

USSR

GONCHAROVA, V. I. and NEVSKAYA, I. V., Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 12, Dec 70, pp 34-36

protective factor. An increased level of tryptophan oxygenase activity as such does not play an important role in the survival of mice poisoned by *S. typhimurium* endotoxin.

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USSR

ПОГРАНИЧНИЦА, А. М., ИВРУБАШОВИЧ, В. В., and СОНЧАРОВА, В. Е.

"Determining the Active Magnesium in Granulated Magnesium"

Moscow, Zavodskaya laboratoriya, No. 5, 1971, pp 537-538

Abstract: Metallic magnesium in the granulate is used to desulphurize and modify cast iron. The purpose of the experiments described in this paper was to determine the granulated magnesium obtained from electrical metallic magnesium, a primary granulate practically free of impurities, as well as the granulated magnesium, a secondary granulate containing a large quantity of impurities, obtained from magnesium alloys and the wastes of magnesium production processes. The tests were made with a probe of granulated magnesium rid of chlorides and oxides of magnesium by processing with a 5% solution of chromic anhydride. Chlorine ions were introduced in the form of a solution of carnallite. Curves are given for the determinations of the active magnesium as a function of the chlorine ion concentration. A table is given comparing the results of the primary granulate analysis obtained by the

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USSR

POGRANICHNAYA, R. M., et al., Zavodskaya laboratoriya, No 5, 1971, pp 537-538
method given in this paper and by the gas-volumetric method. The
authors are associated with the All-Union Titanium Scientific Re-
search and Design Institute.

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USSR

UDC 669.14.582-15:628.187

LYAPICHEV, I. G., and GONCHAROVA, V. V., Tomsk Polytechnic Institute

"Effect of Alloying and Heat Treatment of Alloy YuNDK35T5 on Fine Structure"

Moscow, IVUZ. Chernaya Metallurgiya, No 12, Dec 72, pp 130-134

Abstract: The refining and disorientation of blocks takes place in the hard-to-work Fe-Ni-Co-Al-Ti alloys during abrasive grinding. After refining of the structure to critical magnitude of blocks (100-200 nm) and microstresses [(0.4 - 0.8) 10^3 rad] cracks appear in alloys. Secondary selenium, sulfur, and boron alloying is suggested for the purpose of increasing the technological durability of Fe-Ni-Co-Al-Ti alloys. It is recommended to evaluate the effect of microalloying according to its influence on the fine structure (blockability, microstresses) and the dynamics of its change in the process of elastoplastic deformation.

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Analysis and Testing

USSR

GONCHAROVA, V. V., LYAPICHEV, I. G., GABCHAK, A. G.

"Technology of Chemical-Heat Treatment and Structural Testing of YuNDK35T5
Magnetic Alloy"

Moscow, *Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya*,
No 8, 1972, pp 136-139.

Abstract: Results are presented from experimental study of the influence of the composition of a borocementing medium on the properties and depth of the surface saturated layer of YuNDK35T5 alloy. Metallographic and x-ray structural analysis of the surface saturated layer are performed. Stabilization of the gamma-phase following chemical and heat treatment help to improve the workability of this alloy. The depth of the layer increases when the alloy is saturated in the two-phase state and its bonding with the main volume is improved following high-temperature thermomagnetic treatment. Testing by the method of measurement of the thermo emf in comparison with measurement of microhardness provides greater productivity and stability of results.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CLINICAL LABORATORY PECULIARITIES OF CURRENT DYSENTERY ACCORDING TO
MATERIALS OF KRASNODAR SECOND CITY HOSPITAL -U-
AUTHOR--(05)--KLOKOVA, G.F., PODVARKO, A.G., TSYS, N.S., ANDOSHINA, L.I.,
GUNCHARGOVA, YE.I.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,
PP 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DYSENTERY, ANTIBIOTIC RESISTANCE, STREPTOMYCIN,
CHLORAMPHENICOL/(U)BIOMYCIN ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0833 STEP NO--UR/0016/70/000/006/0037/0040
CIRC ACCESSION NO--AP0126510
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

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CIRC ACCESSION NO--APO126510

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

ABSTRACT. A STUDY WAS MADE OF 258 CASE HISTORIES OF PATIENTS SUFFERING FROM DYSENTERY WITH BACTERIOLOGICALLY CONFIRMED DIAGNOSIS; CLINICO LABORATORY INDICES OF THE DISEASE WERE COMPARED IN 1957 (122 PATIENTS) AND IN 1967 (136 PATIENTS). A PREVALENCE OF SONNE DYSENTERY IN 1967 WAS NOTED (80PERCENT); IT DIFFERED FROM FLEXNER DYSENTERY BY A Milder COURSE, AN INCREASE IN THE NUMBER OF ATYPICAL, LATENT FORMS AND OF FORME FRUSTE, AND ALSO BY A LESSER INCIDENCE OF THE CHANGE TO CHRONIC FORM. IT APPEARED THAT 59.5PERCENT OF ALL THE SONNE STRAINS WERE RESISTANT TO CHLORAMPHENICOL, BIOMYCIN AND STREPTOMYCIN.

FACILITY: KUBANSKIY MEDITSINSKIY INSTITUT IN. KRASNOCY ARMIII I GORODSKAYA BOL'NITSA NR 2, KRASNODAR.

UNCLASSIFIED

Acc. Nr.: AP0042377

Ref. Code: UR 0203

JPRS 50162

Ionospheric Effect of Low-Energy Solar Plasma

(Abstract: "Ionospheric Effect of Low-Energy Solar Plasma Ejected During Proton Flares," by Ye. Ye. Goncharova, R. A. Zevakina, Ye. V. Lavrova and L. A. Yudovich, Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation; Moscow, Geomagnetizm i Aeronomiya, Vol X, No 1, 1970, pp 67-72)

A comparison was made of ionospheric disturbances in the F region caused by low-energy solar plasma from proton and nonproton flares. Three ionospheric-magnetic disturbances were considered: 7 July, 28 August and 2 September 1966, associated with proton flares, and one associated with a large nonproton flare, 16 September 1966. (Information on these flares and magnetic-ionospheric disturbances are given in a table. Low-energy solar plasma causes the most substantial changes in the F region and therefore a study was made of the change in critical frequencies and heights (h_p and h') of the F region for a number of ionospheric stations and the parameters of N(h) profiles for Moscow. The disturbances following proton flares began after 22-26 hours and 57 hours after the nonproton flare. This lag corresponds to velocities of the corpuscular stream of 1,700-2,000 km/sec and 700 km/sec respectively. The considered disturbances differ from

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one another only in activity. During disturbances associated with proton flares there are the same changes in the F region as during other disturbances. This indicates that the low-energy solar plasma ejected during proton flares is not significantly different from the plasma of other corpuscular streams except that it is propagated at a greater velocity and possibly has a stronger magnetic field because it causes disturbances of greater activity.

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1/3 031

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--CHANGE IN N.H. PROFILES DURING POSITIVE IONOSPHERIC DISTURBANCES
DURING YEARS OF MAXIMUM AND MINIMUM SOLAR ACTIVITY -U-

AUTHOR--(04)--GENCHAROVA, YE.YE., ZEVAKINA, R.A., LAVROVA, YE.V., YUDOVICH,
L.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 547-549

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--IONOSPHERIC DISTURBANCE, F LAYER, IONIZATION, AURORA, SOLAR
ACTIVITY, GEOMAGNETIC STORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0526

STEP NO--UR/0203/70/010/003/0547/0549

CIRC ACCESSION NO--AP0132725

UNCLASSIFIED

2/3 031

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF CHANGE IN H(H) PROFILES IN THE LATITUDE RANGE 80DEGREESN-12DEGREES S DURING TWO POSITIVE DISTURBANCES OBSERVED DURING THE PERIOD OF THE MAXIMUM OF SOLAR ACTIVITY 24-28 FEBRUARY 1958 AND DURING THE PERIOD OF THE MINIMUM 14-15 JANUARY 1964. BOTH DISTURBANCES WERE OBSERVED BEFORE SMALL MAGNETIC STORMS. SIMULTANECUSLY WITH AN INCREASE IN IONIZATION IN THE F REGION THERE WAS INCREASED ABSORPTION IN THE AURORAL ZONES. THE STUDY WAS MADE USING HOURLY N(H) PROFILES FOR WASHINGTON, TALARA, HUANCAYO, IBADAN, AND SINGAPORE, SUPPLEMENTED BY DATA FOR ALERT, BAKER LAKE, CHURCHILL, SP-6, KHEYS ISLAND, DIKSON, MURMANSK, MOSCOW, AND ALMA ATA. COMPARISON OF N(H) PROFILES FOR DISTURBED AND QUIET PERIODS INDICATED THAT DURING POSITIVE DISTURBANCES THE ELECTRON CONCENTRATION INCREASES AT ALL ALTITUDES IN THE F REGION AND TO THE GREATEST DEGREE NEAR THE IONIZATION MAXIMUM. DURING THE NIGHTTIME AND MORNING HOURS THE GREATEST IONIZATION INCREASE OCCURS IN THE HIGH LATITUDES, WHEREAS DURING THE DAYTIME IT IS IN THE EQUATORIAL LATITUDES. N SUBMAX AND N FOR THE MOST PART HAVE SIMILAR CHANGES. AN INCREASE IN IONIZATION OCCURS IN THE FORM OF BURSTS WITH AN AVERAGE DURATION OF THREE OR FOUR HOURS. WITH A CONSIDERABLE INCREASE IN N SUBMAX AND N (UP TO 80PERCENT) THE GEOMETRIC PARAMETERS H SUBM, H SUB05 AND T CHANGE FOR THE MOST PART IN NORMAL LIMITS (PLUS OR MINUS 20PERCENT) AT ALL LATITUDES. THESE PARAMETERS EXHIBIT AN APPRECIABLE INCREASE ONLY WITH AN INCREASE IN MAGNETIC ACTIVITY.

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132725

ABSTRACT/EXTRACT--AN INCREASE IN IONIZATION BELOW N SUBMAX DOES NOT OCCUR AS A RESULT OF VERTICAL REDISTRIBUTION OF IONIZATION, BUT DUE TO ADDITIONAL IONIZATION OF THE F REGION, PROPAGATING TO GREAT ALTITUDES. THIS INCREASE IN IONIZATION CAN OCCUR OVER A GREAT PART OF THE EARTH OR IN LIMITED REGIONS, PRIMARILY IN THE HIGH LATITUDES. ON QUIET DAYS THE HIGHEST N VALUES WERE OBSERVED IN THE EQUATORIAL LATITUDES AND IN THE AUSTRAL ZONE, WHEREAS DURING A POSITIVE DISTURBANCE THEY WERE OBSERVED IN THE POLAR REGION. THE MAXIMUM INCREASE IN IONIZATION IN THE POLAR REGION INDICATES A CORPUSCULAR NATURE OF POSITIVE DISTURBANCES. THIS CORPUSCULAR RADIATION, LIKE THE PROTONS RESPONSIBLE FOR PCA, PRODUCES AN INCREASE IN THE ELECTRON CONCENTRATION IN THE IONOSPHERE WITHOUT A SUBSTANTIAL CHANGE IN THE GEOMAGNETIC FIELD AND IONOSPHERIC HEATING. THESE STREAMS POSSIBLY CONSIST OF LOW ENERGY PROTONS AND ELECTRONS.

