

REEL # 28  
SALNI KOV, B.V.

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 035

CIRC ACCESSION NO--AT0130428  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE RECRYSTALLIZATION OF NI-CR ALLOYS CONTG. VARIOUS PROPORTIONS OF HIGHLY DISPERSED OXIDES (ZRO SUB2 AND AL SUB2 O SUB3) WAS STUDIED BY X RAY DIFFRACTION AND HARDNESS AND MICROHARDNESS MEASUREMENTS AFTER HOT EXTRUSION, AND AGAIN AFTER ORDINARY COLD WORKING. HOT EXTRUSION OF THE OXIDE CONTG. MATERIAL PROMOTED THE CREATION OF A STABLE STRUCTURE NOT SOFTENING AT HIGH TEMP. (700DEGREESC). COLD WORKING, HOWEVER, DISRUPTED THE STABILITY OF THE HOT EXTRUDED MATERIAL.

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1/2 025

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PROCESSING DATE--30OCT70

TITLE--PREPARATION AND STUDY OF AROMATIC OILS , RUBBER, SOFTENERS FROM  
VOLGOGRAD PETROLEUMS -U-  
AUTHOR--(05)-ZMIYEVSKIY, P.K., ~~SALNIKOV, D.D.~~ KATS, KH.SH., FRENKEL,  
R.SH., KURYANOVA, I.S.  
COUNTRY OF INFO--USSR

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DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--AROMATIC HYDROCARBON, PHENOL, SOLVENT EXTRACTION, THERMAL  
STABILITY, PETROLEUM PRODUCT, ELASTICITY, RUBBER CHEMICAL

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GIRC ACCESSION NO--AP 9118512

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118512

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PHENOLIC EXT. FROM ZHIRNOVSK AND KROBKOVSK PETROLEUM DEASPHALTATE WAS AGAIN EXT. WITH 2.5 PARTS BY VOL. PHOH AND 10PERCENT H SUB2 O, GIVING A HIGHLY AROMATIC EXT. AND A NAPHTHENIC AROMATIC DISTILLATE. THE 2 PRODUCTS WERE GOOD SOFTENERS FOR RUBBER, YIELDING VULCANIZATES WITH ELASTICITY AND THERMAL STABILITY HIGHER THAN THOSE OBTAINED WITH THE USUAL ONES.

UNCLASSIFIED

USSR

UDC 619:616.981.42+616,981.51.03447:636.32/.35

GRYAZIN, V. I., Professor, SAL'NIKOVA, F. Ye. (Deceased), PANKRATOV, L. D.,  
TYCHINA, O. F., Candidates of Veterinary Sciences, and ZHILA, M. Ye., Junior  
Scientific Associate Kazakh Scientific Research Veterinary Institute

"Study of a Combined Vaccine Against Brucellosis and Anthrax in Sheep"

Moscow, Veterinariya, No 7, 1970, pp 38-40

Abstract: A combined dry vaccine against brucellosis and anthrax was prepared from standard strains No. 19 and STI-1 of Brucella and B. anthracis, respectively. Guinea pigs and sheep were immunized with vaccine containing the two antigens in a ratio corresponding to that which would be used in separate administration of monovaccines against the two diseases. Intensive immunity to infection with virulent strains of Br. melitensis and B. anthracis developed, indicating an absence of mutual interference between the two antigens. Administration of the combined vaccine to sheep produced immunity to anthrax that lasted for more than 2 years and immunity to brucellosis for up to 17 months.

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- END -

USSR

UDC: 621.438.253.5:531.781.2

Zenukov, A. G., ~~Sal'nikov, G. M.~~, Davletbayev, A. M.

"Peculiarities of the Thermal and Stressed State of Cooled Envelope-type Blades"

Kazan', Izvestiya Vysshikh Uchebykh Zavedeniy, Aviatsionnaya Tekhnika, No 1, 1972, pp 72-77.

Abstract: This work studies the influence of the primary dimensions on the temperature state of elements of a turbine blade with a large number of channels for cooling, located near the gas surface. The influence of shell thickness and rib width on the temperature state of elements of the blade is studied and the variations in strength reserve of the ribs are analyzed. Recommendations are given for selection of shell thickness and rib width in the design of envelope-type blades.

1/1

Computers: Equipment

USSR

UDC: 681.32.001

SAL'NIKOV, K. S.

"Some Highly Productive Operations in the Technological Process of Manufacture of Ferrites for Electronic Computers"

Sovershenstv. Tekhnol. Protsessov i Instrumentov v Mashinostroyeni [Improvement of Technological Processes and Tools in Machine Building -- Collection of Works], Kuybyshev, Kuybyshev Press, 1970, pp 18-21 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B79, by T. R.)

Translation: The manufacture of small ferrite rings is discussed; the technology of manufacture of ferrites from solutions of salts using the method of spray drying and pressing in rotary presses is described. One illustration.

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# SALNIKOV, Y.

February 17, 1972

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PRELIMINARY REPORT FOR MEDICINE

Y. Salnikov, M.D.  
Soviet, (Medicine)

*Daily Journal*  
XVII/1  
#455 (4578)  
2/11-1/72  
(2)

A scientific conference was discussing the effectiveness of the pressure chamber which the scientist Yurii Pavlovich developed in the course of his work. A patient who had treated by this method asked if he would be permitted to say a few words. By this patient's family at the reception, this very fact was a rejoinder to the "scientific" only a short while before the chamber had been described with the application of his tool, but had been described with no other details of method for treating with the pressure chamber. He was interviewed concerning the effectiveness of the chamber. He was interviewed with the use of Yurii Pavlovich's pressure chamber. He was no longer interested with the operation. The former patient was not tortured by vertigo pains of the inability to move around on his own. He used to take 15-20 steps with two stops for a rest. Now he was cured.

We interviewed several people who were treated in the pressure chamber. Patient Y. ... (text partially obscured) ... After a few sessions of therapy (an high treatment is called) there was a marked improvement in his condition. The patient said:

"The operation is not of the question."

What is Yurii Pavlovich's contribution to medicine?  
That Yurii Pavlovich used his pressure chamber often with respect to active hypotension.

Man develops on the Earth in conditions of relatively constant atmospheric pressure. In a basal movement mechanism have developed pressure of the blood vessels it serves to An blood circulation through the blood vessels substances. The tissues of the body oxygen and nutrients. What if the blood vessels are stretched? What if they allow an inadequate supply of blood are oxygen to rise to the tissues? If these things happen, then blood is vitiated. It is vitiated by ... (text partially obscured) ... A sharp decrease accompanied by vascular dementia. Changes take place in the walls of the vessels and nutrition of tissues is violated. Finally this leads to necrosis of the limbs.

Until now there were no reliable methods for curing thrombophlebitis obliterans and similar diseases. All medicine deals with amputation, removal of the toes and sometimes of the whole limb. Both Soviet and foreign researchers persistently sought for a method of treatment for these vascular disorders.





Wednesday, November 27, 1971

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WJ

It is necessary to pay a few words about the works of Dr. Yehmanson who pioneered in the introduction of the pressure chamber into medical practice. He is regarded as a district outpatient clinic he treated more than two thousand patients suffering from severe vascular disorders. The doctor started this in 1956. Heretofore these patients were deemed for prolonged periods of time, this entails some time to discuss my. Today seven out of ten outpatients receiving treatment at the clinic need not stop work or go to hospital.

The results of the conference have shown that the method of barotherapy in treating VSD is well recognized.

(End, November 26, 1971)

USSR

SAL'NIKOV, Ye., Physician and Physiotherapist, Candidate of Medical Sciences

"The Therapeutic Aspects of Cold"

Moscow, Trud, 30 Dec 70, p 4

Abstract: The therapeutic and prophylactic aspects of the hardening of the organism and its adaptation to cold are discussed. The beneficial effects of cold on the organism are manifold. Under the influence of cold, cardiac contractions are slowed down, the heart beat is strengthened, respiration and muscular tonus are improved, and the resistance of the organism to colds, influenza, catarrh, and disorders of the upper respiratory organs is increased. Even such a disease as rheumatic fever may be prevented through adaptation of the organism to cold.

Skiing, ice skating, long hikes, walking, and gymnastics in the open air are some of the best methods of hardening the organism. Rubdowns with wet towels at room temperature and cold showers and baths are the best means of conditioning the organism to cold. The highest form of adaptation of the organism to cold is winter swimming in ice water. However, moderation and

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USSR

SAL'NIKOV, Ye., Trud, 30 Dec 70, p 4

and gradualism are recommended in the hardening of the organism and adaptation to cold, and neither should be undertaken without the advice and supervision of a physician.

A 2-day scientific methodological conference organized by the Voluntary Sports Association of the All-Union Council of Trade Unions and the All-Union Commission for Hardening and Winter Swimming was recently held in Moscow. More than 200 people attended, representing branches of the Association in Moscow, Leningrad, Minsk, Kiev, Kharkov, and other cities. The conference was concluded with a winter swim by the participants, who are known as "walruses," in a nearby lake.

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SAL'NIKOVA, G.P.

MEDICINE

THE HEALTH STATUS OF SCHOOL CHILDREN

DOC: 614.1-052.5

Article by S.M. Grombakh, G.P. Sal'nikova, Institute of Systems of Children and Adolescents, USSR Ministry of Health, and Institute of Physiology of Children and Adolescents, USSR Academy of Pedagogical Sciences, Moscow; Voenik Akademii Meditsinskikh Nauk SSSR, Kraslam, No. 4, 1972, pp. 29-35.

School children make up more than one-third of the entire population of our country. They are the direct reserve of tomorrow's working people and army. In 1970, 3,225,500 young people received their secondary education in the Soviet Union. This means that even rates have begun to work. The degree of freedom of future choice of a profession and consequently determination of employment and supply of necessary specialists to the national economy depends on the health of school children. But even at the present time, the physical condition determines to some extent the effectiveness of learning, i.e. achievement (scholastic). It is a known fact that children who have been sick are poorer achievers than healthy children. This is particularly evident in the lower grades. In Sverdlovsk, for example, 72 percent of the children who were not sick during the year had good and excellent marks in first grade and 71.4 percent had such marks in third grade, whereas among those who did get sick, only 64.4 percent of those in first grade and 57.3 percent of those in third had good and excellent marks (G.N. Belgorodskaya and S.H. Belgorodskaya, 1969). A link between achievement and health is also observed abroad. In November 1970, at a congress of workers in health medicine and hygiene, in Poland, several papers stressed the role of health conditions as a factor in nonachievement. Analogous data were published in the GDR, Rumania, and Bulgaria.

If we add to this the well known thesis that the health of adults is largely formed in childhood, it becomes obvious that the physical condition of school children should be closely watched and studied for prompt planning and implementation of the necessary health-improving measures.

