

ACCESSION NO--AP0122276 UNCLASSIFIED PROCESSING DATE--23OCT70
 ABSTRACT. THE AUTHORS DEVELOPED PROPER
 ABSTRACT/EXTRACT--(U) GP-0- TECHNICAL FOR PERFORMANCE OF BLOCKADES IN 10 MALE CAVALERS. AFTER THAT
 A COMPLEX TREATMENT OF 99 PATIENTS WITH PROSTATITIS USING PARAPROSTATIC
 NOVOCAINE BLOCKADES IN COMBINATION WITH ANTIBIOTICS AND HYDROCORTISONE
 WAS CARRIED OUT. AMONG THE PATIENTS 20 HAD ACUTE AND 79 CHRONIC
 PROSTATIS. FROM 2 TO 5 BLOCKADES WERE USED PER COURSE. A TOTAL OF 393
 BLOCKADES WERE PERFORMED. THE TREATMENT WAS GIVEN IN 71, IMPROVEMENT,
 IR, 15, NO EFFECT, IN 13 CASES. TREATMENT OF PROSTATITIS WITH
 PARAPROSTATIC NOVOCAINE ANTIBIOTIC BLOCKADES IN COMBINATION WITH
 HYDROCORTISONE IS AN EFFECTIVE METHOD WHICH MAY BE USED BY EVERY
 PHYSICIAN. FACILITY: KAFEDRA UROLOGII VOYENNO-MEDITSINSKOY
 AKADEMII IM. S.M. KIROVA, LENINGRAD. GORODSKAYA DERMATO
 VENEROLOGICHESKAYA BOL'NITSA. FACILITY: LENINGRAD.
 KOZHNO-VENEROLOGICHESKIY DISPANSER NO 14.

UNCLASSIFIED

USSR

UDC 546.621'86:839.238

PALATNIK, L. S., BOGATOV, P. N., MARINICHEVA, V. Ye., BOVSTONOG, V. A., and
SRVYDKIY, I. D., Khar'kov Polytechnical Institute imeni V. I. Lenin

"Preparation and Properties of Condensed AlSb Films"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 6, No 6,
Jun 70, pp 1086-1089

Abstract: Results are reported on an investigation of the electrical properties of condensed AlSb films (thickness, 5-30 μ) produced by a method previously described by one of the authors (Palatnik). AVOOO aluminum and GyO antimony were used for the preparation of AlSb. An analysis of the condensates shows that when the method of synchronous condensation of the elements of the compound is used, films prepared at temperatures $\geq 500^\circ$ C have semiconductor properties and the compound produced is close to the stoichiometric.

1/1

- 61 -

UNCLASSIFIED

TITLE--EFFECT OF MAGNETIC IMPURITIES ON ELECTRON HOLE SINGLET COUPLING -U-

PROCESSING DATE--13NOV70

AUTHOR--(02)--TOVSTYUK, K.D., BAGINSKIY, V.M.

COUNTRY OF INFO--USSR

SOURCE--UKRAYIN. FIZ. ZH. (USSR), VOL. 15, NO. 5, P. 780-8 (MAY 1970)

DATE PUBLISHED---MAY70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON HOLE, TRANSITION TEMPERATURE, IMPURITY LEVEL, ELECTRON SPIN, FERROMAGNETIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1787

STEP NO--UR/0185/70/015/005/0780/0788

CIRC ACCESSION NO--AP0133702

UNCLASSIFIED

022

CIRC ACCESSION NO--AP0133702
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. THE EFFECT OF LOCALIZED SPINS IS STUDIED AS APPLIED TO ELECTRON HOLE SINGLET COUPLING. THE TRANSITION TEMPERATURE IS DETERMINED AS A FUNCTION OF MAGNETIC IMPURITY CONCENTRATION. THE TRANSITION TEMPERATURE IS SHOWN TO DECREASE WHEN INCREASING IMPURITY CONCENTRATIONS AND THE VALUE OF INTERACTION EXCHANGE. (10 REFS.).

UNCLASSIFIED

USSR

UDC [621.357.7:669.587]:669.872

AKHMETOV, T. Z., TOYBAYEV, B. K., and ZEBREVA, A. I.

"Cementation of Indium and Antimony by an Amalgam of Zinc"

Izv. byssh. ucheb. zavedniy. Khimiya i khim. tekhol. (Bulletin of the Institute of Higher Learning. Chemistry and Chemical Technology), 15, No 10, 1972, pp 1570-1573 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L330 by I. G. Abidov)

Translation: A radiochemical method was used to study the behavior of In (III) and Sb (III) during amalgam cementation (AC) at 24°C in the following solutions: 4M₂SO₄, 3M HCl, and 3M KOH- 0.1M KNaC₄H₄O₆. Sb was cemented in the AC in all the solutions examined. In this case, part of the Zn was bound up with the Sb in the intermetallic structure. The In was cemented in the AC only from the HCl and alkali solutions. If there were no free Zn in the amalgam and if Sb were present in the solution, then In earlier in the AC cemented the Sb. In this case, In may again almost completely come into solution but the Zn bound up with the Sb remains in the amalgam.

1/1

USSR

UDC: 629.7.036.3 : 531.7

TOYBER, M. L. and MOSKVIN, V. V., Riga Institute of Aviation
Civil Engineers

"Device for Determination of Instant of Specific Rotor Blade Passing
by a Given Point"

USSR Author's Certificate, Class G 01 m 7/00, G 01 d 5/12, No 322682,
application 7.04.70, published on 27.01.72 (from Referativnyy Zhurnal-
Aviatsionnyye i Raketnyye Dvigateli, No 7, 1972, Abstract No 7.34.104)

Translation: The device fixes the instant of a specific rotor blade
passing by a given point; the device includes impulse pickups one of
which is located opposite a pin or the rotor, a valve system and pulse
counters; in order to segregate the signal emanating from the pickups
during the passage of rotor blade a resolution flip-flop is connected
to the valve system inlet; the flip-flop is controlled by a coincidence
block and by a blade controller-switch (1 illustration, resume).

1/1

- 176 -

USSR

UDC: 620.178.5

DOROSHKO, S. M., TOYBER, M. L., Riga "Red Banner" Institute of Civil Aviation Engineers, Imeni the Lenin Komsomol

"A Device for Studying the Oscillations of Working Blades in a Turbo-generator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 71, Author's Certificate No 322684, Division G, filed 2 Jun 69, published 30 Nov 71, p 140

Translation: This Author's Certificate introduces: 1. A device for studying the oscillations of working blades in a turbogenerator. The device contains an oscillograph to which a pulse rpm pickup is connected. As a distinguishing feature of the patent, measurement precision is improved by mounting the pickup at the peripheral section of the blades to produce a signal proportional to the distance of the pickup from the blades for measuring the frequency of blade oscillations. 2. A modification of this device distinguished by the fact that the frequency of oscillations of an individual blade are measured by connecting a diode between the peripheral pickup and the oscillograph.

1/1

- 135 -

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INTERCHANGEABILITY OF THERMO BIMETALLIC PLATES -U-
AUTHOR--(02)-MOSALOV, A.N., TOYGANBAYEV, YE.A.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 5, PP 45-48
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--BIMETAL, TECHNICAL STANDARD, PRECISION INSTRUMENT INDUSTRY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1556 STEP NO--UR/0422/70/000/005/0045/0048
CIRC ACCESSION NO--AP0120335
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--A0120335

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCURACY OF MANUFACTURE OF THERMO
BIMETALLIC PRATES IS CONSIDERED IN RELATION TO THEIR FUNCTIONAL
INTERCHANGEABILITY. THE ARTICLE IS USEFUL TO DESIGNERS, PRODUCTION
ENGINEERS AND STANDARDIZATION WORKERS IN METALLURGY AND INSTRUMENT
ENGINEERING.

UNCLASSIFIED

USSR

UDC 538.3.001

TOZONI, O. V.

"The Automation of Electromagnetic Calculations"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Elektromekhanika, No 12,
1972, pp 1293-1308

Abstract: The calculation of the electromagnetic process is the most difficult stage in the design of electrical equipment. The complexity of electromagnetic system design forms rules out the use of analytic calculations; therefore, with the appearance of electronic digital computers, numerical methods and the net and finite difference methods began to be intensively developed. However, the use of numerical methods for electromagnetic process calculations encountered difficulties. The volume of computations and the working storage required for the necessary accuracy are far beyond the capabilities of present-day digital computers. A way out of this crisis has been sought by improvements in numerical methods and increased computer capacity. But in the process one other possibility is overlooked. The advantages of analytic information conversion are obvious. But if a boundary-value

1/4

USSR

TOZONI, O. V., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Elektromekhanika, No 12, 1972, pp 1293-1308

problem solution cannot be obtained analytically, the analytic method is abandoned altogether and only the numerical method is used. Therein lies the error. The fact that the entire information conversion process cannot be performed analytically does not rule out analytic conversions at individual stages of the process. If some of the information conversions are done exactly and analytically, this will reduce the proportion of numerical conversions and, hence, the accumulation of errors. The information that should be subjected to analytic conversion is the most general part -- the properties inherent in all problems of a given class. When it has been converted once, the result can be used to construct a new mathematical model, in which the only information left for numerical conversion is the particular information reflecting the specifics of a concrete problem. Such an approach has already been used to formulate a boundary-value problem: differential equations and boundary conditions have been derived from a theoretical model i.e., part of the general information has been converted analytically. What the author has in mind is to increase this part. Information on the integral

2/4

USSR

TOZONI, O. V., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Elektromekhanika,
No 12, 1972, pp 1293-1308

merit of the new mathematical model is the simplicity of its automation. The algorithms and programs compiled for its numerical analysis do not depend on the form of the interfaces of the media. This means that a whole class of fields of varying geometry can be calculated from one and the same program, without any correction. The principal operation of the algorithm for integral equation solution is the operation of calculating definite integrals. The equations of the new model contain volume and surface integrals with a small number of different kernels. Hence, the software of the automated design system should consist of blocks -- standard programs for calculating all integrals that enter into the equations, programs for solving large systems of linear equations, and a compiler for the organization and control of the computing process.

4/4

- 84 -

USSR

TOZONI, G. V., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Elektromekhanika,
No 12, 1972, pp 1293-1308

properties of the investigated electromagnetic process can also be extracted from the theoretical model and, together with previous information, used to construct a new mathematical model. The more exact the information on the properties of the electromagnetic system that is used, the fewer the properties that will have to be found through numerical conversions. The introduction of additional information into the mathematical model narrows the class of functions in which a solution is sought, reduces the volume of computation, and limits distortions. The calculations of the electromagnetic process must be done in several stages, alternating analytic conversions wherever they can be made with numerical ones, leaving only routine processing for the computer.