FACILITY: INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EARLY MORPHOLOGICAL CHANGES IN THE LIVER FOLLOWING ITS COMPLETE
ISOLATION FROM GENERAL CIRCULATION -U-
AUTHOR--(05)-BELINSKAYA, A.M., PLIKH, M.B., GONCHAROV, A.L., GORYACHEY,
S.P., DOROKHOYA, L.P.
COUNTRY OF INFO--USSR
SOURCE--ARKH. PATOL. 1970, 32(2), 70-3
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LIVER, BLOOD CIRCULATION, INHIBITION, HISTOCHEMISTRY,
GLYCOGEN, RNA, NECROSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0579 STEP NO--UR/9056/70/032/002/0070/0073
CIRC ACCESSION NO--AP0117807
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117807

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NO PATHOMORPHOL. AND HISTOCHEM. CHANGES WERE OBSD. IN DOG LIVERS 20 MIN SUBSEQUENT TO THEIR ISOLATION FROM GENERAL CIRCULATION. AFTER 40 MIN, THE FUNCTION OF THE ORGAN WAS DIMINISHED AND DYSTROPHIC CHANGES WERE FOUND IN PARENCHYMA. THE CONTENT OF GLYCOGEN AND RNA IN CELLS WAS REDUCED. AFTER 60 MIN, NECROBTOTIC CHANGES OF PARENCHYMA WERE OBSD. AS WELL AS DECREASE OF GLYCOGEN AND NUCLEIC ACIDS CONTENT OF HEPATUCYTES. FACILITY: KAZ. INST. KLIN. EKSP. KHIR., ALMA-ATA. USSR.

UNCLASSIFIED

USSR

UDC 621.372.81.09

GORDIYENKO, V. I., KALASHNIKOV, N. I., GONCHARSKIY, V. N.,
L'vov

"Experimental Studies of a Single-Conductor Transmission Line
for a TE Surface Wave in the 1-10 kHz Band"

Kiev, Otbor i Peredacha Informatsii, Resp. Mezhved. Sb.,
No 28, 1971, pp 105-107

Abstract: The conditions of propagation of a TE surface wave along isolated cylindrical conductors were checked out by experiments providing for determination of the effect which the radius of the wire and the permeability of the material have on propagation of a TE wave. The experimental procedure is described and a block diagram is given together with the principal characteristics of the transmitting and receiving equipment. The theoretical analysis published by N.A. Armand (*Radiotekhnika i elektronika*, 1959, 4, 10) agrees with the experimental data for the systems studied. Three figures, bibliography of ten titles.

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USSR

UDC 621.317.7

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GONCHARSKIY, V. N.

"Problem of Increasing the Range of a Reference Phase Radio Channel in the Infinitely Long Cable Method"

Otbor i peredacha inform. Resp. mezhved. sb (Sorting and Transmitting Information. Republic Interdepartmental Collection), 1970 vyp. 23, pp 57-61 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A103)

Translation: This article contains an analysis of the radio channels of the AERA-58, AERA-2 and AERA-3 equipment. The causes for interruption of transmission of the reference phase radio signal are indicated. In order to attenuate the screening effect of the helicopter it is proposed that the receiving antenna either be removed to a trailing gondola or a connecting cable be used. In order to exclude the screening effect of mountains, it is proposed that a radio relay be used. Curves are presented for the field intensity with a radio relay power of 1 watt in the 30-300 megahertz frequency range. The bibliography has 12 entries.

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Lasers & Masers

USSR

UDC: 621.375.82

SAMSON, A. M., KOTOMTSEVA, L. A., LOYKO, N. A., GORCHARUK, I. M.

"Emission Kinetics of a Laser With a Nonlinear Delayed-Action Element"

Minsk, Kinetika generatsii OKG s nelineynym elementom zapazdyvayushchego deystviya. In-t fiz. AN BSSR (cf. English above. Institute of Physics of the BSSR Academy of Sciences), 1973, 44 pp, ill., mimeo. (from RZh-Fizika, No 11, Nov 73, abstract No 11D1330)

Translation: On the basis of balance equations, an analysis is made of the kinetics of operation of a laser with a nonlinear delayed-action element. An example of such an element is a Kerr cell which increases or reduces laser losses with increasing emission power. An analysis of these equations showed that with certain values of delay time and parameter of nonlinearity the lasers emit regular undamped radiation peaks with a recurrence rate approximately quadruple the delay time. The authors determine the regions of variations in parameters of the laser and the nonlinear element where such pulsations arise. An investigation is made of the influence of noises on the kinetics of laser operation in the mode of undamped pulsations of emission power, and their stabilizing action is observed. Analytical evaluation are illustrated by computer solution of differential equations. Bibl. 32.
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USSR

UDC 533.6.011

GONCHARUK, P. D., KOSAREV, V. I., PROKHOROV, M. B.

"On Supersonic Flow Around Axisymmetric Bodies With a Concave Generatrix"

Tr. Konf. Mosk. fiz.-tekh. in-ta, 1970. Ser. "Aerofiz. prikl. mat." (Works of the Conference of Moscow Physicotechnical Institute, 1970. Series "Aerophysics and Applied Mathematics"), Moscow, 1971, pp 53-63 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8B409)

Translation: Axisymmetric and three-dimensional supersonic flow of gas around bodies of rotation, the generatrix of which has a segment of positive curvature (segment of concavity), are studied. Sample calculations are given considering the effect of the boundary layer on the field of gasdynamic values in the external flow. 7 ref.

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Acc. Nr.: AP0029329

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 1, pp 32-36

REMOVAL OF CERTAIN ENTERIC VIRUSES AND BACTERIA
FROM SEWAGE IN A CIRCULATION OXIDIZING CHANNEL

Goncharuk, Ye.I.; Grigor'yeva, L.B.; Bey, T.V.;
Shulyak, E.V. Shulyak, E.V.; Korchak, G.I.

Investigations have shown the treatment of sewage in a circulation oxidizing channel for two days to be a highly efficient means of decontamination judging by chemical indices. The sewage proved to be free of Coxsackie B5 and ECHO 19 viruses in 24 and 48 hours consecutively and that of Esch. coli bacteriophage in 12 hours in the initial concentration amounting 50 PFU/ml and in 16 hours, when it amounted to 6000-7000 PFU/ml. The pathogenic serotypes of B. coli in a mixture of sewage and active slime were recovered for a period of 3-7 days in the initial contamination equaling 1 million a litre and for 15-18 days if it amounted to 100 million a litre. The Coxsackie B5 virus was recovered from active slime up to the third day and ECHO 19 virus - up to the 5th day. The Esch. coli bacteriophage was present for 15 to 25 days depending on the initial concentration. Disinfection of treated sewages is considered to be an obligatory measure.

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UDC: 621.375.82

VDOVIN, Yu. A., GONCHUKOV, S. A., GUBIN, M. A., YERMACHENKO, V. M.,
ORAYEVSKIY, A. N., PROTSENKO, Ye. D.

"Effect of Atomic Collisions and Capture of Resonance Emission on the Characteristics of Gas Lasers"

Moscow, Vliyaniye atomnykh stolknoveniy i plneniya rezonansnogo izlucheniya na kharakteristiki gazovykh lazerov. Fiz. in-t AN SSSR (cf. English above. Physics Institute of the Soviet Academy of Sciences), Preprint No 116, 1972, 57 pp, ill., mimeo. (from RZh-Fizika, No 8, Aug 73, abstract No 8D1000 /resume/)

Translation: Polarization of a medium is calculated with accuracy to and including third-order terms for the field with simultaneous accounting for depolarizing collisions and capture of resonance radiation in the case of one-mode and two-mode gas laser emission. Results are found for several working transitions different from one another in the moment of the lower level and also for different polarizations of the emitted modes. A detailed study is made of the variation, with pressure, of different physical quantities in laser operation in the one-mode and two-mode state. A comparison is made between experimental and theoretical results obtained in computer calculations. In order to clarify the qualitative behavior of different characteristics, the authors find an approximation of their analytical expressions. Bibliography of 17 titles.

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USSR

UDC 621.373:520.145.6

BASHKIN, A. S., BELENOV, E. M., GOCHENKOV, S. A., ORAMENSHIY, A. H.,
PETROVSKIY, V. N., PROTSSENKO, Ye. D.

"Stabilizing the Emission Frequency of a Gas Laser by the Method of Comparison With a Radio Frequency"

V sb. Kvant. elektronika (Quantum Electronics--collection of works),
No 2, Moscow, 1971, pp 40-48 (from RZh-Radiotekhnika, No 7, Jul 71,
Abstract No 7D117)

Translation: The authors study intermode spacing as a function of various laser parameters for a laser operating on a wavelength of 0.63 micron emitting three or two axial modes. It is proposed that certain properties of the frequency responses be used for stabilizing the emission frequency of a gas laser by the method of comparison of the intermode spacing with a radio frequency. A theoretical study is made of the resultant experimental data for the case of emission of three axial modes in the region of symmetric tuning. It is shown that a stabilized gas laser can be made with relatively long-term frequency stabilization, surpassing the results which have been achieved up to the present time. The absolute frequency stability of such a laser (in the case of high relative stability for long time intervals) will be determined by the

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USSR

BASHKIN, A. S., et al., Kvant. elektronika (Quantum Electronics--collection of works), No 2, Moscow, 1971, pp 40-48 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7D117)

shift in the center of the line of the atomic transition as a consequence of various factors. Six illustrations, bibliography of four titles.

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USSR

UDC 621.378.33.016.35

BASHKIN, A. S., BELENOV, E. M., GONCHENOV, S. A., ORAYEVSKIY, A. I.,
PETROVSKIY, V. K., PROSHENKO, Ye. D.

"Stabilizing the Frequency of Gas Laser Emission by the Method of Comparison With a Radio Frequency"

Moscow, Kvantovaya Elektronika, No 2, 1971, pp 40-49

Abstract: The authors study the intermode spacing as a function of various parameters of a laser on a wavelength of 0.63μ operating under conditions of emission of three or two axial modes. It is proposed that certain properties of the frequency characteristics be used to stabilize the emission frequency of a gas laser by the method of comparing the intermode spacing with a radio frequency. The resultant experimental data are theoretically studied for the case of emission of three axial modes in the region of symmetric tuning. It is shown how a stabilized gas laser can be made with a relative long-term frequency stability exceeding the results which have been attained up to the present time. The absolute frequency stability of such a laser (assuming high relative stability for long time intervals) will be determined by the displacement of the center of the line of the atomic transition due to various factors.

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USSR

GONCHUKOV, V. V., LEYZER, V. P., SMIRNOV, R. V., TYURIN, A. Ya.

"Development and Study of Small Memory Cubes Based on Thermally Stable Ferrite Cores"

Moscow, Magnitnyye Elementy Pamyati, 1972, pp 67-71.

Abstract: This article studies problems related to the development and investigation of small memory cubes of magnetic cores. As an example, a 1024 16-bit word memory unit designed for matrix-type storage systems is studied. The analysis of designs of small memory sections shows that arrangement of a memory section on a flat plane has definite advantages over other arrangements. A photograph of the memory unit studied is presented.