A true idea about the health status of each school child and, consequently, of groups of children, could be obtained only by taking into consideration the four following criteria that determine this status as an aggregate: 1) presence or absence of chronic disease; 2) jaw-I and degree of coordination.

SALNIS, A.N.

MEDICAL SERVICE

J-2605

UDK 614.829/616-083,98

METHODS OF RESUSCITATION IN THE TREATMENT OF SEVERE CASES OF CARBON MONOXIDE POISONING  
Sof. Iul'ina, Gend. of Med. Sc., Major, Med. Service  
M. D. G. Kaminator, Major, Medical Service  
Nov 1963 70

Among the various types of acute poisoning — both on the job and in every-day living — cases of carbon monoxide poisoning occupy an important place. These cases are most often due to improper use of heating devices and to violations of safety regulations as regards the operation of internal combustion engines. As is known, the exhaust gases from carburetor-tuning engines contain from 0.5 to 12.5 percent of carbon monoxide. From 1.5 to 3 percent of this quantity can enter the interior of the vehicle because of defective motor adjustment. In the winter, conditions which permit an even greater accumulation of carbon monoxide in the interior of a car are observed. This is precisely the time of the year when drivers, leaving their vehicles during breaks in their journey, prefer not to turn off the motor so as to keep their cabs warm. The drivers themselves, remaining in the cab, frequently fall asleep, which leads to cases of carbon monoxide poisoning. It had the occasion to observe several such cases of severe poisoning in vehicles when the motor was in perfect condition but which the driver left running. In the open air, in such a position that the exhaust gases were being blown back into the cab.

The present article reports on the treatment of patients admitted at thearrison hospital for treatment of acute carbon monoxide intoxication. These were mostly men, aged from 19 to 35. In most cases, they were chauffeurs who had either been driving faulty vehicles or else were working themselves up at a stoppage point while remaining in the closed cab, or else they were men who had been doing roadwork. In non-ventilated premises, where exhaust gases from internal combustion engines were able to penetrate. Only a few of our hospital cases of CO poisoning involved the use of heating devices with open flames.

As is known, carbon monoxide affects, first of all, the nervous system of the brain (H. B. Luk'yanova, 1962; B. A. Kalinina, 1961, etc.). For this reason, the degree of the poisoning was determined by us in terms of the level of the patient's consciousness. From this point of view, all cases could be divided into four groups: 1) persons who did not lose consciousness and whose condition quickly improved (without complications); 2) persons who remained unconscious for several hours (without complications after first-aid measures, are rated as cases of "healing severity"; "severely injured"; and 3) those in a state of coma, with symptoms of pronounced disturbance of breathing and heart action were regarded as having suffered an "extremely severe" level of intoxication.

Although the circumstances of the poisoning differed, it turned out that the severity of the patients' condition generally corresponded to the duration of exposure to the poison and atmosphere. Thus, in turn, determined the duration of subsequent treatment required and the general length of time which it took to return the patients to their jobs (Table 1).

Spacecraft  
Engineering

SAL'NITSKIY, V. P.

QUALITY EVALUATION OF ERGATIC PROCESSES IN SPACE VEHICLE CONTROL

<sup>10</sup> A. D. Korotkiy, V. A. Tarant, <sup>10</sup>  
R. V. Komelakki, V. P. Sal'nitskiy, M. (Spacecraft  
A. Ye. Chodyshev (Astrodynamics))

30:2903 54340  
28 05 91

pp 1-7

Abstract: The problem of quantitative evaluation of capacity for work by a human operator in a space vehicle control system is currently quite important. Such an evaluation is required for determining the level of the operator's training, to predict his reliability to carry out professional selection, etc. The proposed method for evaluating the work capacity of a human operator is based on probability-iterative methods and the mathematical theory of linear differential transforms. The method takes into account human adaptability in the course of professional training and makes it possible to determine the probability of successful implementation of a task in the course of one control cycle under both normal and emergency flight conditions. The high information yield of this method is supported by a number of experiments.

The creation of modern and promising systems for controlling space vehicles is impossible without organizing optimum relationships among the functions of mechanisms, apparatus, equipment and other "nonliving" devices, on the one hand, and the human being controlling them, on the other. At whatever control level the man-operator may be situated, he must solve information-logic problems and appropriately interpret carefully calculated reactions to the control organs.

USSR

UDC 615.322:582.675.4

S  
SALO, I. P., RABINOVICH, I. M., All-Union Scientific Research  
Institute of Medicinal Plants, Moskovskaya Oblast

"On the Pharmacognostic Study of *Stephania Glabra* Roxb. Miers"

Moscow, Farmatsiya, Vol 19, No 2, Mar/Apr 70, PP 32-36

Abstract: The authors describe the anatomy of the part of the herb *Stephania glabra* which grows above ground. The plant is a source of gindarin, which has sedative and hypotensive properties. Photomicrographs are included in the article to illustrate the various structures which are described. The following specific diagnostic characteristics are mentioned. In the stem is a ring of reinforcing (mechanical) tissue made up of sclerenchymatous fibers, sometimes including groups of grit cells in the pith ray region. The conductive bundles are circular with spiral vessels having large pores and with fibrous tracheids. Fine prismatic crystals of calcium oxalate are observed in the parenchymatous cells of the cortex and the central axial cylinder. In the leaf, there are pimples on the upper and lower epidermis, and a crystalliferous lining made up of long prismatic crystals of calcium oxalate can be seen along the fine veins of the leaf.

1/1



USSR

UDC:669.715.046.54/55

KOROTKOV, V. G., MOKSUNOV, A. M. and SALOKHIN, A. V.

"Refining of Aluminum Alloys with Briquetted Salts"

Moscow, Tsvetnyye Metally, No 2, Feb 74, pp 59-61

Abstract: The use of briquetted salts for simultaneous refinement and modification of aluminum alloys increases the degree of their purification from oxide inclusions and hydrogen, causes the necessary refinement of the structure and reduces the time required for alloy-processing operations. A diagram is presented of a device for charging and dosing of briquettes. The device consists of a hopper with a vibrator, a belt transporter, a pulse-counting relay and a distributing and unloading trough.

1/1

SALOKHIN, D. F.

JPRS 55123

7 February 1972

UDC 536.63

EFFECT OF INHERENT HEAT CAPACITY OF THERMAL DETECTORS IN PULSE MEASUREMENTS

(Article by S. A. Drozdov, D. F. Salokhin, and G. G. Spirkin, Moscow, *Inzhiniring i Tekhnicheskaya Fizika*, Vol 9, No 6, November-December 1971, submitted 2 July 1971, pp 1327-1329)

In recent times, in many physical investigations, methods based on the use of pulsed (initial) heating of film thermal detectors (such as, for example, in the determination of the thermophysical properties of substances [references 1, 2]) have come to be used. The small thicknesses and heat capacity of the resistive element make it possible to bring the duration of the current pulses up to 100 microseconds, thus reducing the time required for an individual measurement. Further decrease in the pulse duration may lead to a considerable expansion of the field of applicability of the methods, but, however, this is associated with the appearance of errors caused by the effect of the inherent heat capacity of the sensing elements in the measuring process. Usually this effect is ignored, which essentially simplifies the theoretical prerequisites of the method, but, as will be demonstrated below, this is not always valid.

For an estimate of the effects of the inherent heat capacity of the metal film of the pickup, we will consider the following model: a plane metallic film of thickness  $l$  is placed at the interface of two non-conducting media, having thermophysical characteristics that are independent of temperature. The thermal effect of a rectangular current pulse through the film will be identified with the effect of heat sources of an intensity  $q/l$  distributed throughout its thickness. For clarity and simplicity in further calculations we will limit ourselves to a case when one of the media has a much lower thermal conductivity than the other. Then we will consider that the heat flux into the medium with a lower thermal conductivity is equal to zero. Such a situation is realized when, for example, a metallic film, applied on a dielectric base, makes contact with the air. Assuming that the thermal effect begins at a moment of time  $t=0$ , the equation, the boundary conditions, and the initial conditions for the temperature field may be written thus:

[1 - USSR - L]

AA0040758

S

Salomonstein, L. Ye.  
UR 0482  
3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236010 TREATMENT OF NICKEL AND COPPER-NICKEL MATTES Where to simplify the process and to reduce iron content in the matte to 0.2-0.25, a layer of the latter (0.5m) is cooled in an open mixer from 1150 to 900°C in 1 hour. The method is based on affinity of iron in the matte towards oxides moving to the surface of the matte and a metallic component separating in the form of solid solution crystals. According to the proposed method, ready matte is poured into a stationary open mixer lined with chamotte and held there for 1 hr. The thickness of the melt should be 0.5m. The temp. of the matte is decreased from 1150 to 900°C when solid phases separate out. The oxide phase moves up on the surface of the melt and the metallic phase settles at the bottom of the mixer. After 1 hr, the matte is discharged from the mixer and cast in sand moulds or granulated in water. 21.4.67. as 1152034/22-1. V.A. BOROV'EV et al. (12.6.69.) Bul.6/24.1.69. Class 40a. Int.Cl. C22b.

*[Handwritten mark]*

LD 18

19750445

AA0040758

AUTHORS: Vorob'yev, V. A.; Salomatin, I. Ye.; Firyago, L. S.;  
and Chermak, L. L.

*7/2* 19750446

USSR

UDC:669.753

ROZLOVSKIY, A. A. and SALOMATOV, N. K.

"Pilot-Scale Testing of Electric Melting of Gold-Antimony Concentrates"

Moscow, Tsvetnyye Metally, No 2, Feb 74, pp 33-35

Abstract: The task of this work was a large-scale test of the primary element of a proposed technological system for precipitative electric melting of gold-antimony raw material with extraction of the antimony and concentration of the gold. The results of the tests show that gold-antimony concentrates can be treated by electric melting with good results. The material balance and metal balance are presented for precipitative melting of the gold-antimony concentrate.

1/1

Heat, Combustion, Detonation

USSR

UDC: 536.2

SALOMATOV, V. V. and GORBUNOV, A. D.

"High-Temperature Heating of Construction Elements With Active Ablation Coatings"

Moscow, Izvestiya AN SSSR--Energetika i transport, No 1, 1972, pp 160-168

Abstract: This brief communication considers the problem of determining the optimal thickness of the ablation coating in a system involving a high-temperature gas medium, the active coating layer, and a metal wall, for protecting the metal from heat. Since the problem is essentially nonlinear, the authors use the method of the thermal quasi-stationary approximation, and obtain relationships for computing the temperature field in the protected structural element for an arbitrary thermal flux on the ablation surface. They analyze the dynamics of the ablation process and derive a solution for the Fourier number, the expression for which is quite complex but can be simplified for several limiting cases considered in this article. A nomogram is given for computing the ablation process of the active coating for various measured thermal fluxes.

