

USSR

UDC: 621.378.325

ZVEREV, G. M., LEVCHUK, Ye. A., PASHKOV, V. A., PORYADIN, Yu. D.

"Laser Destruction of the Surface of Lithium Niobate and Lithium Tantalate Single Crystals"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 94-96

Abstract: The research was done in the mode of free emission ($\lambda = 1.06 \mu\text{m}$) and in the monopulse emission mode on $\lambda = 1.06$ and $0.53 \mu\text{m}$ from a single-mode neodymium glass laser. Threshold of destruction is the same on both wavelengths -- 120 MW/cm^2 for lithium niobate, and 240 MW/cm^2 for lithium tantalate. It is found that the destruction threshold in the free emission mode increases with a reduction in the diameter of the light spot, and remains constant in the monopulse mode. Mechanisms of surface destruction are discussed. It is suggested that the reduction process $\text{Nb}^{5+} \rightarrow \text{Nb}^{4+}$ is responsible for destruction of the surface of lithium niobate. Three illustrations, bibliography of five titles.

1/1

USSR

UDC 621.375.82

ZVEREV, G. M., LEVCHUK, Ye. A., PASHKOV, V. A., PORYADIN, Yu. D.

"Breakdown of the Surface of Lithium Niobate and Lithium Tantalate Single Crystals Under Laser Radiation"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 2, Moscow, "Sov. radio", 1972, pp 94-96 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D1011)

Translation: The radiation of a single-mode neodymium glass laser was investigated in a free oscillation mode ($\lambda = 1.06 \mu$) and a single-pulse mode ($\lambda = 1.06$ and 0.53μ). The breakdown threshold for the 1.06 and 0.53μ waves coincide and are 120 Mw/cm^2 for LiNbO_3 and 240 Mw/cm^2 for LiTaO_3 . Surface breakdown occurs after several bursts. It was established that in a free oscillation mode the breakdown threshold rises with a decrease in the diameter of the light spot and remains constant in a single-pulse mode. Surface breakdown mechanisms are discussed. It is hypothesized that the reduction process $\text{Nb}^{5+} \rightarrow \text{Nb}^{4+}$ is responsible for the breakdown of the LiNbO_3 surface. Authors abstract.

1/1

- 36 -

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--NITRATION OF PENTAERYTHRITOL BY USING THE NITRIC ACID, SULFURIC
ACID, AND WATER SYSTEM -U-
AUTHOR--(04)-YEREMENKO, L.T., PARUSHKOVA, R.P., PORYADKOVA, M.A.,
STOTSKAYA, N.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 134-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PENTAERYTHRITOL, NITRIC ACID, SULFURIC ACID, CHEMICAL
KINETICS, NITRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/1670 STEP NO--UR/0062/70/000/001/0134/0140
CIRC ACCESSION NO--AP0100274

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0100274

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA ON NITRATION OF PENTAERYTHRITOL BY AQ. HNO SUB3-H SUB2 SO SUB4 (RESULTS SHOWN GRAPHICALLY VARIOUS CONCNS. OF REACTANTS) SHOWED THAT THE O-NITRATION OF THE ALC. OCCURS THROUGH REACTION, NOT OF THE NITRONIUM ION, BUT, EVIDENTLY, A MOL. OF FREE AND UNIONIZED HNO SUB3.

UNCLASSIFIED

USSR

UDC: 621.396.674.1.011.2

BEZKAKOTOVA, T. B., PORYVAYEV, B. N.

"Input Conductance of a Thin Circular Loop Antenna"

Moscow, Radiotekhnika i Elektronika, Vol 26, No 9, Sep 71, pp 1712-1715

Abstract: General formulas are derived for the parameters of loop antennas with regard to the actual distribution of current over the antenna. The formulas are applicable in the UHF range for wide-band operation where the dimensions of the loop may be comparable with the wavelength over part of the band. In such cases, current distribution cannot be assumed to be uniform. Experimental and theoretical data are compared by expressing the input conductance of an open loop antenna in terms of the corresponding quantity for a shielded loop. In conclusion, the authors thank A. Z. Tradin for constructive criticism during completion of this work.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LIQUID PHASE OXIDATION OF 1,ACETYL,1,CYCLOPENTENE -U-
AUTHOR--(03)-AKHREM, A.A., MOISEYENKOV, A.M., POSELENOV, A.I.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 699-700
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--OXIDATION, ALKENE, CYCLIC GROUP, KETONE, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1778 STEP NO--UR/0062/70/000/003/0699/0700
CIRC ACCESSION NO--AP0123575
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM LIQ. PHASE OXIDN. OF
1, ACETYLCYCLOPENTENE BY O IN ME SUB2 CO IN THE PRESENCE OF MN ROSINATE
AND CO STEARATE THERE WAS FORMED A COMPLEX MIXT. WHICH YIELDED A LOW
YIELD OF 3, ACETYL, 2, CYCLOPENTEN, 1, ONE, M. 57.5-8.5 DEGREES.
FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 532.135

MERZHANOV, A. G., POSETEL'SKIY, A. P., STOLIN, A. M., SHTEYNBERG, A. S.,
Affiliate of the Institute of Chemical Physics, Academy of Sciences of the
USSR, Chernogolovka, Moskovskaya Oblast

"Experimental Realization of a Hydrodynamic Thermal Explosion"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 1, May 1973, pp 52-54

Abstract: In studying the problem of nonisothermal Poiseuille flow in a circular pipe with a given pressure gradient, it has been discovered that there is no stationary solution at certain values of the parameters. The phenomenon of hydrodynamic thermal explosion has been predicted on the basis of this theoretical research. It has also been theoretically demonstrated that this effect could arise in Couette flow with time-constant shear stress on a moving boundary. However, up until now this phenomenon had not been experimentally confirmed. In this paper the authors describe the successful realization of the conditions which produce this effect and give quantitative verification of the theory. The research was done on a rotation viscometer with pneumatic drive ensuring constant torque. The basic distinguishing feature of the installation is the design of the outer

1/3

USSR

MERZHANOV, A. G. et al., Dokl. AN SSSR, May 73, Vol 210, pp 52-54

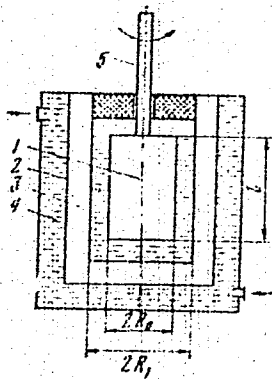
cylinder (see figure) which is made in the form of a Dewar flask with outer thermostatically controlled jacket 4. The inner rotating cylinder 1 is a hollow steel cup connected by ebonite rod 5 to the rotor of a small gas turbine. The diameter of the outer cylinder $2R_1 = 4.84$ cm, the diameter of the inner cylinder $2R_0 = 3.9$ cm, and the length of the inner cylinder $l = 7.2$ cm. The gap 2 is filled with the liquid to be studied to a level somewhat higher than the top of the inner cylinder. The rpm n of the inner cylinder was measured by a perforated disc on the shaft and a photocell with output to a frequency meter. Temperature differential was measured by a thermocouple with one junction on the inside wall of the Dewar flask and the other inside the thermostatically controlled jacket. The resultant curves for temperature differential and rotational velocity as functions of time demonstrate the effect of hydrodynamic thermal explosion.

2/3

- 141 -

USSR

MERZHANOV, A. G. et al., Dokl. AN SSSR, May 73, Vol 210, pp 52-54



1--inner cylinder; 2--fluid to be studied; 3--air space; 4--jacket with heat-transfer agent; 5--ebonite rod

3/3

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--VIRUS ANTIGENS IN RELATION TO HOST SPECIES --U-
AUTHOR--(03)--POSEVAYA, I.A., ROVNOVA, Z.I., KOSYAKOV, P.N. P
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 283-287
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NEWCASTLE DISEASE VIRUS, TISSUE CULTURE, ANTIGEN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1852 STEP NO--UR/0402/70/000/003/0287/0291
CIRC ACCESSION NO--AP0125463
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125463

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ADDITION TO VIRUS SPECIFIC ANTIGENS, NEWCASTLE DISEASE VIRUS WAS FOUND TO CONTAIN ALSO ANTIGENS OF CELLS IN WHICH THE VIRUS WAS PROPAGATED. THE SET OF CELL ANTIGENS IN THE VIRUS CHANGES AND DEPENDS UPON SPECIES APPURTENANCE OF THE HOST. THE VIRUS WHICH HAS PROPAGATED IN CELLS OF CHORIOALLANTOIC MEMBRANE OF CHICK EMBRYO CONTAINED SPECIES SPECIFIC (PROTEIN) ANTIGEN, ANTIGEN OF FURSSMAN TYPE AND ANTIGEN SIMILAR TO GROUP A SUBSTANCE. THE SAME VIRUS PROPAGATED IN SCH CELLS INCLUDED IN ITS STRUCTURE THE SPECIES ANTIGEN INHERENT IN SIMIAN CELLS, AS WELL AS GROUP B COMPONENT. NO HETEROGENOUS FURSSMAN ANTIGEN WAS FOUND IN THE VIRUS PROPAGATED IN SCH CELLS.
FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANOVSKOGO AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 016
 TITLE--ASSESSMENT OF SOME ROENTGENOTOMOGRAPHIC SIGNS OF MITRAL STENOSIS AND MITRAL INCOMPETENCE -U-
 AUTHOR--(05)-PUTOV, N.V., KOBLENTSMISHKE, A.I., GUDIMLEVKOVICH, V.N., ROZHKOVA, A.S., POSEVIN, D.I.
 COUNTRY OF INFO--USSR
 SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 1, PP 26-32
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--HEART DISEASE, HEART SURGERY, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--1999/0126

STEP NO--UR/0497/70/048/001/0026/0032

CIRC ACCESSION NO--AP0122392

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--300CY70

CIRC ACCESSION NO--AP0122392

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 100 PATIENTS SUBJECTED TO MITRAL COMMISSUROTOMY THE DEGREE OF STENOSIS OF THE LEFT ANTRIOVENTRICULAR ORIFICE AND MITRAL INCOMPETENCE WAS COMPARED WITH TOMOGRAPHIC SIZES OF THE LEFT BRANCH OF THE PULMONARY ARTERY AND LEFT ATRIUM. IT WAS FOUND THAT SIGNIFICANT INCREASE (OVER 10.5 CM) OF THE LEFT ATRIUM DOES NOT CONTRADICT THE DIAGNOSIS OF TIGHT MITRAL STENOSIS AND INSIGNIFICANT MITRAL INCOMPETENCE, BUT THE ABSENCE OF SUCH AN INCREASE TESTIFIES, AS A RULE, AGAINST IMPORTANT MITRAL INCOMPETENCE. A MARKED DILATATION OF THE PULMONARY ARTERY IS CHARACTERISTIC FOR TIGHT MITRAL STENOSIS, AN ABSENCE OF SUCH A DILATATION DOES NOT CONTRADICT THE DIAGNOSIS OF TIGHT MITRAL STENOSIS. THERE WAS REVEALED A DISTINCT RELATION IN CONJOINT EVALUATION OF THE SIZES OF THE LEFT ATRIUM AND PULMONARY ARTERY.

