

USSR

DDC 614.7:7615.285.7:632.95:546.56

M
MERENYUK, G. V. and MEDZHIBOVSKAYA, Z. E., Moldavian Scientific Research Institute of Hygiene and Epidemiology

"Pollution of Soil and Fruits by Copper-Containing Pesticides"
Moscow, Gigyena i Sanitariya, No 1, 1970, pp 108-110

Abstract: Field experiments showed that spraying an apple orchard with cuprosan or Bordeaux mixture markedly increased the amount of copper in the soil. Before spraying, the copper content was 7-8 mg/kg, whereas after spraying with a 0.6% cuprosan suspension, the copper concentration increased markedly, reaching a value of 18 mg/kg in the 0-30 cm layer; after spraying with a 1% Bordeaux mixture, 14.2 mg/kg. These pesticides had a similar effect on the soil of vineyards. Copper accumulation in the soil during the growing season was 12 to 25 mg/kg above the control level in the 0-10 cm layer. The behavior of the compounds was largely dependent on the type of soil and its physicochemical properties, the amount of humus, moisture, etc. The concentration of copper in apples treated with a 0.6% cuprosan suspension (30.75 mg of copper per hectare) and 1% Bordeaux mixture

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MERENYUK, G. V., et al., Moscow, Gigyena i Sanitariya, No 1, 1970, pp 108-110

(18.75 kg of copper per hectare) was 5.10 and 4.16 mg/kg, respectively, compared with a maximum of 0.93 mg/kg in apples picked on the control plot. The copper content of grapes sprayed with the pesticides varied with the amount applied per unit of area and depended on the concentration of copper in the soil. Study of the effect of the pesticides on the soil microflora showed that the bacterial population in the soil of the experimental plots was 18.5-79% of that in the control.

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Miscellaneous

USSR

MEDZHIBOZHSKIY, M. YA., and SHIBANOV, V. I., Zhdanov Metallurgical Institute

"Effect of Technological Factors on Desulfuration of Metal in Large Open-Hearth Furnaces"

Novokuznetsk, IzVUZ-Chernaya Metallurgiya, No 6, 1971, pp 59-62

Abstract: For the purpose of studying the process of metal desulfuration in 650-ton open-hearth furnaces and refining the character of the effect on its technological factors (composition of slag, consumption of ore and limestone, etc.) data from 400 heats of steels St 3sp and 15R2S were analyzed. Results of the analysis confirmed the conclusion that the one factor having the greatest effect on the desulfuration of metal is the basicity of the slag. This was determined using equations expressing the distribution of sulfur between the slag and metal. Optimal values of slag basicity (almost 2.7) and the rate of its growth (almost 0.8 liters/hr), the increase of which did not lead to any significant improvement of metal desulfuration, were established. In the existing technology of reducing 650-ton heats and the intensity of blowing the bath (4.5-6.0 m³/ton-hr), the optimum consumption of limestone in this period is 12-14 tons (1.9-2.2% of heat weight). Magnitude of the ratio %FeO/%CaO = 0.3 provides a good assimilation of limestone and the best conditions for lowering sulfur content in the metal. Three figures, 3 bibliographic references. 1/1

USSR

UDC 669.18:542.5

MEDZHIBOZHSKIY, M. Ya., Doctor of Technical Sciences, KUZNETSOV, A. F.,
LYKIN, A. A., and RUDAKOV, G. A., Candidates of Technical Sciences

"Effect on Liquid Steel Output of Certain Parameters of Oxygen Blowing Into a
High-Capacity Martin Furnace Bath"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-
Oct 70, pp 10-12

Abstract: A study was made of the effect of certain parameters of oxygen blowing into a steel bath (blowing rate, oxygen concentration in the blowing-through mixture, melting time, total expenditure of oxidizers, etc.) The oxygen blowing rate substantially affects the liquid metal output, so that there is an increase in metal losses in the form of oxides and regulus in the slag and as dust in the combustion products. The relationship between the blowing intensity and metal losses is expressed by a formula established from data on more than 300 melts. It follows from this formula that every 1000 m³/hr increase in blowing rate reduces the liquid metal output by 1.2%. This may be compensated by reducing the melting time and oxygen concentration in the blowing-through mixture.

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MEDZHIBOZHSKIY, M. Ya., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 10-12

A reduction in oxygen concentration from 95 to 65% at a 3000 m³/hr average blowing rate increased the liquid steel output by 1.7%. Figures show the dependence of liquid steel output on oxygen purity, melting time, specific oxygen flow rate and total expenditure of oxides. A table shows results of a series of experimental meltings conducted with the purpose of determining the metal losses in the form of dust and slag particles.