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UDC 536.2.01

USSR

~~SALOMATOV, V. V.~~

"Temperature Conditions of Aircraft Structural Components Subjected to Aerodynamic Heating"

Kazan', Izvestiya VUZ, Avlatsionnaya Tekhnika, No 4, 1970, pp 22-30

Abstract: The purpose of this study is the development of an analytical method for the solution of the general problem of aerodynamic heating, and also the establishment of the temperature field characteristics, which may be useful in design engineering as a high speed method of computation of the temperature conditions of aircraft structures. A system of differential equations in ordinary coordinates describing the process of unsteady heat transfer is written and solved by the method of finite integral transformations. An analysis of the results shows the existence of a practically linear dependence of the temperature field on  $O_0$  for the same values of the determining Biot, Stark, Kupichev, and Fourier criteria. Calculations of the temperature field using this method were carried out for  $O_0 = 0.15$  in the absence of sun radiation and at  $Bi(fo) = \text{const.}$ ,  $O_2(fo) = 1 = \text{const.}$  The results

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USSR

SALOMATOV, V. V., Izvestiya VUZ, Aviatsionnaya Tekhnika, No 4, 1970, pp 22-30

are presented in the form of 4 nomograms, which make it possible to determine the temperature on the surface, and in the adiabatic cross-section of a plane surface and in the corresponding cross-sections of a cylindrical component. Their comparison with standard data obtained on a computer shows that deviation in temperature does not exceed 2%. An accelerated method of solution based on engineering nomograms is illustrated in an example involving the heating of a rectangular component. In the conclusion the author states that for bodies of classical shape under aerodynamic heating a certain relationship exists between the relative temperatures and the initial values, that this relationship forms the base of the nomogram construction, and that the method developed here for the solution of the nonlinear heat transfer problem in the presence of the aerodynamic heating is valid for bodies of finite dimensions and moderate heat capacity. 22 formulas, 5 figures, 6 references.

2/2



1/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--MEASUREMENT OF THE BRIGHTNESS TEMPERATURE OF THE EARTH'S  
ATMOSPHERIC EMISSION IN THE SUBMILLIMETER BAND FROM A HEIGHT OF 35 KM  
AUTHOR--(05)--LAPSHIN, V.I., SALOMONOVICH, A.E., SOLOMONOV, S.V., TROITSKIY,  
V.F., FRADKOV, A.B.  
COUNTRY OF INFO--USSR  
SOURCE--IZVYUZ, RADIOFIZIKA, VOL. 13, NO. 3, 1970, P. 388-394  
DATE PUBLISHED-----70  
SUBJECT AREAS--NAVIGATION, PHYSICS, ATMOSPHERIC SCIENCES  
TOPIC TAGS--RADIOMETER, RADIO BRIGHTNESS TEMPERATURE, SUBMILLIMETER WAVE,  
RADIO EMISSION, ATMOSPHERIC RADIATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1991/0846 STEP NO--UR/0141/70/013/003/0388/0394  
CIRC ACCESSION NO--AP0110567  
UNCLASSIFIED

2/2 030

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PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0110567

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A RADIOMETER AND THE RESULTS OF PRELIMINARY MEASUREMENTS OF THE BRIGHTNESS TEMPERATURE OF THE EARTH'S ATMOSPHERIC EMISSION, TAKEN AT A HEIGHT OF 35 KM AT WAVELENGTHS FROM 0.5 TO 2MM. THE SENSITIVE ELEMENTS OF THE RADIOMETER CONSISTED OF N-TYPE INSB PHOTORESISTORS COOLED TO LIQUID HELIUM TEMPERATURE. ANGULAR DISTRIBUTIONS OF BRIGHTNESS TEMPERATURE WERE OBTAINED IN THE VERTICAL PLANE. THE NATURE OF THE DISTRIBUTION AND THE RELATIVELY LOW BRIGHTNESS TEMPERATURE INDICATE THAT THE MAIN CONTRIBUTION TO THE SUBMILLIMETER RADIATION IS MADE BY THE RELATIVELY COLD UPPER LAYERS OF THE ATMOSPHERE. FACILITY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

Optical

USSR

UDC 621.391.19

NEZHEVENKO, YE. S., SALOV, G. I., TVERDORHLEB, P. YE., UMANTSEV, G. D., Novosibirsk

"Linear Adaptable Optical Pattern Classifier"

Novosibirsk, Avtometriya, No 3, 1971, pp 82-84

Abstract: One of the urgent problems of automating a scientific experiment is the problem of creating devices to classify optical patterns with respect to random variation of the parameters with incomplete a priori information. Usually the patterns subject to analysis are represented on photographic film or a photographic plate so that their transmission coefficient is a function of two variables s and t. Classification is realized by calculating the discriminate function (functional) of the pattern and using it to decide the classification of the pattern. The pattern x(s, t), a < s, t < b is a realization of one of k classes of patterns xi\_i(s, t), i = 1, ..., k. Then there are probabilities of the occurrence of each of the xi\_i(s, t) (possibly unknown). The linear functional of the pattern x(s, t) has the form

$$(x, h) = \int_a^b \int_a^b x(s, t)h(s, t)dsdt,$$

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USSR

NEZHEVENKO, YE. S., et al, *Avtometriya*, No 3, 1971, pp 82-84

and the problem consists in finding the weight function  $h(s, t)$  suitable for classification. It is demonstrated that by using relatively new material — photochrome material [K. M. Savost'yanova, *Optiko-mekhanicheskaya promyshlennost'*, No 5, 1968] it is possible comparatively easily to obtain  $h(s, t)$  experimentally using a recurrent procedure investigated previously [G. I. Salov, *Avtometriya*, No 6, 1970]. The linear functional in this case is an estimate of the mean square approximation to the ideal functional assuming a value of  $d = d_i$  if  $x(s, t)$  belongs to  $\xi_i(s, t)$ . The initial data for realizing the mentioned recurrent procedure is the unknown sample  $x_1(s, t), \dots, x_N(s, t)$  ( $N > k$ ) from the set of patterns of the classes  $\{\xi_i(s, t)\}$  insofar as possible indicative for the entire set and also the known series of values of  $d_{i_1}, \dots, d_{i_N}$  and the ideal functional corresponding to this sample. The procedure for constructing  $h(s, t) = h_N(s, t)$  was implemented in an optical version of the classifier the schematic of which is given. The adaptive process based on the photochrome material is described and some experimental results are presented.

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USSR

UDC 621.398.694.7-531.7

GROKHOL'SKIY, A. L., SALOV, G. V., TIKHOMIROV, Yu. F., and YAKOVLEV, L. G.  
(Kiev)

"Measuring a Mass of a Substance by Natural Vibration Frequency of the  
Object"

Novosibirsk, Avtometriya No 3, May-Jun 72, pp 54-60

Abstract: This article is an extension of a earlier investigation by two of the authors on the use of a control object as a primary measuring converter for obtaining data on the value of a controlled parameter. It presents an analysis of experimental data on the method of measuring a mass of a substance by natural vibration frequency of a dynamic system formed by container-filler. Characteristics of the control object being simultaneously a sensitive element of a pickup with variable filler quantity are considered. The mechanical sensitive element is considered as an oscillator in the generating circuits and as resonator in selective circuits. The anti-interference characteristics of such a measuring system are evaluated. The experimental data presented confirms the possibility of obtaining the results of measurements in a wide range of temperatures with inaccuracy of the order of 1% or less, depending on the objects design characteristics.

1/1

USSR

IZOKH, V. V., SALOV, P. L., YEMEL'YANENKOV, V. I.

"Realization of the Operation  $q' \equiv q \pmod R$  in Recirculating Generators"

Vestn. Belorus. Un-ta [Belorussian University Herald], 1972, Ser. 1, No 1, pp 78-80 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V605, by the authors).

Translation: A functional element is produced, performing the operation  $q' \equiv q \pmod k$ , the complexity of which is independent of  $k$ . An estimate of the speed is presented. The code of the number is represented by a time interval.

Instruments and Equipment

USSR

SALOV, S., Senior engineer of the All-Union Scientific Research Institute of Medical Instrument Building

"Ocular Locator"

Moscow, Vechernyaya Moskva, 6 Jun 72, p 2

Translation: The All-Union Scientific Research Institute for Medical Instrument Building has developed an ultrasonic diagnostic apparatus, the "ECHO-21." Its operation is based on the principle of supersonic location -- the sending of impulses into the eyeball and the interception of the signals deflected by the anatomical structure of the eye.

Echograms are used by ophthalmologists to diagnose dangerous diseases such as retinal detachment, to delineate the location and extent of the intraocular pathological developments, to monitor the results of treatment, to pinpoint (at the time of operation) the positions of splinters which have pierced the eye. The use of the "ECHO-21" is especially valuable in cases when turbidity in the transparent part of the eyeball makes the detection of pathological problems in the eye difficult or impossible by other methods.

The medical industry has begun serial production of the "ECHO-21."  
1/1

Instruments and Equipment

USSR

SALOV, S., Engineer

"Artificial Lungs"

Moscow, Sotsialisticheskaya Industriya, 27 Oct 70, p 2

Translation: Special machines -- anti-infarct, anti-shocks, neurological instruments, and portable reanimators -- enable medics to render immediate aid to a person who has had an accident. Staff members of the All Union Scientific Research Institute of Medical Instrument Building, together with the Institute of Automation and Telemechanics, Academy of Sciences USSR, have developed a new instrument for artificial ventilation of lungs -- the RD-3. This instrument helps to reestablish respiration, supplies the lungs with oxygen-rich air, and eliminates excess carbon dioxide from the lungs. At the Central Exhibition of the Technological Creativity of Youth, dedicated to the 100th Anniversary of the birth of V. I. Lenin, this accomplishment was awarded the VDNKh Golden Medal.

In developing the RD-3, the designers of this instrument applied the principles of a new technological branch -- pneumonics -- based on the mutual interaction of currents of compressed air. This enabled them to eliminate movable

1/2



USSR

SALOV, S., Sotsialisticheskaya Industriya, 27 Oct 70, p 2

mechanical parts subject to friction and to build a portable, convenient, and reliable instrument of high functional quality.

The RD-3 will find wide application in first-aid work, at rescue stations, and under other emergency conditions which develop in patients with acute respiratory insufficiency resulting from severe trauma, disturbed cerebral circulation, or poisoning.

Furthermore, the instrument can be used to restore spontaneous respiration in patients who are in intensive care rooms after thoracic or abdominal surgery, as well as in other cases of respiratory insufficiency.

2/2

- 57 -

USSR

SALOV S.

"For Treatment With Electroaerosols"

Moscow, Meditsinskaya Gazeta, 25 Aug 72, p 3

Translation: The All-Union Scientific Research Institute of Medical Instrument Building has developed a portable apparatus "GEI-1." It is intended for inhalation treatment of burns of the respiratory tract, various diseases of the respiratory organs, and influenza. The GEI-1 can also be used in the treatment of burns on the surface of the body.