UNCLASSIFIED

USSR

UDC 547.822.7'759:542.958.3:541.67:543.422.4.6' 1'544

POSHARSKIY, A. F., KUZ'MENKO, V. V., AZIMOV, V. A., and YAKHONTOV, L. N.,
Rostov State University, Rostov-on-the-Don, All Union Scientific Chemical-
Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Chichibabin Reaction in the Series of Aminopyridines, Azaindoles, and
Azaindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 9, Sep 73, pp 1232-1239

Abstract: In contrast to 3- and 4-aminopyridines the 2-isomers can be
aminated with sodium amide to yield 2,6-diaminopyridine. Among the dimethyl-
aminopyridines the 3- and 4-isomers are the most reactive ones in the Chichibabin
reaction. 2-Dimethylaminopyridine can be converted with difficulty to 2,6-
diaminopyridine in a reaction with sodium amide, the first step being the
replacement of the dimethylamino radical with the amino group. Azaindoles
and azaindoles do not react in the amination reaction. Under the influence
of sodium amide 1-phenyl-5-azaindole opens its pyrrole cycle forming 3-vinyl-
4-phenylaminopyridine.

1/1

- 6 -

USSR

ODD 821.596.2

POSHCHENKO, A.N.

"Concerning One Variation Of A Circuit For Suppression Of Lumped Noise In A Wideband Communication System"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works Of Educational Communication Institutes. Ministry Of Communication USSR), 1970, Issue 51, pp 200-203 (from RZh--Elektrosvyaz', No 6, June 1971, Abstract No 6.64.670)

Translation: For detection of noise in the circuit considered, a successive analysis of the spectrum of the input signal is used, and for its suppression -- an adjustable amplifier. In contrast to the familiar circuits for similar type devices, a supplementary frequency conversion of the signal is used in the circuit, and analyzers of the spectrum from the channel of the reference signal are eliminated. It is shown that the indicated change of the circuit makes it possible to eliminate a number of its defects (the necessity for use of several narrow-band filters and adjustable amplifiers with identical characteristics and the absence of the possibility of using matched filters), but at the same time reduces by 2π times the noise immunity with respect to the fluctuation noise. Nevertheless, it is shown that the circuit considered will find use during construction of wide-band short wave communication systems, because in this range of waves the principal form of noise is lumped. 1 ill. 2 ref. D.B.

1/1

USSR

UDC 621.385.2.032.21

POSHEKHONOV, P. V., NOSOV, A. A., POSHEKHONOVA, T. A., GENNAD'YEV, V. M.

"A Cold Cathode Based on Single-Crystal Whiskers"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1250-1253

Abstract: A multipointed autoelectronic cathode is developed with a working surface made up of single-crystal whiskers formed on a flat field by condensation of a material from the vapor phase. It is found that gold and nickel crystals from the densest groups of whiskers when condensed from the vapor phase. Preliminary results are given from tests of cathode specimens. It is expected that when it becomes possible to test these cathodes with a voltage pulse duration of 10-15 ns, a high level of working current and stability of operation over long periods will be achieved.

1/1

USSR

UDC 537.521

POSHEKHONOV, P.V., SOLOV'YEV, V.I.

"To The Problem Of Initiation Of Vacuum Breakdown Of Macroparticles"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific-Technical Collection. Gas-Discharge Devices), 1970, Issue 3(19), pp 107-109 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4A31)

Translation: The results are presented of experimental investigations of the dependence of the breakdown voltage of vacuum gaps on the diameter of the particles (50-1000 micron) initiating the breakdown. 6 ref. Summary.

1/1

USSR

UDC 621.385.2.032.21

POSHEKHONOV, P. V., NOSOV, A. A., POSHEKHONOVA, T. A., GENNAD'YEV, V. M.

"A Cold Cathode Based on Single-Crystal Whiskers"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1250-1253

Abstract: A multipointed autoelectronic cathode is developed with a working surface made up of single-crystal whiskers formed on a flat field by condensation of a material from the vapor phase. It is found that gold and nickel crystals from the densest groups of whiskers when condensed from the vapor phase. Preliminary results are given from tests of cathode specimens. It is expected that when it becomes possible to test these cathodes with a voltage pulse duration of 10-15 ns, a high level of working current and stability of operation over long periods will be achieved.

1/1

USSR

UDC 615.21.036.8

POSHIVALOV, V. P., Department of Pharmacology (Chief, A. V. Val'dman, Corresponding Member, Academy of Medical Sciences, USSR), First Leningrad Medical Institute imeni I. P. Pavlov

"Study of the Psychotropic Effect of Analgesics and Neuroleptics on a Model of Pain-Changed Investigatory Behavior"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 76, No 8, Aug 73, pp 72-75

Abstract: In experiments conducted on white mice, a study was made of the effect of analgesics (phentanyl, morphine) and neuroleptics (droperidol, chlorpromazine) on investigatory behavior under conditions of the combination of a pain stimulus with an experimental situation new to the animal, and on the dynamics of affective manifestations of the pain response. It was shown that the action of small doses of the preparations is oriented upon affective manifestations of pain, which include the most highly integrated behavior responses. Note is taken of the fact that this effect coincides with an influence upon the most complicated manifestations of behavioral activity. 2 tables. 5 references.
1/1

USSR

UDC 542.91:547.586.2:547.466:547.1'118

KARPAVICHYUS, K. I., POSHKENE, R. A., PUZERAUSKAS, A. P., KIL'SIHEVA, O. V.,
KNUNYANTS, I. L., Institute of Biochemistry of the Lithuanian SSR Academy
of Sciences and the Institute of Hetero-Organic Compounds of the USSR
Academy of Sciences

"p- and m-aminophenylalkene Acids and Their Derivatives Containing diethylene-
diimidophosphoryl and diethylenediimidothiophosphoryl Groups"

Moscow, Izvestiya Akademii Nauk SSR - Seriya Khimicheskaya, No 11, 1972,
pp 2549-2554

Abstract: The methyl esters of p- and m-aminophenylalkane acids and the
methyl esters of N-(p- and m-aminophenacyl)-DL-valine (R. Poshkene, et al.,
Tr. AN Lit-SSR, Series B, 1971) were phosphorylated by phosphorus oxychloride
or phosphorus thiooxychloride in inert solvents in the presence of bases.
Without separating the dichlorophosphoryl derivatives into individual forms
they were condensed with ethyleneimine by the method of N. Bestian (Liebings
Ann. Chem. , No 566, 210, 1950). The HCl separating out was found by triethyl-
amine or an excess of ethyleneimine. Thus, the methyl esters and sodium salts
of para and meta-aminophenylalkanes acids containing diethylenediimidophosphoryl
and diethylenediimidothiophosphoryl groups were synthesized, and the methyl
1/2

- 52 -

USSR

KARPAVICHYUS, K. I., et al., Izvestiya Akademii Nauk SSR -- Seriya Khimicheskaya, No 11, 1972, pp 2549-2554

esters and sodium salts of DL-valine, acylated by the para and meta-aminophenylalkanes acids containing diethylenediimidophosphoryl groups were obtained. The experimental procedures and results are described, and the physical and chemical properties of the compounds are tabulated.

2/2

USSR

UDC 547.832'759

KUTKEVICHUS, S. I., SHERENAS, K. S., and POSHYUNAS, R. I., Kaunas Poly-
technical Institute

"Study of the Reaction Products of Epichlorohydrine With Aromatic Amines.
XVII. 2-Halomethyl-2,3-dihydro-1H-benz[g]indoles, 3-Halo-1,2,3,4-
tetrahydrobenzo[h]quinolines and Their Derivatives"

Riga, Khimiya Geterotsiklicheskikh Soyedinenii, No 3, Mar 73, pp 342-346

Abstract: Reacting 7a,8-dihydro-7H-azirino[1,2-a]benz[g]indole with
hydrogen halides yields 2-halomethyl-2,3-dihydro-1H-benz[g]-indoles and
3-halo-1,2,3,4-tetrahydrobenzo[h]quinolines which could be further reacted
to yield respective N-nitroso and finally isonitroso derivatives. Heating
1-benzoyl-2-halomethyl-2,3-dihydro-1H-benz[g]indoles yields 2-(benzoyl-
oxymethyl)-2,3-dihydro-1H-benz[g]indole hydrohalides. Reaction of 3-halo-
1,2,3,4-tetrahydrobenzo[h]quinolines with thionyl chloride at room tempera-
ture yields 3-halo-6-chloro-1,2,3,4-tetrahydrobenzo[h]quinolines; when the
reaction is carried out at refluxing temperature, the product is 6-chloro-
benzo[h]quinoline.

1/1

USSR

UDC: 53.083.5

KAZACHKOVSKIY, V. V., POSIN, V. P., PUZIKOV, V. A., YAKOVENKO, V. A.,
YANUSHEVSKIY, V. A.

"A Device for Determining the Optical Difference of a Path by the St. Harmon Method"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 71, Author's Certificate No 322747, Division G, filed 3 Jul 69, published 30 Nov 71, p 155

Translation: This Author's Certificate introduces a device for determining the optical difference of a path by the St. Harmon method. The device contains a light source, an analyzer, a polarizer, a $\frac{1}{4}$ -wave plate with a photoelectric angle-of-turn pickup and display, a photoreceiver with module for marking the extremum value of the photocurrent connected to the registration unit. As a distinguishing feature of the patent, errors are eliminated in automatic determination of a whole number of orders of optical difference in a path and in finding the direction of the algebraically larger permittivity tensor by using a wedge compensator with photoelectric displacement pickup, display and registration unit which is equipped with a logical correction unit whose output is connected to the display.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF INFECUNDINE IN COMBINATION WITH ETHIMIZOL ON THE
REPRODUCTIVE CAPACITY OF RATS -U-
AUTHOR-(02)-PUSKALENKO, A.N., TOMILINA, I.V. P
COUNTRY OF INFO--USSR
SOURCE--AKUSH. GINEKOL. (MOSCCW) 1970, 46(3), 46-9
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--REPRODUCTIVE SYSTEM, RAT, BIOLOGIC REPRODUCTION, HORMONE,
SELECTIVE DRUG EFFECT, ADRENAL GLAND, ASCORBIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0766 STEP NO--UR/0580/70/046/003/0046/0049
CIRC ACCESSION NO--AP0134499
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0134499

