

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--STUDY OF THE TEMPERATURE CHARACTERISTICS OF RESISTANCE WIRE STRAIN
GAUGES UNDER CONDITIONS OF SHARPLY CHANGING TEMPERATURES -U-
AUTHOR--(02)-LIKHACHEV, YU.I., SHAKHMATOV, O.T.
COUNTRY OF INFO--USSR
SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, MAR. 1970, P. 83-86
DATE PUBLISHED----MAR 70
SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS, MECH., IND., CIVIL AND
MARINE ENGR
TOPIC TAGS--THERMAL EFFECT, STRAIN GAGE, NICKEL ALLOY, MOLYBDENUM ALLOY,
WIRE/(U)NBOKHLUD ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0109 STEP NO--UR/3663/70/002/000/0083/0086
CIRC ACCESSION NO--AP0123881
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 028

CIRC ACCESSION NO--A90123881
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EVALUATION OF THE EFFECT OF HEATING RATE ON THE BEHAVIOR OF CERTAIN PARAMETERS OF RESISTANCE WIRE STRAIN GAUGES. EXPERIMENTAL AND THEORETICAL RESULTS ARE GIVEN FOR THE BEHAVIOR OF RESISTANCE STRAIN GAUGES MADE OF WIRES OF NI-MO AND NbKULUD ALLOYS, UNDER UNSTEADY THERMAL CONDITIONS DURING HEATING UP TO 550 DEG C. IT IS FOUND THAT THE RESISTIVITY OF WIRES IS INDEPENDENT OF TEMPERATURE CHANGES. FOR OBTAINING BETTER ACCURACY UNDER SHARPLY CHANGING TEMPERATURES, IT IS NECESSARY TO MAKE ALLOWANCE FOR THE DEPENDENCE OF THE METROLOGICAL CHARACTERISTICS OF RESISTANCE STRAIN GAUGES ON THE TEMPERATURE CHANGE RATE.

INZHENERNO-FIZICHESKII INSTITUT, OBNINSK, USSR.

FACILITY: MOSKOVSKII

UNCLASSIFIED

AA0038342

Likhacheva, T. F.

UR 0482

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Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

237668 SLAG from steel production is prepared for use in structural materials by coarsely comminuting the slag, removing the residual metal by means of a magnet; keeping the slag in damp state for 3-5 days by moistening it with water; finely comminuting the material; and repeating the magnetic separation of the metal. The storage in the damp state presents a subsequent self-disintegration of the slag to powder, and thus improves its properties as a structural material. 2.10.67. as 1188558/29-33. N N OVCHINKIN et alia Chelyabinsk Metallurgical Plants Design Inst. (16.6.69.) Bul.8/12.2.69. Class 80c. Int.Cl. C04b.

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Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

237668 SLAG from steel production is prepared for use in structural materials by coarsely comminuting the slag, removing the residual metal by means of a magnet; keeping the slag in damp state for 3-5 days by moistening it with water; finely comminuting the material; and repeating the magnetic separation of the metal. The storage in the damp state presents a subsequent self-disintegration of the slag to powder, and thus improves its properties as a structural material. 2.10.67. as 1188558/29-33. N N OVCHINKIN et alia Chelyabinsk Metallurgical Plants Design Inst. (16.6.69.) Bul.8/12.2.69. Class 80c. Int.Cl. C04b.

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19731456

USSR

UDC 576.8.095.51.095.18:615.28

SKALA, L. Z., IL'YASHENKO, B. N., LIKHACHEVA, N. A., and SKVORTSOVA, Ye. K.,
All Union Institute of Disinfection and Sterilization

"A Study of the Mutagenic Action of Halide Containing Disinfectant"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, p
146

Abstract: Four iodine compounds and four chlorine compounds were tested on bacteria and phages in concentrations causing 86-99% inactivation of the microbes. The frequencies of mutation observed in *E. coli* were: 6×10^{-6} by iodopiron, 4×10^{-6} by idonate, 3×10^{-6} by iodolan, and 6×10^{-6} by an aqueous iodine solution. Chlorine compounds yielded similar results on *E. coli*: 1.1×10^{-7} mutations were observed after application of chlorsuccinamide, 5×10^{-6} after KDKhTsK, 3.1×10^{-6} after sulfochlorantine, and 3.4×10^{-6} after chloramine. The frequency with which the bacteriophages reverted to wild type ranged from 5×10^{-6} to 7×10^{-6} . Since the frequency of spontaneous mutations in *E. coli* K12 (reversion from thr^- to thr^+) is 7.6×10^{-6} , it is concluded that the strongly inactivating iodine and chlorine compounds exert no mutagenic effect on the bacteria and bacteriophages investigated.

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USSR

UDC 632.95

KAMENNOV, N. A., LURIK, B. B., LIKHACHEVA, V. F., Central Scientific Research Institute of Disinfection

"A Method of Making Piperonylic Acid"

USSR Author's Certificate No 348556, filed 4 Jan 70, published 8 Sep 72
(from RZh-Khimiya, No 10, May 73, Abstract No 10N564P by T. A. Belyayeva)

Translation: In order to increase the yield of the goal product and simplify the technology of the process of synthesis, sodium hypochlorite is used as the oxidizer for making piperonylic acid by oxidizing piperonal. Example: A mixture of 0.2 mole of sodium hypochlorite and 40 ml of water is brought to a boil, 199 ml of 10-11% solution of NaOCl is added by drops over a 1.5-2 hour period, the reaction is continued until drops of the reaction mass fail to produce any color when applied to indicator paper impregnated with a 20% solution of potassium iodide, the mixture is cooled to a temperature of 20°C or less, filtered, acidified with concentrated hydrochloric acid, and piperonylic acid is separated by a Nutsch filter, washed with water, and dried at 110-120°C with a yield of 80-85%. The melting point of the acid is 225-7°C.

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USSR

UDC: 621.372.4.001.5

LIKHAREV, K. K., SEMENOV, V. K.

"Concerning the Properties of a Superconducting Point Contact Enclosed in a Cavity"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 9, Sep 72, pp 1983-1986

Abstract: A study is made of the peculiarities of Josephson emission of a superconducting point contact within the framework of the Aslamazov-Larkin model when the contact is enclosed in a cavity. This hook-up is the most convenient way to match contacts with low normal impedance of 0.01-1 ohm to conventional electrodynamic microwave systems. It is found that a maximum power of approximately 10^{-8} W can be coupled out of a Josephson contact in a cavity resonator. The authors thank V. N. Gubankov, L. S. Kuz'min and V. V. Migulin for discussing the work.

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USSR

UDC: 621.375.7.001.5

VYSTAVKIN, A. N., GUBANKOV, V. N., KUZ'MIN, L. S., LIKHANEV, K. K., MIGULIN, V. V.

"Concerning the Particulars of Parametric Regeneration in Superconducting Point Contacts"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 896-899

Abstract: The authors analyze parametric interactions in a point contact for the microwave case of open-circuit combination frequencies. The analysis is based on the equivalent circuit of the point contact proposed in a previous paper (A. N. Vystavkin et al., Radiotekhnika i Elektronika, Vol 15, No 11, 1970, p 2404). It is found that there is a region of negative resistance with a smooth transition to a region of synchronization. The consequences and region of applicability of this effect are discussed.

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USSR

UDC 621.382.2.001.5

LIKHAREV, K. K., SEMENOV, V. K.

"Electrodynamic Properties of Superconducting Point Contacts"

Moscow, Radiotekhnika i Elektronika, No 11, Nov 71, pp 2167-2172

Abstract: The behavior of a superconducting point contact conforming to the Aslamazov-Larkin model in a nonresonance wave system is theoretically analyzed. It is shown that the powers of Josephson radiation from point superconducting contacts achieved up to the present ($\sim 10^{-10}$ W in the 3-cm band) are not nearly the limiting values attainable. Low-resistance electrodynamic systems must be used to reach higher powers, i. e. the wave impedance of the line must be much less than the contact resistance. Calculations are presented for the maximum power radiated by the contact, and for the behavior of the contact when subjected to an external harmonic signal. The authors thank V. N. Cubankov, G. F. Leshchenko, N. M. Margolin and V. V. Migulin for discussing the paper. Four figures, bibliography of sixteen titles.

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USSR

LIKHAREV, K. K.

UDC: 537.312.62

"Nonlinear Electrodynamics of Narrow Superconductive Films"

Gor'kiy, Izvestiya VUZ--Radiofizika, Vol 14, No. 8, 1971, pp 1232-1241

Abstract: This is the third in a series of articles published by the author in this same journal. The first (14, No. 6, 1971, p 909) showed that if the cross-sectional area of a narrow superconducting film in an electromagnetic field is less than the square of the depth to which the field penetrates the film, the linear superconducting inductance of the film is comparable in magnitude to the linear geometric inductance. The second paper in this series (14, No. 6, 1971, p 919) explained that for the condition $S \ll \lambda^2$, where S is the cross-sectional area of the film and λ is the depth of field penetration, quantum eddies may form in the film with a current comparable with that for which a reactive Ginzburg-Landau nonlinearity appears in the film. The present paper investigates the Ginzburg-Landau nonlinear characteristics of such films and their effects on the electrodynamic characteristics of the films carrying current, and compares its results

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LIKHAREV, K. K., Izvestiya VUZ--Radiofizika, Vol 14, No 8, 1971, pp 1232-1241

with those of earlier works on the same subject. The author is connected with the Moscow State University.

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USSR

UDC 537.312.62

LIKHAREV, K. K.

"Linear Electrodynamics of Superconducting Films of Finite Width"

Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiofizika, Vol XIV, No 6, 1971, pp 909-918

Abstract: A study is made of the linear electrodynamics of strips of a thin superconducting film. The current distribution in such strips is found, and the energy relations and equivalent diagrams are obtained. It is demonstrated that when executing effective superconducting nonlinear reactive elements for microwave systems it is necessary to use very narrow film strips.

In superconducting film strips there is a significant "transverse Meissner effect" even if the thickness of the strips is much less than the depth of penetration of the magnetic field. The sufficient condition of uniform current and field distribution in cylindrical films is smallness of the transverse cross section by comparison with the square of the depth of penetration. Sufficiently high controllability of a superconducting film is achieved only when $\mu^{-1} \approx \lambda \sim 10$ (μ is the power, λ is the running geometric (outside) inductance of a strip), that is, only for very thin and narrow strips. Very small fields are required

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LIKHAREV, K. K., Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiofizika, Vol XVI, No 6, 1971, pp 909-918

to realize Ginzburg-Landau nonlinearity [ZhETF (Journal of Experimental and Theoretical Physics), Vol XX, No 5, 1064, 1950] in a narrow film ring ($\mu \ll 1$).

The basic equation of film strip systems, the Fredholm integral equations of the second type for the film systems, their basic characteristics, and dissipation in the system are analyzed.

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L.I. KHAREV, V.A.

Radan

UDC 629.7.038.74.001

"Measuring the Angular Position of a Target by Scanning Radar against a Background of Correlated Noise" *Yu. A. Mironov, V. A. Mironov, V. A. Mironov*, *Tekhnika Priborostroyeniya*, 11, No. 11, 1970, 22-25. *Moore of the Moscow Order of Lenin Aviation Institute (Izdatel'stvo Serbo Ordenskoye)*, No 207, Makhinotroyeniya Press, 1970, pages 16-23.

The problem of estimating the target azimuth against a background of correlated noise is solved. The potential accuracy of angle finding is determined. A study is made of the question of optimal algorithms for calculating the angular position of the target. The bibliography has 6 entries.

