

2/2 019

UNCLASSIFIED

PROCESSING DATE--2010070

CIRC ACCESSION NO--AP0130016

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ISSUES PERTAINING TO DEVELOPMENT OF MEDICAL PSYCHOLOGY IN OUR COUNTRY AND THE ROUTES OF SUCH DEVELOPMENT MERIT THE MOST SERIOUS ATTENTION. THE EXTREMELY GREAT THEORETICAL IMPORTANCE OF MEDICAL PSYCHOLOGY IS ATTRIBUTED TO THE FACT THAT IT IS THE SCIENTIFIC DISCIPLINE WITHOUT WHICH IT IS IMPOSSIBLE TO TRULY OVERCOME THE UNILATERALITY OF BIOLOGISM IN UNDERSTANDING MAN AND CONSEQUENTLY THE UNILATERAL APPROACH TO THERAPEUTIC AND PROPHYLACTIC PROBLEMS IN MEDICINE. OF COURSE, TO SOME EXTENT, THE PHYSICIAN'S CONSIDERATION OF THE PATIENT'S PERSONALITY, TO HIS PSYCHE IS AFFORDED BY ETHICAL NORMS, THE POSITIONS OF MEDICAL SCIENCE, AND THE EXPERIENCE OF THE BEST DOCTORS. BUT WHILE WE RECOGNIZE THIS, WE CANNOT FAIL TO CONSIDER THAT THE FRUITFUL APPLICATION OF THESE PRINCIPLES AS WELL AS THEIR DEVELOPMENT REQUIRE SCIENTIFIC AND THEORETICAL SUBSTANTIATION. ETHICAL PRINCIPLES OF THE PHYSICIAN, TO BECOME THE MOST EFFECTIVE, SHOULD BE REALIZED THROUGH SCIENTIFICALLY SUBSTANTIATED AND TESTED METHODOLOGICAL PROCEDURES. THE CORRECT USE OF SUCH PROCEDURES IS IMPOSSIBLE WITHOUT UNDERSTANDING THE DISTINCTIVE FEATURES OF HUMAN PERSONALITY, ITS INDIVIDUAL QUALITIES, REACTION OF SOCIAL TO BIOLOGICAL IN IT; IT REQUIRES THE SOLUTION TO THE PROBLEM OF RELATIONSHIP OF PERSONALITY TO ORGANISM, DEMONSTRATION OF PSYCHOLOGICAL AND PHYSIOLOGICAL PATTERNS OF THE EFFECT OF NEGATIVE AND POSITIVE FACTORS ON A GIVEN PERSON.

UNCLASSIFIED

USSR

UDC 621.345.624(088.8)

GINZBURG, V.YE., LEBEDINSKIY, S.V., MIKHALEY, A.K., OVCHAROV, V.T.

"Collector Of Microwave Electron Device"

USSR Author's Certificate No. 271661, filed 30 Dec 67, published 31 May 71
(from RZh--Elektronika i yeye primeneniye, No 12, Dec 1971, Abstract No 12A264P)

Translation: The collector proposed for a Type O microwave electron device contains two isolated electrodes arranged in series with respect to the direction of movement of the electron beam. One of them is supplied at the side adjacent to the other with a nonsymmetrical element, e.g., a projection [vystup] in the form of a half cylinder. With the object of increasing the maximum power and efficiency of the device, the electrodes of the collector are supplied with a means for forced cooling and are arranged one with respect to the other in such a manner that the projecting half cylinder, which is a continuation of the cylindrical bushing [vtulka] attached to the electrode with the lower potential, is surrounded by the internal cylindrical surface of the second electrode equal to it in height, which serves as a precollector.

1/1

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USSR

UDC 621.385.624.01

LEBEDINSKIY, S. V., TSYGANOV, E. N.

"Special Features of Bunching of an Electron Stream in a Klystron With Electrostatic Focusing"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1971, Issue 1, pp 3-13 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A144)

Translation: Equations are derived for bunching of an electron stream in a klystron with electrostatic focusing. Solutions for these equations were studied on an electronic computer in an approximation of a small signal, with changes of the radius of the drift tube and static pulsations of the radius and velocity of the electron stream taken into account. The method developed is used for computation of the amplification factor and the amplitude-frequency characteristics of a power klystron. The results of the computation agree satisfactorily with experimental data. 8 ref. Author's Abstract.

1/1

USSR

UDC 539.67

YEVSYUKOV, V. A., ZOLOTUKHIN, I. V., LEBEDINSKIY, V. B., PESIN, M. S.,
POSTNIKOV, V. S., and SHARSHAKOV, I. M.

"Internal Friction in Phase Transformation in TiNi Intermetallic Compound"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction
in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 163-165

Abstract: The nature of the phase transformation in an equiatomic TiNi compound is studied by methods of internal friction, electrical resistance, and dilatometric analysis. The presence of some peaks on the internal friction temperature dependence curve is reported and their features are discussed. The energies of the activation processes are determined. It is assumed that the internal friction peak at 16°C is governed by the diffusion-free phase transformation. Data on internal friction, electrical resistance, and linear characteristics coincide well and confirm the assumed nature of the processes. 3 figures, 6 references.

1/1

1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PHASE TRANSFORMATIONS IN THE INTERMETALLIC COMPOUND TINI -U-

AUTHOR--(05)--PLOTNIKOV, V.S., LEBEDINSKIY, V.S., VEVSYUKOV, V.A.,
SHARSHAKOV, I.M., PESIN, M.S.
COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, FEB. 1970, P. 364-369

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ALLOY PHASE TRANSFORMATION, BIBLIOGRAPHY, METAL INTERNAL
FRICTION, TITANIUM ALLOY, NICKEL, INTERMETALLIC COMPOUND, DILATOMETRIC
ANALYSIS, RESISTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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STEP NO--UR/0126/70/029/000/0364/0369

CIRC ACCESSION NO--AP0114025

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115405

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF PHASE TRANSFORMATIONS IN THE ALLOY TINI WITH EQUIATOMIC COMPOSITION, USING METHODS OF INTERNAL FRICTION, ELECTRICAL RESISTIVITY, AND DILATOMETRY. IT IS SUGGESTED THAT THE TRANSFORMATION AT TEMPERATURES RANGING FROM 50 TO PLUS 80 C IS OF A DIFFUSIONLESS TYPE AND IS CHARACTERIZED BY SMALL TEMPERATURE HYSTERESIS. A PHASE TRANSFORMATION OF AN ORDER DISORDER TYPE WAS DETECTED AT A TEMPERATURE OF 625 C. FACILITY: VORONEZHSKI POLITEKHNICHESKII INSTITUT, VORONEZH, USSR.

UNCLASSIFIED

Acc. Nr: **AP0043762**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 3, pp 848-853

NONLINEAR SCATTERING OF INTENSE LIGHT BY COLLOID SUSPENSIONS

A. A. Chasov, O. L. Lehalov

Traversal of intense light through colloid solutions containing particles with dimensions smaller than the light wavelength is considered. It is demonstrated experimentally that nonlinear scattering by bubbles formed around the absorbing particles is the main cause of attenuation of light in such solutions.

111

REEL/FRAME
19770169

21

Acc. Nr: **AAO 108163**

Abstracting Service:

Ref. Code:

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

| 242132 EJECTOR SCRUBBER where the efficiency is improved by de-aeration. The liquid is pumped up and sprayed into the mixing chamber with the gas. The scrubbed gas passes along a diffuser and through a filter into a gas chamber from which it is discharged, while the liquid separated in the filter drips into the bottom reservoir. The gases obtained on de-aerating the foam and bubbles produced on the surface of the liquid in the reservoir, are returned to the mixing chamber for scrubbing.

7.12.67 as 1201375/23-26. G. K. LEBEDYUK. (19.8.69)
Bul 15/25.4.69. Class 12e. Int. Cl. B 01d.

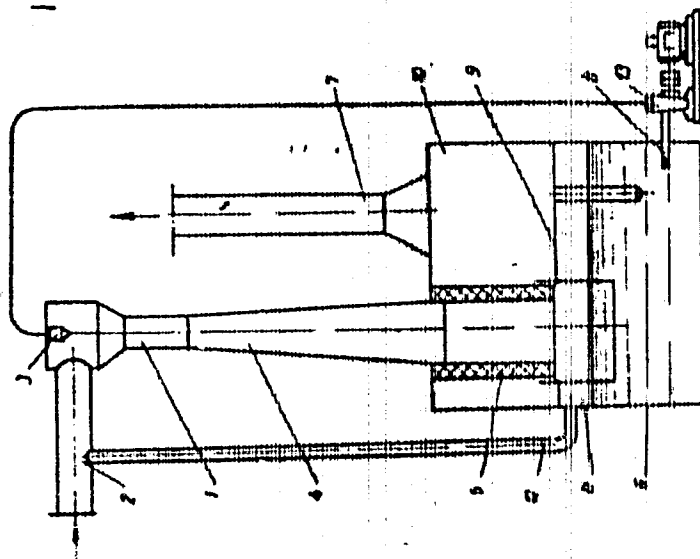
1/2

REEL/FRAME

19891825

7

AA O 108163



2/2

19891826

10

USSR

UDC 553.607.11+533.607.14

LEBIGA, V. A., CHERNYKH, V. V.

"Study of the Effect of Grids on the Turbulent Flow Characteristics"

Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 47-53

Abstract: A study was made of the effect of the drag of a grid and the number of successively installed grids on the reduction in intensity of the turbulent velocity pulsations in the T-325 wind tunnel. Some results are presented for measuring the structure of the turbulence generated by the grid itself. When calculating the extinguishing effect of grids on the turbulent velocity pulsations it is necessary to consider the turbulence generated by the last grid (the grid turbulence). The magnitude of this turbulence depends on the Reynolds number calculated by the grid wire diameter. If a sufficiently large number of grids are installed in the forechamber of the wind tunnel only the grid turbulence is present. Thus, in the forechamber of the wind tunnel the low turbulence level is determined by the magnitude of the turbulence generated by the last grid. Accordingly, further increase in the number of grids is inexpedient when the transmitted turbulence becomes sufficiently low by comparison with the turbulence generated by the last grid (< 0.5 c.). The grid turbulence becomes in practice isotropic when $x/l \geq 400$ (l is the distance from 1/2

USSR

LEBICA, V. A., et al., Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 47-53

the grid). This permits calculation of some of the turbulence characteristics by the theoretical formulas for isotropic turbulence.

