRODUCIBILITY OF REDOX CAPACITY OF FIBROUS ELECTRON EXCHANGE POLYMERS CONTG. QUINOID OR SULFHYDRYL GROUPS WAS DETD. BY CYCLIC REDOX TREATMENTS (REDN. BY NA BUS2 S SUB2 O SUB4 AND OXION. BY DIL. H SUB2 SO SUB4 CONTG. FECL SUB3), AND THE CHEM. STABILITY OF THOSE CONTG. QUNIOID GROUPS WAS IMPROVED BY SUPPLEMENTARY TREATMENT WITH HCHO RESORCINOL MIXTS. (A). THE ELECTRON EXCHANGE CAPACITY (WHICH WAS REDUCED FROM CYCLE TO CYCLE) OF CELLULOSE HYDRATE AND POLY(VINYL ALC.) (I) WAS IMPROVED BY GRAFTING WITH A POLYCONDENSATE OF HCHO, PYROGALLOL, AND RESORCINOL, BUT THE ELECTRONIC EXCHANGE RATE WAS REDUCED BECAUSE OF STERIC OBSTRUCTION TO DIFFUSION BY THE CROSSLINKED STRUCTURE. SUBSEQUENT TREATMENT WITH A GAVE POLYMETHYLENE RESORCINOL CROSSLINKS, WHICH IMPROVED THE KINETIC ELECTRON EXCHANGE AND CHEM. STABILITY OF I-HCHO-PYROCATECHOL AND I-HCHO-PYROGALLOL GRAFT COPOLYMERS. THE REDOX CAPACITY OF SULFHYDRYL-CONTG. POLYMERS BASED ON ET XANTHATE OR THIOUREA WAS DECREASED LITTLY ON CYCLIC REDOX TREATMENT EVEN WITH HEATED OXIDIZING SOLNS. FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 017

TITLE--COPOLYMERIZATION OF VINYL ACETATE WITH N,VINYLCAPROLACTAM -U-

AUTHOR-(03)-DMITRIYEVA, S.I., ELSABBAN, M.Z., MEOS, A.I.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 243-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMERIZATION, VINYL COMPOUND, ACETATE, CAPROLACTAM, POLYVINYL ALCOHOL, SAPONIFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0679 STEP NO--UR/0460/70/012/003/0243/0246

CIRC ACCESSION NO--AP0124351

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 017

CIRC ACCESSION NO--AP0124351

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYNM. OF VINYL ACETATE (I) WITH N,VINYLCAPORLACTAM (II) WAS STUDIED AT 65DEGREES. THE REACTIVITY RATIOS WERE R SUB1 EQUALS 0.63, R SUB2 EQUALS 0.31; Q SUB2 AND E SUB2 WERE 0.11 AND NEGATIVE 1.5, RESP. (FOR II). MAX. YIELDS AND MOL. WTS. OF I-II COPOLYMERS WERE OBTAINED IN MEOH AND MEOAC. ALK. SAPON. OF I-II COPOLYMERS GAVE A POWD. VINYL ALC. NEGATIVE II COPOLYMER.

FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM., LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MODIFICATION OF DEHYDRATED POLYVINYL ALCOHOL BY SCHIFF BASES -U-

AUTHOR-(04)-GABDUVALIYEVA, A.K., KIRILENKO, YU.K., VOLF, L.A., MEOS, A.I.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 227-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYVINYL ALCOHOL FIBER, SCHIFF BASE, AZO COMPOUND, CHEMICAL STABILITY, ION EXCHANGE, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1677 STEP NO--UR/0460/70/012/003/0227/0230

CIRC ACCESSION NO--AP0125298

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 015

CIRC ACCESSION NO--AP0125298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEVERAL SCHIFF BASES, CONTG. C:C BONDS, WERE PREPD. BY CONDENSATION OF CH SUB2:CHCH SUB2 NH SUB2 WITH BZH OR ITS DERIVS. THE PHYS. PROPERTIES OF THE UNSATD. AZOMETHINES ARE TABULATED. ALLYL SCHIFF BASES ALSO REACTED WITH PARTIALLY DEHYDRATED POLY(VINYL ALC.) (I) FIBERS IN HCONME SUB2. THE MODIFIED I FIBERS EXHIBITED GOOD PHYSICOMECH. PROPERTIES, HIGH CHEM. STABILITY, AND ION EXCHANGE CAPACITY. A PROBABLE REACTION MECHANISM IS PROPOSED.

FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

Acc. Nr. AP0048801 Abstracting Service: CHEMICAL ABST. 75-70 Ref. Code 21R0080

90947c Ir-spectroscopic studies of a vinyl alcohol-N-vinylpyrrolidinone copolymer. Savitskaya, A. N.; Klimenko, I. B.; Efremova, T. B.; Vol'f, L. A.; Moos, A. I. (USSR). Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 213-14 (Russ). A study of the ir spectra of poly(vinyl alc.), poly(N-vinylpyrrolidinone), and the title copolymer (I) indicated that some lactam rings are opened during synthesis of I. Thus, an intense band at 1570 cm^{-1} in the spectrum of I was assigned to RCO_2^-, arising via cleavage of the lactam rings. This assignment was confirmed by potentiometric titrn. DBJR

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19800564

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USSR

POZDNYAKOV, V. M., VOL'F, L. A., YEFREMOVA, T. B., and MEOS, A. I., Leningrad Institute of Textile and Light Industry imeni S. M. KIROV

"Preparation of Fibers for Medical Use From Copolymers of Vinyl Alcohol and Vinylpyrrolidone"

Riga, Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 155-158

Abstract: The aim of this work was to prepare fibers capable of absorbing antibacterial preparations and prolonging their release in the human body. It was hypothesized that the presence of the polyvinylpyrrolidone chains in such fibers would improve the desirable properties of the prepared materials. Polyvinyl alcohol (PVA) and polyvinylpyrrolidone (PVP) were used for this purpose. Several methods for the preparation of materials with antimicrobial properties were tried. One of them was molding a mechanical mixture of 15 and 20% solutions of PVA and PVP in ratios of 90:10 and 70:30, respectively. The molding was carried out in the sodium sulfate bath (400 g Na_2SO_4/liter), followed by stretching the prepared fibers in air. When water-soluble fibers were desirable, they were washed free of Na_2SO_4 in acetone. The initial ratio of PVA and PVP remained unchanged in the prepared product. The second method used

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POZDNYAKOV, V. M., et al., Fiziologicheski i Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 155-158

was the copolymerization of PVA and PVP. The copolymerization was carried out successfully in ethanol, benzene, or ethyl acetate (10-50% with respect to weight of monomers). The obtained product always contained the vinylpyrrolidone chains regardless of the initial ratio of starting compounds. However, copolymerization in benzene produced the best results. Copolymerization by the emulsion method was also tried. Fibers from spinning solution (25-30%) were also prepared by molding, followed by stretching in air, drying, and washing in alcohol. This method yielded fibers with good physical and mechanical properties. They were soluble in water at room temp. in 1 hr, but the solubility time could be prolonged by thermostabilization of fibers in air. All fibers produced by the above methods are undergoing testing at medical institutions.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

VOL'F, L. A., GILLER, S. A., KOTETSKIY, V. V., MEOS, A. I., PLOTKIN, L. L., and VITUL'SKAYA, N. V., Leningrad Institute of Textile and Light Industry imeni S. M. Kirov; Institute of Organic Synthesis, Academy of Sciences Latvian SSR; Leningrad Sever Manufacturing Society

"Antimicrobial Fibers Produced From Compounds of Nitrofuran Series"

Riga, Fiziologicheski Opticheski Aktivnyye Polimernyye Veshchestva, "Zinatne," 1971, pp 150-154

Abstract: Acetylation pf polyvinyl alcohol (PVA) fibers with aldehydes of 5-nitrofuran series resulted in fibers capable of producing covalent ionic bonds, or coordination linkage between medicinal substances and polymers. The nitrofuran compounds used in this work had the following chemical structure:

