

USSR

REFORMATSKIY, A. A.

"Standardization of Transliteration of Russian Texts with Latin Letters"

Nauch. Tekhn. Inform. Sb. Vses. In-t Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of All-Union Institute for Scientific and Technical Information], 1972, Series 2, No 11, pp 32-36 (Translated from Referativnyy Zhurnai Kibernetika, No 4, 1973, Abstract No 4V751, by the author).

Translation: The status of the problem of the system of transliteration of Russian texts using Latin letters and the nature of a possible standard in this area are discussed. Primary attention is given to understanding of Russian graphics, requiring differentiation of: 1) letters, 2) syllabemes and 3) graphic approaches. Only considering these distinctions is it possible to recommend a given system of transliteration (either single-letter system using diacritical marks and the basic letters of the Latin alphabet, or utilization of the 26 letters of the Latin alphabet alone, but with digraphs and trigraphs). A table appended to the article shows the transliteration system of the Academy of Sciences USSR (in two versions), the ISO 9 system, four American systems and a plan for a standard developed by the All Union Scientific Research Institute of Technical Information, Classification and Coding.

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1/2 028

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--OBSERVATIONS OF TRANSPORT PHENOMENA AND OF ATOMIC MOTION IN THE LIQUID PHASE -U-
AUTHOR--(05)-~~REGEL~~, A.R., ANDREEV, A.A., KOTOV, B.A., MAMADALIEV, M., OKUNEVA, N.M.

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SOURCE--J. NON-CRYST. SOLIDS 1970, 4(1) 151-60

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TOPIC TAGS--GALLIUM, TRANSPORT PHENOMENA, FLUID STATE, ATOMIC PROPERTY, THERMAL CONDUCTIVITY, NEUTRON SCATTERING, SELENIDE, INDIUM COMPOUND, COPPER COMPOUND, SOLID STATE, ANTIMONY COMPOUND

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PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100850

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME COMPOS., SB SUB2 SE SUB3, INSE, AND CUSBSE SUB2 HAVE BEEN STUDIED WHICH HAVE RELATIVELY LOW ELEC. CONDS. (IS SMALLER THAN 100 MHO-CM) IN THE LIQ. STATE. EXPTL. RESULTS ABOVE AND BELOW THE M.P. ARE REPORTED AND DISCUSSED FOR THE ELEC. COND., HALL COEFF., THERMOPOWER AND THE THERMAL COND. RESULTS OF A STUDY OF THE THERMAL MOTION OF LIQ. AND SOLID GA BY NEUTRON SCATTERING ARE ALSO PRESENTED.

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UDC 621.315.592

USSR

ANDREYEV, A.A., ALEXSEYEV, V.A., LEBEDEV, E.A., KAMADALIYEV, M., MELEKH, B.T.,
REGEL', A.R., RYZHKOY, YU.F. [Institute Of Semiconductors, Academy Of Sciences,
USSR, Leningrad]

"Switching Effect In Fluid Semiconductors"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 661-666

Abstract: The switching effect is studied in a number of fluid semiconductors and the voltampere characteristics are shown for fluid Se (410° C), solid and fluid Sb_2S_3 (480 and 570° C) and As_2Se_3 up to softening temperature (170° C) and above (210° C). The circuit for measuring the voltampere characteristics of the switching effect is described. The high stability is emphasized of the switching effect in Se and Sb_2S_3 over a wide range of temperatures. An illustration is presented of relaxation oscillations in fluid selenium with a frequency of 10 kHz at a temperature of 230° C. The results of the observations show that the switching effect is also found in fluid semiconductors. The effect is consistently observed over a wide range of temperatures. The effect is observed for materials with various values of the absolute conductivity from 10^{-9} (Se) to 10^{-1} ohm $^{-1}$ x cm $^{-1}$ (Sb_2S_3). By a combination of the relationships revealed, the switching effect at high temperatures carries a mainly thermal character. This statement,

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ANDREYEV, A.A., et al, Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972,
pp 661-666

however, does not exclude the electron mechanism as initiating the switching process. The studies of fluid semiconductors show that a structural phase transition is not compulsory for manifestation of the effect. 9 fig. 9 ref. Received by editors, 14 July 1971.

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AVERKIN, A. A., BOROV, Yu. G., IVANOV, G. A., and REBEL', A. R.

"Effect of Pressure on the Electrical Properties of Bismuth"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 2, February 1971, pp 378-380

Abstract: The effect of hydrostatic pressure up to 15 kilobars on the electrical conductivity, Hall effect, reluctance, and thermal emf of single crystals of pure bismuth (99.999%) at room temperature is investigated in this article. The band model of bismuth is used to calculate the variation in concentration and mobility of the current carriers as a function of pressure. Experimental and calculated results are presented graphically. They show that the concentration of the carriers drops by 40-45% at a pressure of 13 kilobars. A small increase in electron mobility and anomalous increase in hole mobility are also detected. It is shown that the band model of bismuth correctly depicts the conduction band, and the occurrence of a new mobile group of holes is possible for the valence band.

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UDC 539.4

REGEL', V. R., LEKSOVSKIY, A. M., KIREYENKO, O. F., Leningrad

"Study of the Kinetics of the Growth of Cracks in Polymers. Report 2. Fractographic Study of the Kinetics of Crack Growth"

Problemy Prochnosti, No 10, 1971, pp 12-15.

Abstract: This report discusses information on the kinetics of growth of main cracks which can be extracted from experimental data on the dependence of the dimensions of the smooth zone on the rupture surface on test conditions. The fractographic method used is a simple method, based on measurement of the dimensions of smooth zones on rupture surfaces for specimens of equal durability, of producing the values of parameters β , C^+ and V_0 , characterizing the kinetics of the development of main cracks, without performing direct and generally difficult experiments involving direct measurement of crack propagation velocity in massive and nontransparent specimens. The author's believe that further development and application of the fractographic method can produce significant information on the kinetics and nature of the rupture process, particularly when these data are difficult to produce by either methods.

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USSR

UDC 539.4

REGEL', V. B., LEKSOVSKIY, A. M., KIREYENKO, O. F. (Leningrad)

"Study of the Kinetics of the Growth of Cracks in Polymers. Report 1. Development of Through Cracks in Thin Polymer Films in Static Extension"

Problemy Prochnosti, No 10, 1971, pp 3-11.

Abstract: This article studies the problem of the regularities of growth of main tracks, naturally developing from microcracks or created by notching. The article is basically limited to analysis of the results of study of regularities of the growth of main cracks in a comparatively narrow range of growth rates which defines the lifetime of a specimen under load. It is determined that the regularities of the development of main cracks are determined by thermofluctuation processes occurring at the tips of the cracks. The study of the kinetics of crack growth allows more information to be produced on the nature of the process of rupture and the physical sense of coefficients included in formulas describing rupture than the study of the dependence of durability on test conditions.

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PROCESSING DATE--04DEC70

TITLE--GROWTH OF THE MAIN CRACKS IN POLYMERS UNDER STATIC AND CYCLIC STRAIN -U-

AUTHOR--(02)-LEKSOVSKIY, A.M., REGEL, V.R.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(2), 253-65

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYSTYRENE, POLYMETHYLMETHACRYLATE, NYLON, POLYPROPYLENE, CELLULOSE RESIN, ACETATE, PLASTIC FILM, STRESS ANALYSIS, CRACK PROPAGATION

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PROCESSING DATE--04DEC70

CIRC ACCESSION NO---AP0140445

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

ABSTRACT. THE KINETICS WAS STUDIED OF INCREASE IN LENGTH OF SMALL CUTS IN THE FILMS OF POLYSTYRENE, POLY(METHACRYLATE), NYLON 6, AND POLYPROPYLENE, OR OF CUTS AND EXISTING CRACKS IN CELLULOSE DIACETATE, CELLULOSE TRIACETATE, NITROCELLULOSE, AND REGENERATED CELLULOSE. THE TEMP. AND APPLIED STRESS WERE VARIED. THE GROWTH OF THE MAIN CRACK, I.E., THE LOCATION OF THE EVENTUAL FAILURE, OBEYED AN EQUATION OF THE SAME TYPE AS THE DURABILITY OF THE FILMS.

FACILITY: FIZ.-TEKH. INST. IN. IOFFE, LENINGRAD, USSR.

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PROCESSING DATE--30OCT70

TITLE--MASS SPECTROMETRIC STUDY OF THE THERMAL DEGRADATION OF METHYL
SUBSTITUTED STYRENE POLYMERS -U-

AUTHOR--(02)-GLAGOLEVA, YU.A., REGEL, V.R.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMCL. SOEDIN, SER. A 1970, 12(4), 948-53

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--MASS SPECTROMETRY, THERMAL DEGRADATION, POLYSTYRENE RESIN,
POLYMER, VINYL COMPOUND, TOLUENE, STYRENE, POLYMER DEGRADATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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PROCESSING DATE--300CT70

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

ABSTRACT. THE MONOMER CONC. IN THE THERMAL DEGRADATION PRODUCTS (AT 300DEGREES) OF POLYSTYRENE, POLY(VINYLTOLUENE), POLY(ALPHA-METHYLSTYRENE), AND POLY(2,4-DIMETHYLSTYRENE) WAS DETD. BY MASS SPECTROSCOPY. THE DEGRADATION OCCURRED IN 2 STAGES: 1ST THE WEAK BONDS AND THEN THE MAIN POLYMER BONDS WERE BROKEN, REQUIRING SIMILAR TO 30 AND 50-60 KCAL-MOLE ACTIVATION ENERGY, RESP. FACILITY:

FIZ.-TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

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Hematology

USSR

UDC: 531/534:57

POPEL', A. S. and REGIRER, S. A.