The apparatus has been tested in Moscow's clinics. It was established that it gives good therapeutic results and is efficient. By means of the GEI-1, using any source of compressed gas (oxygen), it is possible to obtain electrically charged aerosols of medications and to administer them to the respiratory organs. This ensures deep penetration of medicinal aerosols and their high efficiency.

Electroaerosols can be produced and used both with a positive and a negative charge. Among the advantages of this apparatus is also the fact that its use

1/2

USSR

SALOV, S., Meditsinskaya Gazeta, 25 Aug 72, p 3

rules out the supercooling of the respiratory tract, it is convenient to operate, and is easily and quickly secured to a bed (chair, table). The GEI-1 will find wide application in surgical, reanimation, burn, and physiotherapy departments.

The Khar'kov Tochmedpribor Plant will begin the series production of this apparatus next year.

2/2

- 26 -

SALTANOV, G. A.

RAV / 1 X 760 / 5. NOV 8 - 73

REV 1972

Soltanov, G. A., and L. A. Kolesnev.  
Variations of flow parameters and flow structure of moist vapor, for the case of interphase heat and mass exchange in the relaxation zone behind a shock wavefront. TVT, no. 6, 1971, 1200-1206.

Relaxation phenomena behind a stationary shock wavefront in moist vapor are analyzed, with allowance for relatively low concentrations of spontaneously condensed fine drops and in the absence of sliding phase motion. The numerical solution of a set of equations of motion determined the flow parameters ( $P$ ,  $T$ ,  $c$ ), flow structure (particle-size distribution), and shock wave width for the thermodynamic equilibrium of a two-phase medium ahead of the shock wave. Theoretical data were found to be in good qualitative agreement with the experiment, e.g. using a Laval nozzle.

USSR

UDC 536.24:621.175

~~SALTANOV~~ G. A., SELEZNEV, L. I.

"Change of Parameters and Structure of a Stream of Moist Steam with Inter-phase Heat and Mass Exchange in the Relaxation Zone Behind the Leading Edge of a Shock Wave"

Teplofizika Vysokikh Temperatur, Vol 9, No 6, 1971, p. 1200-1206.

Abstract: Certain relaxation phenomena behind the leading edge of a shock wave in moist steam with small drops formed by spontaneous condensation are studied. Numerical solution of a system of equations is used to determine changes in the parameters of the stream and its structure when the 2-phase medium before the shock wave is in thermodynamic equilibrium.

1/1

USSR

UDC 621.165

DEYCH, M. Ye., FILIPPOV, G. A., ~~SALTANOV, G. A.~~, LAUKHIN, Yu. A., and  
SIVBOROD, V. A.

"Investigation of Phase Transitions in Eddy Currents of Supersaturated Steam"

Moscow, Energetika i Transport, No 2, 1972, pp 160-166

Abstract: In the article are presented the results of an experimental investigation of the condensation of water vapor in a vortex wake behind a stream flowing lengthwise about a flat plate at  $M_\infty < 1$ . Special attention was devoted to the structure of the vortex wake and to the particle size of the liquid phase in the wake. The dispersion field of the liquid phase in the wake behind the edge was measured. The stream was photographed in order to obtain the wake structure more exactly. A theoretical justification of the possibility of steam condensation in eddy currents is given on the basis of the consideration of a single eddy. 5 figures. 9 references.

1/1

- 32 -

USSR

UDC: 532.529.6

SALTANOV, G. A.

"Particle Interaction with a Wedge Surface in an Ultrasonic Two-Phase Flow"

Moscow, Izvestiya Akademii Nauk SSSR--Energetika i transport, No. 1, January-February 1971, pp 141-149

Abstract: Since a general analysis of particles interacting with the surface of a wedge surrounded by ultrasonic two-phase currents is extremely complex, this paper begins by considering two limiting cases of interaction: the first, when the particles are drops of a liquid and their shock on the wedge surface is absolutely inelastic; the second, when the drops are solid, undeformed particles and their shock on the surface is absolutely elastic. In his analysis, the author uses an equation for the trajectory of the particles behind the front of the diagonal discontinuity he obtained in an earlier paper, written by himself in collaboration with A. V. Kurshakov in the same journal named above (Dvizheniye chastits za kosym skachkom uplotneniya pri obtekanii klina sverkhzvukovym dvukhfaznym potokom -- Particle Motion Behind the Diagonal Discontinuity for a Wedge in Two-Phase Ultrasonic Flow -- No. 6, 1970). The assumption is made that the particles in the two-phase flow in front of the

1/2

SALTANOV, G. A., Izvestiya Akademii Nauk SSSR--Energetika i transport, Moscow, No. 1, January-February 1971, pp 141-149

density discontinuity have the same dimensions, are uniformly distributed, and do not fracture in their transition through the discontinuity. The author concludes that in the interaction of particles and surface, the local rise in pressure at the collision point occurs only near the nose of the wedge and diminishes rapidly at a distance from it, and that the local impulse of the liquid particles at the collision point may reach very high values due to the cavitation effect. He suggests also that further developments in this work should involve analysis of the particle movement with heat and mass exchange taken into account, and that the effect of the particles on the gas flow, their fracture, and their collisions should also be considered.

2/2



USSR

UDC 533.6.011.5:532.529.5

SALTANOV, G. A., TKALENKO, R. A.

"Supersonic Two-Phase Flow Over a Wedge"

Moscow, Mekhanika zhidkosti i gaza, No. 2, Mar/Apr 72, pp 83-88

Abstract: The equations describing the flow between the surface of a wedge and a shock wave as given by Krayko and Sternin and the characteristics method developed for flows of a mixture of a gas with particles of different kind in nozzles are used to study supersonic two-phase flow over a wedge. It is noted that one encounters such a flow in calculating flow around blades of the last stages of condensation turbines and in studying the motion of aircraft in cloudy conditions. In the latter case there occurs a change in the wave structure and interference picture of the flow around the aircraft that can lead to uncalculated modes of motion, in addition to erosion of the leading edges of the wing profiles. It is shown that the general picture of gas flow between the front of a shock wave and the surface of a wedge is qualitatively similar to the picture of flow upon the breakdown of thermodynamic equilibrium in a gas, such as vibrational relaxation and nonequilibrium chemical reactions. This picture

1/2

USSR

SALTANOV, G. A., TKALENKO, R. A., Mekhanika zhidkosti i gaza, No. 2,  
Mar/Apr 72, pp 83-88

consists of a relaxation zone behind the front of the shock wave in which  
balancing of the velocities and temperatures of the gas and the particles  
and the entropy layer close to the surface of the wedge occurs.

2/2

USSR

UDC 629.7.063.7(088.8)

SKOTNIKOV, P. A., SALTAYS, E. A., SALUGIN, V. K., GRAYFER, N. P., ZAV'YALOV, V. I.

"Bypass Valve for Aircraft Engine Lubrication System"

USSR Authors' Certificate, Class B 64 d 33/00, F 16 k 5/00, No. 305104, Announced 3 February 1970, Published 10 September 1971 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 4, Apr 72, Abstract No 4.34,66 P)

Translation: A bypass valve for an aircraft lubrication system according to Authors Certificate No. 295712 (see RZh-Aviatsionnyye i raketnyye dvigateli, 1971, 12.34.42) is patented but is distinguished by the fact that to reduce hydraulic resistance the cavity of the shut-off element is separated by a partition into two chambers, radial slits in which have opposite angular displacement relative to the corresponding slits in the overlapping bushing separated from the bimetallic spiral by a cylindrical screen. 2 ill., Resume.

1/1

1/2 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--THERMAL DECOMPOSITION OF THE DIMETHYLENE ETHER BOND IN POLYMERS -U-

AUTHOR--(05)-NEVSKIY, V.M., YATSENKO, E.A., GRABARNIK, L.G., SALTIBAYEV, D.K., BEYSEBAYEV, M.ZH.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAO. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 78-80

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, METHYLENE, ETHER, POLYMERIZATION, GLYCOL, PYROLYSIS, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/0265

STEP NO--UR/0360/70/020/002/0078/0080

CIRC ACCESSION NO--AP0126037

UNCLASSIFIED

272 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126037

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYMN. OF P,HOCH SUB2 C SUB6  
 H SUB4 CH SUB2 CH IN BULK AT 140DEGREES IN THE PRESENCE OF P,MEC SUB6 H  
 SUB4 SO SUB3 H GAVE RCH SUB2 OCH SUB2 R PRIME (I). THE PYROLYSIS  
 PRODUCTS OF I OBTAINED IN VACUUM AT SMALLER THAN OR EQUAL TO 180DEGREES  
 CONTAINED POLYMERIC ALDEHYDES DUE TO HOMOLYTIC SPLITTING OF I RCH SUB2  
 AND R PRIME CH SUB2 O, WHICH INTERACT, GIVING R PRIME CHO AND RME. AT  
 260-360DEGREES, R PRIME CH SUB2 O IS DISPROPORTIONATED TO R PRIME CHO  
 AND R PRIME CH SUB2 OH, DETECTABLE BY IR SPECTROSCOPY. FACILITY:  
 INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 007  
UNCLASSIFIED  
TITLE--HYDROCARBON FORMALDEHYDE RESINS -U-  
AUTHOR--(02)-GUTSALYUK, V.G., SALTIBAYEV, D.K.  
COUNTRY OF INFO--USSR  
SOURCE--TR. INST. KHIM. NAUK, AKAD. NAUK KAZ. SSR 1970, 28, 3-23  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--HYDROCARBON RESIN, FORMALDEHYDE, CONDENSATION REACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--3005/0799  
CIRC ACCESSION NO--AT0132897  
STEP NO--UR/0000/70/028/000/0003/0023  
UNCLASSIFIED

2/2 007  
CIRC ACCESSION NO--AT0132897 UNCLASSIFIED  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 112 REFS. ON  
CONDENSATION OF AROMATIC HYDROCARBONS WITH CH SUB2 O. PROCESSING DATE--04DEC70

UNCLASSIFIED

USSR

UDC: 51

IL'IN, V. D., KUROV, B. N., and SALYGA, V. I.

"Effectiveness of the Optimal Control of Energy Systems"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Instruments and Systems, Republic Interdepartmental Thematic Scientific-Technical Collection) No 26, 1973, pp 112-116 (from RZh--Matematika, No 7, 1973, Abstract No 7V573)

Translation: The model of a thermal energy system is examined with respect to its application to the problem of optimizing the distribution of the active loads among electric power stations. Various algorithms in the form of programs for an electronic computer are presented. A combination of algorithms in the FORTRAN-4 language is devised. Authors' abstract.