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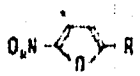
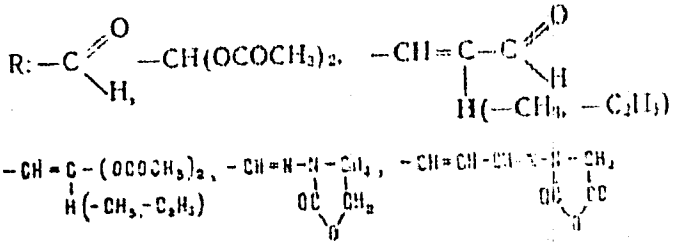
"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

VOL'F, L. A., et al., Fiziologicheski i Opticheski Aktivnyy Polimernyye Veshchestva, "Zinatne," 1971, pp 150-154



where R: 

Among all compounds tested, 5-nitrofurfural (NF), β-(5-nitrofuril-2)-acrolein (NFA), and their acetates such as furazolidone and furagin were of greatest interest. The acetylation of PVA fibers with aldehyde of 5-nitrofuran series is based on the ability of functional groups of polymer to react with carbonyl groups and to form acetylcyclobuthyleneglycol-1,3 links according to

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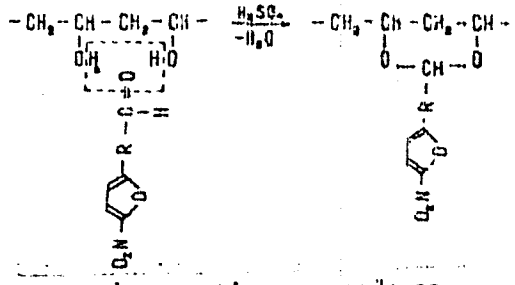
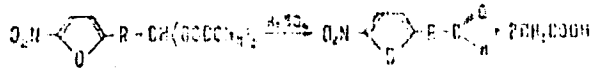
"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

VOL'F, L. A., et al., Fiziologicheski i Opticheski Aktivnyy Polimernyye Veshchestva, "Zinatne," 1971, pp 150-154



In the case of acetates the reaction proceeds as



The substitution extent of hydroxyl groups of PVA was 18-25 mole % under optimal acetylation conditions. The obtained fibers were mechanically strong, stable to sterilization by boiling, contained numerous capillaries, and possessed high antimicrobial activity. More than 28% of the antibacterial substances could be incorporated into fibers. Experiments with a natural

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USSR

VOL'F, L. A., et al., Fiziologicheski i Opticheski Aktivnyy Polimernyye Veshchestva, "Zinatne," 1971, pp 150-154

cellulose were not very successful. Only cellulose esters were capable of reacting with aldehyde of 5-nitrofuran compounds and forming useful fibers. Compounds of 5-nitrofuran series were incorporated into polyamide, polyester, polyformaldehyde, and polypropylene fibers during their molding. The obtained fibers possessed high antibacterial properties along with good mechanical properties. All of the fibers can be used for sutures, blood vessel substitutes, contraceptive devices, and for other medical uses.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

UDC 630:54:541.571.9:547.871

TIBANOV, P. V., VASIL'YEV, A. F., BASKAKOV, Yu. A., LEVINSKIY, B. N., and MEL'NIKOVA I. A., All-Union Scientific-Research Institute of Chemical Agents for Plant Protection

"Herbicidal Derivatives of Hydroxylamine. XL. Energy of the Intramolecular Hydrogen Bond, and the Structure of Associates of O-Methylhydroxylamine Derivatives of sym-Triazines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 1, Jan 1972, pp 124-127

Abstract: Experimental data have already suggested that simplification of methods and calculations for finding both the energy of the intramolecular bond, and the dimer-monomer entropy difference, will not substantially affect the accuracy of the results. Using the temperature relationship of the equilibrium constants, as determined by the ebullioscopic and cryoscopic methods, the authors determined both of the constants in question for seven compounds of the symmriazine group. Also obtained were the infrared spectrum for a solution of 2-chlor-4-di-propylamino-6-methoxyamino-sym-triazine in hexachlorobutadiene, and the relationship between (1) the association factor ($f = \bar{M}/M$, where $\bar{M}$ is the measured molecular weight, and M is the molecular weight of the monomer, and (2) the molar concentration. Figures for the

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

TIBANOV, P. V., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 1, Jan 1972, pp 124-127

intramolecular H bond energy and the dimer-monomer entropy difference turned out to be very close to those obtained by the accurate method of "peak" band intensities. The various data obtained are summarized in tables and graphs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UDC 621.385.6

USSR

SUSHKOV, A. D., MEOS, V. A., FEDOROV, V. A.

