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RYAZANTSEV, K. A., GILINSKIY, I. A. (Siberian State Scientific Research Institute of Metrology; Institute of the Physics of Semiconductors, Siberian Department of the USSR Academy of Sciences, Novosibirsk)

"Surface Quasi-Static Oscillations in Magnetics"

Leningrad, Fizika Tverdogo Tela, August, 1970, pp 2217-9

ABSTRACT: Surface magnetostatic oscillations on a magnetic-vacuum boundary are considered. A qualitative study of the general dispersion equation for surface oscillations on the boundary of a gyrotropic magnetic is made, and conditions are found under which the spectrum of surface oscillations is superimposed on or lies above the spectrum of spin waves in an unlimited magnetic. Particular cases of a ferrite with two magnetic sublattices and an antiferromagnetic are considered. It is shown that one of the branches of the surface oscillations in the antiferromagnetic is superimposed on the spectrum of spatial oscillations. In the case of a ferrite for that of the branch which lies in the SHF range the results coincide with those obtained earlier by Damon and Eshbach (J. Appl. Phys., 31, 332, 1960).

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Acc. Nr:

AT0050502

Abstracting Service:

NUCLEAR SCI. ABST.

5/70

Ref. Code:

4R 0141

R

18049 PECULIARITIES OF TRANSIENT RADIATION AND  
VAVILOV-CHERENKOV RADIATION IN FERRITES. Ryzantsev  
K. A. (Novosibirsk State Teachers Inst., USSR). Izv. Vyssh.  
Ucheb. Zaved., Radioliz.: 13: 28-32(1970). (In Russian).

The radiation from a charged particle moving along the interface  
of vacuum and ferrite, having two magnetic subarrays, is consid-  
ered. The radiation is shown to be elliptically polarized. The spec-  
tral density of radiation is found and the possibility of emerging  
Cherenkov radiation into vacuum when the particle is moving from  
vacuum into the medium is investigated. (auth)

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ETIOLOGY

Agriculture

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USSR

UDC 614.449.57:615.285.7]:576.895.77+595.771

KRIVTSOVA, Ye. N., MITROFANOV, A. M., KOZIN, N. P., TIMOFEYEVA, L. V.,  
TULUPOVA, A. M., VINOGRADSKAYA, O. N., YERMISHEV, Yu. V., PLOTNIKOVA, A. S.  
and RYAZANTSEV, V. A., Institute of Medical Parasitology and Tropical Medicine  
imeni Ye. I. Martynovskiy, Ministry of Health USSR, and Institute of Agri-  
cultural and Specialized Application of Civil Aviation

"Testing of Some Organophosphorus Compounds and Carbamates against Larvae of  
Aedes Mosquitoes (Culicidae) in Experiments with Aerial Spraying"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5,  
Sep/Oct 70, pp 599-603

Abstract: The use of organophosphorus compounds and carbamates against  
mosquito larvae was tested in the Yakut ASSR, in the area of the villages of  
Novy, Aikhal, and Mirny, and the Udachnaya deposits. Water reservoirs were  
treated by aerial spraying from an AN-2 plane. The following pesticides were  
tested: bytex, methylnitrophos, trolen, sevins, and dipterex; DDT was used as  
the reference. Comparatively uniform marshy territories with occasional for-  
ests and bushes were selected. Bytex was shown to be especially effective as  
a larvicide, a dose of 40 g/hectare proving to be sufficient. Methylnitrophos

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USSR

KRIVOSOVA, Ye. N., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5, Sep/Oct 70, pp 599-603

required a 100 g/hectare dose to be effective; trolen in doses 40 and 80 g/hectare reduced the density of mosquito larvae only insignificantly. Dipterox and sevin proved ineffective as larvicides, being significantly inferior to DDT. The effect of mosquito larvae eradication with organophosphorus compounds lasts for 7-14 days.

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USSR

UDC 911.3.616.9.576.895.771(571.56)

TIMOFEYEVA, L. V., MITROFANOV, A. M., VINOGRADSKAYA, O. N., RASNITSYN, S. P.,  
PETRUCHUK, O. Ye., RYAZANTSEV, V. A., and YERMISHEV, Yu. V.

"Organizational Principles in the Struggle Against Blood-Sucking Midges and  
Aedes Mosquitoes on the Basis of Their Biological Characteristics"

V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med.  
parazitol. i tropich. med., 1970 (Proceedings on the Conference Commemorating  
the 50th Anniversary of the Institute of Medical Parasitology and  
Tropical Medicine 1970 -- collection of works), Moscow, 1970, pp 50-51  
(from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.75)

[No abstract]

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USSR

RYBACHENKO, V. F.; SADOVOY, A. A.

"Binding Energy of Light Nuclei and Nucleon-Nucleon Potentials"

Moscow, Yadernaya Fizika; October, 1970; pp 710-6

ABSTRACT: By means of the K-harmonics method the upper bound is given for the binding energy of a series of light nuclei (up to  $Ca^{40}$ ) for singlet and triplet even potentials  $V_{13}$  and  $V_{31}$  having a small repulsive core. The agreement of calculated values of energies and radii of the nuclei with the experimental values is considerably improved as compared with calculated values of these quantities for potentials without any core. The results obtained are improved by taking into account the repulsive  $V_{33}$  potential acting in states with an odd relative orbital moment of nucleons.

USSR

UDC 621.791.763.1:669.821.5

RYAZANTSEV, V. I., and PUGACHEV, A. I., Candidates of Technical Sciences,  
All-Union Scientific Research Institute of Aviation Materials

"Contact Spot Welding of Deformable Magnesium Alloys"

Moscow, Svarochnoye Proizvodstvo, No 2, Feb 74, pp 16-19

Abstract: The weldability of seven magnesium alloys using contact spot welding was determined with the mechanical properties and corrosion resistance of the weld joints also determined. The alloys tested were: VMD3, VMD5, VMD6, VMD7, VMD8, MA12, and IMV2. Spot welds were made using the same two alloys welded together and combinations of two alloys: VMD8+VMD6, VMD8+VMD7, VMD8+VMD3, VMD8+MA12, VMD3+VMD6, and VMD3+MA12. It was found that all the alloys can be satisfactorily spot welded and "hard" and "soft" current pulses can be used for all the alloys except IMV2. The mechanical properties of the weld joints under static tests of alloys VMD5, VMD8, MA12, and IMV2 were at the level of the properties of alloy AMg3 but 25-30% lower than for alloy D16T and O1420. The properties of VMD6 and VMD7 were on par with alloy D16T. Cyclic loading to fracture at a load equal to 0.5 of the shear strength was 2700-3300 cycles for all alloys, which was 6-8 times less than that 1/2

USSR

RYAZANTSEV, V. I., and PUGACHEV, A. I., Svarochnoye Proizvodstvo, No 2,  
Feb 74, pp 16-19

for D16T. The fatigue strength of VMD3, VMD6, and MA12 was 2-3 times less,  
and VMD5 and VMD8, 1.1-1.4 times less than for D16T. A primer coating of  
AK-070 and enamel EP140 provided unsatisfactory corrosion resistance. The  
best corrosion protection was afforded by a lacquer-paint coating of AK-  
-070+EP140 (three layers) + composition No 2 on an S-38 base (2 layers).  
Four tables.

2/2

- 84 -



USSR

UDC: 621.791.011:620.192.4.001.2:669.015.14:669.721

RYAZANTSEV, V. I., Candidate of Technical Sciences, SMIRNOVA, YE. I., Engineer,  
and OSOKINA, T. N., Engineer

"The Effect of Alloying and the Purity of the Magnesium Alloy of the Mg-Zn-Zr-  
Rare Earth Metal System on the Tendency Towards Hot Crack Formation"

Moscow, Svarochnoye Proizvodstvo, No 5, May 73, pp 28-30

Abstract: The authors show that alloys of the Mg-Zn-Zr-rare earth metal system with a content of 1.0-1.6 percent Zn, 0.04-0.1 percent Zr, 0.16-0.3 percent rare earth metal and with an admixture of Fe, Cu, Si, Ni, Al in quantities of 0.01-0.03 percent have a low resistance to hot crack formation (critical deformation rate of 0.5-0.75mm/minute). This significantly limits the possibility of their use in complexly shaped welded structures. Varying the Zn content from 1.0 to 1.6 percent in the basic metal and introducing Mn do not have a significant effect on the rate of critical deformation during welding. Resistance to hot crack formation can be significantly increased by reducing Co content 2-3 times and the admixture (Fe, Ni, Cu, Si, and Al) 2-4 times. The critical rate of deformation under these conditions is increased 2.5-3.5 times and reaches 1.8-1.9 mm/minute.

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USSR

UDC 621.791.754

EYAZANTSEV, V. I., OSOKINA, T. N., All-Union Scientific-Research Institute  
of Aviation Materials

"Argon-arc Welding of Dissimilar Deformable Magnesium Alloys"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 72, pp 41-44

Abstract: This work presents a study of the possibility of welding dissimilar deformable magnesium alloys in the following combinations: VMD8 with MA2-1, VMD8 with VMD3 and VMD8 with MA12, using various wire compositions. The specimens used were standard manufactured sheets 2 mm thick. The sheets were first annealed at 260°C for 1 hour, then welded with a ADSV-2 automatic welding machine at 15 m/hr. The combinations least prone to crack formation were those involving a single magnesium-zinc-REM system: VMD8 with VMDZ and VMD8 with MA12. VMD8 and MA2-1 were more inclined toward crack formation. The total corrosion resistance of welded joints varied in the same sequence.

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Welding

USSR

UDC 621.791.052:678-1:669.017.1.74

~~RYAZANTSEV, V. I.~~, PUGACHEV, A. I., SMIRNOVA, Ye. I., BLYABLIN, A. A.,  
KUDISHINA, T. A., and OSOKINA, T. N.

"Chemical Microheterogeneity of Welded Joints of VMD8 Magnesium Alloy"

Moscow, Svarochnoye Proizvodstvo , No 10, Oct 72, pp 8-10.

Abstract: The mechanism of formation of microchemical heterogeneity of VMD8 alloy welded joints through the cross section is studied as a function of the chemical composition of the welding wire. It is shown that the degree of microchemical heterogeneity and the nature of its placement have a decisive influence on the hot shortness of the joint metal. Microchemical heterogeneity in the fusion zone and in the near-seam zone arises as a result of diffusion redistribution of elements from the seam into the surrounding zone (Ce for 5-8 wire) and from the surrounding zone into the seam (Zn for type 5-7 wire), as well as diffusion enrichment of melted boundaries with such elements as Ce and impoverishment of the grain areas near the boundary in these elements. It is established that when welding is performed with wires in the system Mg-Al-Zn-Mn, the distribution of alloying elements in the fusion zone is such that no change in the composition of the wire can cause a reduction in hot shortness ( $A = 0.3$  mm/min).

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USSR

RYAZANTSEV, V. I., PUGACHEV, A. I., SMIRNOVA, Ye. I., BLYABLIN, A. A.,  
KUDISHINA, T. A., OSOKINA, T. N., Moscow, Svarochnoye Proizvodstvo  
No 10, Oct 72, pp 8-10.

For welding wire in the Mg-Zn-Zr-Ce system, an increase in Ce content to 3.7% or more causes a sharp increase in diffusion penetration of this element from the seam into the surrounding zone, significantly increasing resistance to the formation of hot cracks ( $A \geq 0.6$  mm/min).