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Soviet Inventions Illustrated, Section II Electrical, Derwent,

5-69

225279 MAGNETIC STORE in the form of a core matrix arranged on both sides of a printed circuit card. The printed leads on both sides of the card form bi-filar windings. 7.7.67. as 1170341/26-24. V.V.GONCHUKOV, P.V.SMIRNOV. et al. (27.12.68.) Bul.27/29.8.65. Class 21a'. Int.Cl. G11b.

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USSR

UDC 6.74

DOLGOPOLOV, V. N., GONDAREV, V. P., PANOV, D. N., KOSTORNICHENKO, V. G., FEDOR-
ENKO, I. I.

"Generator of Normal Discrete Random Processes with a Given Correlation Func-
tion"

V sb. Regional'n. nauch.-tekhn. seminar po stat. analizu, modelir. i avtomatiz.
kontrolya ob'ektov s konstruktivnoslozh. strukturoy (Regional Scientific and
Technical Seminar on Statistical Analysis, Simulation and Automation of the
Control of Objects with Structurally Complex Structure -- collection of works),
vyp. 3, Taganrog, 1971, pp 13-21 (from RZh-Kibernetika, No 7, Jul 72, Abstract
No 7V562)

No abstract

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USSR

UDC: 519.2

GONDAREV, V. P.

"Concerning a Method of Generating Random Numbers"

V sb. Regional'n. nauch.-tekhn. seminar po stat. analizu, modelir. i avtomatiz. kontrolya ob'yektov s konstruktivno-slozh. strukturoy, vyp. 3 (Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automation of the Inspection of Objects With Structurally Complex Design--collection of works), Taganrog, 1971, pp 3-43 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V128)

[No abstract]

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USSR

UDC: 681.332.65

GONDAREV, V. P., Taganrog Radio Engineering Institute

"A Device for Producing Random Numbers"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289409, division G, filed 4 Aug 69, published 8 Dec 70, p 160

Translation: This Author's Certificate introduces a device for producing random numbers which contains a generator of uniformly distributed random numbers in the interval from zero to one, a unit for automatic selection of numbers, two coincidence circuits, a collection module, and a module for conversion of the assigned random number interval. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding a binary probability element with direct and inverse outputs connected respectively to the inputs of the coincidence circuits.

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1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--A DEVICE FOR CONVERSION OF THE PROBABILITY DISTRIBUTION FUNCTIONS
OF RANDOM NUMBER SEQUENCES -U-
AUTHOR--GONDAREV, V.P.
COUNTRY OF INFO--USSR
SOURCE--PATENT NO 264003
REFERENCE--NOSODN, OTKRYTIYA, IZOBRETIENIYA, PROMYSHLENNYYE OBRATSY,
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MATHEMATICAL SCIENCES
TOPIC TAGS--SEQUENCE, RANDOM PROCESS, PROBABILITY DISTRIBUTION, FLIP FLOP
CIRCUIT, COINCIDENCE CIRCUIT, SHIFT REGISTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1175 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--A40131401

USSR

UDC: 621.375.82

VDOVIN, Yu. A., GONCHUKOV, S. A., GUBIN, M. A., YERMACHENKO, V. M.,
ORAYEVSKIY, A. N., PROTSENKO, Ye. D.

"Effect of Atomic Collisions and Capture of Resonance Emission on the Characteristics of Gas Lasers"

Moscow, Vliyaniye atomnykh stolknoveniy i plneniya rezonansnogo izlucheniya na kharakteristiki gazovykh lazerov. Fiz. in-t AN SSSR (cf. English above. Physics Institute of the Soviet Academy of Sciences), Preprint No 116, 1972, 57 pp, ill., mimeo. (from RZh-Fizika, No 8, Aug 73, abstract No 8D1C00 resume)

Translation: Polarization of a medium is calculated with accuracy to and including third-order terms for the field with simultaneous accounting for depolarizing collisions and capture of resonance radiation in the case of one-mode and two-mode gas laser emission. Results are found for several working transitions different from one another in the moment of the lower level and also for different polarizations of the emitted modes. A detailed study is made of the variation, with pressure, of different physical quantities in laser operation in the one-mode and two-mode state. A comparison is made between experimental and theoretical results obtained in computer calculations. In order to clarify the qualitative behavior of different characteristics, the authors find an approximation of their analytical expressions. Bibliography of 17 titles.

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USSR

UDC 621.373:530.145.6

BASHKIN, A. S., BELENOV, E. M., GONCHUKOV, S. A., ORAYEVSKIY, A. N.,
PETROVSKIY, V. N., PROTSENKO, Ye. D.

"Stabilizing the Emission Frequency of a Gas Laser by the Method of Comparison With a Radio Frequency"

V sb. Kvant. elektronika (Quantum Electronics--collection of works),
No 2, Moscow, 1971, pp 40-48 (from RZh-Radiotekhnika, No 7, Jul 71,
Abstract No 7D117)

Translation: The authors study intermode spacing as a function of various laser parameters for a laser operating on a wavelength of 0.63 micron emitting three or two axial modes. It is proposed that certain properties of the frequency responses be used for stabilizing the emission frequency of a gas laser by the method of comparison of the intermode spacing with a radio frequency. A theoretical study is made of the resultant experimental data for the case of emission of three axial modes in the region of symmetric tuning. It is shown that a stabilized gas laser can be made with relatively long-term frequency stabilization, surpassing the results which have been achieved up to the present time. The absolute frequency stability of such a laser (in the case of high relative stability for long time intervals) will be determined by the

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USSR

BASHKIN, A. S., et al., Kvant. elektronika (Quantum Electronics--collection of works), No 2, Moscow, 1971, pp 40-48 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7D117)

shift in the center of the line of the atomic transition as a consequence of various factors. Six illustrations, bibliography of four titles.

2/2

- 72 -

USSR

UDC 621.378.33.016.35

BASHKIN, A. S., BELENOV, E. M., GONCHUKOV, S. A., ORAYEVSKIY, A. I.,
PETROVSKIY, V. N., PROTSENKO, Ye. D.

"Stabilizing the Frequency of Gas Laser Emission by the Method of Comparison With a Radio Frequency"

Moscow, Kvantovaya Elektronika, No 2, 1971, pp 40-49

Abstract: The authors study the intermode spacing as a function of various parameters of a laser on a wavelength of 0.63 μ operating under conditions of emission of three or two axial modes. It is proposed that certain properties of the frequency characteristics be used to stabilize the emission frequency of a gas laser by the method of comparing the intermode spacing with a radio frequency. The resultant experimental data are theoretically studied for the case of emission of three axial nodes in the region of symmetric tuning. It is shown how a stabilized gas laser can be made with a relative long-term frequency stability exceeding the results which have been attained up to the present time. The absolute frequency stability of such a laser (assuming high relative stability for long time intervals) will be determined by the displacement of the center of the line of the atomic transition due to various factors.

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USSR

GONCHUKOV, V. V., LEYZER, V. P., SMIRNOV, R. V., TYURIN, A. Ya.

"Development and Study of Small Memory Cubes Based on Thermally Stable Ferrite Cores"

Moscow, Magnitnyye Elementy Pamyati, 1972, pp 67-71.

Abstract: This article studies problems related to the development and investigation of small memory cubes of magnetic cores. As an example, a 1024 16-bit word memory unit designed for matrix-type storage systems is studied. The analysis of designs of small memory sections shows that arrangement of a memory section on a flat plane has definite advantages over other arrangements. A photograph of the memory unit studied is presented.

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- 28 -

AA9045132

Soviet Inventions Illustrated, Section II Electrical, Derwent,

UR 0482

5-69

225279 MAGNETIC STORE in the form of a core matrix arranged on both sides of a printed circuit card. The printed leads on both sides of the card form bi-filar windings. 7.7.67. as 1170341/26-24. V.V. GONCHUKOV, P.V. SMIRNOV et al. (27.12.68.) Bul.27/29.8.68. Class 21a. Int.Cl. G11b.

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UDC 6.74

USSR

DOLGOPOLOV, V. N., GONDAREV, V. P., PAHOV, D. N., KOSTORNICHENKO, V. G., FEDOR-
ENKO, I. I.

"Generator of Normal Discrete Random Processes with a Given Correlation Func-
tion"

V sb. Regional'n. nauch.-tekhn. seminar po stat. analizu, modelir. i avtomatiz.
kontrolya ob'yektov s konstruktivnoslozh. strukturoy (Regional Scientific and
Technical Seminar on Statistical Analysis, Simulation and Automation of the
Control of Objects with Structurally Complex Structure -- collection of works),
vyp. 3, Taganrog, 1971, pp 13-21 (from RZh-Kibernetika, No 7, Jul 72, Abstract
No 7V562)

No abstract

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- 61 -

USSR

UDC: 519.2

GONDAREV, V. P.

"Concerning a Method of Generating Random Numbers"

V sb. Regional'n. nauch.-tekhn. seminar po stat. analizu, modelir. i avtomatiz. kontrolya ob'ektov s konstruktivno-slozh. strukturcy, vyp. 3 (Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automation of the Inspection of Objects With Structurally Complex Design--collection of works), Taganrog, 1971, pp 3-43 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V128)

[No abstract]

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- 4 -

USSR

UDC: 681.332.65

GONDAREV, V. P., Taganrog Radio Engineering Institute

"A Device for Producing Random Numbers"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289409, division G, filed 4 Aug 69, published 8 Dec 70, p 160

Translation: This Author's Certificate introduces a device for producing random numbers which contains a generator of uniformly distributed random numbers in the interval from zero to one, a unit for automatic selection of numbers, two coincidence circuits, a collection module, and a module for conversion of the assigned random number interval. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding a binary probability element with direct and inverse outputs connected respectively to the inputs of the coincidence circuits.

