

Nuclear Physics

USSR

UDC $\Delta 539.1.073/.074$

BOGS, E. G., MCSIYENKO, A. M., SAN'KO, L. A., TAKIBAYEV, ZH. S., and
TEMPRALIYEV, T. T., Institute of Nuclear Physics, Kazakh SSR Academy of
Sciences, Alma-Ata

"Determination of the Nature of Charged Particles by Delta-Electrons in a
Hydrogen Bubble Chamber"

Pribory i Tekh Eksper, No 4, 1971, pp 64-66

Abstract: The authors discuss the results of a new method of identifying high-energy charged particles by using delta-electrons. The delta-electrons were registered on secondary tracks of four-beam pp-interactions in an 81-cm hydrogen bubble chamber with a primary impulse of 10 GeV/sec. The effectiveness of the method is 4% of the total number of secondary particles; in principle it makes it possible to determine the nature of the particles in the region of impulses greater than 2 GeV/sec where it is practically impossible to make identification by measuring the ionization losses. The authors support their findings with equations and schematics. Figure 1 depicts the impulse spectrum for positive particles and delta-electrons. Figure 2 describes the distribution by the square of the mass for negative and positive particles. Figure 3 shows the impulse spectrum
1/2

USSR

BOOS, E. G., et al., Priory i Tekh Eksp, No 4, 1971, pp 64-66

of particles with an impulse greater than 2 GeV/sec. The article contains 3 figures and 3 bibliographic entries.

2/2

- 110 -

USSR

UDC 617-001.17-07:616.151.5-07

TEMRYAZANSKAYA, R. A., Chair of General Surgery and Chair of Hospital Therapy,
Kuybyshev Medical Institute

"Characteristics of Blood Coagulation in Burn Sickness"

Moscow, Laboratornoye Delo, No 2, 1970, pp 113-114

Abstract: A comparative study was made of the dynamics of blood coagulation in patients with burn sickness and in healthy persons. Results of the investigations are presented in a table which furnishes data on blood coagulation time in minutes, recalcification time in seconds, tolerance of blood to heparin in minutes, prothrombin index in \bar{p} , fibrinogen content in mg \bar{p} , fibrinolytic activity in minutes, and blood clot retraction in \bar{p} . Analysis of the data obtained showed that in most of the patients, during the period of burn infection with cachexia and after skin autotransplantation, there was an increase in blood coagulation, inhibition of fibrinolysis, an increase in fibrinogen content, and a positive reaction to the presence of fibrinogen B in the plasma (which is a pre-condition for thrombogenesis). The activity of factor of the prothrombin complex was lowered, especially as cachexia developed, which may be associated with liver lesions. During convalescence, an increase in fibrinogen content was observed in eight patients, and inhibition of fibrinolytic activity in 11 patients.

1/1

USSR

UDC 547.963.3:616.853:611.8.131

TENCHEVA, Ts. S. and PEVZNER, L. Z., Institute of Physiology, Academy of Sciences USSR, Leningrad

"Effect of Mescaline on the RNA and Protein Content of Cortical Neurons and Their Glial Satellite Cells"

Leningrad, Tsitologiya, No 6, 1973, pp 783-787

Abstract: Topical application of a 3% solution of mescaline sulfate to the cat cerebral cortex (suprasylvian gyrus) produced within 10 minutes a distinct increase in the amount of cytoplasmatic RNA in the neurons of layer II. No significant changes were noted in the surrounding glial cells. After 25 minutes the RNA content was virtually normal. Total protein remained unchanged in the cytoplasm of the cortical neurons 10 minutes after the application of mescaline but increased slightly in the glial satellite cells. After 25 minutes total protein returned to normal in the glial cells but decreased sharply in the neurons. These changes were paralleled by changes in the optical density (concentration) of the substances in the cells, but the size of the latter was virtually unaffected.

1/1

USSR

UDC 615.373:616.927-078.73

TENDETNIK, Yu. Ya., BASOVA, N. N., and STANISLAVSKIY, Ye. S., Central
Institute of Epidemiology and Moscow Institute of Vaccines and Sera imeni
Mechnikov

"Erythrocyte H(d)-Diagnosticum and Its Use in the Passive Hemagglutination
Reaction in Typhoid Fever"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 129-133

Abstract: Soluble H(d) antigen was obtained from deflagellated Salmonella
muenchen and Salmonella mission cells. The H(d) diagnosticum was prepared
by sensitizing sheep erythrocytes with the soluble antigen. The diagnosticum
proved to be highly sensitive and quite specific in the passive hemagglutina-
tion reaction with sera obtained from typhoid patients and from patients with
other infectious diseases (pneumonia, influenza, tuberculosis, dysentery, and
so forth) as well as with sera from healthy persons. The sera from healthy
persons and from patients with diseases other than typhoid reacted weakly
with the diagnosticum (most of the titers did not exceed 1:160). On the
other hand, the erythrocyte H(d) diagnosticum was highly active in the
hemagglutination reaction with sera from typhoid patients; the titer was
1:640 or more in over 75% of the cases.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--OBTAINING AN ADSORBED COMPLEMENT FOR TITRATING BACTERIOLYSINS OF
SALMONELLA TYPHI IN BACTERIOLYSIS -U-
AUTHOR--(3)--TENDETIK, YU.YA., VYDRINA, YE.I., LEVI, M.I.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELC 1970, (3), 186-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, COMPLEMENT FIXATION TEST, BLOOD SERUM, HEMOLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0348

STEP NO--UR/9099/70/000/003/0186/0187

CIRC ACCESSION NO--AP0126104

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0126104

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SERA OF GUINEA PIGS CONTG. NO LESS THAN 50 HEMOLYTIC UNITS OF COMPLEMENT PER 1 ML WERE USED. THE ABSORPTION SUSPENSION WAS PREPD. FROM A CULTURE S. TYPHI 1203 KILLED WITH 10PERCENT FORMALDEHYDE, WASHED AND CENTRIFUGED AT 3000 RPM FOR 1 HR. THE SERUM DILD. 1:10 WAS ADDED TO THE SEDIMENT, THE MIXT. WAS KEPT FOR 0.5-18 HR AT 4-5DEGREES, AND AGAIN CENTRIFUGED AT LOW TEMP. THE LIBERATED COMPLEMENT WAS THEN TESTED BY THE BACTERIOLYTIC REACTION (V. A. KILESSO, ET AL., 1967). BEST RESULTS WERE OBTAINED WITH A 1 HR ABSORPTION WHICH WAS REPEATED TWICE. SHEEP ERYTHROCYTES TREATED WITH FORMALDEHYDE AND SENSITIZED BY HOMOLOGOUS O ANTIGEN WERE ALSO USED SUCCESSFULLY FOR THE ABSORPTION. FACILITY: TSENT. NAUCH.-ISSLED. INST. EPIDEMIOLOG., MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SPECIFICITY OF SEROLOGICAL REACTIONS BASED ON SERUM BACTERICIDITY
-U-
AUTHOR--(05)-RUKHADZE, E.Z., LEVI, M.I., TENDETNIK, YU.YA., PRYAMUKHINA,
N.S., VYDRINA, YE.I.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,
PP 63-68
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SEROLOGIC TEST, DYSENTERY, TYPHOID FEVER ANTIGEN, SALMONELLA
TYPHIMURIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1487

STEP NO--UR/0016/70/000/003/0063/0068

CIRC ACCESSION NO--AP0109547

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109547

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. SPECIFICITY OF BACTERIOLYSIS REACTION WAS STUDIED ON A MODEL OF THE CAUSATIVE AGENTS OF DYSENTERY, TYPHOID FEVER AND TYPHIMURIUM. REACTIONS OF BACTERIOLYSIS AND OF BACTERIOLYSIN NEUTRALIZATION WERE DESCRIBED. SPECIFICITY OF BACTERIOLYSIS PHENOMENON WAS DEMONSTRATED BY THE REACTION OF BACTERIOLYSINS, WHEREAS REACTION OF BACTERIOLYSIN NEUTRALIZATION CAN BE RECOMMENDED FOR DETECTION OF SMALL AMOUNTS OF COMPLETE ANTIGENS OF VARIOUS BACTERIA.

UNCLASSIFIED

USSR

UDC 627.833:626.41(088.8)

ZINEVICH, D. I., TENDLER, V. M., ABRAMZON, A. Z.

"Device for Protection of the Housings of Hinged Gates"

USSR Author's Certificate No 255849, filed 23 Oct 68, published 17 Mar 70,
(from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D159 P)

Translation: A device is proposed for protection of the housings of hinged gates of sluices and docks from ice impact. For increased operating reliability of the hinged gates at negative air temperatures, the device is made with a constantly taut screen which follows the water level. One end of the screen is attached to a spool mounted on a floating eye with a hole located in a guide well in the end of the housing of the gate hinges, and the other is attached to a floating eye capable of being moved along the guide on the hinged end of the gate hinge. In order to keep the screen tight, the device is equipped with a weight connected by a cable to a drum rigidly fastened to the spool. With the gates completely open, the entire screen is wound on the spool, and the weight is dropped to the lowest position. When the gates are closed, the screen is unwound off the spool, the weight rises to the upper position, and the floating eyes which follow the water level in the chamber or race keep the screen at the water level so that the loose pack ice from the chamber does not penetrate to the housings of the gate hinges. There are 4 illustrations.

1/1

USSR

UDC 621.791.75:621.3.014.3:62-229.213.001.5:
669.715

LITVINTSEV, A. I., Candidate of Technical Sciences, KRYUKOVSKIY,
V. N., Candidate of Technical Sciences, and TENENBAUM, F. Z.,
Engineer

"Specifics of the Structure of the Arc Produced in the Pulsed
Arc Welding of AMg6 Alloy"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 8-10

Abstract: The processes which occur in the visible arc during pulsed welding with a melting electrode are analyzed. The arc consists of three zones with characteristic physical and chemical processes. The smooth film around the end of the welding bath and seam consist of a mechanical mixture of atoms of Al, Mg, and MgO, condensed from the vapor phase on the surface of the welded metal. The dull black film formed near the welded seam consists of MgAl₂O₄ and MgO powdered oxides and pure Al and Mg. The oxygen and moisture contained in the Ar protective gas oxidize the Mg vapors. The process of oxidation of metal vapors occurs most strongly in the outer envelope of the arc.