2/2

USSR

UDC 621.791.042:669.721.5

RYAZANTSEV, V. I., SMIRNOVA, YE. I., and OSOKINA, T. N., All-Union Scientific Research Institute of Aviation Materials

"Effect of Filler Wire Composition on the Microchemical Heterogeneity and Some Properties of Magnesium Alloy Joints"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 72, pp 9-12

Abstract: A study was made of the chemical heterogeneity of magnesium alloy weld joints where alloying was accomplished using magnesium-base filler wires with an average composition of the alloying elements of 1.5% Zn, 7% Al, and 0.3% Mn and the base metal containing an average composition of 1.3% Zn, 0.08% Zr, and 0.22% mischmetal. Prior to welding, the alloy sheet was annealed at 260°C for one hour. Welding was done using an ADSV-2 automatic unit with an IPK-350 power source with four different threshold energy values. Microheterogeneity was studied using local x-ray spectral analysis on an MAR-1 unit. When using fillers of the Mg-Zn-Zr-Ce mischmetal system, the microchemical heterogeneity in the fusion zone emerges as a result of diffusion redistribution of cerium from the seam into the heat-affected zone; when using fillers of the Mg-Al-Zn-Mg the microchemical heterogeneity emerges as a result of diffusion penetration of zinc from the heat-affected zone into the seam. From the action of the

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USSR

RYAZANTSEV, V. I., et al., *Avtomaticheskaya Svarka*, No 10, Oct 72, pp 9-12

thermal welding cycle there is observed in the heat-affected zone -- independent of filler wire composition -- diffusion enrichment of the fusion boundaries by cerium and a decrease of its content in the boundary sections of the grain, as well as decomposition of the solid solution in the grain body, being accompanied by precipitation of phases rich with zinc. Microchemical heterogeneity for zinc amounted to approximately 1000%. The impact strength of weld joints made using fillers with cerium mischmetal was 2-3 times less and the bend angle 15-20% less than when using fillers of the Mg-Al-Zn-Mn system for an almost identical strength. 5 figures, 2 tables, 12 bibliographic references.

2/2

- 47 -

Welding

USSR  
RYAZANTSEV, V. I., PUGACHEV, A. I., Candidates of Technical Sciences,  
SMIRNOVA, Ye. I., MIKHEYEV, I. M., Engineers, ANTONOV, Ye. G., Candidate of  
Technical Sciences, and OSOKINA, T. N., Engineer

UDC 621.791.042:669.15'74-194

"Selection of an Additive Material for Welding of Mg-Zn-Zr-REM Alloys"

Moscow, Svarochnoye Proizvodstvo, No 7, Jul 1972, pp 9-11

Abstract: Deformable magnesium alloys in the system Mg-Zn-Zr-REM are recommended for the manufacture of complex structures without stress relief following welding. These alloys have tensile strengths of at least 22 kg/mm<sup>2</sup> and  $\delta > 15\%$ . These alloys are also superior in impact toughness, relative elongation, and relative reduction in area. The weldability of the alloys studied was evaluated using sheets 2 mm thick following annealing for one hour at 260°C. The alloys were found to have good weldability with argon arc welding using wires with compositions differing from the base metal. Two compositions of wires based on Mg are suggested: 1.0-1.5% Zn, 0.5-0.7% Zr, 2.8-3.7% Ce; and 1.0-1.5% Zn, 4.4-7.0% Al, 0.3-0.6% Mn. The former wire is recommended for complex and rigid structures with large volumes of manual welding; the latter is recommended for automatic welding of structures to be subjected to impact and cyclical loading. These wires produce welded joints with strengths at least 90% of the base metal, bending angle at least

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USSR

RYAZANTSEV, V. I., et al., Svarochnoye Proizvodstvo, No 7, Jul 1972, pp 9-11  
50 and 65° respectively. Overall corrosion of welded seams using these wires  
is similar to the base metal; the welded joints are not inclined to corrosion  
under stress.

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- 69 -



1/2 012

TITLE—DETERMINATION OF THE INTRINSIC VISCOSITY OF POLYETHYLENE SOLUTIONS  
UNCLASSIFIED PROCESSING DATE—30OCT70

AUTHOR—(05)—RYAZANTSEV, V.I., KONDRATYEV, A.A., SISIN, M.F., NASYROVA,  
Z.M., BOGATYKH, K.F.  
COUNTRY OF INFO—USSR

SOURCE—VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 954-6

DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY, MATERIALS

TOPIC TAGS—INTRINSIC VISCOSITY, POLYETHYLENE

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAE—2000/0663

STEP NO—UR/0459/70/012/004/0954/0956

CIRC ACCESSIGN NO—AP0124335

UNCLASSIFIED

2/2 012  
CIRC ACCESSION NO--A0124335 UNCLASSIFIED  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE 0.4-2.3 DL-G RANGE THE  
REDUCED VISCOSITY (N-C) OF POLYETHYLENE (I) SOLNS. IN P EXLENE CHANGES  
LINERALLY WITH I CONCN. (C); THE HUGGINS CONSTS WAS 0.62.  
FACILITY: UFIM. NEFT. INST., UFA, USSR.

PROCESSING DATE--30OCT71

UNCLASSIFIED

USSR

UDC 536.46

BERMAN, V. C., and RYAZANTSEV, YU. S. (Moscow)

"Asymptotic Analysis of Steady-State Propagation of the Front of a Two-Stage Sequential Exothermic Reaction in a Condensed Medium"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1973, pp 75-87

Abstract: There is developed an approximate theory of the steady-state propagation of the two-dimensional front of a two-stage exothermic sequential chemical reaction in a condensed medium. The method of coalescing asymptotic expansions is used in constructing the solutions. The expansion parameter is the ratio of the sum of the activation energies of the reactions to the final adiabatic temperature of combustion. Characteristic limit regimes of steady-state propagation of the wave are developed, which correspond to various values of the parameters involved in the problem. Approximate analytic expressions for the wave velocity and for the distribution of the concentrations are obtained for each of the regimes. These analytic relationships make it possible, on the basis of the given physicochemical characteristics of the condensed system, to conduct a classification of the combustion regimes, to make an approximate calculation of the rate of propagation of the combustion front, and to investigate the concentration and temperature profiles. 1 figure. 6 references.

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- 29 -

Combustion

USSR

UDC 536.46

NOVIKOV, S. S., RYAZANTSEV, YU. S., and TUL'SKIKH, V. YE., Institute of  
Chemical Physics, Acad. Sc., USSR, Moscow

"The Influence of Entropic Waves on the Stability of Combustion in a  
Semi-Closed Space"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 6, Apr 72, pp 1358-1361

Abstract: The main principle of the theory of the stability of powder combustion in a semi-closed space is based on the assumption of isothermal conditions in the combustion chamber. Later it was found that acoustical and entropic waves may form in such a chamber. Methodes for calculating acoustical conductivity have been developed. In any analysis of gas vibration in the combustion chamber it is necessary to consider the possibility of generating pressure vibrations due to the interaction of entropic waves at the outlet from the combustion chamber. In this paper a theoretical treatment is given to longitudinal gas vibration during front combustion in a chamber with constant crosssection, the combustion products evolving through a jet outlet.

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USSR

UDC 536.46

BERMAN, V. S., NOVIKOV, S. S., RYAZANTSEV, Yu. S., Moscow

"Calculation of One Unstable Combustion Mode of a Condensed System"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 23-30.

Abstract: A one-dimensional process of combustion of a powder specimen on a metallic substrate with constant pressure is studied on the basis of a two-phase model of thermal decomposition of the condensed system. The results of numerical calculations performed by computer are presented. These results are compared qualitatively with experimental results. The results of earlier works are summarized, in which a combustion mode was observed including a stage of ignition, a stage of stable propagation and a stage of cessation of combustion as the combustion front reached the plate, which must be related to heat flow out of the combustion zone into the plate, which has much greater heat conductivity than the powder. It was established that after cessation of combustion, a thin layer of unburned powder remains on the plate, the thickness of which depends on the pressure and initial temperature, and experimental data were produced on the thickness of the unburned residue as a function of pressure and initial temperature.

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- 34 -

USSR

GUPALO, YU. P., RYAZANTSEV, YU.S. (Moscow)

"Concerning the Mass and Heat Exchange of a Spherical Particle in the Laminar Flow of a Viscous Liquid"

Moscow, Prikladnaya Matematika i Mekhanika, No 2, March-April 1971, pp 255-265

Abstract: An approximate solution is obtained of the problem of the mass and heat exchange of a moving solid spherical particle at small finite Peclet and Reynolds numbers. Consideration is given to the case of an arbitrary speed of a first-order chemical reaction on the surface of the particle. The problem is solved by the method of joining asymptotic expansions according to the Peclet number. A concentration and temperature field is constructed, and the complete flow of the substance and of heat on the surface of the article is found. In the present work the problem of diffusion toward the spherical particle at finite Peclet numbers is generalized for the case of finite Reynolds numbers and the chemical reaction on the surface of the particle. Expansion of the range of Reynolds number is attained by using, for the velocity field, expressions describing the flow about a spherical particle at finite Reynolds numbers. 3 figures, 8 bibliographic entries.

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- 98 -

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--INITIAL TEMPERATURE DEPENDENCE OF THE THICKNESS OF AN UNBURNED  
POWDER LAYER ON A METAL PLATE -U-  
AUTHOR-(04)-NEFEDOVA, O.I., NOVIKOV, S.S., POKHIL, P.F., RYAZANTSEV, YU.S.

COUNTRY OF INFO--USSR

SOURCE--PMTF, ZHURNAL PRIKLADNOI MEKHANIKI I TEKHICHESKOI FIZIKI,  
MAR.-APR. 1970, P. 85-89  
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--COMBUSTION R AND O, POWDER COMBUSTION, MATHEMATIC EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3005/1966

STEP NO--UR/0207/70/000/000/0085/0089

CIRC ACCESSION NO--AP0133810

UNCLASSIFIED

2/2 020  
CIRC ACCESSION NO--AP0133810  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. DISCUSSION OF CERTAIN FINDINGS REGARDING THE DEPENDENCE OF THE THICKNESS OF AN UNBURNED POWDER LAYER ON THE INITIAL TEMPERATURE. THE POSSIBILITY OF AN APPROXIMATE CALCULATION OF THE UNSTEADY PROCESSES ACCOMPANYING THE APPROACH OF A COMBUSTION WAVE TO THE PLANE OF CONTACT BETWEEN THE POWDER AND THE METAL IS CONSIDERED. SOME THEORETICAL AND EXPERIMENTAL FINDINGS ARE COMPARED.

UNCLASSIFIED



Acc. Nr: AFC047378

Abstracting Service: 5/70  
INTERNAT. AEROSPACE ABST.

Ref. Code:  
US 0000

R

A70-23228 # Extinction of propellant near the contact with  
a metal. S. S. Novikov (Akademii Nauk SSSR, Institut  
Khimicheskoi Fiziki, Moscow, USSR) and V. S. Ryzantsev  
(Akademii Nauk SSSR, Institut Problem Mekhaniki, Moscow,  
USSR). *AIAA Journal*, vol. 8, Feb. 1970, p. 358, 359. 10 refs.

Description of a method of investigating the unsteady  
phenomena accompanying extinction. Under this method of  
'freezing' the combustion zone, the thermal interaction between the  
latter and the powder-metal contact is used to produce extinction.  
The method can be used for obtaining reliable experimental data  
about the dependence of the unburned powder layer thickness on  
the initial temperature. It can also be useful for verifying theories of  
nonsteady combustion.