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. EXPTS. WERE CONDUCTED WITH 150 MATURE FEMALE RATS, RECEIVING ETHIMIZOL (25-50 MG-KG) AND INFECUNDINE (0.156 MG OF NORETHYNDREL AND 6.2 MU G OF MESTRANOL PER 200 G OF WT.), EITHER SEP. OR IN COMBINATION. THE SUBSTANCES WERE INTRODUCED INTO THE STOMACH VIA A CATHETER ONCE A DAY FOR 14 DAYS. THE ANIMALS WERE KILLED 10-12 DAYS AFTER INSEMINATION. INFECUNDINE INCREASED THE UTERUS WT. FROM 158 TO 212 MG AND DECREASED THAT OF OVARIES FROM 48 TO 41 MG. ETHIMIZOL HAD THE SAME EFFECTS; HOWEVER, THE LOWEST DOSES DID NOT CHANGE THE UTERUS WT. SUBSTANTIALLY. COMBINED INTRODUCTION OF THE SAME DOSES OF INFECUNDINE AND ETHIMIZOL DECREASED THE WT. OF OVARIES FROM 48 TO 36 MG. THE ACTION OF INFECUNDINE WAS DECISIVE IN THIS EFFECT. A CONSIDERABLE INCREASE OF WT. OF ADRENAL GLANDS WAS OBSD. UNDER THE EFFECT OF ETHIMIZOL, WHILE INFECUNDINE HAD NO SUCH EFFECTS. THE CHANGES IN THE ASCORBIC ACID LEVEL IN ADRENAL GLANDS WERE INSIGNIFICANT UNDER THE EFFECT OF ETHIMIZOL, AS WELL AS OF INFECUNDINE. IN INSEMINATION EXPTS., PREGNANCY APPEARED IN 19 OF 20 CONTROL ANIMALS, IN 19 CASES IN ANIMALS RECEIVING ETHIMIZOL, IN 9 ANIMALS RECEIVING INFECUNDINE, AND ONLY IN 3 IN THE GROUP RECEIVING A COMBINATION OF INFECUNDINE AND ETHIMIZOL. FACILITY: LAB. FARMAKOL., INST. AKUSH. GINEKOL., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 669.721.042.6

ALEKSANDROVSKIY, S. V., VLASOV, V. A., LIBERMAN, M. D., POSKANENKOV, V. V.

"Experience in Production of Castings of Magnesium Alloys by Casting Under Pressure for Various Machine-Building Products"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 155-162. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G194 by the authors).

Translated: A description is presented of the manufacture of various products (hand and portable tools, motorcycles, motor vehicles) with Mg alloy parts. The parts were produced by casting under pressure. The results of testing have shown the possibility of industrial application of Mg alloys in place of aluminum alloys. 5 figs, 1 table.

1/1

USSR

UDC 536.63.083

POSKONIN, YU. A.

"On Behavior of Isochoric Specific Heat of Materials in Two-Phase Region"

Kazan', Tr. Kazan. Aviats. In-ta (Works of Kazan' Aviation Institute), No 133, 1971, pp 3-14 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, No 2, Feb 72, Abstract No 2.34.7)

Translation: The analysis of variation of C_{v2ph} , specific heat of water-argon mixture, along the isochores near the boundary curves is conducted. It is assumed that the peaks of the specific heat C_{v2ph} , observed in several investigations, whose magnitudes increase when approaching the critical point, are due to the pronounced surface of phase separation caused by factors not taken into account by classical thermodynamics such as: absorption far

1/2

USSR

POSKONIN, YU. A., Tr. Kazan. Aviats. In-ta, No 133, 1971, pp 3-14

away from critical point, adhesion to the calorimeter walls, fluctuations of calorimeter volume near the critical point. In order to verify these assumptions calculations were made for water in the region far away from the critical point. 4 illustrations. 1 table. 24 references.

2/2

1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EFFECT OF ADENINE NUCLEOTIDES OF THE ELECTRICAL AND MECHANICAL
ACTIVITY OF TAENIA COLI OF THE GUINEA PIG AND OF THE CIRCULAR MUSCLE OF
AUTHOR--(02)-POSKONOVA, M.A., MALCHIKOVA, L.S. P
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1494-7
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CESTODA, ANIMAL PARASITE, ADENINE, NUCLEOTIDE, GUINEA PIG,
FROG, DIGESTIVE SYSTEM, MUSCLE PHYSIOLOGY, ELECTROPHYSIOLOGY, PHOSPHATE,
ADENOSINE TRIPHOSPHATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1600 STEP NO--UR/0020/70/190/006/1494/1497
CIRC ACCESSION NO--AT0128990
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0128990

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INORG. PHOSPHATE (15MM), ATP, ADP, AND AMP INHIBITED ACTION POTENTIAL GENERATION AND CAUSED HYPERPOLARIZATION OF GUINEA PIG TAENIA COLI AND FROG STOMACH CIRCULAR MUSCLE, RESULTING IN A LOSS OF ELEC. AND MECH. ACTIVITY. THE STRONGEST EFFECT WAS CAUSED BY INORG. PHOSPHATE AND ATP, AND THE WEAKEST BY AMP AND ADENINE. APPARENTLY THE PHOSPHATE CONTENT OF THE NUCLEOTIDES IS CRIT. THE DEPOLARIZING EFFECT OF ACETYLCHOLINE WAS REDUCED BUT NOT ELIMINATED BY THESE COMPOS. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

POSLAYSKIY, YU. M., GAR, K. A., LUKANINA, V. S., and BEZUGLYY, S. F.

"Polydofen"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 34-42 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13W453 by T. A. Belyayeva)

Translation: Polydofen (I) is an insecticidal preparation containing 40% polychlorocamphene, 20% DDT, solvents and an emulsifier. Results are given for tests of I and other combined preparations of DDT with chlorinated terpenes in various regions of the USSR during aerial and tractor spraying of cotton. Timing, consumption rates and application conditions are given for I on cotton against the bollworm.

1/1

1/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--AZIMUTHAL FUNCTIONS OF THE EXTENT OF POLARIZATION OF SEPARATE LINES
IN THE LUMINESCENCE SPECTRA OF URANYL COMPOUND CRYSTALS -U-

AUTHOR-(03)-VOLODKO, L.V., KOMYAK, A.I., POSLEDOVICH, M.R.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 567-71

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--URANIUM COMPOUND, POLARIZATION, SINGLE CRYSTAL, LUMINESCENCE
SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/1534

STEP NO--UR/0048/70/034/003/0567/0571

CIRC ACCESSION NO--AP0125162

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125162

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLARIZATION OF THE MORE INTENSE LINES IN THE SPECTRA OF CSUD SUB2(ND SUB3) SUB3, RB SUB2UD SUB2(ND SUB3) SUB4, AND (NH SUB4) SUB2UD SUB2(ND SUB3) SUB4 SINGLE CRYSTALS WERE STUDIED IN ALL DIRECTIONS AROUND THE CRYSTAL AXIS BY A PREVIOUS METHOD (A. I. KOMYAK, ET AL., 1970). THE RESULTS ARE DISCUSSED FROM THE POINT OF VIEW OF A 3 DIMENSIONAL OSCILLATOR MODEL.

FACILITY: BELORUSS. GOS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

BUZA, M. K., POSNOV, N. N.

"On Inversion of Matrices in the System of Notation in Residual Classes"

Minsk, Teoriya i primeneniye mat. mashin--sbornik (Theory and Application of Mathematical Machines--collection of works), Belorussian University, 1972, pp 11-16 (from RZh-Kibernetika, No 5, May 73, abstract No 5V750 by the authors)

Translation: A method of matrix inversion is proposed which is based on using modulus arithmetic and enables improving the accuracy of calculations without increasing word length. Specific applications of this method are given. It is shown that the procedure is effective for matrix inversion and solution of systems of linear algebraic equations.

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USSR

UDC 621.357.13:669.298

SMIRNOV, M. V., KUDYAKOV, V. YA., POSOKHIN, YU. V., and KRASNOV, YU. N.

"The Equilibrium of Metallic Thorium with Melts of Alkali Metal Chlorides Containing Its Ion"

Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences USSR), Vyp 18, 1972, pp 2732 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L343 A. D. Davydov)

Translation: During the measurement of the equilibrium electrode potentials of thorium in the melts of alkali metal chlorides, it was determined that metallic thorium was reduced from Th^{4+} to Th^{2+} . The equilibrium constants K were determined for the reaction $\text{Th}^{4+}_{\text{melt}} + \text{Th}_{\text{solid}} \rightleftharpoons 2\text{Th}^{2+}_{\text{melt}}$ in all

the studied systems. Expressions were determined for the temperature dependence for the apparent standard electrode potentials (UP) of the Th^{4+}/Th and Th^{2+}/Th by the usual method. The relationship of the UP of Th^{2+}/Th and Th^{4+}/Th , K , other electrochemical characteristics to the nature of the salt solution was determined. The empirical equation relating these parameters to the radius of the cation of the salt was also determined.

1/1

USSR

P
UDC: 541.122.3-143

SMIRNOV, M. V., KUDYAKOV, V. YA., POSOKHIN, YU. V., and KRASNOV, YU. N.

"Electrochemical Behavior of Thorium in Fused Sodium Chloride and Equimolar Mixture of Chlorides of Potassium and Sodium"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, p 419

Abstract: The equilibrium potentials of thorium are measured for various concentrations and temperatures in fused NaCl and KCl-NaCl (50 mol.% NaCl). Empirical isotherm equations are produced, showing that a thorium electrode is reversible to mixtures of its ions Th^{2+} and Th^{4+} . Expressions are found for the temperature dependences of the apparent standard potentials of Th/Th (II) and Th/Th (IV) electrodes. Expressions are presented for the dependences of the equilibrium potential of thorium on its summary concentration.

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USSR

UDC: 681.3.06:51

GUREVICH, Ye. I., POSOKHOV, I. N.

"An Interrupt System and its Realization on the BESM-4 Computer"

V sb. Vychisl. tekhn. i vopr. kibernet. (Computer Technology and Problems of Cybernetics--collection of works), vyp. 8, Leningrad, Leningrad University, 1971, pp 137-147 (from RZh-Matematika, No 11, Nov 71, Abstract No 11V841)

Translation: The paper describes the functions of external and internal interruptions performed by an operational system for the BESM-4 computer. In developing the system of interruptions, the authors utilized the principle of minimum alterations and additions to the machine circuits, which requires programmed realization of the various functions of the system of interruptions. The interrupt system developed at the Computer Center of Moscow State University is used on the BESM-4 in an operational system with the TA-IM translator. It is noted that in addition to increased convenience and effectiveness of utilization of the TA-IM, there has been a sharp increase in the productivity of the computer in handling problems which require frequent attendance by a human operator.

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USSR

UDC: 681.3.06:51

GUREVICH, Ye. I., POSOKHOV, I. N.

"An Interruption System and its Realization on the BESM-4 Computer"

V sb. Vychisl. tekhn. i voпр. kibernet. (Computer Technology and Problems of Cybernetics--collection of works), vyp. 8, Leningrad, Leningrad University, 1971, pp 137-147 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V842)

Translation: The paper describes the functions of external and internal interruptions implemented by an operational system for the BESM-4 Computer. In developing the system of interruptions, the principle of minimum changes and additions to the machine circuits is selected, which requires programmed realization of certain functions of the interruption system. An interruption system developed at the Computing Center of Moscow State University is used on the BESM-4 computer working with an operational system with problems of the TA-1M translator. It is noted that in addition to improving convenience and effectiveness of utilization of the TA-1M, there was a sharp increase in the productivity of the machine in processing of problems requiring frequent attention by a human operator.