1/2

USSR

LITVINTSEV, A. I., et al., Svarochnoye Proizvodstvo, No 11,
Nov 70, pp 8-10

The primary source of oxygen is moisture absorbed by the surface of the electrode wire. As the absorption capacity of the surface of the electrode wire is decreased by chemical or mechanical processing, the intensity of oxidation of metal vapors in the arc can be significantly decreased.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--RESPIRATORY CONTROL UPON SUDDEN SWITCHING ON NONELASTIC RESISTANCE
-U-
AUTHOR--TENENBAUM, L.A.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49,
NR 6, PP 14-17
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RESPIRATORY PHYSIOLOGY, PNEUMOGRAPHY, RABBIT, MEDICAL
EXPERIMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/0678 STEP NO--UR/0219/70/049/006/0014/0017
CIRC ACCESSION NO--AP0131282
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131282

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS ON QUICK REACTIONS OF RABBIT'S RESPIRATORY SYSTEM FOLLOWING SUDDEN SWITCHING ON NONELASTIC RESISTANCE TO INSPIRATION ARE DESCRIBED. NONELASTIC RESISTANCE OF DIFFERENT VALUES WAS SWITCHED ON AT DIFFERENT PHASES OF THE RESPIRATORY CYCLE, AND ITS INFLUENCE ON THE DIAPHRAGM E. M. G. AND BREATHING CURVE (PNEUMOGRAM) IN ONE OR TWO RESPIRATORY CYCLES IMMEDIATELY AFTER SWITCHING ON WAS INVESTIGATED. THE FOLLOWING EXPERIMENTAL RESULTS WERE ACHIEVED: (1) THE DIAPHRAGM EFFORT DURING INSPIRATION (AS REVEALED BY ITS E. M. G.) DOESN'T CHANGE IMMEDIATELY AFTER SWITCHING ON RESISTANCE. NEVERTHELESS OWING TO PROLONG INSPIRATION THE TIDAL DIAPHRAGM EFFORT WAS INCREASED IN COMPARISON WITH NORMAL CONDITIONS (I. E. WITHOUT RESISTANCE). (2) IN SPITE OF INCREASED TIDAL EFFORT THE TIDAL VOLUME DECREASED IN COMPARISON WITH NORMAL CONDITIONS. (3) THE EFFECT OF RESISTANCE QUANTITATIVELY DEPENDS ON THE RESISTANCE VALUE AND PHASE OF ITS SWITCHING ON. THUS, MORE RESISTANCE RESULTED IN A MORE PROLONGED INSPIRATION AND A MORE DECREASED TIDAL VOLUME. SIMILARLY, THE RESISTANCE WHICH WAS SWITCHED ON BEFORE INSPIRATION RESULTED IN A MORE PROLONGED INSPIRATION WITH A MORE DECREASED TIDAL VOLUME THAN THE RESISTANCE WHICH WAS SWITCHED ON DURING INSPIRATION. THE RESISTANCE WHICH WAS SWITCHED ON BEFORE ENDING OF INSPIRATION DID NOT RESULT IN ANY EFFECT. THE ABOVE MENTIONED EXPERIMENTS GIVE AN OPPORTUNITY TO CONCLUDE, THAT THE DURATION OF INSPIRATION IS A FUNCTION BOTH OF THE LUNG VOLUME AND THE EFFORT EXERTED BY THE RESPIRATORY MUSCLES.

FACILITY: INSTITUTE OF AUTOMATION AND TELEMCHANICS OF THE ACADEMY OF SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 577.4

TEMENGOLOVA, G. M., KHARELASHVILI, G. I.

"An Algorithm for Determining the Distance of Cyclic Codes Correcting Arithmetic Errors"

Tr. In-t prikl. mat. Tbilis. un-ta (Works of the Institute of Applied Mathematics of Tbilisi University), 1972, No 2, pp 285-300 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V444)

Translation: On the basis on the method of finding cycle representatives, an algorithm is presented for determining the distance of cyclic codes which correct arithmetic errors. Tables are presented which characterize the weighted spectrum for AN-codes for which $\Lambda = (2^e - 1)/p$ where $e \neq p - 1$ (Table

1) or $\Lambda = (2^{p_2-1} - 1)/p_1 p_2$ and 2 is the primitive root modulo p_i ($i = 1, 2$), $(p_1 - 1)/(p_2 - 1)$ (Table 2).

1/1

TENIN, M. B.

Radio engr

SP. JPRS 57443
01 June 1974

Cover

PROBABILITY OF MAINTAINING THE ORIGINATING
DENSITY OF A PROCESS AT THE OUTPUT OF AN IFS SYSTEM
DOC 6227.7-056,6-6921

H. A. Tenin, Engineer

Naval Electronics

Report No. 146

In the preceding articles of this section, the statistical character-
istics of the process at the output of an IFS (interfered transmission) sys-
tem were found under the assumption that there is no delay at the input in the
form of a narrow random process with a constant value. It is shown in the
present article that the statistical characteristics of the process at the
output of the IFS are significantly different from those of the input signal
if the delay at the input is not negligible. The delay at the input is
described by an exponential distribution of values. It is shown that the
statistical characteristics of the process at the output of the IFS are
significantly different from those of the input signal only in a
proportional case correct under the condition of small variation of the small-
signal phase ϕ .

For an unknown signal phase, the exponential distribution must be assumed
in accordance with the signal phase distribution. The conditions when the ex-
ponential distribution may turn out to be rapidly convergent.

In some cases of using IFS systems, it is extremely desirable to have
a narrow-band normal noise as the signal of the signal, instead of detuned wide
processes. This model is not admitted for describing processes in a narrow
with external coherence where the noise is a uniform field of small independent
reflections. In a paper with internal coherence the model of the signal is
suitable if the latter comprises reflecting surfaces of small independent
without predominance of any one of them. As a result of small independent
operation of each one, and so on, variation of the individual reflections takes
place. If a number of processes is used as the noise of the target noise, the
the exponential distribution of the signal phase is not maintained. The
the exponential distribution of the signal phase is not maintained. The
also by a normal process, the exponential signal will be noisy by superimposed
noise of the article of this section beginning on page 141, two covers. The
distributed circumstances of the article factor at the time $t = \tau$, and $t = 2\tau$
be written in the following form:

TENIN, M. B.

RADIO eng

SO: JPRS 50193
01 JUNE 92

DOC 639,7455-6,001

JOINT PROBABILITY DISTRIBUTION THEORY OF THE
THE SIGNAL AND CORRELATED NOISE IN INTERFERED
P. A. HANLEY, Candidate of Technical Sciences
H. B. FERIN, Engineer

Pages 15-16

Recently, a number of papers and articles have appeared in which the
linear properties of the signal and correlated noise are presented, in
particular, the joint probability distribution of the signal and
noise is considered. In reference [1, 2] in the preceding
article of our collection, it was demonstrated that the joint probability
distribution of the signal and noise can be obtained by using the joint
probability distribution theory of the signal and noise in the
interval. Although there are papers [3, 6, 7, 8, 9 and 10] containing
identical fundamental results with respect to the joint probability
distribution of the signal and noise, the papers [11, 12] contain
analyses of the statistical properties of the amplitude difference, mean
square difference and phase difference.

In the present paper a study was made of the statistical properties of
the signal and correlated noise by finding the joint probability density of
the phase difference and amplitude difference of the sum of the signal and
noise in unimpeded transmission or compensation (TSC) devices under
interference.

The collected model corresponds to using the phase method with external
coherence and the excess of the intensity of the external correlated noise over
the level of the external noise of the receiver (reference [1]).

The signal from a point target in the receiving channel can be expressed in the form

$$s(t) = U_0 \cos(\omega_0 t - \varphi)$$

(1)

GUARD TENIN, M.B.

SO: JPRS 56143
01 JUN 1972

UDC 629.7.039.6.001

PROBABILITY DISTRIBUTION DENSITY OF THE AMPLITUDE
DIFFERENCE OF THE SUM OF THE TARGET SIGNAL
AND CORRELATED NOISE

P. A. Babulev, Candidate of Technical Sciences
M. B. Babulev, Engineer

Pages 156-162

Radio Engng

In the article on "Joint Probability Distribution Density of the Amplitude and Phase Difference of the Sum of the Signal and Correlated Noise in Interfered Communication Devices" the joint probability distribution density of the amplitudes and phase difference of the sum of the signal and correlated noise was obtained. In order to obtain the probability distribution density of only the amplitude difference of the sum of the signal and noise it would be possible to integrate the expression for the joint probability density of the amplitudes and phase difference with respect to all possible values of the phase difference. However, this operation encounters serious mathematical difficulties as a result of the complexity of the initial expression. Therefore, in the present paper the desired expression for the probability distribution density of the amplitude difference is found by integration of the general expression with respect to the phases ϕ_1 and ϕ_2 on the basis of the general expression (11) on page 150 for the four-dimensional probability distribution density of the amplitudes and the phases of the sum of the target signal and noise at two points in time t and $t - \tau$.

USSR

UDC 621.396.969.35:621.391.84

TENIN, M. B.

"On the Problem of Analyzing the Probability Density Function of the Process at the Output of a Period-by-Period Subtraction System"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1971, vyp. 207, pp 209-216 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G22)

Translation: The paper shows the feasibility of using a model of a signal in the form of a normal narrow-band process in evaluating the statistical characteristics of a signal at the output of a signal-by-signal subtraction system. Expressions are found for the joint probability density functions for the phase and amplitude differences of the signal. These expressions are suitable for engineering estimates. An expression is derived for the moments of distribution of the amplitude difference. Bibliography of four titles. Resumé.

1/1

- 55 -

USSR

UDC 547.242

GATILOV, Yu. F., YAMBUSHEV, F. D., TENISHEVA, N. Kh., Kazan' Pedagogical Institute

"The Effect of Substituents in the Aromatic Nucleus on the Optical Activity of Tertiary Arsines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2273-2275

Abstract: A series of ethyl-o-, m-, and p-bromophenyl-p-tolyl, ethyl-o-, m-, and p-bromophenyl-p-carboxyphenylarsines has been synthesized and their properties were investigated; separation of optically active isomers has been achieved and their structures were proven by IR- and PMR spectroscopical analysis. It has been shown that the optical activity of tertiary dialkylarylsines is closely related to the position of the substituent in the neighboring aromatic nucleus. Its value decreases going from ortho to meta to para derivatives.

1/1

- 21 -

USSR

UDC 547.242

GATILOV, Yu. F., YAMBUSHEV, F. E., and TENISHEVA, N. Kh., Kazan' Pedagogic Institute, Kazan'

"Synthesis and Properties of Alkylarylaminophenylarsines and Their Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 43, No 11, Nov 73, pp 2405-2407

Abstract: By reacting in a benzene solution ethyl-p-tolylchloroarsine and o-, m-, or p-aminobromobenzene with Na, the corresponding alkylarylaminophenylarsines $\text{Et}(\text{p-MeC}_6\text{H}_4)\text{AsC}_6\text{H}_4\text{NH}_2$ (I) were prepared. The diarsines $\text{Et}(\text{p-MeC}_6\text{H}_4)\text{AsAs}(\text{C}_6\text{H}_4\text{Me-p})\text{Et}$ and diaminobiphenyls $\text{H}_2\text{NC}_6\text{H}_4\text{C}_6\text{H}_4\text{NH}_2$ formed as byproducts.