UDC 629.7.038.54.001

"Estimating the Direction-Finding Accuracy of a Scanning Radar Using the Markov Chain Approach" *Y. A. Mironov, V. A. Mironov, V. A. Mironov*, *Tekhnika Priborostroyeniya*, 11, No. 11, 1970, 22-25. *Moore of the Moscow Order of Lenin Aviation Institute (Izdatel'stvo Serbo Ordenskoye)*, No 207, Makhinotroyeniya Press, 1970, pages 24-29.

A method of calculating the estimate dispersion of the azimuth measured by a scanning radar is discussed. The estimate is estimated by the maximum order volume of the binary indicator using the Markov chain approach. In order to estimate the accuracy of direction-finding, the apparatus of discrete Markov chains is used. It is demonstrated that the transition probability matrix for the Markov chain in the given case will be a Jacobian matrix. Expressions are derived for calculating the matrix elements. The accuracy characteristics of the direction finding is calculated for a number of pulse signals in the packet $n = 5$ as an example. There is 1 illustration and a 7-entry bibliography.

307 JPAS 54195 01 Sept 1972

LIKHAREV, V.A.

Radar

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SS: JOKS 56143
1 Jul 1972

DOC 029,7 05B,54,001

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ESTIMATING THE DIRECTION ERROR

AGENCY OF A SOURCE FROM WHICH THE TARGET CAN BE APPROX. US
A. A. Likharev, Candidate of Technical Sciences,
V. S. Pechenkin, Engineer

Pages 23-26

The problem of the direction finding accuracy of a receiving radar in the presence of multipath propagation of the wave is considered in reference [1, 2, 3, 4]. In the description of the multipath propagation estimate was considered either in terms of the cross-correlation function [1, 2] or in reference [2, 3] or by the Monte Carlo method [1, 4] or by expansion of the signal function at the output of an adaptive receiver in a Taylor series, just as in reference [5].

There are more deficiencies in the enumerated studies. Thus, for example, the Gaussian probability density with the least bound of the asymptotically effective and asymptotically formal estimate to be found, however, in practice, the same error, as a rule, is limited. This leads to high errors. Finding the dispersion of the parameter estimates by the Monte Carlo method is most frequently connected with a large number of repetitions of the experiment, that is, large expenditures of machine time. In addition, the Monte Carlo method yields results only in numerical form. Expansion of the signal function in a Taylor series for the case of the series only gives limited accuracy of the estimate.

In this paper a study was made of a method of finding the dispersion of the angular coordinate estimate during digital processing of radar data based on using the operation of discrete Fourier analysis.

Statement of the Problem

A pulse single-beam radar scans space with a constant angular velocity. In the presence of a point target in the scanning zone, a video of its position appears at the radar output. This packet is dispersed by noise and fluctuation of the effective scattering cross section of the target. The beam number of pulses in the packet is n . After the digitalization and binary quantization of the output voltage of the radar, the series of 0's and 1's obtained enters

LIKHAREV, V.A.

Radar

50: JWS 54143
1 June 72

ENC 629 7-028, 76,001

RESEARCH THE ANGULAR POSITION OF A TARGET IN
SEARCH OF WHICH THERE IS A DISTRIBUTION OF CORRELATED NOISE

THEORY OF THE ANGULAR POSITION OF A TARGET IN
SEARCH OF WHICH THERE IS A DISTRIBUTION OF CORRELATED NOISE

Page 1 of 2

The problem of measuring the angular position of a target by means of radar wave is subject of reference [1,2]. However, this research dealt only with the problem of measuring angular position in the presence of natural receiver noise. The presence of correlated noise leads to a statistical dependence of the output voltages of the radar receiver corresponding to one range. Therefore, under the effect of correlated noise on the radar, the value of the quantizer current, which is proportional to the statistical relations between the pulses at the quantizer output.

The following problems are being solved at the present time:

- a) Finding the estimate of the angular position of the target in the presence of binary quantization of the radar signal and of correlated noise.
- b) Determination of the potential accuracy of measuring angles.
- c) Study of the quantitative algorithm for measuring the angular position of the target.

Estimate the Angular Position of a Target by the Method of "Probability Index"

In finding the algorithm for optimal estimation of the angular position of a target with binary quantization according to the criterion of maximum likelihood criterion, it is necessary to have a multidimensional distribution law of the signal-processor realization as the quantizer output. In the general case, it is highly complicated to find the probability density distribution for a discrete random variable. However, the number of realizations and noise can be represented as a Markov process or as a component of a Markov process. In this case, the probability density distribution of the signal-processor realization can be represented as a Markov process [5]. For example, the reflection function of the process is in the form of an exponential curve, this process is known as a Markov process. We shall consider that the set of pulses of the output voltage of the quantizer corresponding to one range forms a discrete Markov chain. The probability function of the given discrete sequence is written in the form

LIKHAREV, V. A.

Radar

INFORMATION OF THE PLAN OF A BROAD SUBJECTIVE
PAGE CONTAINS FOR A BROAD SUBJECTIVE WITH VARIOUS SUBJECT SIZE
UNC 029, 7, 028, 6, 001

50: 1st 5:13
1 June 92

V. A. Likharev, Candidate of Technical Sciences

Page 13

In solving an entire series of problems of radar data processing, it is necessary to analyze a certain number of consistently written signal forms. This refers primarily to the detection of signals with an unknown type of arrival when, as is shown in reference [1], nonoptimal criteria are used to find the signals. Along with the probability of correct detection P_c , one of the most important parameters of such detectors is the probability of false alarm in the time interval T during which the appearance of a signal is expected or the average time between successive false detections t_f . However, in a number of cases of interest, the determination of the frequency of false alarms $\lambda_f = 1/t_f$ by the λ criterion [2] has been complicated because of the nondifferentiability of the stochastic processes at the detection filter output. This necessitates the use of special methods of signal detection.

The apparatus of discrete Fourier chains is used in the papers by N. Vaks [3], S. Z. Korovin [4] and Brodovskii [5] to analyze digital detectors.

The purpose of this paper is determination of the frequency of false alarms (the average time between successive false detections t_f) for binary signal detectors with a variable energy also based on using the procedure of fundamental patterns of N. Korovin [5] for the analysis of irreducible Markov chains.

Method of a Fourier Chain

In the process of receiving a given series of space-time coordinates of a signal, its energy values at the receiver are quantized with respect to a certain number of levels, and these are digitalized with respect to time. Then they are received in the buffer memory as shown in reference [5]. The time discretization interval Δt usually exceeds the correlation time of the noise Δt_n at the radar receiver output (for $\Delta t \gg \Delta t_n$). For this reason, the 0° and 1° in adjacent range cells are statistically independent. Writing in the buffer memory matrix is performed with respect to the range cells and reading with respect to the azimuth cells.

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Radars

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1 April 71

DOC 625-10358-6-001

I. PROBLEMS OF RANGE MEASUREMENT

V. A. Likharev, Candidate of Technical Sciences

of the amplitude characteristics of radar range signals

When detecting radar signals by digital means, the accuracy of the amplitude characteristics of the received signals is not sufficient for the detector output to digital form is necessary.

The problems of the amplitude conversion of analog quantities to digital quantities arising when solving radar signal detection problems were investigated in reference [1].

The essential deficiency of the quantity figure 11 decreased in reference [1] is the fact that the time of occurrence of a signal noise is not rigidly related to the time of arrival of the signal for the latter and is determined with accuracy to the range pulse repetition period T_p .

For values of T_p commensurate with the reflected noise length T_p , a large error occurs in the range measurement and, in addition, this type of quantization error combined with the detection device has a serious consequence: it does not use the time difference of the signal packets from the noise.

For $T_p \ll T_p$, the buffered memory size increases, and each pulse reflected from the target is recorded on several adjacent range cells, which leads to the detection of pulse targets (range resolution of the target). If we are talking about a reflection from a target, that is, after each received scattered pulse recording is blocked for the time T_p from adjacent pulses from a target is possible, and the pulse packet from the target recorded in the buffered memory will have a constant shape (Figure 2). The reason for the constant shape of the pulse packet is that the time of occurrence of a signal noise is not rigidly related to the time of arrival of the signal for the latter and is determined with accuracy to the range pulse repetition period T_p . Such a situation is favorable for the detection of a target from the edges, and the pulse has a bell shape (Figure 3), when $T_p \ll T_p$ has fact.

LIKHAREV, V. A.

USSR

UDC 621.396.932.1

NIFONTOV, Yu. A., LIKHAREV, V. A.

"Measuring the Angular Position of a Search Radar Target Against a Background of Correlation Interference"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 15-22 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12678)

Translation: Solutions are found for problems of evaluating the azimuth of a target against a background of correlation interference. Potential accuracy is determined. A quasioptimum algorithm for measuring the angular position of the target is studied. Bibliography of six titles. Resumé.

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USSR

UDC 621.396.932.1

LIKHAREV, V. A., FURMAN, Ya. A., KARTASHKIN, A. S.

"Using the Apparatus of Markov Chains to Evaluate the Accuracy of Direction Finding With a Search Radar"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 23-28 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G77)

Translation: A method is outlined for calculating variance in estimating the azimuth measured by a search radar. The azimuth is evaluated from the maximum output voltage of a binary integrator utilizing an "m out of n" criterion. The apparatus of discrete Markov chains is used to evaluate the accuracy of direction finding. It is shown that the matrix of transition probabilities for the given case is a Jacobi matrix. Expressions are presented for calculating the elements of the matrix. The accuracy characteristics of direction finding are calculated for the packet $n=5$ as an example. One illustration, bibliography of 7 titles. Resumé.

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USSR

UDC 621.372.332.3:621.391.837.42

LIKHAREV, V. A.

"Amplitude-Time Quantization of Pulse Radar Signals"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 4-9 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G27)

Translation: The paper deals with problems of amplitude-time quantization of pulse radar signals. A device is proposed which is free of the disadvantages of conventional quantizers: low accuracy in range finding by a packet of binary quantized signals and low interference suppression. Relations are presented for calculating the probability that the threshold of amplitude quantization will be exceeded by surges of noise and of the signal with noise. Five illustrations, bibliography of three titles. Resumé.

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Radar

USSR

UDC 621.371.332.3:621.391.883.6

FURMAN, Ya. A., LIKHAREV, V. A.

"Determination of the Average Time Between Successive False Detections for a Binary Signal Detector With Variable Storage Volume"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 9-15 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G9)

Translation: The paper deals with problems in determining the average number of false targets (the average time between successive false detections) in a survey sector assuming uncorrelated interference for detectors with unknown time of arrival of the signal from the target when nonclassical criteria are used for decision making. A relation is found for the average time between successive false detections as a function of the quantization threshold. Two illustrations, one table, bibliography of five titles. Resumé.

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Radar

USSR

UDC 621.396.96

LIKHAREV, V. A. and KAPUSTIN, V. A.

"Detecting the Trajectory of a Target Using Surveillance Radar Data"

Moscow, Radiotekhnika, Vol 26, No 3, 1971, pp 4-9

Abstract: The authors present an optimal lock-on algorithm which resulted from a more general type of algorithm for detecting a Markovian signal against a Markovian interference background for discrete time and discrete phase space. Taking into consideration the broad prevalence of "k from n" type criteria, the authors consider methodology for determining the accumulated probabilities for correct and false automatic lock-on and the mean decisionmaking time both in the presence and absence of intersurveillance correlation. The structure of the optimal trajectory detector is given where the automatic lock-on unit is a digital automation which is realized by a program method in a specialized electronic, digital computer. Original article: two figures, three tables, six formulas, and 10 bibliographic entries.

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USSR

UDC 621:396.96

LIKHAREV, V. A., KARTASHKIN, A. S., and LEBEDEV, Ye. K.