The article shows how these considerations can be used to construct a new, improved mathematical model for calculating the field in an electromagnetic system, consisting of a laminated ferromagnetic core, a magnetizing coil fed by low-frequency sinusoidal current, and a copper screen. A great

3/4

1/2 C28
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--VISCOMETER FOR HIGHLY VOLATILE AND HYGROSCOPIC LIQUIDS -U-
AUTHOR--(04)--KRUMGALZ, B.S., DEREVSKAYA, V.I., TRABER, D.G., AMYANOVA, R.K.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(2), 246-7.
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS
TOPIC TAGS--VISCOMETER, SODIUM COMPOUND, FLOW MEASUREMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1444
STEP NO--UR/0032/70/036/002/0246/0247
CIRC ACCESSION NO--AP0112438
UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0112438

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HERMETIC VISCOMETER IS DESCRIBED WITH A "HANGING" LEVEL IN WHICH THE FLOW TIME OF THE STUDIED LIQ. IS INDEPENDENT OF ITS VOL. TO TEST THE VISCOMETER, THE VISCOSITY OF DIL. SOLNS. OF NAI IN MECN AT 50DEGREES WAS MEASURED. NO DETECTABLE CHANGE OF CONCNS. OF NAI WAS OBSD. AFTER 40 CONSECUTIVE MEASUREMENTS WITH THE SAME SAMPLE, I.E., AFTER 6 HR. FACILITY: SEV.-ZAPAD. ZAOCH. POLITEKH, INST., LENINGRAD, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--DEVELOPMENT AND SURVIVAL RATE OF STRONGYLATE EMBRYOS IN SHEEP AND CATTLE AND SEASONAL DYNAMICS OF THESE HELMINTH POPULATION QUANTITY IN
AUTHOR--TRACH, V.N.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK ZOOLOGII, 1970, NR 3, PP 73-75

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEMATODA, ANIMAL PARASITE, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1133

STEP NO--UR/0575/70/000/003/0073/0075

CIRC ACCESSION NO--AP0130163

UNCLASSIFIED

272 011
CIRC ACCESSION NO--AP0130163
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. FROM JUNE 3, 1963 TO JULY 30, 1967 AT THE PASTURES IN THE UKRAINIAN STEPPE THE EXPERIMENTS WERE CARRIED OUT FOR STUDYING THE PERIODS OF DEVELOPMENT AND SURVIVAL RATE OF EGGS AND LARVAE OF STRONGYLATA IN EXCREMENTS OF SHEEP AND CATTLE OF DIFFERENT AGE. THE DURATION OF DEVELOPMENT AND LIFE TIME ARE ESTABLISHED OF LARVAE OF THE III STAGE, PARASITIZING IN SHEEP AND CATTLE. IN EXCREMENTS OF ANIMALS AT THE AGE OF ONE YEAR AND YOUNGER THE MAXIMUM QUANTITY OF STRONGYLATA LARVAE WAS REGISTERED IN SEPTEMBER-OCTOBER, MORE SELDOM IN NOVEMBER AND IN THE EXCREMENTS OF ANIMALS OLDER THAN ONE YEAR IN MARCH-MAY AND AUGUST-OCTOBER. SEASONAL CHANGES IN THE QUANTITY OF STRONGYLATA POPULATIONS ARE CONSIDERED BY THE AUTHOR AS SEASONAL ADAPTATIONS OF THESE HELMINTHS. FACILITY: INSTITUTE OF ZOOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR.

UNCLASSIFIED

USSR

UDC 669.181

KNYAZEV, V. F., KABLUKOVSKIY, A. F., and TRAKHIMOVICH, V. I.
"Production and Use of Sponge Iron"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -
Collection of Works), No 75, Metallurgiya Press, 1970, pp 40-47

Translation: A general characterization is presented of the process of production and application of sponge iron. A review is made of the processes which have been most widely developed, the raw material, and the reducing agents. The chemical composition of sponge iron produced by the Sulinskiy Metallurgical Plant is presented. Brief results of experimental melts of this iron in a 5 T electric arc furnace are presented. The technology if the melts was normal, the melt indicators were somewhat reduced, but the metal produced contained fewer nonferrous metal impurities. Data are presented on melts with continuous charging of sponge iron, which yielded good results. 2 figures; 8 biblio. refs.

1/1

USSR

UDC 669.183.4:621.745.4

(1)

LESHCHENKO, I. P., TERESHCHENKO, V. T., MARTYNOV, O. V., TRAKHIMOVICH, V. I., and BORZENKOV, D. V., Tula Branch of Central Scientific Research Institute of Ferrous Metallurgy, Novo-Tula Metallurgical Plant

"Sponge Iron for Steel Melting Production"

Moscow, Metallurg, No 7, Jul 73, pp 20-22

Abstract: Investigations at the Novo-Tula Metallurgical Plant has revealed that iron ore concentrates with a maximum concentration degree must be used for the production of sponge iron suitable for remelting in steel melting aggregates. Factors which must be considered when using sponge iron in the capacity of raw material, burden, and substitute for steel scrap, are discussed. The increase of iron content in the iron ore concentrate at maximum reduction degree of 98% leads to the growth of metallic iron in the sponge according to

$$\Delta Fe_{met} = \frac{16\Delta Fe_{init}}{9.5}, \text{ where } \Delta Fe_{met} = \text{increase}$$

1/2

USSR

LESCHENKO, I. P., et al., Metallurg, No 7, Jul 73, pp 20-22

of concentration of reduced metallic iron in sponge (in %), and ΔFe_{init} =increase of iron content in initial concentrate (in %). The iron sponge oxidation dependence in storage on the metallization degree is characterized by $\Delta O = 9.93 - 0.094 y$, where ΔO =oxidation concentration increase in sponge iron during storage (in %), and y =metallization degree of initial sponge (in %). The Δy dependence on the storage time in open air is illustrated. Three figures, two tables.

2/2

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USSR

UDC:621.365.2+669.046.54/55

BORZENKOV, D. V., TRAKHIMOVICH, V. I., SHENDYAPIN, V. D., and KABLUKOVSKIY, A. F.

"Refining of Iron-Nickel Lump in Electric Furnaces"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 143-148

Translation: Data are presented on melting of a charge pig based on iron-nickel lump containing 2% nickel, up to 0.2% each phosphorous and sulfur in 5 T electric arc furnaces. The influence of the lump composition and technology of melting on the technical and economic indicators of melting is studied. The use of lump in melting high quality steel with preliminary refining allows steel with low content of nonferrous impurities to be produced. 4 figures; 2 tables; 3 biblio. refs.

1/1

21

1/2 023

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--RADIOISOTOPE INVESTIGATION OF THE LIVER FUNCTION IN THE
CYCLOPHOSPHAN TREATMENT OF LUNG CANCER -U-
AUTHOR--(03)--STARINSKIY, V.V., TRAKHTENBERG, A.KH., BATINOV, I.N.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 4, PP 32-38

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIOISOTOPE, MEDICAL NUCLEAR APPLICATION, LIVER FUNCTION
TEST, LUNG, CANCER, ANTINEOPLASTIC DRUG, ROSE BENGAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0939

STEP NO--UR/0241/70/015/004/0032/0038

CIRC ACCESSION NO--AP0109096

UNCLASSIFIED

2/2 023
CIRC ACCESSION NU--AP0109096
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT. DATA OF THE FUNCTIONAL STATE OF THE LIVER (BIOCHEMICAL AND THE RESULTS OF RADIOISOTOPE HEPATOGRAPHY WITH RADIOIODINE BENGAL ROSE) WERE STUDIED IN 30 PATIENTS WITH LUNG CANCER WHO WERE TREATED WITH LARGE SINGLE DOSES OF CYCLOPHOSPHAN. THE TEST WITH RADIOIODINE LABELLED BENGAL ROSE ENABLED TO DETECT CHANGES IN THE ABSORPTIVE EXCRETORY FUNCTION OF THE LIVER BEFORE TREATMENT. RADIOISOTOPE HEPATOGRAPHY POINTED TO THE ESSENTIAL TOXIC EFFECT OF CYCLOPHOSPHAN ON THE LIVER. THIS EFFECT DIRECTLY DEPENDED ON THE VALUE OF THE COURSE DOSE OF THE PREPARATION AND UPON THE CLINICAL RESULTS OF TREATMENT. THE DISTURBED INDICES OF THE ABSORPTIVE EXCRETORY FUNCTION OF THE LIVER PRACTICALLY REVERT TO NORMAL 2-3 WEEKS AFTER THE END OF CHEMOTHERAPY. THE TEST WITH RADIOIODINE LABELLED BENGAL ROSE IS A MORE SENSITIVE TEST FOR DETERMINING THE FUNCTIONAL STATE OF THE LIVER IN THE TREATMENT OF LUNG CANCER PATIENTS WITH LARGE SINGLE DOSES OF CYCLOPHOSPHAN THAN THE ROUTINE LABORATORY TECHNIQUES. THIS GIVEN GROUNDS TO RECOMMEND THIS TEST FOR THE ASSESSMENT OF RESERVES OF COMPENSATORY POSSIBILITIES OF THE LIVER. FACILITY: LABORATORIYA IZOTOPNYKH ISSLEDOVANIY, OTD. TORAKAL'NOY ONKOLOGII MOSKOVSKOGO N-I ONKOLOG. INST. IM. P. A. GERTSENA.

UNCLASSIFIED

USSR

UDC 614.7:615.285.7:632.95]-099

~~TRAKHTENBERG, I. M.~~, Professor, KAGAN, Yu. S., Professor, BELONozHKO, G. A., Doctor of Medical Sciences, ANTONOVICH, Ya. A., Candidate of Medical Sciences, and POL'CHENKO, V. I., Candidate of Medical Sciences, All Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers, and Plastics, Ministry of Health USSR, and Kiev Medical Institute

"Pesticides and Problems of Hygiene"

Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 14-17

Abstract: The following topics were discussed: the increasing use of pesticides all over the world, the mounting number of reported poisonings (from 1,700 cases in the period 1945-1949 to over 15,000 in the period 1955-1959), the varied effects of soil and water pollution, and the ability of some pesticides to interact with food proteins, fats, and vitamins and to alter the specific and nonspecific reactivity of the body to many pathological agents and physiological stimuli. These conditions require a massive research effort as a preliminary step in the intelligent control of the use of these toxic compounds. Of major importance is the development of adequate animal models to study the remote effects of pesticides, to determine the possibility of extrapolating the data to man, and to predict the potential dangers to health from low concentrations of the toxins.