"Basic Equations of Blood Hydrodynamics"

Nauchn. tr. In-t mekh. Mosk. un-ta (Scientific Works, Moscow University Institute of Mechanics) 1970, No 1, pp 3-20 (from RZh-Mekhanika, No 2, Feb 71, Abstract No 2A18)

Translation: Blood is a mixture of a liquid plasma and suspended particles the great majority of which are erythrocytes. The rheological characteristics of the blood depend essentially on the concentration of the erythrocytes and on the materials dissolved in the plasma which influence the deformation of the erythrocyte envelope and coagulation. Experimental investigations have shown that blood is not a Newtonian liquid since formation of zones free from particles (the wall effect) is observed in its flow through tubes, and there is a rise in concentration in some annular layer within the tube (the axial effect). In ordinary Poiseuille flow, the particle concentration does not vary over the tube cross section. From several assumptions of the characteristics of blood, a model has been constructed with internal degrees of freedom (Popel', A. S., Izv. AN SSSR, Mekhan. zhidkosti i gaza, 1969, No 4, 24-30,

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POPEL', A. S., et al, *Nauchn. tr. In-t mekh. Mosk. un-ta*, 1970, No 1, pp 3-20
RZh-Mekh, 1970, 431063). Here, the discussion is given from the point of view

of conformity to the experimental data. A plane Poiseuille flow is considered. The problem is solved with an electronic computer by the method of finite differences. The results obtained for the concentration distribution show that the proposed theory indicates a drop in the concentration near the wall. With a proper choice of migration factor values, an axial effect can also be qualitatively obtained. In the same way, confirmation is obtained of the theoretical fact that at large particle concentrations only the wall zone is formed, while for small concentrations only an axial effect is observed. From investigations of the Couette flow, the conclusion is drawn that for large values of average particle concentration no phase stratification is produced, except for a slight drop in concentration close to the wall, which agrees with the experimental fact. A qualitative comparison of the results of the problem solutions on the basis of the given equations with the experimental data indicates that in the framework of the proposed theory, all the effects observed in the blood and in other suspensions of similar structure reinforce the description for stationary flows. The theory does not predict any side effects which might contradict experiment or existing concepts of suspension movement. Some ideas regarding improvement of the proposed model are offered. Bibliography of 21. R. A. Tkalenko

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UDC: 532.5

VATAZHIN, A. B., LYUBIMOV, G. A., REGIRER, S. A.

"Magnito-Gidrodinamicheskiye Tsecheniya v Kanalakh" (Magneto-Hydrodynamic Flows in Channels)

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USSR

BOL'SHOV, V. I., DUBININ, A. A., DMITRIYEV, V. M., KAPCHIGASHEV,
S. P., KON'SHIN, V. A., MATUSEVICH, YE. S., POLIVANSKIY, V. P.,
PUPKO, V. Ya., REGUSHEVSKIY, V. I., STAVISSKIY, Yu. Ya., and
YUR'YEV, Yu. S.

"Physical Investigation of the Target in an Electronuclear
Neutron Flux Generator"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, pp 388-392

Abstract: Fluxes of thermal neutrons on the order of 10^{17} - 10^{18}
 $n/cm^2 \cdot sec$ open new possibilities for investigations in many
areas of science and technology. There is great interest in
the study of the possibility for increasing neutron fluxes by
using the process of multiple neutron birth upon interaction
of nucleons with energies in the hundreds of MeV with heavy
nuclei. This article presents the results of experiments and
calculations concerning the neutron-physical characteristics

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USSR

BOL'SHOV, V. I., DUBININ, A. A., DMITRIYEV, V. M., KAPCHIGASHEV, S. P., KON'SHIN, V. A., MATUSEVICH, Y. E. S., TOLIVANSKIY, V. P., TUPKO, V. Ya., REGUSHEVSKIY, V. I., STAVISSKIY, Yu. Ya., YUR'YEV, Yu. S., Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, pp 388-392

of the target in an electronuclear device for the generation of neutron fluxes. The yield of neutrons and distribution of the number of reactions in a heavy target and moderator are measured. The space-energy distribution of neutron flux in the moderator is calculated and the accumulation of transuranium elements in a system with high neutron flux is computed.

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USSR

UDC:621.313.12:539.172.12

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BOL'SHOV, V. I., DUBININ, A. A., DMITRIYEV, V. M., KAPCHIGASHEV, S. P., KON'SHIN, V. A., MATUSEVICH, YE. S., POLIVANSKIY, V. P., TUPKO, V. Ya., REGUSHEVSKIY, V. I., STAVISSKIY, Yu. Ya., and YUR'YEV, Yu. S.

"Physical Investigation of the Target in an Electronuclear Neutron Flux Generator"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, pp 388-392

Abstract: Fluxes of thermal neutrons on the order of 10^{17} - 10^{18} n/cm²·sec open new possibilities for investigations in many areas of science and technology. There is great interest in the study of the possibility for increasing neutron fluxes by using the process of multiple neutron birth upon interaction of nucleons with energies in the hundreds of MeV with heavy nuclei. This article presents the results of experiments and calculations concerning the neutron-physical characteristics

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USSR

BOL'SHOV, V. I., DUBININ, A. A., DMITRIYEV, V. M., KAPCHIGASHEV, S. P., KON'SHIN, V. A., MATUSEVICH, Y. E. S., TOLIVANSKIY, V. P., TUPKO, V. Ya., REGUSHEVSKIY, V. I., STAVISSKIY, Yu. Ya., YUR'YEV, Yu. S., Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, pp 388-392

of the target in an electronuclear device for the generation of neutron fluxes. The yield of neutrons and distribution of the number of reactions in a heavy target and moderator are measured. The space-energy distribution of neutron flux in the moderator is calculated and the accumulation of transuranium elements in a system with high neutron flux is computed.

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USSR

AKHIYEZER, A. I.; REKALO, M. P. (Physicotechnical Institute of the Ukrainian Academy of Sciences, Khar'kov)

"Scattering of High-Energy γ Quanta by Nucleons and Nuclei in a Quark Model"

Kiev, Ukrainskiy Fizicheskiy Zhurnal; January, 1973; pp 4-12

ABSTRACT: The amplitudes of elastic γ N-scattering are related in a quark model to the amplitudes of elastic scattering of mesons by nucleons. These relationships make it possible to predict the dependence of the total cross sections of the γ N-interaction on the energy and to calculate the magnitudes of the real parts of the elastic γ N-scattering amplitude at a zero angle, as well as the magnitudes of the differential cross sections of γ N-scattering. A quark mechanism which takes into account in the most general manner the effects of rescattering is proposed for the scattering processes of γ quanta by nuclei. The dependence of the total cross sections of the γ -quanta interaction with nuclei on the atomic number, which was observed during the experiment, does not agree with the predicted hadronlike behavior of γ quanta in nuclear material.

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USSR

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AKHIEZER, A. I., REKALO, M. P., Physicotechnical Institute of
the Academy of Sciences, Ukrainian SSR

"The Photoproduction of Neutral Vector Mesons by Light Nuclei"

Moscow, Yadernaya Fizika, Vol 11, No 6, 1970, pp 1298-1304

Abstract: The coherent photoproduction of neutral vector mesons by H^2 , H^3 , and He^3 nuclei on the basis of the Regge pole model and the quark model is considered. The experimentally observed ratio of cross sections of the photoproduction of ρ^0 -mesons by a deuteron and a proton can be explained only in terms of a Regge pole model. The models considered predict that the ratios of cross sections of the photoproduction of ω -mesons by H^2 , H^3 , and He^3 nuclei and cross sections of the photoproduction of an ω -meson by a proton should be substantially less than the values obtained under the assumption of purely diffractive production of ω -mesons.

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USSR

UDC: 621.317.44

AFANAS'YEV, Yu. V., GRINBAUM, M. B., PERSIYANOV, T. V., PISHCHER, I. V.,
REKALOVA, G. I., SHAMSHOV, A. A., Leningrad Electrical Engineering Insti-
tute imeni V. I. Ul'yanov (Lenin)

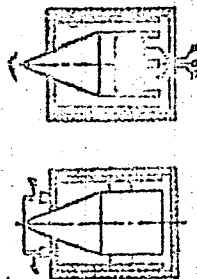
"A Device for Measuring Magnetic Fields"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 13, May 72, Author's Certificate No 335628, Division G, filed 10 Nov 70,
published 11 Apr 72, pp 189-190

Translation: This Author's Certificate introduces a device for measuring magnetic fields. The device contains an acoustic concentrator coupled to a hollow conducting half-wave cup holding an electromechanical converter such as a piezoelectric converter, needle holders mounted on an acoustic neutral, and a microwire which acts as part of the measurement loop. The microwire is fastened in supports and is put into oscillatory motion by the concentrator mentioned above. As a distinguishing feature of the patent, in order to measure the normal component of the field on the surface of an object being tested, the device is equipped with a second electromechanical converter connected in uniplane with the first. The converters

AS'YEV, Yu. V. et al., USSR Author's Certificate No 335628

is securely fastened to the concentrator base which is made in the form of a wedge. The converters are arranged symmetrically with the geometric axis of the wedge, which is excited on the resonance frequency of flexural vibrations of the converters.