Compounds I were dark-red liquids with b. p. 90° (5 mm), 127° (5 mm), and 140° (5 mm) for the o-, m-, and p-amino derivative, respectively. Upon the reaction with H^+X^- ($\text{X}^- = \text{Cl}^-, \text{NO}_3^-, \text{HSO}_4^-$), compounds I formed the salts $[\text{Et}(\text{p-MeC}_6\text{H}_4)\text{AsC}_6\text{H}_4\text{NH}_3]^+\text{X}^-$

1/1

- 41 -

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INFRARED SPECTRA AND CLASSIFICATION OF RARE EARTH ORTHOGERMANATES
-U-
AUTHOR--(04)-TENISHEVA, T.F., LAZAREV, A.N., BONDAR, I.A., PETROVA, M.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 766-72
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS, CHEMISTRY
TOPIC TAGS--IR SPECTRUM, SPECTROSCOPIC ANALYSIS, CRYSTAL STRUCTURE,
GERMANIUM COMPOUND, SILICATE, RARE EARTH COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0902

STEP NO--UR/0363/70/006/004/0766/0772

CIRC ACCESSION NO--AP0131488

UNCLASSIFIED

PROCESSING DATE--04DEC70

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0131488

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR ABSORPTION SPECTRA OF GERMANATES OF THE COMPN. 4LN SUB2 O SUB3 .9GEO SUB2, LN SUB2 O SUB3 .GEO SUB2, AND 2LN SUB2 O SUB3 .GEO SUB2 WERE INVESTIGATED. COMPS. OF THE COMPN. 7LN SUB2 O SUB3 .9GEO SUB2 AND 2 STRUCTURAL TYPES OF COMPS. OF THE COMPN. LN SUB2 O SUB3 .GEO SUB2 ARE SIMILAR IN CRYSTAL STRUCTURE TO THE CORRESPONDING SILICATES. THE STABILITY OF THESE COMPS. WERE EXAMD. AS A FUNCTION OF THE TEMP. AND RADIUS OF THE CATION. IN COMPARISON TO THE CORRESPONDING SILICATES, THE STABILITY OF THE GERMANATES DECREASES WITH DECREASING CONC. OF GEO SUB2. ANAL. OF IR SPECTRA FOR COMPS. OF THE COMPN. 2LN SUB2 O SUB3 .GEO SUB2 LEAD TO THE STRUCTURAL FORMULA LN SUB4 (GEO SUB4) O SUB4, AND TO THE IDENTIFICATION OF 2 TYPES OF CRYST. STRUCTURE. FACILITY: INST. KHIM. SILIKAT. IM. GREBENSHCHIKOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--EFFECT OF THE R SUB3 SI GROUP ON THE CHEMICAL STRUCTURE OF SILICON
SUBSTITUTED ALKOXYACETYLENES AND KETENES -U-
AUTHOR--(04)--LAZAREV, A.N., TENISHEVA, T.F., SHCHUKOVSKAYA, L.L., PALCHIK,
R.I.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1106-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOSILICON COMPOUND, ACETYLENE, KETONE, CARBONYL RADICAL,
MOLECULAR ORBITAL, DIPOLE MOMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/2025 STEP NU--UR/0020/70/190/005/1106/1108
CIRC ACCESSION NU--AT0112980
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0112980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING VALUES WERE CALCD. FROM SPECTRAL DATA FOR RR PRIME1 C:CO RESP. FOR INDICATED RR PRIME1 (CARBONYL BOND FORCE CONST. (X IO PRIME6 CM PRIME NEGATIVE2), C:C BOND FORCE CONST., SUMMARY POLAR TAFT CONST. GIVEN): H, H, 26.95, 14.3, 0.98; ME, ME, 26.47, 14.65, 0; ME SUB3 SI, H, 25.22, 14.8, MINUS 0.23; AND ME SUB3 SI, ME SUB3 SI 23.24, 16.27, MINUS 1.44. THE VALUES OF FORCE CONSTS. WERE SIMILARLY CALCD. FROM SPECTRA OF HC TRIPLE BOND COME AND ME SUB3 SIC TRIPLE BOND COME, RESP., FOR INDICATED BONDS: R-C (C(H SUB3) 8.0, 7.2. THE APPARENT DIFFERENCE IN THE EFFECT OF THE ME SUB3 SI GROUP IN ALLENES AND ACETYLENES INDICATES A GREATER ENERGETIC ADVANTAGE IN THE CASE OF ACETYLENES OF THE ELECTRON ACCEPTANCE AT THE ORBITALS OF SI TO YIELD A FORMAL STRUCTURE SUCH AS SI PRIME NEGATIVE:C:C:O POSITIVE IN COMPARISON WITH A SIMILAR PROCESS IN THE ALLENES. THE INDICATIONS AGREE WITH EARLIER DIPOLE MOMENT DATA. FACILITY: INST. KHIM. SILIKAT. IM. GREBENSHCHIKOVA, LENINGRAD, USSR.

UNCLASSIFIED

TENKAYEVA, V.N.

53: ITR 5829
14 June 73

STUDY OF THE GROWTH CONDITIONS AND PROPERTIES OF SILICON FILMS DEPOSITED BY THE CHLORIDE METHOD

20-574-6062-20; 7.01.60-615

Article by Z. I. Kip'yashkina, D. I. Zaslavskiy, V. N. Tenkayeva, Yu. V. Galina, N. M. Zhukova, I. B. Solov'eva, V. N. Tenkayeva, Novosibirsk, Priborostroyeniye, Novosibirsk, 1973, pp 02-03

Polycrystalline semiconducting films are of declined interest. The intercrystallite barrier insure a high specific resistance (to 10¹⁰ ohm-cm) of the silicon films serving as insulating in the integrated circuitry and the surface roughness permits the creation of a resistive contact which is the core (by comparison with the epitaxial growth) facilitates the realization of the multilayered semiconducting structures during the first period after diffusion reduction of the adhesion (diffusion from the substrate). below, there is a discussion of the results of studying the effect of the technological conditions of the polycrystalline silicon film growth on their electrophysical parameters.

Procedure for obtaining and studying films

The silicon films were obtained by the chloride method [1-3] in the horizontal open tube with an electric furnace as the heater. The temperature distribution along the furnace appears in Figure 25. The substrates used were silicon quartz and polycrystalline silicon. The substrates were cleaned by the deposition from. The temperatures evaporators of the parallel flow design were used: bubbling and nonbubbling. The total hydrogen flow was 1 liter/hour with a reactor diameter of about 20 mm; here, the evaporator went through the evaporator with flow of 20 liters/hour, and 10 liters/hour

The thickness of the grown layers of silicon was estimated by the gravimetric method. A study was also made of the electrophysical, the optical and structural properties of the films.

T
USSR

UDC 621.355.8

TEN'KOVSEV, V. V. and BOLDIN, R. V.

"Operating Regime and Service Life of Hermetic Cadmium-Nickel Medium-Sized Storage Cells"

Sb. rabot po khim. istochnikam toka. N.-i. akkumulyatorn. in-t (Collection of Works on Chemical Sources of Current, Scientific Research Storage Battery Institute), 1969, No 4, pp 56-66 (from RZh-Khimiya, No 1(II), 10 Jan 70, Abstract No 1 L 256)

Translation: Results of tests made on Cd-Ni storage cells of the KMG and KMGK types are described. The main factors leading to the premature loss of capacity (overchargings, high cycling intensity, and high terminal discharge voltage) were determined and operating regimes are proposed which avoid this loss (shallow cycling at a charging level ~70%, cycling with periodic deep discharges, successive execution of several charging-discharging cycles to full depth, etc).

V. S. Levinson

1/1

Pharmacology and Toxicology

USSR

SENOV, P., Professor, Honored Scientist of RSFSR, TENTSOVA, A., Docent, and
AZHGIKHIN, I., Doctor of Pharmaceutical Sciences

"Biopharmacy"

Moscow, Meditsinskaya Gazeta, 15 May 70, p 3

Translation: Modern pharmacy is characterized by a revision of the concepts of the content and prospects of development of a number of disciplines related to the production and analysis of drugs. For example, in the last few years a new branch has emerged and formed: biopharmacy. This branch of pharmaceutical science deals with the relationships between the physicochemical properties of drugs in concrete medicinal forms and their biological action. The objective of biopharmacy is to investigate the effect of the assembled state and degree of dispersion of drugs, the effect of potentiating substances, the form of the drug and means of administration, the effect of manufacturing technology and other factors on the effectiveness of drugs, as well as processes of absorption, accumulation and excretion of preparations and their metabolites from the organism.

It would be difficult to overestimate the importance of biopharmaceutical research

1/7

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

to the technology of drug manufacture and use. It is important to the patient, for example, how often insulin is administered: once or 2-3 times in one to 1.5 days. It all depends on the technology of manufacturing the preparation: if a suspension is prepared from microcrystalline insulin, it acts for 30-36 hours, and if from amorphous insulin, it acts for 12-16 hours. Potentiating substances also influence the therapeutic effect of drugs: estradiol benzoate administered in the form of an oil solution acts for only three days; but if the oil is replaced by water, the duration of action extends to three weeks. It was found that even traces of talcum retard absorption of phenacetin. All antibiotics of the tetracycline group are very poorly absorbed if potentiating substances containing ionogenic calcium or magnesium are added in the manufacture of tablets.

Biopharmaceutical investigations quite often permit not only a significant decrease in the side effects of a preparation, but also render the technology of manufacturing it more rational and profitable. It was found, for example, that if acetyl salicylic acid is pulverized 20-30 times more, half the dosage can be prescribed. This also applies to levomysetin.

2/7

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

The choice of the optimum form of the drug and rational means of administration constitute the focal problem of biopharmaceutical research. Thus, indomethacin in tablet form, which is highly effective in treatment of osteoarthritis, often causes injury to the gastrointestinal tract and nervous system disorders. But if it is prescribed in the form of rectal suppositories, the digestive system is not involved, and there are considerably fewer complications with respect to the central nervous system.

At the present time, the intensity of biopharmaceutical research is growing throughout the world. In our country, for a number of years it has been pursued at the clinics and laboratories of the First Moscow Medical Institute imeni I.M. Sechenov, and the Central Pharmaceutical Scientific Research Institute of the USSR Ministry of Health.

It is possible to diminish or completely eliminate specific side effects of psychotropic agents by altering the means of administration. At the Psychiatric Clinic imeni S. S. Korsakov of the First Moscow Medical Institute (with the participation of the Chairs of Drug Technology and Pharmaceutical Chemistry), as well as at the Central Pharmaceutical Scientific Research Institute, studies

3/7

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

are in progress on the effect of means of administration and drug form on the rate of absorption of the best-known neuroleptic agents: levomepromazine and triflazin. A very interesting fact was discovered with respect to absorption and elimination of these agents: in the case of oral administration, they both usually appear in the blood within 30 minutes. On the first day, 6-20 percent of the ingested dose is excreted in the urine. Excretion in the urine continues for 6-8 days after a single orally ingested dose. During this time, none of the agent was found in the blood in any of the cases. When prescribed by rectum in the same doses, the drugs are found in the blood within 10-15 minutes, and in the urine within 5-10 minutes; 30-40 percent of the administered drug is excreted in the urine in the first 24 hours, and the excretion process terminates within 3-4 days.

Thus, using various methods of administering these agents, physicians can regulate their level in the blood and the duration of circulation. This is of decisive importance not only in choosing the most rational drug, but also in preventing side effects. All this indicates the need to find means of rational prescription and dosage of psychotropic agents.

4/7

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

In the skin disease clinic of the First Moscow Medical Institute, a study was made of the effect of potentiating substances, the drug form and means of administration on the effectiveness of calcium pangamate for different forms of sclerodermia. It was proven that only with prolonged rectal administration is it possible to observe a distinct therapeutic response to the drug.

At the Central Pharmaceutical Scientific Research Institute, a study has been made of the effect of means of administration on effectiveness of prednisolone, triamcinolone, choriogonin, butadione and amidopyrine. They are usually prescribed by mouth, and choriogonine is usually administered parenterally. Steroid hormones administered per os often induce serious complications, which are particularly frequent when prescribed for a long time. They are excreted through the intestine in this case. Rectal administration of steroids provides the same therapeutic response and the same level in blood plasma, but in this case there are absolutely no lesions of the gastrointestinal tract, since much of the preparation is excreted in the urine. It was also found that rectal administration of choriogonin is just as effective as parenteral. Therapeutic doses of butadione, and particularly of amidopyrine, must be considerably reduced when administered by rectum to children.

577

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

At the laboratory of anesthesiology of the Scientific Research Institute of Clinical and Experimental Surgery of the USSR Ministry of Health, data have been obtained which indicate that the effect of premedication depends significantly on the means of administration of drug preparations.

Thus it has been proven that to affect a pathological process successfully, one must know how absorption, distribution and accumulation of the preparation proceed when using various drug forms and different means of administration. Only in this case will drug intervention be rational and reach its mark.