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USSR

UDC 539.4

TRAKHTENBERG, B. F., IVANOV, A. I., DROBYAZKO, I. S.

"Study of the Post-Cycle Strength Characteristics of Tool Steel"

V sb. Dinamika, prochnost', kontrol' i upr. -- 70 (Dynamics, Strength, Monitoring and Control -- 70--collection of works), Kuybyshev, 1972, pp 209-213 (from RZh--Mekhanika, No 6, Jun 73, Abstract No 6V961)

Translation: A basis is provided for the necessity of studying the post-cyclic strength of tool steel. The information about the post-cyclic strength is the initial information for optimizing the heat refined conditions and selecting the tool steel for specific operating conditions. In the example of investigating 3Kh2V8F, 5Kh4SV4MF and 4Kh3VMF steel, the complex dependence of the post-cyclic hot strength on the heat treatment conditions is demonstrated, and the correlation is constructed for the hot post-cyclic ultimate strength as a function of the life of the dies.

1/1

- 52 -

USSR

UDC 539.186

BUYMISTROV, V. M., TRAKHTENBERG, L. I., Moscow Physical-Technical Institute

"Excitation of an Atom During Simultaneous Collision With Another Atom and With a Photon"

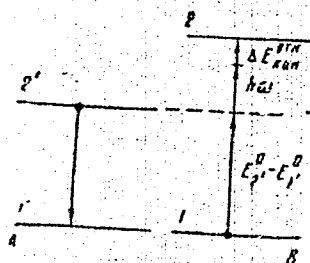
Tomsk, Izvestiya VUZov: Fizika, No 9(124), Sep 72, pp 66-71

Abstract: This paper deals with a mixed mechanism of excitation of an atom -- excitation during simultaneous collision with another atom and a photon. It is assumed that as a result of the collision, atom A makes a transition from state "2'" to state "1'", while atom B goes from 1 to 2 (see figure). Atom B is excited as a result of the energy of electron transition 2'-1' of atom A combined with the energy of a photon and the change in kinetic energy of relative motion of the atom (denoted by ΔE_{KH}^{OTH} in the figure). The cross section of this process is calculated. It is shown that for experimentally attainable values of electric field strength and other real values of parameters this cross section is comparable with the cross section of excitation of the atom by an electron collision.

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USSR

BUYMISTROV, V. M., TRAKHPENBERG, L. I., Izvestiya VUZov: Fizika, No 9(124),
Sep 72, pp 66-71



Energy diagram of excitation

2/2

1/2 031

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--THE STABILITY OF MR 20-50 MOLYBDENUM-RHENIUM THERMOCOUPLES IN AN ARGON ATMOSPHERE -U-

AUTHOR--(03)--OLEYNIKOVA, L.D., OLEYNIKOV, P.P., TRAKHTENBERG, L.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOw, IZMERITEL'NAYA TEKHNIKA, NO 2, 1970, PP 91-92

DATE PUBLISHED-----70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--THERMOCOUPLE, THERMAL STABILITY, THERMAL EMF, HIGH TEMPERATURE EFFECT, ARGON, MOLYBDENUM ALLOY, RHENIUM ALLOY/(U)MR20 50 THERMOCOUPLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1993/1571

STEP NO--UR/0115/70/000/002/0091/0092

CIRC ACCESSION NO--AP0114159

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0114159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF AN ANALYSIS OF EXPERIMENTAL DATA, THE MR 20-50 (0 PLUS 20PERCENT RE-MO PLUS 50PERCENT RE) THERMOCOUPLE IS PROPOSED, WHICH CAN BE USED FOR LONG TERM MEASUREMENTS OF HIGH TEMPERATURES IN NEUTRAL MEDIA, IN A VACUUM, AND IN HYDROGEN. THE STABILITY OF THE THERMO ELECTROMOTIVE FORCE OF THIS THERMOCOUPLE IN AN ARGON MEDIUM WAS STUDIED BY THE AUTHORS AT TEMPERATURES OF 1300-1800DEGREESC. AN EXPERIMENTAL LOT OF THERMOELECTRODE ALLOYS WAS PRODUCED AT THE MOSCOW ELECTRIC VACUUM DEVICE PLANT. THE RESULTS ARE PRESENTED.

UNCLASSIFIED

USSR

UDC 621.311.42:621.316.1

COROKHOVIR, D. I., MAKSIMOV, V. I., PARSADANYAN, V. V., TRAKHTENBERG, M. I.

"Six-Ten Kilovolt Transformer Substation for Municipal Electric Power Networks"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Municipal Electric Power Supply -- Collection of Works), Leningrad, Energiya Press, 1970, pp 222-225 (from RZh-Elektrotehnika i Energetika, No 3, Mar 71, Abstract No 3Ye80)

Translation: At Kishinev, a 630 kilovolt-ampere dual-transformer substation developed on the basis of the standard design No 407-3-52 (KSR-32-630) has been introduced. This substation is designed for application in areas where there are low buildings with high load density and responsible consumers. The buses are sectionalized on the 6-10 kilovolt-ampere side. This makes it possible to execute dual-wire circuits.

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1/2 G30

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--OUT PATIENT PROPHYLACTIC TREATMENT OF INDUSTRIAL WORKERS SUFFERING
OF HYPERTENSIVE DISEASE -U-
AUTHOR--(02)--TRAKHTENBERG, S.B., STADNIK, A.I.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 9-12

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROPHYLAXIS, INDUSTRIAL HYGIENE, HYPERTENSION, RESERPINE,
ELECTROCARDIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1723

STEP NO--UR/0475/70/000/005/0009/0012

CIRC ACCESSIGN NO--AP0129091

UNCLASSIFIED

2/2 030

CIRC ACCESSION NO--AP0129091

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE PRESENTED OF 145 PATIENTS WITH HYPERTENSIVE DISEASE RECEIVING IN SPRING AND AUTUMN PROPHYLACTIC COURSES OF TREATMENT IN OUT PATIENT CONDITIONS. RESERPINE TEST UNDER ELECTROCARDIOGRAPHIC CONTROL WAS USED FOR INDIVIDUALIZATION OF DRUGS. RAUWOLFIA PREPARATIONS WERE GIVEN ONLY TO THOSE PATIENTS WHO ADEQUATELY RESPONDED TO RESERPINE. PROPHYLACTIC OUT PATIENT TREATMENT RESULTED IN A LOWER INCIDENCE OF CRISES AND REDUCTION OF TEMPORARY LOSS OF THE WORKING CAPACITY.

UNCLASSIFIED

1/2 026
UNCLASSIFIED
TITLE--FROM THE EXPERIENCE OF WORK OF A CARDIORHEUMATOLOGICAL CENTER -U-
PROCESSING DATE--18SEP70
AUTHOR--TRAKHTENBERG, S.B.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 135-139
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RHEUMATIC DISEASE, HEART DISEASE, PROPHYLAXIS, CLINICAL
MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0669
STEP NO--UR/0475/70/000/003/0135/0139
CIRC ACCESSION NO--AP0102653
UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0102553
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--18SEP70

IN KRAMATORSK (50 BEDS) ENABLED TO CARRY OUT SPECIALIZED OUT PATIENTS AND IN PATIENT EXAMINATION AND TREATMENT OF THOSE SUFFERING OF RHEUMATIC DISEASES. FAVOURABLE RESULTS ARE REPORTED IN THE PROPHYLAXIS AND TREATMENT OF ADULTS AND CHILDREN WITH RHEUMATIC CARDIAC DISEASES IN CONDITIONS OF EXISTENCE OF SPECIAL RHEUMATOLOGICAL CENTERS. A REDUCTION OF GENERAL MORBIDITY AND MORBIDITY WITH TEMPORARY LOSS OF WORKING CAPACITY WAS OBSERVED FOLLOWING ORGANIZATION OF THIS CARDIORHEUMATOLOGICAL CENTER.

UNCLASSIFIED

Automata

USSR

UDC: 519.95

TRAKHTENBROT, B. A. and BARZDIN', Ya. M.

Moscow, "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

Translation: This book is devoted to the so-called behavioral theory of finite automata, in which the operation of the automaton is studied without regard to its structure. The principles of the automaton's behavior are interesting in themselves and are vital to the solution of the general problem of automaton design.

The book systematically presents the results recently published in periodic literature in our country and abroad. These results offer new methods of solving the design problem by using the formal language of mathematical logic and the methods based on polling (querying) the client. They also make it possible to explain tersely and from a single point of view the design methods already described in various studies. The book investigates in detail the most significant parameters of automaton behavior and considers idealized experiments with automata operating for infinitely long periods. Unrestricted use is made of the apparatus of mathematical logic, games, and linguistic interpretation.

1/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

The book is aimed at scientific personnel working in the area of theoretical cybernetics and mathematical logic as well as engineers interested in enlarging their understanding of the mathematical bases of automaton theory. It can be recommended to post graduate and specialization students.

TABLE OF CONTENTS

Foreword	
Chapter 0	9
Introduction	
1. Concept of the automaton	13
2. Types of automata	18
3. Automata and graphs	24
4. Some definitions	29
5. Survey of the contents of Chapters 1-5	34
Notes	41

2/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

Chapter 1. Behavior of Automata With No Outputs	
1. Representation of languages and superlanguages in automata	44
2. Interchangeability	48
3. Differentiating words and superwords	52
4. Recognition of finite automaton characteristics	57
5. Projections, sources, and macrosources	61
6. Operations on sources (macrosources) and the languages they represent (superlanguages)	68
7. Determination of sources. Operations underivable from the class of languages in finite automata	73
8. Determination of macrosources. Operations underivable from the class of superlanguages in finite automata	80
9. Proof of the concatenation theorem (Theorem 1.11)	82
10. Proof of the strong iteration theorem (Theorem 1.12)	87
11. Automaton probabilities	94
12. Grammars and automata	100
Appendices, problems, and examples	108
Notes	113

3/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

Chapter 2. Behavior of Automata With Outputs

1. Anticipation	114
2. Memory (weight)	121
3. Equivalent automata	126
4. Comparison of operator weight with the weight of the automaton realizing it	131
5. Representation of languages (superlanguages) and realization of operators. The uniformity problem	136
6. Return to recognition of the characteristics of finite automata	142
7. Games, strategies, and operators without anticipation	147
8. Game interpretation of uniformity problems	153
9. Ordered vectors and ordered strategies. Lemmas	156
10. Ordered strategy theorems	159
11. Attainability and differentiability spectra	163
12. Spectra of operators and the automata realizing them	168