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USSR

UDC 8.74

PASIKA, L. I., SANNIKOV, V. N., POSOKHOVA, N. A.

"System of Standard Operators for Algorithmizing and Programming Economic Problems"

V sb. Probl. sistemotekhniki. Vyp. 1 (Problems of Systems Engineering. Vyp. 1-- collection of works), Sudostroyeniye, 1972, pp 154-167 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V444)

Translation: A procedure is described for selecting the system of standard operators for algorithmizing and programming economic problems. The basis for the procedure is the criterion of reducing the expenditures of time on programming with restrictions on the computation time and the ready-access memory size of the computer. The standard operator system comprises the following: 1) the file input operators (the file in machine code from the ready-access memory, the formation of annotations in the information file, the writing of the annotation into the information library catalog; 2) groups of decision operators (information search, preparation of it for operation in the nonstandard module, output to the nonstandard module, conversion and allocation of the results); 3) the groups of sorting operators (ordering the files in the ready-access memory and in the external memory by a given word); 4) the groups of control operators (the memory allocation, the control of the solution of the problem flow);

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USSR

PASIKA, L. I., et al., Probl. sistemotekhniki. Vyp. 1, Sudostroyeniye, 1972, pp 154-167

5) the group of servicing operators (symbol-by-symbol processing of the annotation, editing, symbol-by-symbol processing of the sentence). Examples of algorithmization and programming problems in the standard operator system are presented. The bibliography has 3 entries.

2/2

- 62 -

Graphite

USSR

UDC 669.11.2.022.4:669.018.4-154

KOSTIKOV, V. I., and POSOS'YEVA, G. D., Moscow Institute of Steel and Alloys

"Features of Impregnating Graphite With High-Melting Metals"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 5,
1973, pp 17-19

Abstract: Various theories of capillary impregnation are discussed. A formula developed for the calculation of the impregnation depth of a porous body, based on the theory of capillary impregnation, provides better agreement with experimental data than the kinetic regulatory derived previously by E. W. Washburn (Phys. Rev., 17(3), 1921) and E. K. Rideal (Philos. Mag., 44, 1922, No 246). A model of the porous channel in the form of a cyclinder is assumed, in which the capillary radius changes from R to $(R - \xi)$; ξ is the thickness of the carbide layer which increases with rising liquid metal in the capillary. A formula characterizes the dislocation of the metal in pores of graphite for systems with intense chemical interaction. The time dependences of the impregnation height h of PROG-2400 graphite with liquid titanium at 1720°C and 2100°C confirm the theoretically substantiated functional dependence $h = f(\tau)^{1/3}$. Three figures, six formulas, eight bibliographic references.

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Graphite

+2

USSR

UDC 669.3.035.2

YELYUTIN, V. P., KOSTIKOV, V. I., DERGUNOVA, V. S., SHURSHAKOV, A. N.,
POSOS'YEVA, G. D., and KHAKIMOVA, D. K.

"Effect of the Degree of Efficiency of a Graphite Grid on the Velocity of its
Treatment with Liquid Zirconium"

Tsvetnye Metally, No 4, Apr 71, pp 51-52

Abstract: Studies were continued on the penetration of liquid metals, in this case, zirconium, into the pores of graphite. Previous work showed that the penetration of zirconium into the pores reached a maximum and that zirconium carbide was formed. In the present work, a study was made of the effect of the ideal structure of the porous graphite on the velocity of penetration by the liquid zirconium. Cylindrical samples of carbon 20 mm in diameter and 60 mm in length were prepared from PROC-2400 stock. The samples were fired in an annular kiln at 1250°C for 280 hours, placed in graphite crucibles, covered with coke, and graphitized in a vacuum of 5×10^{-2} mm at 2000, 2400, and 2800°C for one hour.

X-ray diffraction patterns were made to determine the degree of conversion and then the samples were saturated with liquid zirconium at 1800, 2100, and 2250°C. The contact time varied between 5 to 20 sec; the velocity

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USSR

YELYUTIN, V. P., et al., Tsvetnye Metally, No 4, Apr 71, pp 51-52

in the rise of the melt in the pores was determined. X-ray diffraction showed that the samples processed at 2000°C have a turbostratic carbon structure. Thermal processing at 2400 and 2800°C leads to the appearance and breakdown of a three-dimensional ordering. The method of Maur and Mering was used to determine the extent of graphitization. The increase in the height of the melt in the pore with time gives a parabolic curve.

The average velocity of penetration is decreased with an increase in the interplanar constant and is the largest at 2100°C. As the melt penetrates along the surface of the pore, a chemical reaction occurs at the liquid zirconium-graphite interface, forming zirconium carbide as a result of the precipitation of zirconium carbide and a diffusion of carbon across the carbide layer.

The viscosity of the liquid zirconium also increases due to the presence of zirconium carbide and this in turn slows the penetration. The extent of graphitization can change the velocity of the firing process even without temperature changes.

2/2

USSR

Composite Materials

UDC 661.666.2.661:665

DERGUNOVA, V. S., SHURSHAKOV, A. N., POSOS'YEVA, G. D., LUTSENKO, L. N.

"Certain Strength Properties of Composite Graphite-Zirconium Carbide Materials"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug, 1972, pp 51-58.

Abstract: Results are presented from a study of the physical and mechanical properties of graphite-zirconium carbide and graphite-zirconium carbide-zirconium materials of various chemical compositions and structures. Strength properties were determined in the 20-2,500°C temperature interval using tensile-test specimens. Several factors influencing the strength of composite materials are studied. It is shown that the material with 75% graphite and 25% zirconium carbide has 30% higher tensile strength at 2,500°C than structural graphite type VPP. It is established that, by changing the degree of saturation of the zirconium phase of carbon, the physical and mechanical properties of the composition can be changed significantly. When there is residual zirconium present, in the 20-2,000°C temperature interval, the tensile and bending strengths are 1.5-3 times higher than when the carbide phase alone is present in the structure.

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USSR

UDC: 535.31;535.8

POSPEKHOV, V. G.

"Method of Determining the Seidel Sums of a Group of Lenses in a Complex Optical System"

Tr. Mosk. Vyssh. Tekhn. Uch-Shcha Im N. E. Baumana [Works of Moscow Higher Technical School Imini N. E. Bauman], No. 135, 1970, pp 23-30, (Translated from Referativnyy Zhurnal Fizika, No. 8, 1970, Abstract #8D1227, unsigned).

Translation: Calculation of the Seidel sums and both chromatic sums for the individual parts of a complex optical system is studied where $\alpha_1 = 0$, $\alpha' = 1$, $h_1 = 1$, $\beta_1 = 1$, $y_1 = x_1/f'$, $J = -1$. Known values of sums calculated for any part of the system under arbitrary conditions are used. An example is presented.

POSPELOV, D. A.

IDEATION AND AUTOMATA

JPRS 00103
24 September 1973

(2)

Complete translation of the Russian-language book by D. A. Pospelov and Y. M. Pushkin, "Mysleniya i Avtomaty, 1972, signed to press 17 February 1972, Izdatel'stvo Sovetskoye Radio, Moscow, 224 pages.

CONTENTS

	PAGE
Foreword.....	1
Introduction.....	2
Chapter 1. Man -- Large Systems -- Ideation.....	3
1. Control of Large Systems as a Problem-Solving Process.....	10
2. The Existing Situation.....	10
3. Problems.....	14
Chapter 2. Intuition and Cybernetic Problems.....	16
Chapter 3. Experimental Psychology of Intuition.....	18
1. Gnostic Dynamics.....	29
2. Correlation between Gnostic Dynamics and Systematic Arrangement of Elements in the Original Situation, as Related to the Ultimate Situation, as	29
3. "Mental Look".....	32
4. Phases of Gnostic Dynamics.....	38
5. The Integral Process of Gnostic Self-Regulation.....	42
Chapter 4. Quantitative Analysis of Intuition.....	45
1. Method of Experimental Measurement of Intuitive Processes.....	50
2. Quantitative Relations Between Intuitive and Operational Resultant Aspects.....	50
	53

[I - USSR - NJ]

CONTENTS (continued)

	Page
Chapter 5. Intellectual Self-learning of Man	63
1. Problems and Methods of Investigation	63
2. Dynamics of Instinctive Processes in Intellectual Self-learning ..	67
Chapter 6. Cerebral Informational Model of the Environment as the Psychological Basis of the Problem-solving Process	176
1. Model of a Situation as a Specific Factor in Activity Pertaining to Problem-solving	176
2. Problem solving and the Problem of Levels of Cerebral Self- regulation	176
Chapter 7. Psychology of Imitation and Automata Theory	84
1. Principles of Automata Theory	95
2. Basic Features of Cybernetic Modeling of the Problem-solving Process	95
Chapter 8. Models of Purposeful Behavior Rendered by Finite Automata ..	105
1. Formulation of the Problem	113
2. Examples of Purposeful Behavior of Automata	113
3. Formal Grammars and Classification Thereof	114
Chapter 9. Discrete Situation Nets and Relationship Models	125
1. Chief Definitions	125
2. Semantic Language	132
Chapter 10. Gyromats and Creative Problem Solving	135
1. Description of a Gyromat	139
2. Gyromats, Programs for Digital Computers, and Stimulus- reactive Automata	140
Chapter 11. Gyromat-controlled Large Systems	151
1. Introductory Remarks	151
2. Model of Description of Static Relations	154
3. Model of Description of Situative Relationships	156
4. Model of Generalization of Concepts	161
5. Model of Extrapolation of Situations	166
Conclusion	169
Bibliography	174
Bibliography	177

ROSPELDY, P. A.

FOREWORD

The distinctive feature of the present stage of development of science and technology is that the efforts of representatives of different branches of science are united to solve problems on the borderline of scientific areas that very recently were considered remote from one another. This applies, first of all, to cybernetic problems, which require the joint work of representatives of mathematics, engineering, and psychology to be solved.

The purpose of this book is to summarize some of the experience of the joint work of a psychologist and mathematician on research dealing with the patterns of human ideation and development of methods of modeling it. Summarizing the results of many years of experimental and theoretic work, the authors realize that the problem of the correlation between ideation and automata is one of the most complex problems of our times, and it cannot be dealt with completely within the framework of a single book. At this stage of research, it is more purposeful to show a wide circle of readers that human ideation, with all its complexity, can be subjected to precise natural scientific analysis, but the intellectual process merits development of new mathematical means of adequate description of objectively established patterns of this process.

Aside from formulation of the theoretical problem, the book also makes an attempt to show that cybernetic implementation of the results of psychological research may yield a certain practical effect. The authors are very grateful to Yu. I. Klyonov, who kindly agreed to write a chapter on the practical use of a method, developed with his participation, that stimulates the patterns of human ideation demonstrated experimentally.