1/1



USSR

UDC: 51

IL'IN, V. D., KUROV, B. N., and SALYGA, V. I.

"Synthesis of Algorithms for Controlling Complex Systems"

Pribery i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Systems and Instruments, Republic Interdepartmental Thematic Scientific-Technical Collection) No 26, 1973, pp 107-111 (from RZh--Matematika, No 7, 1973, Abstract No 7V553)

Translation: The problem of comparing competitive algorithms with a standard algorithm is considered. Criteria of comparative effectiveness and of the comparison condition are formulated. The problem of determining the number of tests for comparing the algorithms in a specified time interval is examined. Conditions are given for comparing solutions; these can be used to choose the most effective algorithm for a given energy system. Authors' abstract.

1/1

USSR

SALTYKOV, R.

"Microbes Protect Against Disease"

Moscow, Nauka i Zhizn', No 10, 1972, pp 63-65

Abstract: Written in conjunction with the celebration of the 150th anniversary of the birth of Louis Pasteur, the article discusses in layman's language the methods used to weaken and alter pathogenic microbes and thus enable them to protect the body against diseases they normally cause. It describes some of the procedures for manufacturing vaccines, particularly the dry, live type favored by the USSR, and how the latter confer immunity against specific diseases. Mention is made of the successful use of these preparations to control anthrax, yellow fever, and measles in the USSR. However, live influenza vaccine protects only about half the persons inoculated.

1/1

- 27 -

Immunology

USSR

UDC 616.981.51-097.3-092.9.:599.323.4

SALTYKOV, R. A., LESNYAK, O. T., and ULANOVA, A. A., State Control Institute for Biomedical Preparations imeni Tarasevich, Moscow

"The White Mouse as an Immunological Model in Anthrax"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, 1971, pp 87-91

Abstract: Experiments were performed with random bred white mice to determine their suitability as an immunological model in anthrax. Active immunity was studied after single subcutaneous vaccination of the animals with live STI anthrax vaccine. Passive immunity was tested by injecting them subcutaneously with anti-anthrax serum or globulin derived from it. The results were analyzed by statistical methods. The mice were found to be useless as an experimental model for the evaluation of active postvaccinal immunity to anthrax. But vaccinated animals can be used to study specific passive immunity provided that they are inoculated with Teenkovskiy's second vaccine (a suspension of spores from strain 71/12 which kills white mice in 24 to 72 hours). Earlier published reports on the subject are critically analyzed.

1/1

Immunology

USSR

UDC 615.371:576.851.511].036.8.078

LESNYAK, O. T., and SALTYKOV, R. A., Control Institute of Medical Biological Preparations imeni Tarasevich

"Comparison of the Immunogenicity of Anthrax Vaccine Strains"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, Aug 70, pp 32-35

Abstract: The immunogenicity of live STI (Ginsburg) and 34-F-2 (Sterne) vaccine strains was tested by various methods in a series of experiments on guinea pigs. Both the method employed in the USSR and that recommended by the World Health Organization revealed only the qualitative characteristics of the strains, but were useful in distinguishing strains which were suitable for vaccination from those which were not. The authors' method of evaluating vaccine strains from the index of immunity in vaccinated guinea pigs makes it possible to obtain a quantitative characterization of the immunity produced by the various strains. Using this method, it was found that the STI strain produced significantly higher levels of immunity than did the 34-F-2 strain.

1/1

USSR

UDC 615.371:576.851.451.001.5(47+57)

SALTYKOV, R. A., MOTORNAYA, V. P., and SIROTYUK, L. V., State Control Institute of Medical Biological Preparations imeni Tarasevich, Moscow

"Experience Gained During 25 Years of Investigating the Stability of the Properties of Vaccinal Tularemia Strains"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 64-70

Abstract: Stability of immunogenicity and apathogenicity was investigated in Gayskiy's vaccinal strains No 15 and Ondatra-4 since 1943 and in Faybich-Saltykov-Tamarina's vaccinal strains No 10, 33, and 53 since 1944-1947. While the loss of pathogenicity proved to be permanent, strain Ondatra-4 did not retain its full immunogenicity for long and was pronounced unsuitable for live vaccine in 1946. Since that time, efforts were concentrated on developing methods of stabilizing high immunogenicity in vaccinal strains. Freeze-drying according to Faybich-Tamarova's method yielded a dry stock which was convenient for storage but which lost its immunogenicity to a high degree by 1950. Therefore, the strains were cultivated in guinea pig ovaries which have a high hyaluronidase concentration, and in 1953, after 10 passages, they regained their previous high immunogenicity and retained it after freeze-drying. After vaccination of volunteers proved their avirulence, the strains were ratified for  
1/2

USSR

SALTYKOV, R. A., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii,  
No 12, 1972, pp 64-70

serial manufacture of dry live tularemia vaccine. Albino mice are most suitable  
for testing the pathogenicity and guinea pigs for testing the immunogenicity  
of vaccinal strains. Currently, Gayskiy's NIIEG strain No 15 yields the most  
immunologically potent tularemia vaccine.

2/2

USSR

UDC: 681.32.001

NURMUKHAMEDOV, G. M., NESTEROV, P. V., SALTYKOV, V. V.

"Wire Substrate for Cylindrical Magnetic Films"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 4(30), pp 164-175 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B137 P)

Translation: Basic requirements are formulated which must be satisfied by a wire substrate, and the influence of the substrate on the properties of cylindrical magnetic films is analyzed. A detailed investigation is made of the physical and mechanical properties of thin BrB2 copper-beryllium alloy wire, and recommendations are given on its use as a cylindrical substrate. A description is given of the technology for making a precision wire substrate, including processes of continuous tempering, mechanical treatment by rotating diamond draw plates, and thermal stabilization of properties. Seven illustrations, bibliography of nine titles. Resumé.

1/1

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USSR

UDC: 621.396.666(088.8)

S  
SALTYKOV, Ye. N., Ryazan Radio Engineering Institute

"A Transistorized Gain Control Device"

USSR Author's Certificate No 251019, filed 26 Aug 67, published 5 Feb 70 (from  
RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D75 P)

Translation: Gain control by changing the emitter current of a transistor does not provide passage of high-level signals without distortions. To expand the dynamic control range, the tank load circuit of the transistor being controlled is connected to a power supply through a capacitor-shunted semiconductor diode, while the voltage divider resistors in the base circuit of the controlled transistor are connected between the poles of the power supply. Resumé.

1/1

121



USSR

UDC 547.26'118

KRUGLYAK, YU. L., LANDAU, M. A., LEYBOVSKAYA, G. A., MARTYHOV,  
I. V., SALTYKOVA, L. I.

"Reaction of O-Imino-O,O-Dialkylphosphites with  $\alpha$ -Chloronitroso-  
and  $\alpha$ -Chloronitroalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971,  
pp 2338-2339

Abstract: A series of chemical conversions of O-imino-O,O-dialkyl phosphites (I) were carried out at a temperature in the -10 to 0 degrees, because of known instability of I at a temperature above 0 degrees. Particularly, the typical reactions of trialkyl phosphites with  $\alpha$ -chloronitroso- and  $\alpha$ -chloronitroalkanes gave, in the case of I, O,O-diimino-O-alkyl phosphites. The structure of the latter was determined by their NMR and IR spectra. The formulas and some physical constants of the prepared compounds are given.

1/1

USSR

UDC 621.357.13:669.28

BARABOSHKIN, A. N., SALTYKOVA, N. A., TALANOVA, M. I., and MARTEM'YANOVA, Z. S.

"The Structure of Continuous Deposits of Molybdenum Obtained from the Electrolysis of the Melt  $KCl-K_2MoCl_6$ "

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 87-93 (from Referativny Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L344 by B. B. Grinina)

Abstract: A study was made of the influence of the electrolysis parameters on the structure of the continuous deposition of Mo prepared from a melt containing  $KCl$  and  $K_2MoCl_6$ . The electrolysis was carried out under an atmosphere of argon. The precipitate was studied metallagraphically and by x-ray analysis. The thickness was determined from the increase in weight. The radial texture by the ARKHAROV method. The feasibility was demonstrated for preparing deposits of high purity Mo having a thickness of a new mm from strictly chloride melts. For this, it is necessary to use high purity salts as a starting material and high purity inert gas to separate the anolyte from the catholyte. A number of materials, such as graphite, W, Pt, Sr, Pd, Au, Ha, Fe, Ni, and Ag, may be used for the cathode and strongly cohesive

1/2

- 2 -

USSR

BARABOSHKIN, A. N., et al., Tr. In-ta elektrokhimii, Ural'sk. nauch.  
tsentr AN SSR, Vyp 18, 1972, pp 87-93

precipitates may be obtained from chloride oxide melts. The texture of the  
growth is type 3. It is produced by relatively high rates of growth of the  
grain having orientation of III perpendicular to the substrate such that it is  
actually related to it by a twin structure.

2/2

047

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--POLYMER MICRODEFECTS AS THE CENTRES OF DESTRUCTIVE CRACKS INDUCED BY LASER IRRADIATION -U-  
AUTHOR--(05)-AGRANAT, M.B., CHERNIAVSKIY, F.N., NOVIKOV, N.P., SALUENIA, S.S., LAMPOLSKIY, P.A.  
COUNTRY OF INFO--USSR

SOURCE--NATURE, VOL. 226, APR. 25. 1970, P. 349-351

DATE PUBLISHED--25APR70

9-1

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--LASER RADIATION, CRACK PROPAGATION, DIELECTRIC MATERIAL, POLYMETHYLMETHACRYLATE, POLYSTYRENE RESIN, POLYCARBONATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0433

STEP NO--UK/0000/70/226/000/0349/0351

CIRC ACCESSION NO--AP0119369

UNCLASSIFIED

2/2 047

CIRC ACCESSION NO--AP0119369

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE SIZE, LOCATION, STRUCTURE, AND PROPERTIES OF MICRODEFECTS IN POLYMERS WHICH ACT AS CENTERS OF DISK SHAPED DESTRUCTIVE CRACKS INDUCED IN THESE MATERIALS BY LASER IRRADIATION. IRRADIATED TRANSPARENT DIELECTRICS INCLUDING POLYMETHACRYLATE, POLYSTYRENE, AND POLYCARBONATE ARE CONSIDERED, AND THE EXPERIMENTAL PROCEDURE IS DESCRIBED. THE EXPERIMENTAL RESULTS SUGGEST THAT THE MICRODEFECT NUCLEI ARE MICROPORES OF THE EXAMINED MATERIALS. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT PROBLEM MEKhanIKI. MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 629.7.063.7(088.8)

SKOTNIKOV, P. A., SALTAYS, E. A., SALUGIN, V. K., GRAYFER, N. P., ZAV'YALOV, V. I.  
"Bypass Valve for Aircraft Engine Lubrication System"

USSR Authors' Certificate, Class B 64 d 33/00, F 16 k 5/00, No. 305104, Announced 3 February 1970, Published 10 September 1971 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 4, Apr 72, Abstract No 4.34.66 P)

Translation: A bypass valve for an aircraft lubrication system according to Authors Certificate No. 295712 (see RZh-Aviatsionnyye i raketnyye dvigateli, 1971, 12.34.42) is patented but is distinguished by the fact that to reduce hydraulic resistance the cavity of the shut-off element is separated by a partition into two chambers, radial slits in which have opposite angular displacement relative to the corresponding slits in the overlapping bushing separated from the bimetallic spiral by a cylindrical screen. 2 ill., Resume.