One of the burning problems in modern pharmacy is stabilization of drugs. The most acceptable physical methods of stabilization, particularly of protecting unstable drugs, consist of using various membranes, protective solutions, and buffers.

Researchers are displaying equal resourcefulness in developing long-acting drugs. For example, "enclosed" tablets, which travel without changing through the digestive tract, release drugs throughout its length. Tablets have also been proposed that consist of dozens of layers (up to 50) each of which disintegrates

6/7

USSR

SENOV, P., et al, Meditsinskaya Gazeta, 15 May 70, p 3

at strictly specific pH values, or in the presence of the appropriate enzymes; there are injections which, at the site of administration, after diffusion of the solvent, gradually release crystals of different size, etc.

Much attention is being devoted by pharmacists to materials for packaging and sealing drugs.

And, finally, one must take into consideration the distinctive features of drug action as related to the patient's age.

7/7

USSR

UDC 621.382.95:535.371

RYZHIKOV, I.V., EUNYAYEV, V.A., FOMENKO, G.P., VORONIN, V.G., KMITA, T.G.,
PRONIN, B.V., KHOZHLAGHEV, K.I., KRUGLOV, I.I., MIKHAYLOV, V.V., TENYAKOV, YE.I.

"Voltampere And Lumensampere Characteristics Of Silicon Carbide Light Diodes With High Current Density"

V sb. III Vses. konferentsiya po poluprovodnikov. karbidy kremniya (III All-Union Conference On Semiconductors Of Silicon Carbide), 1968, Moscow, 1970, pp 116-126 (from RZh--Elektronika i yeya primeneniye, No 1, January 1971, Abstract No 1B301)

Translation: Light diodes were investigated, obtained by diffusion of Al and B into n-SiC (6H) at 2000° C (for 40 minutes) and by diffusion of B alone for 10 minutes. The resistivity of the source material is 0.01--0.3 ohm.cm. The circuit for measurements, the experimental results and their consideration are presented. It is established that the voltampere characteristics with a current density 1-5000 a/cm² are described by the expression $I = AV^n$ ($n = 1.6--1.2$), and the lumensampere by $L = I^n$ ($n = 0.55--0.7$). Such dependences are the consequence of a radiative and nonradiative recombination of the carriers in all the regions of the p-n-n⁺ diode. A deviation is observed from the theory connected with the capture of majority carriers by fine centers of attachment. 7 ill. 10 ref. N.S.

1/1

- 74 -

1/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--SEPARATION OF IRON III AND ALUMINUM FROM COPPER, NICKEL, COBALT,
CADMIUM, AND ZINC USING ETHYLENEDIAMINE -U-
AUTHOR--(03)-TEODOROVICH, I.L., MECHOS, KH.Z., GUTNIKOVA, R.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 526-31

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALUMINUM, COPPER, METAL CHEMICAL ANALYSIS, NICKEL, COBALT,
CADMIUM, ZINC, CHEMICAL PRECIPITATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0381

STEP NO--UR/0075/70/025/003/0526/0531

CTRC ACCESSION NO--AP0126136

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126136
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE COPPTN. OF CU(II) AND ZN(II) WITH FE(OH) SUB3 AND AL(OH) SUB3 WAS STUDIED IN ORDER TO ELUCIDATE THE INTERACTION OF SOME BIVALENT METALS WITH PPTS. IN THE PRESENCE OF ETHYLENEDIAMINE AND NH SUB4 OH. WHEN MACROAMTS. OF FE(III)-CU(II), FE(III)-ZN(II), AL(III)-CU(II), AL(III)-ZN(II) ARE SEPD. WITH ETHYLENEDIAMINE, THE COPPTN. OF BIVALENT CATIONS DECREASED CONSIDERABLY. THE COPPTN. OF CU WITH FE(OH) SUB3 AND AL(OH) SUB3 IS DUE TO ADSORPTION. THE COPPTN. OF ZN WITH FE(OH) SUB3 IS DUE TO THE FORMATION OF A CHEM. COMPD. AT A ZN:FE RATIO OF 1:1. ON THE COPPTN. OF ZN WITH AL(OH) SUB3 THE FORMATION OF CHEM. COMPS. OF THE VARIABLE COMPN. AT A ZN:AL RATIO FROM 1:1 TO 1:2 CAN BE OBSERVED. AT SMALL ZN(II) CONCNS. THE COPPTN. OF ZN WITH FE(OH) SUB3 AND AL(OH) SUB3 MAY ALSO BE DUE TO ADSORPTION.

FACILITY: INST. CHEM., TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 620.173.251.1

GORB, M. L., MAREK, B. A., TEODOROVICH, O. K., Kiev

"Compressive Strength of Reinforced Copper-Tungsten Fiber Material"

Problemy Prochnosti, No 11, 1971, pp 95-97.

ABSTRACT: Results are presented from comparative compressing testing of material based on copper, reinforced with high-strength tungsten fibers, and metal ceramic materials with the same volumetric content of components. It is demonstrated that the compressive strength of the reinforced material at room temperature is double the strength of the metal ceramic material. The mechanism of rupture of the reinforced material is described schematically.

1/1

- 79 -

USSR

UDC 577.1:615.7/9

CHAPLYGINA, Z. A., ~~TEODOROVICH, V. P.~~, SEDOVA, L. A.,
TKHORZHEVSKAYA, Z. S., ~~MIRNYLOVA, L. G.~~

"Investigation of the Properties of Certain Synthetic Polymers
and Copolymers to Determine Their Physiological Activity"

Riga, V sb. Fiziol. i opticheski aktivn. polimern. veshchestva
(Physiologically and Optically Active Polymer Substances--
collection of works), "Zinatne," 1971, pp 82-88 (from RZh-
Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F2189)

Abstract: The authors investigated certain biological properties
of polyvinyl alcohol (I), polyvinyl-pyrrolidone (II), and also
copolymers of vinylpyrrolidone with crotonaldehyde (III) with
various degrees of substitution. It is shown that solutions of
low-molecular I and II (molecular weight 10,000 and 12,000) and
also III with a 5 percent degree of substitution are not toxic for
mice. The toxicity of III increases when the degree of substitu-
tion is raised to 25 percent. Data are given on the concentration
of I and II with different molecular weights in the blood. The
main path of elimination is through the kidneys; an insignificant
1/2

USSR

CHAPLYGINA, Z. A., et al, V sb. Fiziol. i opticheski aktivn. polimern. veshchestva, "Zinatne," 1971, pp 82-88

amount penetrates into the tissues. Compound (I) actuates the reticulo-endothelial system on the tenth day after injection, and III throughout the entire period of the observations (3 hours to 20 days). It is shown that the polymers have a detoxifying effect which is associated in the opinion of the authors with the presence of aldehyde groups.

2/2

- 6 -

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PURIFICATION OF WASTE WATERS BY USING OIL SHALE ASH -U-
AUTHOR--(02)-MOLDER, H., TEPAKS, L.
COUNTRY OF INFO--USSR
SOURCE--BUM. PROM. 1970, (5), 18-19
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--PAPER INDUSTRY, INDUSTRIAL WASTE, WATER POLLUTION, WATER
PURIFICATION EQUIPMENT, OIL SHALE, CALCIUM OXIDE, OXIDATION, LIGNIN

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605002/C04 STEP NO--UR/0329/70/000/005/0018/0019
CIRC ACCESSION NO--AP0139427
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139427

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SYSTEM FOR 2 STAGE PURIFICATION OF KRAFT MILL EFFLUENTS HAS BEEN DEVELOPED. PRELIMINARY PURIFICATION OF WHITE WATER IN A WACO FILTER AND DEODORIZATION OF BLACK LIQUOR BY AERATION GIVEN PRODUCTS WHICH ARE COMBINED FOR FURTHER 2 STAGE PURIFICATION. THE COMBINED EFFLUENT HAS A BOD SUBS OF SIMILAR TO 200 MG-L. THE 1ST PURIFICATION STAGE CONSISTS OF TREATMENT WITH OIL SHALE ASH, AS A CAO CONTG. REAGENT, TO CAUSE COAGULATION AND REDN. OF COLOR. THIS REDUCES THE BOD BY 13PERCENT, AND THE VOL. OF THE SLUDGE IS SIMILAR TO 15PERCENT OF THE INITIAL EFFLUENT VOL. IN THE 2ND STAGE, THE PARTIALLY PURIFIED EFFLUENT SEPD. FROM THE SLUDGE IS TREATED WITH HS UB2 SO SUB4 TO LOWER ITS PH AND, AFTER ADDN. OF NUTRIENT SALTS, IS SUBJECTED TO BIOL. PURIFICATION IN TANKS WITH LOW INTENSITY AERATION. THE OVERALL REDN. OF BOD IS 88PERCENT, OF COD 65PERCENT. IN THE INDUSTRIAL PURIFICATION EQUIPMENT, THE 1ST STAGE PURIFICATION IS COMBINED WITH HYDRAULIC REMOVAL OF EXCESS ALKALI FROM OIL SHALE ASH. ADVANTAGES OF THE PROCESS ARE ELIMINATION OF THE NEED FOR LIME, LOWER POWER CONSUMPTION FOR AERATION, AND A 65PERCENT REDN. OF THE ORG. COMPS. IN THE EFFLUENT WHICH ARE DIFFICULT TO OXIDIZE (MAINLY LIGNIN). FACILITY: TALLIN. POLITEKH INST., TALLIN, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PHYSICOCHEMICAL AND BIOLOGICAL PROPERTIES OF SEPARATE FRAGMENTS OF
THE THYROID CALCITONIN MOLECULE -U-
AUTHOR--(C4)--STEKOLNIKOV, L.I., FEPELINA, C.M., ABDUKHARIMOV, A.,
KONOPATSKAYA, V.M.
COUNTRY OF INFO--USSR
SOURCE--DUKL. AKAD. NAUK SSSR 1970, 191(2), 476-9, BIOCHEM
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--THYROID HORMONE, HYDROLYSIS, FRACTIONATION, CALCIUM COMPOUND,
METABOLISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1488 STEP NO--UR/0020/70/191/002/0476/0479
CIRC ACCESSION NO--AT0130417
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NU--A0130417

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOUR POLYPEPTIDE FRAGMENTS OF BOVINE THYROCALCITONIN, OBTAINED BY ACID HYDROLYSIS, WERE ASSAYED FOR HYPICALCENIC ACTIVITY ON RATS. THE MOST ACTIVE FRAGMENT CONTAINED A REGION IN WHICH ALANINE, TYROSINE, AND TRYPTOPHAN RESIDUES OCCURRED CONSECUTIVELY. SWINE THYROCALCITONIN ALSO CONTAINS A REGION WITH THIS SEQUENCE, INDICATING THAT THIS MAY BE THE ACTIVE SITE OF THE HORMONE.

FACILITY: VSES. NAUCH.-ISSLED. INST. ANTIBIOT., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 612.441.018:(612.126.41.612.126.18)

STEKOL'NIKOV, L.I., TEPELINA, O.M., AEDUKARIMOV, A., and KONOPATSKAYA, V.M.,
All Union Scientific Research Institute of Antibiotics, and Institute of
Higher Nervous Activity and Neurophysiology, Academy of Sciences, USSR.