"Study of Two-Gap Input Device of Microwave Amplifiers With Quasi-Static Control"

Izv. Leningr. elektrotekhn. in-ta (Bulletin of the Leningrad Electrical Engineering Institute), 1970, Issue 96, pp 15-19 (from RZh-Elektronika i yeye primeneniye, No 8, August 1971, Abstract No 8A169)

Translation: The results are presented of an experimental study proposed by one of the authors, of the two-gap input device of a microwave amplifier, with the object of determining the possibility of its use in microwave tetrode amplifiers for modulation of a convective electron stream with respect to density. A model was studied of a tetrode based on a 6S5D (triode) tube. The input microwave signal was fed into a cavity formed by the space cathode-control grid. The amplified signal was led out from a cavity formed by the space-grid-anode. The study was conducted at a frequency of 900 MHz. It is shown that the device has definite advantages over familiar circuits and makes it possible to increase considerably the amplification factor of a tetrode amplifier. R.M.

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UDC 518:517/944.947

USSR

LYASHENKO, I. N. and MEREDOV, Kh. M.

"Critical Frequencies in the Propagation of Electromagnetic Waves in H-Waveguides With a Dielectric Strap"

Ashkhabad, Izvestiya Akademii Nauk, Turkmenskoy SSR, No 6, 1972, pp 29-35

Abstract: The authors consider the problem of determining the eigenvalues and eigenfunctions of the boundary value problem

$$\Delta u + \lambda\rho(x,y)u = 0; \qquad (1)$$

$$u|_S = 0:$$

where S is the boundary of a region G composed of rectangles D, D', and D"; λ is a numerical parameter; $\rho(x,y) > 0$ is a piecewise-constant function which takes the values of $\rho_1 = \sqrt{\epsilon_1\mu_1}$ in rectangles D' and D", and $\rho_2 = \sqrt{\epsilon_2\mu_2}$ in rectangle D (ϵ and μ are dielectric and magnetic permeabilities of dielectrics, respectively); and $u = u(x,y)$ is the scalar form of the electrical Hertz vector. It is assumed that G is covered by a rectangular, uniform grid with the steps $h = a/(m+1) =$ 1/2

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USSR

LYASHENKO, I. N. and MEREDOV, Kh. M., Izvestiya Akademii Nauk, Turkmenskoy SSR, No 6, 1972, pp 29-35

$a'/(m'+1)$ along the X-axis and $h_1 = b/(n+1) = b'/(n'+1)$ along the Y-axis. Equation (1) is then rewritten for the three rectangles in piecewise-difference form, and the resulting equations are solved. The important particular case, when $n' = n$, is considered, and a numerical example to illustrate the results obtained is given.

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UDC: 51.621.391

USSR

MEREKIN, Yu. V.

"Minimization of Tables of Real Numbers"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 44, Novosibirsk, "Nauka", 1971, pp 60-69 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V625)

Translation: Generally speaking, the author investigates incompletely defined tables T(m,n) of real numbers containing m rows and n columns. Conditions are given for diversity and Δ-distinguishability of two rows. The table is called correct if any two diverse rows are Δ-distinguishable. A correct table T(m,n) is called dead-ended if there is no correct table T(m,n-1) where T(m,n-1) is derived from table T(m,n) by removing one column. The paper proposes an algorithm which is essentially different from complete examination for finding all dead-ended subtables for correct tables. An asymptotic estimate of the number of operations in the case of complete examination and in the case of the proposed algorithm is presented for a special instance. In conclusion, the author points out that for Boolean tables the problem degenerates to the classical problem of finding dead-end tests. Kh. Madatyan.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 018

TITLE--SYNTHESIS OF POLYLYSINE IN THE CELL FREE SYSTEM FROM E. COLI -U-

AUTHOR-(04)-BRESLER, S.YE, GRAYEVSKAYA, R.A., HEREMAA, L.A., SAMINSKIY, YE.M.