1/1

1/2 049

TITLE---SUPRAMOLECULAR STRUCTURE OF BLOCK POLYSTYRENE AND POLYCARBONATE -U-  
UNCLASSIFIED PROCESSING DATE--02JCT70

AUTHOR--(05)-GERASIMOV, V.I., KARGIN, V.A., NOVIKOV, N.P., SALUYENYA, S.S.,  
CHERNYAVSKAYA, O.A.  
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2) 382-7

DATE PUBLISHED-----70

5

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS

TOPIC TAGS--MOLECULAR STRUCTURE, LASER RADIATION, POLYSTYRENE RESIN,  
POLYCARBONATE, X RAY DIFFRACTION, ELECTRON MICROSCOPY, IR SPECTROSCOPY,  
POLYMER STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0253

STEP NO--UR/0459/70/012/002/0382/0387

CIRC ACCESSION NO--AP0106909

UNCLASSIFIED

2/2 049

CIRC ACCESSION NO--AP0105909  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT. LASER IRRADN. OF RELATIVELY LOW ENERGY CAUSES THE SEPN. BETWEEN MOL. AGGREGATES (N., 1968); HIGHER ENERGY LASER BEAMS PRODUCE MICROFISSURES. X RAY DIFFRACTOMETRY, ELECTRON MICROSCOPY, AND IR SPECTROSCOPY OF BLOCK POLYSTYRENE (I) AND POLYCARBONATE (II) SAMPLES BEFORE AND AFTER LASER IRRADN. SHOWED THAT BOTH ARE AMORPHOUS; I HAS A GLOBULAR AND II A FIBRILLAR STRUCTURE.

UNCLASSIFIED



1/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ANALYSIS OF TUMOR TRANSFORMATION OF TISSUES, II. BIOCHEMICAL  
DEDIFFERENTIATION OF TISSUE DURING CARCINOGENESIS, CHANGES OF CREATINE  
AUTHOR--(05)--SALYAMEN, L.S., ASHMARIN, I.P., OSTRETSOVA, L.B., LYZLOVA,  
S.N., PLUZHNIKOVA, G.F.

COUNTRY OF INFO--USSR

SOURCE--TSITOLOGIYA 1970, 12(1), 102-10

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, TISSUE PHYSIOLOGY, CELL PHYSIOLOGY, ENZYME ACTIVITY,  
CARCINOGEN, CARBON TETRACHLORIDE, LEAD COMPOUND, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/2107

STEP NO--UR/9053/70/012/001/0102/0110

CIRC ACCESSION NO--AP0127480

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127480

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CREATINE KINASE (I) AND ALK. PHOSPHATASE (II) ACTIVITY WAS STUDIED IN TRANSPLANTABLE TUMORS (HEPATOMA 22A IN C SUB3 HA MICE, HEPATOMA 27 AND KIDNEY TUMOR AB-12 IN RATS) AND TISSUES OF MICE AND RATS ADMINISTERED CARCINOGENIC COMPS. (CCL SUB4, PB(OAC)SUB2, URETHANE AND 3,4,BENZG(ALPHA) PYRENE). I ACTIVITY WAS INCREASED 3 FOLD IN HEPATOMA 27 AND 5-10 FOLD IN HEPATOMA 22A. IT INCREASED ALSO UP TO 2 FOLD DURING THE HEPATOCARCINOGENESIS IN MICE AFTER CCL SUB4 ADMINISTRATION. AFTER THE ADMINISTRATION OF 3,4,BENZG(ALPHA)PYRENE, I ACTIVITY IN SKELETAL MUSCLES DECREASED TO 56PERCENT OF THE NORMAL VALUE WITHIN 26 DAYS AND A SIMILAR DECREASE WAS FOUND IN KIDNEYS OF RATS ADMINISTERED PB ACETATE. HOWEVER, I ACTIVITY IN THE LIVER WAS INCREASED. II ACTIVITY IN THE LIVER OF MICE ADMINISTERED CCL SUB4 INCREASED UP TO 3 FOLD DURING THE 1ST FEW DAYS THEN RETURNED TO NORMAL VALUES. PB ACETATE CAUSED A DECREASE IN II ACTIVITY IN THE KIDNEY AND KIDNEY TUMORS. AFTER THE ADMINISTRATION OF URETHANE, II ACTIVITY IN THE LIVER INCREASED. IT WAS CONCLUDED THAT CHEM. CARCINOGENESIS IS ACCOMPANIED BY REPRESSIONS AND DEREPRESSIONS OF GENES REGULATING THE SYTHESIS OF ENZYMES IN CERTAIN TISSUES.

FACILITY: LAB. PATHOL. PHYSIOL. TUMOR GROWTH, INST. UNCOL., LENINGRAD, USSR.

UNCLASSIFIED

USSR

IL'IN, V. D., KUROV, B. N., SALYGA, V. I.

UDC: 51

"Synthesis of Algorithms for Controlling Complex Systems"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb.  
(Devices and Systems of Automation. Republic Interdepartmental Thematic  
Scientific and Technical Collection), 1973, vyp. 26, pp 107-111 (from  
RZh-Kibernetika, No 7, Jul 73, abstract No 7V553 by the authors)

Translation: The problem of comparing competing algorithms by means of  
a standard algorithm is considered. A criterion of relative effectiveness  
and conditions of comparison are formulated. The question of determining  
the number of tests when comparing algorithms on a given time interval is  
considered. The given conditions for comparing solutions can be used in  
selecting the most effective algorithm for a specific energy system.

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USSR

UDC: 8.74

SALYGA, V. I., SIRODZHA, I. B.

"Teaching a Machine Optimum Control of a Multifactor Object With the Use of a Recognition Algorithm by the R-Function Method"

Pribery i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 22, pp 23-31 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V578)

Translation: The paper deals with problems of synthesizing teachable control systems which utilize methods of the theory of automatic pattern recognition. Experimental results are presented on teaching control of a flotation process to a computer. Authors' abstract.

1/1

USSR

UDC: 8.74

SIRODZHA, I. B., SALYGA, V. I., MYSHKO, Ye. I., VASILENKO, Yu. A., KARTASHOV, L. N., PRYANITSKIY, A. M., KUZ'MINA, O. I.

"Modeling the Process of Teaching Pattern Recognition by the Method of R-Functions With the Use of a Digital Computer"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 7, pp 106-112 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V582)

Translation: The paper deals with a mathematical model of instruction whose basis is a developed learning algorithm of pattern recognition distinguished by the use of a fundamentally new procedure of predicative description of arbitrary geometric forms in multidimensional spaces with the aid of R-functions. Authors' abstract.

1/1

USSR

UDC: 621.372.85

KRAVCHENKO, V. F., ZHILKOV, V. S., SALYGA, V. I., USTIMENKO, V. V., BAL'-  
ZAMOV, B. N., BAKLANOV, O. D.

"On the Possibility of Constructing Automatic Matching Circuits in the  
Microwave Band"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices  
and Systems for Automation. Republic Interdepartmental Scientific and  
Technical Collection), 1971, vyp. 15, pp 75-77 (from RZh-Radiotekhnika,  
No 6, Jun 71, Abstract No 6B188)

Translation: The authors consider circuit designs for automatic matchers  
for waveguide channels. Possible versions for practical realization of  
these circuits are considered, and it is also pointed out that impedance  
transformers based on using bodies of the proper shape can be used in  
automatic matchers. It is concluded that adaptive automatic matchers can  
be made for operation over a wide frequency band. Resumé.

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UDC: 621.316.543(088.8)

USSR

UTKIN, V. K., SALYM, G. Ya.

"A Switch"

USSR Author's Certificate No 277902, filed 14 Mar 69, published 12 Nov 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V419 P)

Translation: This switch contains linearly arranged contact groups, and a rotating roller above these groups with commutating elements and detents for the working positions. As a distinguishing feature of the patent, the design is simplified and operating reliability is improved by locating the roller inside the cylindrical cavity of the switch housing, and by using spring-loaded balls which fit into holes in the walls of the housing and are arranged in radial grooves in the switch as the commutating elements and detents.

1/1

UDC: 621.375.82

USSR

PETROV, V. V., KRYUCHIN, A. A., SALYUK, L. I., TOKAR', A. P.

"Focusing Laser Emission in Optical Memory Devices"

Kiev, Fokusirovka lazernogo izlucheniya v opticheskikh zapominayushchikh ustroystvakh. AN USSR. In-t elektrodinam. (cf. English above. UkrSSR Academy of Sciences. Institute of Electrodynamics), Preprint No 54, 1973, 17 pp, ill., 7 k., mimeo. (from RZh-Fizika, No 11, Nov 73, abstract No 11D144J [résumé])

Translation: Concentration of laser emission into a spot of fairly small dimensions is considered. Different types of focusing systems are analyzed. Graphs are presented showing the emission density and size of the focused spot as functions of the parameters of the optical system. It is shown that in an optical memory device with discrete data recording it is advisable to use a focusing system with telescope.

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Marine

USSR

SALYUK, V. G.

"Jet Ship Roll Accelerator"

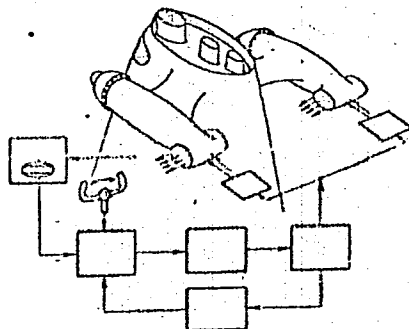
USSR Author's Certificate No 383649 (from Otkrytiya, Izobreneniya, Promyshlennyye obraztsy, Tovarnyye znaki (Discoveries, Inventions, Industrial Models, Trademarks), No 24, 1973, page 50)

Translation: This jet ship roll accelerator containing lateral nozzles and a kinetic energy source is distinguished by the fact that in order to improve its efficiency, the lateral nozzles are located above the deck superstructures, for example, in the upper part of the smokestack on the starboard and port sides, and they are executed with automated control using a gyrotransmitter which regulates louvers, and the source of kinetic energy is executed in the form of a turbocompressor jet engine.