"The Physical Chemical and Biological Properties of Separate Fragments of
Thyrocalcitonin Molecules"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 2, Mar 70, pp 476-479

Abstract: Because the hypocalcemic function of the recently discovered thyroid hormone, thyrocalcitonin (TCT), is disputed by some scientists, the authors obtained bovine TCT, which has a hypocalcemic effect in rats. Electrophoresis of hydrolyzed TCT produced one cathode and three anode fractions. The fractions were eluted and studied. A solution of fraction two was definitely hypocalcemic in rats, fractions one and three only slightly so, and fraction four negative. This proves that in order to obtain a specific biological function, it is not necessary to use the entire molecule of the hormone. Further chromatographic studies of hydrolyzed fractions showed the amino-acids composition in each: fraction one contained histidine, glutamic acid, cystine, tryptophan, phenylalanine, and leucine; fraction two threonine, glutamic acid, alanine, tryptophan, phenylalanine, tyrosine, leucine, and valine; fraction three, histidine, aspartic acid, serine, arginine, and alanine; and fraction four, methionine, lysine, histidine, aspartic and glutamic

1/2

USSR

STEKOL'NIKOV, L.I., et al, Doklady Akademii Nauk SSSR, Vol 191, No 2, Mar 70,
pp 476-479

acids, and leucine. It is noteworthy that alanine and tryptophan of fragment
two occupy positions 11 and 13 in the polypeptide chain of the TCT molecule.

2/2

USSR

UDC 621.355.8.035.2

TEPLINSKAYA, T. K., KOCHETOVA, Y. I., and NOVAKOVSKIY, A. M.

"The Influence of Aluminum Dissolved in an Alkali Electrolyte on the Behavior of a Powdered Iron Electrode"

Sb. rabot no khim. istochnikam toka. Vses. n.-n akkumulyator. in-t (Collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries) Vyp 7, 1972, pp 149-155 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8I239 by V. S. Levinson)

Translation: A study was made of the influence of aluminum dissolved in 5 N KOH in concentration of 0.5 to 20. grams/l on the behavior during charging and discharging of powdered iron electrodes and on the nature and properties of the product formed. The poisoning of the electrode by aluminum caused a strong inhibition on the process of the cathode reduction of $Fe(OH)_2$ to metallic iron. Most harmful was the presence in the electrolyte of small quantities of aluminum (0.5 to 1.0 grams/l), insufficient for the formation of the mixed iron-aluminum hydrates and therefore strongly interfering with reduction of $Fe(OH)_2$ during the discharge of the electrode.

1/1

- 7 -

031
UNCLASSIFIED
PROCESSING DATE--30OCT70
TITLE--FORMATION OF SOLID SOLUTIONS DURING THE CATHODIC ADDITION OF SODIUM
INTO LEAD -U-
AUTHOR-(02)-TEPLITSKAYA, G.L., ASTAKHOV, I.I.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKIMIYA 1970, 6(3), 379-81
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS
TOPIC TAGS--SOLID SOLUTION, LEAD, SODIUM, CRYSTAL LATTICE STRUCTURE, X RAY
ANALYSIS, PHYSICAL DIFFUSION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1139
CIRC ACCESSION NO--AP0121698
STEP NO--UR/0364/70/006/003/0379/0381
UNCLASSIFIED

SESSION NO--AP0121698

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NA WAS ADDED AT 25DEGREES BY POLARIZATION IN 10N NAOH TO A PB FOIL CATHODE OF 99.999PERCENT PURITY AND 25 MU THICKNESS. AFTER WASHING OFF THE ALKALI, THE LATTICE PARAMETER WAS MEASURED BY AN X RAY SCANNING METHOD. THE CONC. OF NA IN A SURFACE LAYER OF THICKNESS SMALLER THAN OR EQUAL TO 3.5 MU WAS OBTAINED. THE CONC. OF NA CHANGED WITH POTENTIAL AND TIME OF POLARIZATION AND REACHED A LIMITING VALUE OF 3 ATOM. PERCENT AT MINUS 1.3 V. IN 18-20 HR. THE CORRESPONDING DECREASE IN THE LATTICE PARAMETER OF PB WAS 0.0013 PLUS OR MINUS 0.0002 ANGSTROM. DIFFUSION OCCURS IN THE CRYSTAL GRAINS AND NOT ALONG GRAIN BOUNDARIES. THE DIFFUSION COEFF. OF NA CALCD. FROM THE ABOVE DATA IS SIMILAR TO 10 NEGATIVE PRIME12 CM PRIME2-SEC WHICH ALMOST EQUALS THE SELF DIFFUSION COEFF. IN PB ALONG GRAIN BOUNDARIES AND EXCEEDS BY 7 ORDERS OF MAGNITUDE THE BULK SELF DIFFUSION COEFF. IT IS SUGGESTED THAT THE HIGH MOBILITY OF NA IN PB IS DUE TO ATTRACTIVE FORCES BETWEEN NA ATOMS AND VACANCIES IN THE PB LATTICE RESULTING IN THE FORMATION OF COMPLEXES. A SOLID SOLN. REACHING SATN. AT 3 ATOM PERCENT NA, IS FORMED IN THE CRYSTAL GRAINS. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

AP0038108

a later period, after 30 days of stratification, to resistance of the seed coats to swelling of colloids. The coats possess a restricted extensibility and a high durability and exert a turgor counter-pressure on the embryo as it expands during absorption of water. This obstacle in peach seeds can be removed by 90 days of stratification when the wholeness of the endocarp is violated and the durability of the endospermal film and seed wall is greatly lowered.

9/2

19731159

4-8

USSR

UDC: 621.374.33:681.325.65:621.383

KAKICHASVILI, Sh. D., DZHAGAROV, Yu. A., ~~TRIPITSKIY, E. Sh.~~, Institute of Cybernetics, Academy of Sciences of the Georgian SSR

"An Electro-Optical Device Which Utilizes Ultrasonic Traveling Waves"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296104, division G, filed 21 Jul 68, published 12 Feb 71, p 151

Translation: This Author's Certificate introduces an electro-optical device which utilizes an ultrasonic traveling wave. The device contains a liquid-filled vessel with an absorber applied to its wall. As a distinguishing feature of the patent, the device is designed for parallel logical processing of data blocks (e. g., performing the AND logic operation). The unit contains matrices of input sources of acoustic waves equipped with an acoustic focusing device.

1/1

172 030

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--THE SIGNIFICANCE OF STUDIES OF THE EYE GROUND IN HEMORRHAGIC

STROKES -U-

AUTHOR--(03)--VISHNEVSKAYA, YE.S., NIKIFOROV, B.M., TEPLITSKIY, F.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,

VOL 70, NR 6, PP 820-824

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, HEMORRHAGE, EYE, ANEURYSM, BLOOD PRESSURE, DIAGNOSTIC
MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/0920

STEP NO--UR/0246/70/070/006/0820/0824

CIRC ACCESSION NO--AP0126579

UNCLASSIFIED

030

CIRC ACCESSION NO--AP0126579
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE PAPER DEALS WITH THE STUDY OF
 THE EYE GROUND IN 584 PATIENTS WITH HEMORRHAGIC STROKES WITH DIFFERENT
 LOCALIZATIONS: IN THE HEMISPHERES, CEREBELLUM, THE STEM, AND THE
 SUBARACHNOID SPACE. IN 86 CASES (14.7PERCENT) THERE WERE CHANGES IN
 THE EYE GROUND: IN 9PERCENT THERE WAS CONGESTION, IN 3.6PERCENT,
 HEMORRHAGES AND IN 2PERCENT, CONGESTION WITH FOCI OF HEMORRHAGES OF THE
 SUBARACHNOID SPACE, DUE TO A RUPTURE OF THE ANEURYSMS AND IN
 SYMPTOMS OF CONGESTION WERE MORE FREQUENTLY SEEN IN
 HEMORRHAGES OF THE SUBARACHNOID SPACE, DUE TO A RUPTURE OF THE ANEURYSMS
 AND IN HEMORRHAGES INTO THE CEREBELLUM. THE HEMORRHAGES INTO THE EYE
 GROUND WERE USUALLY DEPICTED IN RUPTURES OF THE ANEURYSMS IN THE
 ANTERIOR PART OF THE CIRCLE OF WILLIS AND DID NOT DEPEND UPON THE STATE
 OF ARTERIAL PRESSURE. FOR PURPOSES OF DIAGNOSIS AND PROGNOSIS
 HEMORRHAGES INTO THE EYE GROUND WERE MORE IMPORTANT THAN SYMPTOMS OF
 PAPILLA EDEMA.
 FACILITY: PEDIATRICHESKOGO MEDITSINSKOGO
 INSTITUTA, LENINGRAD.

UNCLASSIFIED

UNCLASSIFIED
ON THE QUANTUM STATISTICAL THEORY OF INTERACTION OF ELECTROMAGNETIC
FIELD WITH A MANY LEVEL SYSTEM. I -U-
AUTHOR--TEPLITSKIY, F.S. PROCESSING DATE--16OCT70

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 3, PP
399-410
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROMAGNETIC INTERACTION, QUANTUM STATISTICS, SPECIFIC
DENSITY, MATRIX FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/2028

STEP NO--UR/0646/70/002/003/0399/0410

CIRC ACCESSION NO--AP0102057

UNCLASSIFIED

020

CIRC ACCESSION NO--AP0102057
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. THE INTERACTION OF ELECTROMAGNETIC
FIELD WITH A MANY LEVEL SYSTEM IS STUDIED BY THE METHOD OF DECOMPOSITION
OF THE DENSITY MATRIX OVER AN ORTHONORMAL OPERATOR SYSTEM FORMED BY
UNITARY IRREDUCIBLE REPRESENTATIONS OF THE LIE GROUP, THE ALGEBRA OF
WHICH HAS BEEN USED FOR THE CONSTRUCTION OF THE TOTAL HAMILTONIAN. THE
DENSITY MATRIX, RESPONSE FUNCTION AND MEAN VALUES OF DYNAMICAL OPERATORS
ARE OBTAINED IN THE EXPLICIT FORM WITHOUT USING APPROXIMATIONS DEPENDING
ON THE INTENSITY OF THE EXTERNAL FIELDS.

UNCLASSIFIED

USSR

UDC 669.3 536.425

ROZENBERG, V. M., TEPLITSKIY, M. D., and FRIDMAN, A. A., State Scientific Research and Planning Institute of Alloys and Nonferrous Metal Processing, Moscow

"Structure and Properties of Aging Copper-Nickel-Base Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 326-331

Abstract: The structure and properties of four complexly alloyed copper alloys (Cu-Ni-Mn-Cr-Al) were experimentally investigated. A stratification of the solid solution into two isomorphic phases with a phase-centered cubic lattice takes place on aging, and a periodic structure develops. In two of the alloys, there is a simultaneous separating out of particles of the third phase. These separations do not contain Mn. The mechanical properties and electric resistances of the alloys after hardening are discussed by reference to tabulated data and diagrams. The observed high degree of hardening in these compositions is explained by the correlation of the periodic structure with the third phase. Four figures, three tables, ten bibliographic references.

1/1

USSR

UDC 621.165:536.5.002.56

TEPLITSKIY, M. G., SHILIN, YU. P.

"Improvement of the Operating Control of the Thermal State of the Turbine Unit K-160-130 kHTGZ"

Energ. i elektrifikatsiya. Nauchno-proizv. sb. (Power and Electrification. Scientific Production Collection), 1970, No 5 (53), pp 25-27 (from RZh-Turbostroyeniye, No 1, Jan 71, Abstract No 1.49.53)

Translation: Experience in operating the K-160-130 turbines and investigations of the operating conditions revealed significant deficiencies of the measuring systems and the measuring and control instruments used earlier. A new temperature control system has been developed for the metal of the turbine parts and new designs of measuring and control instruments have been drawn. It has been discovered that it is necessary to monitor the temperature of the parts in the transient modes by means of the EPP-09 recording instrument. There are 2 illustrations.