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USSR

UDC: 621.317.44

AFANAS'YEV, Yu. V., GRINEBAUM, M. B., PEPSEYANOV, T. V., PISHCHER, I. V.,
REKALOVA, G. I., SHAKHOV, A. A., Leningrad Electrical Engineering Insti-
tute imeni V. I. Ul'yanov (Lenin)

"A Device for Measuring Magnetic Fields"

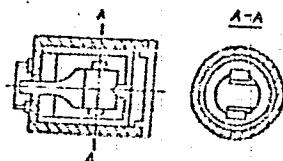
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 13, May 72, Author's Certificate No 335629, Division G, filed 10 Nov 70,
published 11 Apr 72, p 190

Translation: This Author's Certificate introduces a device for measuring
magnetic fields. The device contains an acoustic concentrator coupled to
an electromechanical transducer such as a piezoelectric converter, needle
holders mounted on an acoustic neutral, and a microwire which acts as part
of the measurement loop and is fastened in supports and put into oscil-
latory motion by the transducer. As a distinguishing feature of the patent,
provision is made for measuring the induction of the magnetic field inside
the cavities of magnetized articles. For this purpose the device is equipped
with a second electromechanical transducer of longitudinal oscillations con-
nected in phase with the first. The transducers are securely fastened on

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S'YEV, Yu. V. et al., USSR Author's Certificate No 335629

posite sides of the lateral surface of the concentrator, which is made in the shape of a truncated cone and is excited on the resonance frequency of torsional vibrations of the transducers.



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USSR

UDC: 621.396.6.049.7

REKEVICHUS, K. I., CHECHEL'NITSKIY, N. P.

"A Vernier-Scale Device"

USSR Author's Certificate No 282455, filed 28 Jun 69, published 11 Dec 70
(from RZh-Radictekhnika, No 6, Jun 71, Abstract No 6V413 P)

Translation: The proposed vernier-scale device contains a control element equipped with a drum on which a flexible element such as a wire is wound. This flexible element connects the control element to the pointer which moves along the scale. As a distinguishing feature of the patent, the readout accuracy is improved and the design is simplified by pressing the flexible element against the drum by means of an elastic element such as a nylon tape with the end connected to a leaf spring. One end of the flexible element is fastened to the drum, and the other end fits into a transparent (e. g. glass) tube in front of the scale, and acts as the pointer.

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USSR

UDC: 621.317.79.029.6(088.8)

SVESHNIKOV, P. A., REKEVICHUS, K. I.

"A Panoramic Device for Measuring the Parameters of a Superhigh Frequency Channel"

USSR Author's Certificate No 266970, filed 14 Nov 68, published 15 Jul 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A361 P)

Translation: The proposed instrument is designed like many similar devices on the principle of separating the incident and reflected waves by using directional couplers; it consists of a sweep oscillator, SHF modules, an indicator and a program device. To increase measurement precision, a number of changes are made in the device such as connecting the outputs of a cadence pulse oscillator and modulator of the SHF oscillator to the phantastron inputs in the program device. These changes improve the accuracy of the image of the characteristic on the CRT screen, reduce measurement error and eliminate the necessity for selecting the elements for the SHF channel with identical frequency responses in the channels of the reflected and incident waves. E. L.

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USSR

UDC 621.317.76

RAMANAUSKAS, B. B., REKEVICHUS, K. I.

"Resonance Frequency Meter Operating in the 250-500 Megahertz Range"

Obmen opytom v radioprom-sti (Exchange of Experience in the Radio Industry),
Vyp. 2, Moscow, 1970, pp 45-46 (from RZh-Radiotekhnika, No. 8, Aug 70, Abstract
No 8A377)

Translation: It is noted that in spite of careful manufacture, frequency meters with lumped circuits give a measurement error of no less than 0.5-1%. When developing the frequency meter designed for building into a rocking frequency generator, it was necessary to reduce the error to 0.2-0.5% and insure convenience of operation, technological nature when manufacturing, and so on. In the solution found, a volumetric resonator of round cross section loaded by a capacitance and operating on a type E_{010} wave is used as the frequency meter circuit. The procedure for determining the partial errors and a calculation of the total error of the instrument are presented.

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USSR

R UDC: 621.317.739

SVESHNIKOV, P. A., REKEVICHUS, K. I.

"A Panoramic Meter for the Parameters of SHF Channels"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 12, 1970, Author's Certificate No 266870, filed 14 Nov 68, p 49

Abstract: This Author's Certificate introduces a panoramic meter for the parameters of SHF channels. The device consists of a sweep generator, SHF modules, an indicator and a program unit. As a distinguishing feature of the patent, measurement precision is improved by connecting the outputs of a cadence pulse generator and SHF generator modulator to the inputs of a phantastron in the phantastron output and to the output of the cadence pulse generator. The output of the squегging oscillator is connected to a dekatron whose cathodes are connected to a common load which is connected to the input of the indicator amplifier.

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1/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--POSSIBLE EFFECT OF GAS CONTENT IN METALS ON THE ZONE ACTION OF A LASER BEAM -U-

AUTHOR--(03)-REKHOVSKIKH, V.F., RYKALIN, N.N., UGLOV, A.A.

COUNTRY OF INFO--USSR

R

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 190, FEB. 11, 1970, P. 1059-1062

DATE PUBLISHED--11FEB70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--NEODYMIUM LASER, METAL IMPURITY, COPPER

A

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/2042

STEP NO--UK/0020/70/190/000/1059/1062

CIRC ACCESSION NO--AF0112997

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0112997

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF CERTAIN FACTORS, SUCH AS DEGREE OF MATERIAL PURITY, GAS CONTENT, AND POROSITY, ON THE NATURE AND SIZE OF THE MATERIAL ZONE AFFECTED BY LASER BEAM TREATMENT. IN THIS INVESTIGATION SPECIMENS OF VARIOUS BRANDS OF COPPER WERE SUBJECTED TO THE ACTION OF A NEODYMIUM GLASS LASER. IT IS FOUND THAT AT LASER PULSE ENERGIES OF ABOUT 2 J THE DEEPEST CRATERS ARE FORMED IN POROUS AND CRUDE COPPER, WHILE THE MOST SHALLOW ONES FORM IN CATHODIC AND ANODIC COPPER. THIS SAME SITUATION IS NOTED IN THE CASE OF PULSE ENERGIES IN EXCESS OF 4 J, BUT THE DIFFERENCE BETWEEN THE DEEPEST AND MOST SHALLOW CRATERS IS LESS GREAT. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT METALLURGI, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

PATRASHKU, F. I., SOROKSKAYA, L. B., REKHTEK, B. A.

"Analysis of Figon in Plants by Thin-Layer Chromatography and Photometric Methods"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp 181-183 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N479)

Translation: For extraction of figon (I) from grape leaves, grapes or apples, C_6H_6 or $CHCl_3$ is used. The extract is purified by microsublimation at 100° and 1 mm Hg; it is dissolved in acetone or $CHCl_3$ and analyzed by the method of thin-layer chromatography, colorimetric or spectrophotometric methods at 340 nm. The thin-layer chromatographic analysis is performed in silicic acid reinforced with gypsum, in the cyclohexane- $CHCl_3$ system (7:3), and it is developed by Et_2NH . The sensitivity of the method is 0.05-0.01 mg/kg. The sensitivity of the colorimetric method with Et_2NH is 0.25 mg/kg, the degree of detection of I is ~70%, the relative error in the analysis is +4%. The sensitivity of the spectrophotometric method was 50 γ of I in the sample.
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1/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--DYNAMICS OF GAS EVOLUTION AND OF GAS CONTAMINATION WITH DUST IN 100 TON OXYGEN CONVERTERS -U-

AUTHOR--(05)--KRICHEYTsov, E.A., SHIRINKIN, N.A., REKHTER, V.YA., KUKURUZNYAK, I.S., KITTAYEV, A.T.

COUNTRY OF INFO--USSR

R

SOURCE--STAL' 1970, 30(2), 113-18

DATE PUBLISHED-----70

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

TOPIC TAGS--METAL OXYGEN CONVERSION, EXHAUST GAS DYNAMICS, STEEL MANUFACTURE PROCESS, METALLURGIC FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAmE--1995/0203

STEP NO--UR/0133/70/030/002/0113/0118

CIRC ACCESSION NO--AP0115907

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115907

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF 100 TON CONVERTER HEATS SHOWED A MARKED NONUNIFORMITY OF GAS AND DUST EVOLUTION RATES. THE REASONS FOR THIS ARE DISCUSSED. THE RATE OF OPERATIONS IS DEFINED BY THE CAPACITY OF THE GAS REMOVING INSTALLATION, WHICH MUST BE DESIGNED FOR THE MAX. GAS EVOLUTION. FACILITY: KRIVOROZH. MET. ZAVOD, KRIVOI ROG, USSR.