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(2)

ANNOTATION

UDC: 519.95/135.5

This book analyzes the process of solving problems arising when controlling large systems. The results of experimental research on intuition, conducted using new objective methods, are submitted, and they allow us to comprehend the nature of the basic weaknesses in automatic theory in modeling human ideation. A psychological concept is formulated that permits the planning of development of new methods of programming in cybernetics and means of developing devices capable of controlling large systems. One of these methods is described: model control of dynamic situation systems. The practical effectiveness was shown with respect to adoption of this cybernetic method, based on psychological investigation of ideational activity of man.

The book is intended for specialists dealing with systems analysis, psychology, cybernetics, and applied problems of control theory.

There are 20 tables and 59 figures; the bibliography lists 71 items.

USSR

UDC 8.74

POSPELOV, D. A.

"Introduction to the Theory of Computer Systems"

Vvedeniye v teoriya vychislitel'nykh sistem (Introduction to the Theory of Computer Systems), Moscow, Soviet Radio Press, 1972, 380 pp, ill., 1 r. 17 k. (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V599K)

Translation: A study was made of some problems pertaining to the theory of computer systems. By the computer system we mean the set of computer circuits the construction of which can be realized by two means: either by combining the computer devices capable of functioning independently if necessary into a computer system or by constructing so-called homogeneous computer media from elementary computers with fixed or programmed structure. The book deals only with the problems connected with functioning of a computer system of the first type. Here, computer system theory is considered as the theory of algorithmic structures and operation systems of the computer systems and not as the theory of synthesizing computer system devices and modules. The book comprises an introduction and 10 chapters. The introduction contains a classification of the existing and planned computer systems with respect to structural and functional attributes. In Chapter I there is a study of the language models of the organization of the parallel-series computer process. A representation is 1/4

USSR

POSPELOV, D. A., Vvedeniye v teoriya vychislitel'nykh sistem, Moscow, Soviet Radio Press, 1972, 380 pp, ill., 1 r. 17 k.

given of the computer process in the level-parallel form corresponding to the level-parallel chart of the program. The second chapter pertains to the problems of segmenting the initial program in accordance with the given optimality criterion and the problems of formation of information on the mutual relation among the segments. In Chapter III a study was made of the problems of optimal static and dynamic level by level distribution of the operations of the level-parallel form of the program with respect to the computers in the computer system with and without consideration of the exchange time between the computers. In Chapter IV the basic principles of controlling the computer process in centralized and decentralized computer systems are formulated. It is proposed that the central control element in a computer system of the centralized type is realized structurally. In the class of decentralized computer systems, a study was made of the problems of synchronizing the computer systems which are homogeneous with respect to links with identical computers: annular, toroidal and octoidal types. In Chapter V there is a discussion of some problems of the output capacity of the computer system. In Chapter VI the problem of synthesizing the structure of the computer system to realize a class of problems is stated. A table of the basic quality indexes of the computer system is presented. The probability approach to selecting the number of computers in homogeneous all-purpose and specialized computer systems is

2/4

- 68 -

USSR

POSPELOV, D. A., Vvedeniye v teoriya vychislitel'nykh sistem, Moscow, Soviet Radio Press, 1972, 380 pp, ill., 1 r. 17 k.

described. In Chapter VII, the basic principles of memory organization in computer systems are analyzed. In accordance with the programmed, numerical and control information circulating in the computer system, the following memory levels are isolated: the total input-output memory of the system, the exchange memory of the system, the autonomous memory of the computers and the control memory of the system. Some problems connected with organization of the input-output memory of the system and the exchange memory of the system are discussed. In Chapter VIII there are descriptions of computer systems which operate in the interrogation-response mode. A study was also made of the problems of dynamic dispatching, dispatching with a periodic input flow and dispatching on the basis of the technological system. Chapter IX contains descriptions of computer systems operating in the package processing mode. During package processing in a computer system, calculation is realized simultaneously by many programs. The number of executed programs usually exceeds the number of computers in the system. Chapter X is devoted to computer systems operating in the external and internal time-sharing mode. The external time sharing provides for distribution of the system resources among the users. The internal time sharing assumes efficient utilization of the computer system processor. The quality characteristic of operation of the operation system in the time

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USSR

POSPELOV, D. A., Vvedeniye v teoriya vychislitel'nykh sistem, Moscow, Soviet Radio Press, 1972, 380 pp, ill., 1 r. 17 k.

sharing mode by means of various criteria is presented. At the end of each chapter a brief commentary and survey of literature on the problems investigated in the chapter are presented. The bibliography has 262 entries.

4/4

USSR

UDC: 51

MARKOVNIKOV, V. G., POPEL'OV, D. A.

"Evaluating a Class of Problems Realized in a Control System"

V sb. Programm. metod upr. Vyp. 1 (Program Method of Control, No 1--collection of works), Moscow, Computing Center of the Academy of Sciences of the USSR, 1971, pp 26-45 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V466)

Translation: A method is proposed for breaking up problems solvable by a computer system into type classes in order that the computer system might satisfy requirements of uniform loading of all elements of the structure.

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USSR

UDC: 681.3.06:51

POSPELOV, D. A.

"Control in Large Computer Systems"

V sb. Nauch. i prakt. probl. bol'shikh sistem. Sekts. Bol'shiye Sistemy. Teoriya, metodol., modelir. (Scientific and Technical Problems of Large Systems--collection of works. Theory, Methodology, Modeling), Moscow, "Nauka", 1971, pp 249-258 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V954)

Translation: The paper deals with the principles of organizing the computing process in computer systems of synchronous and asynchronous types constructed on the centralized, hierarchical and decentralized principle. It is shown that for all types of systems a uniform control system may be used with the aid of the principal matrix introduced in the paper, which reflects the structure of the parallel-multistage form of representation of the algorithm realized on the system. Author's abstract.

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USSR

UDC: 8.74

ПОСВЕТЛОВ, Д. А.

"Introduction to the Theory of Computing Systems"

Moscow, "Sov. radio," 1972, 380 pp, illustrated (from RZh--
Matematika, No 7, 1972, Abstract No 7V599K)

Translation: Some problems in the theory of computer systems are considered. By a computer system (CS) is meant a complex of computing devices whose construction can be realized in two ways: by combining computer devices capable of functioning independently, or by building the so-called homogeneous computing media of elementary machines with a fixed or programmed structure. The book deals only with the problems connected with operation of CS of the first type. The theory of CS can then be considered as the theory of the algorithmic structures and operational systems of the CS and not as the theory of the synthesis of CS devices and blocks. The book consists of an introduction and ten chapters. The introduction classifies existing and projected CS in accordance with structural and functional indices. Chapter 1 examines language models for organizing the parallel-sequential computing process. The computing process is represented in its stage-

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USSR

POSPELOV, D. A., "Sov. radio.", 1972, 380 pp

parallel form (SPF) corresponding to the stage-parallel program graph. The second chapter is devoted to problems of segmenting the original program to conform to a specified optimality criterion and problems of shaping information regarding the interconnection of the segments. Chapter 3 considers problems of optimal static and dynamic stage-by-stage distribution of the SPF program operators over the CS machines with and without considering the exchange time between machines. Chapter 4 formulates the basic principles of the control of the computing process in centralized and decentralized CS. It is then assumed that the central controlling agency (TsUM or TsKU) in the centralized type of CS is structurally realized. In the class of decentralized CS, consideration is given to problems of synchronizing CS which are homogeneous in their connections with identical computers: of the ring, toroidal, and octoidal types. Chapter 5 discusses some problems of CS productivity. The problem of synthesizing CS structures for realizing a class of problems is posed in Chapter 6. A table of the basic quality indices of the CS is given. A probable approach to the choice of the number of machines in homogeneous universal and specialized CS is described. Chapter 7 analyzes the basic principles of memory organization in the CS. In accordance

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USSR

POSPPELOV, D. A., "Sov. radio.", 1972, 380 pp

with the program, numerical, and control information circulat-
ing among the CS, the following memory levels are selected: general
input-output system memory (GISM), exchange system memory (ESM),
autonomous machine memory (AMM), and control system memory
(CSM). Several problems connected with the organization of the
GISM and ESM are discussed. Chapter 8 describes computing systems
which operate in the question-answer mode. Problems in dynamic
dispatching, dispatching for periodic input flow, and dispatching
based on the technical system are also considered. A description of the computing
systems operating in the mode of packet processing is given in
Chapter 9. In CS packet processing, computations in accordance
with many programs are simultaneously realized, while the number
of realizable programs usually exceeds the number of CS in the
system. Chapter 10 is devoted to CS operating in the external
and internal time division mode. External time division pro-
vides for distribution of the system resources among the consumers.
Internal time distribution presumes rational use of the CS pro-
cess. Operation quality characteristics of the system in the mode
of time division are given with the assistance of various criteria.
At the end of each chapter, a short commentary and review of the
literature on the problems discussed in that chapter are given.
Bibliography of 262 titles. V. Mikheyev
3/3

PO SPELOV

G

Acc. No.: AN0103344

Ref. Code: UR9012

FROM: FBIS/FPD, Cybernetics in the USSR, 28 April 1970, Nr 0026/70 P

"Cybernetics and Power Systems"

Moscow, Pravda, 26 Jan 70, p 1

Translation: At the Institute of Electrodynamics of the Ukrainian Academy of Sciences, programs have been created for use with "M-220" and "BESM-4" electronic computers; the programs are intended for routines ensuring the reliable and steady operation of the unified power systems.

Cybernetic machines have been installed in dispatcher administrations of the unified power systems. Having received a signal that the network is overloaded, the dispatcher seeks the counsel of the machine, and it issues the necessary recommendations with lightning-like speed.

The new programs are already being used in the Unified Power System of the European Part of the USSR, in the unified power systems of the Urals and Siberia. It has also been decided to use them for power systems being created in Central Asia.

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REEL/F RAME

18861547

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Acc. Nr.: AN0103344

About one million rubles in annual savings is involved in the realization of proposals of co-workers of the "Electric Power Systems and Networks" Chair of the Belorussian Polytechnical Institute for the "Volgogradenergo" System.

The head of the chair, Professor G. Pospelov, and docents M. Sych and V. Fedin have worked out methods of efficiently compensating for one of the types of loads in power systems. Using an electronic computer, the scientists calculated the most advantageous variant of compensating installations at substations of the "Volgogradenergo" System. Overall, losses of electric power have been significantly reduced. The recommendations of these Belorussian power-engineering workers are already being implemented by Volgograd workers.

The new methods can be used successfully in planning and carrying out any power system plan. On a nationwide scale, this will provide a tremendous economic savings.

2/2

MP

Reel/Frame

19861548

USSR

UDC: 51

POSPELOV, G. S.