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--POSSIBLE DETERMINATION OF THE SPIN NUMBER OF COMPLEXES IN SOLUTIONS
BY A PARAMAGNETIC PROBE METHOD -U-
AUTHOR--(03)-LIKHTENSHEYN, G.I., GREBENSHCHIKOV, YU.B., MEDZHIDOV, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 812-14
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METAL COMPLEX COMPOUND, EPR SPECTRUM, PARAMAGNETISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1701 STEP NO--UR/0076/70/044/003/0812/0814
CIRC ACCESSION NO--AP0125322
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125322

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD IS CONFORMED EXPTL. FOR A NO. OF 4TH PERIOD METAL COMPLEXES, SHOWING LINEAR RELATION BETWEEN BROADENING OF THE EPR SPECTRUM OF THE SPIN PROBE AND THE PRODUCT OF PARAMAGNETIC OCNCN. AND NO. OF UNPAIRED ELECTRONS, GOVERNING ITS PARAMAGNETISM. FACILITY: INST. KHIM. FIZ., CHERNOGOLOVKA, USSR.

UNCLASSIFIED

1/2 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--MAGNETIC PROPERTIES OF COMPLEXES OF COPPER(II) WITH SCHIFF BASES
DERIVATIVES OF IMINOXYL RADICALS -U-

AUTHOR--(04)--MEZHIDCV, A.A., MANEKOVA, YU.G., LYUBOVSKIY, R.B.,
KURICHENKO, L.N.

COUNTRY OF INFO--USSR

M

SOURCE--TEKH. EKSP. KHIM. 1970, 6(1), 133-7 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MAGNETIC PROPERTY, COPPER COMPLEX, SCHIFF BASE, IMINE, EPR
SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1169

STEP NO--UR/0379/70/006/001/0133/0137

CIRC ACCESSION NO--AP0128591

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128591

ABSTRACT/EXTRACT--(U) GP-1- ABSTRACT. THE EPR SPECTRA AND THE MAGNETIC SUSCEPTIBILITY WERE OBT. FOR COMPLEXES OF CU WITH PARAMAGNETIC AND DIAMAGNETIC SCHIFF BASES. THE RESULTS ARE TABULATED. THE DATA FOR THE COMPLEXES WITH THE PARAMAGNETIC SCHIFF BASES SHOW THAT THE LARGER THAN N,O GROUP OF THE PARAMAGNETIC LIGAND CAN PARTICIPATE IN THE FORMATION OF THE COORDINATION BOND WITH THE CENTRAL METAL ION. IN THIS CASE, DIAMAGNETIC AS WELL AS PARAMAGNETIC COMPLEXES ARE FORMED. APPARENTLY, THE BOND WITH THE RADICAL GROUP IS FORMED THROUGH THE O ATOM.
FACILITY: INST. KHIM. FIZ., CHERNOGOLOVKA, USSR.

UNCLASSIFIED

USSR

KADYROVA, T. K. and MEDZHIDOV, B. F.

K Epidemiologii, Virusologii i Klinike Neyrogrippa v Azerbaydzhanskoj SSR
(Epidemiology, Virology, and Clinical Picture of Neuroinfluenza in the Azer-
baydzhan SSR), Baku, 1971, 122 pp

Translation:

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USSR

KADYROVA, T. K. and MEDZHIDOV, B. F., K Epidemiologii, Virusologii i Klinike Neyrogrippa v Azerbaydzhanskoy SSR, 1971, 122 pp

CHAPTER 4. Pathogenesis of Neurological Lesions in Influenza 89

CHAPTER 5. Morphological Changes in the Central Nervous System in Experimental Influenza

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BIBLIOGRAPHY

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1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF OXYGEN BLOWING OF AN OPEN HEARTH BATH ON THE QUALITY OF
LOW ALLOY STEEL -U-

AUTHOR--LASHCHEV, B.YA., DVORYANINOV, V.A., MEDZHIBOZHSKIY, M.YA.,
KURAPIN, B.S., KOVALENKO, V.S.

COUNTRY OF INFO--USSR

M

SOURCE--STAL' 1970, 30(1), 20-5

DATE PUBLISHED-----70

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

TOPIC TAGS--OPEN HEARTH FURNACE, OXYGEN, LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1987/0160

STEP NO--UR/0133/70/030/001/0020/0025

CIRC ACCESSION NO--AP0103839

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103839

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARISON HEATS WERE MADE IN A 300 TON GAS FIRED OPEN HEARTH FURNACE BY BLOWING THE BATH WITH O, OR BY ADDING THE LATTER TO THE FLAME, BY VARYING BLOWING RATE AND THE TIME BETWEEN THE END OF BLOWING AND DEOXID. INCREASING BLOWING RATE 6.7-11.7 M PRIME3-TON-HR AND SHORTENING TIME BEFORE DEOXID. FROM 55 TO 7-15 MIN LOWERED H CONTENT, AND THAT OF N FROM 0.0043 TO 0.0038, PURITY OF O HAVING NO EFFECT ON THIS REDN. EXCESS O IN THE METAL OVER THE EQUIL. IS NOT AFFECTED BY THE MANNER OF O INTRODUCTION WHEN ITS C IS GREATER THAN 0.4PERCENT, BUT IT INCREASES PROPORTIONALLY TO THE BLOWING RATE WHEN C DROPS TO 0.15-0.20PERCENT. NONMETALLIC CONTENT AND MECH. PROPERTIES ARE UNAFFECTED BY THE WAY IN WHICH O IS INTRODUCED IN THE METAL.