M.V.E. ]

ALS

REF / FRAME  
18790904

USSR

UDC 576.858.75

KANEL', I. A., INDULEN, M. K., RYAZANTSEVA, G. M., DZEGUZE, D. R., and POLIS, YA. Yu., Institute of Microbiology imeni A. Kirkhenshteyn, Academy of Sciences, Latvian SSR, Riga

"Antiviral Activity of 2-Aminoadamantane"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR, No 11, 1972, pp 42-47

Abstract: Studies were undertaken on the antiviral effectiveness of 2-amino-adamantane (2-AA) on the following viruses: influenza types A0, A1, A2, and B, Sindbis virus, and smallpox virus. Comparison with 1-aminoadamantane (1-AA) showed that 2-AA was less toxic for KhAO tissue culture and cultures of chick embryo fibroblasts, equally toxic for the chick embryo, and evidenced greater toxicity than 1-AA for white mice. The  $TD_{50}$  of 2-AA for a monolayer of chick fibroblasts was  $250 \mu\text{g/ml}$ , and  $100-150 \mu\text{g/ml}$  for a suspension of these cells. Evaluation of 2-AA in terms of inhibition of multiplication of the different viruses in KhAO tissue culture showed that the greatest decrease in the  $lg ID_{50}$  was obtained with influenza types A2/Frunze and A2/Hong Kong; 2-AA was less effective against A0/WSN and A1/Pan, and showed no significant inhibition of B/Amakuza and B/Sofia viruses. A2 hemagglutinin titers were also depressed, and the effects were dependent on 2-AA concentration and the dose  $1/2$

USSR

UDC 576.858.75

RYAZANTSEVA, G. M., and INDULEN, M. K., Institute of Microbiology imeni  
Avgust Kirkhenshteyn, Academy of Sciences Latvian SSR

"Virucidal Properties of Some Adamantane Derivatives"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, No 7, (300), 1972, pp 69-72

Abstract: The virucidal activity of aminoadamantane hydrochloride, aminoadamantane derivatives coded JP-6, JP-7, and JP-76, and adamantane derivatives coded JP-20 and JP-56 with respect to influenza type A2 viruses of the Frunze, Hong Kong, and Leningrad strains and influenza type B virus of the Tokyo strain was investigated in vitro on cultures grown in chick embryos. None of the compounds exerted any significant virucidal activity. Since most of them have a marked virustatic property in vivo, it is concluded that their antiviral activity becomes effective in certain stages of mutual interaction between the virus and the host cell.

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- 20 -

RYAZANTSEVA, Ye. Ye.

JPRS 55569  
29 MAR 72

ABSTRACTS OF ARTICLES PUBLISHED IN THIS ISSUE

[Abstracts; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 2, 1972, p 96]

"Medicobiological Investigations Dealing with the Use of Estrogens as Growth Stimulating Agents," by A.A. Pokrovskiy, M.P. Kostarin, G.F. Vavilina, Ye.Ye. Ryzantseva, L.Ya. Solov'yeva, p 3.

As a result of medicobiological examination of meat products obtained from bull calves stimulated with diethylstilbestrol, it was shown that the recommended method of using this hormone does not rule out the possibility of retention in subproducts of meat of residual quantities of this agent. When feeding laboratory animals on experimental meat there was manifestation of some adverse effects on their development and change in sex gland function. On the basis of the data obtained and the literature, with due consideration of worldwide experience in using diethylstilbestrol to fatten various species of animals, the authors conclude that it is impossible to use this preparation in animal breeding.

There are eight tables, one illustration; bibliography lists 118 items.

"Experience with Vitamin E Supplement for Bicycle Racers and Skiers," by Ye.A. Sebeva, V.V. Yefremov, p 52.

A study was made of the effect of different intensities of physical stress on vitamin E availability in the organism of cyclists and skiers during winter sport meets. As a result of the study it was found that 1.5-2 and especially 3-4-hour training induces a considerable decline in vitamin E content in the blood serum of the athletes. Additional intake of this vitamin in doses of 50-150 mg for cyclists who trained for 1.5-2 hours and 200-300 mg for skiers who trained for 3-4 hours raises the blood serum vitamin E level and results in greater efficiency of the athletes.

Two illustrations; bibliography lists nine items.

(bwp)

- 149 -

"A True Antrectomy Technique in Surgery for Peptic Ulcers," by Yu.M. Panteyev, A.A. Erimov, T.I. Laktionova, p 72.

A method is described for pinpointing the boundaries of the antral portion of the stomach during surgical interventions using 2% solution of Congo red dye as an indicator on the gastric mucosa. The method has been developed experimentally and used in clinical practice on 30 patients with duodenal and gastric ulcers; this revealed that it is simple, safe, and permits performance of a true antrectomy, in other words, it permits the performance of a functionally substantiated sparing operation on the stomach. The precision of the method was confirmed by histological examinations.

Two illustrations; one table; bibliography lists 24 items.

- END -

10,657  
CSO: 1847-W

USSR

UDC 669.715.5.721.018.29.620.193

BABICHEV, B. I., ZOLOTOROVSKIY, Yu. S., KLEPTSOVA, I. S., NEZHNIKOVSKIY, I. A.,  
RYAZHSKAYA, E. K.

"Properties of Alloys in the System Al-Zn-Mg as Functions of Artificial Aging Mode"

Metallovedeniye [Metal Science -- Collection of Works], No. 14, Leningrad, Sudostroyeniye Press, 1970, pp. 145-150. (Translated from Referativnyy Zhurnal Metalurgiya, No. 5, 1971, Abstract No. 5 I677 by the authors).

Translation: The properties of alloys in the system Al-Zn-Mg are studied with various aging modes. It is demonstrated that the alloy has satisfactory corrosion resistance with long storage following hardening with subsequent 2-stage aging (temperature of stage II 140°). 4 figs; 3 tables; 3 biblio refs.

1/1

1/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--LIQUID SCINTILLATORS FOR LARGE SCINTILLATION COUNTERS -U-

AUTHOR--(03)-VOYEVOOSKIY, A.V., DADYKIN, V.L., RYAZHSKAYA, O.G.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 85-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, MATERIALS

TOPIC TAGS--SCINTILLATOR, POLYSTYRENE RESIN, TOLUENE, ORGANIC AZOLE  
COMPOUND, KEROSENE, GREASE, PETROLEUM PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1376

STEP NO--UR/0120/70/001/000/0085/0087

CIRC ACCESSION NO--AP0128776

UNCLASSIFIED

R

2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128776

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROPERTIES OF NEW. LIZ. SCINTILLATORS PREPD. FROM CHEAP PETROLEUM PRODUCTS ARE LISTED IN COMPARISON WITH A POLYSTYRENE BASED PLASTIC SCINTILLATOR AND A PHME BASED LIQ. SCINTILLATOR. THE NEW LIQS. INCLUDE WHITE SPIRIT WITH 1G-L. OF 2,5-DIPHENYL OXAZOLE PLUS 0.03 G-L. OF 1,4-BIS,(5-PHENYL,2.OXAZOLYL)BENZENE, TS Kerosine, T Kerosine, NAPHTHYL, VASELINE GREASE AND MOTOR ALKYLATE (ALL WITH THE SAME SCINTILLATING ADMIXT.). THE DESCRIBED LIQ. SCINTILLATORS HAVE A HIGH TRANSPARENCY AND A LIGHT YIELD COMPARABLE TO THAT OF THE STD. PLASTIC SCINTILLATORS. FACILITY: FIZ. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.715'5'721:620.193.4

KAREVA, A. P., KLEPTSOVA, I. S., LYUTOVA, I. S. , RYAZHISKAYA, T. K.

"Study of the Relation between the State of the Alloy of the Al-Zn-Mg System, Its Electrochemical Potential, and the Corrosion Resistance of the Intermediate Products"

V sb, Metallovedeniye (Physical Metallurgy -- collection of works) Sudostroyeniye Press, 1971, pp 133-136 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41679)

Translation: A study was made of the results of comparative studies of the electrochemical potentials of the alloy of the Al-Zn-Mg system in different states. The dependence of the potential on the heating temperature for quenching, annealing, and welding was established. The results of studying the variation of the electrochemical potential during the process of aging the alloys are confirmed by corrosion testing at the laboratory and under natural conditions. Recommendations are made with respect to selecting the heat treatment conditions of the alloy for which corrosion decreases in the weld-affected zone. Two illustrations.

1/1



USSR

UDC 669.71'721'5.018.9.4

BABICHEV, B. I., VINOKUROV, M. K., ~~RYAZHSKAYA, T. K.~~

"Influence of Heating Following Homogenization on Properties of Ingots of Al-Mg-Zn System Alloy"

Metallurgiya [Metallurgy -- Collection of Works], No 14, Leningrad, Sudostroyeniye Press, 1971, pp 52-54, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G235 by the authors).

Translation: The influence of modes of homogenization and heating for rolling on mechanical properties and microstructure of ingots in the Al-Mg-Zn alloy system are studied with a ratio Mg/Zn = 2. Increasing heating time before rolling at 410° from 1 to 10 hours results in separation of chromium and other refractory phases within the grains of the solid solution. 1 Figure; 1 Table; 2 Biblio. Refs.

1/1

RYAZHSKIN, I.

ECO

31 Mar 71

32

PRO-COMMUNISM

31 Mar 71

OK/MA

RYAZHSKIN, I., Chief Economist of the Department of Sociological Studies of the Scientific Research Institute of Labor

"The Creative Reserves"

Moscow, *Knzhno-Tekhnicheskoye Otslozheniya* USSR, No. 12, 1970, p. 29

Abstract: Public-spirited groups of activists play an important role in helping to solve the scientific-technical problems of the Soviet economy. They help to develop and introduce new technology, mechanization, and automation; improve the quality and reduce the prices of manufactured goods.

Unfortunately, some administrators misestimate this voluntary activity as interference with the work of established staff personnel.

It is true that these activists frequently dissipate their efforts on minor and unimportant projects. Administration must find the means and means to attract such activists into proper channels. To support the initiative. It must enroll the members of creative collectives into participation in the work of permanent industrial committees of the plants and factories.

This will insure the support of the workers' recommendations and thereby improve the productivity of the whole enterprise.

1/1

4.

UDC 612.2+612.76

USSR

POPKOV, V. L., MAILYAN, E. S., GALUSHKO, Yu. S., KOVALENKO, Ye. A., ZAYTSEVA, Ye. I., NITOCHEKINA, I. A., STULOVA, L. V., and RYAZHSKIY, A. V., Institute for Biomedical Problems

"Shifts in Gas Exchange, Gas Homeostasis, and Tissue Respiration in Rats During Prolonged Hypokinesia"

Leningrad, Fiziologicheskii Zhurnal USSR imeni I. M. Sechenov, Vol 41, No 12, 1970, pp 1,808-1,812

Abstract: General gas exchange,  $pO_2$ , and  $pCO_2$  did not change significantly in the tissues of rats kept immobilized in special cages for 60 days. However, during the second month of the experiment, there were periods when the intensity of respiration increased in the liver and decreased in the myocardium. After two months of hypokinesia, the weight of experimental rats was substantially less than that of the control (273±10 g and 392±18 g, respectively). Also the physical fitness of the experimental animals declined sharply with respect to both dynamic and static work. The duration of maximum dynamic work decreased more than 2.5-fold while the capacity for static work decreased 9-fold.

1/1

1/2 009 UNCLASSIFIED  
TITLE--DIFFUSION POTENTIAL THEORY -U-

PROCESSING DATE--09OCT70

AUTHOR--RYAZNOV, M.A. R

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKIMIYA 1970, 6(3), 311-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DIFFUSION COEFFICIENT, ELECTROCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1994/0723

STEP NO--UR/0364/70/006/003/0311/0315

CIRC ACCESSION NO--AP0114880

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114880

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFUSION POTENTIAL BETWEEN 2  
SOLNS. OF DIFFERENT CONCNS. IS COMPUTED BY MAKING SIMPLIFYING  
ASSUMPTIONS ON THE CONCEN. DEPENDENCE OF THE ACTIVITY COEFF. DIFFUSION  
ACROSS SALT BRIDGES IS ALSO CONSIDERED.