"Concerning the Problem of the Program Method of Controlling Multisectoral Production"

V sb. Programm. metod upr. Vyp. 1 (Program Method of Control. No 1--collection of works), Moscow, Computing Center of the Academy of Sciences of the USSR, 1971, pp 5-25 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V465)

Translation: The paper deals with procedural problems of working out programs for developing and controlling multisectoral production. Principal attention is given to the problem of minimizing the time for achieving all goals.

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- 32 -

USSR

POSPELOV, G. S., SHAKHNOV, I. F.

"Some Problems of the Formation of Long-Term Development Programs"

Probl. Prikl. mat. i Mekh. [Problems of Applied Mathematics and Mechanics -- Collection of Works], Moscow, Nauka Press, 1971, pp 44-54, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V462 from the Resume).

Translation: This work is dedicated to methodological problems of the planning of large-scale interbranch and interregional operations. Such problems as the goal and task of operations, types of operations, plans for conduct of operations, programs (combined plans of multiyear expedient activity) and systems of programs are studied, as well as a number of basic aspects of the activity of organizational systems, performing planning and control of operations. A model is described of formation of a system of interrelated programs for combined development of various branches of the national economy. The model suggested is based on division of branches into two types in the first approximation: type 1 branches, which realize programs (type 1 programs) in the area of the national well being and defense, and type 2 branches, the purpose of the

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USSR

POSPELOV, G. S., SHAKHNOV, I. F., Probl. Prikl. mat. i Mekh., Moscow, Nauka Press, 1971, pp 44-54.

activity of which is to perform type 2 programs, providing the necessary resources for the fulfillment of type 1 programs. One possible method of preparing decisions is the formation of type 1 programs is described, based on a special probabilistic model allowing possible changes in the conditions under which operations are performed (realization of type 1 programs) to be considered.

USSR

UDC: 621.396.61:621.396.2

POSPELOV, I. I.

"Monitoring the Stability of Radio Transmitters"

Proizv.-tekhn. sb. tekhn. upr. M-va rechn. flota RSFSR (Production and Technical Collection. Technical Administration of the Ministry of the River Fleet of the RSFSR), 1971, vyp. 93, pp 31-33 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D297)

Translation: The article describes experience in monitoring the frequency stability of radio transmitters in the Volga Basin. Resumé.

1/1

- 108 -

USSR

UDC 621.791.052:539.4.001.24:669.71'5

P
PO SPELOV, K. S., CHERNYAK, A. Ya., and SVERDLIN, A. V.

"Properties of V92Ts Alloy Weld Joints After Prolonged Heating at 70° C"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, Nov 70, pp 35-44.

Abstract: Weld joints from the V92Ts alloy of the Al-Zr-Mg system were used in an investigation of the effect of prolonged heating at 70° C over a period of 1,000 and 3,000 hrs on the mechanical properties, susceptibility to cracking during bending impact, overall corrosion resistance, and tendency to cracking under stress. During aging at 20° C before and after welding, heating at 70° C over a period of 1,000 hrs increases the tensile strength of weld joints, especially with the use of V92sv and No 11 additive rods and less so with the use of AMg4Ts and AMg6 rods. After interrupted aging additional heating has practically no effect on tensile strength. Additional heating increases the crack susceptibility along the seam and fusion zone and also of the basic metal. Prolonged heating at 70° C over a period of 1,000 hrs after tempering at 200° C 3-4 hrs does not lead to stress corrosion. Weld joints from No 11 welding rods have the least susceptibility to corrosion under stress and those of AMg6 -- the highest.

1/1

1/2 050 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--UHF DEVICES WITH HARMONIZED ELECTRON FLOW -U-
AUTHOR--(02)-POSPELOV, L.A., USIKOV, A.YA. P
COUNTRY OF INFO--USSR
SOURCE--UKRAYIN. FIZ. ZH. (USSR), VOL. 15, NO. 5, P. 764-8 (MAY 1970)
DATE PUBLISHED----MAY70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS
TOPIC TAGS--KLYSTRON, TRAVELING WAVE TUBE, MAGNETRON, CYCLOTRON RESONANCE,
MASEP, SUBMILLIMETER WAVE, ELECTRON FLOW, UHF OSCILLATOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/1796 STEP NO--UR/0185/70/015/005/0764/0768
CIRC ACCESSION NO--AP0133701
UNCLASSIFIED

2/2 050

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133701

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECULATIONS ARE PUT FORWARD ON THE POSSIBILITY OF CREATING A SERIES OF NEW DEVICES BASED ON USING HARMONIZED ELECTRON FLOW. THE EQUIPMENT OF THIS TYPE MAY BE PERFORMED ON THE BASIS OF CONVENTIONAL DESIGNS OF A KLYSTRON, TRAVELLING WAVE TUBE, BACKWARD WAVE TUBE, MAGNETRON, MASER ON A CYCLOTRON RESONANCE AND VARIOUS MODIFICATIONS OF THE ABOVE MENTIONED DEVICES. IT SEEMS PROBABLE THAT THESE THEORETICAL AND EXPERIMENTAL STUDIES MAY LEAD TO DESIGNING EFFECTIVE OSCILLATORS, AMPLIFIERS AND HIGH STABLE MULTIPLIERS FOR MILLIMETER AND SUBMILLIMETER RANGES WHICH HAVE A LOT OF ENERGETIC, RUNNING AND TECHNOLOGICAL POSITIVE QUALITIES AS COMPARED WITH CONVENTIONAL DESIGNS. (12 REFS.).

UNCLASSIFIED

Heat Treatment

USSR

UDC 621.791.053.011:621.78:669.14.018.8

RAZIKOV, M. I., Doctor of Technical Sciences, POSPELOV, N. G., Engineer,
SAMOYLOV, M. I., and BERESNEV, G. A., Candidates of Technical Sciences, and
IVANOVA, M. A., Engineer

"Search for Optimum Heat Treatment Modes for N18K9M5T Steel Weld Joints"

Moscow, Svarochnoye Proizvodstvo, No 8, Aug 73, pp 13-16

Abstract: Results are presented from a study of grain growth in the heat-affected zone and the presence of the amount of weak stable austenite, enriched with titanium and molybdenum, in the weld joint of thin-sheet N18K9M5T maraging steel with a chemical composition (in %): 18.35 Ni, 8.75 Co, 5.1 Mo, 0.72 Ti, 0.015 C, 0.03 Si, 0.03 Mn, 0.003 S, 0.003 P, 0.02 Al. Weld samples were subjected to conventional heat treatment of heating to 810-830°C for 20 minutes, air cooling, aging at 475-485°C for four hours and air cooled, and a repeated heating treatment of 980-1000°C for 5-10 seconds, done 3-5 times with a heating rate of 100-300°C/sec. Analysis of mechanical tests (impact strength, tensile strength, rupture strength, etc.) showed that the repeated heating method yields properties 15-20% higher than for samples conventionally heat treated. Nine figures, two tables, 12 bibliographic references.

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POSPELOV, P.

1/1

MEDICINE

29 May 71

7. USSR

"Krasnaya Meditsinskaya Gazeta"

Moscow, Meditsinskaya Gazeta, 26 Mar 71, p 2

P. Pospelov - "rector, doesn't

79

PRO-SOVIET SCIENCE

1/1

G. USSR

"Kishinev Agricultural Institute Issled. M. V. Yuznet"

Moscow, Izvestiya, 3 Mar 71, p 4

Translation: Scientific associates of the Kishinev Agricultural Institute Issled. M. V. Yuznet, with help from workers of the Moldavian Fruit and Vegetable Association have been working for several years on experiments to develop new ways of preserving fruits for long periods. They have designed special metal containers with capacity up to 500 kilograms. In them, apples and pears can be kept until the new harvest, without losing their appearance or taste features.

Simultaneously, experiments are being done on preserving fruits in a controlled gas environment. It is planned to build a special gas fruit storage facility with a capacity of 1,500 tons in the republic.

1/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--INFLUENCE OF HISTONE UPON THE ABILITY OF POLIA AND POLIU TO THE
FORMATION OF DOUBLE COMPLEX -U-

AUTHOR--POSPELOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3, PP 367-371

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NUCLEOPROTEIN, NUCLEOTIDE, ORGANIC COMPLEX COMPOUND, MOLECULAR
STRUCTURE, HYDROGEN BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0151

STEP NO--UR/0463/70/004/003/0367/0371

CIRC ACCESSION NO--AP0120851

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--A0120851

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

ABSTRACT. FORMATION OF AN ARTIFICIAL NUCLEOPROTEIN COMPLEX CONSISTING OF COMPLEMENTARY POLYNUCLEOTIDES (POLYA AND POLYU), AND OF A HISTONE CONNECTED ELECTROSTATICALLY WITH THE LATTER, HAS BEEN STUDIED. BY THE METHOD OF RAPID MIXING, A SOLUBLE ONE STRANDED COMPLEXES OF POLYA AND POLYU WITH HISTONE WAS OBTAINED. THE FORMATION OF ONE STRANDED COMPLEXES WAS ACCOMPANIED BY SOME HYPOCHROMIC EFFECT, THIS EFFECT BEING MORE PRONOUNCED IN THE CASE OF INTERACTION OF THE HISTONE WITH POLYU. AT MIXING THE COMPLEMENTARY POLYNUCLEOTIDES BOUND TO HISTONE, A DOUBLE COMPLEX IS FORMED, THE HYPOCHROMICITY OF WHICH IS HIGHER THAN THAT OF PURE POLY A PLUS U COMPLEX. THE HISTONE DOES NOT HINDER THE FORMATION OF HYDROGEN BONDS BETWEEN POLYA AND POLYU.

FACILITY: INSTITUTE OF CYTOLOGY AND GENETICS, SIBERIAN BRANCH OF THE ACADEMY OF SCIENCES, USSR, NOVOSIBIRSK.

UNCLASSIFIED

CIRC ACCESSION
ZZZZZZZZZZZZ

UDC: 621.396.6-181.5(088.8)

USSR

MUKHIN, V. G., POSPELOV, V. M., POLYANTSEV, S. I.

"A Flux"

USSR Author's Certificate No 270850, filed 26 Feb 69, published 18 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 17174 P)

Translation: A flux based on organic acids is proposed for tinning the elements of micromodules. For complete removal of the flux residue from the surface of the micromodule, the acids are used in a glycerin solution in the following percentage weight ratios: glycerin 58-97, organic acid 3-42.

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PROCESSING DATE--11SEP70

UNCLASSIFIED

1/2 012

TITLE--A FIELD EFFECT TRANSISTOR -U-

AUTHOR--AYRAPETYANTS, S.V., KOMAROVSKIKH, K.F., MURYGIN, V.I., PO SPELOV,
V.V., STAFEYEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--PATENT NO 263750

REFERENCE--MOSCOW, OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NO

DATE PUBLISHED--10FEB70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PATENT, FIELD EFFECT TRANSISTOR, TRANSISTORIZED CIRCUIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1098

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

CIRC ACCESSION NO--AA0112220

UNCLASSIFIED

PROCESSING DATE--11SEP70

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--AA0112220
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS AUTHOR'S CERTIFICATE
INTRODUCES A FIELD EFFECT TRANSISTOR WHICH CONTAINS A PN JUNCTION AND AN
ISOLATED GATE ELECTRODE. THE TRANSISTOR DIFFERS BECAUSE TO PRODUCE AN S
SHAPED CURRENT VOLTAGE CHARACTERISTIC, THE PN JUNCTION IS ARRANGED
PERPENDICULARLY TO THE GATE ELECTRODE, AND THE BASE IS LONGER THAN TWO
DIFFUSION LENGTHS FOR THE MINORITY CHARGE CARRIERS.