COUNTRY OF INFO--USSR

SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 2, PP 190-200

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESCHERICHIA COLI, BIOCHEMISTRY, RIBOSOME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0463/70/004/002/0190/0200

PROXY REEL/FRAME--1987/0098

CIRC ACCESSION NO--AP0103778

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 018

CIRC ACCESSION NO--AP0103778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYA DIRECTED SYNTHESIS OF POLYLYSINE IN THE CELL FREE SYSTEM FROM E. COLI WAS STUDIED. IT HAS BEEN SHOWN THAT THE MOLECULAR WEIGHT DISTRIBUTION OF THE SYNTHESIZED PRODUCTS IS INDEPENDENT ON INCUBATION TIME AND THE TOTAL NUMBER OF POLYLYSINE CHAINS EXCEEDS THE NUMBER OF RIBOSOMES IN THE INCUBATION MIXTURE. IT MEANS THAT IN THE COURSE OF THE REACTION A CHAIN TERMINATION MECHANISM OF UNKNOWN ORIGIN IS INVOLVED. THIS LEADS TO THE DISSOCIATION OF ACTIVE RIBOSOME COMPLEX AND RELEASE OF THE POLYLYSYL-TRNA WHICH IS INACTIVE IN THE DISPLACEMENT REACTION WITH PUROMYCIN. AFTER THAT THE INITIATION OF A NEW CHAIN ON A FREE RIBOSOME TAKES PLACE. DUE TO THIS THE TIME OF INDIVIDUAL CHAIN GROWTH IS SMALL AS COMPARED TO THE FULL INCUBATION TIME AND THE CHAINS ARE SHORT. THE OVERALL KINETICS OF POLYLYSINE SYNTHESIS REFLECTS KINETICS OF INITIATION OF NEW CHAINS RATHER THAN THAT OF INDIVIDUAL CHAINS GROWTH. THE RATE OF INITIATION DECREASES GRADUALLY WITH THE TIME OF INCUBATION AND CAN BE PARTIALLY RESTORED AFTER NEW ADDITION OF POLYA, ATP, GTP, TRNA.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DEVELOPMENT OF DYSPROTEINEMIA -U-

AUTHOR--MEREMS, B.S.

M

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,257
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, BLOOD SERUM, GAMMA GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1061 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AM0125116
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0150115

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DYSPROTEINEMIA WAS DEVELOPED BY TREATING SERUM WITH A HCCL SO62 SOLN. IN AN ALK. MEDIUM. TO REDUCE THE REQUIRED AMT. OF SERUM AND TO DET. GAMMA GLOBULINS IN IT DURING HYPER, NORMAL, AND HYPO,GAMMA,GLOBULINEMIA. CL, AND TRISUBSTITUTED CA PHOSPHATES WERE USED AS A REGENT FOR CREATING THE ALK. MEDIUM.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR UDC: 621.317.799(088.8)

KUPROVICH, V. P., PARKHOMENKO, P. P., KUZNETSOV, V. M., MEREHKOV, A. D., TOMFEL'D, D. L., Scientific Research Institute of Machine Building Technology, Institute of Automation and Remote Control (Technical Cybernetics)

"A Device for Automatic Quantitative and Qualitative Monitoring of Electrical and Time Parameters"

USSR Author's Certificate No 264794, filed 27 Dec 67, published 2 Jul 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A327 P)

Translation: A device is proposed for automatic quantitative and qualitative monitoring of electrical and time parameters. As a distinguishing feature of the patent, in order to reduce time and increase accuracy in localizing trouble spots in cable conductors, the device contains a trouble localizing unit in which the control input of the shift register is connected to the output of the data processing module, while the signal and control outputs of the shift register are connected to the control inputs of the block of output devices and the commutation module respectively. The control inputs of the switches of each of the cells of the high-voltage commutation circuits are connected to the outputs of a two-position storage element whose input is connected to the output of the commutation module through the commutation leads of one of the switches.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR UDC: 51

MERENKOV, A. P. and SIDLER, V. G.