UNCLASSIFIED

USSR

Electromagnetic Wave Propagation

UDC 621.371.25

RYBACHEK, S. T., Leningrad State University

"Effect of the Essential Region of the Ionospheric Layer on the Propagation Characteristics of SDV Waves"

Gor'kiy, Izvestiya vysshikh uchebnykh zavendeniy, Radiofizika, Vol XV, No 9, 1972, pp 1300-1303

Abstract: Numerical methods were used previously to determine the spherical impedance  $\delta_i = -i/ky(c)$  and the eigenvalues of the investigated boundary problem [S. T. Rybachek, Geomagnetizm i aeronomiya, Vol 8, No 3, 493, 1968; S. T. Rybachek, et al., Problemy difraktsii i rasprostraneniya voln, Leningrad State University, No 6, 115, 1968]. Within the framework of the adopted model these methods permit calculation of the phase velocities and damping of normal waves with any required accuracy. However, when using the experimental and ionospheric profiles of the electron concentration  $N$  and the effective number of collisions  $\nu_{eff}$  to calculate the SDV fields, a number of difficulties are encountered. These difficulties are connected with assigning the position of the atmosphere-ionosphere interface ( $r = c$ ) and the thickness of the ionospheric layer in which the local echoes are considered. The minimum electron concentrations found experimentally are within the region of tens and sometimes hundreds of 1/3

USSR

RYBACHEK, S. T., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 9, 1972, pp 1300-1303

electrons per  $\text{cm}^3$ . If the altitude corresponding to  $N_{\text{min}}$  is considered the boundary of the ionosphere in this case, the mathematical calculation will correspond to reflection from the ionospheric layer with the discontinuity  $N$  which actually does not exist. Accordingly, the question arises as to the accuracy with which it is necessary to know the lower part of the  $N$  profile in order to insure the required accuracy in the eigenvalues. Thus, the eigenvalues were calculated for a series of  $N$  profiles giving different positions of the lower boundary of the ionospheric layer. The results of these calculations are presented for a frequency of 10 kilohertz, and the corresponding  $N(r)$  profile is illustrated. When calculating the SDV fields for an ionosphere which is nonuniform with respect to the radial coordinate, the region in the ionosphere formed by the two boundaries  $r = c$  and  $r = c + \Delta h$  has a significant effect on these fields. Functions are plotted showing that there is a frequency range for which the height of the essential region does not exceed 2-3 km with an accuracy of  $\Delta v = + 10^{-1}$  and 5-6 km for an accuracy of  $\Delta v = \pm 5 \cdot 10^{-2}$ . Departure from this range in both directions leads to an increase in the essential region. A decrease in the  $N/v_{\text{eff}}$  gradient leads to the fact that the dimensions of the essential region increase, and its position with respect to

2/3

- 17 -

USSR

RYBACHEK, S. T., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, . . .  
No 9, 1972, pp 1300-1303

altitude shifts towards high concentrations. The position of the upper boundary varies more noticeably than the lower boundary. The results obtained can also be used when solving the inverse problem of reproducing the  $N(r)$  profile by the known eigenvalues. The essential regions defined separately by damping and the phase velocity are, generally speaking, different. As a rule, they intersect but there is a frequency range where they separate with respect to altitude so that the phase velocity is defined by the layers of the ionosphere with lower concentration than those defining the damping.

3/3



UDC 681.327.6

USSR

RYBACHENKOV, V. I., SUBBOTIN, V. A., The Scientific Research Center of  
Electronic Computer Technology

"A Buffer Memory Device"

Moscow, Otkrytiya, izobreneniya, promyshlennyye obraztsy, tovarnyye znaki,  
1970, No 35, Soviet Patent No 287123, class 21, filed 12 Mar 69, published  
19 Nov 70, pp 64-65

Translation: This Author's Certificate introduces a buffer memory device which contains a command magazine, registers, counters, comparison circuits, diodes, OR circuits, delay lines, flip-flops and data transmission lines. As a distinguishing feature of the patent, the device is designed for increased speed of the system, a reduction in the amount of equipment for ensuring continuity of data processing in the computers of the system, an increase in the flexibility of the system by using dynamic priority. The device contains an operand magazine, circuits for comparing the contents of the command magazine registers with the contents of the ready register for the operational memory modules, first level-storage flip-flops, diodes for transferring the most significant digits of the command address from the registers of the command magazine, an address tag analysis circuit,

1/5

USSR

RYBACHENKOV, V. I., SUBBOTIN, V. A., Otkrytiya, izobreteniye, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287123, class 21, filed 12 Mar 69, published 19 Nov 70, pp 64-65

circuits for comparing the contents of the operand magazine registers with the contents of the ready register for the operational memory modules, second level-storage flip-flops, diodes for transferring the most significant digits of the operand address, registers of dynamic and maximum priority, a magazine address counter, diodes for recording the contents of the address counter in the command magazine registers, circuits for comparing the contents of the address counters with the contents of the command magazine registers, diodes for recording the contents of the information register in the command magazine register, diodes for recording the contents of the magazine address counter in the operand magazine registers, circuits for comparing the contents of the address counter with the contents of the operand magazine, diodes for recording the contents of the information register in the operand magazine register, and flip-flops which inhibit shift of the command and operand magazines. The first inputs of the circuits for comparing the contents of the registers in the command and operand magazines are connected through the OR circuits to the output of

2/5

- 18 -

USSR

RYBACHENKOV, V. I., SUBBOTIN, V. A., Otkrytiya, izobreteniyе, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287123, class 21, filed 12 Mar 69, published 19 Nov 70, pp 64-54

the ready register for the operational memory modules, while the second inputs of the comparison circuit are connected to the registers of the command magazine and the operand magazine respectively. The outputs of these comparison circuits are connected to the inputs of the first and second level-storage flip-flops, and the outputs of these flip-flops are connected to the first inputs of the diodes for transferring the most significant command and operand address digits, while the second inputs of the diodes are connected to the registers of the command magazine and the operand magazine. The first input of the address tag analysis circuit is connected to the K-th register of the command magazine, and the second input of this analysis circuit is connected to the S-th register of the operand magazine, while its output is connected to the input of the diode for transferring the contents of the maximum priority register and to the input of the diode for transferring the contents of the dynamic priority register. The output of the magazine address counter is connected through a diode to the first inputs of the diodes for recording the contents of the address counter in the command magazine registers. The second inputs

3/5

USSR

RYBACHENKOV, V. I., SUBBOTIN, V. A., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287123, class 21, filed 12 Mar 69, published 19 Nov 70, pp 64-65

of these diodes are connected to the outputs of the first level-storage flip-flops, while the outputs of the diodes are connected to the command magazine registers. The circuits for comparing the contents of the address counter are connected to the address counter and to the command magazine registers, and the outputs of these comparison circuits are connected to the first inputs of the diodes for recording the contents of the information register in the command magazine register. The second inputs of these diodes are connected to the information register. The output of the magazine address counter is connected through a diode to the first inputs of the diodes for recording the contents of the address counter in the registers of the operand magazine. The second inputs of this diode are connected to the outputs of the second level-storage flip-flops, while the outputs of the above-mentioned diodes are connected to the registers of the operand magazine. The circuits for comparing the contents of the address counter are connected to the address counter and to the registers of the operand magazine, and the outputs of these comparison circuits are connected to the first inputs of the diodes for recording the contents of the information

4/5

- 19 -

USSR

RYBACHENKOV, V. I., SUBBOTIN, V. A., Otkrytiya, izobreteniye, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287123, class 21, filed 12 Mar 69, published 19 Nov 70, pp 64-65

register in the operand magazine register. The second inputs of the diodes are connected to the information register.

5/5

1/2 020 UNCLASSIFIED PROCESSING DATE--ZONOV70  
TITLE--USE OF TRANQUILIZERS IN DERMATOLOGICAL PRACTICE -U-  
AUTHOR-(03)-ASHMARIN, YU.YA., SHATOVA, L.I., RYBAK, E.L. *R*  
CCOUNTRY OF INFO--USSR  
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 6, PP 6-12  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--DERMATOLOGY, TRANQUILIZER, NEUROSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/1381 STEP NO--UR/0206/70/000/006/0006/0012  
CIRC ACCESSION NO--AP013333

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133333

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE COMPLEX THERAPY OF PATIENTS WITH DERMATIC DISEASES THE AUTHORS USED CERTAIN CURRENT PSYCHOTROPIC DRUGS (TRANQUILIZERS). OVER 300 PATIENTS WERE GIVEN TREATMENT. BOTH MAJOR TRANQUILIZERS (PHENOTHIASINE DERIVATIVES) AND MINOR TRANQUILIZERS (MEPROBAMATE, TRIOXASINE, ELENIUM, SEDUXIN) WERE USED. THESE DRUGS WERE FOUND TO BE MOST EFFECTIVE IN PATIENTS WITH DERMATIC DISEASES WITH PERSISTENT ITCHING, CONCURRENT NEUROTIC AND NEURASTHENIC CONDITIONS WITH MANIFESTATIONS OF RESTLESSNESS, INSOMNIA. TRANQUILIZERS ARE EFFECTIVE IN TREATMENT OF SYPHILOPHOBIA. FACILITY: GLAVNYY KLINICHESKIY VOYENNY GOSPITAL' IM. BURDENKO, MOSKVA.

UNCLASSIFIED

USSR

UDC: 62-567.1

ABCARYAN, K. A., RAPOPORT, I. M., MAL'TSEV, O. P., SAMOYLOV, Ye. A.,  
RYBAK, S. A., Moscow "Order of Lenin" Aviation Institute imeni Sergo Or-  
dzhonikidze

"A Dynamic Vibration Damper"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 5, Feb 72, Author's Certificate No 364781, Division F, filed 17 Mar 71,  
published 28 Dec 72, pp 108-109

Translation: This Author's Certificate introduces a dynamic vibration  
damper which contains an additional mass coupled to an elastic element.  
As a distinguishing feature of the patent, provision is made for using the  
damper in liquid-filled elastic tanks. The elastic element is made in the  
form of a gas-filled elastic shell located inside the liquid, and the sur-  
rounding liquid comprises the additional mass.

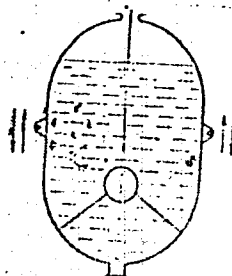
1/2



USSR

ABGARYAN, K. A. et al., USSR Author's Certificate No 364781

(1)



2/2

- 89 -

USSR

UDC 537.525

GOROVETS, V. S., RYBAK, S. A.

"Buildup of Microwave Secondary Electron Discharge"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1971, Issue 1, pp 46-51 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A31)

Translation: The process is considered of the buildup of a discharge in a microwave field in a vacuum, taking account of the formation of the space charge which determines the magnitude of the steady secondary-electron discharge. The buildup time of the discharge and the limiting concentration of electrons in the discharge are computed. The concentration of electrons in the steady discharge is proportional to the power of the microwave field and is inversely proportional to the square of the distance between the electrodes. 13 ref. Summary.

1/1

USSR

UDC: 533.6.013.42

RYBAK, S. A., SAMOYLOV, Ye. A.