2/3

Gerontology

USSR

UDC 612.32.3:612.67

MIKHAYLOVA-LUKASHEVA, V. D., LUTKO, G. I., IEBNEVA, A. E., PUNEKAROV, A. A.,
AND SYUSYUKIN, V. A., Sector of Gerontology, Academy of Sciences Belorussian
SSR, Minsk

"Peculiarities of the Functional Activity of the Central Nervous System in the
Aging Process"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 6, 1972,
pp 87-92

Translation of Russian Abstract: The relation between the changes in the
higher sections of the nervous system and the functional activity of other ner-
vous systems in an organism during aging were studied in experiments in animals
of various age and in men. The experimental results revealed that both the
transportability of nervous processes and the intensity of active inhibition
were decreased and that the functional activity of many of the systems of an
organism and their reactivity to pharmacologic substances administered were
changed in the aging process. The variation in reactivity of old and young
animals to pharmacologic substances is caused by age changes in neurohumoral
regulations. The changes in cerebral cortex during aging are functional,
biochemical, and morphological, and they lead to transformation of subordinated
cortical-subcortical interrelations and of integrated mechanisms, which in
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USSR

MEKHLAYLOVA- LUKASHEVA, V. D., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 6, 1972, pp 87-92

turn leads to a decrease in the central control, to changes in relations between the nervous centers and periphery, and to disturbances in regulation of all systems of the organism. These disturbances in functional systems result in faster wearing out of the organism, i.e., aging.

2/2

Public Health, Hygiene and Sanitation

UDC 612.8+612.766.1

USSR

CHUKMASOVA, G. T., DENYSENKO, N. M., and LEKHAN, V. M., Dnepropetrovsk Medical Institute, Dnepropetrovsk

"Heavy and Tense Work of Some Professional Workers at Automated Plants"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 554-559

Abstract: Work of operators controlling the performance of automatic instruments and of workers doing physical work at the same production lines is compared. Eight professions involving 124 individuals were analysed. Physiological studies were carried out 4-5 times per shift, and ergonomic studies, during the entire shift. Despite a difference in assignment of two groups of operators at two different plants their work required constant attention accompanied by emotional tension without interruptions in the workload per shift. At the end of the shift they responded less accurately to their assignment and paid less attention. The pulse rate in both groups was accelerated almost identically despite the fact that one group carried out its assignment while seated. Work of both groups was classified as tense. Workers doing only physical work (different professions) requiring the use of different muscles lost their work productivity level at the end of the shift, their pulse rate averaged 97-106 beats/min. Both groups, operators and workers doing physical work,

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USSR

CHUKMASOVA, G. T., et al., Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72,
pp 554-559

were tired and lost some of their productivity. But these conditions had different causes: in the first case by constant attention while watching performance of different instruments, and in the second case, simple physical exhaustion. The authors see a need for a healthy organization of the work and rest hours to eliminate disturbances in the work procedures.

2/2

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USSR

UDC 612.744

KRASNOVA, A. F., LENKOVA, R. I., LESHKEVICH, L. G., MAKSIMOVA, L. V.,
CHAGOVETS, N. R., and YAKOVLEV, N. N., Sector of Biochemistry, Leningrad
Institute of Physical Training, Leningrad

"Characteristics of Energy Metabolism in Muscular Activity in Relation to
the Degree of Adaptation of the Organism to This Activity"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1,
Jan 72, pp 114-121

Abstract: A study conducted on more than 250 athletes of various degree of
experience and training indicated that with increasing adaptation of the or-
ganism to intensive muscular activity there was an increase in the level of
sugar and lactate in the blood at which reinforced mobilization and utiliza-
tion of fatty acids in connection with muscular effort could take place. As
a result a more effective supply of the working muscles with energy sources
was ensured and the ATP balance was disturbed to a lesser extent. This
constituted a factor that increased the working capacity.

1/1

Acc. Nr: **AP0054285**

Ref. Code: **UR 0463**

PRIMARY SOURCE: *Molekulyarnaya Biologiya*, 1970, Vol 4, Nr 2 .
pp 224-231

**ON DIFFERENCES BETWEEN THE CONDENSED AND DIFFUSE CHROMATIN
OF NORMAL AND MALIGNANT CELLS**

A. BERMAN, N. P. LEBKOVA, V. A. ARTAMONOVA, and I. B. TZARSKIY

Advanced Training Institute for Physicians, and Institute of Epidemiology and
Microbiology, Academy of Medical Sciences, USSR, Moscow

Diffuse chromatin of both normal and malignant mouse tissues contains much more polyanions (RNA, non-histone proteins) than the condensed chromatin. For liver it was shown that ³⁵S-methionine was incorporated 20--30 per cent faster into histones and 40--50 per cent faster into non-histone proteins of the diffuse chromatin as compared with the same fractions of the condensed chromatin. Similar results were obtained in the case of hepatoma chromatin fractions. Experiments involving DNA--RNA hybridization revealed that in the liver the DNA of the diffuse chromatin was more active in mRNA synthesis than that of the condensed one. In liver the condensed chromatin contains a part of DNA cistrons that are derepressed in hepatoma.

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REEL/FRAME
19831423

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USSR

WDC 629.78.018.1

LEBSAK, V. A.

"Calculation of Unsteady Processes in Arc Heating With a Stabilized Axial Flow of Gas"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta (Scientific Writings of the Central Aerohydrodynamics Institute), Vol 3, No 2, 1972, pp 154-157 (from Referativnyi Zhurnal--Raketostroyeniye, No 8, 1972, Abstract No 8.41.98)

Abstract: A system of nonlinear ordinary differential equations have been produced for calculating unsteady processes in axial-flow gas arc heating at atmospheric pressure and a current of up to 1000 amp. Calculations are presented and a comparison with the experiment is given. Author's view, 3 figures, 6 bibliographical references.

1/1

USSR

LECHENKO, Ye. N., and UNANOV, S. S., Moscow Scientific Research Institute of
Virus Preparations

"A Study of the Properties of A2 Influenza Virus Strains Isolated During the
1969 Influenza Epidemic"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 493

Translation: The antigenic and biological properties of 19 influenza virus strains isolated from patients in Moscow, Rostov-na-Donu, and Voronezh during the 1969 epidemic were investigated. It was established that all of the isolated strains were varieties of Hong Kong A2 influenza. Strains were sensitive to inhibitors and nonpathogenic and nontoxic to adult white mice. Inoculation of newborn white mice with these strains caused death in 50-60% of the experimental animals. The strains exhibited weak enzymatic activity and caused little elution from chick erythrocytes even after 2 hours of interaction. A somewhat greater eluent activity was displayed by mutants resistant to inhibitors. The strains isolated in 1969 were not transformed into markers which indicates that they were genetically different from the A2 influenza strains isolated in 1965-1967.

1/1

USSR

UDC: 558.56:535

LEDENEV, V. I., SUKHORUKOV, A. P., KHACHATRYAN, A. M.

"Concerning the Change in Structure of the Focal Region With a Change in Spatial Self-Focusing of Short Pulses"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 90-94

Abstract: The authors discuss the effect of tripling of the number of focal points during self-focusing of short pulses. The condition is found which must be satisfied by the ratio between pulse duration and initial beam convergence (linear focus) for this effect to appear. Nonlinear focus motion figures are given together with the distribution of intensity in media with instantaneous or lagging nonlinear response. Three illustrations, bibliography of ten titles.

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USSR

UDC 621.375.82

LEDENEV, V. I., SUKHORUKOV, A. P., KHACHATRYAN, A. M.

"On a Change in the Structure of the Focal Region in Three-Dimensional Focusing of Short Pulses"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 2, Moscow, "Sov. radio", 1972, pp 90-94 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D880)

Translation: A tripling of the number of focal points in the self-focusing of short pulses is discussed. The condition for the appearance of the effect imposed on the relationship between the pulse duration and the initial convergence of the beam (linear focus) is obtained. Diagrams of the motion of the nonlinear focus and the intensity distribution in media with instantaneous or inertial nonlinear response are shown. 10 ref. Authors abstract.

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USSR

UDC 621.314.57(038.8)

GUBANOV, V.V., LEDIN, A.A., PROKHOROV, V.V., ROZANOV, YU.M., REBOT, S.P.

"Converter of D-C Voltage Into Stabilized A-C"

USSR Author's Certificate No 248789, Filed 27 May 68, Published 26 Jun 70 (From RZh--Elektronika i yeye prizeneniya, No 10, October 1970, Abstract No 10B340P)

Translation: The invention pertains to a converter of d-c voltage into stabilized a-c, which contains a parallel thyristor inverter, a block for preliminary magnetization, and a ferroresonance transformer--regulator, the magnetic circuit of which has a nonlinear section. The secondary winding is placed on this section, and connected in series with the choke of a higher harmonic filter and with the linear part. The primary and compensation windings simultaneously include the linear and nonlinear sections of the magnetic circuit. With the object of reducing the weight of the converter, it is proposed to make the linear section of the magnetic circuit in the form of two identical cores with a gap, the over-all cross section of which is equal to the designed cross section of the linear part, and the choke of a filter with two identical windings is connected in counter series. Each of the windings is placed at one of the cores of the linear section of the magnetic circuit. With the object of increasing the reliability of operation and reducing the transition time, it is proposed to place on the nonlinear section a winding of the magnetic block of the block for preliminary magnetization. 2 ill. 1.R.