"Inverse Problems of Flow Distribution in Hydraulic Chains"

Moscow, Tr. 4-y Zimn. shkoly po mat. programmir. i smezhn. vopr. Vyp. 5 (Transactions of the Fourth Winter School on Mathematical Programming and Related Problems, No 5) 1972, pp 8-14 (from RZh--Matematika, No 1, 1974, Abstract No 1V478)

Translation: An arbitrary hydraulic chain consisting of q stages and n branches is described by the following system of equations

$$\begin{aligned} Ax &= Q, \\ Bh &= 0, \\ h_j + H_j &= f_j(x_j), \\ f_j(x_j) &= s_j x_j \left| x_j^{m-1} \right|, \quad j = 1,2,\ldots,n; \end{aligned} \qquad (1)$$

A being a (q-1)xn matrix of the incidence of stages and branches; B is a kxn matrix of the contours (k = n-q+1); x,h are vectors (of n dimensions) of the

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USSR

MERENKOV, A. P. and SIDLER, V. G., Tr. 4-y Zimn. shkoly po mat. programmir. i smezhn. vopr. Vyp. 5, 1972, pp 8-14

flows x_j and pressure drops h_j in the branches; Q is the vector (of q-1 dimensions) of the loads or inflows in the stages; H_j is the mating pressure for an active branch; $f_j(x_j)$ is the function determining the form of the locking relationships and the type of hydraulic chain; s_j is the coefficient of hydraulic resistance; m is a specified power.

The authors term the flow distribution problem ordinary when the magnitudes of A, Q, H_j, and s_j are given, while x and h are to be found. In the inverse problems, the magnitudes of s_j are to be found. Problems in the determination of the s_j parameters in hydraulic systems arise in the need for fixing the emergency situations and localizing the points at which they originate. Multiple measurements are made of the pressures in the stages of the chain, and from them it is required to determine the steady-state flow x and the s_j coefficients. More strictly, it is required to determine x and s_j from the v particular solutions of the system of equations (1). Linear and quadratac programming is useful in the solution of this problem. Questions of the improvement of the solution, with errors of the initial data and poor construction of the limit matrix taken into account, are considered. Ye. Levner.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

Power, Engine, Turbine, Pump

USSR UDC: 621.313.333:538.4

MERENKOV, Yu. E. and STEPANOV, V. G.

"Single-Phase Pump of the Transformer Type With Disc Channel"

Riga, Magnitnaya gidrodinamika, No 2, 1972, pp 103-108

Abstract: In a type of pump of the transformer variety in which the current to the repumped metal is conducted through the transformer without the use of electrodes, the authors solve the electromagnetic field equations for the disc channel and analyze the basic energy characteristics of the pump. A diagram of this disc channel is provided together with a short description of its activity. In their solution of these equations, the authors assumed the following: the liquid metal fills the space between the steel cores, the channel walls being the surface of the cores; the magnetic permeability of the cores is infinite; the magnetic field and the current have single components and the problem is axially symmetrical; the velocity of the liquid metal over the channel cross section is constant for each radius; there are no end effects resulting from the finite dimensions of the cores. Experimental values obtained for the pressure were found to be in close agreement with the computed values, and the same was found to be true for other pump parameters.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

UDC 669.71.051

TSEKHOVOL'SKAYA, D. I., MERENKOVA, B. M.

"Quantitative Analysis of the Mineralogical Composition of Alunite Ore by the Infrared Spectroscopy Method"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of the Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 17-23 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G114)

Translation: A procedure has been developed for quantitative analysis of kaolinite, alunite, and quartz in alunite ore from the Zaglikskoye bed by means of infrared spectroscopy. The analyzed concentration ranges are: 2.0-100% for kaolinite, 2.5-100 percent for alunite, and 4.0-100% for quartz. There are 4 illustrations, 2 tables, and an 8-entry bibliography.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

Heat Treatment

USSR UDC 539.4

RYBAKOVA, L. M., and MERENKOVA, R. F., Moscow

"The Role of Impurities and Alloying With Aluminum in Pore Formation in Copper During Cyclical Heat Treatment"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 80-85

Abstract: The formation of pores and microcracks upon thermal cycling of copper is studied as a function of the content of impurities, the alloying element, and the structural state of the metal with various temperatures of preliminary annealing. The formation of pores and microcracks occurs both in technical and in refined copper. As the temperature of preliminary annealing is increased, reinforcement of pore formation is observed. In alloys of copper with aluminum, crack formation occurs at points of accumulation of the alloying element in the case of its uneven distribution through the volume of the metal.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

UDC 626.02

USSR

MERENOV, I. V.