"Dynamic Characteristics of a Hemispherical Shell with a Fluid Having a Source"

Tr. VII Vses. Konferentsii po teorii obolochek i plastinok, 1969  
(Transactions of the 7th All-Union Conference on the Theory of Shells and Plates) Moscow, "Nauka," 1970, pp 537-541 (from RZh-Mekhanika, No. 2, Feb 71, Abstract No. 2V428)

Translation: A study is made of forced axially symmetrical oscillations of a momentless, inertialess hemispherical shell, completely filled with an ideally incompressible fluid, under the action of a pulsating source in the fluid. The source is on the axis of symmetry. The shell is held in the equatorial plane against tangential shifts. Gravitation is not taken into account. The boundary condition on the free surface of the fluid is satisfied in the medium. The solution is analogous to the solution obtained in another work of the authors (Izv. AN SSSR. Mekhan. tverd. tela --

1/2

USSR

RYBAK, S.A., et al, Tr. VII Vses. Konferentsii po teorii obolochek i plastinik, 1969, 1970, pp 537-541 (from RZh-Mekhanika, No 2, Feb 71, Abstract No 2V428)

Izvestiya, Academy of Sciences, USSR, Mechanics of Solids -- 1970, No. 3, pp 63-68). Use of the Fourier transform is proposed to solve the system of differential equations obtained in considering the leak of fluid from the shell according to an arbitrary law. For a hemispherical shell filled with fluid, the free surface of which is covered by an immovable roof, a simpler solution is obtained. It serves as the basis for three particular cases of source pulsation under zero initial conditions: harmonic pulsations, leakage increasing linearly with time, and a sudden change in the volume of fluid by a constant amount. F. N. Shklyarchuk

2/2

USSR

UDC 666.972:691.328:620.179

RYBAK, S. A., Candidate of Physico-Mathematical Sciences, and  
KAZACHENKO, Engineer

"Ultrasonic Exposure of Hidden Defects in Concrete of Prefabri-  
cated Monolithic Hydraulic Structures"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 12, Dec 71,  
pp 10-11

Abstract : An experimental and theoretical investigation of the amplitude method of ultrasonic defectoscopy of concrete is described. The method is based on measuring the attenuation of ultrasound waves in concrete by their diffraction of internal defects, as blisters, cracks, et al. The special case of an internal defect of the form of a symmetrical disc is mathematically analyzed. Formulas are presented characterizing the ultrasonic field intensity behind the disc-like defect and the relative attenuation factor of ultrasound field amplitudes near and behind the defect. The experimental proof of the presented formulas is demonstrated in comparison with calculated values. For a reliable determination of internal defects in hydraulic concrete structures it is necessary that changes of amplitudes and propagation rates of ultrasonic waves in places with internal defects exceed by 3-4 times changes of the same characteristics in concrete without defects. Three illustr., seven formulas, four biblio. refs.

USSR

UDC 621.791.756:669.15-194

MANDEL'BERG, S. L., RYBAKOV, A. A., and DENISENKO, A. V., Institute of Electric Welding imeni Ye. O. Paton of the Academy of Sciences, UkrSSR

"The Effect of Titanium on Properties of Welded Joints of Silicomanganic Steel"

Kiev, Avtomaticheskaya, Svarka, No 7, Jul 72, pp 9-12

Abstract: An investigation was made of the effect of up to 0.23% Ti additions on the mechanical properties of welded joints of silicomanganic steel containing 0.14-0.17% C, 1.08-1.27% Mn, 0.51-0.82% Si, and 0.029-0.086% Al. Specimens 11 mm thick and double-seam flux welded with Sv-08GA electrode were investigated. The welding of silicomanganic steel with  $> 0.15\%$  Ti additions was found to lead to joint embrittlement. A decrease of Ti additions to 0.13% tends to increase the impact ductility of individual parts of welded joints. Recommendations are given for welding silicomanganic steel with increased Ti content ( $> 0.13\%$ ) and for increasing impact ductility of the seam metal and the metal of the near-seam zone of silicomanganic steel additionally alloyed with  $> 0.15\%$  Ti. Five illustrations, nine bibliographic references.

1/1

- 28 -

RYBAKOV, A.M.

Bio-Electrical Investigations

RYBAKOV A.M.  
BIO-ELECTRICAL INVESTIGATIONS

JPRS 00514  
13 November 1973

①

DOC: 615.471/.472:615.84+916-073.97  
DEVICE FOR SEPARATION OF BIO-ELECTRICAL SIGNALS DURING THE  
EFFECT OF HIGH-FREQUENCY ELECTRIC CURRENTS ON THE ORGANISM

Article by A. M. Rybakov, All-Union Scientific Research Institute of  
Medical Instrument-Making, Moscow, Meditsinskaya Tekhnika, No. 4,  
1971, submitted 15 September 1972, signed to press 9 July 1973, pp. 19-23

In [1] measures were described which must be adopted in apparatus for action with electric currents (electroneurosis apparatus, stimulators, etc) to assure their work jointly with instruments for bio-electrical investigations (electroneurobalistometry, electrocardiography, etc). However, they are insufficient to make it possible to conduct bio-electrical investigations without noise and distortions with instruments for bio-electrical investigations. It was proposed to reduce noise and distortions produced by biological objects and the electrodes carrying off bio-electrical signals by means of an acceptable minimum by means of separating devices connected between the electrodes carrying off bio-electrical signals and the channels of amplification devices. Below is described a block diagram of a separation device (see figure) by means of which high-quality recordings of electroencephalograms were obtained in the process of electroencephalography by means of which [2], the requirements for the parameters of "reference currents" separation device are substantiated, and an example is given of calculation of the parameters of the elements with use of the dependences obtained in [2].

The amplifier A is intended to reduce the average level of the interfering potentials of electrodes E<sub>1</sub> and E<sub>2</sub>. If the zero electrode is grounded, the average level of the potentials of those electrodes in relation to the ground is  $U = (E_1 + E_2)/2$ . If the amplifier is connected to the ground at a value of the inlet resistance of the amplifier considerably greater than the resistance of the circuit to which its inlet is connected, the average level

USSR

RYBAKOV, A. M., Meditsinskaya Tekhnika, Jul/Aug, 1973, pp 19-23

O is the object to be studied,  $E_1$  and  $E_2$  are the potential electrode sources for the signal;  $E_0$  is the neutral electrode;  $Y_1$ , amplifier for attenuating the cophasal component of the mixed voltage;  $Z$  is the neutralizing impedance;  $F_1$  is the low frequency filter for difference components of the mixed voltage;  $F_2$  is another low frequency filter;  $K_{y1}$  and  $K_{y2}$  are the amplification factors of the amplifier;  $Y_2$  is a differential amplifier with an asymmetrical output;  $D$  is a voltage divider;  $K_d$  is the transmission coefficient of the divider;  $e_1$  and  $e_2$ , the mixed voltage between the potential electrodes and the neutral electrode;  $U_{12} = (e_1 - e_2)$  difference component of the mixed voltage at the input of the divider apparatus;  $U_{12y}$ , difference component at the input of amplifier  $Y_2$ ; and  $U'$  is the mixed voltage at the output of the divider apparatus. Calculations for the various parameters and coefficients are shown.

2/2



Inventions and Discoveries

USSR

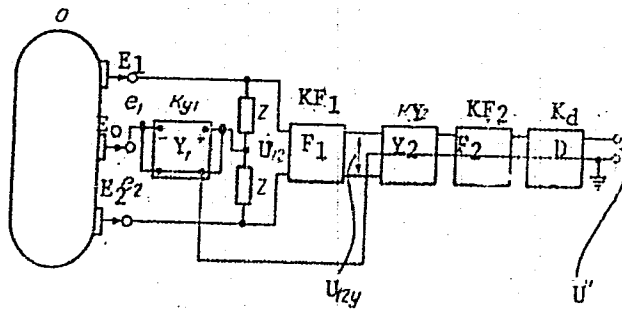
UDC 615.471/.472:[615.84+616-073.97

RYBAKOV, A. M., All-Union Scientific Studies Institute of Medicinal Instrument Engineering, Moscow

"Device for Isolating Bioelectric Signals During the Treatment of an Organism With High Frequency Electrical Currents"

Moscow, Meditsinskaya Tekhnika, Jul/Aug, 1973, pp 19-23

Abstract: In order to circumvent the problems inherent in older instruments, a new apparatus was designed as shown below.



1/2

Inventions & Discoveries

USSR

UDC: 615.471:616-092-073.97-78

RYBAKOV, A. M., All-Union Scientific Research Institute of Medical Instrument Design, Moscow

"Characteristics of Equipment Designed to Act Electrically on the Organism in Biological Research"

Moscow, Meditsinskaya tekhnika, No 1, 1973, pp 6-9

Abstract: The basis for the equipment and experiments described in this article was supplied by an earlier paper (Kuzin, M. I., et al, Elektronarkoz v khirurgii (Electronarcosis in Surgery, Tashkent, 1966)) describing the method and equipment for electronarcosis by interference currents. The present paper extends the results of Kuzin to equipment for stimulating the human organism with currents of higher frequency, and draws on the earlier work for information useful in the development and operation of such equipment for biological research. The equipment used by the author of the present paper consists of two pairs of electrodes, each connected to an independent generator supplying a sinusoidal current to the subject's head. The frequency of one is 5000 Hz, the frequency of the other varying between 5100 and 6000 Hz. An equivalent electrical circuit

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USSR

UDC: 615.471:616-092-073.97-78

RYYAKOV, A. M., Meditsinskaya tekhnika, No 1, 1973, pp 6-9

of the whole arrangement, involving the electrical equipment and the subject's organism, is given. A feature of the equipment is the use of transformers as safety devices, for eliminating noise, and for simplifying generator-load matching.

2/2

- 28 -

RYBAKOV, A.V.

5285 592 08  
6-73

3

VII-2a. REGULATION OF THE GAS PHASE COMPOSITION FOR GaAs EPITAXY

[Article by V. N. Andreyev, V. P. Popov, A. V. Rybakov, Moscow; *Novosibirsk, Ill. Simpozium po Protsessam Rostya i Sinteza Poluprovodnikov Khim. Akad. Nauk SSSR*, 12-17 June, 1972, p 89]

In order more precisely to define the initial data for the thermodynamic calculations, the magnitudes of the enthalpy and entropy of  $As_2$ , the standard the experiment performed on a quartz membrane manometer.

Considering the mechanism of interaction of the gallium with  $AsCl_3$ , a system of equations of the yields of the reactions was compiled the solution of which was found on a computer.

It was demonstrated that depending on the methods of diluting the gas mixture with hydrogen the HCO concentration can vary significantly after the source.

As a result of this, on introduction of pure hydrogen after the source, a negative section appears on the GaAs yield curve in the temperature range of 850-900°C, that is, it becomes etching.

The temperature of the beginning of crystallization of GaAs is presented as a function of the experimental conditions.

RYBAKOV, A.V.

SPMS 59208  
L-73

3

VII-2b. SPONTANEOUS CRYSTALLIZATION IN GALS EPITAXY

Article by V. M. Andreyev, A. F. Rybakov, L. I. Entezhnova, Moscow; Novosibirsk, Izvestiya Akademiya Nauk SSSR Seriya Fiziko-Matematicheskie Nauki, 1972, p 88

A study was made of the conditions of spontaneous crystallization (if of deposit depend on the partial pressure of acetylene, the temperature, the flow rate above the substrate, the type and the state of the surface.

It was established that the inclination toward spontaneous crystallization decreases in the following material series: ground quartz, sapphires, ZnO, polished quartz.

A study was made of the morphological characteristics of the epitaxial layers, in connection with the intensity and nature of spontaneous crystallization. An explanation of these relations is given from the point of view of the degree of preliminary association according to [2].

A study was made of the density and distribution of the dislocations in the (100) plane grown under optimal conditions on sapphire dislocation substrates of gallium alloyed with Fe.

As a result of the study, the growth conditions of the perfect layers of GaAs free of pyramids and growth holes are defined.

ПРИЛОЖЕНИЕ

1. V. A. Kuznetsov, G. A. Kolavits, Professors Trudy Akademiya Nauk SSSR Seriya Fiziko-Matematicheskie Nauki, 1970.
2. S. A. Stroitel'skiy, Professors Trudy Akademiya Nauk SSSR Seriya Fiziko-Matematicheskie Nauki, 1970.

USSR

RYBAKOV, B. N. and BEREGOVAYA, G. D.

UDC: 669.295

"The Phase Constitution of Nonmetallic Films on Porous Titanium"

Moscow, Tsvetnyye Metally, No 10, Oct 73, pp 39-41

Abstract: The authors study the phase constitution of porous titanium defects. This is done with the aim of explaining the mechanism responsible for defect formation and to differentiate production defects from storage defects. It is known that the titanium dioxide obtained at high temperatures has a rutile structure, while that obtained at low temperatures has an anatase structure. The presence of hydrated titanium dioxide in the defects and of anatase in their thermal decomposition products makes it possible to differentiate production defects from storage defects.