4/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

13. Parameters of the finite automaton and its behavior	175
Appendices, problems	183
Notes	187

Chapter 3. Metalanguages

1. Preliminary examples and problems	189
2. Discussion of examples. Formulation of problems	192
3. Metalanguages of sources (macrosources), trees, and grammars	195
4. Metalanguage of regular formulas	199
5. Metalanguage of generally regular formulas	205
6. Logic metalanguage I	208
7. Expression of the logic metalanguage I	216
8. The normal form	222
9. Synthesis of the automaton representing the superlanguage determined by the I formula	227
10. Automaton synthesis from the conditions applicable to the operator and to the language	234

5/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

11. Cases in which a synthesis algorithm is not possible	237
Appendices, problems	244
Notes	247

Chapter 4. Decoding Automata

1. Introduction	250
2. Decoding relative "black languages"	261
3. Frequency criteria. Complexity of decoding almost all the relative "black languages"	269
4. General comments on decoding absolute "black languages"	275
5. Iterative algorithms	278
6. Decoding absolute "black languages" with any previously specified frequency through repeated algorithms	286
7. Evaluating the complexity of uniform decoding	293
8. Evaluating the complexity of decoding (nonuniform) Formulating the basic result	300

6/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

9. Proof of Theorem 4.8'	305
10. Decoding absolute "black languages" with any previously specified frequency through simple algorithms	307
11. Evaluating the complexity of decoding (nonuniform) in simple algorithms	315
Appendices, problems	326
Notes	333
Chapter 5. Statistical Evaluations of Automaton Parameters and Spectra	
1. Uniform statistical evaluation of the order of distinguishability	334
2. Uniform statistical evaluation of the saturation spectrum	348
3. Stochastic procedure for plotting automaton curves	351
4. Statistical evaluation of the attainment spectrum for automaton curves	354
5. Statistical evaluation of the diameter. Formulation of the basic result	357

7/8

USSR

TRAKHTENBROT, B. A. and BARZDIN', Ya. M., "Finite Automata (Behavior and Design)," 1970, front cover annotation and table of contents, pp 5-8

6. Helpful points from probability theory	359
7. Proof of a basic lemma	371
8. Lower statistical evaluation of the height of the automaton curve	386
9. Statistical evaluation of the attainment spectrum, degree of attainment, and restoration degree of automata	387
Notes	388
References	389
Index	396

8/8

Turbine and Engine Design

USSR

UDC 533.6.011.34

OL'SHTEYN, L. YE., and TRAIJTENBROYT, M. A., (Moscow)

"Nonuniform, Vortex, Compressible Gas Flow Past a Cascade of Plates"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika, Zhidkosti i Gaza, No 1, Jan-Feb 72, pp 92-100

Abstract: A solution is presented of the problem on flow past a cascade of plates, which moves in place-parallel subsonic flow of an ideal gas with a small steady velocity irregularity having a nonpotential characteristic. It is shown that in this case, monochromatic pressure waves are generated at frequencies, which are multiple of plates succession frequency. A hypothesis is suggested, according to which the pressure waves generation and acoustic energy radiation occur as a result of interaction between cascade and a small circumferential irregularity of free flow velocity, which is always present in real flows. Two cases are considered: Interaction of the vorticity with cascade of semi-infinite plates, and with cascade of plates having a finite chord. The results of calculations show that a velocity irregularity of the order of one tenth of one percent, with respect to main flow velocity can lead to acoustic energy radiation of up to 110-115 db. It is stated in the conclusion that using expressions obtained here formulas can be derived

1/2

USSR

TRAKHTENGERTS, E. A., SHUMEY, A. S.

"Equivalent Transform of Generating Grammars into Priority Grammars"

Zh. vychisl. mat. i mat. fiz. [Journal of Computer Mathematics and Mathematical Physics], 1973, 13, No 2, pp 446-455 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V731 by V. Shevyakov)

Translation: The priority is studied for any type 0 grammar, not only context-free grammars. An algorithm is constructed converting any grammar into a grammar with simple priority. This algorithm, in the portion concerning elimination of priority conflicts, agrees with that described by J. Macaffey and L. Presser (Journal ACM, 1972, 19, No 3) for context-free grammars.

1/1

USSR

VILENKIN, S. Ya., TRAKHTENGERTS, E. A.

"Control Computer Software"

Matematicheskoye Obespecheniye Upravlyayushchikh Vychislitel'nykh Mashin.
[English Version Above], Moscow, Energiya Press, 1972, 392 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V666K).

Translation: This book presents modern methods of organization of control computer software. Methods of multiprogramming, dynamic distribution of memory, formation of large files of information, construction of translators from programming languages and mathematical methods of program optimization are covered.

1/1

- 92 -

Analysis and Testing

USSR

UDC:669.18.046.546.2

SYPKOVA, YE. A., GINIYATULLIN, I. N., SHADRUNOVA, A. P. and TRAKHTENGERTS, M. L., Magnitogorsk Mining and Metallurgical Institute

"Determination of the Content of Sulfur in Steel by a Thermoelectric Method"

Moscow, Metallurg, No 1, Jan 74, pp 23-25

Abstract: The influence of sulfur on the thermal emf of steel is slight, so that the content of sulfur in a sample of steel cannot be determined by direct measurement of the thermal emf. However, if a strictly measured quantity (1.5%) of aluminum is dissolved in the steel specimen, a portion of the aluminum is bonded with the sulfur, while a portion remains in solid solution. The quantity of aluminum remaining in solid solution is inversely proportional to the quantity of sulfur in the specimen. Aluminum in solid solution has a great influence on the thermal emf, allowing an indirect determination of the content of sulfur in the steel. Laboratory and industrial experiments performed at two metallurgical combines have shown that the method provides good accuracy of sulfur determination (mean square variation from chemical method in sulfur content ranges 0.02-0.12% and 0.12-0.22% is ± 0.0025 and $\pm 0.0042\%$ S respectively). The analysis time is not over 1.5-2 minutes.

1/1

USSR

UDC 621.371.029.4 2

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

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

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

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

1/1

USSR

UDC 621.371.029.4

KOTIK, D. A. and TRAKHTENGERTS, V. Yu.

"Some Nonlinear Effects in the Propagation of Very Low Frequency Signals in the Earth's Magnetosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 164-167 (from RZh--Radiotekhnika, No 10, 1972, Abstract No IOA376)

Translation: The decay interaction and nonlinear hydrodynamic scattering of very low frequency waves, causing the appearance of low-frequency plasma oscillations in the ionosphere in addition to amplitude modulation and frequency broadening of the original wave spectrum, are considered. Bibliography of two. N. S.

1/1

UNCLASSIFIED

TITLE--FINITE AUTOMATA. BEHAVIOR AND SYNTHESIS -U- PROCESSING DATE--13NOV70

AUTHOR--(02)-TRAKHTENBRET, B.A., BARZDIN, YA.M.

COUNTRY OF INFO--USSR

SOURCE--(KONECHNYYE AVTOMATY, POVEDENIYE I SINTEZ) MOSCOW, NAUKA, 1970,
400 pp.

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MECH., IND., CIVIL AND
MARINE ENGR

TOPIC TAGS--FINITE AUTOMATON, SIGNAL DECODING, CIRCUIT PARAMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0273

STEP NO--UR/0000/70/000/000/0001/0400

CIRC ACCESSION NO--AM0132527

UNCLASSIFIED

CIRC ACCESSION NO--AM0132527
ABSTRACT/EXTRACT--(U) GP-0--

UNCLASSIFIED

PROCESSING DATE--13NOV70

INTRODUCTION 13. CHAPTER I BEHAVIOR OF AUTOMATA PREFACE 9. CHAPTER 0
 II BEHAVIOR OF AUTOMATA WITHOUT OUTPUT 44.
 IV DECODING OF AUTOMATA WITH OUTPUT 114. III META LANGUAGES 189.
 AND SPECTRA OF AUTOMATA 250. V STATISTICAL ESTIMATES OF PARAMETERS
 SUBJECT INDEX 396. COMMENTS 388. BIBLIOGRAPHY 389.

UNCLASSIFIED

USSR

UDC 532.516.2

TRAMPOL'SKIY, V. D.

"Application of the Hydrodynamic Theory of a Lubricant for a More Precise Calculation of Segmented Self-Adjusting Bearings of Hydraulic Turbines"

Gidravln. mashiny. Resp. mezhved. Nauchno-tekhn. sb. (Hydraulic Machines. Republic Interdepartmental Scientific-Technical Collection), 1969, No 3, pp 93-98 (from RZh-Mekhanika, No 4, Apr 70, Abstract No 48806)

Translation: The Reynolds equation was integrated for a segmented radial bearing. A parabolic distribution law for the pressure along the generatrices of the segments was assumed and the layer of lubricant in the gaps of all segments was assumed to be continuous. The calculations were performed on a computer. The load capacity and the angle of rotation of the segments are given as functions of the eccentricity of the shaft. A. I. Golubev.

1/1

- 35 -

UNCLASSIFIED

PROCESSING DATE--300CT70
SERUM -U-

TITLE--DETERMINATION OF CREATINE KINASE IN ANIMAL
AUTHOR--(03)-NOVIKOVA, N.V., TRANDOFILOVA, G.M., ZANIMONSKIY, YE.M.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELO 1970, (2), 105-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, ENZYME ACTIVITY, COLORMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0020

STEP NO--UR/9099/70/000/002/0105/0107

CIRC ACCESSION NO--AP0120720

UNCLASSIFIED

ACCESSION NO--AP0120720
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

BE USED FOR THE DETN. OF CREATINE KINASE IN BLOOD SERUM IS DESCRIBED.
THE SENSITIVITY OF THE APP. WAS INCREASED BY INSTALLATION OF A
DIAPHRAGM WITH CENTRAL SECTION OF 3.5 MM INTO THE MEASURING CELL OF THE
APP.
FACILITY: FIZ. KHIM. LAB., KHAR'KOV, INST. ENDOKRINOL.
KHIM. GORMON., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 547.341

TIMOKHIN, B. V., GRECHKIN, Ye. F., TRAN'KOVA, N. A., and YAKUTINA, O. A.,
Irkutsk State University imeni A. A. Zhdanov

"Reaction of Organic Derivatives of Phosphorus Pentachloride with Grignard
Reagents"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 1, Jan 71, pp 103-105

Abstract: Previous work by the authors showed that phenyltetrachlorophosphorane reacts with phenylmagnesium bromide in a 1:3 ratio to give triphenylphosphine. The authors undertook to ascertain the synthetic possibilities of this reaction and to find how the tertiary phosphine yield is affected by the nature of the organic radical in the Grignard reagent. It was found that phenyltetrachlorophosphorane, when participating in a reaction with a Grignard reagent which has alkyl radicals, is reduced to give trivalent phosphorus compounds. The yield of tertiary phenyldialkylphosphines is considerably lower than the yield of triphenylphosphine obtained by the analogous reaction and shows a regular decline with an increase in the volume of the substituent at the phosphorus atom. An exception is phenyldiisobutylphosphine, whose yield is considerably higher. The lower yield of phenyldialkylphosphines is apparently

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USSR

TIMOKHIN, B. V., et al., Zhurnal Obshchey Khimii, Vol 41, No 1, Jan 71, pp
103-105

due to the possible formation of phosphonium salts, as well as the formation
of tertiary phosphine oxides as a result of reduced oxidizing capacity.
Styryltetrachlorophosphorane likewise reacts with Grignard reagents to form
tertiary styrylphosphines.