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USSR

SALYUK, V. G., USSR Author's Certificate No 383649, No 24, 1973, p 50



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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70  
 TITLE--ELECTROMAGNETIC PROCESSES IN THE AUTOEXCITATION SYSTEM OF  
 GENERATORS WITH MAGNETIC AMPLIFIERS -U-  
 AUTHOR--(03)-ZDROK, A.G., SALYUTIN, A.A., MOKHOV, V.V.  
 COUNTRY OF INFO--USSR  
 SOURCE--MOSCOW, ELEKTRICHESTVO, NO 3, 1970, PP 47-52  
 DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR., ENERGY  
 CONVERSION (NON-PROPULSIVE)  
 TOPIC TAGS--ELECTRIC GENERATOR, ELECTROMAGNETIC EFFECT, MAGNETIC AMPLIFIER

CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--3006/1748 STEP NO--UR/0105/70/000/003/0047/0052  
 CIRC ACCESSION NO--AP0135319  
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 021  
 CIRC ACCESSION NO--AP0135319  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH DIFFERENT  
 SELF EXCITATION SYSTEMS OF THREE PHASE GENERATORS WITH A SINGLE PHASE  
 AND TWO PHASE ASSYMETRICAL VOLTAGE SUPPLY. ELECTROMAGNETIC PROCESSES IN  
 THE SELF EXCITATION CIRCUIT WITH A MEDIAN POINT UNDER CONDITIONS OF ITS  
 SUPPLY WITH ASSYMETRIC TWO PHASE VOLTAGE OF THE SOURCE IS DISCUSSED.  
 THE ANALYSIS WAS CARRIED OUT WITH USE OF APPROXIMATION OF THE  
 MAGNETIZATION CURVE OF THE CORES OF MAGNETIC AMPLIFIER BY TWO SLANTING  
 LINES IS DISCUSSED. ANALYTICAL EXPRESSIONS WERE DERIVED OF VOLTAGES AND  
 CURRENTS FOR COMMUTATION AND EXTRA COMMUTATION OPERATION OF VALVES WHICH  
 MADE IT POSSIBLE TO DETERMINE CHARACTERISTICS OF THE CONTROL OF MAGNETIC  
 AMPLIFIER. RESULTS OF THE ANALYSIS HAVE BEEN CONFIRMED BY EXPERIMENTAL  
 INVESTIGATIONS.

UNCLASSIFIED

UDC: 621.375.826+621.039.64

(6)

USSR

SIGEL, R., WITKOWSKI, S., BAUMHACKER, H., BÜCHL, K., ELDMANN, K.,  
HORA, H., MENNICKE, H., MULSER, P., PFIRSCH, D., SALZMANN, H.

"Survey of Studies of Laser-Produced Plasmas at the Max Planck  
Institute of Plasma Physics in Garching, West Germany"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972,  
pp 37-44

Abstract: The paper is a survey of experimental and theoretical  
research on laser-produced plasmas done at the Max Planck Insti-  
tute of Plasma Physics in Garching. Experiments are described  
on heating of a plasma by emission from a neodymium laser with  
energy of 30 J and pulse duration of approximately 30 ns. The  
plasma temperature was measured by a filter method; the time of  
flight and average kinetic energy of the ions were measured by  
probes. A laser with a single pulse lasting a few picoseconds  
is described. The results of theoretical studies done on com-  
puters are presented. [The article is a brief version of a paper  
presented to the editors by the organizational committee of the

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USSR

SIGEL, R. et al., Kvantovaya Elektronika, Sbornik Statey, No  
2(8), 1972, pp 37-44

International Conference on Laser-Produced Plasmas, Moscow, 1970.  
Translation by A. S. Shikanov.] Nine illustrations, bibliography  
of seven titles.

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2/2

- 49 -

PROCESSING DATE--20NOV70

UNCLASSIFIED

1/2 021

TITLE--THE EMPLOYMENT OF SCANNING OF THE LIVER FOR THE EVALUATION OF THE EFFECTIVENESS OF TREATMENT OF CHRONIC HEPATITIS AND LIVER CIRRHOSIS -U-  
AUTHOR--(03)-BARAMIDZE, T.G., SAMALASHVILI, A.G., ROSTOMOVA, L.T.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 6, PP 49-54

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC STAIN, DIAGNOSTIC DRUG, HEPATITIS, CIRRHOSIS, LIVER FUNCTION, IODINE ISOTOPE, GOLD ISOTOPE, CHEMICAL LABELLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3003/1020

STEP NO--UR/0241/70/015/005/0049/0054

CIRC ACCESSION NO--AP0130055

UNCLASSIFIED

PROCESSING DATE--20NOV70

UNCLASSIFIED

2/2 021  
CIRC ACCESSION NO--AP0130055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TOTAL OF 32 PATIENTS WERE EXAMINED. SCANNING OF THE LIVER WAS PERFORMED WITH THE AID OF BENGAL ROSE LABELLED WITH I PRIME131 AND COLLOIDAL AU PRIME198. THE RESULTS DERIVED WERE COMPARED WITH DATA OF CLINICAL OBSERVATION AND FUNCTIONAL LIVER TESTS. REPEATED SCANNING OF THE LIVER REFLECTS THE DYNAMICS OF THE DISEASE AND MAY BE EMPLOYED AS AN OBJECTIVE CRITERION OF THE EFFECTIVENESS OF TREATMENT.  
ENKCLGGII I TERAPII MZ GRUZZSR.  
FACILITY: NAUCHNU-ISSLED. INSTITUT

UNCLASSIFIED



1/2 014  
 UNCLASSIFIED  
 TITLE--PREPARATION OF A VANADIUM CATALYST FOR THE OXIDATION OF SULFUR  
 DIOXIDE -U-  
 AUTHOR--(04)-BORESKOV, G.K., DZISKO, V.A., SAMAKHOV, A.A., YUDINA, T.D.  
 COUNTRY OF INFO--USSR  
 SOURCE--U.S.S.R. 266,737  
 REFERENCE--TOKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
 DATE PUBLISHED--01APR70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--METAL CATALYST, CHEMICAL PATENT, CHEMICAL SYNTHESIS, VANADIUM,  
 OXIDATION, SULFUR DIOXIDE, SILICA GEL  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--3004/1742  
 STEP NO--UR/0482/70/000/000/0000/0000  
 CIRC ACCESSION NO--AA0132008  
 UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0132008

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A V CATALYST FOR SO SUB2 OXIDN.  
WAS OBTAINED BY MIXING SILICA GEL WITH NA SUB2 SO SUB4, K SUB2 SO SUB4,  
AND V COMPS. TO OBTAIN A CATALYST ACTIVE AT LOW TEMPS. AT TO PROTECT  
THE EQUIPMENT FROM PREPG. CATALYSTS FROM CORROSION, A GEL OF HYDRATED V  
SUB2 O SUB5 OBTAINED BY THE ADHESION OF DIL. H SUB2 SO SUB4 TO A SOLN.  
OF K VANADATE TO CONST. PH 4 PLUS OR MINUS 1 WAS FOR A V COMPO.  
FACILITY: INSTITUTE OF CATALYSIS, ACADEMY OF SCIENCES, U.S.S.R.

UNCLASSIFIED

1/1

UDC 621.373.826:550.3

USSR

ARSHINOV, Yu. F., DONCHENKO, V. A., ZUYEV, V. Ye., KOSTIN, V. V.,  
and SAMOEKHALOV, I. V.

"Propagation of Laser Radiation for  $\lambda = 2.36$  Microns in Artificial  
Dispersing Media"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tезisы dokл.  
(Tenth All-Union Conference on the Propagation of Radio Waves;  
Report Theses--collection of works) "Nauka," 1972, pp 157-161 (from  
RZh--Radiotekhnika, No 10, 1972, Abstract 10D439)

Translation: Results are given of a study of the attenuation and  
inverse scattering of the radiation from a laser using  $\text{CaF}_2:\text{Dy}^{2+}$   
( $\lambda = 2.36\mu$ ) and He-He mixture ( $\lambda = 0.63\mu$ ) in a medium simulating  
some types of natural clouds, fogs, and wood smoke. Bibliography  
of five. A. L.

1/1

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USSR

UDC 551.508.8

ZUYEV, V. YE., SANOZHVALOV, I. V., and BALIN, YU. S., Institute of Atmospheric Optics, Siberian Department of the Academy of Sciences USSR

"Study of Atmospheric Ground Layer and Clouds by Lidar Method"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 5, 1972, pp 125-128

Abstract: The article describes equipment for studying the atmospheric ground layer and clouds by the laser radar method. Radiation emitted by the laser is collimated by an optical system and is sent to the atmosphere by means of two flat mirrors. Part of the radiation strikes a photocell, by means of which oscillograph scanning is begun, and is sent through a 120-nsec delay line to the input of a vertical-deflection amplifier (the reference signal is measured). The radiation reflected by the atmosphere is detected by a receiving system and is recorded (photographed) on the oscillograph through a 480-nsec delay line, which provides time division of the reference and reflected signals. A giant-pulse laser with a wavelength of 6943 Å and a radiation pulse duration of 60 nsec is used. An FEU-83 photomultiplier with a cathode follower is

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USSR

ZUKEV, V. YE., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 5, 1972, pp 125-128

used as the sensitive element of the receiving system. An S1-11 pulse rapid-record oscillograph is used to record the reference and reflected signals. The use of narrow-band filters ( $\Delta\lambda = 20 \text{ \AA}$ ) permits a sharp increase in the signal-noise ratio and enables atmospheric studies to be carried on in the daytime (in cloudy weather). Results are given for measurements of the radiation attenuation coefficient in the atmospheric ground layer, in clouds and in fog, at the proving ground of the Siberian Physicotechnical Institute during April-July 1970.

The authors thank V. S. SHAMANAYEV for his active part in the measurements.

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UDC 547.26'118

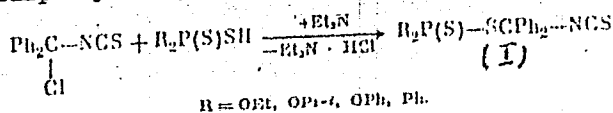
USSR

GORBATENKO, Z. I., BONDAR', V. A., and SAMARAY, L. I., Institute of Organic Chemistry, Academy of Science Ukrainian SSR

"The Reaction of Diarylchloromethylisothiocyanates with Dithiophosphoric and Dithiophosphonous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2580-1581

Abstract: Diphenylchloromethylisothiocyanates react with the O,O-diethers of dithiophosphoric acid and with diaryldithiophosphonous acids in the presence of triethylamine at room temperature in an inert solvent, resulting in S-isothiocyanatodiphenylmethyl ethers of the respective phosphorus acid' as shown below:



The IR spectra of (I) contain intense absorption bands in the area 2050-2060 cm<sup>-1</sup> which are characteristic of the NCS group.