1/1

- 56 -

USSR

UDC 621.3:083.72:538.4

TSIRKUNOV, V. E., KALNIN', R. K., ~~RYBAKOV, E. K.~~

"Measurement of Flow Velocity of Liquid Metal by Method of Relationships"

Magnitnaya Gidrodinamika, No 2, 1971, pp 133-136.

ABSTRACT: A contactless flow meter using a pulsating magnetic field inductor is described. The flow of metal being transported is defined by the relationship of the velocity and vortex signals resulting from the secondary magnetic field. The mean square error in determination of flow does not exceed 2.5%, and the indications of the flow meter do not change with a change in conductivity of the medium being tested of up to 30%.

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- 166 -

1/2 018  
UNCLASSIFIED  
TITLE--EXTREMAL SIGNALS AND LINEAR NETWORKS PRODUCING LARGEST OUTPUT -U-  
AUTHOR--RYBAKOV, I.N.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VUZ RADIOTELEKTRONIKA (USSR), VOL. 13, NO. 1, P. 18-29, JAN. 1970  
DATE PUBLISHED----JAN70  
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.  
TOPIC TAGS--ELECTRIC NETWORK, SIGNAL ANALYSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3008/0266  
CIRC ACCESSION NO--A0137371  
STEP NO--UR/0452/70/013/001/0018/0029  
UNCLASSIFIED



2/2 019

CIRC ACCESSION NO--AP0137371

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANALYSIS S MADE OF SIGNAL FUNCTIONS WHICH, UNDER GIVEN CONSTRAINTS OF THEIR PARAMETERS, PRODUCE LARGEST PEAK RESPONSE AT THE OUTPUT OF A GIVEN LINEAR NETWORK, LINEAR NETWORKS WHICH, UNDER STATET CONSTRAINS OF THEIR PARAMETERS, PRODUCE LARGEST PEAK VALUE TO A GIVEN SIGNAL, AND COMBINATIONS OF SIGNALS AND NETWORKS, PRODUCING LARGEST PEAK RESPONSE WHEN CONSTRAINTS ARE IMPOSED ON THE SIGNAL AND NETWORK PARAMETERS.

UNCLASSIFIED

USSR

UDC 539.3

RYBAKOV, L.S.

"Stability of Cylindrical Shell With Solid Filler Under Axial Compression"

Moscow, Prochnost' i Ustoychivost' Tonkostennykh Aviatsionnykh Konstruktsiy, 1971, pp 266-273.

Abstract: The paper analyzes the axisymmetric buckling of a cylindrical shell with solid filler, simply supported on the ends, under uniform axial compression.

The buckling occurs in several waves.

The analysis starts with the differential equations of stability (1).

The solution is presented on fig. 2 and 3 giving the critical pressure as a function of shell radius/shell thickness ratio and

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RYBAKOV, L. S., Prochnost' i Ustoychivost' Tonkostennykh Aviatsionnykh  
Konstruktsiy, 1971, pp 266-273

of the ratio of modulus of elasticity of the shell and filler  
materials.

The approximate value of the critical pressure is given by  
formula (32) and is shown in dashed lines on fig. 2.

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172 013  
UNCLASSIFIED  
TITLE--THE PACIFIC FLEET ON "OKEAN" WAR GAMES -U- PROCESSING DATE--18SEP70  
AUTHOR--(02)-GLUSHCHENKO, N., RYBAKOV, M. R  
COUNTRY OF INFO--USSR  
SOURCE--SOVETSKAYA MOLDAVIYA, APRIL 19, 1970, P 5, COLS 5-8  
DATE PUBLISHED--19APR70  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MILITARY SCIENCES  
TOPIC TAGS--WAR GAMES, FLEET OPERATION, NAVAL FORCE ORGANIZATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1986/0181  
CIRC ACCESSION NO--AN0102252  
STEP NO--UR/9021/70/000/000/0005/0005  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0102252

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

ABSTRACT. SUBMARINES, SURFACE SHIPS, THE AIR FORCE, AND MARINES OF THE RED BANNER PACIFIC FLEET PARTICIPATE IN "OKEAN". THIS FLEET IS EQUIPPED WITH FIRST CLASS SHIPS INCLUDING ATOMIC SUBMARINES, MISSILE SHIPS, AND IS ABLE TO SOLVE COMPLEX OPERATIONAL, TACTICAL PROBLEMS. TEST ROCKETS WERE FIRED. THE SIX MONTHS CRUISE WAS UNDER THE COMMAND OF CONTR ADMIRAL N. I. KHOURIN, VICE ADMIRAL N. I. SMIRNOV, COMMANDER OF THE RED BANNER PACIFIC FLEET SMCLN AND ADMIRAL M. N. ZAKHAROV, MEMBER OF THE MILITARY COUNCIL AND COMMANDER OF THE KTOF POLIT ADMINISTRATION.

UNCLASSIFIED

AN0025937

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UR 9015

AUTHOR--

RYBAKOV, M.

TITLE--

"BALYARUS" - A WINDOW INTO THE PACIFIC

NEWSPAPER--

RABOCHAYA GAZETA, FEBRUARY 24, 1970, P R4, COL 1

ABSTRACT--

THE MARINE EXPERIMENTAL STATION OF THE INSTITUTE FOR BIOLOGICALLY ACTIVE MATERIALS HAS ACQUIRED A STEEL UNDERWATER HABITAT, "BALYARUS", THE FIRST OF ITS KIND IN THE SOVIET PACIFIC PROVINCES. IT HAS BEEN STATIONED IN THE TROITSA COVE.

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ur 9013

AUTHORS-- GLUSHCHENKO, N., AND RYBAKOV, M., CORRESPONDENTS  
NEWSPAPER-- PRAVDA UKRAINY, APRIL 19, 1970, P 3, COLS 6-8

ABSTRACT-- THE FOLLOWING SHIPS ARE NAMED AS PARTICIPANTS IN THE  
"OKEAN" EXERCISE-- THE DMITRIY POZHARSKIY, A CRUISER, AND THE  
STEREGUSHCHIY, THE VDOKHONOVENNY, AND THE UFORNYY, WHICH  
ARE REFERRED TO SIMPLY AS "SHIPS".

Key

19741795

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USSR

RYBAKOV, M.

"Balyanus" - A Window in the Pacific"

Kiev, Rabochaya Gazeta, 24 Feb 70, p 4

R

Translation: A marine experimental station of the Institute of Biologically Active Substances is located in Troits Bay in South Primor'ye. It is the first stationary habitat on the Pacific coast, the steel chamber called "Balyanus." The name of this chamber was taken from the name of the barnacle which often attaches itself to underwater rocks.

There is no need to swim to the stationary research chamber with an aqualung: it is connected with the surface by a steel tube. The observer lowers himself through a vertical trapdoor five meters down and is in front of the portholes, which show the underwater world. "Balyanus" helps scientists in many ways. It has become the first permanent window in the Pacific Ocean. Now scientists are getting ready for new endeavors.

1/1



Radiobiology

USSR

UDC 577.15.016

DROZHENNIKOV, V. A., GUBERNIYEV, M. A., ~~RYBAKOV, N. I.~~, RYZHOV, N. I., and MASHINSKAYA, T. Ye., Scientific Research Laboratory of Experimental Immunobiology, Academy of Medical Sciences USSR

"Effect of Ultraviolet and Ionizing Radiation on E. coli K12 ( $\lambda$ ) Nuclease Activity"

Moscow, Biokhimiya, No 5, 1971, pp 883-888

Abstract: The intensity of activity of endonuclease I, exonuclease III, and phage-specific exonuclease of E. coli K12 ( $\lambda$ ) was studied after exposure to different doses of ultraviolet radiation and high-energy protons. The activity of the first two enzymes was not affected by ultraviolet radiation or high-energy protons at doses causing maximum induction of vegetative phage. The absence of an effect is attributed to the fact that these agents, unlike a chemical mutagen, such as mitomycin C, do not result in degradation of the ribosomes of the bacterial cell. The activity of exonuclease specific for phage  $\lambda$  was related to the degree of induction of vegetative phage, reaching a peak at the time of lysis of irradiated cells. Exonuclease activity at this time was much lower after the use of high-energy protons than after ultraviolet radiation. Analysis of the concentration of intracellular DNA I/2

USSR

DROZHENNIKOV, V. A., et al., Biokhimiya, No 5, 1971, pp 883-888

and total protein in material not incubated after exposure to the inducing agents showed no change in these indexes.

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- 27 -

USSR

UDC 577.15.016

DROZHERNIKOV, V. A., GUBERNIYEV, M. A., ~~RYBAKOV, N. I.~~, RYZHOV, N. I., and MASHINSKAYA, T. YE., Scientific Research Laboratory of Experimental Immunobiology, Academy of Medical Sciences USSR, Moscow

"Investigation of Nuclease Activity of E. Coli (  $\lambda$  ) After Exposure to Ultraviolet Light and Ionizing Radiation"

Moscow, Biokhimiya, Vol 36, No 5, 1971, pp 883-888

Abstract: The activities of endonuclease I, exonuclease III, and the phage-specific exonuclease of the lysogenic E. Coli K12 (gamma) strain were studied. After exposure to various doses of ultraviolet light 6.46 erg/cm<sup>2</sup>/sec) and 645 MeV protons 60 rad/sec), induction of bacteriophages under these conditions was also investigated. Doses which evoke maximum induction of bacteriophages do not change the activity of either endonuclease I or endonuclease III. On the other hand, the activity of the phage-specific exonuclease is proportional to the induction of bacteriophages, reaching its maximum just prior to lysis of the irradiated cells. As a result, curves representing the lethal effects and bacteriophage induction caused by irradiation with ultraviolet light and with high energy protons have different shapes. After exposure to ultraviolet light, a spike-shaped maximum induction occurs at a dose of 250 erg/cm<sup>2</sup>. After exposure to high energy protons, the induction

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USSR

DROZHENNIKOV, V. A., et al., *Biokhimiya*, Vol 36, No 5, 1971, pp 883-888

"  
curve has a plateau extending from 50 to 100 Krad.

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- 30 -

USSR

UDC 615.849.1.015.25

KUZNETSOVA, L. A., RYBAKOV, N. I., FROLOVA, A. V., and KOLCTILOVA, V. G.,  
Moscow Scientific-Research Institute of Roentgenology and Radiology

"Radioprotective Properties of Bis(2-Aminoethyl) Disulfide Dihydrobromide  
in the Longwave Band of X-Ray Irradiation"

Moscow, Meditsinskaya Radiologiya, Vol 15, No 12, 1970, pp 7-11

Abstract: The dose decrease factor (DDF) of the radioprotector bis(2-aminoethyl) disulfide dihydrobromide was determined using as a test the induction of prophage development in lysogenic bacteria. Suspensions of a 4-hour bacterial culture of *E. coli* K-12 ( $\lambda$ ) in physiological saline were exposed to x-rays (100 to 300 r) with an effective energy of 35.7 kev. All the doses of the radioprotector used (0.01, 0.005, 0.001 M) markedly reduced the yield of phage particles in the irradiated lysogenic culture. The mean value of the DDF for the 0.005 M concentration (derived from 4 experiments) was  $2.1 \pm 0.94$ . This value remained constant within the limits of experimental error in the entire range of irradiation doses. Another series of experiments showed that the DDF for longwave x-ray irradiation in the energy region of 10.3 to 35.7 kev is independent of the effective energy.

1/1

- 48 -

Acc. Nr:

**APO046553**

Ref. Code: UR 0216

**PRIMARY SOURCE:** Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, 1970, Nr 1, pp 38-42

Rybakov, N. I.; Guberniyev, M. A.; Chimirov, O. B.;  
Drozhennikov, V. A.; Aniskin, Ye. D.; Kolobov, A. V.;  
Kozlov, V. A.