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AA0051797

UKR 0482

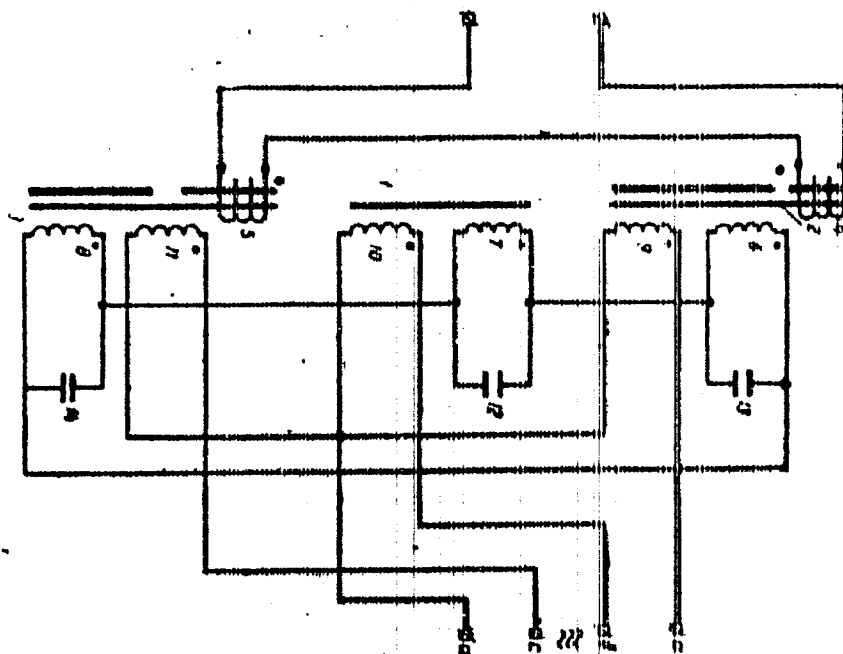
Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

242266 STABILISED STATIC CONVERTER to convert single-phase voltage into three-phase, of smaller dimensions and simpler design than most converters and in which the supply windings 4 and 5 are switched in opposite series with each other and connected to a single-phase circuit; the third compensation winding 7 and the third operating winding 10 are mounted on the ferrite core 1 of the phase-shifting unit. 10.5.67, as 1155026/26-7. V.V.GUBANOV et al. (9.9.69.) Bul.15/25.4.69. Class 21d². Int.Cl. H02n, H02l.

$\frac{1}{2}$ AUTHORS: Gubanov, V. V.; Ledin, A. A.;
Mozzhukhin, A. D.

19820173

AA0051797



2/2

19820174

USSR

UDC 681.327.8:621.395

LEDNEV, A. V.

"Study of Error Flow in Communication Channels"

Tr. Mosk. in-ta inzh. zh.-d transp. (Works of the Moscow Institute of Railroad Transportation Engineers), 1970, Issue 365, pp 68-83 (from RZh--Elektrosvyaz', No 4, April 1971, Abstract No 4.64.302)

Translation: Programs are described for processing of error flows, with the object of obtaining the statistical characteristics indicating group errors during data transmission. The results of processing actual error flows are presented and the effectiveness of their decorrelation is evaluated. 9 ill. 5 ref. Summary.

1/1

Television

USSR

UDC 621.397.613(088.8)

LEDNEV, I. A., TARASOV, V. M.

"A Television Unit for Transforming Scannograms"

USSR Author's Certificate No 234606, filed 3 November 1967,
published 2 June (from RZh-Radiotekhnika, No 4, 1970, Abstract
No 4G294P)

Translation: A representation of the distribution of radio-
active isotopes introduced into the human body is called a
scannogram. The proposed unit contains a color forming assembly
for transforming various levels of radioactivity into various
colors. The assembly has seven sequential circuits of threshold
levels along with a logic circuit for transforming these levels
into a combination of colors which is observed on the screen of
a color kinescope. In order to increase resolution capacity,
the unit is also equipped with a stage for limiting amplitude
from top and bottom with smooth control of the limiting levels.
Author's abstract

1/1

USSR

UDC: 621.397

LEDNEV, I. A., TARASOV, V. M., PROYMIN, G. S., Institute of Medical Radiology, Academy of Medical Sciences of the USSR

"A Television Device for Conversion of Scannograms"

USSR Author's Certificate No 229728, filed 18 Jul 67, published 9 Jan 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 320213 ?)

Translation: A distinguishing feature of the proposed device is that the dose of radioactive substance introduced is cut down by using a two-beam CRT for scannogram illumination. One beam is defocused and illuminates the region in the form of a circle, while the other focused beam is concentric with the first and illuminates a point at the center of the circle. One illustration. A. M.

1/1

AA0047080-

Lednev, I. A.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243088 TELEVISION SET-UP to convert a scan diagram obtained in isotope diagnostics of neoplasms includes a two-beam electron tube 1 for the illumination of the diagram on film 2 and photo-multiplier 4. HF filter 7 passes a pulse

signal through an amplifier and shaper to colour tube 13 whereas LF filter 6 passes a continuous component through a background cutoff unit with three threshold elements 9, 10, 11 with an adjustable background level to switch on and off the red, green and blue rays of 13. 22.12.67. as 1205670/31-16. I. A. LEDNEV et alia. Medical Radiology Inst. Acad. Medical Sciences USSR. (16.9.69.) Bul. 16/5.5.69. Class 21g. Int. Cl. H01j.

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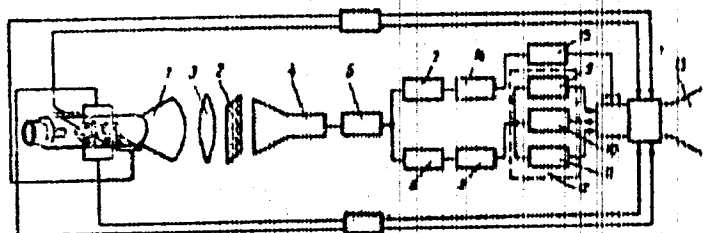
4

19790552

AA0047080

AUTHORS: Lednev, I. A., Tarasov, V. M., Proymir, G. S.

Institut Meditsinskoy Radiologii Akademii Meditsinskikh Nauk SSSR



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19790553

A10044623

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243251 ION SOURCE WITH SURFACE IONIZATION, required
in mass-spectrometric analysis, is proposed.

Existing designs with divided functions of evaporation and ionization have a low utility factor of the sample, owing to a small ionization factor and losses in sputtering of the sample atoms on the ionizer surface. The proposed ionizer (see diagram) 1 is a thin-walled tube of rhenium, tungsten or tantalum, closed at one end and heated by a DC current along it; the current direction is such that the field assists the ions towards the open end. The evaporator 2 is a hollow cylinder connected by tube 3 to a point near the base of 1.

AUTHORS: Gall', R. N.; Gall', L. N.; Lednev, V. A.Spetsial'noye Konstruktorskoye Byuro Analiticheskogo
Priborostroyeniya AN SSSR

1/3

19771303

AA0044623

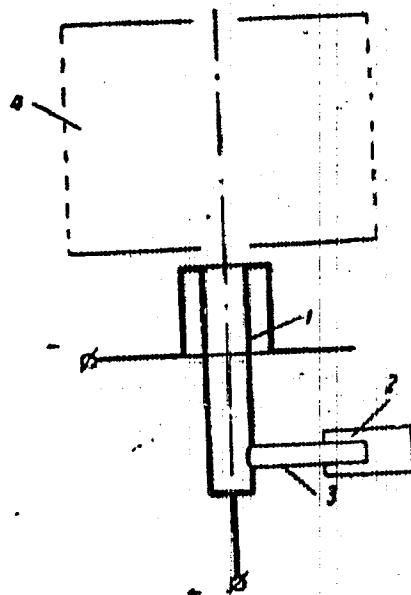
On heating 2, with the substance for analysis, the vapour passes via 3 to the inner wall of 1, where a part of the atoms is ionized and drawn out by the field towards the ion beam shaper 4. Atoms not ionized by the first collision suffer repeated collisions, increasing the probability of their egress. The initial sputtering factor of the atoms is near 100%; losses are only those due to thermodynamic escape from the tube. The combined result of these advantages is a greater utility factor of the sample.

19.3.65 as 947878/26-25.R.N.GALL'et al.SPECIAL
ANALYTICAL INSTRUMENT DES.BUR.ACAD.SCIENCES USSR.
(16.9.69) Bul 16/5.5.69. Class 421. Int.Cl.G 01n.

213

19771304

AA0044623



3/3

19771305

Q

LEDNEVA, F. I.

SPRS 58205

6.73

5

Article by B. G. Abramov, B. G. Zolotarev, U. M. Kollin, F. I. Ledneva, P. Ya. Krasovskiy, I. M. Krasovskiy, etc. Journal of Crystal Growth, 1978, 43, 1-10. Polymers and Materials Science, 1978, 1, 1-10.

A study was made of the structural perfection, mechanical stresses, the component distribution and the optical and luminescent properties of the $\text{In}_x\text{Ga}_{1-x}$ epitaxial layers. The method of epitaxy was used to obtain $\text{In}_x\text{Ga}_{1-x}$ layers in the $0 < x < 1$ region on the Ga (111) side of GaAs and in the $1 < x < 0.8$ region on the In (111) side of InAs .

The growth rate was calculated as a function of the growth conditions. The results obtained are compared with the experimental results. The growth rate as a function of the cooling rate is also calculated. This leads to the dependence of the component distribution in the direction perpendicular to the growth plane on the growth conditions.

The structural perfection and mechanical stresses in the films were caused principally by the difference both of the linear expansion coefficients and the lattice parameters. The dislocation density on the surface and the morphology of the films depend on the growth conditions. The optical and luminescent studies show that the dependence of the width of the forbidden zone in $\text{Ga}_{1-x}\text{In}_x$ on composition can be described by a linear expression.

UDC 536.532.08(088.8)

USSR

LEDNOV, P. S.

"Natural Thermocouple Calibration"

USSR Author's Certificate No 249682, filed 24 Mar 66, published 4 Jan 70
(from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract
No 8.32.604 P)

Translation: A method is proposed for the calibration of natural thermocouple consisting of a treated article and cutting instrument, by means of recording of the generated thermoelectromotive force. In order to raise the accuracy of calibration, the thermoelectromotive force is measured in the cutting zone at different recorded temperatures of the cutting tool which is heated, for example, by an electrical spiral. The calibration graph is constructed according to the measured values, whereby, the cutting process is conducted at low speeds.