"Digital Range-Finding and Moving-Target Selection"

Kiev, Izvestiya VUZov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 192-204

Abstract: This is a review of the bibliography dealing with digital processing of radar information, which is widely used for detecting signals in background noise and clutter. The subjects considered in this review are digital multi-channel detectors and range-finders, tracking range-finders, Doppler filters, devices for detecting signals of moving targets by using trajectory attributes, and digital devices for intra-period subtraction. Range measurement is discussed first. In analog range measure, information is first accumulated for all distances, and then the delay time is estimated; in digital range measure, an analog-digital transformation is made first, then the delay time is measured. The block diagrams of several range systems are presented and discussed. Similar diagrams for digital range-tracking systems and digital devices for selecting moving targets are also shown and explained. Thirty-five references are listed in the bibliography at the end of this article.

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1/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--DIGITAL RANGE FINDING AND MOVING TARGET SELECTION -U-
AUTHOR--(03)-LIKHAREV, V.A., KARTASHKIN, A.S., LEBEDEV, YE.K.
COUNTRY OF INFO--USSR
SOURCE--KIEV, IZVESTIYA VUZOV SSSR-RADIOELEKTRONIKA, VOL 13, NO 2, 1970,
PP 192-204
DATE PUBLISHED-----70
SUBJECT AREAS--NAVIGATION
TOPIC TAGS--SIGNAL DETECTION, RADAR SIGNAL PROCESSING, RADAR RANGE
FINDING, MOVING TARGET INDICATOR, RADAR RANGE TRACKING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1991/0150 STEP NO--UR/0652/70/013/002/0192/0204
CIRC ACCESSION NO--APO110116
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0110116

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS IS A REVIEW OF THE BIBLIOGRAPHY DEALING WITH DIGITAL PROCESSING OF RADAR INFORMATION, WHICH IS WIDELY USED FOR DETECTING SIGNALS IN BACKGROUND NOISE AND CLUTTER. THE SUBJECTS CONSIDERED IN THIS REVIEW ARE DIGITAL MULTI CHANNEL DETECTORS AND RANGE FINDERS, TRACKING RANGE FINDERS, DOPPLER FILTERS, DEVICES FOR DETECTING SIGNALS OF MOVING TARGETS BY USING TRAJECTORY ATTRIBUTES, AND DIGITAL DEVICES FOR INTRA PERIOD SUBTRACTION. RANGE MEASUREMENT IS DISCUSSED FIRST. IN ANALOG RANGE MEASURE, INFORMATION IS FIRST ACCUMULATED FOR ALL DISTANCES, AND THEN THE DELAY TIME IS ESTIMATED; IN DIGITAL RANGE MEASURE, AN ANALOG DIGITAL TRANSFORMATION IS MADE FIRST, THEN THE DELAY TIME IS MEASURED. THE BLOCK DIAGRAMS OF SEVERAL RANGE SYSTEMS ARE PRESENTED AND DISCUSSED. SIMILAR DIAGRAMS FOR DIGITAL RANGE TRACKING SYSTEMS AND DIGITAL DEVICES FOR SELECTING MOVING TARGETS ARE ALSO SHOWN AND EXPLAINED.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CERTAIN PROBLEMS OF LOW TEMPERATURE TENSOMETRY -U-

AUTHOR--(03)-BOGAYCHUK, V.I., KOZLOV, I.A., LIKHATSKIY, S.I.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PFCCHNOSTI, VOL. 2, MAR. 1970, P. 86-89

DATE PUBLISHED-----70

SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--TENSILE TEST, STRAIN MEASURING INSTRUMENT, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1230

STEP NO--UR/3663/70/002/000/0086/0089

CIRC ACCESSION NO--AP0124884

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE: -30OCT70

CIRC ACCESSION NO--AP0124884

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF SOME PROBLEMS IN LOW TEMPERATURE TENSOMETRY WITH RESPECT TO ITS APPLICATION FOR STUDYING THE STRESS STRAIN STATE OF TURBINE DISKS OPERATING AT TEMPERATURES DOWN TO 77 DEG K. THE EFFECTS OF LOW TEMPERATURE ON THE STRAIN SENSITIVITY COEFFICIENT OF SENSORS ARE ESTIMATED. THE FORMATION OF FICTITIOUS STRAINS AND THE POSSIBILITY OF THEIR DETECTION ARE DISCUSSED. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT PROBLEM PROCHNOSTI, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

USSR

UDC 533.697

KÓPELEV, S. Z., LIKHERZAK, YE. YE. and LEV, S. G.

"On the Computation of Parameters for a Lattice with Air Cooling"

Moscow, Gazoturbin. i kombinir. ustanovki (Gas-Turbine and Combined Installations, Collection of Works), 1971 (1972) pp 118-125, (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4B363 by A. G. Plotkina)

Translation: In place of the ordinarily used estimate the flow irregularity with the value of the amplitude of the parameter variation, it is proposed to use the coefficient of irregularity, determined independently from two different conservation equations. Thus, for example, the average velocity could be determined from the equation of the content of motion $\bar{c} = I/G$, where $I = \int c dG$ and from the equation of kinetic energy flow $\bar{c} = \sqrt{E/G}$, where $E = \int c^2 dG$.

Analogous expressions may be obtained for temperature and density from the state and flow-rate equations. On the basis of the work of Krokko (in the collection Osnovy gazovoy dinamiki [Fundamentals of Gas Dynamics], Moscow, Published by the Institute of Literature, 1963) two coefficients

$\alpha = \bar{I}/I$ and $\beta = (\bar{c}/c)^2$ are used for evaluation of flow irregularity. Using these coefficients (neglecting the loss of quantities of motion, moments and 1/2

USSR

KOPELEV, S. Z., et al., Gazoturbin. i kombinir. ustanoovki, 1971(1972) pp 118-125

mechanical energy at the outer limits) the authors obtained a full system of conservation equations. The values of coefficients alpha and beta are obtained for a flat nozzle lattice with distances from the output edge z greater than or equal to 4 mm from the processing of experimental data produced with this equation. The greatest deviation from unity of the values of these coefficients (occurring in uniform flow) are observed near the root of the blade with alpha equal to 0.89 and beta to 1.12. At the mean diameter, alpha equals 0.985 and beta 1.06. Nonuniformity of flow was also investigated beyond the flat lattice with an edge blown through the output edge of different quantities of coolant up to 5% of the basic flow. It was shown that up to a value of the cooling flow approximately equaling 2% a loss of ram pressure occurs; at large values, ram pressure increases as a result of the introduction of additional mass and energy.

2/2

- 122 -

USSR

UDC 51

TEKNO, O. R., LIKHTEL'D, YU. I.

"Notes on Hybrid Functions"

V sb. Sistemotekhnika (Systems Engineering--collection of works), Kiev, 1971,
pp 319-329 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V384)

Translation: For more on hybrid functions see the article by the author (RZh-
Matematika, 1967, 6V323)

1/1

Mining, Petroleum, Geological

USSR

UDC 621.43.011:533;621.5:533

BOGDANOV, G. G., MASLYAYEV, A. Ye., LI KHI UN

"Determining the Aerodynamic Parameters for Electrical Modeling of the Resistance of Soils in a Collapsed Space"

Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti (Works of the Eastern Scientific Research Institute on Operational Safety in the Mining Industry), 1972, Vol. 12, pp 144-149 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B412)

Translation: The movement of air in collapsed soils in the development of a sluice system and the intermediate law governing motion which was established as a result of the study are discussed. The aerodynamic parameters were found by mathematical means: the permeability coefficients and the macroroughness which enter into the equation for the intermediate law of motion for the air. The quantitative values of these parameters obtained for different motions of the air were determined experimentally under mining conditions. It was also established that the permeability coefficient varies in inverse proportion to the change in the linear aerodynamic resistance and that the roughness is inversely proportional to the change in the square of the aerodynamic resistance.

1/2

USSR

BOGDANOV, G. G., et al, Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti, 1972, Vol. 12, pp 144-149

In absolute value the macroroughness is approximately equal to the roughness of concrete. A method for determining the aerodynamic parameters necessary for electrical modeling of the collapsed space and a graph of the dependence of the index of the air motion regime and the ratio of the pressure drops through the layer of collapsed soil before and after the change in the quantity of air entering the segment are given; the correlation coefficient between the above parameters was determined. Authors' abstract.

2/2

- 87 -

1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--2,BENZOSELENAZOLYALKYL (ARYL) CARBINOLS -U-
AUTHOR--(02)-LIKHITSKAYA, V.S., BABICHEV, F.S.
COUNTRY OF INFO--USSR
SOURCE--KHIM. (GETEROTSIKL.) SOEDIN. 1970, (2), 164-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENEZE DERIVATIVE, ORGANOSELENIUM COMPOUND, HYDROXYL RADICAL,
CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1113 STEP NO--UR/0409/70/000/002/0164/0166
CIRC ACCESSION NO--AP0104511

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104511

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ET

3,(2,BENZOSELENAZOLYL)PROPIONATE (9.3 G) IN 0.1 L. ABS. ET SUB2 O WAS ADDED TO 2.22 G LIALH SUB4 IN 0.1 L. ABS. ET SUB2 O DROPWISE AT MINUS 50DEGREES WITH STIRRING UNDER H AND THE MIXT. STIRRED 1 HR AT MINUS 50DEGREES TO GIVE 71PERCENT I (X ABSENT), M. 36DEGREES, B SUB0.5 173-5DEGREES; 3,5,DINITROBENZOATE M. 114DEGREES; URETHANE M. 98DEGREES. SIMILARLY, WERE PREPD. I (X, PERCENT YIELD, M.P., B SUB0.01, M.P. 3,5,DINITROBENZOATE, AND M.P. URETHANE DERIV. GIVEN): CH SUB2, 84, 27DEGREES, 104DEGREES, 117DEGREES, 171DEGREES; O, 58, 45DEGREES, 122DEGREES, 115DEGREES, 215DEGREES; S, 81, -, 138DEGREES, 105DEGREES (DIL. ALC.), 236DEGREES; NPH 89, 84DEGREES (PETROLEUM ETHER), -, 100DEGREES, 204DEGREES. SIMILARLY, WERE PREPD. II (X, PERCENT YIELD, M.P., M.P. 3,5,DINITROBENZOATE, M.P. URETHANE, AND M.P. PERCHLORATE GIVEN): CH, 94, 78DEGREES (PETROLEUM ETHER), 80DEGREES, 83DEGREES (DIL. ALC.), 207DEGREES (ALC.); N, 95, 99DEGREES (DIL. ALC.), 196DEGREES, 180DEGREES, -. I AND II GAVE QUATERNARY SALTS WITH ME SUB2 SO SUB4 OR MEI AND BROMIDES WITH PBR SUB3, WHICH YIELDED BENZOSELENAZOLIUM SALTS ON HEATING.

UNCLASSIFIED

LIKHNITSKIY, A.M.

acoustics

SECRET

SCIENCE OF INFORMATION ON ENTAILMENT OF UNSTABLE NOISE IN THE PROCESS OF ITS ACTION ON THE HUMAN ORGANISM / A.S.A. 72-2

ON NASA TECHNICAL TRANSLATIONS

NASA TT N688 F-684

C. A. Sorokov and A. M. Likhitskiy (Leningrad)

It is suggested that an information description of unstable noise be added to the power evaluation (mean power) and spectral evaluation (time-averaged spectrum), using for this purpose the statistical envelope of the process:

$$P_{\Sigma}(t) = \sqrt{\frac{1}{T} \int_0^T h(t) P(t) dt}$$

where $P_{\Sigma}(t)$ is the statistical envelope of the process, $P(t)$ is the instantaneous sound pressure, $h(t)$ is a weight function. Function $h(t)$ describes the time window within which the human ear is insensitive to the phase structure of a signal. The effective width of the smoothing interval is assumed to be $T_0 = 10$ msec.