Vodolaznyye raboty (Diving Work), Moscow, "Transport," 1971, 184 pp

Translation: Annotation: The book examines the ventilated diving outfit, equipment, and instruments for underwater diving, their use, storage, and repair. It sets forth the rules for diving, the procedure under different conditions, and safety measures. It presents a rational technology for emergency, rescue, ship-raising, and underwater-technical diving work using a variety of technical devices.

The book is intended for professional divers and those whose jobs involve working under water. It can also be used to teach diving. 106 figures, 7 tables, 2 appendices.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

MERENOV, I. V., Vodolaznyye raboty (Diving Work), Moscow, "Transport," 1971, 184 pp

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USSR

MERENOV, I. V., Vodolaznyye raboty (Diving Work), Moscow, "Transport," 1971, 184 pp

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USSR

MERENOV, I. V., Vodolaznyye raboty (Diving Work), Moscow, "Transport," 1971, 184 pp

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR UDC 614.7:615.285.7:632.95:546.56

MERENYUK, G. V. and MEDZHIBOVSKAYA, Z. E., Moldavian Scientific Research Institute of Hygiene and Epidemiology

"Pollution of Soil and Fruits by Copper-Containing Pesticides"

Moscow, Gigyena i Sanitariya, No 1, 1970, pp 108-110

Abstract: Field experiments showed that spraying an apple orchard with cuporsan or Bordeaux mixture markedly increased the amount of copper in the soil. Before spraying, the copper content was 7-8 mg/kg, whereas after spraying with a 0.6% cuprosan suspension, the copper concentration increased markedly, reaching a value of 18 mg/kg in the 0-30 cm layer; after spraying with a 1% Bordeaux mixture, 14.2 mg/kg. These pesticides had a similar effect on the soil of vineyards. Copper accumulation in the soil during the growing season was 12 to 25 mg/kg above the control level in the 0-10 cm layer. The behavior of the compounds was largely dependent on the type of soil and its physicochemical properties, the amount of humus, moisture, etc. The concentration of copper in apples treated with a 0.6% cuprosan suspension (30.75 mg of copper per hectare) and 1% Bordeaux mixture

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

MERENYUK, G. V., et al., Moscow, Gigyena i Sanitariya, No 1, 1970, pp 108-110

(18.75 kg of copper per hectare) was 5.10 and 4.16 mg/kg, respectively, compared with a maximum of 0.93 mg/kg in apples picked on the control plot. The copper content of grapes sprayed with the pesticides varied with the amount applied per unit of area and depended on the concentration of copper in the soil. Study of the effect of the pesticides on the soil microflora showed that the bacterial population in the soil of the experimental plots was 18.5-79% of that in the control.

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USSR

UDC 632.95.028

NAYSHTEYN, S. Ya., and MERENYUK, S. V.

"Behavior of a Number of Persistent Pesticides in the Soil"

Moscow, Zashchita Rasteniy, No 1, 1970, p 20

Abstract: There are numerous reports in the literature of the degree of contamination of the soil with various organochlorine pesticides, but at the same time data on the residual quantities of copper-containing preparations is absent. The degree of soil contamination with copper as a result of the application of Bordeaux mixture and cuprosan in treating orchards was determined.

The content of copper in the soil was increased with the application, repeated five times, of 0.6% suspension of cuprosan (30.75 kg/ha of copper) and 1% Bordeaux mixture (18.75 kg/ha) sprayed on apples planted in sandy soil. At the end of the treatment, copper concentration in a 0-10 cm layer of soil was 30 mg/kg when cuprosan was used, and 21.8 mg/kg when Bordeaux mixture was used. The copper content of control soil was 8.3 mg/kg. A certain in-

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USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

crease in copper concentration was also noted at a depth of 10-30 cm. In the subsequent period, one and four months after the last application, the content of the preparation at a depth of 0-10 cm had decreased and its content in other layers had increased. But still, the largest amount of copper remained in the surface layer.