V. S. K.

1/1

UDC: 661.332.65

USSR

SELIVERSTOV, A. I., BELOV, L. I., ~~LEDVSKIY, V. N.~~, PYSIN, V. D., AFANAS'YEV, V. I.

"A Random Pulse Sequence Generator"

USSR Author's Certificate No 284022, filed 23 Dec 68, published 23 Dec 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct
71, Abstract No 10B217 P)

Translation: The device is designed for generating random electrical signals which have predetermined statistical characteristics and shaping pulses which are random with respect to times of appearance, duration, and amplitude. The generator can be used in mathematical modeling of various natural phenomena, technical devices, etc. Well-known random pulse sequence generators contain a source of noise which sends signals to a mixer through two channels, one of which contains two series-connected, transistorized blocking generators, while the other contains a transistorized blocking generator, a peak detector, and a smoothing filter. However, such generators are constructed on the principle of multiple amplification and limitation of the noise voltage from above and below, which causes appreciable complica-

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USSR

SHELIVERSTOV, A. I., Soviet Patent No 284022

tion of the device; besides this, a change in the pulse repetition frequency in such devices inevitably leads to a change in the duration of these pulses, which is undesirable in a number of instances. The proposed device is distinguished as follows: A delay element is connected through a two-pole switch between the transistors of the blocking generators in the first channel. A controlling transistor is connected in the emitter circuit of the transistorized blocking generator in the first channel, whose output is connected to the mixer. A control signal from the smoothing filter in the second channel is sent to the base of the transistor, resulting in independent regulation of the number of pulses per unit of time and their pulse length. One illustration.

USSR

UDC 621.52: 331.788.7

LEDOVSKOY, V.P., POTSAR, A.A.

"Widening Of The Measurement Range Of A Relaxation Electric-Discharge Gage"

Izv. Leningr. elektrotekhn. in-ta (Bulletin Of The Leningrad Electrical Engineering Institute), Vyp 83, pp 120-123 (from RZh-Elektronika i yeye primeneniye, No 6, June 1970, Abstract No 6A-57)

Translation: A comparative analysis of various methods to decrease the delay time of triggering shows that during development of a highly-stable electric-discharge gage the greatest effect is attained by exposure of the discharge cathode. The optimum method is the creation in the immediate vicinity of the basic discharge space of an auxiliary discharge, contributing to the increase of concentration of the charged particles in volume and an increase of the initial photocurrent from the anode cathode. The effect of increasing the upper limit of the measurable pressure with preservation of the lower boundary is accomplished by the creation of a nonuniform field in the interval. In a gage with an anode-cathode spacing equal to 4 mm, the upper boundary of the operating band (100 mm of mercury) corresponds to a voltage of the source of 2000 v. In order to assure the same upper boundary of measurements in a gage of plane-parallel construction, the voltage of the power supply must amount to 3000 v. Introduction of an auxiliary discharge makes it possible to decrease the mean square error of the period of the oscillations at the output of the gage to 0.1-0.4 percent in all the operating band. With the removal of the statistical delay of 1/2

USSR

LEBOUSKY, V.P. et al. Izv. Leningr. elektrotekh. in-ta, 744 35, pp 110-115

triggering, the upper boundary pressure of the pulse is determined by the voltage of the power supply and the configuration of the electrodes. Use of a nonuniform field makes it possible to expand the range of measurements with conservation of the magnitude of the voltage of the power supply. 4 ref. A. P.

2/2

- 34 -

USSR

UDC: 681.326.35

RZHAVSKIY, V. A., MOVCHAN, A. P., LEDVIN, Ye. K.

"A Pneumatic Pulsar"

USSR Author's Certificate No 251916, filed 29 May 68, published 12 Feb 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11,
Nov 70, Abstract No 11A69 P)

Translation: This Author's Certificate introduces a pneumatic pulsar. The device contains two three-diaphragm relays, the first of them connected in an OR circuit, while the second is connected in an AND circuit. The device also contains a follower with displacement, a choke-capacitance link, a comparison element, and a valve. The units of the device are interconnected in a special way which improves the characteristics of the device in comparison with conventional pulsers. When an input command signal is received, the device produces a pulse of a definite length at the output. One illustration. N. S.

1/1

USSR

UDC 621.316.1.017.2.001.24:681.3

LEDYANKIN, L. P., AGEYEV, A. I., PRAKHIN, B. YA., RYZHOV, O. I.

"Calculating Electric Power Losses in High-Voltage Municipal Networks on the Ural-2 Computer"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 20-23 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 285)

Translation: A method and algorithm for a program to calculate the electric power losses in the open high-voltage municipal networks on the Ural-2 digital computer are described. The electric power losses are determined by the load charts taken for groups of consumers with the same type of load. Calculations were performed by means of this program for the Ivanovo Underground Municipal Network. The calculations make it possible to offer recommendations for reduction of electric power losses. There is 1 illustration and a 2-entry bibliography.

1/1

USSR

UDC 612.46-06:612.176

GLEZER, G. A., LUBUZH, K. D., and LEDYASHOVA, G. A., Institute of Cardiology
imeni A. L. Myasnikov, Academy of Medical Sciences USSR, and All-Union Scien-
tific Research Institute of Physical Culture

"Study of the Main Hemodynamic Indexes and Kidney Function in Healthy Persons
After Physical Exercise"

Moscow, Kardiologiya, No 5, 1971, pp 114-120

Abstract: The volume of circulating blood, heart rate, renal circulation,
and so forth were studied in two groups of healthy males - 18 to 39 and 40 to
60 years of age - after exercise of different degrees of strenuousness (150,
400, 750 kgm/min) on a bicycle ergometer for 30 minutes. Exercise slightly
decreased the amount of circulating blood at the expense of plasma, resulting
in an elevated hematocrit. It increased the systolic pressure but had virtually
no effect on the diastolic. The heart rate and cardiac index increased in
direct proportion to the strenuousness of the exercise. Heavy exercise in-
creased the cardiac output more in those over 40. General peripheral resist-
ance decreased more rapidly after slight exertion and it continued to decrease
after greater exertion but at a slower rate. Heavy exercise slowed the renal

1/2

- 75 -

USSR

GLEZER, G. A., et al. Kardiologiya, No 5, 1971, pp 114-120

blood flow, especially in those over 40. Glomerular filtration tended to decrease only after heavy exercise. Minute diuresis decreased with increasing exertion chiefly because of increased tubular reabsorption.

2/2

USSR

UDC 543.73

MIZETSKAYA, I. B., KATAT, L. M., and LEDYAYEVA, N. I.

"Determining Ultramicroscopic Silver Impurities in Semiconductor Materials of the AII B^{VI} Type by the Kinetic and Polarographic Methods"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 6, 1971, pp 58-64

Abstract: A highly sensitive method for determining ultramicroscopic quantities of silver in small suspensions of material in CdS type compounds through the use of kinetic and polarographic methods is developed. Such determinations are important since silver has a definite effect on the physical characteristics of AII B^{VI} semiconductors. The analysis is conducted on CdS monocrystals, weighing 0.5-1.0 g, dissolved in concentrated nitric acid, first at room temperature and then with heating. The reaction sensitivity for the kinetic method is $1 \cdot 10^{-2}$ μg of Ag in 25 ml of the solution. For the polarographic method, the sensitivity is of the order of 10^{-5} to 10^{-6} , levels made possible through the use of solid electrodes of graphite made of graphite paste mixed with alpha-bromonaphthalene. Determination data are given in tabular

1/2

USSR

MIZETSKAYA, I. B., et al., Poluprovodnikovaya tekhnika i mikroelektronika,
No 6, 1971, pp 58-64

form. The average relative error in these determinations amounts to 15-20%.
The authors are with the Semiconductor Institute, Ukrainian Academy of
Sciences.

2/2

- 83 -

USSR

REV. I. Ya., POZHAROV, L. S., Metallurgiya, Vol. 10, No. 10, 1970, pp. 11-112
L. S., Onopropetrovsk Metallurgical Institute.

"Influence of Oxygen and Alloying Elements on Structure, Thermal Conductivity,
and Heat Resistance of Stamping Steels"

Novokuznetsk, Izv. VUZ, Chern. Metallurgiya, No 10, 1970, pp 11-112

Abstract: Specimens were cut from anode and forged billets of 10 types of stamping steels, and were subjected to electrolysis in 0.3 n HCl at 10-15° C with a current density of 0.02 a/cm². In the anodized steels, the structure of the steels consisted of sorbite-like pct lita plus excess carbides. The least carbide heterogeneity was in the specimens, containing moderate quantities of chromium, tungsten, and carbon (excess carbides increased with increasing quantity of these elements). The carbide phase consisted primarily of Fe₃C, Fe₂3C₆ and MgC compounds, the ratio between them depending on the composition and heat treatment. The greatest resistance to overloading was shown by the steels with predominate MgC carbides, as well as compositions with 1-1.5% Cr. Most of the steels studied showed a clearly expressed secondary hardening effect, the intensity and temperature intervals of which increase with an

1/2

USSR

LEV, I. Ye., et al, Izv. VUZ, Chern. Metallurgiya, No 10, 1970, pp 51-53
increasing content of chromium and tungsten. The alloying elements which did
not noticeably influence the initial stages of decomposition of martensite
during tempering at 455-675° K, increased heat resistance of the steels with
higher heating.

2/2

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USSR

UDC: 620.198

SHAPOVALOV, V. P., GORBUNOV, N. S., BRYNZA, A. P., FEDASH, V. P.,
LEGASHOVA, T. P.

"Corrosion Resistance and Electrochemical Behavior of Titanium Coatings"

Moscow, Zashchita Metallov, Vol 9, No 3, Jul-Aug 73, pp 465-467.

Abstract: The corrosion and electrochemical behavior of diffusion titanium coatings was studied in acid, alkaline and organic media. The corrosion tests and studies of electrochemical behavior of titanium coatings produced from the vapor phase in a vacuum showed that diffusion titanium coatings can protect iron-carbon alloys from the effects of certain corrosive media. The resistance of type 3 steel, titanium coated, with exposures of up to 450 hours, is significantly higher than that of carbon steel and stainless steels, and in many cases is equal to the resistance of titanium alloys.