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USSR

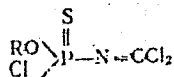
UDC 547.26

IVANOVA, ZH. M., GUSAR', N. I., MIROSHICHENKO, V. V., SAMARAY, L. I.,  
Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"A Method of Making Triphosphoric Acid Isocyanide Dichlorides"

Moscow, Otrytiya, Izobreteniya, Promyshlennyye Obratztsy, Tovarnyye  
Znaki, No 15, Apr 73, Author's Certificate No 374321, Division C, filed 25  
Jun 71, published 20 Mar 73, p 52

Translation: This Author's Certificate introduces: 1. A method of making  
triphosphoric acid isocyanide dichlorides of the general formula



where R is an alkyl. As a distinguishing feature of the patent, an alkyl  
dichlorophosphite is reacted with N-chlorosulphenyl isocyanide dichloride with  
subsequent isolation of the goal product by conventional methods. 2. A  
modification of this method distinguished by the fact that the alkyl dichloro-  
phosphite and N-chlorosulphenyl isocyanide dichloride are taken in a molar  
ratio of 2:1. 3. A modification of this method distinguished by the fact  
that the process is done at 40-50°C.

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USSR

UDC 547.26'118

GORBATENKO, V. I., KRUGLIK, L. I., and SAMARAY, L. I., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Isocyanatodiarylmethyl O,O-Diaryl Phosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1043-1047

Abstract: Previously it had been shown that ketimines react with phosgene yielding a mixture of tautomers: N-chlorocarbonylketimine and  $\alpha$ -chloroalkyl isocyanates. The mixture of these tautomers reacted with acid or neutral phosphites in presence of triethylamine acting as an acceptor for hydrogen chloride yielded isocyanatodiarylmethyl O,O-diaryl phosphonates -- viscous light yellow liquids. They are not exceptionally reactive with primary amines and with alcohols in presence of catalytic amounts of triethylamine.

1/1



USSR

UDC 546.185

KOLODYAZHNIY, O. I., ~~SAMARAY, I. I.~~, and GAYDANAKA, S. N., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Anionotropic Conversion of bis(Trichloromethyl)chlorophosphazocarbonyl Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, p 1872

Abstract: bis(Trichloromethyl)chlorophosphazohydride reacts with oxalyl chloride to give bis(trichloromethyl)chlorophosphazooxalyl chloride. The latter decomposes on heating to 120°C to give carbon monoxide and a mixture of isomers -- bis(trichloromethyl)dichloroisocyanatophosphorus and bis(trichloromethyl)chlorophosphazocarbonyl chloride, UV spectra indicate mobile equilibrium of the isomers in the mixture, which is characteristic of tautomeric systems.

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UDC 632.95

USSR

PROTOPOVA, G. V., RAYDALOVA, L. I., KOLODYAZHENYY, O. I., SAMARAY, L. I.,  
and DERKACH, G. I., Institute of Organic Chemistry, Academy of Sciences of  
the UkrSSR

"A Pesticide"

USSR Author's Certificate No 253483, filed 25 Nov 68, published 8 Apr 70  
(from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N553 P)

Translation: N-(O-alkyl-S-alkylthiophosphono)-S-ethylurethanes have LD<sub>50</sub>  
170 mg/kg for warm-blooded animals and have systemic and contact insecti-  
cidal and acaricidal action. Most toxic for houseflies is (CH<sub>3</sub>O)(CH<sub>3</sub>S)-  
(P(O)NHCOSC<sub>2</sub>H<sub>5</sub>) (I); 0.01 mg per fly, this compound was 92% fatal (the  
corresponding figure for chlorophos is 53%); for weevils of the rice and  
cereal type, most toxic is (CH<sub>3</sub>O)(C<sub>2</sub>H<sub>5</sub>S)P(O)NHCOSC<sub>2</sub>H<sub>5</sub> which was 100% fatal  
at 0.25 mg/dm<sup>2</sup> and 100% lethal for aphids at 0.005 mg/dm<sup>2</sup>. Compound I is  
most effective for systemic action on aphids. In field experiments on  
controlling beet weevils, compound I in a dose of 1 kg/ha was nearly as  
effective as heptachlor at 2 kg/ha, and is at least as persistent in its  
effect. Compound I at 0.5 kg/ha was nearly as effective against beet  
aphids as rogor at 0.3 kg/ha.

1/1

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1/2 019  
 TITLE--ISOCYANATES OF PHOSPHORIC AND THIOPHOSPHORIC ACIDS --U-  
 UNCLASSIFIED  
 PROCESSING DATE--13NOV70  
 AUTHOR--(04)-SAMARAY, L.I., KOLBDYAZHNYI, D.I., VISHNEVSKIY, O.V., DERKACH,  
 G.I.  
 COUNTRY OF INFO--USSR  
 SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 750-4  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES  
 TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, AMIDE, PHOSPHORUS SULFIDE,  
 INSECTICIDE, ORGANIC ISOCYANATE  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--3002/1486  
 CIRC ACCESSION NO--AP0128883  
 UNCLASSIFIED  
 STEP NO--UR/0079/70/040/004/0750/0754

272 019  
CIRC ACCESSION NO--AP0128883  
ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT, ADDN. OF 1 MOLE NH SUB3 IN ET SUB2  
O TO R. SUB2 P(OINCO GAVE (OVERNIGHT) THE FOLLOWING AMIDES: SHOWN ON  
MICROFICHE. FACILITY: INST. ORG. KHIM., KIEV, USSR.

UNCLASSIFIED

PROCESSING DATE--13NOV70

UNCLASSIFIED

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TITLE--ALPHA ALKENYL ISOCYANATES -U-  
AUTHOR--(03)-VISHNEVSKIY, O.V., SAMARAY, L.I., DERKACH, G.I.  
COUNTRY OF INFO--USSR  
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RR PRIME1-CHCPH:NH  
WITH COCL SUB2 GAVE 70-5PERCENT RR PRIME1 C:CPHNCO (1) (R, R PRIME1  
GIVEN): SHOWN ON MICROFICHE. FACILITY: INST. ORG. KHIM., KIEV,  
USSR.

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UDC: 547.26'118

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SAMARAY, L.I., KOLODYAZHNYI, O.I., VISHNEVSKIY, O.V., and DERKACH, G.I. (Deceased)  
Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Isocyanates of Phosphoric and Thiophosphoric Acids. III"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 750-754

Abstract: Isocyanates of phosphoric acids react with hydrazoic acid to give N-azidocarbonylphosphamides. The latter readily enter into oxidative imination reactions with phosphines and phosphites to give corresponding phosphazo compounds. Isocyanates of phosphoric acid esters interact with  $\epsilon$ -caprolactam on heating in a benzene solution to give N-phosponocarbamoyl- $\epsilon$ -caprolactams. Isocyanates of dialkylthio- and dialkylphosphoric acid react with alcohols (mercaptans) to give N-phosphorylated urethanes and thiolurethanes possessing high insecticidal activity, both systemic and contact. N. I. LIPTUGA took part in the work.

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UEC: 547.26'118

SAMARAY, L.I., KOLODYAZHNYI, O.I., and DERKACH, G.I., (Deceased), Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Reaction of Amides of Pentavalent Phosphorus Acids With Phosgene"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 754-758

Abstract: The interaction of amides of dialkylphosphoric and dialkylthiophosphoric acids with phosgene gives a mixture of products, viz. isocyanates of the corresponding acids and adducts of the amides with hydrogen chloride. The direction of the reaction of phosgene with amides of pentavalent phosphorus acids is discussed. Two possible reaction schemes are suggested, with the likelier scheme being one in which the initial event is the formation of an O-acyl derivative of the amidephosphate. This is confirmed by the results of a study of the interaction of phosgene with dialkyl esters of N-monoalkylamidophosphoric acid, which show that acid chlorides of alkyl esters of N-alkylamidophosphoric acid are mainly formed. An exception is diethyl ester of N-methylamidophosphoric acid, which is phosgenated to give diethyl ester of N-methyl-N-chlorocarbonylamidophosphoric acid.

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UDC 547.26'118

SAMARAY, L. I., KOLODYAZHNYI, O. I., and DERKACH, G. I., (DECEASED),  
Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Reaction of Pentavalent Phosphorus Acid Amides With Oxalyl Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 994-998

Abstract: Diesters of N-alkylamidophosphoric acid react with oxalyl chloride to give 2,3-disubstituted phosphaoxazolidine-4,5-diones. The interaction of diethyl ester of N-isopropylamidophosphoric acid ( $R=C_2H_5$ ,  $R'=iso-C_3H_7$ ) with oxalyl chloride gives, along with 4,5-dione, the acid chloride of ethyl ester of N-isopropylamidophosphoric acid. Phosphaoxazolidine-4,5-diones are hydrolyzed by water to N-alkyloxaminic acids and alkyl phosphates and react with alcohols to give N-phosphorylated oxaminic acids.

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90006v New method for preparing acyl isocyanates.  
Samarai, I. I.; Belaya, V. P.; Galenko, G. F.; Derkach, G. I.  
(Inst. Org. Khim., Kiev, USSR). *Zh. Org. Khim.* 1970, 6(1),  
85-8 (Russ.). The reaction of  $RC(=NH)OEt$  or  $RC(=NH.HCl)OEt$  (I) with  $(COCl)_2$  gave  $RC(OEt):NCOCOCI$  (II) (R is  $CCl_3$ ,  
 $CH_2ClCH_2$ , Ph, *p*- $ClC_6H_4$ , *p*- $O_2NC_6H_4$ , or 3-piperidyl). The  
reaction of  $PhC(=NCl)OEt$  with  $(COCl)_2$  also gave II (R = Ph).  
Heating II at 110-30° gave  $RCONCO$ ; II react with moisture in  
the air giving I, with  $R'OH$  giving  $RC(OEt):NCOCOR'$ , or  
with  $R''NH_2$  giving  $RC(OEt):NCOCONHR''$ . CPJR

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MIRONOV, V. P., SAMARCHENKO, A. T.

"Separation of Homogeneous Groups of Students"

Programmir. obucheniye. Mezhd. nauch. sb. [Programmed Learning. Interdepartmental Scientific Collection], 1973, No 10, pp 33-43 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V285 by the authors)

Translation: An algorithm is studied for grouping of students into statistically homogeneous groups. In stating the problem, it is assumed that each student is characterized by a set of typological characteristics, which are normally distributed. The task of grouping is performed on the basis of the set of all characteristics. The process of grouping consists of two stages: random selection of five elements from the sample (students) and successive attachment of new elements with the corresponding checking of the grouping criterion. The grouping criterion used is a functional, taking on values within limits of the fixed boundaries, if the grouping condition is fulfilled with a fixed probability, and extending beyond the boundaries if the grouping condition is not satisfied with a fixed probability.

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