1/1

- 86 -

Acc. Nr: **AP0043680**

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 2, pp **528-534**

Ref. Code: UR 0056

INVESTIGATION OF THE SUPERCONDUCTING PROPERTIES AND STRUCTURE OF TIN FILMS OBTAINED BY REACTIVE SPUTTERING

V. M. Golyanov, A. P. Domidov, M. N. Mikheyeva, A. A. Teplov

The critical temperatures T_c , transverse critical magnetic fields $H_{c\perp}$ and resistivities of microcrystalline tin films obtained by reactive cathode sputtering are measured. The relation between T_c and $H_{c\perp}$ and the structure of films as studied with an electron microscope is investigated. It is found that increase of T_c and $H_{c\perp}$ correlates with a decrease of the grain size. The electron mean free path l is determined on basis of the resistance and magnetic measurements. The dependence of $H_{c\perp}$ on l is compared with the theoretical calculation.

1/1

REEL/FRAME
19770084

2/ DI

USSR

UDC: 624.074.4.04

ALIYEV, SH. M., MAYDEL'MAN, V. N., ~~TEPLOV, G. D.~~ (Baku)

"Concerning the Calculation of an Oval Shell, Reinforced by Annular Ribs, With Account Taken of Their Discrete Disposition"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 1, 1972, pp 11-14

Abstract: The article deals with an infinitely long shell of oval cross-section, which is loaded by internal pressure and is reinforced by equidistant annular ribs, account being taken of their discrete disposition. The problem is solved on the basis of a method for the calculation of shells, proposed by S. N. Kan. The same designations are adopted, as those used in Kan's paper. The shell under investigation constitutes a multiply static indeterminate system. In order to evaluate the applicability of the method of "smoothing" the rib rigidity, a formula for tying together the basic parameters of the container is given. An example of the calculation is given. 3 figures, 5 references.

1/1

- 119 -

UDC 621.391:519.2

USSR

TEPLOV, N. L.

"Estimating the Noiseproofness of Discrete Communications Channels with Selective Signal Distortions of Complex Shape"

Radioelektronika v nar. kh-ve SSSR. Ch.1 -- V sb. (Radio Electronics in the National Economy of the USSR. Part 1 -- collection of works), Kuybyshev, 1970, pp 66-80 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A52)

Translation: Expressions are derived for estimating the noiseproofness of the investigated systems. A quantitative estimate is made for some special cases. It is demonstrated that channels with selective distortions have higher potential noise proofness than the same channels with general distortions. The bibliography has 3 entries.

1/1

- 30 -

1/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--BIOLOGY OF THE NEMATODE MECISTOCIRRUS DIGITATUS, LINSTOW, 1906, THE
PARASITE OF THE ABOMASUM OF CATTLE -U-
AUTHOR-(03)-DEMSHIN, N.I., PIGOLKIN, A.U., TEPLOV, N.V.
COUNTRY OF INFO--USSR
SOURCE--PARAZITOLOGIYA 4(1): 48-52. ILLUS. 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NEMATODA, BIOLOGIC REPRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0414 STEP NO--UR/9057/70/004/001/0048/0052
CIRC ACCESSION NO--AP0134182
UNCLASSIFIED

2/2 015

CIRC ACCESSION NO--AP0134182

UNCLASSIFIED

PROCESSING DATE--27NOV70

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

ABSTRACT. FREE LIVING STAGES WERE STUDIED.

LARVAE ARE FORMED IN EGGS AT A TEMPERATURE OF 18-25 DEGREES DURING THE FIRST 2-3 DAYS. AT THE END OF THE 3RD OR AT THE BEGINNING OF THE 4TH

DAY LARVAE LEAVE EGG'S MEMBRANE AND ON THE 5TH DAY THEY MOLT. IN 11 OR 12 DAYS THEY MOLT FOR THE 2ND TIME AND BECOME INVASIONAL. DESCRIPTIONS

OF THE 1ST-THIRD STAGE LARVAE ARE GIVEN.

UNCLASSIFIED

USSR

UDC 542.91:542.978

ROZANTSEV, E. G., CRIGORYAN, G. L., GUSOVSKAYA, T. P., GOLDOVIKOV, N. N.,
AND TEBLOV, N. YE., Institute of Chemical Physics, Academy of Sciences USSR
and Institute of Metallorganic Compounds, Academy of Sciences USSR

"Synthesis of Some Spin-labelled Inhibitors and Cholins-esterase Substrate"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71,
pp 2334-2336

Abstract: 1.2 g of 2,2,6,6-tetramethyl-4-chloroacetoxypiperidine-1-oxyl
(I) was dissolved in 3 ml ether, 0.75 g of dimethylaminomethylacetate was
added to it, and the reaction mixture was left standing for one day. The
solvent was evaporated yielding crystalline N,N'-dimethyl-N-acetoxymethyl-N-4-
(2,2,6,6-tetramethylpiperidin-1-oxyl)carboxymethylammonium chloride m.p.
163.5-165°. Addition of triethylamine to (I) under similar conditions gave
N,N,N-triethyl-N-(2,2,6,6-tetramethylpiperidin-1-oxyl)carboxymethylammonium
chloride, m.p. 109-111°. A solution of 2 g of (I) in absolute ether was
added slowly with cooling and stirring to 1.55 g O-ethylethylchlorophosphonate
and 1.2 g triethylamine in absolute ether. After 24 hrs of standing the
reaction mixture was filtered, the solvent was evaporated and the product --
1/2

-- 64 --

3SR

ROZANTSEV, E. G., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 2334-2336

O-ethyl-O-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)methylphosphonate crystallized slowly from hexane. Analogously the O-p-nitrophenyl-O-4-(2,2,6,6-tetramethylpiperidin-1-oxyl)methylphosphonate was obtained from O-p-nitrophenylmethylchlorophosphonate, triethylamine and (I).

2/2

Power

1

USSR

UDC [621.362:538.4]-16:669-404.001.4

ALAD'YEV, I. T., MUKHIN, V. A., STRIZHAK, V. Ye., ~~TEPLOV, S. V.~~
TOLMACH, I. M.

"Experimental Study of a DC MHD Machine With Sectionalized Electrodes"

Magnitn. gidrodinamika (Magnetohydrodynamics), 1971, No 1, pp 64-72
(from RZh-Elektrotehnika i Energetika, No 9, Sep 71, Abstract No 9A98)

Translation: A working model of a DC MHD machine with sectionalized electrodes is made and experimentally studied on a potassium loop to check the theory and procedure of calculating MHD devices of this type. The study was done for pump and generator operating modes. The following characteristics were obtained in one of the pumping modes: molten potassium temperature 160°C, voltage applied across the channel 1.1 V, developed head 4.05 atmospheres, flow rate 0.15 kg/s, efficiency 7%. The following characteristics were obtained in one of the generator modes: potassium temperature 255°C, voltage across the load 0.4 V, load current 50 A, flow rate 0.356 kg/s, pressure drop 7.2 atmospheres, efficiency 6.2%. The method of calculation is outlined. An advantage

1/2

USSR

ALAD'YEV, I. T. et al., Magnitn. gidrodinamika, 1971, No 1, pp 64-72

of the proposed scheme is the possibility of an appreciable increase in working voltage and reduction in current as compared with traditional circuits. For instance in the anticipated intense pumping mode of the working model, the following indices may be achieved: voltage across the terminals 5 V, developed pressure drop 25 atmospheres, potassium flow rate 0.75 kg/s, efficiency 11%. The proposed scheme with sectionalized electrodes is used for high-pressure pumps with relatively low flow rates. Eight illustrations, bibliography of four titles.

2/2

- 196 -

Mechanical Properties

USSR

UDC 669.35'71'24:534.283

~~TEPLOV, V. A.~~, MALYSHEV, K. A., PAVLOV, V. A.

"Damping in Copper-Aluminum-Nickel Alloys and Its Causes"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 1, Jul 72,
pp 166-177.

Abstract: The damping properties of Cu-Al-Ni alloys containing 9.18 to 14.45 wt.% Al and from 0.95 to 6.5 wt.% Ni were determined on a pendulum test machine. The alloys have high specific damping capacity -- from 15 to 75%. Damping is explained by losses in the energy of mechanical oscillations as the boundaries of twin-like bands and interphase boundaries move. In certain cases, these materials can be used as structural damping materials. Alloys containing from 9 to 13.2% Al and about 2.4% Ni have good damping and acceptable mechanical properties.

1/1

USSR

UDC 539.67

TEPLOV, V. A., MALYSHEV, K. A., and PAVLOV, V. A.

"Measurement of the Amplitude Dependence of Internal Friction in an Alloy With a Thermoelastic Martensite"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 156-159

Abstract: Results are presented of measurements of the internal friction in Cu-14.5%, Al-3.4%, Ni and Ti-54.5% in the range of $1-20 \times 10^{-4}$ amplitudes. It is shown, that high internal friction in alloys is governed by motion of the interphase boundary under a variable load and by variation of a thin, twinning martensite structure.

The variation of slope of the internal friction amplitude dependence characteristic is explained by a saturation of inelastic processes, generating high friction. 3 figures, 13 references.

1/1

Genetics

USSR

GRINEVA, N. I., KNORRE, D. G., SENZHENKO, L. P., and TEFIDVA, N. M., Institute of Organic Chemistry, Siberian Department of the Academy of Sciences USSR

"Modification of Transfer RNA by 2',3'-O[4-(N-2-Chloroethyl-N-Methylamino)-Benzylidene]-Uridine-5'-Methylphosphate"

Moscow, Molekulyarnaya Biologiya, No 3, 1970, pp 307-312

Abstract: The effect of temperature, tRNA concentration and pH on the kinetics of the reaction of tRNA with MepURCl in an aqueous solution was studied. The efficiency of alkylation (ratio of the rate of alkylation of tRNA to the total rates of all the secondary conversions of the reagent) was virtually independent of temperatures ranging from 20 to 50°C and proportional to the initial tRNA concentration. Alkylation efficiency decreased sharply in the presence of magnesium salts. The rate and efficiency of alkylation was also independent of pH in the 6.0 to 7.5 range. Judging by the data of chromatography modified by 10% tRNA (Tomlinson-Tener system), alkylation did not rupture the polynucleotide chain.

1/1

TEPLOVA, N.M.

Acc. Nr: APC044690

Ref. Code: UR 0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1,
pp 30-36

THE INTERACTION OF TRANSFER RNA WITH ACETALS
OF 4-(N-2-CHLOROETHYL-N-METHYLAMINO)-BENZALDEHYDES—
DERIVATIVES OF URIDINE AND URIDINE-5'-METHYLPHOSPHATE
Belikova, A. M.; Vakhrusheva, T. Ye.; Vlasov, V. V.;
Grineva, N. I.; Zarytova, V. F.; Knorre, D. G.; Teplova, N. M.
Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences, USSR.
Novosibirsk

It has been shown that the acetals of 4-(N-2-chloroethyl-N-methylamino)-benzaldehyde (RCI) — derivatives of uridine (URCI) and uridine-5'-methylphosphate (mepURCI) do alkylate tRNA. The efficiencies of the reagents are determined as a ratio of the velocity of tRNA modification to the velocity of all by-processes. The efficiencies of URCI and

1/2

REEL/FRAME
19771423

02

AP0044690

RCI are of the same order of magnitude and two orders greater, respectively, as compared with that of mepURCI. In the presence of *tris* the efficiency of URCl decreases significantly and that of mepURCl is altered only slightly. The efficiency of URCl decreases in the presence of mepU due to the interaction of an intermediate cation with primary phosphates of mepU. It suggests that the efficiency of mepURCl is low due to the presence of primary phosphate in its molecule. The quantitative analysis of the data obtained makes it possible to conclude that the interaction of mepUR⁺ with phosphate is an intramolecular process.