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1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--A DEVICE FOR CONVERSION OF THE PROBABILITY DISTRIBUTION FUNCTIONS
OF RANDOM NUMBER SEQUENCES -U-
AUTHOR--GONDAREV, V.P.
COUNTRY OF INFO--USSR
SOURCE--PATENT NO 264003
REFERENCE--MOSCOW, OTKRYTIYA, IZOBRETIENIYA, PROMYSHLENNYYE OBRAZTSY,
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MATHEMATICAL SCIENCES
TOPIC TAGS--SEQUENCE, RANDOM PROCESS, PROBABILITY DISTRIBUTION, FLIP FLOP
CIRCUIT, COINCIDENCE CIRCUIT, SHIFT REGISTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1176 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0131681
UNCLASSIFIED

PROCESSING DATE--13NOV70

UNCLASSIFIED

2/2 013

CIRC ACCESSION NO--AA0131681
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A DEVICE FOR CONVERSION OF THE PROBABILITY DISTRIBUTION FUNCTIONS OF RANDOM NUMBER SEQUENCES WITH RESPECT TO THE OPERATION OF ADDITION. THE UNIT CONTAINS COINCIDENCE CIRCUITS, FLIP FLOPS, SHIFT REGISTERS, A MERGING CIRCUIT, AND INVERTERS. AS A DISTINGUISHING FEATURE OF THE PATENT, THE UNIT IS SPEEDED UP AND SIMPLIFIED BY CONNECTING THE INPUTS CORRESPONDING TO BINARY NUMBER SEQUENCES TO THE INPUTS OF THE SHIFT REGISTERS AND, BOTH DIRECTLY AND THROUGH INVERTERS, TO THE INPUTS OF THE COINCIDENCE CIRCUITS. THE OUTPUTS OF THE COINCIDENCE CIRCUITS ARE CONNECTED RESPECTIVELY TO THE RESET AND SET TERMINALS OF THE FLIP FLOP, WHILE THE ZERO OUTPUT AND ONES OUTPUT OF THE FLIP FLOP ARE CONNECTED TO THE SET AND RESET TERMINALS OF ANOTHER FLIP FLOP THROUGH COINCIDENCE CIRCUITS WHOSE CONTROLLING INPUTS ARE CONNECTED TO THE PULSE TRANSFER INPUT. THE ZERO OUTPUT AND ONES OUTPUT TERMINALS OF THIS FLIP FLOP ARE CONNECTED TO THE INPUTS OF COINCIDENCE CIRCUITS, WHOSE OTHER INPUTS ARE CONNECTED TO THE OUTPUTS OF THE SHIFT REGISTERS, WHILE THE OUTPUTS OF THESE SAME COINCIDENCE CIRCUITS ARE CONNECTED TO THE OUTPUT OF THE DEVICE THROUGH THE MERGING CIRCUIT. FACILITY: TAGANROGSKIY RADIOTEKHNICHESKIY INSTITUT.

USSR

UDC:539.171.017:539.184.5

GONDUROV, I. A., BERESTOVOY, A. M., YEGOROV, A. I., KOROTKIKH, YE. M.
and PETROV, YU. V.

"Interaction of Thermal Neutrons with Eu^{152m} Nuclei"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 77-78

Abstract: When neutrons interact with nuclei in the excited state, inelastic scattering may occur with transmission of the energy of the excited nucleus to the scattered neutron. This work presents the results of direct measurement of the effect by seeking the fast neutrons produced by bombardment of Eu^{152} isomer nuclei with thermal neutrons. The installation and specimen used are briefly described. It is reported that analysis of the results of measurements indicated a mean value for the "acceleration" cross section of neutrons of 0.15 ± 1.46 Barns. This means that it is 95% certain that the cross section of the reaction does not exceed 3 Barns.

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USSR

UDC 615.771.8:593/594

BREKHMAN, I. I., ~~GONENKO, V. A.~~ and KOSTETSKIY, E. Ya., Institute of Biologically Active Substances, Far East Affiliate, Siberian Department, Academy of Sciences USSR, Vladivostok

"The Antiradiomimetic Effect of Some Compounds Extracted From Marine Invertebrates"

Leningrad, Zhurnal Evolyutsionnoy Biokhimi. i Fiziologii, Vol 7, No 5, Sep/Oct 71, pp 456-460

Abstract: The presence of natural antiradiomimetic compounds in marine invertebrates was investigated by preparing chloroform-methanol, methanol, and physiological saline extracts from 97 species of marine invertebrates representing 11 types and 17 classes, adding these extracts to suspensions of rat erythrocytes, and measuring their ability to prevent hemolysis by oxygenated oleic acid (added 10 minutes later). The highest antiradiomimetic activity was displayed by chloroform-methanol extracts. These extracts contained large amounts of glycolipids and phospholipids, including sphingomyelin and lysolecithin, and almost no ninhydrin-positive unsaponifiable phospholipids. Certain fractions obtained from the extracts displayed greater antiradiomimetic activity than the initial total extract. The overall findings indicate that
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USSR

BREKHMEN, I. I., et al., Zhurnal Evolyutsionnoy Biokhimi i Fiziologii,
Vol 7, No 5, Sep/Oct 71, pp 456-460

many of the phylogenetically younger marine invertebrates have a high anti-
radiomimetic activity, which in some cases is greater than that of known
synthetic antioxidants.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

EFFECT OF SOME BIOLOGICALLY ACTIVE AGENTS ON THE INDEX OF
INDIVIDUAL RADIOSENSITIVITY -U-
AUTHOR--(03)-BREKHMEN, I.I., KLIMASHEVSKAYA, A.V.; GONENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 153

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIATION SENSITIVITY, OXYGEN METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0466

CIRC ACCESSION NO--AP0121140

STEP NO--UR/0205/70/010/001/0153/0153

UNCLASSIFIED

ACCESSION NO--AP0121140 UNCLASSIFIED PROCESSING DATE--30OCT70
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF BIOL. ACTIVE AGENTS
 ON THE "INDEX OF INDIVIDUAL RADIOSENSITIVITY" (IIR) WAS STUDIED BY DETG.
 THE RATIO OF THE O REQUIREMENT AT ROOM TEMP. (20DEGREES) TO ODEGREES.
 UNDER THE INFLUENCE OF BIOL. ACTIVE AGENTS, IIR INCREASED OR DECREASED,
 DEPENDING ON THE STARTING LEVELS. WITH OPTIMAL DOSES OF THE BIOL.
 ACTIVE AGENTS, CHARACTERIZED BY RADIORESISTANCE, THE O REQUIREMENT
 INCREASED AFTER CHILLING, INCREASING THE IIR. AN INCREASE OF IIR
 CHARACTERIZED THE ABILITY TO INCREASE THE NONSPECIFIC ORGANISM
 RESISTANCE. THE IIR VALUE CAN BE USED AS AN INDICATOR IN THE
 PRELIMINARY SELECTION OF THE BIOL. ACTIVE AGENT, BY INCREASING THE
 NONSPECIFIC RESISTANCE, INCLUDING RESISTANCE AGAINST RADIOACTIVITY.
 FACILITY: INST. BIOL. AKTIV. VESHCHSTV, VLADIVOSTOK, USSR.

UNCLASSIFIED

UNCLASSIFIED
INFORMATION OF PRODUCTS OF IRON DEOXIDATION BY ALUMINUM -U- PROCESSING DATE--18SEP70
AUTHOR--(04)-VERTMAN, A.A., GONGADZE, G.A., MEHEDLISHVILI, V.A., SAMARIN,
A.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 17-22
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--IRON, STEEL DEOXIDATION, ALUMINUM CONTAINING STEEL,
NONMETALLIC INCLUSION, ALUMINUM OXIDE, METALLOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0167 STEP NO--UR/0370/70/000/001/0017/0022
CIRC ACCESSION NO--AP0054963
UNCLASSIFIED

UDC:539.171.017:539.184.5

USSR

GONDIMOV, I. A., BERESTOVY, A. M., YEGOROV, A. I., KOROTKINI, YE. M.
and PETROV, YU. V.

"Interaction of Thermal Neutrons with Eu^{152m} Nuclei"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 77-78

Abstract: When neutrons interact with nuclei in the excited state, inelastic scattering may occur with transmission of the energy of the excited nucleus to the scattered neutron. This work presents the results of direct measurement of the effect by seeking the fast neutrons produced by bombardment of Eu^{152} isomer nuclei with thermal neutrons. The installation and specimen used are briefly described. It is reported that analysis of the results of measurements indicated a mean value for the "acceleration" cross section of neutrons of 0.15 ± 1.46 Barns. This means that it is 95% certain that the cross section of the reaction does not exceed 3 Barns.

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UDC 615.771.8:593/594

USSR

BREKHMAN, I. I., GONENKO, V. A., and KOSTETSKIY, E. Ya., Institute of Biologically Active Substances, Far East Affiliate, Siberian Department, Academy of Sciences USSR, Vladivostok

"The Antiradiomimetic Effect of Some Compounds Extracted From Marine Invertebrates"

Leningrad, Zhurnal Evolyutsionnoy Biokhimii i Fiziologii, Vol 7, No 5, Sep/Oct 71, pp 456-460

Abstract: The presence of natural antiradiomimetic compounds in marine invertebrates was investigated by preparing chloroform-methanol, methanol, and physiological saline extracts from 97 species of marine invertebrates representing 11 types and 17 classes, adding these extracts to suspensions of rat erythrocytes, and measuring their ability to prevent hemolysis by oxygenated oleic acid (added 10 minutes later). The highest antiradiomimetic activity was displayed by chloroform-methanol extracts. These extracts contained large amounts of glycolipids and phospholipids, including sphingomyelin and lysolecithin, and almost no ninhydrin-positive unsaponifiable phospholipids. Certain fractions obtained from the extracts displayed greater antiradiomimetic activity than the initial total extract. The overall findings indicate that

USSR

BREKHMEN, I. I., et al., Zhurnal Evolyutsionnoy Biokhimi i Fiziologii,
Vol 7, No 5, Sep/Oct 71, pp 456-460

many of the phylogenetically younger marine invertebrates have a high anti-radiomimetic activity, which in some cases is greater than that of known synthetic antioxidants.

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF SOME BIOLOGICALLY ACTIVE AGENTS ON THE INDEX OF
INDIVIDUAL RADIOSENSITIVITY -U-
AUTHOR--(03)-BREKHMEN, I.I., KLIMASHEVSKAYA, A.V.; GONENKO, V.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 153
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RADIATION SENSITIVITY, OXYGEN METABOLISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0466 STEP NO--UR/0205/70/010/001/0153/0153
CIRC ACCESSION NO--AP0121140
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 025

CIRC ACCESSION NO--AP0121140

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF BIOL. ACTIVE AGENTS ON THE "INDEX OF INDIVIDUAL RADIOSENSITIVITY" (IIR) WAS STUDIED BY DETG. THE RATIO OF THE D REQUIREMENT AT ROOM TEMP. (20DEGREES) TO 0DEGREES. UNDER THE INFLUENCE OF BIOL. ACTIVE AGENTS, IIR INCREASED OR DECREASED, DEPENDING ON THE STARTING LEVELS. WITH OPTIMAL DOSES OF THE BIOL. ACTIVE AGENTS, CHARACTERIZED BY RADIORESISTANCE, THE D REQUIREMENT INCREASED AFTER CHILLING, INCREASING THE IIR. AN INCREASE OF IIR CHARACTERIZED THE ABILITY TO INCREASE THE NONSPECIFIC ORGANISM RESISTANCE. THE IIR VALUE CAN BE USED AS AN INDICATOR IN THE PRELIMINARY SELECTION OF THE BIOL. ACTIVE AGENT, BY INCREASING THE NONSPECIFIC RESISTANCE, INCLUDING RESISTANCE AGAINST RADIOACTIVITY. FACILITY: INST. BIOL. AKTIV. VESHCHSTV, VLADIVOSTOK, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--FORMATION OF PRODUCTS OF IRON DEOXIDATION BY ALUMINUM -U-

AUTHOR--(04)-VERTMAN, A.A., GONGADZE, G.A., MEHEDLISHVILI, V.A., SAMARIN,
A.M.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 17-22

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--IRON, STEEL DEOXIDATION, ALUMINUM CONTAINING STEEL,
NONMETALLIC INCLUSION, ALUMINUM OXIDE, METALLOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0167