The effect of noise with a complex envelope is analyzed as the result of interaction of the organism with a stimulus which changes with time. As the result of this interaction, the organism develops a strategy to minimize the biological effect of the noise (so-called dynamic adaptation), the least influence of an unstable stimulus being noted when its parameters are known in advance. It is assumed that the human organism partially solves the difficulties resulting from a delay in its protective reaction to sudden effects by extrapolating future moments of appearance of a stimulus on the basis of information concerning the envelope of the noise process in the past. The minimum attainable uncertainty can be calculated on the basis of the probability characteristics of the noise envelope. It is assumed that the entropy is used as the measure of uncertainty.

In order to determine the most characteristic properties of dynamic adaptation, we studied the effects of unstable noise, an aperiodic sequence of short rectangular white noise pulses t_0 in length. In the first approximation, this sequence follows Poisson's rule. The uncertainty of the moments of appearance of the pulses required that the test subjects perform probability extrapolation on the basis of information on the preceding intervals between the initial moments of pulses (waiting intervals $T^{(i)}$). Since the intervals:

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SATURATION WITH IRON OF TRANSFERRINE IN ECZEMA AND CERTAIN
DERMATOSES -U-
AUTHOR--LIKHNIAKEVICH, N.V. L
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 3, PP 32-34
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DERMATITIS, PROTEIN, IRON, OXIDASE, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0689 STEP NO--UR/0206/70/000/003/0032/0034
CIRC ACCESSION NO--AP0102673
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0102673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDIES CARRIED OUT IN 158 PATIENTS WITH DIFFERENT DERMATIC DISEASES ESTABLISHED A MARKED REDUCTION IN SATURATION WITH IRON OF THE IRON CONTAINING PROTEIN TRANSFERRINE AND PARALLEL REDUCTION OF OXIDASE ACTIVITY OF COPPER CONTAINING ENZYME CERULOPLASMIN IN SEVERE DERMATOSES SUCH AS ECZEMA, PSORIASIS, LUPUS ERYTHEMATOSUS, VITILIGO. CALCULATION OF THE ENTROPY OF THESE SYSTEMS PERMITS EVALUATION OF THE EXTENT OF DISORDER OF THEIR REGULATION BY THE ORGANISM DURING THE DISEASE AND UNDER THE EFFECT OF TREATMENT.

UNCLASSIFIED

USSR

USSR 021.741.700.1.007

LIKHOBABENKO, I. Ya., KAZLAV, I. T., LASHINOV, I. M., and SHCHERBA, A. A.

"Machine for Spot-Welding Large Parts With Curvilinear Profiles"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 70, pp 67-68

Abstract: A description is given of a spot-welding machine developed by the Kalinin Polytechnical Institute in cooperation with the local branch of the All-Union Scientific Research Institute and the M. E. Bauman Moscow Higher Technical School. The tops of automobiles are given as examples of what is meant by curvilinear-profiled parts. Welding can be done on the machine without readjustments in going from one type of part to another. The machine has two small type GSK-40 double-electrode welding heads mounted on a radial girder and the rim of a ring capable of turning on its own axis. The machine has manual, automatic, and emergency drives, and other details of its operation, together with a diagram of the machine and its drive system, are given.

1/1

USSR

UDC 546.821:669.295:543.53

UZEKOV, A. A., AKALAYEV, G. G., RISKIN, I. V., and LIKHORAIN, V. A.

"Application of Neutron Activation Analysis for Determination of Some Micro-impurities in Titanium and the Study of Their Behavior in the Process of Corrosion"

Moscow, Zavodskaya Laboratoriya, Vol 38, No 7, 1972, pp 816-818

Abstract: W, Au, Mn, Cu, Mo, Na, and Ta were detected in specimens of technically pure titanium by using the method of nondestructive neutron activation analysis. Quantitative determination in titanium samples weighing 7-10 mg and irradiated with $3 \cdot 10^{13}$ neutr/cm²-sec for 22 hr yielded $1 \cdot 10^{-2}\%$ W, $6 \cdot 10^{-7}\%$ Au, $3 \cdot 10^{-2}\%$ Mn, $1.5 \cdot 10^{-2}\%$ Cu, $2 \cdot 10^{-2}\%$ Mo, and $7 \cdot 10^{-4}\%$ Ta. The possibility was investigated of using the Sc⁴⁷ radioisotope formed in the reaction $Ti^{47} (n,p) Sc^{47}$ for determining the content of titanium in its alloys, as well as for studying the corrosion of titanium. Two tables, 2 figures, 4 references.

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- 2 -

USSR

UDC 621.762.001

LIKHOBABIN, V. A., MANTAROSHIN, A. P., PASHKOV, P. O., ROGOZIN, V. D.

"Shock Compacting of Metal Powders"

V sb. Metallovedeniye i prochnost' materialov. T. 3 (Physical Metallurgy and Strength of Materials. Vol 3.-- collection of works), Volgograd, 1971, pp 272-285 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G3B4)

Translation: A study was made of the laws of shock compacting of metal powders, and the basic parameters determining the mechanical properties of the material obtained are discovered. Eight illustrations, 2 tables, and a 6-entry bibliography.

1/1

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USSR

UDC 534.26

LIKHODAYEVA, YE. A., and SHENDEROV, YE. L.

"Peripheral Waves Arising During the Diffraction of a Plane Sonic Wave on a Thin Cylindrical Shell"

Moscow, Akusticheskiy Zhurnal, No 27, vyp 1, 71, pp 79-84

Abstract: This article investigates the sonic field in the region of the geometric shadow of an elastic cylindrical shell placed into a liquid. Computational analysis is made of the total field near the surface of the shell. It is shown that a frequency range exists for which the level of the field in the area of the geometric shadow substantially exceeds the field in the shadow of an absolutely soft cylinder. The substantial growth in the level of the field behind the elastic shell is explained by the excitation of weakly attenuating peripheral waves caused by bending oscillations. Different types of peripheral waves propagating around the shell are classified from the Watson transform. Photographs of the field scattered by the elastic shell are obtained on a device for visualizing the sonic fields, thus permitting the velocity of the peripheral waves surrounding the shell to be determined as $1.41 \cdot 10^5$ cm/sec; this value agrees with the computed values of the velocity $1/2$

USSR

LIKHODAYEVA, YE. A., and SHENDEROV, YE. I., Akusticheskiy Zhurnal, No 27, vyp 1, 71, pp 79-84

of flexural waves in a plate, if the influence of the liquid on their propagation is taken into account.

This article contains 3 figures, 1 table, and 5 equations; eight literature references are cited.

2/2

- 81 -

USSR

UDC: 669.71.053.4.067

LIKHODED, A. D., ZAPOL'SKIY, A. K., SAZHIN, V. S.

"Separation of Pulp After Roasting of Alunite Ores with Sulfuric Acid"

Vopr. Khimii i Khim. Tekhnol. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb.
[Problems of Chemistry and Chemical Technology. Republic Interdepartmental
Thematic Scientific and Technical Collection], 1973, No 28, pp 141-150
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No
8G161, by G. Svodtseva).

Translation: The process of agglomeration of pulp after leaching of alunite
cake roasted at 300° with full dosing of H₂SO₄ is studied. As the tempera-
ture is varied from 80 to 96°, the settling rate is increased by 6.2 times,
the degree of clarification of the solution -- by 2.6 times. When the L:S
ratio in the pulp is changed from 4.4:1 to 15.8:1, the settling rate increases
from 0.035 to 1.59 m/hr, while the quantity of solids in the clarified layer
decreases from 12.89 at L:S = 4.4:1 to 0.82 g/l at L:S = 15.8:1. When 18 mg/dm²
polyacrylamide is introduced to the pulp, the settling rate increases by 1.8
times, the quantity of solids in the clarified layer decreases by 5.1 times.
The optimal filtration conditions are L:S = 12.1:1, temperature 96°, thickness
of layer of sediment on filter 5 mm, polyacrylamide 18 mg/dm³.

1/1

USSR

UDC 575.24/322.576/851

LIKHODED, L. YA., and SKAVRONSKAYA, A. G., Institute of Epidemiology and Microbiology ineni N. P. Gamaleya USSR Academy Medical Sciences, Moscow

"Mutagenesis Induced in Escherichia Coli WP₂ by Continuous and Fractionated Irradiation With Ultraviolet Light"

Moscow, Genetika, Vol 7, No 5, 1971, pp 138-141

Abstract: The frequency of UV-induced mutations in the tryptophan locus of Escherichia coli was studied on 1-night-old broth cultures of strain WP₂. The number of mutations induced by fractionated irradiation with ultraviolet light is considerably smaller than that induced by continuous irradiation of the same dose. However, fractionated and continuous irradiation, which produce the same percent of destruction of bacteria, also produce the same mutagenic effect. Under conditions which prevent DNA synthesis, excision repair is accompanied by a small number of errors or no errors, leading to the formation of UV-induced prototrophic revertants.

1/1

USSR

UDC 575.111:575.24:576.851.48

FILIPPOVA, L. M., LIKHOED, V. G., and RAPOPORT, I. A., Institute of Chemical Physics, Academy of Sciences USSR, and Scientific Research Institute of Vaccines and Sera imeni I. N. Mechnikov, Ministry of Health USSR, Moscow

"The Effects of N-Nitroso-N-Methylurea on Escherichia Coli Strains Differing in Their Capacity for Excision Repair of DNA Lesions"

Moscow, Genetika, Vol 7, No 11, 1971, pp 130-135

Abstract: Mutagenic and lethal effects were produced in hcr^+ and hcr^- E. coli K-12 strains by using different amounts of N-nitroso-N-methylurea (NMU). Almost identical results were obtained on hcr^+ and hcr^- strains. Strains were unable to repair the damaged chromosomes through excisions, and synthesized neither colicin E1 nor gamma prophages in any significant amounts. Since NMU, like all monoalkylating agents, exerts its effects by alkylating purine bases in DNA, it is suggested that the difference in the mechanism of action of monoalkylating and dialkylating agents may be responsible for the inactivation of the bacteria.

1/1

USSR

UDC 576.851.214 (Enteroboccus).06

SHUSTER, B. YU., LIKHODED, V. G., SERGEYEV, V. V., YELIKINA, S. I., and
LITAREV, V. A., Moscow Institute of Vaccines and Sera imeni Mechnikov

"Transduction Analysis of the Virulence of Revertants of *S. enteritidis*
Streptomycin-Dependent Mutants"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971,
pp 58-62

Abstract: Using the transduction method with phage P 22, the authors found that the virulence of avirulence of revertants of *S. enteritidis* No 921 *str-d* mutants varied with the nature of the reverse mutation. Virulence was restored in the true revertants while the suppressor revertants remained avirulent. In transduction of markers from the virulent *str-r* strain to the suppressor avirulent revertants, the *str-r* transductants exhibited segregation with respect to virulence. The virulence of the transductants was due to substitution of the *su-str⁻* gene suppressor for the *su-str⁺* gene suppressor. It would appear, therefore, that mutation in the *su-str* gene suppressor results in the loss of virulence.

1/1

Acc. No. AP0045618

Ref. Code: UR 0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1,
pp 37-44

L

THE ROLE OF PROTEIN SYNTHESIS IN THE UV-INDUCTION
OF COLICINOGENIC FACTOR EI IN E. COLI
Likhoded. V. G.; Padalko, T. B.; Sayenko, A. S.;

Tolcheyev, Yu. D.