UNCLASSIFIED

Hydraulic and Pneumatic

USSR

UDC 534.232

ZHULIN, V. I., RIMSKIY-KORSAKOV, A. V., REKHITMAN, Y. I., and
YANSHCHIKOV, V. S., Acoustics Institute of the Academy of
Sciences USSR, Moscow; Moscow Mining Institute

"Hydropneumatic Low-Frequency Radiator"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 1, Jan-Feb 73,
pp 32-41

Abstract: A short review is presented of some works on hydro-acoustic and pneumoacoustic radiators recently appeared in technical and patent literature. Their working principle is described and theoretical considerations for the calculation of their main parameters are given. Results of experimental developments and the investigation of a low-frequency hydro-pneumatic radiator of harmonic signal, conducted by the chair "Acoustics and Ultrasonic Technology" of the Moscow Mining Institute together with the Acoustics Institute of the Academy of Sciences USSR, are discussed. The possibility is considered of practical utilization of the hydropneumatic low-frequency radiator in the industry. Eight figures, three formulas, nineteen bibliographic references.

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USSR

UDC: 536.54:536.722

NEKRASOV, A. A. and REKIN, A. D.

"Calorimetric Sensor for Measuring the Enthalpy of a High-Temperature Gas Medium"

Moscow, Izmeritel'naya tekhnika, No 4, 1972, pp 47-48

Abstract: A device designed for investigating the processes occurring in high-temperature gas flows, for measuring the velocity and temperature of the flow, is described. The device measures the enthalpy by measuring the difference in thermal currents perceived by the sensor with and without the probe sampling. A diagram of the instrument is given together with an explanation of its operation, and the measurement errors of the local indications are determined by comparing them with the readings of thermocouples. A table giving the readings of the instrument and of the thermocouples and the percentage of error in each case shows the error to be limited to 3%. While the instrument can make measurements at air temperatures of about 3000° K, determining the accuracy of the readings at that level is a complex matter.

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USSR

UDC 615.849.2:546.296 .015.45:612-085.23

REKKANDT, A. A. and DOBRACHEV, Yu. P., Pyatigorsky Institute of Health
Resort Therapy and Physiotherapy

"Influence of Small Doses of Radon Radiation and Its Daughter Products on
the Increase of Biomass and Oxygen Consumption Level of the Parent Culture"

Moscow, Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy Kul'tury,
No 3, 1973, pp 243-246

Abstract: Tissue was cultured in media having an activity of 3.6×10^{-5} to 3.6×10^{-2} microcuries/ml (about 0.1 to 100 rads respectively). The total biomass in all cases increased from 15-100% during the first 3 days and all but the most radioactive sample increased during the 4th and 5th days. The data points are widely scattered, however, and show no obvious trend with either time or radiation dose. For some increases in the biomass, the number of cells remained constant. The oxygen consumption showed a more consistent trend: decreasing rapidly on the first day in an amount relative to the radiation dose, continuing the trend the second day, and essentially leveling off or, for the higher doses, increasing slightly such that the values lay rather close together by the 3d day. Although the latter values

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USSR

REKKANDT, A. A. and DOBRACHEV, Yu. P., Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, No 3, 1973, pp 243-246

were similar, the trend of decreasing O_2 with increasing radiation continued. The stimulation of the culture is related not only to phase adaptation but also to an increase in the number of dividing cells.

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USSR

REKLAYTIS, V. K.

"Results of Digital Computer Modeling of Recognition Algorithm for Patterns Based on Visual Properties"

Aktual'n. Vopr. Tekhn. Kibernetiki [Pressing Problems of Engineering Cybernetics -- Collection of Works], Moscow, Nauka Press, 1972, pp 273-277 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V702 by the author).

Translation: Certain results are presented, produced in experiments with a program which realizes a recognition algorithm based on certain properties of visual perception. The recognition algorithm analyzes the object according to its parts and their spatial relations; based on this analysis, a decision is made concerning the class of the object presented. The program can produce a certain estimate of the effectiveness of the process leading to the decision, which can be compared with the time of recognition of identical classes in tachistoscopic experiments.

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USSR

VYSOTSKIY, D. A., PETROV, M. D., REKOV, A. I., ROMANOV, A. I.,
SEPP, V. A., SEREBRENNIKOVA, V. Ye., SMIRNOVA, L. G., KURTEPOVA, O. I.,
Institute of High Temperatures of the Academy of Sciences USSR

"Test Results on Installations and Electrode Materials in a Plasma Jet"

Moscow, Teplofizika vysokikh temperatur, No. 3, May/June 72, pp 635-639

Abstract: The characteristics of electrodes of silicon carbide with additives of alloying metals (Mo, Ti, Cr), interelectrode insulators of refractory concretes based on high-alumina VGB and AFB concretes and magnesian MB concrete and module insulation walls of MB concrete were investigated in a model of an MHD generator. The maximum electrode temperature during the experiments reached 2300°K, the interelectrode insulators reached 2100°K and the installation walls reached 1700°K. The electrode samples were prepared by pressing a mixture of SiC powder and the appropriate alloying additive (Mo, Ti, Cr) with organic binding and subsequent heat treatment at a temperature of 2100°C for 10-15 min. The experimental device in which the materials were tested consisted of the following elements: a plasmatron producing an air flow with a

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USSR

VYSOTSKIY, D. A., et al, *Teplofizika vysokikh temperatur*, No. 3, May/June 72, pp 635-639

temperature of 3000°K, a mixing chamber where an easily ionized additive was introduced into the air flow in the form of potassium or K_2CO_3 vapors, a nozzle, the MHD generator channel, and a system for evacuating the gas flow. The flow rate in the channel was approximately 500 m/sec. The advantages of a sectional structure for the channel are shown and it was established that the current density is determined by the conductivity of the films from the interaction products of the electrode and additive materials, independent of the type of alkali additive (potassium or potash vapor) at the temperature of its condensation on the electrode surface. At an electrode temperature of less than 900°K in supplying K-vapors and of 1200°K in supplying K_2CO_3 powder, the current density remains constant at 0.2 a/cm². At these temperatures the current density is evidently determined by the conductivity of the liquid film of the interaction products of the additive material, the working gas, and the electrode and of their emission properties. With an increase in electrode temperature above 900-1200°K the emission properties of the electrode material directly begin to play a basic role.

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USSR

UDC 537.582

REKOVA, L. P., MOZGIN, V. V., KISEL', O. V. and FOGEL', YA. M., Physicotechnical
Institute of the Academy of Sciences UkrSSR

"Effect of Gases on Thermoion Emission by Plastically Deformed Metals"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No. 3, Mar 71,
pp 567-570

Abstract: The effect of oxygen on the emission of K^+ thermoions was used to study the plastic deformation of heated nickel strips during their stretching by a constant load. The idea of the experiment was to establish the mechanism of the effect of a gas on the thermoemission of ions of alkali metals in order to determine the nature of processes occurring under the plastic deformation of metals. According to current assumptions, it was expected that the effect of the action of the gas on thermoion emission of a heated metal, which disappears upon introducing dislocations into the motion with a sufficiently high velocity, should be restored upon stopping dislocations, independent of the method by which the dislocations were stopped. If this is so, the effect can disappear and then be restored upon the application of a stretching load to a metal strip, which will take it first into a state of temperature creep, after which there will then follow

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a state of strengthening of the strip characterized by the disappearance of temperature creep. These changes in the nature of the action of a gas on thermoion emission follow from current ideas about plastic deformation of metals according to which the state of temperature creep is associated with the motion of dislocations and the state of strength is associated with stopping them. These experiments support these hypotheses.

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Converters

USSR

UDC: 621.396.622

REKSHNE, M. M.

"Output Conductivity of a Transistorized Frequency Converter"

Tr. anuchn.-tekhn. konferentsiy. Kaluzh. obl. sovet nauch.-tekhn. o-v (Works of Scientific and Technical Conferences. Kaluga Regional Council of Scientific and Technical Societies), Kaluga, 1970, pp 78-81 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D39)

Translation: A simplified circuit is used to derive an expression for the active and reactive components of output conductance of a transistor in the frequency conversion mode. It is shown that the reactive component varies little as compared with the amplification mode, the decisive factor being the active component. N. S.

USSR

UDC: 621.376.22

REKSHNE, M. M.

"On Evaluating the Effect of the Signal Loop on the Heterodyne Loop in Transistorized Frequency Converters"

Tr. Nauch.-tekhn. konferentsiy. Kaluzh. obl. sovet nauch.-tekhn. o-va
(Works of Scientific and Technical Conferences. Kaluga Regional Council of the Scientific and Technical Society), Kaluga, 1970, pp 88-92 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D18)

Translation: A comparison is made of the attenuation of parasitic coupling between the signal and heterodyne loops which is reached with various modifications of the connection of these loops in transistorized frequency conversion stages. It is shown that in order to weaken the effect of the signal loop on the heterodyne loop, it is advisable to use transistors with a relatively low value of ω_h/ω_c , where ω_h is the frequency of the heterodyne oscillations, and ω_c is the frequency at which the scalar current gain is equal to unity.