1/1

Ion Exchange

USSR

UDC 641.183.12

LEGENCHENKO, I. A., and STRIZHENYUK, S. L.

"Equilibrium Adsorption of Lanthanum and Erbium by the Sodium Form of the KB-4-2P Ion Exchange Resin"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 4, 1972, pp 1027-1028

Abstract: The equilibrium involving the exchange of the rare earth elements (REE) La^{+3} and Er^{+3} in solution for Na^{+} bound to the ion exchange resin (IER) was studied at 25, 35, and 45°C. Experiments carried out in dilute NaCl solutions indicated that the Na^{+} changed the adsorption of La^{+3} by less than 10%. The temperature was not a significant variable for the range studied but the pH had a strong influence on the adsorption on the adsorption due to the reaction



On theoretical grounds, starting from the equilibrium constant, the following equation derived for the La^{+3} adsorption:

1/2

USSR

LEGENCHENKO, I. A., and STRIZHENYUK, S. L., Zhurnal Fizicheskoy Khimii,
Vol 46, Vyp 4, 1972, pp 1027-1028

$$\bar{c}_2 = f \left[(V/g)^{1/3} (\bar{c}_2/c_2)^{1/6} \right]$$

where $\bar{c}_2$ and c_2 are the concentrations of La on IER and the solution respectively, V is the volume of solution, and g is the weight of the IER. Calculated values were in good agreement with the experimental.

2/2

- 12 -

USSR

UDC 541.127.4

KHROMOVA, N. P., ~~LEGENCHENKO, I. A.~~, and RAKHUBENKO, Institute of General and Inorganic Chemistry, Ukrainian Academy of Sciences (Laboratories in Odessa)

"Exchange Equilibrium Between Anions of the Ethylene Diamine Tetraacetate Complexes of the Rare Earth Elements, and Chlorine Anions in a Solution - Anionite AV-21 and AN-261 System"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVII, No 8, 1971, pp 838-839

Abstract: Sorption equilibrium of EDT complexes of La, Nd, Gd, and Er on the Soviet-developed AV-21 and AN-261 in chloride form was studied, by the method developed earlier by the authors.

Weights of the ionite were varied from 0.25 to 5.0 g, solution concentration from $4 \cdot 10^{-3}$ to $16 \cdot 10^{-3}$ mol.

Both ionites showed nonequivalent exchange, which was more pronounced than for AV-17. The low-base AN-261 ionite was strongly hydrolyzed during the tests; attempts to raise the pH to 4 led to a sharp drop in sorption capacity, and dislocation of equivalence exceeded the equivalent sorption of the rare-earth complexes. For both ion-exchangers, the degree of non-equivalence varied, depending on solution pH. In neither case did variation in sorption equilibrium obey the mass-action law. Empirical formula and graphs are included in the paper. 1/1

- 15 -

Acc. Nr.: AP0041169Ref. Code: 180121

USSR

UDC 621.941.272

LEGENKIN, YU. A.

"A System for Controlling the Process of Lathe Machining on an Automatic Line for the Production of Spindles"

Moscow, Stanki i Instrument, No 1, 1970, pp 1-2

Abstract: The article deals with an automatic control system, operating on the feedback principle, developed by the Moscow Machine Tool Institute for reducing from two to one the number of passes required by the MRL-13 automatic line of the plant imeni S. Ordzhonikidze, consisting of six machines, to produce stepped spindles from stamped or forged blanks. The design and operation of the two-circuit system are described. The control system is an autonomous unit and requires no substantial changes in the composition of the machine tool with which it is used, and thus can be used in new machine tools as well as in the modernization of existing ones.

18

Reel/Frame

137/11958

USSR

UDC: 539.4

DUDUKALENKO, V. V., IVANISHCHEVA, O. I., and LEGENYA, B. I.

"Effect of the Structure of Composition Material on its Elastic Characteristics"

Moscow, Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, No 2, 1973, pp 153-159

Abstract: The composition material considered in this paper is a microscopically heterogeneous elastic body with a given elastic modulus tensor. The bulk and shear moduli figuring in this tensor expression are assumed uniform and isotropic ergodic functions of the space coordinates, and the stress-deformation state of the material is described by Hooke's law, which connects the stress and deformation factors through the equations of equilibrium and the Cauchy relationships. The problem of this theoretical paper is to determine the limits of the elastic macroscopic characteristics of the material. To determine the limits of the shear modulus, the authors consider the uniform state of a pure shear of the material in which the phase regions are right circular continuous cylinders with parallel generatrices and arbitrary transverse cross sections. Here, it is assumed that the material is macroscopically uniform
1/2

USSR

UDC: 539.4

DUDUKALENKO, V. V., et al, Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, No 2, 1973, pp 153-159

and transversally isotropic. The authors conclude that the assertion that not only the concentration and moduli of the components of the material but its internal geometry as well are valuable in determining its shear modulus, is confirmed.

2/2

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USSR

UDC 532.5

LEGEYDA, V. I. and TARANOV, I. Ye.

"Flow About a Profile in a Magnetic Field, Perpendicular to the Flow Plane"

Moscow, Prikladnaya Matematika i Mekhanika, No 2, 1972, pp 232-238

Abstract: A problem dealing with flow about an arbitrary profile in a stream of nonviscous conductive fluid in a magnetic field, perpendicular to the flow plane, is reduced to a system of integral equations. The solution of this system coincides, to the exactness of the designations, with the solution of the problem on the convection of heat from small cylinders in a stream of fluids, obtained by King in 1914 with a potential stream, by the method of sources and studied in the case of small numbers R_m ($\ll 2R$). In the case of circulationless flow an exact solution is obtained, which is illustrated by the example of flow about a round cylinder. Consideration is given to an asymptotic solution of the problem at large magnetic Reynolds numbers, 3 figures, 10 references.

1/1

USSR

UDC 542.951.4

PETROV, K. A., LEGIN, G. Ya., and TSAREVA, A. Kh.

"Synthesis of Arylphosphonous Acid Monoesters"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 46, No 1, Jan 73, pp 152-155

Abstract: Synthesis of phenylphosphonous acid monoesters was carried out by reacting alcohols or their salts with phenylchlorophosphine and transesterification of the lower monoesters of phenylphosphonous acid. The reaction of alcohols with complexes of aryldichlorophosphines and aluminum chloride also yields the title compounds. The reaction was carried out at -10 to -15°; the products were obtained in 83-100% yields. The structures of all products were checked out by IR spectroscopical analysis.

1/1

USSR

UDC 547.26 113

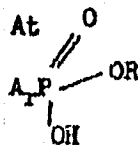
PETROV, K. A. and LEGIN, G. YA.

"Preparation of the Monoesters of Arylphosphonic Acids"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 46, Vyp 2, 1973, pp 408-410

Abstract: The title compounds were prepared by oxidizing the monoesters of arylphosphonous acids with chlorine:

Four other compounds of the general type



were prepared. The

influence of the duration of reaction on the yield of the desired monoether was determined. Preparation, physical constants, and structure conformation are given for the investigated compounds.

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= 46 =

USSR

UDC 547.26'118.07

PETROV, K. A., LEGIN, G. YA., and TSAREVA, A. KH.

"A Method of Synthesizing Monoalkyl Ethers of Arylphosphonous Acid"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotki, Tovarnyye Znaki, No 14, 1970, Author's Certificate no 268423, filed 4 Jan 69, p 24

Abstract: This Author's Certificate introduces: 1. A method of synthesizing monoalkyl ethers of arylphosphonous acid by interacting arylchlorophosphine with hydroxyl-containing compounds with subsequent isolation of the goal product by conventional methods. As a distinguishing feature of the patent, the process is simplified and a more extensive raw material base is provided by using an equimolar mixture of higher and lower alcohols or a water-alcohol mixture as the hydroxyl-containing compounds. 2. The method described in (1) is distinguished by the fact that the process is carried out in an organic solvent such as benzene.

1/1

Measuring, Testing, Calibrating

USSR

UDC: 550.834

BIBER, L. A., ZHDANOVA, Yu. Ye., LEGKIY, G. K., All-Union Scientific Research Institute of Electric Power Engineering

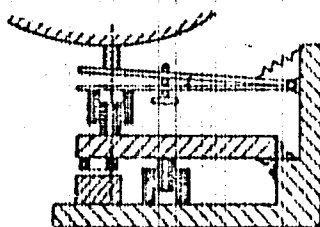
"A Seismic Vibration Pickup"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratny, Sovetskoye Zheni, No 7, Mar 72, Author's Certificate No 329405, Division 8, filed 30 Jul 70, published 9 Feb 72, p 160

Translation: This Author's Certificate introduces a seismic vibration pickup which contains measurement and balancing transducers. As a distinguishing feature of the patent, the device is designed for measuring the absolute vibration of a rotating shaft. It is equipped with an additional measurement transducer with secondary winding securely connected to a pendulum at its point of rest, and primary winding fastened on a lever which is one of two making up a system in which the other lever carries a contact brush located on one axis with the transducer windings. A pressure spring is also fastened to this other lever. The levers of the system are interconnected by a common axis of rotation, a micrometer screw and a helical spring.

USSR

BIBER, L. A. et al., USSR Author's Certificate No 329405



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USSR

UDC 621.311.1.012.5.001.24:681.3

KRYLOV, V. A., LEGKIY, V. A., ROMANENKO, N. P., STEPANCHIKOVA, S. A.

"All-Purpose Automated Program for Digital Computer Calculations of the Short-Circuit Current by the Iteration Method of Nodal Voltages"

V sb. Probl. tekhn. elektrodinamiki (Problems of Technical Electrodynamics -- collection of works), vyp. 25, Kiev, Naukova Dumka Press, 1970, pp 40-44 (from RZh-Eletrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye255)

Translation: An algorithm and programs for calculating all types of short-circuits on the Ural-2 digital computer with automatic alternation of versions are described. The short circuit currents are calculated at each given point by the iteration method of nodal voltages. The results of the studies of convergence of the iteration process are presented. The bibliography has 5 entries. [Institute of Electrodynamics of the Ukrainian SSR Academy of Sciences]

1/1

USSR

UDC:629.78.015:536.24

LEGKIY, V. M., MAKAROV, A. S., KOVAL', Yu. D.