Institute for Vaccines and Sera Research, Ministry of Health,
of the USSR, Moscow and Institute of Medical Radiology,
Academy of Medical Sciences, Obninsk, USSR

The role of protein synthesis in UV-induction of colicinogenic factor EI was investigated. UV-induction was shown to depend on the presence of some protein(s) synthesized prior to UV-irradiation. During a lag period after irradiation protein synthesis was not required for UV-induction of colicinogenic factor. In new infected cells UV-induction and zygotic induction were shown to depend on protein synthesis just after the transfer of colicinogenic factor.

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REEL/FRAME

19780595

See 6

Acc. Nr:

AP0036815

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 1, pp 47-53

THE EFFECT OF DNA INHIBITORS ON THE TRANSFER
OF COLICINOGENIC FACTOR I IN SALMONELLA TYPHIMURIUM

V. G. Likhoded, A. Z. Smolenskaya, T. V. Perova, N. V. Balanin

5-fluorouracil, methothrexate, mitomycin C and nalidixic acid proved to inhibit the transfer of colicinogenic factor I during conjugation in *S. typhimurium*. It was shown that nalidixic acid did not influence the formation of effective contacts and did not kill the auxotrophic bacteria in the synthetic medium, but sharply reduced the colicinogenic transfer. However, the transfer of colicinogenic factor in some of the cells did not depend on DNA synthesis and failed to be depressed by nalidixic acid. It is suggested that the transfer of colicinogenic factor I during conjugation began after completion of its replication.

D. n.

6

172 U11 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RECOMBINATION OF CHARGE CARRIERS AT A RECTIFYING CONTACT BETWEEN
ION EXCHANGE MEMBRANES -U-
AUTHOR-(03)-LIKHODED, V.N., MASLOV, V.N., ZOTOV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1118-20
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ION EXCHANGE MEMBRANE, ANION, CATION, ION RECOMBINATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0008 STEP NO--UR/005T/70/044/004/1118/1120
CIRC ACCESSION NO--AP0132308
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132308

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RECOMBINATION PROCESSES OF CHARGE CARRIERS AT A (H PRIME POSITIVE) MINUS (OH) PRIME NEGATIVE RECTIFYING CONTACT BETWEEN ION EXCHANGE MEMBRANES ARE INVESTIGATED. THE LIFE TIME OF THE MINORITY CARRIERS IN PI EQUALS 1.6 TIMES 10 PRIME8 NEGATIVE SEC. WHILE THE EFFECTIVE DIFFUSION LENGTH OF THE CHARGE CARRIERS IS L EQUALS 2.4 TIMES 10 PRIME8 NEGATIVE CM. FACILITY: MOSK. INST. TONKUI HIM. TEKHNOL. IM. LOMONGSOVA, MOSCOW, USSR.

UNCLASSIFIED

- 1/3. 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--POSITRON ALLIANCE OF SCIENCE AND INDUSTRY -U-
AUTHOR--(02)--GERASIMOV, V., LIKHODIN, P. L
COUNTRY OF INFO--USSR
SOURCE--SOTSIALISTICHESKAYA INDUSTRIYA, MAY 12, 1970, P 2
DATE PUBLISHED--12MAY70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--INDUSTRIAL INSTITUTE, INDUSTRIAL R AND D, INDUSTRIAL PLANNING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0165 STEP NO--UR/0533/70/000/000/0002/0002
CIRC ACCESSION NO--AN0102244
UNCLASSIFIED

2/3 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0102244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE REPORTS ON THE OPERATIONS OF THE "POSITRON", A RESEARCH INDUSTRIAL COMPLEX ESTABLISHED IN LENINGRAD IN 1969. THE COMPLEX, OR CORPORATION, COMPRISES A SCIENTIFIC RESEARCH INSTITUTE WITH A PILOT PLANT, THE CENTRAL DESIGN BUREAU OF TECHNOLOGY AND EQUIPMENT (TSKBTO) WITH ITS OWN PILOT PLANT, AND INDUSTRIAL PLANTS WITH THEIR BRANCHES OUTSIDE LENINGRAD. PREVIOUS TO ITS ESTABLISHMENT, TWO OF THE POSITRON'S PLANT, THE "MESON" AND THE "KULON", OPERATED IN THE "RADIODETAL" CORPORATION. THE GENERAL DIRECTOR OF THE CORPORATION HEADS THE RESEARCH INSTITUTE AND ITS PILOT PLANT. HIS FIRST DEPUTY DIRECTS THE RESEARCH PROGRAM OF THE INSTITUTE AND HOLDS THE POST OF CHIEF ENGINEER OF THE RESEARCH INSTITUTE. ANOTHER DEPUTY DIRECTOR FOR PRODUCTION IS AT THE SAME TIME THE CHIEF ENGINEER OF THE INSTITUTE'S PILOT PLANT, WHILE THE THIRD DEPUTY FOR MECHANIZATION ALSO HOLDS THE POST OF THE DIRECTOR OF THE TSKBTO AND ITS PILOT PLANT. THE CORPORATION AS A WHOLE IS MANAGED BY THE RESEARCH INSTITUTE THROUGH ITS DEPARTMENTS. THE DEPARTMENTS PREPARE THE DIRECTIVES, SUCH AS FINANCIAL AND PRODUCTION PLANS, OR MANPOWER AND WAGES, TECHNICAL AND ORGANIZATIONAL INNOVATIONS, ETC. THE PRODUCTION PLAN OF THE "POSITRON" IS PREPARED BY ITS PLANNING ECONOMICS DEPARTMENT AND IS APPROVED BY THE MINISTRY. ON THE BASIS OF THIS PLAN THE DEPARTMENTS DRAFT PLANS FOR EACH INDUSTRIAL PLANT OF THE CORPORATION. THE DEPARTMENTS OF CHIEF MECHANICAL ENGINEER, CHIEF TECHNOLOGIST, AND SCIENTIFIC TECHNICAL INFORMATION ALSO MANAGE THEIR COUNTERPARTS AT PLANTS.

UNCLASSIFIED

3/3 . 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0102244

ABSTRACT/EXTRACT--IN CONTRAST TO A PURELY INDUSTRIAL CORPORATION, THE "POSITRON" HAS SPECIAL TEAMS FOR DIRECT MANAGEMENT OF RESEARCH EFFORTS. FOR EXAMPLE, A SPECIAL TEAM OF THE FINANCIAL ECONOMICS DEPARTMENT COLLABORATES WITH THE ENGINEERING DEPARTMENT IN OPERATIONAL AND LONG RANGE PLANNING OF RESEARCH AND DEVELOPMENT AND ITS FUNDING, AS WELL AS THE COORDINATION OF ACTIVITIES OF RESEARCH SECTIONS. THE TSKBTO OF THE CORPORATION AND ITS PILOT PLANT ARE RESPONSIBLE FOR THE DEVELOPMENT OF SPECIAL EQUIPMENT, NEEDED FOR PRODUCTION, MECHANIZATION, AND AUTOMATION OF PRODUCTION. THE RESEARCH AND PRODUCTION POLICIES OF THE "POSITRON" ARE SET BY ITS SCIENTIFIC TECHNICAL COUNCIL. ASSOCIATES OF THE INSTITUTE, DIRECTORS OF PLANTS AND DEPARTMENT HEADS ARE MEMBERS OF THE COUNCIL.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THIOL BLOOD GROUPS IN PATIENTS SUFFERING FROM HYPOTHYROIDISM -U-
AUTHOR--(OZ)-UDOD, V.M., LIKHODDY, S.S.
COUNTRY OF INFO--USSR
SOURCE--PROBL ENDOKRINOL 15(1): 12-14, 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--THIOL, BLOOD PROTEIN, BLOOD SERUM, AMPEROMETRIC TITRATION,
THYROID GLAND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAPE--3006/0258 STEP NO--UR/0502/70/016/001/0012/0014
CIRC ACCESSION NO--AP0134063
UNCLASSIFIED

2/2 C19

UNCLASSIFIED

PROCESSING DATE--26NOV70

CIRC ACCESSION NO--AP0134063

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AMPEROMETRIC TITRATION METHOD WAS APPLIED TO EXAMINATION OF THE CONCENTRATION OF PROTEIN THIOL GROUPS IN THE BLOOD SERUM OF 29 PATIENTS SUFFERING FROM HYPOTHYROIDISM. THE CONTENT OF FREE SULFHYDRYL GROUPS IN THE BLOOD SERUM WAS ELEVATED (BY 30.3PERCENT ON THE AVERAGE) IN COMPARISON WITH HEALTHY INDIVIDUALS. THE RISE IN THE CONCENTRATION OF SULFHYDRYL GROUPS WAS PROPORTIONAL TO THE SEVERITY OF HYPOTHYROIDISM. FACILITY: DEP. BIOCHEM., TSELINGRAD MED. INST., TSELINGRAD, USSR.

UNCLASSIFIED

USSR

VDC 629.12.001.72

LIKHOMANOV, V. A. and FADEYEV, O. V.

"Determination of the Coefficients of Pliancy in the Elastic Sealing of Ribs During the Action of an Ice Load"

Leningrad, Ledovyye Kachestva Sudov (Ice Properties of Ships), Gidrometeoizdat, 1973, pp 148-153

Abstract: A simplified method is proposed for determining the coefficients of pliancy in the elastic sealing of ribs in the presence of transverse stresses. Calculation formulas and graphs are presented for the case of the installation of one, two, or three stringers. An example is given of the calculation of a rib by means of the proposed graphs. 2 figures. 1 table. 2 references.

1/1

1/3 014 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--COMPLEXING OF 2,2,THIAZOLYLAZO,1,8,DIHYDROXY,3,6,
NAPHTHALENEDISULFONIC ACID DERIVATIVES WITH METAL IONS -U-
AUTHOR--(C4)-SAVVIN, S.B., ROZOVSKIY, YU.G., PRUPISTSOVA, R.F., LIKHONINA,
YE.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 423-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AMINE, THIAZOLE, ALUMINUM COMPLEX, THORIUM COMPOUND, GALLIUM
COMPOUND, ZIRCONIUM COMPLEX, NAPHTHALENE, SULFONIC ACID, POTENTIOMETRIC
TITRATION, ANALYTIC CHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2092 STEP NO--UR/0075/70/025/003/0423/0429
CIRC ACCESSION NO--AP0125678

UNCLASSIFIED

2/3 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC. ACCESSION NO--AP0125678
ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. NEW REAGENTS BASED ON VARIOUS DERIVS. OF 2,AMINOTHIAZOLE AND CHROMOTROPIC ACID WERE SYNTHESIZED AND THEIR COMPLEX FORMATION WITH TH, ZR, GA, AND AL WAS STUDIED. THE REAGENTS ARE RED POWDERS, IN THEIR H FORM AND WELL SOL. IN H SUB2 O, HCONME SUB2, AND MECH. AQ. SOLNS. OF THE REAGENTS ARE NOT STABLE. THE INTENSITY AND COLOR OF THE REAGENTS DEPENDS ON THE ACIDITY OF THE MEDIUM. THEY ARE BLUE GREEN COLORED IN A CONCD. H SUB2 SO SUB4, YELLOW IN 1-ION HCL, VIOLET IN THE PH RANGE 1-5, RED CRIMSON IN THE PH RANGE 7-12, AND BLUE IN 10PERCENT KOH. THE PREPN. AND BEHAVIOR OF 4,5-DIMETHYL-2, THIAZOLYLAZOCHROMOTROPIC ACID (I) IS DESCRIBED IN DETAIL. I CAN BE REPRESENTED AS A 4 BASIC ACID. THE 1ST EQUIL. POINT ON THE POTENTIOMETRIC TITRN. CURVE REPRESENTS THE NEUTRALIZATION OF 2 SULFO GROUPS, THE 2ND POINT THE TITRN. OF THE 1ST OH GROUP OF THE NAPHTHALENE NUCLEUS, THE DISSOCN. OF THE 2ND OH GROUP TAKES IN THE ALK. REGION. IN THE ACID REGION I FORMS 2 PROTONIZED FORMS, AT PH IS SMALLER THAN 1 A YELLOW THIAZOLYL CATION WITH MAX. ABSORBANCE AT 480 NM AND IN CONCD. H SUB2 SO SUB4 A 2ND PROTONIZED FORM WITH MAX. ABSORBANCE AT 640 MU M. I REACTS WITH SEVERAL ELEMENTS, GIVING VERY CONTRASTING COLORS WITH AL, ZR, TH, AND GA. I FORMS WITH AL 2 DIFFERENT COMPLEXES. IN AQ. SOLNS. AT PH 3-4 THERE IS A BLUE COMPLEX WITH MAX. ABSORBANCE AT 590 NM AND THE 2ND COMPLEX IS FORMED AT PH 1-2.5 REGION. THIS COMPLEX IS BLUE GREEN AND HAS A HIGH MOLAR ABSORPTIVITY. IN A AQ. ALK. SOLN. ONLY THE 2ND COMPLEX FORMS WITH MAX. ABSORBANCE 630 NM. TEMP. AND ORDER OF ADDN. DO NOT AFFECT THE YIELD OF THE COLORED COMPLEX. AL AND I REACT IN A 1:1 MOLAR RATIO.