UNCLASSIFIED

UDC 616-002.5-07-039.12

USSR

POSPELOV, V. V., MITAUER, L. Kh., and BEGLYAROVA, N. T., Kharkov Oblast
Tuberculosis Clinic

"Reasons for the Late Detection of Tuberculosis in Kharkovskaya Oblast"

Moscow, Problemy Tuberkuleza, No 12, 1971, pp 6-9

Abstract: Retrospective analysis of the case histories of 202 tuberculosis patients revealed that the main cause of the delay in diagnosing the disease was poor organization of occupational physical examinations: 75 persons (37.1%) employed in schools, restaurants, livestock farms, etc. did not receive the routine annual or semiannual checkups during the year prior to detection of the disease. In 26 cases (12.9%), general practitioners were delayed too long in referring the people for X-rays or consultation with a specialist. The latter was responsible for a wrong diagnosis in 12 cases (6%), while the roentgenologist failed to observe pathological changes on the X-rays in 4 cases (2%). Both factors were responsible in 13 cases (6.4%). Thus, doctors were to blame for late detection of the disease in 64.4% of the cases. An unusual course of the disease was the cause in 63 patients (31.2%), most of whom were suffering from infiltrative-pneumonic tuberculosis in the phase of caseous degeneration. In only 9 cases (4.4%) were the patients

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- 11 -

USSR

POSPELOV, V. V., et al., Problemy Tuberkuleza, No 12, 1971, pp 6-9

themselves to blame because of apparent indifference to their health and failure to see a doctor despite chest pains, high fever, and so forth.

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UDC 621.382.322

USSR

AYRAPETYANTS, S.V., KOMAROVSKIKH, K.F., MURYGIN, V.I., ROSPISLOV, V.V., STAFEYEV, V.I.

"Field Effect Transistor"

USSR Author's Certificate No 263750, filed 4 Dec 68, published 15 June 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B422P)

Translation: A field effect transistor is proposed which contains one p-n junction and an insulated gate electrode, with the p-n junction located perpendicular to the gate electrode, and the length of the base more than twice the diffusion length of the minority charge carriers. The transistor has a region of negative resistance in the volt-ampere characteristic (S-type).

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- 82 -

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UDC 621.382.33

USSR

AYRAPETYANTS, S. V., KOMAROVSKIKH, K. F., MURYGIN, V. I., POSPELOV, V. V.,
STAFEYEV, V. I.

"A Field-Effect Transistor"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8,
10 Feb 70, pp 57-58, Patent No 263750, Filed 4 Dec 68

Translation: This Author's Certificate introduces a field-effect transistor which contains a PN junction and an isolated gate electrode. The transistor differs because to produce an S-shaped current-voltage characteristic, the PN junction is arranged perpendicularly to the gate electrode, and the base is longer than two diffusion lengths for the minority charge carriers.



1/1

UNCLASSIFIED

PROCESSING DATE--16OCT70

1/2 026

TITLE--THEORY OF THE GALVANOMAGNETIC PROPERTIES OF GRAPHITE -U-

AUTHOR--POSPELOV, YU. A.

P

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 835-40

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GALVANOMAGNETIC EFFECT, ELECTRON STRUCTURE, GRAPHITE, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0452

STEP NO--UR/0181/70/012/003/0835/0840

CIRC ACCESSION NO--AP0107058

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 026

CIRC ACCESSION NO--APO107058

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN TERMS OF THE PHENOMENOLOGY, THE EFFECT OF THE ENERGY DEPENDENCE OF RELAXATION TIME ON THE GALVANOMAGNETIC PROPERTIES OF GRAPHITE WAS CONSIDERED. THE POS. SIGN OF THE HALL COEFF. AT LOW TEMPS. CAN BE EASILY EXPLAINED BY TAKING INTO ACCOUNT THE ABOVE DEPENDENCE. THERE IS A VARIATION OF THE SIGN OF THE PARAMETER GAMMA SUB2 OF THE ELECTRONIC SPECTRUM OF GRAPHITE, AND THIS CAN EXPLAIN THE GALVANOMAGNETIC PROPERTIES OF THIS MATERIAL AT LOW TEMPS.

FACILITY: MUSK. INST. NAR. KHOZ. IM. PLEKHANOVA, MOSCOW,

USSR.

UNCLASSIFIED

Acc. Nr: AP0037245

Ref. Code: UR 0301

PRIMARY SOURCE: *Voprosy Meditsinskoy Khimii*, 1970, Vol 16,
Nr 1, pp 95-98

HAPTOGLOBIN METABOLISM AT THE ANTISEPTIC INFLAMMATORY PROCESS

V. M. Rodionov, A. V. Pospelova, Yu. P. Reshetko, T. G. Kulakova

Institute of Biological and Medical Chemistry USSR Academy of Medical Sciences,
Moscow

Haptoglobin metabolism in control dogs and at the antiseptic inflammatory process induced by subcutaneous turpentine oil administration has been studied. Dogs were injected with haptoglobin 131 I and changes in total radioactivity of the animal, blood serum label excretion, the volume of circulating plasma, and serum haptoglobin concentration were registered. In the period of inflammatory focus development the rearrangements of haptoglobin from blood into tissue, decreases in the rate of its catabolism and increase in its synthesis took place.

D.M.

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REEL/FRA
19730172

Acc. Nr:

AT0048315

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR 0020

93720j Mechanism of the heterogeneous recombination of hydrogen atoms. ~~Pospelova, L. N.~~; Mvasnikov, I. A. (Fiz.-Khim. Inst. im. Karpova, Moscow, USSR). Dokl. Akad. Nauk SSSR 1970, 190(2), 390-3 [Phys Chem] (Russ). Recombination coeffs. were exptl. evaluated of H atoms on glass, quartz, and ZnO at concns. 10^9 - 10^{13} H atoms/cm² from -195 to 300°. It was concluded that the heterogeneous recombination of H atoms was the result of the primary interaction of free H atoms with chemisorbed H atoms both of the uncharged and of the charged type. H atoms phys. adsorbed or in an unknown, weakly chemisorbed form, play the main part in the process, while strong chemisorbed atoms play a minor role. The velocity of the heterogeneous recombination of H atoms on ZnO was independent of its electrocond. and, as a consequence, of its charge. S. Santoli

REEL/FRA
19800017

IB 18

1/2 009 UNCLASSIFIED
TITLE--DETERMINATION OF THE COMPOSITION OF SOME PEROXO COMPOUNDS -U-
AUTHOR--(02)-ZAYTSEV, L.M., POSPELOVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL KHIM. 1970, 25(2), 336-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC COMPLEX COMPOUND, CHEMICAL COMPOSITION, CHEMICAL ANALYSIS, HYDROXIDE, ORGANIC OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0676
CIRC ACCESSION NO--AP0113547
STEP NO--UR/0075/70/025/002/0336/0340
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD WAS DEVELOPED FOR THE QUAL. AND QUANT. DETN. OF THE O AND OH GROUPS IN SOME PEROXY COMPLEXES WHICH PERMITS THE DETN. OF THE COMPN. OF THE COMPD. OH GROUPS CAN BE DETD. BY TITRN. WITH 0.1N ACID IN THE PRESENCE OF 2 M KF. BRIDGE O IS DETD. BY TITRN. WITH 0.1N HCl IN THE PRESENCE OF 8, 9.5M KF.

FACILITY: INST. GEN. INORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.385.623.5

PLENKIN, V.YA., POSPELOVA, N.P.

"Study Of Short-Lived Frequency Instability Of Millimeter Wave Band Klystrons"

Tr. Mosk. aviats. in-ta (Works Of Moscow Aviation Institute), 1971, Issue 207, pp 239-244 (from RZh--Elektronika i yeye primeneniye, No 12, Dec 1971, Abstract No 12A258)

Translation: The paper describes the technique and the arrangement for measuring a short-lived frequency instability of millimeter wave band klystrons. The results are presented of an experimental measurement of the short-lived frequency instability at time segments of 0.1--16 microsecond. 3 ref. Summary.

1/1

USSR

UDC 911.3.616.986.5-022.935.4(47+57)

POSPELOVA-SHTROM, M. V.

"Tickborne Spirochetosis and Counter Measures in the USSR"

V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i trop. med. (Proceedings of the Scientific Conference Commemorating the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine -- collection of works), Moscow, 1970, p 54 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.111)

Translation: The number of ticks has been reduced by 50% in natural foci of tickborne spirochetosis, and morbidity has decreased to about 50 per year. However a few localities (as, for example, some rayons of the Western Pamir) maintain intensive foci of spirochetosis in settlements.

1/1

UDC: 536.421.4;541.123.7

USSR

BANDURKINA, G. V., MIRONOVA, N. A., and ~~POSPELOVA, R. V.~~

"Obtaining Monocrystalline Epitaxial $\text{Co}_x\text{Mg}_{1-x}\text{O}$ Solid Solution Films"

Riga, Izvestiya Akademii nauk Latvyskoy SSR -- Seriya fizicheskikh i tekhnicheskikh nauk, No 3, 1972, pp 32-33

Abstract: A description is given of a method for obtaining monocrystalline films of $\text{Co}_x\text{Mg}_{1-x}\text{O}$ by using chemical transport reactions in an HCl atmosphere in a small gap. Discs of 15 mm diameter and 1-1.5 mm high, made by ceramic techniques, were used as sources of $\text{Co}_x\text{Mg}_{1-x}\text{O}$. The original materials used were magnesium oxide of the analysis-pure type and cobalt nitrate of the "very pure" type. The magnesium oxide in powder form was impregnated with a solution of the cobalt nitrate in the proper concentration, was dried by evaporation and heated to 500-600° C for six hours to drive off the nitrogen oxide, and was then further heated at 1300° C until the formation of single-phase polycrystalline solid solutions of $\text{Co}_x\text{Mg}_{1-x}\text{O}$. The substrates were monocrystalline plates of MgO 0.5-1.0 mm thick. Members of the Institute of Physics, Academy of Sciences of the Latvian SSR, the authors express their gratitude to I. E. Tsirkunova and to Ya. M. Ksendzov for their assistance.

1/2 016

TITLE--RECOVERY OF ENERGY DURING CATALYSIS ON ADSORPTION CATALYSTS. II.