2/2

1/2 036

UNCLASSIFIED

PROCESSING DATE--30OCT70
PYRIDINE DERIVATIVES -U-

TITLE--TOXIC ACTION OF 2, (BETA DIALKYLAMINOETHYL)
AUTHOR--(02)-DIKSHEYN, YE.A., TRANKOVSKIY, A.M.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 231-4

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXICITY, AMINE DERIVATIVE, PYRIDINE, IODINATED ORGANIC
COMPOUND, RNA, BRAIN TISSUE, CIRCULATORY SYSTEM, HISTOLOGY, LIVER, RAT,
MOUSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0793

STEP NO--UR/0390/70/033/002/0231/0234

GIRC ACCESSION NO--AP0119700

UNCLASSIFIED

CIRC ACCESSION NO--AP0119700
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--300CT70

ABSTRACT. 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE IODOMETHYLATE, 2, (BETA-METHYLAMINOETHYL) PYRIDINE-HCl, AND 2, (BETA-DIETHYLAMINOETHYL) PYRIDINE IODOMETHYLATE WERE TESTED FOR TOXICITY AND MORPHOL. CHANGES IN MICE AND RATS. THE RESP. I.P. LD SUB50 VALUES IN MICE WERE 367, 321, AND 144 MG-KG. DURING ORAL ADMINISTRATION, HOWEVER, 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE, HCl WAS ALMOST TWICE AS TOXIC AS 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE IODOMETHYLATE. HISTOL. INDICATED BRONCHOSPASMS, CIRCULATORY DISORDER, DYSTROPHIC CHANGES IN THE LIVER, MYOCARDIA WITH GREATLY REDUCED GLYCOGEN LEVELS, AND REDUCED LEVELS OF RNA IN THE BRAIN STEM AND SUBCORTICAL GANGLIA. SYSTEMATIC S.C. ADMINISTRATION OF 0.050.05 MILLIMOLE OF THE COMPS., KG OVER A PERIOD OF 2 WEEKS DID NOT AFFECT THE BEHAVIOR OR STATE OF THE ANIMAL. FACILITY: DONETS. GOS. MED. INST. IM. GOR'KOGO, DONETSK, USSR.

UNCLASSIFIED

Extraction and refining

USSR

UDC: 669.35:669.046.54/55

STREL'TSOV, F. N., TRANKOVSKIY, Ye. G., MOLDAVSKIY, O. D.

"Refining of Copper of Impurities upon Melting in a Vacuum Furnace"

Moscow, Tsvetnyye Metally, No 8, Aug 73, pp 40-43.

Abstract: It is demonstrated that the degree of refining of liquid copper is determined by the volatility of the components and is accompanied by evaporation of the copper. During melting in vacuum induction furnaces, the degree of refining is insignificant, while during melting in cathode-ray furnaces it is higher, but is accompanied by greater losses of copper.

1/1

172 019

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--ELECTROMYOGRAPHIC INVESTIGATION INTO INVOLVEMENT OF THE BODY AND LOWER EXTREMITIES MUSCLES IN THE LOCOMOTOR ACTIVITY IN PATIENTS WITH

AUTHOR--(02)--NESMEYANOVA, T.N., TRANKVILLITATI, A.N.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VJL 69, NR 4, PP 40-44

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TUPIC TAGS--SPINAL CORD, CENTRAL NERVOUS SYSTEM, MUSCULAR DISORDER, EXERCISE, ELECTROMYOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1988/1592

STEP NO--UR/0219/70/069/004/0040/0044

CIRC ACCESSION NO--AP0106338

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AP0106338

UNCLASSIFIED

PROCESSING DATE--02JCT70

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

ABSTRACT. THE POSSIBILITY OF THE LIMB MUSCLES TO PARTAKE IN THE VOLUNTARY ACTIVITY IN PATIENTS WITH COMPLETELY OR PARTIALLY SEVERED SPINAL CORD IS DEMONSTRATED. THE PATIENTS ARE MADE TO UNDERGO THERAPEUTIC EXERCISES CONCURRENTLY WITH PYROGENAL MEDICATION. IN THE COURSE OF TREATMENT THEY PRACTISE IN WALKING, CLIMBING THE STAIRS UP AND DOWN AND IN MAKING OTHER MOVEMENTS. THE AUTHORS BELIEVE THAT ACTIVE INVOLVEMENT OF MUSCLES INNERVATED FROM THE DISTAL LENGTH OF THE SPINAL CORD BECOMES POSSIBLE THANKS TO PLASTIC PROPERTIES WHICH THE SPINAL CORD ACQUIRES IN CONDITIONS OF DISSOCIATION WITH SUPERJACENT PORTIONS OF THE CENTRAL NERVOUS SYSTEM, AND ALSO BECAUSE OF INTENSIVE FUNCTIONAL USE.

UNCLASSIFIED

USSR

UDC 620.17

TAVADZE, F. N., GRIKUROV, G. N., TRANTSEVICH, YA. V., SUKHOTIN, A. M.,
ANTROPOV, N. P., and ROGATSKIY, A. L.

"Estimating the Strength of Materials and Their Welded Joints at Cryogenic
Temperatures by the Method of Testing Contour-Supported Disks for Flexure"

Kiev, Problemy Prochnosti, No 1, Jan 72, pp 109-112

Abstract: A description is given of the design of an attachment for a tensile testing machine for determining the strength of contour-supported disks by bending tests. Results are presented for the testing of basic sheet material and welded seams in the form of disks of the austenite-martensite class (steel of the SN-2A type) at temperatures of -196 and -253°C . The strength values were determined, and a comparative analysis of the obtained results with data concerning the strength of the basic metal and the welded seams was conducted. Study of the disks led to the conclusion that breakdown takes place at their point of contact with the punch in the zone of thermal influence. One table, 3 figures, 4 references.

1/1

- 171 -

USSR

UDC 539.5

TRANTSEVICH, Ya. V., POPOVA, L. S., POTAK, Ya. M., SUKHOTIN, A. M.,
GRIKUROV, G. N., ANTROPOV, N. P., Moscow, Tbilisi, Leningrad

"Study of Mechanical Properties of High Strength Stainless Steel of Transition Class EP288 [Kh16N6, SN-2A] at Cryogenic Temperature"

Problemy Prochnosti, No 10, 1971, pp 97-100.

Abstract: The purpose of this work was to study the properties of one of the most common chrome-nickel low-carbon steels in class EP288 at cryogenic temperatures. The studies were performed using experimental melts distinguished by their low carbon and chromium contents and varying contents of austenite in the steel structure. Heat treatment of the steel included hardening in water from 1,000°C, at which level dissolution of carbides occurs, cold treatment -70°C (2 hours) and tempering at 250°C (1 hour). The data indicated that type EP288 steel with the nominal composition, as well as all experimental melts except for one, has high ductility and impact toughness, including high impact toughness of specimens with cracks at down to -253°C. The nominal steel has high strength at both room and cryogenic temperatures, the level of which increases with decreasing test temperature.

1/2

USSR

TRANTSEVICH, Ya. V., et al., Problemy Prochnosti, No 10, 1971, pp 97-100

It is interesting to note that the strength of EP288 steel determined under such rigid test conditions as rupture of specimens with fatigue cracks at -196°C is retained or even increased in comparison to the strength of smooth specimens.

2/2

- 59 -

USSR

UDC 539.3

TRAPEZIN, I. I., ZASLAVSKIY, B. V., LOPOVOK, B. N.
and MIRONOV, A. I.

"Calculation of Local Stability of Three-Layer Corrugated Panel at
Normal and Elevated Temperatures"

Moscow, Prochnost' i Ustoychivost' Tonkostennykh Aviatsionnykh
Konstruktsiy, 1971, pp 250-266

Abstract: The subject panel consists of two skin plates with a
trapezoidal corrugated plate located between the two and plug
welded to them.

The local stability is calculated by the formula

$$\sigma_k = k \eta E \left(\frac{S}{l}\right)^2$$

USSR

TRAPEZIN, I. I., et al., Prochnost' i Ustoychivost' Tonkostennykh Aviatsionnykh Konstruktsiy, 1971, pp 250-266

where σ_K critical buckling stress
 K coefficient of end fixity given on figures 8 and 9
 η plasticity coefficient
 δ plate thickness
 l unsupported length of the plate

Experimental values of buckling stress versus $\frac{l}{\delta}$ for temperatures 20 to 500°C are shown on graphs.

Tables of theoretical and experimental values of buckling stress for different panel dimensions are also presented.

2/2

Water Treatment

USSR

UDC 532.61

TRAPEZNIKOV, A. A., and AVETISYAN, R. A., Institute of Physical Chemistry, Academy of Sciences USSR

"Effect of a Wave on the Ability of Monolayers of Cetyl and Octadecyl Alcohol to Reduce Water Vaporization"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 11, Nov 70, pp 2873-2878

Abstract: In previous articles by the authors studying properties of monolayers of different substances in connection with their ability to reduce water vaporization in the case of a quiet surface and under the action of a wave, it was shown that the wave has a direct effect on the vaporization resistance r of a cetyl alcohol monolayer. The present article studies the effect of a wave on the vaporization resistance r of monolayers of cetyl and octadecyl alcohol, compressed in various ways ("gradual" and "rapid" methods), at various two-dimensional pressures F . It is shown that there is very little increase in the area of the wavy surface over that of the flat surface for the wavelength and

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USSR

TRAPEZNIKOV, A. A., and AVETISYAN, R. A., Zhurnal Fizicheskoy Khimii, Vol 44, No 11, Nov 70, pp 2873-2878

amplitude being used. Wave action at all $F < 40$ dynes/cm results in reduced vaporization resistance. This may be due to reduced interaction of the alcohol molecules in the monolayer, increased mobility of the molecules in the monolayer and the appearance in the monolayer of additional fluctuation intervals which facilitate penetration of the water molecules. The wave does not reduce vaporization resistance at high F (> 40 dynes/cm). The results thus confirm the authors' previous conclusions regarding the direct effect of a wave on vaporization resistance.