"Experimental Study of Local Heat Transfer of a Plate in the Area of Transition from Laminar Boundary Layer to Turbulent"

Teplofiz. i Teplotekhnika. Resp. Mezhd. Sb. [Heat Physics and Heat Engineering. Republic Interdepartmental Collection], 1973, No 23, pp 106-109 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 11, 1973, Abstract No 11.41.88 by T. A. Ye.)

Translation: The heat exchange of a longitudinally washed smooth plate is studied with mixed motion in the boundary layer. It is indicated that the recommendations for calculation of heat exchange in a boundary layer need experimental confirmation. In order to accumulate experimental data and refine the method of calculation of the transition zone, the local heat transfer of a plate with mixed motion in the boundary layer is studied. The experiments are set in a closed wind tunnel with a square working cross section of $0.28 \times 0.28 \text{ m}^2$. The experimental technique and results are described.

1/1

USSR

UDC 656.7.073.2:621.86

KOZLOV, Ye. I., LECKOSTUP, S. S., and KUMASEEV, M. N.

Mekhanizatsiya Zagruzki Samoletov Khimikatami (Mechanization of the Chemical Loading of Aircraft), "Transport" Press, 1970, 103 pp.

Translation:

Annotation of the book: The book generalizes the experience gained in kolkhozes, sovkhoses and agricultural aviation units from the use and operation of various types of equipment for mechanizing the preparation and loading of planes and helicopters with chemical fertilizers, toxic chemical dusts, solutions and emulsions. A description is given of new machinery and attachments, as well as the most interesting machines made by efficiency experts. Material is presented on calculating the principal parameters of the operating devices of loaders, and there is a listing of operating and safety rules for the use of chemical loaders.

The book is designed for engineering and flight personnel of agricultural aviation units, as well as for kolkhoz and sovkhos specialists and mechanizers. Forty-seven illustrations. Twelve tables. Bibliography with eight titles.

1/4

USSR

KOZLOV, Ye. I., et al., Mekhanizatsiya Zagruzki Samoletov Khimikatami,
"Transport" Press, 1970, 103 pp.

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USSR

KOZLOV, Ye. I., et al., Mekhanizatsiya Zagruzki Samoletov Khimikatami,
 "Transport" Press, 1970, 103 pp

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USSR

KOZLOV, Ye. I., et al., M khanizatsiya Zagruzki Samoletov Khimikatami,
"Transport" Press, 1970, 103 pp

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4/4

1/2 012 UNCLASSIFIED PROCESSING DATE--18 SEP 70
TITLE--LIQUID AND LIQUID EQUILIBRIUM IN WATER, CYCLOHEXANE AND C SUB1
THROUGH C SUB5 MONOCARBOXYLIC ACID SYSTEMS -U-
AUTHOR-(04)-GORODETSKIY, I.YA., LEVITANAITE, R., LEGOCHKINA, L.A.,
ZARECHNOVA, A.V.
COUNTRY OF INFO--USSR
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DATE PUBLISHED-----70

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TOPIC TAGS--FLUID EQUILIBRIUM, CYCLOHEXANE, WATER, CARBOXYLIC ACID,
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UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13SEP70

CIRC ACCESSION NO--AP0100022

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISTRIBUTION OF FORMIC (I), ACETIC (II), PROPIONIC (III), BUTYRIC, AND VALERIC ACIDS BETWEEN WATER AND CYCLOHEXANE (IV) WAS DETD. AT 65DEGREES BY USING ISOTHERMAL TITRN. THE RESULTS ARE TABULATED AND PLOTTED AS TERNARY EQUIL. DIAGRAMS. INCREASING THE NO. OF C ATOMS IN THE ACID REDUCED ITS SOLY. IN THE AQ. LAYER AND INCREASES ITS SOLY IN THE IV LAYER. WATER CAN BE USED TO EXT. I, II, AND III FROM THE PRODUCTS OF THE OXON. OF IV.

UNCLASSIFIED

USSR

UDC 681.3.06:51

KHISAMUTIDNOV, V. R., LEGON'KOV, V. I., AVARMENKO, V. S., TARASOV, V. I.

"The "ASIOR" Automated Development Information Support System"

Avtomatizirovannaya Sistema Informatsionnogo Obespecheniya Razrabatok "ASIOR", [English Version Above], Moscow, 1970, 93 pages, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V632 K, unsigned).

Translation: A description is presented of the "ASIOR" automatic engineering information support system, based on the BESM-6 and BESM-4 (M-220) computers. Trends are studied in the development of automated information systems, and the reason for the selection of the "Kristall" information language for automation of information processes is presented. A description is presented of the technological plan for processing of semantic information, types of input and output information, algorithms and programs for processing of information on the BESM-6 and BESM-4/M-220 computers; instructions are presented for processing of documents and requests, indexing and punching, as well as specimens of documents and requests. Problems of coordination of ASIOR with other information systems, including foreign systems, are studied. Recommendations are presented for standardization of formats and the content of input information in order to allow information exchange on magnetic tape. Experimental operation of ASIOR during 1968 in the modes of selective distribution and retrospective retrieval of information showed the ability of the system to perform a broad range of information tasks. ASIOR has been in productive operation since January of 1969. The prospects for improvement of the system are studied.

1/2 046 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SPACE RENDEZ-VOUS TERMINAL PHASE CONTROL -U-

AUTHOR--(02)-LEGOSTAEV, V.P., SHMYGLEVSKY, Y.P.

COUNTRY OF INFO--USSR

SOURCE--3RD IFAC SYMPOSIUM ON SPACE CONTROL, TOULOUSE, FRANCE, MARCH 1970

DATE PUBLISHED-----70

SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION

TOPIC TAGS--ARTIFICIAL EARTH SATELLITE, RENDEZVOUS SPACECRAFT, MANUAL
CONTROL, AUTOMATIC CONTROL/(U)SOYUZ 5 MANNED SPACECRAFT, (U)SOYUZ 4
MANNED SPACECRAFT, (U)SOYUZ 3 MANNED SPACECRAFT, (U)SOYUZ 2 MANNED
SPACECRAFT, (U)COSMOS 213 SATELLITE, (U)COSMOS 212 SATELLITE, (U)COSMOS
188 SATELLITE, (U)COSMOS 186 SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1920

STEP NO--FR/0000/10/000/000/0000/0000

CIRC ACCESSION NO--AT0138747

UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0138787

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THIS PAPER CONCERNS THE AUTOMATIC AND MANUAL SYSTEM OF THE TYPE USED TO DOCK THE COUPLES "COSMOS 133", "COSMOS 133", "COSMOS 212", "COSMOS 213", "SOYUZ 2", "SOYUZ 3", "SOYUZ 4", "SOYUZ 5". THE AUTOMATIC RENDEZVOUS AND DOCKING PROCEDURE CONSISTS IN FOUR STAGES (FIG. 1): THE FIRST STAGE IS THE LAUNCHING OF BOTH SATELLITES (SIMULTANEOUS OR CONSECUTIVE) INTO THE EARTH'S ORBIT THE CORRECTION OF ONE OF THE SATELLITES' TRAJECTORY TO DEFLECT IT INTO THE APPROPRIATE RANGE FOR MUTUAL AUTOMATIC RADAR CONTACT AND RADIO ENGAGEMENT. THE SECOND STAGE IS AUTOMATIC APPROACH WHEN ONE OF THE SATELLITES TERMED "ACTIVE" APPROACHES ITS PASSIVE COMPANION WITH THE HELP OF A CORRECTING ENGINE. THE CLOSING RANGE BETWEEN THE TWO SPACECRAFT IS ABOUT 300-400 METERS. THE THIRD, TERMINAL STAGE IS THE AUTOMATIC RENDEZVOUS WHEN BOTH SATELLITES MEET AT RELATIVELY LOW VELOCITIES UNTIL THE DOCKING UNITS CONTACT. THE FOURTH PHASE IS DOCKING PROPER WHEREBY THE SPACE VEHICLES ARE LINKED UP MECHANICALLY AND ELECTRICALLY. IN FURTHER DISCUSSION WE WILL BE CONCERNED WITH THE 3RD STAGE ALONE BECAUSE THE FIRST ONE DOES NOT COME INTO THE SCOPE OF THIS PAPER.

UNCLASSIFIED

1/2 053 UNCLASSIFIED PROCESSING DATE--17ND/70
TITLE--CONTROL OF SPACE VEHICLE RENDEZVOUS AT THE STAGE OF DOCKING -U-
AUTHOR--(02)-LEGOSTAYEV, V.P., SHMYGLEVSKY, I.P.
COUNTRY OF INFO--USSR, FRANCE
SOURCE--AUTOMATIC CONTROL IN SPACE, 3RD I F A C SYMPOSIUM, TOULOUSE,
FRANCE, MARCH 2ND-6TH, 1970
DATE PUBLISHED-----70

SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION

TOPIC TAGS--SPACECRAFT RENDEZVOUS, SPACECRAFT CONTROL/(U)COSMOS 213
SATELLITE, (U)COSMOS 212 SATELLITE, (U)COSMOS 186 SATELLITE, (U)COSMOS
186 SATELLITE, (U)SOYUZ 5 MANNED SPACECRAFT, (U)SOYUZ 4 MANNED
SPACECRAFT, (U)SOYUZ 3 MANNED SPACECRAFT, (U)SOYUZ 2 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0044

STEP NO--FR/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AT0129329

UNCLASSIFIED

2/2 053
CIRC ACCESSION NO--AT0129329

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER DESCRIBES A SPACESHIP CONTROL SYSTEM AT THE FINAL STAGE OF RENDEZVOUS USED IN EXPERIMENTS WITH "COSMOS 186-188, 212-213 SATELLITES AND "SOYUZ 2-SOYUZ 3", "SOYUZ 4-SOYUZ 5" VEHICLES. THE SYSTEM INCORPORATES RADIO EQUIPMENT GYRO DEVICES, LOGICAL CONTROL UNITS; LOW THRUST ENGINES, ETC. NEW EQUATIONS HAVE BEEN DERIVED WHICH DESCRIBE THE DISPLACEMENT CENTER OF MASSES IN SPACESHIPS AND THEIR ROTATION ABOUT THE CENTER MASSES. THE MANEUVERING OF VEHICLES IN IMMEDIATE PROXIMITY TO EACH OTHER IS DISCUSSED. THEORETICAL RESULTS ARE COLLATED WITH THE DATA OF INFILIGHT TESTS.