19771424

2/2

h

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--MODIFICATION OF TRANSFER RNA BY 2, PRIME, 3
PRIME, C, (4, (N, 2, CHLOROETHYL, N, METHYLAMINO) BENZILIDENE), URIDINE, 5
AUTHOR--(04)-GRINEVA, N.I., KNORRE, D.G., SENZHENKO, L.P., TEPLOVA, N.M.
COUNTRY OF INFO--USSR
SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3, PP 307-312
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RNA, ALKYLATION, CHEMICAL KINETICS, CHROMATOGRAPHIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0155 STEP NO--UR/0463/70/004/003/0307/0312
CIRC ACCESSION NO--AP0120855
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120855

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF SOME FACTORS HAVE BEEN STUDIED UPON ALKYLATION KINETICS OF TRNA WITH 2 PRIME,3 PRIME,0(4,(N,2,CHLORETHYL,N,METHYLAMINO),BENZILIDENE),URIDINE,5 PRIME,METHYLPHOSPHATE IN WATER SOLUTION. IT HAS BEEN SHOWN THAT THE EFFICIENCY OF ALKYLATION (THE RATIO OF THE TRNA ALKYLATION RATE TO THAT OF ALL BY PROCESSES) DOES NOT DEPEND SIGNIFICANTLY ON THE TEMPERATURE IN THE RANGE 20-50DEGREES AND IS PROPORTIONAL TO INITIAL TRNA CONCENTRATION. THE EFFICIENCY OF ALKYLATION MARDEDLY DECREASES IN THE PRESENCE OF MAGNESIUM SALTS. THE RATE AND THE EFFICIENCY OF ALKYLATION DOES NOT DEPEND ON PH WITHIN THE RANGE 6,0-7,5. AS REVEALED BY CHROMATOGRAPHY AFTER TOMLINSON AND TENER THE POLYNUCLEOTIDE CHAIN OF TRNA ALKYLATED FOR 10PERCENT DOES REMAIN INTACT. FACILITY: INSTITUTE OF ORGANIC CHEMISTRY, SIBERIAN BRANCH OF THE ACADEMY OF SCIENCES, USSR, NOVOSIBIRSK.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KOSMONAVT KOMAROV AIDS SOYUZ 9 FLIGHT, ANTENNAS DIRECTED IN SPACE
-U-
AUTHOR--TEPLUKHIN, V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, TRUD, 6 JUNE 1970, P 4.
DATE PUBLISHED--06JUN70
SUBJECT AREAS--SPACE TECHNOLOGY, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SPACE SUPPORT SHIP, MANNED SPACECRAFT/(U)SOYUZ 9 MANNED
SPACECRAFT, (U)BEZHITSA SPACE SUPPORT SHIP, (U)KEGOSTROY SPACE SUPPORT
SHIP, (U)MORZHOVETS SPACE SUPPORT SHIP, (U)KOSMONAVT VLADIMIR KOMAROV
SHIP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605026/C04 STEP NO--UR/9025/70/000/000/0004/0004
CIRC ACCESSION NO--AN0141510
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AN0141510

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE "KOSMONAVT VLADIMIR KOMAROV," SOVIET SPACE EVENT SUPPORT SHIP, IS REPORTED TO BE OFF THE COAST OF NOVA SCOTIA, AIDING IN THE "SOYUX 9" MISSION. THREE OTHER SHIPS, THE "MORZHOVETS," "KEGOSTROV" AND THE "BEZHITSA," ARE OPERATING IN THE SOUTHERN PART OF THE ATLANTIC OCEAN. THE "KOSMONAVT KOMAROV" IS EQUIPPED WITH A "MINSK 22" COMPUTER FOR PROCESSING SPACE FLIGHT DATA. BEFORE THIS CRUISE IN THE "SOYUZ 9" FLIGHT PROGRAM IT HAD COMPLETED A SEVEN MONTH LONG STUDY OF THE UPPER ATMOSPHERE AND RADIO WAVE PROPAGATION IN THE ATLANTIC OCEAN.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CALCIUM CHROMATE PRODUCTION -U-
AUTHOR--(05)--TEPLYAKOV, B.V., DUBROVIN, A.S., SLEPOVA, L.V., GREKOV, S.D.,
KUZNETSON, V.L.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,379
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CALCIUM COMPOUND, CHROMATE, CHEMICAL PATENT, CHEMICAL
PRODUCTION, METALLURGIC RESEARCH FACILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1449 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126980
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CA CHROMATE IS PREPD. BY 1ST
PURIFYING A SOLN. OF NA DICHROMATE WITH CACRO SUB4, CACL SUB2, OR THEIR
MIXT. IN A QUANTITY 100-200PERCENT OF THAT THEORETICALLY NECESSARY TO
PPT. CASO SUB4. THE SOLN. OF NA DICHROMATE AFTER SEPN. OF THE PPTD.
CASO SUB4 IS ACIDIFIED WITH CRO SUB3 OR HCL UNTIL THE SOLN. PH IS
0.0-1.0. THE FILTRATE IS TREATED 1ST BY HEATING WITH MILK OF LIME UNTIL
65-80PERCENT PPTN. OF CRCRO SUB4, AND AFTER SEPN. OF THE CACRO SUB4
PPT., WITH CACL SUB2. FACILITY: CHELYABINSKIY
NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT METALLURGII.

UNCLASSIFIED

USSR

UDC 616.9:681.142

TER-KARAPETYAN, A. Z., TERLYAKOV, B. Ya., DROZDOVA, A. A., MONAKHOVA, S. I., and RUBANOVA, F. G., Central Scientific Research Institute of Epidemiology, Ministry of Health, USSR, and Belorussian Scientific Research Institute of Epidemiology and Microbiology

"Centralized Processing of Materials on Infectious Diseases"

Minsk, Zdravookhraneniye Belorussii, No 6, 1970, pp 66-67

Abstract: The organization of data requires centralized processing of properly classified information which may be suitable for machine processing. For this purpose, a new chart was prepared by the Central Institute of Epidemiology, designed for epidemiological studies and provided with a separate sheet containing 18 points considered essential for centralized processing. At the seminars attended by all epidemiologists, their aides, and all others working with infectious diseases, the various difficulties concerning the particular items in the new chart were resolved. Putting these new charts through the Minsk-22 computer proved accurate, reliable, and time-saving.

1/1

UDC 614.441

USSR

TEPLYAKOV, B. Ya., DROZDOVA, A. A., and YELKIN, I. I., Central Institute of Epidemiology

"Toward a Rational System for Prompt Transmission of Information on the Incidence of Infectious Diseases"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1970, pp 141-146

Abstract: The slow and inefficient system used in the USSR for reporting cases of infectious diseases is contrasted with that prevailing in the United States, and a successful experiment they conducted in 1968 to speed up the collection and transmission of information via telegraph and teletype is described. Ten-day and monthly reports in coded form on the incidence of typhoid, dysentery, infectious hepatitis, diphtheria, and seven other diseases were submitted by rayon (and city) and oblast sanitary epidemiological stations 2 or 3 and 5 or 6 days, respectively, after the report period to the appropriate agencies. Analysis of the results revealed comparatively few discrepancies between the ten-day and monthly reports, and a small number of garbles and distortions due to mechanical failure and telegrapher errors. Most of the discrepancies were caused by diseases that present some diagnostic difficulties (typhoid, para-typhoid, dysentery).

1/1

1/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--ELABORATION OF RATIONAL SYSTEM OF EFFECTIVE INFORMATION ON THE
INCIDENCE OF INFECTIOUS DISEASES -U-

AUTHOR--(03)-TEPLYAKOV, B.YA.; DROZDOVA, A.A.; YELKIN, I.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII I IMMUNOBIOLOGII, 1970, NR 4, PP 141-146

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, ELECTRONICS AND ELECTRICAL
ENGR.

TOPIC TAGS--INFECTIOUS DISEASE, INFORMATION STORAGE AND RETRIEVAL,
COMMUNICATION EQUIPMENT, COMPUTER APPLICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1693

STEP NO--UR/0016/70/000/004/0141/0146

CIRC ACCESSION NO--AP0106439

UNCLASSIFIED

2/2 030
CIRC ACCESSION NO--AP0106439 UNCLASSIFIED PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS SUBSTANTIATE THE
NECESSITY OF IMPROVEMENT OF EFFECTIVE INFORMATION ON THE IINCIDENCE OF
INFECTIOUS DISEASES WITH THE APPLICATION OF MODERN MEANS OF
COMMUNICATION AND ELECTRON COMPUTERS. PRACTICAL POSSIBILITY OF
COLLECTION AND TRANSMISSION OF EFFECTIVE INFORMATION BY TELETYPE WAS
SHOWN.

UNCLASSIFIED

USSR

UDC 621.472

TEPLYAKOV, D. I., APARISI, R. R., KOLOS, YA. G., State Scientific
Research Power Engineering Institute imeni G. M. Krzhizhanovskiy

"The Influence of Central Shading and Longitudinal Defocusing
of a Receiver Upon the Power Characteristics of a Paraboloid
Solar Energy Installation"

Tashkent, Geliotekhnika, No 5, 1970, pp 8-14

Abstract: Central shading of the concentrator of a solar energy
installation by an opaque receiver is frequently accompanied by
a shift of the ray-receiving surfaces of the receiver along the
optical axis of the paraboloid, i.e., by longitudinal defocusing.
The article deals with the influence of shading of the central
part of the solar irradiation concentrator upon the distribution
of the heat load of the receiver light-absorbing surfaces. 3
figures, 5 bibliographic entries.

1/1

1/2 032 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF SYNTHESIS CONDITIONS ON THE PROPERTIES OF POLY(AMINO
AMIDO ACIDS) -U-
AUTHOR--(05)-KORSHAK, V.V., DOROSHENKO, YU.E., TEPLYAKOV, M.M., FEDOROVA,
R.D., VOLKOV, B.V.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(3), 677-80
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--CHEMICAL SYNTHESIS, POLYMER, POLYCONDENSATION, AMINE,
PYROMELLITIC ACID, ANHYDRIDE, LOW TEMPERATURE EFFECT, POLYAMIDE
COMPOUND, MECHANICAL STRENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/0309 STEP NO--UR/0459/70/012/003/0677/0680
CIRC ACCESSION NO--AP0111503
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0111503

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

ABSTRACT. THE POLYCONDENSATION OF CH SUB2 (C
SUB6 H SUB3 (NH SUB2) SUB2-3,4) SUB2 WITH PYROMELLITIC ANHYDRIDE (I) IN
HCONME SUB2, ACNME SUB2, OR N-METHYL-2-PYRROLIDINONE AT MINUS 30DEGREES
TO PLUS 20DEGREES GAVE II. II MOL. WT. WAS MAX. AT MINUS 20DEGREES AND
WAS VERY SUBSTANTIALLY INCREASED WHEN 5PERCENT I MOLE EXCESS WAS USED;
HCONME SUB2 OR ACNME SUB2 WERE THE BEST SOLVENTS. THERMAL DEHYDRATION
OF II GAVE POLYCYCLIC LADDER POLYAMIDES OF INCREASED MECH. STRENGTH.