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USSR

UDC 676.06-412:677.581.01:53

SHISHKO, V. I., BAIKOVSKIY, V. V., AVRASIN, YA. D., ISEKA, V. B., YAKUSOV,
B. V., ZANDEVICH, V. N., and VALULENKO, YE. G.

"Glasstextolites Based on Non-Woven Fiberglass Reinforced Materials"

Moscow, Plasticheskiye Massy, No 3, 1972, pp 70-73

Abstract: Properties are described of the binding, saturating non-woven fiber-glass materials and glasstextolites made from them for structural materials, and electrical insulation. It was established that it is economicaly feasible to use the nonwoven materials in production of glasstextolites for various purposes. Production of non-woven fiberglass reinforced materials from non-twisted glass thread facilitates the production expansion of the glasstextolites and reinforced plastics, both in regard to the volume and variety of materials. One of the most promising materials, in this area is the VPS-10 reinforcing material consisting of two glass laminated systems, in which 10 layers are overlaid at 95°, stitched with glass thread.

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USSR

UDC 591.1.15

SHUR'YAN, I. M., STARODUB, N. F., and REKUN, G. M.

"Peroxidase Activity of Hemoglobin and Individual Fractions Thereof During X-Ray and Fast-Neutron-Irradiation of Animals"

V sb. Biofizika i radiobiol. (Biophysics and Radiobiology -- Collection of Works), Vyp. 3, Kiev, "Nauk. dumka," 1972, pp 20-26 (from RZh-Biologicheskaya Khimiya, No 10, 25 May 1972, Abstract No 10F1407 from summary)

Translation: It was shown that during the acute period of radiation sickness (8th to 12th day) there is a reliable increase in the peroxidase activity of whole Hb. The change in enzyme properties for individual Hb fractions obtained by column chromatography on aluminum oxide is not uniform. The greatest increase in peroxidase activity is found in the third and fourth fractions. Methemoglobin exhibits catalytic activity as peroxidase to a significantly greater degree than oxy-, carboxy- and nitroxyhemoglobin.

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USSR

UDC: 621.317.7.088.6

SVESHNIKOV, P. A., REKYAVICHUS, K. I.

"Compensation of Systematic Errors in Panoramic Instruments"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 173-175 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A312)

Translation: The authors compare various methods of compensating systematic measurement errors due to differences in the SHF frequency response of sub-assemblies and crystal detectors in panoramic instruments without selection for identity and without extreme demands on manufacturing technology. Selection of the method for error compensation is determined by residual error requirements, design complexity of the correction device, and operational convenience. Bibliography of three titles. E. L.

1/1

USSR

UDC 547.752.759'924:543.422.6

ZHUNGIYETU, G. I. and REULETS, L. M., Institute of Chemistry, Academy of Sciences Moldavian SSR, Kishinev

"Steroid Derivatives of Indolylacrylonitrile"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 2, Feb 73, pp 222-223

Abstract: It was shown that 2-cyano-3-(indolyl-3)- Δ^2 -steroids are formed easily by refluxing indole and its homolog with 2 α -cyano-3-ketosteroids in acetic acid. When 2-methylindole was reacted with 2 α -cyano-17 α -methyl-dihydrotestosterone, another product was obtained in addition to the normal nitrile -- 2-cyano-3-(2-methylindolyl-3)-17 α , 17 β -dimethyl-18-norandrostadiene -- evidently formed by dehydration and rearrangement of the principal reaction product.

1/1

USSR

UDC 621.371.029.5

LEONOV, V. I., REMENETS, G. F., and SHIMKIN, O. Ya.

"Experimental Recording of Ultra-Long Wave TE Components in the Far Zone"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972 pp 231-234 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A323)

Translation: Using two mutually perpendicular magnetic frames, a determination was made of the relative contribution of $H_{\alpha}(TM)$ and $H_{\theta}(TE)$ fields for ultra-long waves. The recording of TM fields under nighttime and transition conditions in the far zone can be made by investigating the natural variations in the low ionosphere layers. One illustration, bibliography of one. A. L.

1/1

USSR

UDC 621.371.029.4

REMEZETS, G. F.

"Some Peculiarities in Nighttime Propagation of Ultra-Long Waves"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) Nauka," 1972 pp 178-182 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A319)

Translation: Several nighttime models of the earth-ionosphere waveguide channel are analyzed. The principal results of the analysis are that the average phase velocity of propagation of the monochromatic ultra-long wave signal varies with increasing frequency, and that the nonmutuality effect of the average phase velocity at night in the frequency interval of 16-17 kHz is $0.01c$, where c is the velocity of light. Bibliography of 11. A. L.

1/1

USSR

UDC 621.371.029.5

SHITOV, A. A. and REME NETS, G. F.

"The Role of Higher TM and TE Normal Waves in the Propagation Processes of Ultra-Long Waves in Low Altitude Nighttime Waveguides"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972 pp 183-187 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A320)

Translation: The relative contributions of TM and TE normal waves (NW) in the field distribution of a vertical electric dipole in the low-altitude nighttime waveguide are investigated for the west-east direction at frequencies of 20 and 25 kHz. In the model under consideration, the contribution of TE₂ and TE₃ NW is significant up to 7000 km, but the contribution of TM₂ NW may be neglected beginning with 3000 km. Two illustrations, bibliography of 16.

A. L.

1/1

- 30 -

USSR

UDC 577.158

GRIGOROV, L. N., ZHIVOTCHENKO, V. D., ~~REMENTIKOV, S. M.~~ RUBIN, L. B., and RUBIN, A. B., Biology Soil Faculty, Moscow State University and Physico-technical Institute, Moscow

"Oxidation of Ectothiorhodospira shaposhnikovii Cytochromes Induced by Ruby Laser Flashes"

Moscow, Molekulyarnaya Biologiya, No 5, 1971, pp 744-752

Abstract: Description of a differential spectrophotometer in which pulsed light from a ruby laser can excite photochemical or photobiological objects. The sensitivity of the device is about 10^{-4} units of optical density with a time resolution of about 10^{-7} sec. This device was used to study the oxidation of Ectothiorhodospira shaposhnikovii cytochrome C induced by a ruby laser 25 nanosecond flashes. Under aerobic conditions the kinetics of the oxidation process was exponential, whereas under anaerobic conditions it was the sum of two exponential components. Under both conditions complete oxidation of the cytochromes required at least two successive laser flashes at intervals of $3 \cdot 10^{-4}$ sec.

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- 35 -

USSR

UDC 616.981.42

SHIN, N. G., REMENTSOVA, M. M. YEREMIN, Yu. P., and FEDOSEYENKO, V. M.,
Institute of Zoology, Kazakh Academy of Sciences, and Institute of Regional
Pathology, Kazakh Ministry of Health

"Ultrasonic Disintegration of Brucella"

Alma-Ata, Izvestiya Akad. Nauk Kazakh SSR, Ser. Biol., No 1, 1973, pp 68-71.

Abstract: Suspensions of 12 Brucella strains (Br. melitensis 16 M, Br. abortus 544, and Br. ruis) isolated from human being, deer, and cattle disintegrated on exposure to ultrasound, the rate varying with the intensity and duration and with the physicochemical factors (pH of the medium, viscosity, concentration of the microbial suspension, etc.). For example, at a frequency of sonication of 22 kHz and intensity of 15 to 18 wt/cm², selective disintegration was evident within 7 or 8 minutes and it became "explosive" in 30 to 45 minutes. Destruction was total after 1 hour. Further sonication resulted in complete homogenization. By an appropriate choice of the frequency, intensity, and other parameters of ultrasound, one can control the process of cell disintegration to permit isolation of the nuclear substance and other organelles. Meanwhile the biological activity of the material thus isolated is preserved. Ultrasound appears to be an effective method of fractionating Brucella and possibly other biological objects.

1/1

USSR

REMENTSOVA, M. M., and ZHARKINOV, I. ZH., Kazakh Scientific Research
Institute of Regional Pathology

"Epidemiology of Brucellosis in Foci of Mixed Type"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 11, 1971, pp 19-21

Abstract: In various regions of Alma-Ata oblast, where livestock farming is the chief occupation, in spite of mixed foci, the epidemic process of brucellosis is different. In regions where most livestock is privately owned, there is a higher incidence of the disease (77% of cases occur in individual owners) than in collective livestock farms, which is attributed to better veterinary care. A greater number of persons who contract brucellosis seem to be infected through contact with cattle than through food. In a region where the terrain does not permit extensive pasturelands, and both large and small livestock come into contact, the predominant strain is Br. melitensis, with a lower incidence of Br. abortus in humans. In regions where cattle do not mix with sheep and goats, however, cultures isolated from cattle produce only Br. Abortus. In regions where brucellosis is endemic, bacteriological studies should be conducted on humans as well as livestock; cultures should be differentiated; and cattle, as well as smaller livestock, should be considered carriers.

1/1

Public Health, Hygiene and Sanitation

USSR

UDC 616.9-036.21+576.8+614.47:061.3(574) "1970"

KARAKULOV, I. K., REMENTSOVA, M. M., ZHUMATOV, KH. ZH., MANTROV, K. A., and NIKONOVA, T. N.