**INFLUENCE OF SOME RADIOPROTECTORS ON THE PROCESSES CONNECTED WITH LYSOGENIZATION OF THE BACTERIA AND INDUCTION OF INTERCELLULAR  $\lambda$ -EXONUCLEASE**

The influence of the radioprotector finam on the processes of lysogenization of the bacteria with the  $\lambda$  phage and induction of  $\lambda$ -exonuclease was studied in the course of experiments with E. coli SF-14 ( $\lambda$ -try-S<sup>r</sup>).

It was shown that this preparation tangibly suppresses the frequency of E. coli lysogenization and oppresses synthesis of the induced  $\lambda$ -exonuclease.

The results concerning activity of this enzyme definitely correlate with the data related to the influence of finam on the lysogenization process of the same bacterial strain.

41

REEL/FRAME  
**19781816**

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USSR

RYBAKOV, P. M.

"The Synthesis of a Weighted Graph with Fixed Connectedness"

Tr. Taganrog. Radiotekhn. In-ta [Works of Taganrog Electrical Engineering Institute], 1973, No 37, pp 208-215 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V419)

Translation: A nonoriented graph  $G = (Q, F)$  is studied (where  $Q$  is the set of points;  $F$  is the set of lines), each line  $f_{ij}$  of which is assigned weight  $z_{ij}$ , while  $h_{ij}$  is the connectedness, the matrix of connectedness of pairs of graph points. The degree of connectedness of a pair of points is determined by the least point resolving set for these points. From a fixed graph having weighted lines, a subgraph is separated, having fixed  $h_{ij}$  connectedness and the minimum sum of weights of lines. The problem is a generalizing problem for problems concerning the minimum connecting network and the route of a traveling salesman. The synthesis of a subgraph is achieved by a modified method of branches and bounds. One distinguishing feature of the modification in comparison to known methods is the use of the operations of limitation of  $h_{ij}$  connectedness of the graph and dual determination of the lower boundary of the goal function as a function of solution step. A synthesis algorithm is presented allowing one or more optimal subgraphs to be determined. Author's view

1/1

Nickel

UDC 621.77.04:669.14.001.6

USSR

TEYMER, D. A., MARKIN, V. G., AFONINA, V. M., and RYBAKOV, P. P.

"Manufacture of Thin Strip of High-Purity Nickel-Molybdenum Alloy"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works],  
No 77, Metallurgiya Press, 1970, pp 233-237

Translation: A technology of melting is developed, providing production of NIMO-20A nickel-molybdenum alloy of high purity (as concerns content of impurities and gases). It is established that the most favorable technology is deoxidation of the liquid bath with carbon alone. A technology is developed for production of cold rolled strip 0.010-0.015 mm thick of NIMO-20A alloy. 1 figure; 1 table.

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1/2 026

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--CHOOSING BLEACHABLE DYE FILTERS TO OBTAIN PERIODIC UNDAMPED OUTPUT  
POWER OSCILLATIONS IN A LASER -U-

ALTOP-(02)-SAMSON, A.M., RYBAKOV, V.A.

R

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, APR. 1970, P. 641-646

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LASER RADIATION FILTER, LASER EQUIPMENT, PULSE LASER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1313

STEP NO--UR/0368/70/012/000/0641/0646

CIRC ACCESSION NO--AP0124964

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0124964

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE CONDITIONS OF REALIZATION OF AN AUTOSCILLATORY REGIME IN A LASER WITH THE AID OF BLEACHABLE DYE FILTERS, BASED ON THE BALANCE EQUATIONS. A PROCEDURE FOR SELECTING THESE FILTERS IS OUTLINED. THE POSSIBILITY OF CONVERTING TO A PULSATING REGIME LASERS WHICH DO NOT HAVE A PEAKED STRUCTURE EVEN UNDER TRANSIENT CONDITIONS IS ALSO CONSIDERED. EXAMPLES ILLUSTRATING THE METHOD OF FILTER SELECTION ARE CITED. THE ANALYTICAL ESTIMATES ARE ILLUSTRATED BY SOLVING THE INITIAL EQUATIONS ON AN ELECTRONIC COMPUTER.

UNCLASSIFIED

USSR

UDC 53.07/.08+53.001.5

SHERSTKOV, Yu. A., RYBAKOV, V. A., GORLOV, A. D., YESYUNIN, V. H.

"An Electromagnet Current Stabilizer"

Uch. zap. Ural'sk. in-ta (Scientific Notes of the Ural Institute), 1971, No 118, pp 113-117 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A321)

Translation: The electron paramagnetic spectrometers currently used for studying the structure of the spectra of free radicals and the complex spectra of elements of the transition groups utilize electromagnets with electronic current stabilization of at least  $10^{-5}$ - $10^{-6}$ . The proposed supply circuit is designed for field stabilization in a radiospectrometer of the single-klystron type. The current stabilizer is designed for feeding magnets with a power of up to 3.5 kVA and stabilizes the magnetic field to  $10^{-6}$ . The magnet provides a field with a strength of up to 10 000 oersteds in a gap of 60 mm with a pole piece diameter of 250 mm and a winding resistance of 800 ohms. A diagram of the device is presented and its operation is described. A nuclear magnetic resonance pickup (IMI-2) is used for evaluating the stability of the magnetic field. Operation of the device over a three-year period has shown that it satisfies all requirements for the supply source of magnets in NMR spectrometers; it is convenient and reliable in use. B. N. Kraynov.

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USSR

R

SAMSON, A. M., RYBAKOV, V. A.

"Natural Oscillatory Mode of a Laser With a Clarifying Filter"

Minsk, Zhurnal Prikladnoy Spektroskopii, June 1970, pp 997-1006

Abstract: Based on rate equations, conditions for the feasibility of a natural oscillatory mode with the aid of clarifying filters are analyzed. The method used in selecting them is discussed. Formulas imposing the necessary conditions on the parameters of the system for the solution of the problem are derived. Analytic evaluations of the oscillation parameters are obtained, and their dependence on the various parameters of the medium is studied.

The results are illustrated by the solution of the original equations on an electronic computer.

The article includes 1 table and 4 illustrations. There are 7 bibliographic references.

1/1

USSR

SAMSON, A. M., RYBAKOV, V. A. R

"Selection of Clarifying Filters for Obtaining Periodic, Continuous Oscillations of Radiative Power in Lasers"

Minsk, Zhurnal Prikladnoy Spektroskopii, April 1970, pp 641-6

ABSTRACT: On the basis of rate equations conditions are analyzed for the feasibility of a natural oscillation mode by means of clarifying filters, and a method of selecting them is discussed. Also studied is the question of the possibility of shifting to a pulsing mode for lasers which do not have a spiking structure even in a transitional mode. Examples illustrating the method of selecting filters are presented. The analytical evaluations are illustrated by the solution of the original equations on an electronic computer.

The article includes 2 illustrations. There are 5 references.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--STUDY OF THE TIME OF PULSE WAVE SPREAD IN PATIENTS WITH CHRONIC  
HYPOTONIA BY THE REOGRAPHY METHOD -U-  
AUTHOR-(02)-RYBAKOV, V.K., ROGOVA, R.D.  
COUNTRY OF INFO--USSR  
SOURCE--ZDRAVGOCKHRANENIYE BELORUSSII, 1970, NR 6, PP 12-15  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PULSE RATE, HYPOTENSION, BLOOD VESSEL, CARDIOVASCULAR SYSTEM,  
LIVER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0909 STEP NO--UR/0477/70/000/006/0012/0015  
CIRC ACCESSION NO--AP0126568  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126568

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TIME OF THE PULSE WAVE SPREAD HAS BEEN STUDIED ON 40 PATIENTS WITH CHRONIC HYPOTONIA BY THE REOGRAPHY METHOD IN SEVEN VASCULAR ZONES. WHILE APPRECIATING THE TRUE TIME OF THE PULSE WAVE SPREAD IN DIFFERENT VASCULAR AREAS IT HAS BEEN OFFERED TO TAKE INTO ACCOUNT THE INTENSITY PERIOD OF THE CARDIAL LEFT VENTRICULUM. IT HAS BEEN SHOWN THAT THE TIME OF PULSE WAVE SPREAD IN THE LIMBS HAS NOT CONSIDERABLY CHANGED. THE BRAIN VESSELS IN HYPOTONIAS HAVE A TENDENCY TOWARDS A SPASM. THE LIVER VESSELS ARE SHARPLY DILATATED, THAT MAY SERVE A PATHOGENETIC LINK IN THE DEVELOPMENT OF CHRONIC HYPOTONIA. THE USE OF THE SYMPATHOMIKETIC PREPARATION PHENOLOL HAS CAUSED A CONTRACTION OF THE LIVER VESSELS NOT RENDERING A CONSIDERABLE INFLUENCE ON THE TONUS OF THE EXTREMITY AND BRAIN VESSELS. FACILITY: II KAFEDRA TERAPII BELORUSSKOGO INSITUTUA USOVERSHENSTVOVANIYA VRACHEY, 5-YA KLINICHESKYA BOL'NITSA.

UNCLASSIFIED

1/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EXPERIMENTAL DETERMINATION OF (MU PRIME NEGATIVE, NU) REACTION  
PROBABILITY ON ALUMINUM 27, SILICON 28, AND VANADIUM 51 NUCLEI -U-  
AUTHOR--(05)-BUNATYAN, G.G., YEVSEYEV, V.S., NIKITYUK, L.N., POKURVSKIY,  
V.N., RYBAKOV, V.N.  
COUNTRY ~~OF INFO~~--USSR

SOURCE--YAD. FIZ. 1970, 11(4), 795-9

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--PROBABILITY, ALUMINUM ISOTOPE, SILICON ISOTOPE, VANADIUM  
ISOTOPE, NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/1027

STEP NO--UR/0367/70/011/004/0795/0799

CIRC ACCESSION NO--AP0124686

UNCLASSIFIED



2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--A0124686

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTIVATION METHOD WAS USED TO MEASURE RELATIVE PROBABILITIES OF THE MU PRIME NEGATIVE, NU) REACTION ON PRIME27 AL, PRIME28 SI, AND PRIME51 V NUCLEI. THE PROBABILITY W OF THE PROCESS (MU PRIME NEGATIVE, NU) WAS CALCD. THE RESP. RESULTS WERE 10 PLUS OR MINUS 1, 28 PLUS OR MINUS 4, AND 10 PLUS OR MINUS 1 PERCENT. EXPTL. DATA WERE COMPARED TO THEORETICAL VALUES WHICH WERE CALCD. ON THE BASIS OF THE THEORY OF FINITE FERMI SYSTEMS. DISCREPANCIES BETWEEN THE EXPTL. AND THEORETICAL VALUES ARE DISCUSSED. THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU) ARE DETD. BY THE CAPTURE FROM A SMALL NO. OF ENERGY LEVELS OF THE PRODUCT NUCLEUS DISCRETE SPECTRUM. THUS, SMALL ERRORS IN THE DETN. OF TRANSFER PROBABILITY AS WELL AS THE POSITION OF THE NUCLEUS SIGNIFICANTLY AFFECT THE THEORETICAL VALUES OF W(MU PRIME NEGATIVE, NU). FACILITY: OB'EDIN. INST. YAD. ISSLED., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--PREPARATION OF CARRIER FREE CALCIUM 47 -U-  
AUTHOR--(03)-VILGELMOVA, L., NIKITYUK, L.N., RYBAKOV, V.N.  
COUNTRY OF INFO--USSR  
SOURCE--RADIOKHIMIYA 1970, 12(2), 407-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY  
TOPIC TAGS--CALCIUM ISOTOPE, IRRADIATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0108 STEP NO--UR/0186/70/012/002/0407/0409  
CIRC ACCESSION NO--AP0132401  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132401

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNCHROCYCLOTRON IRRADN. OF A V TARGET PRODUCED PRIME47 CA BY THE PRIME51 V(P,4N) PRIME47 CA REACTION. AFTER HNO SUB3 SOLN. AND REMOVAL OF MOST OF THE V AS AN HYDRATED OXIDE, THE PH OF THE SOLN. WAS ADJUSTED TO 3-4, AND THE SOLN. PASSED THROUGH A CATIONIC ION EXCHANGE COLUMN (DIAM. EQUALS 1 CM, HEIGHT EQUALS 5 CM) OF DOWERX-50X4 (50-100 MESH) IN NA FORM. AFTER SUBSEQUENT REMOVAL OF FE, V, AND PRIME46-48 SC, PRIME47 CA WAS ULTIMATELY REMOVED FROM THE COLUMN WITH 3N HNO SUB3 AND THE SOLN. EVAPD. TO THE DESIRED VOL. A GAMMA SPECTRUM WITH A NAI(TL) SCINTILLATION SPECTROMETER INDICATED MAX. AT ENERGIES OF 510, 810, AND 1310 KEV. THE PRIME47 CA HALF LIFE WAS 4.46 PLUS OR MINUS 0.18 DAYS.