UNCLASSIFIED

3/3 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--A0125678

ABSTRACT/EXTRACT--FACILITY: INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

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BURTOV, A. I., GRUSHVITSKIY, R. I., METTER, E. Ya., PETROV, V. A., PLATONOV, V. V., SAVUTKIN, V. V., VEDESHENKOV, V. A., VOLKOV, A. F., ZENKIN, V. D., LIKHONINSKIY, V. S., and SOROKIN, G. K.

"Computer Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 27, 1972, p 162, No (11) 351216

Translation: This patent describes a computing device containing resolving modules with decoupling cells at the power supply inputs. It also has a control block connected to the inputs of a switching block and an efficiency indicator. Every output of the switching block is connected to the control input of one of the decoupling cells, thus improving the reliability of the device.

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Acc. Nr.

AP0036982

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UR 0131

69619a Experimental increase in the stability of the lining of oxygen converters. Likhoradov, A. P.; et al. (Nonyalipetsk. Met. Zavod, USSR). *Ogneupory* 1970, 35(1), 5-11 (Russ).
 A study of wear of lining of converters led to a change in the shape of the inner contour of the lining and to the introduction of differentiated pieces. Pitch (coke residue <89%)—dolomite, and periclase—spinel refractories were used for the surfaces most attacked by erosion, i.e. vessel mouth and top and bottom cylindrical parts on the sides adjacent to the trunions. The durability of the lining amounted to up to 646 blows, and the total amt. of refractories used was decreased to 2.95 kg/ton of steel. The way of economic feeding of the batch ingredients, the introduction of slag and blast regimes of the blow ensuring high alky. slag, decrease in blowing time, and the decrease of the no. of blows with after-blasts were also studied. Z. Sterbacek

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REEL/FRAME

19721913

18 li

USSR

UDC 519.281

KIREYEV, N. G., DARAGYAN, A. V., LIKHOSHERST, N. V.

"Determination of Dynamic Parameters of Unstable Objects"

Tekhn. Kibernetika (Khar'kov. Otd.). Vyp. 1 [Engineering Cybernetics (Khar'kov Division), No. 1 -- Collection of Works] Kiev, 1970, pp 52-59 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V205 by V. Noskov).

Translation: A linear unstable system is described by the system of equations

$$\dot{x}_l = \sum_{j=1}^n a_{lj}(t) x_j(t) + P_l(t) \quad (l=1, 2, \dots, n).$$

It is assumed that

$$a_{lj}(t) = \sum_{k=0}^m a_{lj}^{(k)} t^k, \quad P_l(t) = \sum_{k=0}^m f_l^{(k)} t^k.$$

Using the least squares method, estimates are sought for the coefficients $a_{ij}^{(k)}$ and $f_i^{(k)}$ with respect to known $x_j(t)$. The results of a mathematical experiment ($n=6$) are studied in detail in cases of various a priori information. In one version of the experiment, normal noise of known intensity is added to the observations $x_i(t)$.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CHEMISTRY AND MECHANISM OF THE ACTION OF ANESTHETICS -U-

AUTHOR--(02)-PYRANISHNIKOVA, N.T., LIKHOSHERSTOV, A.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(2), 207-16

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHETIC, CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3009/0125

STEP NO--UR/0063/70/015/002/0207/0216

CIRC ACCESSION NO--AP0138990

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138990

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW COVERING THE PRINCIPAL CLASSES OF ANESTHETIC SUBSTANCES WITH EMPHASIS ON AMINOALKYL ESTERS OF ORG. ACIDS AND THEIR AMIDE ANALOGS. THE EFFECTS OF STRUCTURAL CHANGES ON ACTIVITY ARE SUMMARIZED AND THIS IS RELATED TO VARIATION OF PHYSICO CHEM. PROPERTIES IN GENERAL.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--STRUCTURE OF THE CARBOHYDRATE CHAINS OF THE BLOOD GROUP SUBSTANCE
 (A PLUS H) -U-
 AUTHOR--(05)-KOCHEKOV, N.K.; DEREVITSKAYA, V.A.; LIKHOSHERSTOV, L.M.;
 MARTYNOVA, M.D.; SENCHENKOVA, S.N.
 COUNTRY OF INFO--USSR
 SOURCE--CARBOHYD. RES. 1970, 12(3), 437-47
 DATE PUBLISHED-----70

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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--CARBOHYDRATE, BLOOD TYPE, PEPTIDE, ENZYME, CLOSTRIDIUM
 PERFRINGENS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--1996/0428

STEP NO--NE/0000/70/012/003/0437/0447

CIRC ACCESSION NO--AP0117664
 UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117664

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF THE CARBOHYDRATE CHAINS OF BLOOD GROUP SUBSTANCE (A PLUS H) (BGS) IN THE REGION ADJACENT TO THE PEPTIDE BACKBONE WAS INVESTIGATED. TWO APPROACHES WERE USED: (1) A STUDY OF THE DEGRADATION OF BGS BY A COMBINATION OF CHEM. AND ENZYMIC (PREPN. FROM CLOSTRIDIUM PERFRINGENS) METHODS, AND (2) A STUDY OF THE ALK. DEGRADATION OF BGS BY MEASUREMENT OF THE ACCUMULATED PRODUCTS OF DEGRADATION OF N ACETYLHEXOSAMINES (3, ACETAMIDO, 5, DIHYDROXYETHYLFURAN) AND D GALACTOSE (HEXASACCHARINIC ACID AND 5, HYDROXYMETHYL, 2, FURAL DEHYDE). THE CARBOHYDRATE PEPTIDE LINKAGE UNIT CONTAINS 2, ACETAMIDO, 2, DEOXY, D, GALACTOSE RESIDUES. DIRECTLY ADJACENT TO THIS REGION IS A CHAIN OF SEVERAL N ACETYLHEXOSAMINE RESIDUES BOUND BY (1 YIELDS 3) LINKAGES AND PARTIALLY BRANCHED AT C 6. FACILITY: INST. ORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr.

00048798

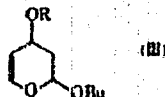
Abstracting Service
CHEMICAL ABST.

470

Ref. Code:

URO366

90198j Synthesis of ethers based on 2-alkoxy-3'-dihydropyrans. Likhoshester, V. M.; Kopytova, L. P.; Krivosheyna, A. N. (USSR). *Zh. Org. Khim.* 1970, 6(1), 180-2 (Russ). The bromination of 2-butoxy-2,3-dihydropyran (I) with *N*-bromosuccinimide in benzene gave a rather unstable 4-bromo deriv. (II) of I, which formed tars in the presence of peroxides, amines, Mg, or during heating. However, II reacted with ROH (R =



Et, Pr, or iso-Pr) contg. KOH to give 4-alkoxy-substituted derivs. (III) of I. CPJR

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REEL/FRAME
19800561

USSR

UDC 662.215.2

ZAKHAROV, S. D., LIKHOV, G. M., MIZYAKIN, S. D., Moscow

"Determination of Dynamic Compressibility of Soil on the Basis of Parameters of Flat Explosive Waves"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 137-140.

Abstract: The dynamic compressibility of soil has been determined on the basis of experimental values of the parameters of flat, cylindrical and spherical explosive waves at stresses generally not exceeding 80-100, sometimes 250 kg/cm². This article presents results of experimental studies of flat waves at stresses of up to 1,000 kg/cm². These data are used to construct a stress-strain diagram corresponding to shock compression at the leading edge of the wave. The degree of compacting of the soil is determined. It is demonstrated that deformations continue to increase behind the leading edge of the wave. The residual deformations are greater than those that occur at the leading edge. This indicates a significant influence of viscous and plastic properties of soils on the wave process.

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1/2 042 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--EFFECT OF SILICON DIOXIDE CONTENT ON THE PHYSICOMECHANICAL AND CATALYTIC PROPERTIES OF HYDROCRACKING CATALYSTS -U-

AUTHOR--ROGOV, S.P., PEREZHIGINA, I.YA., AGAFONOV, A.V., SEMENOVA, YE.S., LIKHOVA, Z.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3), 8-11

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OXIDE CATALYST, ALUMINUM OXIDE, COBALT, MOLYBDENUM, SILICON DIOXIDE, MECHANICAL STRENGTH, PETROLEUM DESULFURIZATION, ISOMERIZATION, PETROLEUM HYDROCRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/2040

STEP NO--UR/0065/70/015/003/0008/0011

CIRC ACCESSION NO--AP0109972

UNCLASSIFIED

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2/2 042

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109972

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SIO SUB2 ADDED TO A COMPO SUB4-AL
SUB2 O SUB3 CATALYST INCREASED ITS CRACKING AND ISOMERIZATION ABILITY,
PRODUCING AN INCREASE IN THE CONVERSION AND IN THE RATIO OF ISO TO N
HYDROCARBONS IN THE GASEOUS AND LIO. PRODUCTS. THE MECH. STRENGTH OF
THE CATALYST WITH ADDED SIO SUB2 INCREASED BY 50PERCENT; ITS PORE VOL.
AND AV. PORE RADIUS ALSO INCREASED. THE DIESEL FRACTION OBTAINED WITH
SUCH A CATALYST HAD A LOWER POUR POINT. THE CATALYST CONTG. 20PERCENT
SIO SUB2 LOST ITS HYDRODESULFURIZATION ACTIVITY MORE RAPIDLY THAN THAT
CONTG. 10PERCENT. SIO SUB2.

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UNCLASSIFIED

USSR

UDC 616.36-092.9-085.849.19

LAGUNOVA, I. G., SAVCHENKO, Ye. D., GARVEY, N. N., LIKHOMETSKAYA, L. I., SHAMAYEVA, G. G., KLIMOV, A. D., and MOGUTOV, V. I., Moscow, Scientific Research Institute of Roentgenology and Radiology, Ministry of Health RSFSR

"The Effects of Neodymium Laser Irradiation on the Rat Liver"

Leningrad, Voprosy Onkologii, Vol 18, No 1, 1972, pp 91-94

Abstract: Single irradiation of a 2 by 5 mm abdominal area over the rat liver with pulsed neodymium laser rays with initial energy of 100-200 joules and incident density of 1000-4000 joules/cm² causes local injury to the liver tissue, ranging from degenerative changes to complete necrosis. Destruction of blood vessels occurs in the central zone and paralytic vasodilation with edema in the peripheral zone. Proliferation of fibroblasts begins after 5 days, and a capsule is formed around the injured area. Connective tissue cells and bile capillaries grow toward the necrotic center along with blood vessels. Eventually, hepatocytes, lymphocytes, and macrophages appear. On the 20th day, the necrotic area is filled with patches of new hepatic parenchyma. After stronger irradiation (3000-4000 joules/cm²), the injury is more severe and recovery slower.