"Results of the First Combined Congress of Epidemiologists, Microbiologists, Specialists in Infectious Diseases, and Hygienists of Kazakhstan"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971, pp 134-137

Abstract: The above congress, held in Alma-Ata in June 1970, was attended by about 1000 persons who read over 400 papers on intestinal infections, brucellosis, tularemia, tuberculosis, leptospirosis, helminth diseases, and blood-sucking flies. Most were concerned with particularly widespread diseases in the Kazakh SSR. Several dealt with the epidemiology and control of acute intestinal infections (M. N. Yakovleva et al.), reduction of the incidence of typhoid fever in Alma-Ata Oblast (B. V. Rayushkin et al.), epidemiological geography of intestinal infections (E. P. Ka'yanova and I. A. Yalyshev), incidence of typhoid fever (B. V. Rayushkin et al.), seasonality of typhoid fever (I. G. Kozhukhov), dysentery in Kazakhstan during the last 10 years (TE. K. Ruagina and Ye. A. Guzeyev), epidemiology and prevention of leprosy in the Aral Sea region (Ch. A. Abdirov), diphtheria in Kazakhstan (K. A. Kostina), epidemiology of salmonellosis (P. P. Popova et al.). Papers on brucellosis and tularemia included clinical and epidemiological

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USSR

KARAKULOV, I. K., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971, pp 134-137

observations in brucellosis foci after suspension of specific vaccination campaigns (Ye. A. Shnyreva and N. F. Zenkova), brucellosis and economic considerations (S. I. Rybalko), epidemiology of brucellosis (K. D. Zhalilov et al.) epizootiology and epidemiology of tularemia from the ecological and faunistic standpoint (V. I. Pakin et al.), combined natural foci of different diseases - tocoplasmosis, brucellosis, Q fever (S. A. Amireyev), leptospirosis Kazakhstan (I. P. Chernykh). One paper was read on the control of blood-sucking flies in Kazakhstan (. H. S. Zhuk). There were many reports on the clinical aspects of infectious hepatitis, brucellosis, measles, dysentery, and some other diseases.

2/2

USSR. UDC 619:616.9-022.7 + 636.2 + 636.3 + 636.4 + 636.52/.58

REMENTSOVA, M. M.; KOLOMAKIN, G. A.

"Problems of Brucellosis Epidemiology in Connection With Brucella Migration"

Tr. In-ta Krayev. patol. KazSSR (Works of Institute of Regional Pathology of the Kazakh SSR, No 20, 1970, pp 10-16 (from RZh-58.. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.631)

Translation: Migration of the goat-sheep form of brucellosis to cows was observed in some zones of the Kazakh Republic where cows and sheep and goats use common seasonal pastures and water supplies. In such cases, foci of an epidemic nature are formed, which complicates the fight against the infection.

1/1

USSR

REMENTSOVA, M. M., SHIN, N. G., ISHCHANOVA, R. ZH., and ZAGORCDESKAYA, N. N.,
~~Scientific~~ Research Institute of Regional Pathology, Ministry of Health,
Kazakh SSR

"Use of Fluorescence Microscopy to Differentiate Brucella"

Alma-Ata, Adravookhraneniye Kazakhstana, No 4, 1971, pp 32-34

Abstract: Use of the method of fluorescent antibodies made it possible to differentiate Br. melitensis and Br. abortus among 130 cultures of Brucella isolated from farm animals and sick humans. However, Br. suis could not be identified by this technique. Comparison of the results of fluorescence microscopy with those obtained by the ordinary tests (e.g., hemagglutination) showed a coincidence in approximately 60% of the cases. Fluorescence microscopy is more sensitive than the other methods and the procedure is considerably quicker.

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1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--UNIFORMLY APPROXIMATE SUBSTITUTION OF A CIRCULAR ARC FOR THE ARC OF
A CURVE -U-
AUTHOR-(02)-REMEZ, YE.YA., LEVIN, S.S. R
COUNTRY OF INFO--USSR
SOURCE--UKRAINSKII MATEMATICHESKII ZHURNAL, VOL. 22, NO. 2, 1970, P.
189-202
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--METAL FORMING, CURVE GEOMETRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0566 STEP NO--UR/0041/70/022/002/0189/0202
CIRC ACCESSION NO--AP0121238
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0121238

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF AN ANALYTICAL METHOD OF APPROXIMATING THE ARC OF A CURVE BY A CIRCULAR ARC, BASED ON THE USE OF CHEBYSHEV'S MODULUS MINIMAX PRINCIPLE. THE METHOD LEADS TO A TRANSFORMED CHEBYSHEV PROBLEM THAT LENDS ITSELF TO SOLUTION BY CLASSICAL ITERATION. THE METHOD IS APPLIED TO SEVERAL PROBLEMS ASSOCIATED WITH THE MECHANICAL SHAPING OF METALS. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT MATEMATIKI, KIEV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 021

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

TITLE--NATURE OF THE THERMAL EFFECTS OF PRODUCTS OF THE REACTION OF KAOLINITE WITH SOME BASES -U-

AUTHOR--(03)-BERG, L.G., RENIZNIKOVA, V.I., PRIBYLOV, K.P.

R

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 93-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--KAOLINITE, SODIUM HYDROXIDE, CHEMICAL REACTION, THERMAL EFFECT, ALUMINUM OXIDE CERAMIC, DEHYDRATION, BARIUM COMPOUND, PHASE COMPOSITION, HEAT OF REACTION, CALCIUM COMPOUND, HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY ROLL/FRAME--1994/1796

STEP NO--UR/0153/70/013/001/0093/0196

CIRC ACCESSION NO--AT0115625

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--0200170

CIRC ACCESSION NO--AT0115625
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF KAOLINITE (I) WITH
 NaOH YIELDS A COMPO. IDENTICAL WITH HYDROSODALITE (II), EXHIBITING
 ENDOTHERMIC EFFECTS AT 126, 260, AND 575 DEGREES, AND AN EXOTHERMIC
 EFFECT AT 987 DEGREES (THE LATTER 2 ARE ATTRIBUTED TO I). IF I AND NaOH
 ARE MIXED IN EQUI MOL. RATIOS, THE I EFFECTS ARE NOT NOTED, AND 1 MOLE OF
 H SUB 2 O IS LIBERATED, INDICATING THAT THE FORMULA OF II IS NA SUB 2 O
 TIMES AL SUB 2 O SUB 3 TIMES 2SiO SUB 2 TIMES H SUB 2 O. BY TREATING I WITH
 KOH, TO FORM A PLASTIC DOUGH, AND FURTHER TREATMENT AT 120-300 DEGREES, IT
 BECOMES AMORPHOUS AND THEN RECRYSTALLIZES TO FORM KALIOPHILITE (III),
 WHOSE PRESENCE IS CONFIRMED BY X RAY EXAMN. H SUB 2 O IS LIBERATED AT
 115 DEGREES, 172 DEGREES, AND 200 DEGREES IN AN AMT. EQUAL TO 0.7 MOLE-MOLE
 III. BY MIXING A MOLE OF I WITH 2 MOLES BA(OH)SUB 2, MOISTENING WITH H
 SUB 2 O, AND TREATING AT 125-300 DEGREES, A NEW CRYSTN. PHASE IS OBTAINED
 CORRESPONDING TO BARIUM ALUMINOSILICATE HYDRATE. AN ENDOTHERMIC EFFECT
 AT 574 DEGREES IS ATTRIBUTED TO DEHYDRATION OF I AND FURTHER ENDOTHERMIC
 EFFECTS ARE ATTRIBUTED TO THE STEPHISE SEPN. OF H SUB 2 O. THE PRODUCT
 OF TREATING I WITH CA(OH)SUB 2 YIELDS ENDOTHERMIC EFFECTS AT
 544-600 DEGREES, 582 DEGREES, AND 738 DEGREES, ATTRIBUTED TO DEHYDRATION OF
 CA(OH)SUB 2 AND OF I, AND TO HYDRATION OF A QUATERNARY PHASE COMPO.

UNCLASSIFIED

USSR

UDC 547.341

PUDOVIK, A. N., GAREYEV, R. D., STABROVSKAYA, L. A., YEVSTAF'YEV, G. I., and
REMIZOV, A. B., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Reactivity of Unsaturated Organophosphorus Compounds in the Reaction of
1,3-Dipolar Cycloaddition of Diaryldiazomethanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1674-1682

Abstract: The kinetics of the 1,3-dipolar cycloaddition reaction of diaryl-
diazomethanes with organophosphorus dipolarophiles at 60° in m-xylene was
investigated. The reaction mechanism is based on a single stage polycentric
process with a cyclic electron transfer. The established order of dipolaro-
philic activity of the unsaturated organophosphorus compounds agrees well
with current concepts of the effect of substituents at the phosphorus atom:
additive manifestation of the inductive effect and the ability of the sub-
stituents to conjugate with the main system.