STEP NO--UR/0370/70/000/001/0017/0022

CIRC ACCESSION NO--AP0054963

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054963

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ARMCO FE, CONTG. C 0.008, SI 0.001, MN 0.04, AND O 0.18PERCENT AND AL IN BARS WERE USED. THE SPECIMENS WERE MELTED IN A FURNACE WITH AR ATM. AT THE WORKING TEMP. 1600DEGREES A PIECE OF PURE AL (0.4 G) WAS ADDED TO THE SURFACE OF MOLTEN IRON. THE DURATION OF HEAT AND TEMP. WAS CHANGED DURING THE TESTS. THE CRUCIBLE WITH METAL WAS COOLED IN THE AR. SECTIONS OF THE INGOTS WERE STUDIED BY MICROANAL. WITH THE AIM TO DET. THE AL DISTRIBUTION ALONG THE HEIGHT OF THE SPECIMEN, THE REACTION DEPTHS BETWEEN THE DIFFUSING AL AND THE O IN THE METAL, AND FOR THE DETN. OF THE CONTENT OF NONMETALLIC INCLUSIONS. METALLOGRAPHIC STUDIES WERE ALSO CARRIED OUT. SEVERAL TYPES OF INCLUSIONS WERE STUDIED: LARGE LIQ. INCLUSIONS OF GLOBULAR FORM, COMPOSED OF MGAL SUB2 O SUB4, AL SUB2 O SUB3, DENDRITES AND FINE GRAINS OF ALUMINUM OXIDE. THE FORMATION OF GLOBULAR INCLUSIONS OF AL SUB2 O SUB3 WAS CAUSED BY THE EFFECT OF LIQ. PRODUCTS OF DEOXIDN. ON AL RESULTING IN THE FORMATION OF HARD SURFACE LAYER OF AL SUB2 O SUB3.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--OSTEOSYNTHESIS WITH HETEROGRAFT IN FRACTURES OF THE TIBIA -U-

AUTHOR--GONGALSKIY, V.I.

COUNTRY OF INFO--USSR

SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 5, PP 37-40

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BONE FRACTURE, BONE GRAFT, ORTHOPEDIC SURGERY, BONE
REGENERATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0730

STEP NO--UR/9115/70/000/005/0037/0040

CIRC ACCESSION NO--AP0131325

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131325

ABSTRACT/EXTRACT--(U) GP-D- ABSTRACT. IN OPERATIVE TREATMENT OF LEG BONES IN FRACTURES AT VARIOUS LEVEL, THE AUTHOR USES HETEROGENOUS BONE GRAFTS FROM THE CORTICAL LAYER OF BOVINE BONE PRESERVED AT 25-30DEGREESC. INDICATIONS FOR OPERATIVE TREATMENT WERE: FRACTURES OF THE PROXIMAL AND DISTAL META EPIPHYSES WITH FRAGMENT DISPLACEMENT NOT AMENABLE TO CONSERVATIVE TREATMENT; OBLIQUE, SPIRAL, TRANSVERSE AND COMMINUTED FRACTURES OF THE DIAPHYSIS; OPEN DIAPHYSARY AND META EPIPHYSARY FRACTURES WITH SLIGHT INJURY TO THE SOFT TISSUES. A TOTAL OF 103 PATIENTS RANGING IN AGE FROM 11 TO 70 YEARS HAVE BEEN OPERATED ON. THE FRACTURES WERE DIAPHYSARY IN 52 AND META EPIPHYSARY IN 51. OBSERVANCE OF GENERAL PRINCIPLES OF FRACTURE TREATMENT WITH USE OF HETEROPINS RESULTED IN GOOD ANATOMICAL AND FUNCTIONAL OUTCOMES IN 99 PATIENTS. HETEROPINS WERE FOUND TO SATISFY ALL THE REQUIREMENTS DEMANDED OF FIXING CONSTRUCTIONS, HELP IN ACHIEVEMENT OF STABLE OSTEOSYNTHESIS, AND ARE NOT FOLLOWED BY APPARENT NEGATIVE REACTIONS IN THE ORGANISM OF THE RECIPIENT. FACILITY: KIEV. INSTITUTA ORTOPEDIJ.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--INITIATED THERMAL DESTRUCTIVE HYDROGENATION OF BIPHENYL -U-

AUTHOR--BOTNIKOV, M.YA., GONIKBERG, M.G.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 3-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGENATION, THERMAL DEGRADATION, BENZENE DERIVATIVE,
CHEMICAL BONDING, CHEMICAL REACTION MECHANISM, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1225

STEP NO--08/0204/70/010/001/0003/0000

CIRC ACCESSION NO--AP0104591

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDROGENATION OF BIPHENYL (I) AT ELEVATED TEMPS. IS ACCELERATED BY THE PRESENCE OF COMPS. WITH LOWER BOND DISSOCN. ENERGIES THAN THOSE OF I. DIBENZYL (II) WAS ESP. EFFECTIVE. WHEN A MIXT. CONTG. I AT 2.5 ATM, H AT 30 ATM, AND C SUB5 H SUR6 AND 15 ATM WAS ALLOWED TO REACT AT 600DEGREES 24 SEC, 4PERCENT OF I WAS HYDROGENATED. THE EFFECT OF ADDITIVES WAS AS FOLLOWS (ADDITIVE, MOLE PERCENT OF ADDITIVE, AND PERCENT CONVERSION OF I GIVEN): II, 5.0, 32.5; ISO-PRPH (III), 5.0, 17.6; N,HEPTANE (IV), 2.6, 6.7; IV, 5.0, 11.1; IV, 10.0, 10.8. THE EFFECTS WERE ALSO OBSERVED AT 625DEGREES AND 650DEGREES, WHERE IN THE ABSENCE OF ADDITIVES THE CONVERSIONS WERE 12 AND 25PERCENT, RESP. II AT SIMILAR TO 5 MOLE PERCENT INCREASED THESE RATES TO 41.5 AND 44.5PERCENT, RESP. II AT 575DEGREES SHOWS A RAPID INCREASE IN EFFECTIVENESS UP TO 2.5PERCENT II WITH ONLY SLIGHT INCREASES IN CONVERSION OF I WHEN II WAS FURTHER INCREASED TO 25PERCENT. CONVERSION DATA ARE ALSO GIVEN AT 550DEGREES FOR II AND IV AND AT 650DEGREES FOR III AND IV. THE DATA ARE CONSISTENT WITH A RADICAL CHAIN REACTION MECHANISM.

UNCLASSIFIED

USSR

UDC 621.385:621.791.856.3

GONIKBERG, S.I.

"Unit For Fine Cleaning Of Argon"

Elektron.tekhnika. Nauch.-tekhn.sb. Elektron SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1971, No 9, pp 99-101 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A91)

Translation: A unit is described for preparation of pure argon intended for use as an inert medium during annealing and soldering of parts and subassemblies of electrovacuum devices. The argon to be cleaned is successively passed through a zeolite drying agent and a titanium reactor. During cleaning of cylinder argon of Type A, Gost 10157-62, the unit assure preparation of gas with a water content of $2 \cdot 10^{-4}$ percent by volume and an oxygen content of $1 \cdot 10^{-4}$ by volumn. These parameters are attained 4 hours after starting up of the unit. With a nominal output of $0.5 \text{ m}^3/\text{h}$, the duration of uninterrupted operation of the unit between two successive reprocessings of the zeolite drying agent amounts to 100 h. The total duration of operation of the unit without replacement of the titanium absorbers amounts to 300 h. 7 ref. R.Sh.

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1/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CALCULATION OF THE HEAT TRANSFER COEFFICIENT IN THE CASE OF SCALE
FORMATION -U-
AUTHOR-(03)-GONIONSKIY, V.TS., GOLUB, S.I., ROZEN, A.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, ENERG. TRANSP. 1970, (1), 176-80
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--HEAT TRANSFER COEFFICIENT, HEAT EXCHANGER, METAL SCALING,
METAL TUBE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1521 STEP NO--UR/0281/70/000/001/0176/0180
CIRC ACCESSION NO--AP0120302
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120302

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING HEATING OF SOLNS. WITH NEG COEFF. OF SOLY., THE RATE OF SCALE FORMATION CHANGES SHARPLY ALONG THE LENGTH OF THE HEATING RUBE OF HEAT EXCHANGERS. AN EQUATION IS PROPOSED FOR CALCG. THE HEAT TRANSFER COEFF. IN THE CASE OF SCALE FORMATION, TAKING INTO ACCOUNT OPERATING TIME, REGIME OF HEAT EXCHANGE, AND PHYS. CHEM. PROPERTIES OF A SCALE. APPLICATION OF THIS EQUATION SUBSTANTIALLL INCREASED ACCURACY IN DETG. THE VALUES OF THE HEAT TRANSFER COEFFS. IN THE CASE OF HEATING SOLNS. OF SALTS WITH NEG SOLY. COEFF., WHICH WAS CONFIRMED EXPTL. FOR DESIGNING OF TUBULAR HEAT EXCHANGERS THE MEAN VALUE OF HEAT TRANSFER COEFF. ALONG A HEATING TUBE IS RECOMMENDED INSTEAD OF THE LOCAL VALUE.

UNCLASSIFIED

USSR

UDC: 621.374.4(088.8)

GONOKHOV, L. A., Tomsk Institute of Radio Electronics and Electronic
Technology

"A Phase-Type Harmonic Multistable Element"

USSR Author's Certificate No 267749, filed 27 Feb 69, published 20 Jul 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A344 F)

Translation: The proposed phase-type harmonic multistable element is designed for use in devices for checking phase meters. It is made in the form of two regenerative frequency dividers fed from the same rf oscillator. The proposed phase element makes it possible to extend the frequency range and to increase the number of stable phase states owing to the fact that the mixer of the first regenerative frequency divider is connected to the multiplier of the second frequency divider, while the mixer of the second divider is connected to the multiplier of the first, forming a closed negative feedback circuit. E. L.

USSR

UDC 621.372.061:538.56

GONOKHOV, L. A., ZAVALISHIN, M. A., SHULZHENKO, K. M.

"Discrete Phase Band Oscillator"

Tr. Tomskogo in-ta radioelektron. i elektron. tekhn. (Works of Tomsk Radioelectronics and Electronic Engineering Institute), No 16, 1970, pp 9-10, 11-12 and 13, (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A175)

Translation: When developing phase engineering equipment operating at 1-100 megahertz, the equipment for reproduction of the phase difference with high accuracy is used. This article contains a description of a discrete phase band oscillator permitting us to obtain two amplitude-regulated coherent sinusoidal voltages with a discretely controlled phase difference between them. The instrument includes two fixed-frequency 18-megahertz and 32-megahertz generators and a frequency converter. The discrete phase shifts are obtained by means of electronically controlled frequency dividers with several stable states fed from a common quartz oscillator. The output frequencies of the regenerative dividers are added by mixers with corresponding addition of the phase signal. The control of the output phase of the divider is achieved by the effect of short pulses on varicaps included in the low-frequency circuits. This permits manual and automatic phase changing using an external oscillator. The phase difference is

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USSR

UDC 619:616.931.42-07:636.32/.38

ISLAMOV, R. Z. and GONONOV, Yu. M., Dzhambul Oblast Veterinary Laboratory

"Study of the Brucellosis Epizootic Situation"

Moscow, Veterinariya, No 11, 1972, pp 58-59

Abstract: The prevalence of brucellosis was investigated on a large karakul farm in Dzhambul Oblast, Kazakh SSR, where the ewes were vaccinated annually. Serological examination of rams revealed the presence of the disease in only 3 of 31 flocks (9.6%), and in 20 flocks brucellosis was confirmed bacteriologically. None of the rams was infected. Sheep dogs were found to be infected in 11 of 23 flocks (47.8%) where dogs were used. Bacteriological examination of 233 stillborn lambs resulted in the isolation of 35 cultures from animals belonging to 21 flocks. Brucellosis was detected in 24 of 31 flocks by examining rams, dogs, and stillborn lambs. All three types of examinations are recommended as essential for obtaining an accurate picture of the brucellosis situation on a sheep farm.