UNCLASSIFIED

USSR

UDC: 51

LEGOSTAYEVA, G. M.

"On the Dimensionality of a Neumann Bound"

V sb. Vopr. ekon.-mat. modelir. (Problems of Modeling in Mathematical Economics--collection of works), Moscow, Moscow University, 1971, pp 205-224 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V905)

Translation: A number of examples are presented which characterize the structural variety of a von Neumann bound in the case where the permissible technological set is a closed polyhedral cone. Introduction.

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USSR

LEGOSTAYEVA, I. L.

"The Problem of Determination of the Trend of a Random Sequence"

Lit. Mat. Sb. [Lithuanian Mathematics Collection], 1972, Vol 12, No 4, pp 113-123 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V244, by the author).

Translation: Suppose $F_m(C)$ is a class of real functions of the form

$f(h) = a_0 + \dots + a_m h^m + g(h)h^{m+1}$, where $\sup |g(h)| \leq C < \infty$, $h = 0, \pm\Delta, \pm2\Delta, \dots$, $\Delta > 0$, $h \in T \subseteq (-\infty, \infty)$.

The problem is studied of estimating the regression factor $a_0 = f(0)$ from values of $\xi(h) = f(h) + \delta(h)$, $\delta(h): M\delta(h) = 0$, $M\delta^2(h) = \sigma^2/\Delta$, $M\delta(h)\delta(h') = 0$, $h \neq h'$. For the class of linear estimates $f(0) = \sum_{h \in T} l(h)\xi(h)/\Delta$ the $l^*(h)$ is called minimax (optimal) if

$$\sup_{f \in F_m(C)} E(l^*, f) = \inf_{l \in L_m(C)} \sup_{f \in F_m(C)} E(l, f).$$

USSR

Legostayeva, I. L., Lit. Mat. Sh., 1972, Vol 12, No 4, pp 113-123.

where $\mathfrak{D}(t, f) = M \|f(0) - \hat{f}(0)\|^2$.

Theorem 1 gives necessary and sufficient conditions for optimality of the weight. For $n = 0$, optimal weight is given in Theorem 2.

USSR

UDC 678.746.2-136.622-9:66.094.532.2

PASHKOV, A. B., SLABKAYA, L. D., LYUSTGARTEN, YE. I., and LEGOTINA, A. B.

"Phosphoric Acid Cation Exchange Resins of Macroporous Structure"

Moscow, Plasticheskiye Massy, No 7, Jul 70, pp 9-11.

Abstract: The authors investigated the process of the phosphorylation of macroporous copolymers of styrene with divinylbenzene of varying porosity. A kinetic study of the phosphorylation of copolymers of gel and macroporous structure showed the advantage of the latter for polymer-analogous transformations. The phosphorus-containing groups were introduced into the copolymer matrix by the Friedel-Crafts reaction by phosphorylation of the copolymer with phosphorus trichloride in the presence of anhydrous $AlCl_3$ in a tetrachloroethane medium with subsequent oxidative hydrolysis of the product with a copolymer: $AlCl_3$: PCl_3 molar ratio of 1:1:3. The optimal phosphorylation conditions were established. The phosphorus content of the phosphorylated copolymer specimens was determined calorimetrically by YE. N. ZELENINA.

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SEE LEY...
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NAMES

1/2 022 UNCLASSIFIED
TITLE--MEDICAL RESEARCH AND INDUSTRY -U-

PROCESSING DATE--11DEC70

AUTHOR--LEKAREV, L.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA GAZETA, SEPTEMBER 25, 1970, P 2, COLS 1-7

DATE PUBLISHED--25SEP70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL RESEARCH FACILITY, INDUSTRIAL HYGIENE, BIOPHYSICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605038/B07 STEP NO--UR/9034/70/000/000/0002/0002

CIRC ACCESSION NO--AN0142470

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--11DEC79

CIRC ACCESSION NO--AN0142470

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE SUMMS UP THE RESULTS OF A PROJECT CONTRACTED FOR THE PERIOD OF 1968-69 BY THE VINNITSA MEDICAL INSTITUTE FOR A VINNITSA TOOL PLANT. TO CARRY OUT THE PROGRAM A PROJECT LABORATORY WAS SET UP WHOSE STAFF CONSISTED OF EXPERTS IN FIVE AREAS, SOCIAL HYGIENE AND PUBLIC HEALTH ORGANIZATION, INDUSTRIAL HYGIENE, INDUSTRIAL PHYSIOLOGY, CLINICAL PRACTICES, AND BIOPHYSICS. EACH TEAM WAS HEADED BY A PROFESSOR. 22 ASSOCIATES OF ELEVEN CHAIRS OF THE INSTITUTE WERE INVOLVED IN THE PLANT'S HEALTH PROGRAM. THE RESULT OF THE STUDY, INTERPRETED IN TERMS OF COST OF PRODUCTION, WAS 284,000 RUBLES SAVINGS IN 1969. THE INSTITUTE HAS SIGNED ANOTHER CONTRACT FOR THE 1970-71 PERIOD THIS TIME WITH THE VINNITSA MEAT COMPLEX.

UNCLASSIFIED

LEKAREVA, T. A.

SPACE BIOLOGY

UDC 612.213-04:612.273.1

EFFECT OF THIRTY-DAY CONFINEMENT OF RATS IN AN ATMOSPHERE WITH AN INCREASED OXYGEN CONTENT ON THE REGULATION OF SOME ENDOCRINE FUNCTIONS OF VITAL SUBSTRATES
 Abstracts by: V. V. Kozlov, B. I. Abidin, S. I. Zakharenko, and
 T. A. Lekareva; Moscow, Khrushchevskaya Biologiya i Meditsina, Russian, Vol 6,
 no 3, September-October 1972, submitted for publication 6 November 1972,
 pp 1-31

Abstract: Experiments on white male rats have shown that
 30-day exposure of the animals to a hypoxic atmosphere
 (370-380 mm Hg) produces an insignificant effect on the in-
 tensity of carbon monoxide elimination, increases ammonia
 elimination and decreases elimination of ketones and side-
 products.

The possibility of contamination of the artificial atmosphere in
 tightly sealed, small-volume chambers by the gaseous products of man's
 vital functions has led to a series of investigations devoted to a study of
 the influence of physical, chemical and other environmental factors on the
 intensity of their formation and elimination from the body into the sur-
 rounding medium (V. V. Kozlov, L. A. Plunov, T. B. Kolosova, et al.).

This communication presents data on the influence exerted on these
 processes by the prolonged continuous presence of animals in an artificial
 atmosphere with an increased oxygen content.

The experiments were performed on white male rats weighing 250-300 g.
 The experimental animals were kept for 30 days in a pressurized chamber with
 a volume of 0.184 m³. The oxygen concentration in the chamber air was main-
 tained automatically at the level - 45% (370-380 mm Hg). Carbon dioxide in
 the atmosphere was maintained at the level 0.3-0.5% by means of continuous
 pumping of chamber air through a chemical absorbent with its subsequent
 return to the chamber. After the animals had been confined in this chamber
 for 24 hours, 15 and 30 days they were transferred to a chamber with lower
 volume (0.03 m³) outfitted with a heat-regulating system. The oxygen and
 carbon dioxide concentrations in the atmosphere of this chamber were main-
 tained by the method described above at the same level as in the chamber

JPRS 57517

15 MAR 72

- 1 -

UNCLASSIFIED
PROCESSING DATE--20NOV70
A/2 017
TITLE--SPECTROPHOTOMETRIC STUDY OF COMPLEXING IN AN
IRON, III, NITRATE, NITRIC ACID, WATER SYSTEM -U-
AUTHOR-(05)-KLYGIN, A.YE., SMIRNOVA, I.D., NIKULSKAYA, N.A., KOLYADA,
N.S., LEKAYE, V.A.
CCOUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 753-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, IRON COMPLEX, NITRATE, NITRIC
ACID, AQUEOUS SOLUTION
CCNTRCL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/2028
STEP NO--UR/0074/70/015/003/0753/0756
CIRC ACCESSION NO--AP0132285
UNCLASSIFIED

212 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132285

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRESENCE OF FE PRIME3 POSITIVE,
FE(NO SUB3) SUB3 HNO SUB3 (I), AND FE(NO SUB3) SUB3 HNO SUB3 (II) IN
FE(NO SUB3) SUB3 HNO SUB3 H SUB2 O SYSTEM WAS CONFIRMED
SPECTROPHOTOMETRICALLY. MOLAR ABSORPTION COEFFS. OF I AND II AT 390,
400, AND 410 M MU ARE GIVEN. CONSTS. OF I AND II FORMATION ARE IN THE
REGION OF 10 PRIME NEGATIVE2 AND 10 PRIME NEGATIVE3, RESP.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--COMPLEXING IN THE COPPER II, ETHYLENEDIAMINE-TETRAACETIC ACID, WATER
SYSTEM -U-
AUTHOR--(04)-LEKAYE, V.A., KLYGIN, A.YE., SMIRNOVA, L.D., KOLYADA, N.S.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1294-300
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHYLENEDIAMINE, COPPER COMPLEX, SPECTROPHOTOMETRIC ANALYSIS,
NMR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0923 STEP NO--UR/0078/70/015/005/1294/1300
CIRC ACCESSION NO--AP0136354
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 015

CIRC ACCESSION NO--AP0136354

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPLEXING IN THE CuCl_2 , EDTA, (H
SUB4 L), H SUB2 O SYSTEM WAS STUDIED BY SPECTROPHOTOMETRIC AND NMR
RELAXATION METHODS. THE FORMATION CONST. OF CuHL , AND ITS DEPROTONATION
CONST., (DETD. BY THE N. P. KONAR'S METHOD, 1954) ARE 16 TIMES 10 PRIME8
AND 1.14 TIMES 10 PRIME NEGATIVE 3, RESP.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--STRUCTURE OF AN AQUO COMPLEX OF URANIUM IV -U-
AUTHOR--(04)-GLEBOV, V.A., KNYAZEV, YU.D., LEKAYE, V.A., BORODINA, N.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1332-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COMPLEX COMPOUND, URANIUM COMPOUND, TEMPERATURE DEPENDENCE,
PROTON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1155 STEP NO--UR/0078/70/015/005/1332/1335
CIRC ACCESSION NO--AP0136575
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136575

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TEMP. DEPENDENCE OF THE RELAXATION TIME OF PROTONS IN SOLNS. OF U (IV) WAS DETD. BY THE SPIN ECHO METHOD. THE STUDY REVEALS NONEQUIV. WATER MOL. IN THE AQUO COMPLEX OF U(IV); SOME OF THEM ARE BONDED STRONGER THAN OTHERS. IN THE INNER SPHERE, THE ACTIVATION ENERGY AND LIFE TIME OF THE STRONGLY BONDED WATER MOL. ARE 11.0 PLUS OR MINUS 1.0 KCAL-MOLE AND 0.4 SEC (20DEGREES), RESP. A STRUCTURE OF THE U(IV) AQUO COMPLEX IS PROPOSED.