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USSR

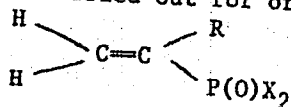
UDC 547.341

PUDOVIK, A. M., STABROVSKAYA, L. A., YEVSTAF'YEV, G. I., REMIZOV, A. B., and GAREYEV, R. D., Kazan State University imeni V. I. Ul'yanova-Lenina

"Kinetics of the 1,3-Bipolar Cycloaddition of Diphenyldiazomethane to Unsaturated Organophosphorus Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 8, 1972, pp 1862-1863

Abstract: The title study was carried out for organophosphorus compounds having the general form



for 12 combinations of R, usually H, and X -- usually alkyl, alkoxyl, aryl, or phenol groups. Values of the velocity constant, ranging from 0.61 to 20.35 are compared with the P=O vibration, from 1190 to 1283 cm⁻¹ in a 0.2M benzene solution, and chemical shift of the P³¹ nucleus, from -10 to -33 m.d. in a 50% acetone solution. The reactivity of the studied compounds were closely correlated with the indicators of the influence of substitutions on the electronic behavior of the P atom. For this reaction the energy of activation E_A = 12.5 ± 0.4 kcal/mole and the entropy Δs = -35.2, in good agreement with the 1,3-bipolar cycloaddition mechanism.

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USSR

UDC 547.241

REMIZOV, A. B., KURAMSHIN, I. YA., and FISHMAN, A. I., Kazan'
State University Imeni V. I. Ul'yanov-Lenin

"Spectroscopical Study of the Internal Rotation Around the P-C Bond
In a Series of Chlorophosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 6, Jun 73,
p 1406

Abstract: The IR spectra of the phosphines $\text{CH}_2\text{ClPCl}_2$, $\text{C}_2\text{H}_5\text{PCl}_2$
and $(\text{C}_2\text{H}_5)_2\text{PCl}$ show changes in relative intensities of the adsorption
bands which appear to depend on the aggregate state and temperature.
Analysis of the experimental material led to the conclusion that
 $\text{CH}_2\text{ClPCl}_2$, $\text{C}_2\text{H}_5\text{PCl}_2$ and $(\text{C}_2\text{H}_5)_2\text{PCl}$ exist as rotational isomers in
solutions and in liquid state. No indications have been found for
rotational isomers of $\text{C}_2\text{H}_5\text{PPhCl}$.

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USSR

UDC 541.6:547.26'118

REMIZOV, A. B., KURAMSHIN, I. YA., AGANOV, A. V., and BUTENKO, G. G., Kazan State University imeni V. I. Ul'yanov-Lenin

"Rotational Isomerism and Internal Rotation About the P-O, the P-S, and the P-C Bond in $\text{CH}_3\text{XP}(=\text{Y})(\text{CH}_3)_2$ and $\text{CH SP}(=\text{Y})(\text{C}_2\text{H}_5)_2$ for (X, Y = O, S)"

Moscow, Doklady Akademii Nauk SSSR, Vol 208, No 5, 1973, pp 1118-1120

Abstract: IR and NMR spectra and dipole moments were used to study the influence of the groups attached to the P atom on the nature of the internal rotation around the P-X bond. IR spectra are shown for the title compound in the gaseous, liquid, and solid phases and in nonpolar and polar solutions. A study of the temperature effect showed that O-methyl dimethylphosphinate and its thione and thiol analogs remain predominately in one configuration. A variety of constants are given for the studied compounds.

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USSR

UDC 547.26'118

PUDOVIK, A. N., GAREYEV, R. D., REMIZOV, A. B., AGANOV, A. V., YEVSTAF'YEV, G. I., and SHTIL'MAN, S. Ye., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Aldol" Type Addition Products of Diazoacetic Acid Esters With α -Ketophosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 559-567

Abstract: A mixture of diethoxyacetophosphonate and ethyldiazoacetate was kept two weeks in the dark at room temperature, poured into water, and decanted, the "aldol" type product -- diethoxy- α -hydroxy- α -carboethoxy-diazomethylethylphosphonate -- being isolated from the oily residue. A detailed structural analysis of the product has been carried out using PMR, IR and UV spectroscopical data.

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- 27 -

USSR

UDC: 547.26'118

REMIZOV, A. B., GAREYEV, R. D., PUDOVIK, A. N., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Rotational Isomerism of Dialkyl Esters of Aceto- and Benzoylphosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, pp 1238-1240

Abstract: The authors studied the infrared spectra of dimethyl and diethyl phosphonate (I and II) and dimethyl benzoylphosphonate (III). The spectra were taken on the UR-20 spectrophotometer. All three compounds were studied in the liquid state, and compound (I) was studied in the gaseous state as well. The effect of temperature was investigated. An analysis of the experimental material showed dynamic equilibrium of two isomers in compounds (I) and (II) due to rotation about the P-C bond. The rotational isomerism is observed in the liquid state both with and without a solvent.

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USSR

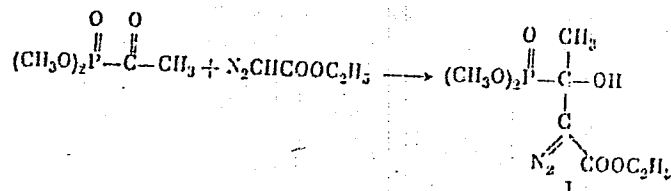
UDC: 547.26'118

PUDOVIK, A. N., ~~REMIZOV, A. B.~~, STABROVSKAYA, L. A., SHTIL'MAN, S. Ye.,
LUSHCHITS, I. G., GAREYEV, R. D., Kazan' State University imeni V. I.
Ul'yanov-Lenin

"Adduct of the 'Aldol' Type of Ethyl Diazoacetate With Dimethyl Acetophos-
phonate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jun 72, p 1421

Abstract: The authors investigated the reaction of dimethyl acetophosphonate with ethyl diazoacetate at room temperature. It was found that an "aldol" addition product is formed without elimination of nitrogen.



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USSR

UDC 547.512+547.341+547.722.2

PUDOVIK, A. N., GAREYEV, R. D., STABROVSKAYA, L. A., YEVSTAF'YEV, G. I.,
REMIZOV, A. B.

"Cyclic Addition of Diazoalkanes to Isopropenylphosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 80-87

Abstract: A study was made of the reactions of diazomethane with esters of isopropenylphosphonic acid. By the addition of diazomethane to isopropenylphosphonates, the corresponding phosphorylated Δ^1 -pyrazolines were obtained which quickly isomerized into Δ^2 -pyrazolines in the presence of bases. By ultraviolet spectroscopy it was established that the tetrahedral phosphorus atom interacts by its d-orbitals with the π -orbital of the C=N radical. With respect to capacity to enter into conjugation it is inferior to the ester carbonyl radical. The concentration and temperature infrared spectroscopy showed that the 3 and 5-phosphorylated Δ^2 -pyrazolines are associated at the expense of the intermolecular hydrogen bonds.

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USSR

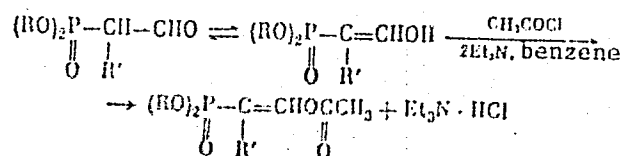
UDC 547.341

MOSKVA, V. V., NAZVANOVA, G. F., ZYKOVA, T. V., RAZUMOV, A. I., REMIZOV, A. B., and SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XII. Acylation of Phosphorylated Aldehydes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 498-501

Abstract: In an attempt to prove keto-enol equilibrium in phosphorylated aldehydes by chemical methods, the authors studied the aldehyde acylation with acetyl chloride in benzene in the presence of triethyl amine, resulting in the synthesis of α -alkyl- β -acyloxyvinylphosphonates from α -phosphorylated propionaldehyde and butyraldehyde.



1/2

USSR

UDC 621.375.82

BEREZOVSKIY, V. V., BYKOVSKIY, Yu. A., and REMIZOV, A. N.

"Parameters of Four-Frequency Carbon Dioxide Transverse-Discharge Laser"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 75-77 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D873 from authors' abstract)

Translation: A study was made of tuning conditions for the emission of a CO₂ laser in the P and R branches of the vibrational transitions between the 00⁰1-10⁰ and 00⁰1-02⁰ levels with wavelengths of 9.3, 9.6, 10.2, and 10.6 microns. The tuning was performed by means of a prism placed in the cavity. The laser emission spectrum was broadened into the short-wave region by means of second harmonic oscillation by tellurium crystals. The corresponding wavelengths of the harmonics: 4.65, 4.8, 5.1, and 5.3 microns. The transformation efficiency in unfocused beams by uncoated crystals was 0.2 percent. Bibliography with six titles.

1/1

- 48 -

USSR

UDC 68:

R

2

DOROGOV, A. YE., BOLOTOV, B. V., KIRILLOV, V. G., OGURTSOV, K. A.,
PRYASHNIKOV, V. M., and REMIZOV, B. A.

"Analog-Digital Decision, Regulating, and Control Computer"

USSR Author's Certificate No 258744, filed 17 Nov 62, Moscow, Otkrytiya
Izobreteniya Promychnennyye Obraztsey i Tovarnyye Znaki, No 1, Jan 70,
p 132

Translation: An analog-digital decision, regulating and control com-
puter which consists of an adder and memory unit, problem input unit,
multiplier, input device for positioning coefficients, and control
desk is presented. Its special feature is the fact that for the pur-
pose of simplification coupled with increased versatility, the adder
and memory units are connected to the outputs of the input device for
positioning coefficients and the multiplier. The output of the input
device for positioning coefficients is connected to the first input of
the multiplier, and the computer input is connected to the second input
of the multiplier through the problem input unit.