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USSR

UDC 533.011.35

GONOR, A. I. and OSTAPENKO, N. A.

"Hypersonic Flow About Wings With a Mach System of Shock Waves"

Moscow, Izvestiya Akademii Nauk, SSSR, Mekhanika Zhidkosti i Gaza, No 3, 1972,
pp 104-116

Abstract: A method is proposed for the calculation of hypersonic flow about a V-wing with a short-wave configuration of the Mach type, based upon use of the authors' theory of two approximations. By means of this theory it is possible to calculate the flow about a V-wing by a stream with a finite Mach number if this number is sufficiently great. It is shown that in the sense of optimal fineness, a V-wing is superior in a class of equivalent wings, and that the superiority of the fineness of a V-wing, in comparison with an equivalent flat triangular wing, increases as the value of the Parameter $\tau = V/S^{3/2}$ is increased. 10 figures. 5 references.

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USSR

GONOR, A. L.

"A Variation of the Small Parameter Method and the Solution of Certain Problems of Hypersonic Flow Around Bodies"

Matematika i Mekhanika. Tezisy Dokl 4-y Kazakhstan. Mezhvuz. Nauch. Konf. Po Mat. i Mekh. Ch. 2 [Mathematics and Mechanics, Theses of Reports of 4th Kazhstan Inter-University Scientific Conference on Mathematics and Mechanics. Part II -- Collection of Works], Alma-Ata, 1971, pp 165. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1B279).

Translation: The analytic theories of the mechanics of continuous media make wide use of methods of perturbation, based on which it is possible to find the solution of problems containing a small parameter. However, these theories are limited by the assumption that there are exponential dependences of the desired functions with respect to the integer or fractional powers of the small parameter. In gas dynamics, this approach is not applicable in many cases. For example, it is impossible to construct an analytic solution in problems of the flow around a blunt profile, a triangular wing at an angle of attack, etc.

For this type of problem, it is suggested, in contrast to the method of perturbations, to retain both the main terms and the terms of the next lower 1/2

- 28 -

UDC: 533.69.01+533.662.013

USSR

GONOR, A. L., KAZAKOV, H. N., and SEVETS, A. I.

"Experimental Investigation of Ultrasonic Flow Around V-Shaped Wings"

Nauchn. tr. In-t mekh. Mosk. un-ta (Scientific Transactions of the Moscow University Institute of Mechanics) 1970, No. 1, pp 58-70 (from RZh-Mekhanika, No. 2, Feb 71, Abstract No. 2B339)

Translation: Results of the experimental investigations of ultrasonic ($M = 4.0$) flow around triangular V-shaped wings in a wide range of variation in the geometric parameters of the wing. Wing angles of from 0 to 180° and attack angles of from 0 to 15° were studied. In the experiments, the pressure distribution along the wing surface and its trace (along the axis of symmetry) the positions of the condensation jumps, and the aerodynamic quality of the wing were studied, the last with weight measurements. Changes in the nature of the flow observed with changes of angle were analyzed. An increase in the aerodynamic quality was noticed with reduction in the wing angle, the result of a drop in the coefficient of frontal resistance. B. I. Sakun

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USSR

GONOR, A. I., KAZAKOV, M. N., SHVETS, A. I., SHEIN, V. I., Moscow

"Aerodynamic Characteristics of Star-Shaped Bodies at Supersonic Velocities"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 97-102

Abstract: Some results of an experimental analysis of the aggregate aerodynamic characteristics of star-shaped bodies at supersonic velocities and a study of the flow pattern in the wake behind a star-shaped body in a broad range of Mach numbers from 2.5 to 8.0 and with variation of the angle of attack from 0 to $\pm 8^\circ$ are presented. The aerodynamic characteristics of two models of star-shaped bodies with from 4 to 6 points were obtained during the study. A comparison was made with the characteristics of the equivalent cone and the characteristics of a "star" with 10 points. A calculation of the drag and position of the compression shocks was made for comparison with the experimental data.

An optical study of the streamlining spectrum is presented with Schlieren photographs and graphs showing the geometry of the Mach configuration as a

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USSR

GONOR, A. L., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 97-102

function of the angle θ characterizing the position of the mean shock in the plane of the bottom cut. By plotting calculated values of the angle θ calculated on the assumption that the shocks are plane and intersect regularly on the same graph it is clear that in the majority of experiments there was interaction of the shocks of the Mach type. The total drag of a star-shaped body at hypersonic velocities was determined by the Newton scheme.

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UDC 629.78.018.1

USSR

~~GONOR, A. L., KAZAKHOV, M. N., and SHVETS, A. I.~~

"Investigation of Supersonic Flow Past V-shaped Wings"

Nauchn. tr. In-t Mekh. Mosk. un-ta (Scientific Transactions of the Institute of Mechanics, Moscow University), 1970, No 1, pp 58-70 (from Referativnyy Zhurnal-Raketostroyeniye, No 12, Dec 70, Abstract No 12.41.164, Resume)

Translation: Flow past V-shaped wings was investigated over a broad range of geometrical parameters. Possible patterns of flow past wings are analyzed based on the results obtained, and pressure distribution at the wing surface and the location of shock waves are determined. The thrust-to-weight ratios are found as a function of angle of V-shaped wing opening by using weighted measurements. Illustrations: 11. Bibliography: 22 entries.

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1/2 050 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HYPERSONIC FLOW AROUND A DELTA WING OF FINITE THICKNESS --U-
AUTHOR--(02)-GONDR, A.L., OSTAPENKO, N.A. 6
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIKOSTI I GAZA,
MAY-JUNE 1970, P. 46-55
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYPERSONIC FLOW, DELTA WING, SUPERSONIC AERODYNAMICS, SHOCK
WAVE ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605009/B12 STEP NO--UR/0421/70/000/000/0046/0055

CIRC ACCESSION NO--AP0140049
UNCLASSIFIED

2/2 050

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GENERALIZATION OF A METHOD, PREVIOUSLY DEVELOPED BY GONOR (1970) FOR CALCULATING HYPERSONIC FLOW AROUND THIN DELTA WINGS WITH SUPERSONIC LEADING EDGES, TO APPLY TO THE CASE OF DELTA WINGS OF FINITE THICKNESS WHERE THE FLOW HAS A QUALITATIVELY DIFFERENT STRUCTURE. IT IS SHOWN THAT THE EFFECT OF WING THICKNESS LEADS TO A NEW FLOW RUNOFF LINE WHICH IS NO LONGER COINCIDENT WITH THE SYMMETRY PLANE AS IN THE CASE OF SLENDER WINGS. SPECIFIC CALCULATIONS ARE PERFORMED FOR HYPERSONIC FLOW AROUND WINGS WITH A RHOMBOID CROSS SECTION. SHOCK WAVE SEPARATION CURVES ARE ILLUSTRATED FOR DIFFERENT VALUES OF INTERNAL TIP ANGLES GOVERNING THE WING THICKNESS.

UNCLASSIFIED

USSR

UDC 531.01

GONOSTAREV, V. A., EL'STING, O. G.

"On the Problem of Low-Frequency Fluctuations of the $f^{-\alpha}$ Type in a Gyroscope"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1971, No. 137, pp 45-48 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6A110)

Translation: Fluctuations of a free gyroscope in the frequency range 0.005-1.2 Hz are considered and the spectral density of random deviations in the position of the gyroscope axis is calculated and measured. A system of measuring is proposed with a sensitivity of $3.6 \cdot 10^{-9}$ deg²/Hz that is suitable for measuring nonstationary random processes. 7 ref. Authors abstract.

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UDC: 621.319.491

USSR

GONOSTAREV, V. A.

"Measurement of Low-Frequency Varicap Noise"

Kiev, Izvestiya VUZ SSSR--Radicelektronika, vol. 14, No. 4, 1971,
pp 446-449

Abstract: A method is described for measuring the thermal noises of a varicap. It uses the method of noise frequency modulation, with the tested varicap behaving as an input converter to improve the noise immunity and reduce to a minimum induced parasitic interference. A block diagram of the measuring system is given. An advantage of this system over earlier methods for achieving the same purpose is that it determines the steepness of the volt-farad characteristic. A table of varicap capacitance measurements for different instrument types, carried out by the method described, is also given. The author concludes by noting that his equipment can measure the spectra of low-frequency fluctuations of practically any p-n junction.

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- 75 -

USSR

UDC 669.14.018.45.621.438

TERESHKOVICH, A. S., Engineer, RUKOVA, A. YE., Candidate of Technical Sciences,
ZHAKOVSKAYA, I. S., GONSEROVSKAYA, T. S., Engineers, Central Scientific Research
Institute of Machine Building Technology, Leningrad Metal Plant

"Heat-Resistant Steel TsZh13 for Cast Parts of Gas Turbines"

Teploenergetika, No 5, 1970, pp 23-25

Abstract: On the basis of the investigation of a series of experimental variants of alloys for cast parts of gas turbines, the composition of steel 3Xh16N22V6B (TsZh13) was selected as the optimal one from the point of view of surface properties and weldability: 0.25-0.30% C, 15-17% Cr, 21-23% Ni, 5.5-6.5% W, 0.8-1.2% Nb. Details on the production and application of the steel are presented. The steel is recommended for the production of profile castings of the guiding units of gas turbines and other similar subassemblies with a working temperature of up 750° C.

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- 45 -

PROCESSING DATE--04DEC70

UNCLASSIFIED

1/2 015

TITLE--ADHESIVE BASE ON SKS 50K LATEX -U-

AUTHOR--(04)-KIZBER, S.A., KALMYKOVA, Z.P., PRYAKHINA, E.A., GONSOVSKAYA,
T.B.

COUNTRY OF INFO--USSR

SOURCE--POLIGRAFIYA 1970, 1, 36-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ADHESIVE, LATEX, STYRENE/(U)SKS50K STYRENE RUBBER, (U)SKS30SHR
STYRENE RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0887

STEP NO--UR/0543/70/001/000/0036/0037

CIRC ACCESSION NO--AP0134616

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WITH ADHESIVES PREPD. FROM
SKS 50K LATEX (I) INDICATED THAT THEY COULD BE USED FOR BOOK BINDING,
AND THAT I IS A GOOD SUBSTITUTE FOR SKS 30SHR LATEX. THE PHYS.
PROPERTIES OF SKS 50K ADHESIVES WERE DETD.

UNCLASSIFIED

USSR

UDC 539.374

GONSOVSKIY, V. L., MESHKOV, S. I., ROSSIKHIN, Yu. A.