5915

CSO: 1841-W

- END -

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- 124 -

1/2 039

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--ACTION OF THE INITIATOR AND THE ACCELERATOR AS SURFACE ACTIVE AGENTS IN A MEDIUM POLYMERIZING IN THE PRESENCE OF A FILLER -U-

AUTHOR--(021)-TRAPEZNIKOV, A.A., LAVRISHCHEV, L.P.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(2), 376-9 (PHYS CHEM)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--SURFACE ACTIVE AGENT, FILLER, POLYMERIZATION, HYDROPEROXIDE, ORGANOCOBALT COMPOUND, NAPHTHENE, POLYESTER RESIN, STYRENE, SHEAR STRENGTH, HYDROGEN BONDING, ETHYLENE GLYCOL, MALEIC ACID, PHTHALIC ANHYDRIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1132

STEP NO--UR/0020/70/192/002/0376/0379

CIRC ACCESSION NO--AT0134818

UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134818

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

ABSTRACT. THE INFLUENCE OF CYMYL HYDROPEROXIDE (I) AND CO NAPHTHENATE (II) ON SYSTEMS CONTG. PN, I (III) (A POLYESTER PREPD. FROM DIETHYLENE GLYCOL, MALEIC ACID, AND PHTHALIC ANHYDRIDE), STYRENE, AND (OR) AEROSIL (STD SUB2) FILLER WAS STUDIED. ADDN. OF I OR I AND II INCREASED THE SOLY. OF III IN STYRENE AND DECREASED THE SOLN. VISCOSITY, WHEREAS II ALONE DECREASED SOLY. AND INCREASED SOLN. VISCOSITY. III ADDED TO AEROSIL STYRENE PASTES, CONTG. STRUCTURES OF HIGH SHEAR STRENGTH DUE TO DISPERSION FORCES AND H BONDING, WAS A SURFACE ACTIVE AGENT, LOWERING THE STRENGTH OF THE AEROSIL STRUCTURES. II AT 4-50PERCENT CONCNS. LOWERED STRENGTHS GREATLY AND ADDNS. OF I GRADUALLY DECREASED THE STRENGTH OF THE STRUCTURES. AT 50-70PERCENT II CONCNS., THE STRENGTH OF THE STRUCTURES ROSE AGAIN. AT LARGER THAN 65PERCENT CONCNS. OF III IN STYRENE CONTG. 10PERCENT AEROSIL, II DECREASED THE STRENGTH OF THE STRUCTURES AND FLOCCULATED THE AEROSIL PRESUMABLY BY DESOLVATING AND INCREASING THE ASSOCN. OF III; BUT WITH LARGER THAN 70PERCENT III SOLNS., I INCREASED THE STRENGTH BECAUSE OF ITS STRONG PEPTIZATION OF III PROBABLY BY DESTROYING INTRAMOL. AND INTERMOL. III POLAR BONDS AND FORMING HYDROPEROXIDE H BONDS BETWEEN I AND III. MORE EVEN DISTRIBUTION OF III PROBABLY FACILITATES GROWTH OF THE AEROSIL NETWORK.

FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE—30OCT70
TITLE—MECHANICAL PROPERTIES OF SURFACE LAYERS AND THE SURFACE TENSION OF
SAPONIN SOLUTIONS -U-
AUTHOR—(03)—TRAPEZNIKOV, A.A., ZOTOVA, K.V., SHAMROVA, N.V.
COUNTRY OF INFO—USSR, CZECHOSLOVAKIA, UNITED KINGDOM
SOURCE—KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 437-443
DATE PUBLISHED—70
SUBJECT AREAS—CHEMISTRY
TOPIC TAGS—SURFACE TENSION, CHEMICAL REACTION KINETICS, MECHANICAL
PROPERTY, SHEAR STRENGTH, SURFACE ACTIVE AGENT
CONTRL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/2148 STEP NO—UR/0069/70/032/003/0437/0443
CIRC ACCESSION NO—AP0125731
UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--A0125731
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--300C170

ABSTRACT. THE MECHANICAL PROPERTIES OF THE SURFACE LAYERS AND KINETICS OF THEIR FORMATION HAVE BEEN STUDIED FROM THEIR SURFACE TENSION VALUES FOR SAPONINS OF TWO TYPES (LONDON AND CZECHOSLOVAK) IN THE CONCENTRATION RANGE 0.05-1.0 PERCENT. THE CURVES FOR THE CONCENTRATION DEPENDENCE OF SURFACE VISCOSITY AND SHEAR STRENGTH PASS THROUGH A MAXIMUM AND A MINIMUM. THE CURVES FOR THE CONCENTRATION DEPENDENCE OF SURFACE TENSION BOTH FOR INITIAL AND EQUILIBRIUM VALUES EXHIBIT MINIMA, WHICH PROVES THAT SAPONIN SOLUTIONS CONSIST OF SEVERAL COMPONENTS AND SHOW A TENDENCY TO MICELLE FORMATION AND SOLUBILIZATION OF MORE SURFACE ACTIVE COMPONENTS. THIS ACCOUNTS FOR THE COMPLEX CONCENTRATION DEPENDENCE OF THE MECHANICAL PROPERTIES OF SURFACE LAYERS.

FACILITY: INSTITUT FIZICHESKOY KHIMII AN SSSR, MOSCOW
MURMANSKOYE VYSSHEYE MOREKHODNOYE UCHILISHCHE.

UNCLASSIFIED

1/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--MECHANICAL PROPERTIES OF AQUEOUS SAPONIN SOLUTIONS AT THE INTERFACE
WITH TOLUENE -U-
AUTHOR--(03)--ZOTOVA, K.V., SHAMROVA, N.V., TRAPEZNIKOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 369-372

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GLUCOSIDE, TOLUENE, FLUID VISCOSITY, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/1601

STEP NO--UR/0069/70/032/003/0369/0372

CIRC ACCESSION NO--AP0125223

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125223

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

ABSTRACT. THE SURFACE VISCOSITY (ETA SUBS) OF INTERPHASE LAYERS: AQUEOUS SAPONIN SOLUTION TOLUENE HAS BEEN MEASURED FOR TWO DIFFERENT SAPONINS IN THE CONCENTRATION RANGE 0.05-1.0PERCENT. WHEN A LAYER OF TOLUENE IS SUPERPOSED ON A SAMPLE OF LONDON SAPONIN ETA SUBS IS MUCH LOWER THAN AT THE SAPONIN AIR INTERFACE, WHICH IS ACCOUNTED FOR BY SOLVATION. IN THE CASE OF CZECHOSLOVAK SAPONIN ETA SUBS IS MUCH HIGHER AT THE INTERFACE WITH TOLUENE. THIS IS ACCOUNTED FOR BY PREFERRED ADSORPTION OF THE COMPONENTS FORMING HIGHLY VISCOUS LAYERS AND BY DESORPTION INTO TOLUENE OF THE COMPONENTS REDUCING THE VISCOSITY.

FACILITY: VYSSHEYE MOREKHODNOYE UCHILISHCHE, MURMANSK INST. FIZICHESKOY KHIMII AN SSSR, MOSCOW.

UNCLASSIFIED

028

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EFFECT OF AN INITIATOR AND AN ACCELERATOR ON THE THIXOTROPIC PROPERTIES OF A POLYESTER RESIN WITH AEROSIL ADDITIVES -U-
AUTHOR--(03)--LAVRISHCHEV, L.P., TRAPEZNIKOV, A.A., SHALOPALKINA, T.G.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH, MATER. IKH PRIMEN. 1970, (1), 10-12

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--POLYESTER RESIN, FILLER, THIXOTROPY, ORGANOCOBLT COMPOUND, MECHANICAL FAILURE, MATERIAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0430

STEP NO--UR/0303/70/000/001/0010/0012

CIRC ACCESSION NO--AP0119366

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0119366
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. THE STRESS DEFORMATION DIAGRAMS OF SOLNS. OF POLYESTER RESIN PN I CONTG. AEROSIL IN STYRENE SHOWED THAT THE PRESENCE OF CO NAPHTHENATE (I) INCREASED THEIR THIXOTROPY. THE ADDN. OF CUMENE HYDROPEROXIDE AS WELL AS I TO THESE SOLNS. GAVE LESS VISCOUS SOLNS. AT REST AND SLOWER RECOVERY TIMES AFTER THE COMPLETE SOLN. STRUCTURE MCECH. BREAKDOWN.

UNCLASSIFIED

TITLE--TEMPERATURE DEPENDENCE OF THE VISCOSITY OF BLACK FILMS AND
ADSORPTION LAYERS IN SODIUM DODECYLSUFATE SOLUTIONS WITH ADDITIONS OF
AUTHOR--(02)-TRAPEZNIKOV, A.A., DOKUKINA, YE.S. UNCLASSIFIED PROCESSING DATE--30OCT70

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 272-277

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL EFFECT, FLUID VISCOSITY, ALCOHOL, ADSORPTION, SURFACE
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1718

STEP NO--UR/0069/T0/032/002/0272/0277

CIRC ACCESSION NO--AP0112712

UNCLASSIFIED

2/2 023

CIRC ACCESSION NO--AP0112712

UNCLASSIFIED

PROCESSING DATE--30OCT70

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

ABSTRACT.