UNCLASSIFIED

USSR

UDC: 621.3.083.088:622.233.4/.7

GRACHEV, B. A. and RYBAKOV, V. V.

"Determining the Effective Noise Voltage in an Electrical Wireless Communication Channel"

Moscow, Izmeritel'naya tekhnika, No 3, 1972, pp 54-56

Abstract: A device is proposed for determining the noise in tele-metered signals for controlling drilling equipment and procedures. The drilling equipment consists of a column of drilling tubes surrounded by laving liquid and rock. The choice of basic parameters for the system, such as the type of modulation, the frequency range of the signal, the transmitted power level, and the receiver sensitivity, is a function of the noise developed in the communication channel. The method and device were the products of the Special Planning and Design Office of the Groznyy Neftgazprom-avtomatika; samples of the noise are obtained on magnetic tape and are then processed manually or automatically under laboratory conditions. The present article describes the technique for finding the effective noise distribution from the samples as well as the equipment. The method of computing the integral and differential noise distribution functions is left for a separate article.

1/1

- 46 -

USSR

UDC 621.791.763.1.03

RYBAKOV, V. V., LUKIN, V. I., GRINETS, V. D., L'vov Polytechnic Institute

"Utilization of Infrared Emission for Automation Regulation of the Contact Spot Welding Process"

Kiev, Avtomaticheskaya Svarka, No 7, 1971, pp 47-48

Abstract: In this report given at the All-Union Conference on Automatic Control of Welding Processes, Kiev, 13-14 October 1970, six types of AKTS automatic devices for controlling the spot welding process by infrared radiation are described. The time of passage of the welding current was taken as the regulated variable, and the monitored variable is the intensity of the infrared radiation from the surface of the part. Each of the devices has one or two photoelectric heads and a measuring unit. Data are presented from production testing of the AKTS-6 device when welding one part with  $\delta = 2.5$  mm to another part with  $\delta = 7.5$  mm at three points with a spacing of 17 mm. Comparative data are presented for plant conditions and with deviations of the basic parameters: lowering the network voltage by 16%, lowering the welding current by 15% and increasing it by 20%, and lowering the electrode compression force by 20% and increasing it by 25%. The operating stability of the AKTS-6 devices was checked by welding 975 parts which were checked for tearing apart. The number of test pieces rupturing was 0.4%.

1/1

1/3 027 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--INTERNATIONAL JURIDICAL COOPERATION IN SPACE -U-  
AUTHOR--RYBAKOV, YU.M.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, SOVETSKOYE GOSUDARSTVO I PRAVO, NO 2, 1970, PP 40-47  
DATE PUBLISHED--70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, NAVIGATION  
TOPIC TAGS--INTERNATIONAL LAW, TV BROADCASTING, SPACE LAW, SPACE TV

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3003/0229

STEP NO--UR/0554/70/000/002/0040/0047

CIRC ACCESSION NO--AP0129482

UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129482

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF USING ARTIFICIAL EARTH SATELLITES FOR DIRECT TELEVISION BROADCASTING IS NOW BEING DISCUSSED IN THE UN. SUCH BROADCASTING AFFORDS GREAT POSSIBILITIES FOR INCREASING THE EDUCATIONAL LEVEL OF THE POPULATION AND THE DEVELOPMENT OF CULTURE. HOWEVER, THIS GIVES RISE TO MANY INTERNATIONAL PROBLEMS, ALL OF WHICH MUST BE SOLVED IN ACCORDANCE WITH THE SPACE AGREEMENT OF 1967. THE POSSIBILITY OF DIRECT TELEVISION BROADCASTING DIRECTLY TO THE POPULATION OF FOREIGN COUNTRIES BY NO MEANS CAN BE ACCOMPANIED BY UNRESTRICTED FREEDOM OF SUCH BROADCASTING. THE REGULATIONS ON RADIO BROADCASTING ADOPTED IN GENEVA IN 1959 SET FORTH A GENERALLY ACCEPTED STANDARD IN INTERNATIONAL LAW BANNING TELEVISION AND BROADCASTING STATIONS ON SHIPS OR PLANES SAILING, ANCHORED OR FLYING OUTSIDE NATIONAL TERRITORIES. IT IS CLEAR THAT THIS PRINCIPLE IS ALSO APPLICABLE IN SPACE. TELEVISION BROADCASTING TO OTHER COUNTRIES IS ADMISSIBLE ONLY WITH THE CONSENT OF THEIR GOVERNMENTS. IN ACCORDANCE WITH THEIR SOVEREIGN RIGHTS, THE GOVERNMENT HAS THE RIGHT TO DECIDE WHETHER A PARTICULAR BROADCAST SHOULD BE RECEIVED AND WHETHER IT CORRESPONDS TO THE NATIONAL INTERESTS OF THE COUNTRY. IT IS FELT BY SOME AUTHORITIES THAT THE OFFENDED POWER HAS THE RIGHT TO TAKE ALL MEASURES AGAINST SUCH BROADCASTS, INCLUDING (ACCORDING TO FRENCH WRITERS) THE ANNIHILATION OF THE SATELLITE INVOLVED.

UNCLASSIFIED

3/3 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCLSSION NO--AP0129482

ABSTRACT/EXTRACT--AT THE MEETING OF THE SPECIAL WORKING GROUP ON COMMUNICATIONS OF THE UN SPACE COMMITTEE HELD IN GENEVA DURING AUGUST 1969 IT WAS EMPHASIZED THAT ANY RECOMMENDATIONS PERTAINING TO DIRECT RADIO AND TELEVISION BROADCASTING FROM SATELLITES MUST TAKE INTO ACCOUNT THE SOVEREIGN RIGHTS OF STATES AND THE PRINCIPLE OF NONINTERFERENCE IN THEIR INTERNAL AFFAIRS AND ALSO PRECLUDE THE POSSIBILITY OF USING SUCH BROADCASTING FOR PROPAGANDA WHICH WOULD VIOLATE THE PRINCIPLE OF ENHANCING MUTUAL UNDERSTANDING AMONG PEOPLES. THE ARTICLE AGAIN AND AGAIN EMPHASIZES THAT INTERNATIONAL COOPERATION IN SPACE EXPLORATION AND USE MUST CONFORM TO THE INTERESTS OF MAINTAINING INTERNATIONAL PEACE AND SAFETY. THIS MEANS THAT ANY COOPERATION IN THE FIELD OF SPACE USE OR ANY FORM OF JOINT SPACE ACTIVITY WHICH PURSUES OBJECTIVES HAVING NOTHING IN COMMON WITH THE INTERESTS OF SPACE EXPLORATION AND USE IN THE INTERESTS OF MANKIND ARE WITHOUT ANY JURIDICAL BASIS. "A SPECIAL CHARACTERISTIC OF THE DEVELOPMENT OF SPACE LAW AS A NEW BRANCH OF MODERN INTERNATIONAL LAW IS THAT IT IS BEING FORMULATED DURING AN ERA WHEN THE MAIN TREND IN HISTORICAL DEVELOPMENT IS DETERMINED BY THE WORLD SOCIALIST SYSTEM AND WHEN THE DEVELOPMENT OF INTERNATIONAL LAW IS PROCEEDING UNDER THE DECISIVE INFLUENCE OF THE IDEAS OF THE GREAT OCTOBER SOCIALIST REVOLUTION. DUE TO THE ENORMOUS ROLE OF THE SOVIET UNION IN THE FIELD OF SPACE EXPLORATION THE SOCIALISTIC PRINCIPLES AND SOCIALISTIC SCIENTIFIC, POLITICAL AND JURIDICAL IDEOLOGY FROM THE VERY BEGINNING HAVE BEEN EXERTING A DECISIVE INFLUENCE ON THE FORMULATION OF SPACE LAW.

UNCLASSIFIED



USSR

UDC 629.78.018.1(088.8)

RYBAKOV, Yu. S.

"Device for Irradiation of a Flat Surface in Transsonic Wind Tunnels"

USSR Author's Certificate No 300798, filed 13/02/70, published 28/06/71,  
(Translated from Referativnyy Zhurnal, Raketostroyeniye, No 2, 1972,  
Abstract No 2.41.130 P from the Resume).

Translation: This invention relates to experimental aerodynamics, particularly to devices used to produce even high intensity UV or white light radiation over extended planes in wind tunnels with perforated walls. The purpose of the invention is to produce even, high intensity irradiation of the surface without damage to the perforation of the walls of the tunnel. This is achieved by installing ellipsoidal reflectors so that their rear foci are in the region of the perforation apertures, while the slope of the axes assures the required light force and light distribution in the beam expanding following the aperture, inversely proportional to the cosine of the incident angle of the rays on the irradiated surface, without disrupting the perforation walls of the wind tunnel.

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1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--THE FITNESS FOR WORK OF WELDED JOINTS OF THE CELLS OF HONEYCOMB  
STRUCTURES -U-  
AUTHOR--RYBAKOV, YU.V. *R*  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 1, 70, PP 21-22  
DATE PUBLISHED-----70  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--HONEYCOMB STRUCTURE, WELD JOINT, IMPACT LOAD  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/2030 STEP NO--UR/0135/70/000/001/0021/0022  
CIRC ACCESSION NO--AP0118984  
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118984

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF A STUDY OF THE BEHAVIOR OF WELDED JOINTS OF THE CELLS OF HONEYCOMB STRUCTURES UNDER STATIC AND DYNAMIC LOADS. A CONNECTION WAS ESTABLISHED BETWEEN THE RESILIENCE AT STATIC AND IMPACT LOADS.

UNCLASSIFIED

2

USSR

UDC 911.3:616.9(477)

KRIVOSHEVN, Yu. S., VASILYEVA, V. I., LOZINSKAYA, T. M., RYBAKOVA, I. I.,  
BAKULINA, E. V., and BORSHCHOVA, G. N.

"Complement-Fixing Antibodies in Healthy Human Serum to Mycoplasma --  
Pneumonia and Acute Respiratory Infections"

Sb. tr. Krym. med. in-t (Works of the Crimean Medical Institute -- collection  
of works), 1970, 41, pp 122-125 (from RZh-Meditsinskaya Geografiya, No 4,  
Apr 71, Abstract No 4.36.196)

Translation: Serological investigation of 868 healthy humans in various  
rayons of Krymskaya Oblast showed that the agent of mycoplasma pneumonia  
infected 13.3% of the city dwellers studied, 39.2% of country dwellers in  
the northern part of the Crimea, and 19.7% in the southern part. The in-  
fluenza virus Hong Kong A<sub>2</sub> more frequently infected city dwellers, and  
influenza virus B -- rural inhabitants. In the partially isolated col-  
lective, formed a year prior to the study, the prevailing mycoplasma agents  
were pneumonia, Singapore A<sub>2</sub> influenza, type II adenovirus, and respiratory-  
syncytial virus. Two years prior to the research, Hong Kong A<sub>2</sub> influenza  
virus and type III parainfluenza predominated. Adults had significantly  
higher numbers of infections from mycoplasma -- pneumonia, Hong Kong A<sub>2</sub>  
1/2