"Study of the Roots of the Characteristic Equation Associated With Damping Oscillations of Elastically Hereditary Systems"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering in the Oscillations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 101-107 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V509)

Translation: The roots of the characteristic equation

$$g(p) = p^2 + \gamma p + p^2 s_e^2 + p^2 \omega_0^2 + \omega_0^2 s_e^2 = 0$$

determining the displacement $x(t)$ associated with damping oscillations of an elastically hereditary oscillator with a relaxation nucleus of the form

$$R(t) = s_e^{-1} \mathcal{D}_\gamma(-1, t, s_e).$$

which completes its motion after an impulse action at time $t = 0$ are investigated. The displacement $x(t)$ in a Laplace space has the form

$$x_s(p) = F(p^2 + s_e^2) / g(p)$$

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USSR

GONSOVSKIY, V. L., et al, Rassevaniye energii pri kolebaniyakh mekh. sistem, Kiev, "Nauk. dumka", 1972, pp 101-107

where F is the amplitude of the force impulse, ω_{∞} and ω_0 are the frequencies of elastic oscillations corresponding to nonrelaxation E_{∞} and relaxation E_0 to values of the elastic modulus, $s_c = \tau_c^{-1}$ is the relaxation frequency and

\mathfrak{D}_{γ} is a fractional exponential function of Yu. N. Rabotnov with the fractionality parameter γ . An appropriate formulation making it possible to reduce this equation to two equations facilitating the solution of the problem is applied to find the roots of the equations $g(p)$, where p is the parameter of the Laplace transformation. Various particular cases are discussed. It was established in particular that under appropriate conditions the quantity $x(t)$ represents the sum of two parts, one of which describes the changing equilibrium position with time and is associated with the retardation processes occurring in the dynamic system while the other describes damping harmonic oscillations around the equilibrium position. 8 ref. M. I. Rozovskiy.

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USSR

UDC:539.374

GONSOVSKIY, V.L. and ROSSIKHIN, YU.A.

"On Propagation of Impulsive Load in Viscous-Elastic Medium"

Voronezh, Tr. NIĭ Mat. Voronezh. Un-ta (Transactions of Mathematics Research Institute, Voronezh University), 1972, vyp 6, pp 63-66 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2V515 by M.I.Rozovskiy)

Translation: The problem of stress wave propagation in a semi-infinite viscous-elastic rod with a given load on the end is considered. The rod material follows the linear hereditary physical dependence with Yu.N. Rabotnov type aftereffect substance. The problem is solved by the collocation method, with stress $\sigma(x, t)$ given by the formula

$$\sigma(x, t) = \frac{1}{2\pi i} \int_{\alpha-i\infty}^{\alpha+i\infty} F(p) \exp\left[p\left(t - \frac{x}{c_\infty}\right)\right] dp$$

where p - Laplace transformation parameter with respect to time, x - coordinate, c_∞ - constant.

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USSR

GONSOVSKIY, VL and ROSSIKHIN, YU. A., Tr. NII Mat. Voronezh. Un-ta, 1972, vyp 6, pp 63-66

$$F(p) = \exp\{\rho x c_{\infty}^{-1} [1 - \lambda(p)]\}$$

where

$$\lambda(p) = [1 + \nu_0 K(p)]^{1/\gamma}$$

$K(p)$ - Laplace transformation of aftereffect substance. The calculation takes into account ten terms of Derikhle series. It is established that when the order of Yu.N. Rabotnikov substance γ is fractionary, then the infinite impulse applied to the end of the rod blows-up (starting from the instant $T=0$) and the solution becomes finite everywhere. The magnitude of stress jump at the wave front is zero. Near the wave front the stress has a peak, which decreases with $\gamma \rightarrow 0$ and dampens out after a while. 6 references.

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- 20 -

1/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70
 TITLE--GEOLOGISTS DISCOVER POTENTIALLY VALUABLE OIL DEPOSIT IN BLACK SEA
 -U-
 AUTHOR--GONTA, T. **G**
 COUNTRY OF INFO--USSR, BLACK SEA
 SOURCE--KIEV, RABOCHAYA GAZETA, 3 MARCH 1970, P 1
 DATE PUBLISHED--03MAR70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
 TOPIC TAGS--CRUDE OIL, PETROLEUM DEPOSIT, NATURAL GAS, PETROLEUM
 EXPLORATION, GEOGRAPHIC LOCATION, PETROLEUM OFFSHORE DRILLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1990/2015

STEP NO--UR/9015/70/000/000/0001/0001

CIRC ACCESSION NO--AN0109947
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UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--11SEP70


CIRC ACCESSION NO--AN0109947

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEISMIC PROSPECTING WORK UNDERTAKEN BY GEOLOGISTS ON BOARD THE RESEARCH SHIPS "AKADEMIK B. B. GOLITSYN" AND "AKADEMIK V. A. SEL'SKIY" HAS RESULTED IN THE DISCOVERY OF A 700 SQUARE KILOMETER STRUCTURE WHICH PROMISES TO BE THE UKRAINE'S FIRST MARINE OIL OR GAS BEARING DEPOSIT. THE AREA, WHICH LIES TO THE WEST OF THE TARKHANKUT PENINSULA IN THE BLACK SEA, HAS BEEN NAMED THE "GOLITSYN" STRUCTURE. IN THE THIRD QUARTER OF THIS YEAR DRILLING EQUIPMENT AND MATERIAL FOR THE FIRST STEEL DRILLING ISLAND WILL BEGIN ARRIVING IN ODESSA, AND SHIPS OF THE BLACK SEA STEAMSHIP LINE WILL CARRY THE EQUIPMENT 120 KILOMETERS TO THE DRILLING SITE. THE EXPLORATORY WELL IS EXPECTED TO REACH A DEPTH OF 3.200 METERS. (4)

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UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--DEVELOPMENTS IN BLACK SEA DRILLING REPORTED -U-

AUTHOR--GONTA, T. 

COUNTRY OF INFO--USSR, BLACK SEA

SOURCE--MOSCOW PRAVDA 15 MAR 70 P 21

DATE PUBLISHED--15MAR70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOGRAPHIC LOCATION, PETROLEUM OFFSHORE EXPLORATION, PETROLEUM
OFFSHORE DRILLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAHE--1990/1100

STEP NO--UR/9012/70/000/000/0002/0002

CIRC ACCESSION NO--AN0109219

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UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC-ACCESSION NO--AN0109219

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SEISMIC PROSPECTING PARTIES OF L. BOGAYEVSKIY AND G. KOKHANCHIK ON THE SHIPS AKADEMİK V. A. SELSKIY AND AKADEMİK B. B. GOLITSYN HAVE BEEN INVESTIGATING THE COASTAL SHELF OF THE BLACK SEA FROM TARKHANSKIY PENINSULA IN THE CRIMEA TO ODESSA. GEOPHYSICISTS HAVE DISCOVERED GIGANTIC ROCK OUTCROPS UNDER THE SEABED WEST OF TARKHANKUT. THE EXPOSED STRUCTURE, WHICH FAVORS THE SEGREGATION OF GAS AND OIL, COVERS AN AREA OF 700 SQUARE KILOMETERS AND IS TWICE AS LARGE AS THE FAMOUS SHEBELINKA. GEOLOGISTS INTEND DRILLING HERE THE FIRST SEA PROSPECTING BOREHOLD IN THE UKRAINE AT A DEPTH OF 3,200 METERS. THE BAKU GIPROMORNEFT INSTITUTE HAS BASED THE SEA PROJECT ON STEEL PIPES UNDER THE DRILLING DERRICK. THE PEOPLE WHO ARE GOING TO WORK ON THE STEEL ISLAND ARE STUDYING SEA DRILLING IN BAKU AT NEFTYANYE KAMNI. THE TOWNSHIP OF CERNO MORSKOYE WILL BE SET UP AS THEIR BASE IN THE BLACK SEA ON THE SHORES OF KARKINITSKIY BAY. A LAUNCH OF THE STEAMSHIP COMPANY WILL TRANSPORT THE WORKERS, INSTRUMENTS, AND EQUIPMENT THERE.

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UNCLASSIFIED

142 010 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--GEOLOGISTS DISCOVER POTENTIALLY VALUABLE OIL DEPOSIT IN BLACK SEA
-U-
AUTHOR--GONTA, T. G
COUNTRY OF INFO--USSR, BLACK SEA
SOURCE--KIEV, RABOCHAYA GAZETA, 3 MARCH 1970, P 1
DATE PUBLISHED--03MAR70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--CRUDE OIL, PETROLEUM DEPOSIT, NATURAL GAS, PETROLEUM
EXPLORATION, GEOGRAPHIC LOCATION, PETROLEUM OFFSHORE DRILLING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/2015 STEP NO--UR/9015/70/000/000/0001/0001
CIRC ACCESSION NO--AN0109947
ZZZZZZZZZZ UNCLASSIFIED

Z/2 010

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AN0109947

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEISMIC PROSPECTING WORK
 UNDERTAKEN BY GEOLOGISTS ON BOARD THE RESEARCH SHIPS "AKADEMIK B. R.
 GOLITSYN" AND "AKADEMIK V. A. SEL'SKIY" HAS RESULTED IN THE DISCOVERY OF
 A 700 SQUARE KILOMETER STRUCTURE WHICH PROMISES TO BE THE UKRAINE'S
 FIRST MARINE OIL OR GAS BEARING DEPOSIT. THE AREA, WHICH LIES TO THE
 WEST OF THE TARKHANKUT PENINSULA IN THE BLACK SEA, HAS BEEN NAMED THE
 "GOLITSYN" STRUCTURE. IN THE THIRD QUARTER OF THIS YEAR DRILLING
 EQUIPMENT AND MATERIAL FOR THE FIRST STEEL DRILLING ISLAND WILL BEGIN
 ARRIVING IN ODESSA, AND SHIPS OF THE BLACK SEA STEAMSHIP LINE WILL CARRY
 THE EQUIPMENT 120 KILOMETERS TO THE DRILLING SITE. THE EXPLORATORY WELL
 IS EXPECTED TO REACH A DEPTH OF 3.200 METERS. (4)

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UNCLASSIFIED

1/2 035

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--PROPERTIES OF HIGH RESISTANCE GALLIUM ARSENIDE CONTAINING A
TITANIUM IMPURITY -U-

AUTHOR--(05)-VOROBYEV, V.L., GONTAR, V.M., YEGIAZARYAN, G.A., IZERGIN,
A.P., MAKAROV, V.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TKEH. POLUPROV. 1970, 4(5), 995-7

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SINGLE CRYSTAL GROWTH, GALLIUM ARSENIDE, TITANIUM, CRYSTAL
LATTICE DISLOCATION, CRYSTAL IMPURITY, MANGANESE, IRON, ALUMINUM,
MAGNESIUM, NICKEL, COBALT, BISMUTH, CHROMIUM, TIN, SEMICONDUCTOR
MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3003/0146