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therapy

USSR

UDC 616-006.81-033.2-085.849.19

LAGUNOVA, I. G., VISHNEVSKIY, A. A., Jr., LIKHOVETSKAYA, I. L., ROZENFEL'D, E. B., and RAZYGRIN, B. A., Institute of Surgery and A. V. Vishnevskiy, Academy of Medical Sciences USSR, and Moscow Scientific Research Institute of Roentgenology and Radiography

"Possibility of Treating Melanoma Metastases With Laser Radiation"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 5, 1971, pp 50-53

Abstract: In a 22-year-old female with multiple metastatic melanomas that did not respond to X-irradiation or chemotherapy, neodymium laser radiation resulted in the rapid destruction of 52 of 58 tumors (90%). During the following 4 months recurrences occurred in only 3 nodes. There were eight radiation sessions extending over a period of 6 weeks, with 10 to 20 tumors treated each time. The patient's condition remained satisfactory throughout. The eschar produced by the radiation fell off spontaneously 14 to 25 days later, revealing a pink soft scar at the tumor site which fell off after 1 to 2 months. The color of the underlying tissue was the same as that of the surrounding skin. Neither combination of X- and laser rays nor multiple-field irradiation produced as good immediate results as did laser radiation alone.

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USSR

UDC 621.38161

LAGUNOVA, I. G., ~~LIKHOVETSKAYA, L. L.~~, VISHNEVSKIY, A. A., ROZENFEL'D, E. B.,
RAZYGRIN, B. A., VANYUKOV, M. P., and MALYSHEV, B. N.

"Irradiation of Metastases of Melanoma By Pulsed Laser"

V. sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch. 203
(Use of Lasers in Contemporary Technology and Medicine. Parts 2-3 -- Collec-
tion of Works), Leningrad, 1971, p 102 (from RZh Elektronika i yeye Primeneniye,
No 2, Feb 72, Abstract No 2A508)

Translation: Melanomas are first among primary malignant tumors which metastasize
to the skin, Use of laser emission in such cases is advisable in view of the
possibility of simultaneous irradiation of several dozen tumor sites. Type
GOS-500 and GOS-1000 pulsed neodymium lasers operating in a free pulse
generation modes were used for irradiation. The output energy of the pulse
fluctuated from 100 to 500 joules. The total density of the incident energy
at the metastatic tumor varied from 1,000 to 5,000 joules/cm². Summary.

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USSR

UDC 621.38:61

SHAMAYEVA, G.G., CHERILOV, V.I., LIKHOVETSKAYA, L.L.

"To The Problem Of The Precision Of Definition Of The Energy Density Of Laser Emission During Irradiation Of Experimental Animals"

V sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch.2-3 (Use Of Lasers In Contemporary Technology And Medicine. Parts 2-3--Collection Of Works), Leningrad, 1971, pp 89-90 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A506)

Translation: The principal factors are considered which influence the precision of definition of the energy density during irradiation, among them the precision of definition of the object distance, the effect of the focal distance of the optical system, and the effect of the curvature of the surface irradiation. Optimum geometrical conditions of irradiation are selected for an energy density in the range of 1,000--10,000 Joule/cm². T.V.

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USSR

UDC: 621.396.6-181.5

BIRYUKOV, V. K., LIKHOVETSKIY, B. P.,

"Making Contact Between Microelements in Flat Micromodules"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry --collection of works), vyp. 1, Moscow, 1971, pp 50-51 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V161)

Translation: The paper deals with problems of making contact joints between microelements by the method of cementing with a current-conducting composition (contactol). It is shown that when the set standards for preparing the contactol are met and the material is properly used, contact joints can be made which are as reliable as soldered joints. Resumé.

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USSR

UDC: 621.396.6-181.5

BIRYUKOV, V. K., LIKHOVETSKIY, B. P.

"Preparation of Contactol and Making Contactol Joints"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry --collection of works), vyp. 1, Moscow, 1971, pp 48-49 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V160)

Translation: The available experience on mounting microcircuits of various types and the results of lengthy and exhaustive testing of these circuits are taken as a basis for developing technological processes of preparing contactol and making contactol microcircuit joints. Resumé.

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USSR

UDC 534

GOLUBENTSEV, A. N., ~~LIKHOVID, P. I.~~

"On a Problem of the Optimization of Transfer Processes for Certain Mechanical Systems"

Dinamika i prochnost' mashin. Resp. mezhved. nauch.-tekhn. sb. (Machine Dynamics and Strength. Republic Interdepartmental Scientific-Technical Collection), 1971, No. 12, pp 90-95 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9A129)

Translation: The problem of optimization of the transfer process in a machine as a mechanical system consisting of a chain of discrete masses connected by elastic links is discussed. The problem reduces to solving a system of independent differential equations of a high order obtained from a system of differential equations of the motion of discrete masses of the system and written with respect to the elastic forces developed in the links during the transfer process. The equations of motion are integrated by constructing Cauchy integrals representing the response of the system to an external load of arbitrary form with preliminary substitution of the initial conditions of motion by an external load equivalent to them. It is shown what conditions the coefficients of the differential

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USSR

GOLUBENTSEV, A. N., LIKHOVID, P. I., Dinamika i prochnost' mashin. Resp. mezhved. nauch.-tekhn. sb., 1971, No. 12, pp 90-95

equation of motion (the parameters of the system) must satisfy in order that the maximum deviation of the elastic force with respect to its absolute value be the least under an external load limited with respect to the modulus. The problem is solved for the case when the characteristic equation has only purely imaginary roots. Authors abstract.

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USSR

UDC 552.1:552.321

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BORUKHOV, M. Yu., KEYTLIN, L. G., KATSOYEVA, F. N., ~~LIKHOYDOV, G. G.~~
KHAMRABAYEV, I. Kh.

"Behavior of Rock During Heating in a Vacuum (Part II. Phase Composition and Physical-Mechanical Properties)"

Uzbekskiy Geologicheskii Zhurnal, No 6, 1971, pp 16-22.

ABSTRACT: The influence of vacuum treatment on the composition of the crystallizing phases of three petrographic types of basic and ultrabasic rocks was studied using nine samples from Western Uzbekistan and Kanchatka. The possibility was established in principle of using the method of crystallization "from the bottom" for satisfactory identification of the crystalline phases formed. It was demonstrated that vacuum heat treatment has a significant influence on the composition of the crystallizing phases. The results of the work performed indicate a method for production of high-quality structural material. Apparently, optimal modes of production of crystalline structures and glasses can be found for each type of mineral raw material, considering changes in the material occurring during heat treatment in a vacuum. High iron and titanium contents of the initial raw material provide high light-protection characteristics of cast products.

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- 63 -

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--BROWNIAN MOTION NEAR THE CRITICAL POINT OF LIQUIDS -U-
AUTHOR-(03)-GITERMAN, M.SH., LIKHT, M.K., SHTEYNBERG, V.A.
COUNTRY OF INFO--USSR
SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(3), 405-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--BROWNIAN MOTION, CRITICAL POINT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1128 STEP NO--UR/0185/70/015/003/0405/0409
CIRC ACCESSION NO--AP0136548
UNCLASSIFIED

2/2 G10

CIRC ACCESSION NO--AP0136548

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPTL. DATA IN THE VICINITY OF
 THE CRIT. REGION AGREE BETTWE WITH THE DEPENDENCE OF THE BROWNIAN
 DIFFUSION COEFF. ON THE VISCOSITY OF THE MEDIUM GIVEN BY D SIMILAR TO
 ETA PRIME0 OR D SIMILAR TO ETA PRIME2 RATHER THAN THE EINSTEIN RELATION
 D SIMILAR TO 1-ETA.
 IZMER., MOSCOW, USSR. FACILITY: INST. FIZ.-TEKH. RADIOTEKH.

UNCLASSIFIED

USSR

UDC 614.73:612.014.482(47)

USHAKOVA, A. P., LIKHTAREV, I. A., and MOISEYEV, A. A.

"'Population Dose' of Irradiation of the Population of the USSR from Global Cs¹³⁷"
Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 54-59

Abstract: An assessment is presented of the "population dose" for the entire Soviet people from incorporated global Cs¹³⁷ ingested with food. The calculations are based on a model suggested by Lindell and subsequently used by the U.N. Scientific Committee on the Effects of Atomic Radiation to determine the amount of Sr⁹⁰ accumulated as a result of nuclear tests. It is concluded that the "population dose" received in the Soviet Union is small as compared to the levels of background radiation. Hence, even a thorough examination of large groups of people would not be likely to reveal a statistically significant increase in the number of genetic and somatic effects due to incorporated Cs¹³⁷. It is noted that the irradiation structure of a people may vary substantially in relation to the specific development of individual subpopulations, traditional local diets, and the presence or absence of so-called hot spots, i.e., regions with an unusual cesium ecology which are characterized by exceptionally high Cs¹³⁷ concentrations in foods of local origin and by the content of this radionuclide in the indigenous inhabitants.

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USSR

KILIKOV, A. V., LIKHTENSHTEYN, G. I., ROZANTSEV, E. G., SUSKINA, V. I., and SHAPIRO, A. B.

"Possibility of Determining the Distance Between Functional Protein Groups by the Spin-Label Method"

Moscow, Biofizika, No 1, 1972, pp 42-48

Abstract: A set of iminoxyl polyradicals with a known structure was used to analyze the possibility of determining the relative position of the spins of iminoxyl fragments from the shape and second moment of the ESR spectra of spin-labeled proteins (egg lysozyme, sperm whale myoglobin, and rabbit muscle myosin) at $T = 77^\circ \text{K}$. The ESR spectra were found to be sensitive to the distance between spins if it did not exceed 17 to 18 Å. (The method of second moments can be used to estimate the distance between iminoxyl fragments in the 8 to 16 Å interval). The spin-label method was used to estimate the distance between the functional groups in lysozyme (histidine and lysine groups), myoglobin (histidine groups), and myosin (sulfhydryl groups). The results in the case of lysozyme and myoglobin were consistent with the X-ray diffraction models of these proteins.