A STUDY OF THE TEMPERATURE DEPENDENCE OF THE VISCOSITY OF SURFACE LAYERS IN LAURYL SULFATE SOLUTIONS WITH ADDITIONS OF LAURYL ALCOHOL (LOH), AS WELL AS THE VISCOSITY OF DOUBLE SIDED FILMS FORMED FROM THESE SOLUTIONS HAS SHOWN THAT THE TEMPERATURE OF THE BEGINNING OF THE VISCOSITY DECREASE (T SUBD) IN THE FILM IS LOWER THAN IN THE SOLUTION SURFACE LAYER. INCREASE IN LOH CONTENT IN THE SOLUTION LEADS TO HIGHER T SUBD, BUT THE RATE OF THIS DECREASE BECOMES LOWER. THIS IS ACCOUNTED FOR BY INCREASE OF LOH CONCENTRATION IN THE ADSORPTION LAYERS. THE RATIO OF THE FILM-ADSORPTION LAYERS VISCOSITIES IS NOT EQUAL TO TWO, WHICH INDICATES THAT THE COMPOSITION OF THE ADSORPTION LAYERS IN THE FILM AND IN THE SOLUTION SURFACE LAYER IS DIFFERENT.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TEMPERATURE DEPENDENCE OF THE VISCOSITY OF BLACK FILMS AND
ADSORPTION LAYERS IN SODIUM DODECYLSUFATE SOLUTIONS WITH ADDITIONS OF
AUTHOR--(02)-TRAPEZNIKOV, A.A., DOKUKINA, YE.S.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 272-277

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL EFFECT, FLUID VISCOSITY, ALCOHOL, ADSORPTION, SURFACE
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1718

STEP NO--UR/0069/T0/032/002/0272/0277

CIRC ACCESSION NO--AP0112712

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0112712
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF THE TEMPERATURE
DEPENDENCE OF THE VISCOSITY OF SURFACE LAYERS IN LAURYL SULFATE
SOLUTIONS WITH ADDITIONS OF LAURYL ALCOHOL (LOH), AS WELL AS THE
VISCOSITY OF DOUBLE SIDED FILMS FORMED FROM THESE SOLUTIONS HAS SHOWN
THAT THE TEMPERATURE OF THE BEGINNING OF THE VISCOSITY DECREASE (T SUBD)
IN THE FILM IS LOWER THAN IN THE SOLUTION SURFACE LAYER. INCREASE IN
LOH CONTENT IN THE SOLUTION LEADS TO HIGHER T SUBD, BUT THE RATE OF THIS
DECREASE BECOMES LOWER. THIS IS ACCOUNTED FOR BY INCREASE OF LOH
CONCENTRATION IN THE ADSORPTION LAYERS. THE RATIO OF THE
FILM-ADSORPTION LAYERS VISCOSITIES IS NOT EQUAL TO TWO, WHICH INDICATES
THAT THE COMPOSITION OF THE ADSORPTION LAYERS IN THE FILM AND IN THE
SOLUTION SURFACE LAYER IS DIFFERENT.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF THE AGING OF MONOLAYERS OF N,OCTADECANOL AND
HYDROXYETHYLATED OCTADECANOLS ON SURFACE TENSION AND THE MONOLAYER
AUTHOR--(02)-TRAPEZNIKOV, A.A., AVETISYAN, R.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 140-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALCOHOL, SURFACE TENSION, CHEMICAL PURITY, EVAPORATION, WATER,
MOLECULAR INTERACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1402 STEP NO--UR/0076/70/044/001/0140/0144
CIRC ACCESSION NO--AP0116849

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116849

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES OF TWO DIMENSIONAL PRESSURE (F) AND RESISTANCE OF WATER EVAPN. (R) DURING AGING OF MONOLAYER OF N,OCTADECANOL AND HYDROXYETHYLATED OCTADECANOLS WERE MEASURED. MEASUREMENTS WERE DONE ON QUIET AND VIBRATIVE SURFACES. THE VIBRATION CAUSED A DECREASE OF F AND ACCELERATED THE PROCESS OF AGING. DIFFERENT REGROUPING AND CHANGES OF INTERACTION AMONG MOLS. OF THE MONOLAYER WERE SUGGESTED FOR EXPLANATION OF THE EXPTL. DATA. THEY INCLUDED PARTIAL DEHYDRATION AND CHANGES OF A CHAIN CONFORMATION. THE EFFECT OF IMPURITY WAS ALSO TAKEN INTO CONSIDERATION. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.374.4

TRAPEZNIKOV, A. N., KOROSTIN, V. B.

"Automatic Synchronization of a Group of Ferrotransistor Frequency Dividers"

Tr. metrol. in-tov SSSR (Works of Metrology Institutes of the USSR), 1972, vyp. 116(176), pp 46-48 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.493)

Translation: The paper describes the principle of action and the operation of a device for automatic synchronization within a group of dividers whose input signal comes from a 100 kHz quartz crystal controlled oscillator. To this end, a phase analysis is made of second-by-second signals; a phasing pulse is formed in the case of desynchronization of one of the dividers. The phasing error is no greater than $1 \cdot 10^{-6}$ s. A simple and reliable circuit is given for such a device. Adding a quartz clock to the device is useful in the event that the dividers are considerably removed from the oscillator, and in the presence of interference which may cause malfunctions of the dividers. Introduction of the proposed device improves the reliability of time scale storage. A logic circuit for construction of the given device is considered on the example of a single synchronization channel, and

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USSR

TRAPEZNIKOV, A. N., KOROSTIN, V. B., Tr. metrol. in-tov SSSR, 1972, vyp. 116(176), pp 46-48

the operation of the principal elements of the device is analyzed. Two illustrations, bibliography of two titles. Resumé.

2/2

- 171 -

USSR

UDC: 620.171.32

TRAPEZNIKOV, D. A., ANUFRIYEV, Yu. P., KOCHETOV, D. V., LAUKHINA, N. S.,
URSIN, V. A., Moscow

"Evaluating the Thermal Stability of Graphites Over a Broad Temperature
Range"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 18-21

Abstract: Experimental studies are conducted as a basis for analyzing the heat-stressed and limiting states of graphite construction elements and plotting their thermal resistance as a function of temperature. Five grades of graphite were tested: VPP, VPP-1000, MFG-8, ARV and PROG-2400. Annular specimens were subjected to a load consisting of a steady-state radial heat flux. The temperature was recorded at four points along the radius of the specimen at the time of fracture, and diametric displacements were determined. These figures were then used to calculate the temperature distribution through a cross section of the specimen, as well as tangential strain on the outer surface. The thermal stability of the graphite materials was calculated by determining the temperature differential as a function of surface temperature at the beginning of fracture. An expression is given which approximates the

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- 35 -

USSR

TRAPEZNIKOV, D. A. et al., Problemy Prochnosti, No 9, Sep 72, pp 18-21

deformed state of the rings within 10%. It is found that the temperature differential and heat flux at fracture are complicated functions of temperature, and that these functions are determined by temperature changes in the principal characteristics of the graphite materials -- maximum tensile deformation, coefficient of thermal expansion, modulus of elasticity and thermal conductivity.

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USSR

UDC 620.171.32

URSIN, V. A., ~~TRAPEZNIKOV, D. A.~~, KOCHETOV, D. V., and ANUFRIYEV, Yu. P.,
Moscow

"Concentration of Thermal and Mechanical Stresses in Graphites"

Kiev, Problemy Prochnostic, No 8, Aug 71, pp 64-66

Abstract: Concentrations of thermal and mechanical stresses near peripheral incisions were experimentally investigated on ring-shaped specimens (outside diameter 60 mm, internal diameter 22 mm, height 15 mm) of ARV, ARVU, VPR and PROG-2400 graphites. The inner ring surface was heated uniformly by radiation and the outer surface was cooled by the contact method. The stress concentration coefficients and sensitivity indices were analyzed by reference to tabulated data and diagrams. It is demonstrated that thermal and mechanical stress concentrations are of one and the same character. The sensitivity of the investigated graphites to incisions was found to be proportional to the radius of curvature in the top of the incision and inversely proportional to the graphite graining. Two illustrations, four formulas, four tables, four bibliographic references.

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Graphite

USSR

UDC 620.171.32

TRAPEZNIKOV, D. A., URSIN, V. A., KOCHETOV, D. V., and ANUFRIYEV, Yu. P.,
Moscow

"Investigation of Destruction Conditions of Graphites in Heat Treating
Furnaces"

Kiev, Problemy Prochnosti, No 12, Dec 72, pp 68-71

Abstract: The destruction conditions by thermal stresses of two practically isotropic ring-shaped specimens of graphites ARV_{NTU} ($\gamma'' = 1.64 \text{ g/cm}^3$) and ARV_{STU} ($\gamma'' = 1.51 \text{ g/cm}^3$) of small-grained structure and uniformly distributed porosity were experimentally investigated on a described device. The types of observed destructions and their character are discussed by reference to pictures, schemata, and diagrams of the temperature gradient, relative deformation, and tangential and axial surface stresses. The possibility of using numerical calculation methods of the stress-deformed condition of ring-shaped graphite specimens by thermal loads is demonstrated. Seven illustrations, one table, three bibliographic references.

1/1

ТРАПЕЗНИКОВ, В.

Guliev

JPRS 56277
15 June 1972

MAN IN THE CONTROL SYSTEM

Article by Academician V. Trapeznikov, Hero of Socialist Labor; Moscow, *Prilozhenie k Zhurnal "Mirovaia Tekhnika"*, No. 2, 1972, pp. 2-107

One of the most important problems posed by the Fifth Congress of the CPSU is the improvement of administration in various branches of the national economy. The solution of this problem calls for thoughtful and intensified work on the part of all those engaged in administration problems.

In the last few years, the general theory of control and the theory and principles of developing all possible technical control facilities have been under intense development in our country. Considerable advances have been made in these fields, too. However, there has not been sufficient study of the problem of the behavior of human in control systems. Carried away with the development of technical facilities, we frequently forget the tremendous and yet unrealized capabilities of the man who takes part in the control, and thereby detract from the utility of the very technical facility, including electronic computers.

The computer is sometimes called an accelerator for information processing or amplifier for human mental work. The results of the functioning of a control system depends on what is fed to the computer input. What is amplified, and what is converted. If the computer is used under conditions of an inadequately prepared control structure, if the information is insufficient or incorrect, or if the indices of some activity are in- then this can bring more harm than good.

In a number of cases, a control system without a computer but constructed with allowance for man's tremendous capabilities and with correct utilization of his tendencies and purposes, can give better results than another system loaded with computers. This must not be taken, of course, as an underestimate of the computer. The power of the computers and the need for their extensive utilization are undoubted. But there is likewise no doubt that potentials exist for greatly raising the level of human activity in control systems.

USSR

UDC: 681.32.001

BURTOV, A. I., PETROV, V. A., SAVUTKIN, V. V., SHAGULIN, V. I., VOLKOV, A. F., SOROKIN, G. K., TRAPEZNIKOV, V. A., CHEGLAKOV, Ye. A., CHEKMAREV, Yu. D.