STEP NO--UR/0449/70/004/005/0995/0997

CIRC ACCESSION NO--AP0129402

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129402

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAAS SINGLE CRYSTALS WERE GROWN BY THE CZOCHRALSKI METHOD FROM POLYCRYST. GAAS WITH AN ADDN. OF METALLIC TI. THE DISLOCATION D. WAS SMALLER THEN OR EQUAL TO 2 TIMES 10 PRIME4-CM PRIME2, AND THE TI CONTENT WAS SIMILAR TO 10 PRIME18-CM PRIME3. THE CONTENTS OF FE, AL, MG, NI, CO, BI, CR, SN, AND MN WERE 10 PRIME NEGATIVE5-10 PRIME NEGATIVE4 WT. PERCENT, AND THAT OF SE WAS SIMILAR TP 10 PRIME NEAGTIVE3 WT. PERCENT. THE MATERIAL WAS P TYPE, WITH AN ELEC. RESISTIVITY OF SIMILAR TO 10 PRIME2 OHM CM, A FREE CARRIER CONC. OF 10 PRIME14-10 PRIME15-CM PRIME3, AND A MOBILITY OF 10-100 CM PRIME2-V SEC AT ROOM TEMP. TWO WNERGY LEVELS WERE DETD. FROM THE TEMP. DEPENDENCE OF THE HALL CONST. AND OF THE ELEC. COND. AS 0.35 AND 0.22 EV, RESP.; THE LATTER LEVEL WAS DUE TO THE GA VACANCY. DIODES OF THE P-PI-N TYPE WERE PREPD. FROM THE CRYSTAL, USING SN AS THE INJECTING CONTACT AND AG AS THE NONRECTIFYING ONE. THE AREA OF THE PN JUNCTION WAS 5 TIMES 10 PRIME NEGATIVE3-10 PRIME NEGATIVE2 CM PRIME2. THEIR CURRENT VOLTAGE CHARACTERISTICS AT ROOM TEMP. EXHIBITED A REGION OF NEG. RESISTIVITY, WHICH DISAPPEARED ABOVE 80-90DEGREES AND (OR) IN MAGNETIC FIELDS LARGER THAN OR EQUAL TO 3 KOE. THE NEG. RESISTIVITY IS EXPLAINED AS DUE TO A CHANGE IN THE SCREENING RADIUS OF THE CHARGED IMPURITIES DURING THE INJECTION.

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USSR

UDC 548.4

GONTAREVA, R. G. and TIKHONOV, L. V., Institute of Metal Physics, Academy of Sciences Ukr-SSR...

"Stabilization of Nickel Structure by Repeated Thermocyclic Treatment and Isothermal Annealing"

Kiev, *Metallofizika*, No 39, 1972, pp 65-69

Abstract: The effect of preliminary treatment, consisting of periodic alternation of thermocyclic treatment and steady-state annealings on the stability of nickel structure for subsequent multi-step thermal cycles, was investigated by the topographic method of Berg and Barrett and by the metallographic method of selective etching. It was shown that preliminary thermocyclic treatment provides a more stable structure than steady-state high-temperature annealing. Preliminary treatment, involving alternation of TCT and annealing, better stabilizes the dislocation structure of nickel samples for service under conditions of rigid thermal stresses. 7 figures, 3 bibliographic references.

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USSR

UDC 539.3:534.1

VOROB'EV, YU. S., and GONTAROVSKIY, P. P.

"Application of Variation Method to Vibration Calculations of Moving Blades and Air Propellers"

Moscow, Dinamika i Prochnost' Mashin, Nauch. - Tekhn. Sb (Dynamics and Strength of Machines - Collection of Scientific-Technical Works), No 14, 1971, pp 37-43 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, No 2, Feb 72, Abstract No 2.34.22)

Translation: The improved accuracy relations, previously obtained by Yu. S. Vorob'ev, for the flexural-torsional-longitudinal oscillations of rotating bars are applied to the solution by the variation method of the natural frequency of individual moving blades and blades connected by ties in groups or in complete rings, with

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VOROB'EV, YU. S. and GONTAROVSKIY, P. P., *Dinamika i Prochnost' Mashin, Nauch.-Tekhn. Sb*, No 14, 1971, pp 37-43

various number of nodes. The flutter critical speed of an air propeller is also determined. The effect of various factors on frequency, mode and relative stresses of moving blade is determined by means of computer calculations. It is shown that the Coriolis forces may increase or decrease the flutter critical speed depending on the bar geometry. 3 tables. 3 illustrations. 11 references.

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USSR

UDC 539.4:621.835.8

LESHCHENKO, V. M., KOZLOV, I. A., GONTAROVSKIY, V. P., Institute of Problems of Strength of the Academy of Sciences UkrSSR, Kiev; Zhitomir General Engineering Faculty of Kiev Polytechnical Institute, Zhitomir

"A Method for Calculating Rotating Discs of Complex Profile"

Kiev, Problemy prochnosti, No. 5, May 72, pp 3-9

Abstract: A numerical method for analyzing the elastic equilibrium of composite axisymmetrically loaded shells of rotation is the basis of the calculation. The method is extended to the case of discs of complex shape in the elastic and elastic-plastic regions and also to the case of calculating composite discs where the physical properties of the material along the radius varies according to any given law. In the calculation method the discs are replaced by a set of plates of variable thickness and conical shells connected rigidly to one another in an arbitrary fashion. Arbitrary boundary conditions are assumed on the free ends, such as free contour, radial load, and rigid fastening. The nonuniformity of the temperature field with an arbitrary change along the radius and the functional dependence of the elastic modulus of the material E , the Poisson

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LESHCHENKO, V. M., et al, Problemy prochnosti, No. 5, May 72, pp 3-9

coefficient μ and the coefficient of linear thermal expansion α on temperature and the functional dependence of μ on the degree of deformation of the material are taken into account. It is noted that differential equations describing the stress state of a shell are useful for an arbitrary meridian and values which vary in an arbitrary manner along the material (such as thickness, load, temperature, etc.), but that in this case there are the following limitations considering the use of the M-220 computer: (1) elementary shells can have only a rectilinear meridian or a meridian which is an arc of a circle. This does not prevent the calculation of shells with meridians of other forms, since any complex shell can be divided into parts representing elementary shells with meridians that are straight or defined along the arc of a circle. (2) The thickness of the elementary shell must follow a linear law of change along the meridian. The quantities E , μ and α characterizing the properties of the material are put into the machine in the form of tables and intermediate points are determined by linear interpolation. A comparison of the calculated data based on this method of solving elastic-plastic problems and the results of destructive acceleration tests under nonuniform heating conditions supports the condition of breakdown for low-plastic materials based on the theory of greatest normal stresses.

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USSR

UDC 533.6.013.42

GONTKEVICH, V. S.

"Calculation of the Natural Vibrations of Structural Elements of Hydraulic Equipment in a Liquid Using the Source Method"

V sb. Dinamika gidrotekhn. sooruzh. (Dynamics of Hydraulic Engineering Equipment -- Collection of Works), Moscow, 1972, pp 105-107 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V406)

Translation: The frequencies of the natural oscillations of arbitrary plates and three-dimensional structural elements of hydraulic equipment in a liquid are calculated. The source method was used in a numerical determination of integrals entering into the expressions for the coefficients of connected masses. When the oscillations of an elastic structure in a liquid are accompanied by separation of flow, sources and discharges in a certain zone (stagnation point of the liquid) are excluded in the calculation. 2-3 lower forms of oscillations of rectangular plates and hollow cylindrical shells with different boundary conditions were investigated and the dimensionless coefficients of specific connected mass were found for these. A graph is

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GONTKEVICH, V. S., *Dinamika gidrotekhn. sooruzh.*, Moscow, 1972, pp 105-107

given showing the change in these coefficients for three forms of oscillations of a rectangular plate as a function of the relationship of the sides in a cantilever seal at the base. K. G. Kravtsov.

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USSR

UDC: 541.126

AZATYAN, V. V., GONTKOVSKAYA, V. T., and MERZHANOV, A. G.

"Conditions for the Origin of Thermal Explosion in the Course of a Chain-Branching Reaction"

Novosibirsk, Fizika goreniya i vzryva, No 2, 1973, pp 163-169

Abstract: Using the example of one of the kinetic systems of heat explosions in complex chemical reactions, the authors consider the critical conditions of the explosion in the course of chain-branching reactions with uniform breaks of the chain. The effect of spontaneous heating on the process with no thermal explosion is also examined. The temperature gradients and the concentrations of the active centers of the chains in the reaction space are not taken into account; the part played by these gradients and the errors involved in averaging the temperature field are to be dealt with in another paper. This theoretical analysis begins with a system of six equations representing the reaction mechanism; from these is obtained a system of kinetic differential equations which was solved, together with the equation of thermal equilibrium, on an electronic computer.

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USSR

UDC 613.2.632.95(478.9-22)

GONTOVAYA, N. A., and SHTEINBERG, A. I., Republic Sanitary Epidemiological Station, Ministry of Health Moldavian SSR, Kishinev, and Laboratory of Pesticide Toxicology, Institute of Nutrition, Academy of Medical Sciences USSR, Moscow

"Residual Amounts of Some Pesticides in Daily Food Rations of Residents in Two Rural Microdistricts of the Moldavian SSR"

Moscow, Voprosy Pitaniya, No 6, Nov.Dec 71, pp 28-32

Abstract: The residual amounts of four pesticides present in the daily food rations of the residents of two microdistricts in 1967-1969 were measured and calculated according to the amounts of pesticides used in agriculture. In the district with ample utilization of pesticides, the residual quantities in food products consumed by man per day were: 0.04 mg of DDT, 0.32 mg of hexachlorocyclohexane (HCH), 0.01 mg of sevin, and 0.1 mg of chlorophos. In the district with restricted use of pesticides, similar calculations yielded twofold smaller figures: 0.02, 0.15, 0.004, and 0.047 mg respectively. Measurements of two persistent pesticides (DDT and HCH), performed by chromatographic and colorimetric methods on ready-made home and restaurant meals, yielded essentially identical results. These quantities do not exceed the limits established for the concentration of these pesticides in food in Moldavia, and they are much below the international standards established for man.

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AUTHOR--(05)--ANDRUNAKIYEVICH, V., GUNTS, M., ZAYTSEV, G., GAMETSKIY, A.,
CHEBOTARU, A.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FIVE ARTICLES PUBLISHED UNDER ONE TITLE ARE DEALING WITH THE STATE OF THE COMPUTER ART IN THE MOLDAVIAN REPUBLIC IN GENERAL, AND THE COMPUTATION CENTER OF THE MOLDAVIAN ACADEMY OF SCIENCES IN PARTICULAR. SOME TIME DURING 1970, THE COMPUTATION CENTER ACQUIRED A BESM 4 ELECTRONIC COMPUTER. IT IS THE SECOND GENERATION TRANSISTORIZED COMPUTER WITH THE MEMORY CAPABLE OF STORING 8,000 NUMBERS. IN ADDITION IT HAS THE EXTERNAL MEMORY CAPACITY CONSISTING OF 8 MAGNETIC DRUMS AND 4 MAGNETIC TAPES WITH THE TOTAL STORAGE CAPACITY OF 4,131,072 NUMBERS. THE COMPUTER CAN PERFORM 20,000 OPERATIONS PER SECOND AND HAS A LIBRARY OF STANDARD PROGRAMS WHICH WERE COMPILES FOR M-20, BESM 3M, AND M 220 COMPUTERS.

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