UNCLASSIFIED
PROCESSING DATE--20NOV70

SPECIFIC ACTIVITY -U-

AUTHOR--(04)-FCMINA, A.P., SHEKHUBALOVA, V.I., POSPELOVA, T.A., KOBOZEV, N.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 366-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM, CATALYSIS, CATALYTIC DECOMPOSITION, HYDROGEN PEROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/F--3002/1187

STEP NO--UR/0076/70/044/002/0366/0369

CIRC ACCESSION NO--AP0128805

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128605
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. CURVES OF SP. ACTIVITY FOR 2 SERIES OF ADSORPTIONAL PT CATALYSTS FOR THE DECOMPN. OF H SUB2 O SUB2 WERE ANALYZED. THE CATALYSTS WERE PT-SIO SUB2 WITH SURFACE AREA 180 OR 375 M PRIME2-G. THE CURVES SHOWED AN INCREASE OF SP. ACTIVITY AT HIGHER CONCNS. OF PEROXIDE. RESULTS INDICATED THE PRESENCE OF 2 TYPES OF ACTIVE CENTERS DURING THE REACTION: (PT SUB1) TYPICAL FOR CATALYTIC PROCESS, AND (PT SUB2) MORE COMPLEX AND WHICH PLAYS A BASIC ROLE IN THE EFFECT OF THE RECOVERY (OR RECUPERATION) OF ENERGY IN THE H SUB2 O SUB2 CATALYSIS. THE PARABOLIC SHAPE OF THE ACTIVITY CURVES, I.E., INCREASE HIGHER ISOTHERMIC ENERGY EVLUCTION ACTIVATION AS A RESULT OF HIGHER H SUB2 O SUB2 CONCNS., EVIDENCED A HIGH ENERGETIC ACTIVATION OF PT CENTERS ON THE CARRIER AS THE PT CENTERS DREW CLOSER. THUS, THE ENERGY LIBERATED IN EXOTHERMIC REACTION IS, APPARENTLY, PARTIALLY RECOVERED AND UTILIZED TO INCREASE THE YIELD PRODUCED BY ACTIVE CENTERS. THE RESULTS, THEREFORE, APPEAR CONSISTENT WITH THE THEORY OF ENERGY RECUPERATION INCATALYSIS, DEVELOPED BY V. V. MAZHUGA (1967). FACILITY: MOSK. GDS. UNIV. IM. LGMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.986.5-036.21(47)(091)

POSPELOVA-SHTROM, M. V. and ABDULKHASANOV, A. A., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy, Ministry of Health USSR, and Kyzyl-Kuysk Municipal Hospital (Kirgiz SSR)

"Origin of Village Foci of Tickborne Spirochetosis in the USSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 3, 1972, pp 264-269

Abstract: The source of village foci of tickborne spirochetosis in the USSR has usually been regarded as local *Ornithodoros* ticks. However, the inability of these ticks to travel considerable distances, the fact that their habits do not coincide with the locations of the most widespread village foci of spirochetosis, and the results of a recent thorough study of the taxonomy of these arthropods cast serious doubt on the validity of this view. In its place, the authors advance the theory that the disease was imported into Soviet Central Asia (Western Pamirs and Southern Kirgizia) from neighboring parts of Iran and Afghanistan via the historical caravan routes which date back about 2000 years. Large-scale migrations of peoples, endless wars in the Pamirs and adjacent regions, and the travels of pilgrims also helped to spread the tick.

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1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF AXIAL SUBSTITUTIONS ON COBALT CARBON AND COBALT NITROGEN
BONDS IN COBALOXIMES -U-
AUTHOR--(05)-ROSHCHUPKINA, O.S., RUDAKOVA, I.P., POSPELOVA, T.A.,
YURKEVICH, A.M., BORODKO, YU.G.
COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 466-70

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COBALT COMPLEX, OXIME, PYRIDINE, IR SPECTRUM, ELECTRON DONOR,
EXCHANGE REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1419

STEP NO--UR/0079/70/040/002/0466/0470

CIRC ACCESSION NO--AP0116866

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116866

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATING CHLOROPYRIDINE (OR TRIPHENYLPHOSPHINO) BIS(DIMETHYLGLYOXIME)COBALT SUSPENSION IN AQ. ETOH WITH NABH SUB4 GAVE COBALOXIMES I WITH INDICATED L AND R: C SUB5 H SUB5 N, ME, M. 220DEGREES; C SUB5 H SUB5 N, CD SUB3, D. 210DEGREES; PH SUB3 P, ME, M. 174-6DEGREES; PH SUB3 P, CD SUB3, M. UNSTATED; ME SUB2 S, ME, M. 178DEGREES; H SUB2 O, ME M. 108DEGREES; C SUB5 H SUB5 N, HOCH SUB2 CHCH SUB2 CL, M. 179-80DEGREES. THE IR SPECTRA ARE SHOWN. INCREASED ELECTRON ACCEPTOR NATURE OF SUBSTITUENTS IN I REDUCES THE FREQUENCY OF CO-C AND CO-N BANDS WHILE INCREASED ELECTRON DONOR ABILITY OF AXIAL LIGANDS IN I SHIFTS THE CO-C AND CO-N BANDS TOWARD HIGHER FREQUENCIES. FACILITY: VSES. NAUCH.-ISSLED. VIT. INST., MOSCOW, USSR.

UNCLASSIFIED

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UDC 576.851.48.095.38:576.851.315

USSR

POKROVSKAYA, M. P., EPSHTEYN-LITVAK, R. V., VIL'SHANSKAYA, F. L., RAKHIMOVA, N.G.,
POSEPELOVA, V. V., KUDRYAVTSEV, N. G., SIL'VESTOVA, T. N., KALIHINA, A. M., and
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"In vitro Antagonistic Activity of E. coli (Strain M-17) and B. bifidum
(Strain 1) Against El Tor Cholera Vibrios"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,
pp 54-59

Abstract: The antagonistic activity of E. coli (strain M-17) and B. bifidum
(strain 1) against 11 El Tor cholera vibrio strains (Inaba serotype 6 and Ogawa
serotype 5) was studied in mixed cultures in vitro. During the first 6 hours
of combined cultivation of E. coli and a cholera vibrio strain both microbial
species grew, but the number of live vibrios began to decrease after 24 hours
and after 48 hours almost all were dead. B bifidum had a similar inhibiting
effect on vibrio growth. In the presence of both antagonistic strains, all
the vibrios died within 48 hours without reproducing in the initial period of
cultivation. It is suggested that the antagonistic activity of the two strains
under study might be duplicated in an intestinal biocenosis and that a prepara-
tion made from these microorganisms (a combination of colibacterin and
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(5)

POKROVSKAYA, M. P., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 10, 1972, pp 54-59

bifidumbacterin) should, in principle, be an effective means of treating
vibrio carriers and correcting the change in intestinal microflora observed in
cholera.

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Therapy

USSR

POSPELOVA, V. V., RAKHIMOVA, N. G., KOROLEVA, A. I., D'YAKOVA, Ye. I.,
KURNOSOVA, N. A., and SMIRNOV, G. V., Moscow Scientific Research Institute of
Epidemiology and Microbiology

"New Forms of Kolibakterin -- a Preparation for Nonspecific Prophylaxis and
Therapy of Intestinal Infections"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 6, 1970, pp 48-49

Abstract: Kolibakterin is a preparation of live bacteria of antagonistic E. coli M-17 strain. It has been used fairly successfully as a drug for nonspecific prophylaxis and therapy of acute dysentery and chronic colitis, and for the restoration of the normal intestinal microflora in various bacterial diseases. However, the form in which it was available -- a loose mass in vacuum ampules -- made tedious weighing and dissolving of individual doses necessary. Furthermore, the bacteria were partly destroyed in the stomach by hydrochloric acid. Early attempts to press the mass into tablets were unsuccessful, since the biological activity of the preparation rapidly decreased. A new method of obtaining kolibakterin in dry form and pressing it into tablets or packing it into gelatin capsules has been developed. Preliminary tests have shown that both the tablets and the capsules are as effective as the original preparation. The next step is to mechanize the procedure and to use acid-resistant capsules.

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1/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF RHEUPOLYGLUCIN ON METABOLIC PROCESSES IN THE ORGANISM -U-
AUTHOR--(05)--STEPARYAN, YE.P., POSPELOVA, YE.P., YARLYKOVA, YE.I.,
SHURKALINA, T.KH., KYUMINA, YE.N. P
COUNTRY OF INFO--USSR
SOURCE--EKSP. KHIR. ANESTEZIOL. 1970, 15(1), 40-4
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DEXTRAN, MOLECULAR WEIGHT, BLOOD PLASMA, BLOOD CHEMISTRY,
PROTEIN, FIBRINOGEN, CALCIUM COMPOUND, BLOOD VOLUME, MYOCARDIUM, ENZYME
ACTIVITY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0474 STEP NO--UR/0481/70/015/001/0040/0044
CIRC ACCESSION NO--AP010111
UNCLASSIFIED

PROCESSING DATE--20NOV76

UNCLASSIFIED

2/2 027

CIRC ACCESSION NO--AP0131111
ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. RHEOPOLYGLUCIN (A PHARMACEUTICAL PREPN. OF DEXTRAN, WITH MOL. WT. 35,000-40,000), INFUSED IN DOGS AT 10, AND 30 MG-KG PRODUCED SLIGHT, AND AT 50 MG-KG PRONOUNCED, DECREASES IN THE CONCN. OF TOTAL PROTEINS, FIBRINOGEN, AND CA PRIME2 POSITIVE IN PLASMA; A TRANSIENT 50PERCENT INCREASE IN THE VOL. OF CIRCULATING BLOOD HAS ALSO OBS. AT 50 MG-KG, A 50PERCENT DECREASE IN THE OXIDATIVE PHOSPHORYLATION OF MYOCARDIAL TISSUE AND DISTURBANCES OF THE ELECTROLYTE BALANCE WERE EVIDENT. FACILITY: INST. SERDECHNO-SOSUDISTOI KHIR. IN. BAKULEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 615.384.015.42

STEPANYAN, YE. P., POSPELOVA, YE. P., YARLYKOVA, YE. I., SHURKALINA, T. KH., RYUMINA, YE. N., SHVETSOV, I. M., LOGINOVA, L. I., and KOLESNIK, T. F., Biochemistry Laboratory, Institute of Cardiovascular Surgery imeni A. N. Bakulev, Academy of Medical Sciences USSR

"Experimental Data on the Effects of Rheopolyglucine on the Metabolic Processes"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 1, 1970, pp 40-44

Abstract: Rheopolyglucine is a Soviet analog of dextran. In experiments on dogs, doses of 10 and 30 ml/kg of body weight had little effect on the biochemical indices studied (volume of circulating blood, sugar content, total protein, K, Na, and Ca electrolytes, etc.). Larger doses (50 ml/kg) produced more significant effects. Low and moderate doses of the plasma substitute reduced the total plasma protein and lowered the fibrinogen and calcium levels, shifts caused partly by dilution of the blood. However, the fact that these shifts were more substantial after the 50 ml/kg dose, and that oxidative phosphorylation and the electrolyte balance were disrupted at this 1/2