UNCLASSIFIED

USSR

UDC 621.385.012.22:621.385.017.72

LESKGIY, V.M.

"Optimization Of The Parameters Of A Radiator With Respect To The Properties Of A Blower Unit"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 8, pp 119-125 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12A105)

Translation: A method is proposed for optimization of the dimensions, weight, and energy parameters of a radiator for an electrovacuum device in an open system of forced-air cooling with respect to the properties of a selected series-produced blower unit. The dimensions of the radiator which ensure its minimum weight or minimum level of power consumption in a cooling system are determined by the specified permissible temperature of the exterior surface of a device, a specified quantity of heat being dissipated, and the properties provided for a blower unit. 5 ill. 4 ref. G.B.

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- 122 -

USSR

VINOKUROV, V. G., DIMITRIYEV, Yu. K., YEVREINOV, E. V., ~~KOSTELYANSKIY, V. M.~~,
LEKINOVA, G. M., MIRENKOV, N. N., REZANOV, V. V., KHOROSHEVSKIY, V. G.

"A Homogeneous Computer System of Minicomputers"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk,
1972, pp 127-145 (Translated from Referativnyy Zhurnal Kibernetika, No 6,
1973, Abstract No 6V600, by the authors).

Translation: The expediency is demonstrated of constructing homogeneous com-
puter systems (HCS) of minicomputers. A two-dimensional computer system, the
MINIMAKS is described. The elementary machines of this system are based on
ASVT-M modules. The composition of typical HCS software is presented. 20
biblio. refs.

1/1

AA0052677

LEKHOVICH I.F.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

241301 TRENCH FILLER has a working member comprising a frame 1 with closed scraping chain 3 placed in a vertical plane. It is distinguished by mounting, in the horizontal plane additional closed scraping chain 2 to, This achieves preloosening of the soil.

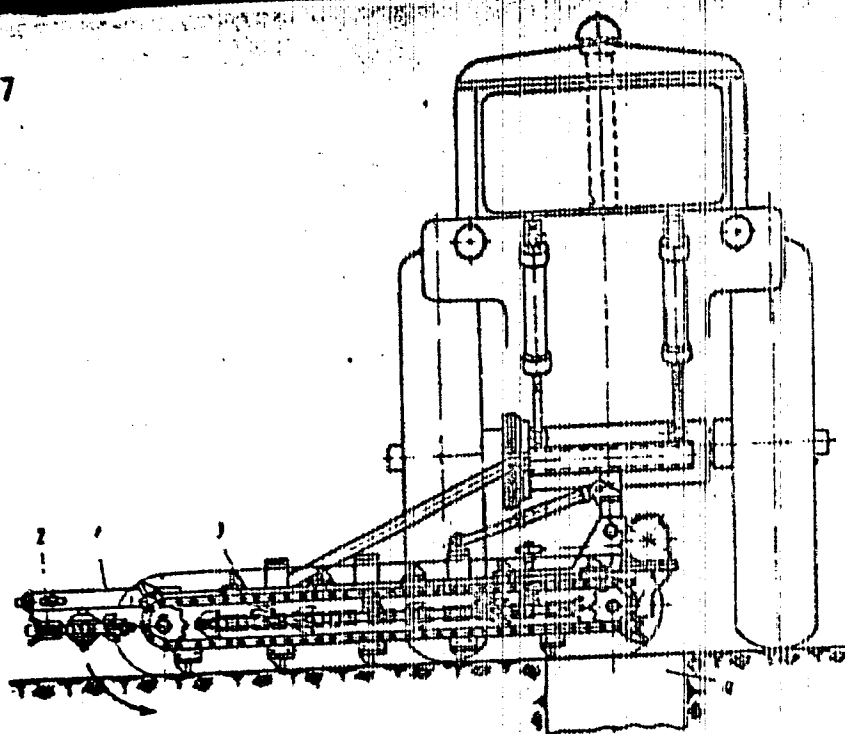
12.2.66. as 1055097/29-16, POLTATREY, I.S. et al.
Kiev Binding Inst. (15.8.69) Bul. 13/1.4.69
Class 84d, Int. Cl. E 02f.

1/3

18

19821444

AA0052677



19821445

AA0052677

Poltavtsev, I. S.; Smryagin, A. G.; Protsenko, V. V.; Shvedov, V. Ye.;
Zgurskaya, L. M.; Lekhovich, I. F.; Rutberg, Ye. K.; Morovik, N. A.;
Kiyevskiy Filial Tsentral'nogo Nauchno-Issledovatel'skiy Instituta
Svyazi

3/3

19821446

USSR

Antennas

UDC: 621.396.676.2(089.8)

FURMANOV, B. M., ZVORYGIN, A. G., BIZIN, P. S., and LUKHIN, I. N.

"Antenna"

/In-t. vern. dela in. A. A. Skochinskogo/ (The A. A. Skochinskoy Institute of Mining Affairs) Authors certificate USSR, class 21a 46/01, (H 01 q), No. 266864, Application 21.10.68, Publication 27.07.70 (from Radiotekhnika, No. 3, March 71, Abstract No. 3A293P)

Translation: For wireless high-frequency communication in mines, inductive transmitting antennas have hitherto been used in the form of frames with or without cores, operating into unmatched loads and having low Q. To eliminate these deficiencies and increase the current, an antenna has been proposed in the form of two insulated sheets (e.g., paralon) with electrically conducting layers (e.g., foil) between them. Such a layer is used as the plate of a capacitor, introduced in the tuned circuit of the transmitter, while the upper roof of the electric car storage cell is used as the other plate. Yu. V.

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USSR

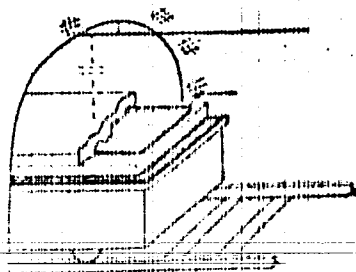
UDC: 621.396.676.2

FURMANOV, B. M., ZVORYGIN, A. G., BIZIN, P. S., LEAHTMAN, L. N., Institute of Mining imeni A. A. Skochinskiy

"An Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzy, Tovarnyye Znaki, No 12, 1970, Author's Certificate No 266864, filed 21 Oct 68, pp 47-48

Abstract: This Author's Certificate introduces an antenna made in the form of a capacitor in the transmitter output circuit. As a distinguishing feature of the patent, the current in the antenna is increased by making it in the form of two insulating sheets (e. g. porolon) with an electrically conductive layer such as foil between them. This layer is one plate of the capacitor in the transmitter output circuit, and the other plate is the upper cover of the battery box in an electric locomotive.



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LEKOMTSEV, V. M.

COMMUNICATION-EMOTIONAL SIGNALS OF BLACK SEA DOLPHINS

JPAS 559822
15 May 72

Article by A. A. Tseyt, A. G. Tselik, E. S. Baryshnikov, L. I. Yatsenko, and E. N. Zaitsev, Severnyy Kavkazskiy kray, Krasnodar, Sovetskoye Soyuza, No 5, 1971, 1st to 2nd issue, pp 67-71

During 1966-1968 specialists at the base of the "Radars" Division of the Institute of the Biology of Southern Seas investigated the communication-emotional signals of nine common dolphins, five bottle-nosed porpoises and five harbor porpoises. The animals were kept singly and in groups in a basin (18 x 13 x 2 m) and in a sea cage made of kapton net (40 x 8 x 10 m).

In registering the sound of dolphins confined to a basin we used an instrument for measuring sonic pressure with a passband of 0.5-100 kc/sec and a magnetic recorder with a broadened frequency characteristic 1-100 kc/sec. The signals were analyzed using a SGM 1-24 spectrum analyzer and a N-102 oscilloscope. The rate of sound reproduction was slowed down by factors of 16 and 32.

The lack of a classification of acoustic signals of cetaceans creates great difficulties in determining the biological importance of these sounds. In 1967 the acoustic signals are classified as echolocation, communication and complex. But we receive only echolocation and communication-emotional signals. The classification is complex because in behavioral situations there is a considerable variety of signals even within one group. A group of communication-emotional signals includes pure signals, sounds of a nonlocation nature (howling, grunting, chirping, barking, moaning), and also whistles mixed with pulsed clicks not having a location function. Under nonlocation conditions, when the dolphin is at rest and its location apparatus is not operating, pulsed clicks can have a high and low repetition rate.

USSR

LEKOMTSEVA, M. I.

"Coherence of Phonological Characteristics and Structure of Phonological Sequences"

Probl. Strukt. Lingvistiki 1971 [Problems of Structural Linguistics 1971 -- Collection of Works], Moscow, Nauka Press, 1972, pp 305-318
(Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V916).

Translation: A model of a generator producing a phonologically proper text of unlimited length is studied.

6503

CSO: 1843-W

- END -