"A Device for Determining the Region of Operability of a Digital Computer With Respect to Supply Voltages"

USSR Author's Certificate No 291206, filed 7 Aug 68, published 29 Mar 71, (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B146 F)

Translation: There is a well-known device which determines the region of operability of a digital computer with respect to supply voltages. This device contains a control unit, voltage commutation module, an element for controlling the sign of the independent voltage increment, and a device for visual display. However, such devices are incapable of monitoring the changes in digital computer elements which occur as a result of various ambient factors while the computer is in operation. To speed up determination of the limits of the region of operability and improve the reliability of measurements, the signal input of the control unit for controlling the sign of the independent voltage increment in the device described by this Author's Certificate is connected to the output of the voltage commutation module, while the controlling input and the

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TOV, A. I. et al., Soviet Patent No 291206

Output of the sign controller are connected to the control unit, the auxiliary output of the control unit being connected to the device for visual display, which is connected in turn to the voltage commutation module. This enables observation of the change in the region of operability of the digital computer with respect to supply voltages during operation, as well as evaluation of various computer characteristics (e.g., the availability factor, operability margin with respect to drift of element parameters, operating stability with respect to random perturbations of the power supply and the ambient medium). One illustration.

2/2

- 72 -

AN0019128

UR 9003

FROM: FBIS Daily Report, Soviet Union, 22 Jan 1970, Vol III, Nr 15, pp C1-C5

USSR

TRAPEZNIKOV ON SCIENTIFIC-TECHNICAL PROGRESS

Moscow IZVESTIYA 18 Jan 70 Morning Edition pp 1, 3 L

[Article by USSR Council of Ministers State Committee for Science and Engineering Deputy Chairman Academician V. Trapeznikov: "The Chief Indicator"]
The significance of scientific-technical progress is clear to all. In reality, however, this aspect of activity too often ends up in second place. Actually, certain ministries fulfill the plan for the introduction of new equipment by 70 or 80 percent year after year, and sometimes even by 60 percent. Would any leader try to fulfill the basic plan systematically by 70 percent? Unfortunately the plan for new equipment makes this possible. Another indicator of the attitude toward technical progress: many ministries assign for the development of experimental bases and the creation of semi-industrial installations less than 1 percent--and sometimes only 0.1 or 0.2 percent-- of their capital investments. Even then this capital is not always assimilated. Capital investment is directed primarily toward the quantitative and not qualitative growth of production. Once again "they give the plan" but the development of new machines and technological process drags on for many years.

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Let us suppose that the leader, (a minister, the chief of a main administration, the director of an enterprise) knows that the main index is scientific-technical progress. But can he insure this? Basically scientific-technical progress arises in scientific research, planning and design, and technological organizations which are independent or form part of an enterprise. In consequence, the concept "they can" is connected primarily with the efficiency of work and with the development and strengthening of these organizations and their experimental base, and with the creation of semi-industrial installations for the swift completion of technological processes and stands for testing.

We imagine that it is expedient to remove limitations on expenditure on scientific research, experimental and design, and technological work, having granted ministries the right to allot the necessary capital for these purposes within the limits of the overall wages fund and the total capital investments of the ministries. For scientific-technical progress is not a "luxury" and not "overhead expenses" as several comrades still think, on which the condition "they can" to a considerable extent depends. This is the most effective sphere for the investment of capital, several times more effective than conventional capital investment, and thus the main source for increasing the standard of living of the population. What, then, is the sense in introducing limitations here?

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AN0019128

This question is also important: Will the subcontractors be able to develop in time the new materials essential for insuring technical progress in a given sphere?

Since the primary demands on scientific and technical progress extend to all ministries, they will also stimulate the development of new, diverse materials. However, additional measures relating to the concept "they want" are essential here, and a discussion of these goes beyond the scope of this article.

It is necessary to observe that even new economic leaders "dan" do much to accelerate scientific-technical progress; however, they do not "want" this to the proper extent. The reason lies in the indicators according to which the leaders' activity is appraised. In order that the leader will really "want" to insure scientific-technical progress, it is necessary that he alone is made answerable for it--for renewal of production, its quality in comparison with the world standard, for progressive technological processes, for the growth of labor productivity, and so on. It is precisely according to this indicator that the fruitfulness of a leader's actions ought to be viewed. Immediate attention to the rate of scientific-technical progress does not contradict the requirement of fulfilling the plan; what is more: a high rate of scientific-technical progress, given the set production capital, automatically predetermines the appropriate volume of plan fulfillment.

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In all ministries it is necessary to certify production in a short period, such as splitting it into three quality groups in comparison with the world standard, as the electrotechnical industry does. Plan fulfillment ought to be evaluated in effective units which take into account the quantity and usefulness (quality) of the production, and in accordance with this introduce calculated prices which depend on the quality group. Naturally, given this, the enterprises' incentive funds will automatically be made dependent on the quality of the production, and consequently, dependent also on scientific-technical progress. The opposition of "quantity" is removed.

The acceleration of the growth rate of the standard of living, which requires a hastening of the rate of scientific-technical progress, gives the concept "they have time" special significance. [paragraph continues]

It is necessary to accelerate in every way the development of scientific research, experimental and design, technological, and experimental bases, and with this aim to apply these projects to the particularly important building sites, insuring the immediate beginning of their building. It is also necessary to accelerate in every way the modernization of existing production projects and the building of new ones, for it is precisely through them that a broad path is opened to scientific-technical progress. A radical means of accelerating building is a considerable, at least twofold, reduction in the number of projects being built at the same time.

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This will insure the concentration of twice the forces and means on each project, and will cut building time in half. It is necessary to pay particular attention to the development of machine building, which is implementing new scientific capacities. From our viewpoint the rates of development of machine building are not sufficient.

The "chief indicator" ought to have been introduced as quickly as possible for the branches of the national economy. For enterprises at the first stage of the economic reform, as is well known, the growth of profitability and the growth of sold output are the fund-forming indicators. However, experiments are being conducted which are connected with the testing of other indicators as well, such as "the mass of profit." Calculations show that at present the "chief indicator" which we were discussing for appraising the activity of enterprises is too "sensitive." It responds not only to a change in labor productivity (which is desirable) but also to a change in the range of produced output, (which is undesirable) since existing prices don't always reflect the labor outlays. Given a further regulation of prices, the chief indicator--the rate of scientific-technical progress--can be successfully applied at all levels of control.

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MOSCOW ACADEMY OF SCIENCES MEETING CONCLUDES

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[Text] Moscow, February 6, TASS--Intensification of production on the basis of the latest achievements of science was the topic of discussion at the general meeting of the Academy of Sciences of the USSR which ended its work today. Taking part in the discussion were scientists, and representatives of the industry.

"It is shown by statistical data, science is the most advantageous sphere of capital investments," said Academician Vadim Trapeznikov. Analysing the problem "Economic Management and Scientific-Technical Progress", he reported that the increment of the national income from allocations into science is several-fold higher than that received as a result of direct investment into production.

Further technical progress, Academician Boris Piton believes, depends in many respects upon the development of metallurgy. "Despite the rapid growth of production of synthetic materials, metal will remain the principal construction material in the foreseeable future," the scientist said at the meeting.

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Summing up the results of the discussion, Academician Nikolai Zhavoronkov has said that development of scientific foundations of chemical technology is one of the most important tasks of chemists, in particular. He recalled that over 600 big scientific and technical estimates were put into effect in the chemical industry in the recent decade.

Academician, Nobel Prize winner, Nikolai Basov believes it necessary to establish scientific laboratories at all institutes under different branches of industry and plants scientists are cooperating with. He believes that this will speed up introduction of discoveries into production.

The general meeting passed a decision on the tasks of the Academy of Sciences of the USSR, linked with technical progress. The decision determines priority research in power engineering, control and automation, radio electronics and the other spheres of science.

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TITLE--THE CONTENT AND ACTIVITY OF BASIC COMPONENTS OF KININ SYSTEM IN
BLOOD SERUM OF PATIENTS WITH RHEUMATISM -U-
AUTHOR--PASHKINA, T.S., YAROVAYA, G.A., LAUFER, A.L., GULIKOVA, O.M.,
TRAPEZNIKOVA, S.S.
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ABSTRACT/EXTRACT--(U) GP-0-

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ABSTRACT. ACTIVITY AND CONTENT OF BASIC COMPONENTS OF KININ SYSTEM KININOGEN, KALLIKREIN, KININASE AND TOTAL RAEE ESTERASE AND ANTITRYPTIC ACTIVITY IN BLOOD SERUM OF 30 HEALTHY MEN AND 17 PATIENTS WITH RHEUMATISM HAS BEEN STUDIED. THE ACTIVITY OF KALLIKREIN IN BLOOD SERUM WAS DETERMINED BY MEANS OF ORIGINAL CHROMATOGRAPHIC METHOD AND WAS AMOUNTED TO 30 PLUS OR MINUS 9 MKE-ML IN THE CONTROL, I. E. 6.9 PLUS OR MINUS 1.7PERCENT FROM TOTAL BASE ESTERASE ACTIVITY. THE ACTIVITY OF THIS ENZYME IN BLOOD SERUM OF PATIENTS WITH RHEUMATISM IN ACUTE STAGE OF THE DISEASE IS ELEVATED AT AVERAGE BY 6-7 TIMES. THE TOTAL RAEE ESTERASE ACTIVITY OF BLOOD SERUM REFLECTING THE ACTIVITY OF PROTEINASES OF TRYPSIN TYPE (AND KALLIKREIN) TENDS TO INCREASE IN PATIENTS WITH RHEUMATISM. BLOOD SERUM KININOGEN CONTENT IN PATIENTS WITH RHEUMATISM (II AND III STAGES OF RHEUMATIC PROCESS) WAS DIMINISHED FROM 4.6 (CONTROL) TO 3.5 MUG OF BRADYKININ PER ML. THE ACTIVITY OF KININASE (CARBOXYPEPTIDASE N) WAS UNCHANGED. ANTITRYPTIC ACTIVITY OF BLOOD SERUM OF PATIENTS WAS DECREASED DURING THE III RD STAGE OF THE PROCESS ONLY; IN PATIENTS WITH I AND II STAGES THE ACTIVITY WAS AT THE NORMAL LEVEL OR EVEN SLIGHTLY INCREASED. THE ANALYSIS OF RESULTS INDICATES TO SOME CORRELATION BETWEEN CHANGES IN CHARACTERISTICS OF KININ SYSTEM COMPONENTS AND THE EXTENT OF RHEUMATIC PROCESS ACTIVITY. THE FALL IN KININOGEN CONTENT AND INCREASE IN KALLIKREIN ACTIVITY BOTH TESTIFY TO THE ACTIVATION OF KININ SYSTEM AT RHEUMATISM.

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TITLE--SULFHYDRYL GROUPS IN THE WATER SOLUBLE PROTEINS OF THE BRAIN IN THE
COURSE OF EXPERIMENTAL ALLERGIC ENCEPHALOMYELITIS -U-

AUTHOR--(02)-SAAKOV, B.A., TRAPEZONTSEVA, R.A.

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