1/1

USSR

UDC 621.391.821.029.51

REMIZOV, D. T., OLEJNIKOVA, I. V., KOROLEV, A. N., VYSKREBTSOV, I. G.

"Spectrum of the Fluctuation Component of Atmospheric Noise in the Superlong Wave Range"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 291-294

Abstract: Results are presented for measuring the spectrum of the fluctuation component of atmospheric radio noise in the superlong wave range by the method of spectrographic analysis of the random process from which the pulse component is eliminated in advance. The admissibility of variation of certain parameters characterizing the measurement technique within significant limits was demonstrated experimentally.

Two measurement techniques were used. The first comprised two successive operations: 1) separation of the fluctuation component from the pulse component during reception on a broad frequency band of 1-27 kilohertz, 2) measurement of the spectrum of the fluctuation component. The second method consisted in photographing the noise approximately 100 times in a 5-10 minute interval from an oscillographic screen from which oscillograms were subsequently selected on which the pulse noise was absent. Good agreement was obtained by the two methods.

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Cardiovascular Diseases

USSR

UDC 616.127-005.8:613.13+312.2]-02:
613.13

GOROKHOVSKIY, B. I., DMITRIYEV, A. A., LOKSHINA, P. L., and FEMIZOV, G. A.,
First Aid Institute imeni N. V. Sklifosovskiy, Moscow University imeni M. V.
Lomonosov, Interdepartmental Meteorological Laboratory, and First Aid Station,
Moscow

"Influence of Environmental Factors on Morbidity and Mortality Rates for
Myocardial Infarct"

Moscow, Sovetskaya Meditsina, No 4, 1971, pp 105-109

Abstract: Analysis of over 5,000 cases of myocardial infarct and acute coronary insufficiency in Moscow revealed a definite correlation between the morbidity and mortality rates of these diseases and various meteorological and geophysical factors. Sharp changes in atmospheric pressure in winter resulted in a rise in the mortality rate the same day to 194% of the seasonal mean. A lowering of the mean diurnal temperature in summer by 5° or more increased mortality on the 2d day to 150% of the seasonal mean. Magnetic storms with a sudden onset increased mortality from acute coronary insufficiency and myocardial rupture to 165% three days later regardless of the time of year. Abrupt changes in temperature, solar activity, and so forth are believed to

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USSR

GOROKHOVSKIY, B. I., et al., Sovetskaya Meditsina, No 4, 1971, pp 105-109

impair the neuroregulatory apparatus and/or alter vascular tone, resulting in regional (coronary, cerebral) circulatory disorders. (The authors' analysis was based on the phase matching method whereby the day the phenomenon under study occurs is taken as zero, the preceding days as -1, -2, etc. and the subsequent days as +1, +2, etc.).

2/2

- 30 -

1/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EXPRESS DETERMINATION OF HYDROGEN CONTENT IN ALUMINUM SILICON
ALLOYS UNDER PRODUCTION CONDITIONS -U-

AUTHOR--(04)--VASHCHENKO, K.I.; CHERNEGA, D.F.; BYALIK, D.M.; REMIZOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--KIEV, TEKHNLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP
'52-55

R

DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HYDROGEN, METAL CONTAINING GAS, GAS CONTAINING METAL, ALUMINUM
ALLOY, SILICON ALLOY, LIQUID METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/1321

STEP NO--UR/0418/70/000/001/0052/0055

CIRC ACCESSION NO--AP0123280

UNCLASSIFIED

2/2 027

CIRC ACCESSION NO--AP0123280

UNCLASSIFIED

PROCESSING DATE--30OCT70

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

ABSTRACT. A UNIT WAS DEVELOPED WHICH MAKES

IT POSSIBLE TO DETERMINE HYDROGEN CONTENT IN LIQUID ALUMINUM ALLOYS IN

40-50 SECONDS. MEASUREMENT ERROR CONSTITUTES 5-7PERCENT.

UNCLASSIFIED

1/2 018

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--EFFECT OF TEMPERATURE ON A LIQUID VAPOR EQUILIBRIUM IN AN ETHANOL WATER PROPNAL SYSTEM -U-

AUTHOR--PERELYGIN, V.M., REMIZOV, G.P., KHARIN, S.YE.

R

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (1), 122-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, ETHANOL, WATER, PROPANOL, VAPORIZATION, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1989/1554

STEP NO--UR/0322/70/009/001/0122/0126

CIRC ACCESSION NO--AT0107974

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UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AT0107974

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEVERAL FORMULAS ARE GIVEN FOR
CALCG. LIQ. VAPOR EQUIL. IN AN ETOH-H SUB2 O-PROH SYSTEM AT
50-130DEGREES. THE NOMOGRAMS PRESENTED CAN BE USED FOR THE RAPID DETN.
OF VAPORIZATION AND RECTIFICATION COEFFS. FOR THE COMPONENTS OF THIS
SYSTEM AS A FUNCTION OF COMPN. AND TEMP.

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UNCLASSIFIED

USSR

UDC: 612.813.08

SKOK, V. I., SAVCHUK, V. S., and REMIZOV, I. N., Laboratory of Vegetative Ganglion Physiology (Headed by V. I. Skok), A. A. Bogomol'ts Institute of Physiology

"Analyzer of the Electrical Activity in the Fibers of an Intact Nerve"

Leningrad, Fiziologicheskiv zhurnal SSSR im. I. M. Sechenova, No 10, vol 58, 1972, pp 1638-1641

Abstract: The description is given of an instrument for analyzing the natural pulses of nerve fibers which avoids the deficiencies of earlier instruments designed for this purpose. Construction of the instrument is such as to permit selection of the pulses of particular fibers out of all the pulses of the nerve. A block diagram of the instrument together with a discussion of its operation is given, and the article is illustrated with a photograph of its external view. The front-panel devices and their functions are explained. Operation of the analyzer was checked by investigating the pulses from the erratic nerve of a cat synchronous with its respiration. A curve giving the results of that investigation is reproduced.

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UNCLASSIFIED
 TITLE--STATISTICAL VARIATION OF NUMBER OF ATMOSPHERICS PER UNIT TIME -U-
 PROCESSING DATE--23OCT70
 AUTHOR--(03)-REMIZOV, L.T., VICHROV, V.R., POTAPOV, A.V.
 COUNTRY OF INFO--USSR
 SOURCE--INSTITUTION OF ELECTRICAL ENGINEERS, PROCEEDINGS, VOL. 117, MAY
 1970, P. 894-896
 DATE PUBLISHED-----70
 SUBJECT AREAS--ATMOSPHERIC SCIENCES, ELECTRONICS AND ELECTRICAL ENGR.
 TOPIC TAGS--ATMOSPHERICS, ELECTRIC FIELD, SIGNAL RECEPTION, VERY LOW
 FREQUENCY
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--2000/1113
 CIRC ACCESSION NO--AP0124768
 STEP NO--UK/0000/70/117/000/0894/0896
 UNCLASSIFIED

272 034

CIRC ACCESSION NO--AP0124768
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. EXPERIMENTAL STUDY OF THE
STATISTICAL VARIATION IN THE NUMBER OF ATMOSPHERICS PER UNIT TIME ABOVE
A GIVEN THRESHOLD VALUE OF THE VERTICAL ELECTRIC FIELD STRENGTH.
RESULTS ARE GIVEN FOR THE CASE WHERE RECEPTION IS AT VERY LOW
FREQUENCIES IN A FREQUENCY BANDWIDTH GREATER THAN THE EFFECTIVE
BANDWIDTH OF THE ATMOSPHERICS SPECTRUM. FACILITY: AKADEMIIA
NAUK SSSR, INSTITUT RADIOTEKHNIKI I ELEKTRONIKI, MSUCOW, USSR.

UNCLASSIFIED

USSR

REMIZOV, L. T. and ZAYTSEV, S. A.

UDC: 621.391.821

"Observation of Weak Changes in the Field Intensity of Atmospheric Interference at Ultra-Low Frequencies"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No 8, 1970, pp 1563-1587

Abstract: The authors use the Student statistical criterion for verifying the presence of weak changes in the field intensity of atmospheric interference at individual frequency sections of the ultra-low frequency range in a small time scale. The results show that there are noticeable changes in the power of an atmospheric interference field at 300, 400, and 800 cps and approximately at the same degree at all frequencies. Physically, in comparison to the 3-40 cps range, these variations can be explained by the effect of the pulse component of the interference field at these frequencies. Time heterogeneities exist at all frequencies if the scale exceeds 9 seconds. Original article: two tables, six formulas, and four bibliographic entries.

UNCLASSIFIED
THE "COBRA" SYMPTOM IN THE CLINICAL PICTURE OF GLAUCOMA -U-
AUTHOR--(02)--REMIZOV, M.S., ARMEYEV, A.A. R
PROCESSING DATE--02OCT70

COUNTRY OF INFO--USSR
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 44-48
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EYE DISEASE, BLOOD CIRCULATION, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REL/FRAME--1986/0838
CIRC ACCESSION NO--AP0102800
STEP NO--UR/0357/70/000/002/0044/0048
UNCLASSIFIED