To determine the persistence of copper sulfate in the surface (0-10 cm) soil layer, soil was watered with a solution containing 120, 360, 1120 and 1320 kg of the preparation per hectare. The average dose of the fungicide used in a single season is 120 kg of copper sulfate per hectare. Consequently, the expenditure of pesticide in the experiment increased 2.8 times and 11-fold, respectively.

Research has shown that copper sulfate shifts quite rapidly from the surface layers to the deeper layers in sandy soil. After three months, 23-31% of the quantity sown remained at a depth of 0-30 cm. The rate of penetration of the preparation was identical,

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USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

regardless of the amount used, but its residues in the upper layers were proportional to the initial concentration. Most of the compound penetrated to a depth of up to one meter during third time.

The behavior of organochlorine pesticides (DDT and hexachlorocyclohexane) was studied under laboratory conditions. Potatoes planted in lysimeters with sandy, clay and chernozem soil, which did not contain the inidcated preparations prior to the experiment, were treated with a 12% dust of hexachlorane at 1,750 kg/ha and with a 1% and 5% mineral-oil emulsion of DDT, at 4,000 l/ha. Such increased quantities of pesticides were used to show the patterns of migration in soil and plants.

Samples were taken on the day treatment was begun, and then once every 1-1.5 months. The soil was taken from the surface layer (0-10 cm) and at depths of 10-20 and 20-30 cm.

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USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

In dusting potato plants, the surface of the soil is contaminated with hexachlorane. Even 1.5 months later, the pesticide was noted at depths up to 20 cm in all soils as a result of the washing action of rainwater. After 2.5 months, hexachlorane was not discovered in the 0-10 cm layer of sand; but amounted to 2.6 mg/kg in clay, and in chernozem dropped from 3.2 to 0.9 mg/kg (in 1.5 months). By that time the pesticide appeared in clay and sand at a depth of 20-30 cm, and not at all chernozem.

In a number of instances, the DDT content in the soil after three months had not onlt not diminished, but had even increased. DDT turned out to be a more stable compound than hexachlorane, and washing the pesticide off the plants could even have facilitated its accumulation in the soil.

After one month, DDT was discovered in significant amounts at a depth of 10-20 cm in all soils, and after three months -- at a depth of 20-30 cm in clay and sand. Like hexachlorane, DDT did

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USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

manage to penetrate to a depth of 0.3 m in chernozem during this time.

A comparison of residual amounts of hexachlorane and DDT in the soil indicates the high persistence of DDT. By the end of the experiment, clay had 18.3% of the hexachlorane, sand -- 8.8%, and chernozem -- 5.3%; for DDT the figures were: 81.2%, 20.1% and 100%, respectively.

The behavior of organochlorine and copper containing pesticides in the soil is practically identical. In the types of soil studied, they accumulated basically in the upper layer. In light soils, their migration was more significant. At the same time, the migrating capability of the preparations studied differed. Copper compounds -- cuprosan and copper sulfate -- penetrated the deep layers more quickly than hexachlorane and DDT.

Studies have shown that hexachlorane penetrates deep and

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202020006-7

USSR

NAYSHTEYN, S. Ya., and MERENYUK, S. V., Moscow, Zashchita Rasteniy, No 1, 1970, p 20

reaches tubers from the surface of the soil. Potatoes planted in sand contained 5.0 mg/kg of the preparation, and in chernozem -- 2.35 mg/kg, i.e., in both cases the amount of the pesticide exceeded the permissible concentration of hexachlorane accepted in the USSR (2 mg/kg). DDT was not found in potatoes.

The content of copper in onions planted in loamy chernozem contaminated with copper compounds was significantly higher than in controls.

On the basis of the data obtained, we can assume that the presence of DDT and hexachlorane in an amount of 0.1 mg/kg in a plowed layer does not cause intensive contamination of root crop. With regard to copper compounds, as tests showed, increasing the amount to 2-3 mg/kg of sandy soil does not cause changes in the biocenosis, and transfer of compound into plants will be insignificant.

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