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--POSSIBLE DETERMINATION OF THE SPIN NUMBER OF COMPLEXES IN SOLUTIONS
BY A PARAMAGNETIC PROBE METHOD -U-
AUTHOR-(03)-LIKHTENSHTEYN, G.I., GREBENSHCHIKOV, YU.B., MEDZHIDOV, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 812-14
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METAL COMPLEX COMPOUND, EPR SPECTRUM, PARAMAGNETISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1701 STEP NO--UR/0076/70/044/003/0812/0814
CIRC ACCESSION NO--AP0125322
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0125322
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD IS CONFORMED EXPTL. FOR
A NO. OF 4TH PERIOD METAL COMPLEXES, SHOWING LINEAR RELATION BETWEEN
BROADENING OF THE EPR SPECTRUM OF THE SPIN PROBE AND THE PRODUCT OF
PARAMAGNETIC OCNCN. AND NO. OF UNPAIRED ELECTRONS, GOVERNING ITS
PARAMAGNETISM. FACILITY: INST. KHIM. FIZ., CHERNOGOLOVKA, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THERMODYNAMICS AND KINETICS OF THE REDUCTIVE FIXATION OF MOLECULAR
NITROGEN -U-
AUTHOR-(02)-LIKHTENSHTEYN, G.I., SHILOV, A.YE.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 849-56
DATE PUBLISHED----- 70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CATALYSIS, CHEMICAL REDUCTION, NITROGEN REACTION RATE,
CHEMICAL BONDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1420 STEP NO--UR/0076/70/044/004/0849/0856
CIRC ACCESSION NO--AP0135094
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135094

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GENERAL DIAGRAM OF THE PROBABLE ROUTES OF THE CATALYTIC REDN. OF N SUB2, UNDER MILD CONDITIONS, IS PRESENTED. THE PROCESS REQUIRES THE PRESENCE OF CATALYSTS WITH AN ABS. POTENTIAL, EPSILON, OF 1.4 EV, WHICH FORM, WITH THE N SUB2 MOL., A COMPLEX WITH DOUBLE OR TRIPLE BONDS BETWEEN N ATOMS. THE REDN. OF N SUB2 IS POSSIBLE WITH CATALYSTS HAVING EPSILON AS LOW AS 0.2-0.3 EV, WHEN THESE CATALYSTS FORM A LABILE COMPLEX WITH THE N SUB2 MOL. IN WHICH THE BOND BETWEEN THE TWO N ATOMS IS OF A CHARACTER INTERMEDIATE BETWEEN A DOUBLE AND A TRIPLE BOND. THE MECHANISM OF N FIXING ENZYMES FULFILLS THE DESCRIBED REQUIREMENTS. FACILITY: INST. KHIM. FIZ., CHERNOGOLOVKA, USSR.

UNCLASSIFIED

USSR

UDC 547.952

LIKHTENSHTEYN, G. I., FROLOV, YE. N., NESNAYKO, N. F., LEVCHENKO, L. A., and SKLYAR, YU. S., Institute of Chemical Physics, Academy of Sciences USSR
Moscow

"An Investigation of the Structure of a Modeled Iron-Sulfur Protein by the Method of Spin and Luminescence Labels"

Moscow, Molekulyarnaya Biologiya, Vol 6, No 2, Mar/Apr 72, pp 201-209

Abstract: The research described in the present article concerned the problem of the mutual arrangement and interaction of iron ions in iron-sulfur proteins. Artificial iron-sulfur proteins, synthesized from human serum albumin, were analyzed by the method of spin and luminescence labels, with the aid of an electron microscope, paramagnetic sound, nuclear gamma-resonance, and analytic ultracentrifugation in the density gradient. The spin label method is based on the specific reaction of the iron- and sulfur-containing centers of the given proteins with a paramagnetic iminoxyl derivative of n-chloromercuribenzoate. The luminescence labels method is based on the phenomenon of the migration of energy via an inductive-resonance mechanism between luminescence donor centers and luminescence-extinguishing acceptor centers. The results obtained by both methods indicate that the iron ions do not act as individual active centers, but instead form a
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USSR

LIKHTENSHTEYN, G. I., et al., Molekulyarnaya Biologiya, Vol 6, No 2, Mar/
Apr 72, pp 201-209

polynuclear complex which participates in catalysis as a single unit.
This appears to be an extremely general characteristic of nonhemin enzymes
and carriers.

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USSR

UDC: 51

LIKHTENSHTEYN, V. Ye.

"Discrete Programming Models"

Modeli diskretnogo programmirovaniya (cf. English above.), Moscow, "Nauka", 1971, 240 pp, ill. 62 k. (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V836 K)

Translation: Chapter 1. Conditionally Extremum Problems and Discrete Programming; Chapter 2. Model of Selection of Plan Modifications; Chapter 3. Model of Grouping; Chapter 4. Other Models of Discrete Programming.

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Oncology

USSR

UDC 615.849.19.03:616-006-092.9

KAVETSKIY, R. Ye., SIDORIK, Ye. P. LIGTENSHTEYN, V. Ye., and BYALIK, V. V.
Kiev Institute of Experimental and Clinical Oncology

"Intensification of the Antitumor Effect of Laser Radiation"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/Jun
70, pp 12-17

Abstract: Laser radiation has a necrotizing effect on tumor tissue. In order to study the possible intensification of the antitumor effect of lasers by simultaneous administration of dyes or chemicals, tests were run on Guerin rat carcinoma. The research showed that the greatest retardation in tumor growth could be achieved by combined action of a neodymium laser and intraperitoneal or intravenous administration of Trypan blue. For instance, tumor growth was depressed 91%, instead of 65% when the two agents were used separately. The most active combination for injection into tumors was laser radiation and Janus green. Histological study of tumors after introduction of various dyes showed that changes were similar, and differed from those observed in controls only by a more pronounced tissue edema. Combined application of laser radiation and 5-FU or fluorouracil was effective in a case of Harding-Passy melanoma. The data obtained confirmed that with either combined application or only the laser the focus of necrosis in the ganglia of the erythromyelosis is comparatively slight, whereas along the

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KAVETSKIY, R. Ye., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/June 70, pp 12-17

periphery the tumor tissue retained its usual structure. After combined application, only an insignificant proliferation of connective tissue was noticed. The character of the changes due to combined application of laser radiation with dyes or chemicals was the same as if only the laser had been used; however, the spatial restriction of the disease was greater when the laser was combined with either dyes or chemicals. The specific advantages of using a laser in the impulse mode are shortness of the irradiation period, and the monochromatic character and coherence of the radiation itself.

1/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INTENSIFICATION OF ANTIBLASTIC ACTION OF EMISSIONS OF THE OPTIC
QUANTUM GENERATORS LASERS -U-

AUTHOR--(04)-KAVETSKY, R.YE., SIDORIK, YE.P., LIKHTENSHTEYN, V.YE., BYALIK,
V.V.

COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 3, PP 12-17

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, CHEMOTHERAPY, BIOLOGIC STAIN, IRON COMPOUND, LASER
RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1922

STEP NO--UR/0396/70/014/003/0012/0017

CIRC ACCESSION NO--AP0127323

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127323

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE
POSSIBILITIES OF ENHANCEMENT OF THE ANTIBLASTIC EFFECT OF LASER
RADIATION BY COMBINING THE ACTION OF THE LATTER WITH ADMINISTRATION OF
DYES, CHEMOPREPARATIONS AND IRON IONOPHORESIS UPON THE TUMOUR.
INHIBITION OF THE GROWTH OF GUERREN TUMOUR OF RATS WAS THE GREATEST WHEN
THE ACTION OF NEODYMIUM LASER AND ADMINISTRATION OF TRYPANE BLUE AND
JANUS GREEN WAS COMBINED. A COMBINATION OF LASER RADIATION WITH
THIOTEPA OF FLUOROURACIL PROVED TO BE EFFECTIVE IN CASE OF GARDING PASSI
MELANOMA. THE RESULTS OBTAINED POINTED TO A DEFINITELY SPECIFIC ACTION
OF OPTIC QUANTUM GENERATORS WORKING IN PULSE REGIMEN, THIS BEING
CONDITIONED BY THE BRIEFNESS OF RADIATION, IT MONOCHROMATIC CHARACTER AND
COHERENCE. FACILITY: KIYEVSKIY INSTITUT EKSPERIMENTAL'NOY I
KLINICHESKOY ONKOLOGII.

UNCLASSIFIED

USSR

UDC 612.62

TARAKHOVS'KIY, M. L., SAMBROSKA, E. P., MEDVEDEV, B. M., ZADOROZHNA, T. D.,
OKHRONCHUK, E. V., and LIKHTENSHTEYN, Ye. M., Experimental Department, Kiev
Institute of Pediatrics, Obstetrics and Gynecology, and Physiology Labora-
tory, All Union Institute of Hygiene and Toxicology of Pesticides and
Plastics

"The Effect of Permanent and Alternating Magnetic Fields on Some Physiolog-
ical Functions and Metabolic Processes in White Rats"

Kiev, Fiziologicheskii Zhurnal, No 4, 1971, pp 452-459

Abstract: Exposure of rats for one month to permanent and alternating
magnetic fields (130 to 140 oersteds) significantly altered ovarian func-
tion, blood proteins, hemoglobin, erythrocytes, and hematocrit index.
Morphological changes in the ovaries, liver, and adrenal glands were more
pronounced after the action of the alternating magnetic field. Other
quantitative and qualitative changes suggest that the mechanism of action
of the two types of magnetic fields differs.

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USSR

UDC 621.371.029.4

LIKHTER, Ya. I., MOLCHANOV, O. A., CHMYREV, V. M., RAPOPORT, V. O.,
TRAKHTENGERTS, V. Yu., and CHERNOVITSKIY, V. A.

"Propagation of Signals of a Very Low Frequency Transmitter in the
Outer Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio
Waves; Report Theses; Section 3--collection of works) "Nauka," 1972
pp 134-136 (from RZh--Radiotekhnika, No 10, 1972, Abstract No
10A374)

Translation: Results are given of experiments investigating the
propagation of very low frequency signals in the outer ionosphere.
The signals of a transmitter radiating pulses of 400 and 800 msec
at a frequency of 15 kHz with a repetition period of three seconds
were used. Reception was made at a point magnetically adjacent to
the transmitter, using two ship stations, one of which could have
left the point for a distance of 3000 km. N. S.

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1/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CONCERNING THE PROBLEM OF ASSOCIATED CRANIOCEREBRAL INJURIES IN
CURRENT TRAUMATOLOGY -U-
AUTHOR-(03)-FRAYERMAN, A.P., ZVONKOV, N.A., LIKHTERMAN, L.B.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 4, PP
122-126
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CEREBRUM, INJURY, TRAUMATOLOGY, BLOOD TRANSFUSION,
HEMODYNAMICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0044 STEP NO--UR/0589/70/104/004/0122/0126
CIRC ACCESSION NO--AP0105143
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--160CT70

CIRC ACCESSION NO--AP0105143

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE ANALYSIS OF 367 CLINICAL OBSERVATIONS OF ASSOCIATED CRANIOCEREBRAL INJURIES AND A SERIES OF EXPERIMENTS ON RABBITS, A DETERMINATION OF THE ASSOCIATED CRANIOCEREBRAL INJURY IS GIVEN, AS WELL AS ITS RATIONAL CLASSIFICATION. THE PECULIARITIES OF DIAGNOSIS, CLINICAL COURSE AND SURGICAL POLICY IN SHOCK, OCCURRED DUE TO THE ASSOCIATED CRANIOCEREBRAL TRAUMA IN 36.2PERCENT OF CASES, ARE DISCUSSED. IT IS BELIEVED THAT IN CASE OF SHOCK BLOOD AND BLOOD SUBSTITUTING SUBSTANCES TRANSFUSIONS ARE GREATLY WARRANTED IRRESPECTIVE OF GRAVITY OF CRANIOCEREBRAL TRAUMA AND IN AMOUNTS NECESSARY FOR STABILIZING HEMODYNAMICS.

UNCLASSIFIED

172 018 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--PREPARATION OF AGGREGATE FROM A METALLURGICAL SLAG -U-
 AUTHOR-(04)-YAKUNIN, O.A., LAPINA, V., RUTUS, M.V., LIKHTERMAN, YA.N.
 COUNTRY OF INFO--USSR
 SOURCE--U.S.S.R. 267,438
 REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
 DATE PUBLISHED--01APR70
 SUBJECT AREAS--MATERIALS
 TOPIC TAGS--METALLURGIC SLAG, METAL CRYSTALLIZATION, METAL INCLUSION,
 METAL COOLING, METAL INGOT, METALLURGIC PATENT
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3003/1072
 STEP NO--UR/0482/70/000/000/0000/0000
 ALC ACCESSION NO--AA0130107