UNCLASSIFIED

Oncology



USSR

UDC 577.391:616.0064.577.15/17

ABDULLAYEV, G. B., GASANOV, G. G., RAGIMOV, R. N., TEPLYAKOVA, G. V.,
MEKHTIYEV, M. A., and DZHAFAROV, A. I., Institute of Physiology, Institute
of Physics, and Institute of Roentgenology and Oncology

"Selenium and Tumor Growth Under Experimental Conditions"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 18-24

Abstract: In mice and rats with transplanted tumors (M-1 sarcoma, Ehrlich's ascitic tumor, and Geren's carcinoma), a single injection of sodium selenite significantly retarded the growth of the tumor, especially if the injection was given when the tumor could barely be felt. The inhibition of tumor growth was even more pronounced when sodium selenite was combined with X-irradiation. In addition, the compound increased the animals' tolerance for radiation. When the animals received the tumor suspension after it had been treated with sodium selenite and heated to 40° for 2 hours, tumors did not begin to appear until 12 to 21 days after inoculation compared to 9 days in the control (given the tumor suspension treated with sodium selenite at room temperature). The inhibitory effect of the selenium compound is attributed to its ability to stimulate the production of endogenous antioxidants and lower the oxygen concentration of the tissues.

1/1

USSR

UDC 628.58:549.74

ABDULLAYEV, G. B., GASANOV, G. G., MEKHTIYEV, M. A., DZHAFAROV, A. I.,
HAZANOV, D. M., BABAYEV, R. A., SADYKHOV, S. T., TEPLYAKOVA, G. V., and
RAGIMOV, R. N.

"Radioprotective Effect of Selenium"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 12-17

Abstract: Sodium selenite administered to Wistar rats 20 minutes after X-irradiation at 490 rad had little protective effect, the survival rate and average life-span being insignificantly higher than in the controls (50% survival rate by day 30). However, the same dose of the compound administered 30 minutes prior to irradiation (intraperitoneally, subcutaneously, or perorally) had a markedly protective effect; the survival rate was 90% and the average life-span 28+3.6 days. When sodium selenite was combined with vitamins E (as an antioxidant) and A (to promote the retention of vitamin E in the body), the protective effect was even more pronounced, the survival rate and average life-span being significantly higher than in the controls (given selenium but not the vitamins).

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INFRARED ABSORPTION SPECTRA OF COMPLEXES OF CADMIUM HALIDES WITH
PYRIDINECARBOXYLIC ACID DERIVATIVES -U-
AUTHOR--(02)-ALYAVIYA, M.K., TEPLYAKOVA, Z.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 958-60
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IR SPECTRUM, CADMIUM COMPLEX, PYRIDINE, CARBOXYLIC ACID,
HYDROGEN BONDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1219 STEP NO--UR/0078/70/015/004/0958/0960
CIRC ACCESSION NO--AP0128637
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0128637
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF CD ACETATE OF HALIDE
WITH PICOLINIC, NICOTINIC, OR ISONICOTINIC ACID (PICH, NICH, OR INICH,
RESP.) GAVE CDCLPIC, CDPIC SUB2, CDCL SUB2 NIC SUB2, CONIC SUB2, CDCL
SUB2 INIC SUB2, AND CDINIC SUB2. THE BIDENTATE LIGAND PIC COORDINATES
TO CD VIA N AND O AND NIC VIA 2 O OF THE CO SUB2 PRIME NEGATIVE GROUP.
CDCL SUB2 INIC SUB2 FORMS LONG CHAINS (I) BY COORDINATION OF INIC TO
CDCL SUB2 BY N AND BY FORMATION OF INTERMOLE. H BONDS. FACILITY:
TASHKENT. GOS. MED. INST., TASHKENT, USSR.

UNCLASSIFIED

TEPLYKH, V.F.

NEUTRON PHYSICS

TEPLYKH, V.F.

Neutron Physics

MASS-SPECTROMETRIC DETERMINATION OF RELATIVE YIELDS OF XENON ISOTOPES DURING FISSION OF NATURAL URANIUM BY NEUTRONS WITH ENERGY 14.7 MeV

[Article by K. A. Petrzhak, V. F. Telykh, M. G. Pan'yan, Leningrad Technological Institute in Leningrad, ~~English translation~~ Trudy na Yadernym Danym, Russian, No. 6, 1969, Atomizdat, pp 266-271]

Thode and Graham [1], analyzing gaseous products of the fission of U^{235} by thermal neutrons mass-spectrometrically, first discovered the anomalously high yield of Xe^{136} compared to that given by a smooth curve of yield distribution by mass. The high yields, i.e., the fine structure, in the region of mass 132-134 were subsequently observed by various researchers during fission of U^{235} [2] and Th^{232} [3] by fission spectrum neutrons, Pu^{239} [4] and Th^{232} [5] by thermal neutrons during spontaneous fission of Pu^{240} [6], Ce^{138} [7] and Ce^{136} [8].

Analysis of the fine structure as a function of the excitation energy of fissionable nuclei is important. Nati [9] demonstrated by means of radiochemistry that during fission of U^{235} by neutrons with an energy of 14 MeV the fine structure at mass 134 does not vanish. The yields of oxides with masses of 97-98, which are complementary to the fragment $A = 134$ were determined [10, 12] with allowance for the emission of 4-5 neutrons during fission of U^{235} by neutrons at an energy of 14 MeV. The measurements [10, 12] revealed that the yield of Zr^{98} notably exceeds the value from the smooth yield curves. Other authors [11] did not detect this excess. Brown [14] analyzed the fission products in the mass region of 131-135 during fission of U^{235} by neutrons with an energy of 14.7 MeV. He showed that the peak of the fine structure corresponds to mass 132, and the yield of mass 134 fits the smooth yield curves.

We used a highly sensitive mass spectrometer to measure the relative concentration of stable xenon isotopes in the fission products of U^{235} by neutrons at the energy 14.7 MeV. We established that the yield of Xe^{136} exceeds the yield of this mass from the smooth curve and is 10% greater than the yield of Xe^{136} .

OMS: 51305 22 Oct 71

USSR

UDC 621.372.57.01

ZNAMENSKIY, A. YE., TEPLYUK, I.N.

"Active RC-Filters"

Aktivnyye RC-fil'try, Moscow, "Svyaz," 1970, 280 pp, 1 r. 31 k. Reviewed by V.Listov and V. Tyurin in "Elektrosvyaz'," 1971, No 5, p 79 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9A120-RSTS)

Translation: A book on active RC-filters is reviewed. It is noted that the use of RC-circuits at low frequencies up to 10 MHz has the most promise. A synthesis of filters is conducted with respect to the operating parameters in the same way as this was done in the case of LC-filters. Four methods of synthesis of RC-filters are considered: with the aid of single amplifiers, converters, gyrators, and operational amplifiers. The limitations are shown with respect to the arrangement of the poles, in the case of both low-frequency filters and band-pass filters. The conditions are shown during which Chebyshev approximations cannot be realized. In the book there are many examples of computations, accessory tables, and graphs. A shortcoming is the imperfect use of the advantages of mechanical design of filters and the absence of information of digital filters. The book is a valuable textbook for engineers of communication apparatus and scientific workers in the field of the theory of electrical circuits. L. Ya.

1/1

USSR

UDC: 621.372.54

ZNAMENSKIY, A. Ye., TEPLYUK, I. N.

"Active RC Filters"

Aktivnyye RC-fil'try (cf. English above), Moscow, "Svyaz", 1970, 280 pp, ill. 1 r. 36 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A188 K)

Translation: The book deals with a theory and method of calculating RC filters on the basis of utilizing the theory of the best approximation of functions (Chebyshev polynomials and Butterworth polynomials, Chebyshev and Zolotarev fractions). Computational examples are given. 137 illustrations, 72 tables, bibliography of 59 titles. Resumé.

1/1

USSR

UDC 539.3

PANASYUK, V. V., TEPLYI, M. I., L'vov

"Determination of Contact Stresses in the Case of Internal Contact of Cylindrical Bodies"

Kiev, Prikladnaya Mekhanika, Vol VII, No 4, 1971, pp 3-8

Abstract: The two-dimensional problem of elastic theory of internal contact between cylindrical bodies of nearly the same radii is solved for the case where there is no frictional force in the contact zone. The integrodifferential equation for determining the contact stresses is derived, and an exact solution of this equation is presented for the case where the materials of the contact bodies are identical. Solutions are given for certain other special cases of the investigated problem, and contact stress distribution diagrams are constructed. An elastic isotropic plate S_1 of unit thickness with a round hole of radius R_1 in which the round disc S_2 with radius $R_2 \leq R_1$ is inserted is proposed for study. The concentrated force pressing the disc S_2 against the edge of the hole in S_1 is applied in the center of the disc. Under the assumption that there is no friction between the contact bodies, only radial contact stresses occur. Thus, the problem consists in establishing the distribution law of the contact stresses (pressures) on the contact surface between the bodies.

1/1

USSR

UDC 621.325.0

3

GINOVKER, A.S., GUZEV, A.A., KON'KOV, V.P., KURYSHEV, G.L., MISHIN, A.I.,
SINITSA, S.P., TEPMAN, B.G.

"Integrated Circuit With Programmed Structure Using MIS Memory Transistors"

Radiotekhnika i elektronika, Vol XVII, No. 7, July 1972, pp 1551-1552

Abstract: The integrated circuit is described of an all-purpose element filled with conventional MIS [metal-insulator-semiconductor] transistors and MIS transistors with a memory (memory transistors). The integrated circuit realizes the following logical function:

$$z(t + \delta) = \bar{v}a_i x_i \quad (i = 1, 2, 3, 4),$$

where x_i is the input logical variables; a_i is the state characterizing the i -th memory transistor; z is the output variable; and δ is the delay. The circuit can be used for construction of a specialized array for fulfillment of logical, switching, and memory functions and also for construction of all-purpose structurally-uniform logical nets, which makes it possible for each problem to organize a specialized computing device by a programmed adjustment of its elements. 1 fig. 5 ref. Received by editors, 16 June 1971.

1/1

USSR

UDC 621.371.332.2

TEPTIN, G. M., FAKHRUTDINOVA, A. N., Kazan' State University

"Study of Fading Radio Echoes from Meteor Trails. I"

Gorkiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 9, 1972, pp 1286-1292

Abstract: A study was made of the statistical characteristics of fading required both for practical applications using meteor scattering of radio waves and for theoretical constructions. An analysis was performed on experimental data on fading radio echoes from meteor trails measured on 800 and 1,600 km paths at frequencies of 40.3, 42.3, 57.4 and 44 megahertz and radar data at frequencies of 34 and 68 megahertz. The experimental statistical characteristics of the echoes are presented in the various stages of development of fading. The quantitative characteristics agree well with fading theory based on turbulence principles.

During the formation of fading, there is a tendency toward an increase in the probability of appearance of fading of a meteor radio echo of given duration with an increase in the radiation frequency used. The number of fading echoes decreases with an increase in depth of fading. The fading distribution as a function of the magnitude of the first periods is as follows:
1/2

USSR

TEPTIN, G. M., et al., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 9, 1972, pp 1286-1292

at a frequency of 42.3 megahertz the mean period is ~ 0.27 seconds, and at a frequency of 57.7 megahertz it is ~ 0.22 seconds. For all the radio echoes, the spectral density increases with a decrease in frequency.

2/2

- 59 -