UNCLASSIFIED

USSR

UDC 616.986.7-035.2(571.1)

MEFOD'YEV, V. V. and VALOVA, G. P., Tyumen' Institute of Regional Infectious Pathology

"Motivating Factors in Leptospirosis Epidemics in Western Siberia: a Review of the Literature"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 87-91

Abstract: Natural foci of leptospirosis embrace the tundra, forest-tundra, forest, forest-steppe, steppe, and Altay-Sayany mountain zones of Western Siberia where rodents are the main carriers of the pathogen, and most epidemics have originated. However, the situation changed during the last 10 years because of the mechanization of agriculture, development of livestock raising, and rapid industrialization. Numerous outbreaks have occurred among the inhabitants of new cities and settlements chiefly as a result of drinking or swimming in the water of small rivers and ponds contaminated by the excretions of infected cattle. The article includes two tables, one showing the etiological structure of leptospirosis among farm animals (by landscape zone, animal species, and leading serotypes isolated) and the other showing the immunological structure of the local population (by landscape zone, leading serotypes isolated, and number of positives in the agglutination-lysis test).
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Inorganic Compounds

USSR

UDC 546.799.3 226-386+546.791.5 226-386

MEFOD'YEVA, M. P., KROT, N. N., BUGAKOVA, L. N., and GEL'MAN, A. D., Institute of Physical Chemistry, Acad. Sc. USSR

"Synthesis of Some Neptunium (VI) and Uranium (VI) Sulfates"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72, pp 1423-1425

Abstract: Complex sulfates of hexavalent neptunium and uranium were prepared from aqueous solutions of the starting materials. Following complexes were isolated: $K_2NpO_2(SO_4)_2 \cdot 2 H_2O$, $Cs_2NpO_2(SO_4)_2$,

$Cs_2(NpO_2)_2(SO_4)_3$, $[Co(NH_3)_6]_2NpO_2(SO_4)_4 \cdot n H_2O$ ($n = 5$ or 8),

$[Co(NH_3)_6]_2UO_2(SO_4)_4 \cdot n H_2O$ ($n = 5$ or 8), $[Co(NH_3)_6]_2(UO_2)_2(SO_4)_5 \cdot 6H_2O$,

$[Co(NH_3)_6]_4Cs_6[UO_2(SO_4)_4]_3 \cdot 8 H_2O$.

It has been established that the bond strength of neptunium and uranium with the SO_4 groups increases when the $Co(NH_3)_6^{2+}$ ions are partially substituted in the internal sphere with the Cs^+ ions. The bond strength of oxygen with

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MEFOD'YEVA, M. P., et al, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72,
pp 1423-1428

neptunium in disulfate complexes is about the same as in the tetrasulfates;
these complexes may coexist in the solutions. Selective isolation of one of
these forms in preference to the other depends on the selection of the cation.
The frequencies of the antisymmetric vibrations in the IR spectra of uranium
and neptunium complexes are about the same for similar composition types.

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Inorganic Compounds

USSR

UDC 541.51:546.799.3

KROT, N. N., ~~MEED'YEVA~~ M. P., SHILOV, V. P. and GEL'MAN, A. D.

"Heptavalent State of Transuranium Elements. IX. New Methods for Obtaining Neptunium (VII). Disproportionation of Neptunium (VI) in Alkaline Media"

Leningrad, Radiokhimiya 12, No 3, 1970. pp 471-477

Abstract: In dilute alkaline solutions, neptunium (VI) is reversibly oxidized to the heptavalent state by ferricyanide ions. For a constant value of the ionic strength, the equilibrium constant of the reaction is proportional to $[\text{OH}^-]^3$. The interaction of neptunium (VI) with silver oxides was studied in alkaline media. It was established that silver suboxide oxidizes neptunium (VI) to an appreciable extent only in solutions with an alkali concentration of more than 8 M. In the presence of AgO, neptunium (VII) is formed with 0.2M KOH. Neptunium (VI) is practically quantitatively oxidized by an excess of AgO when the alkali concentration is 2-3 M. An excess of KBrO_3 (at 290-310°) or KClO_3 (at 390-400°) will completely and rapidly oxidize neptunium to the heptavalent state in alkali metal melts. The interaction of H_2O_2 with the above oxidizing agents is slow and does not go to completion. In some alkaline solutions, neptunium (VI) is to a substantial extent disproportionated into neptunium (VII) and (V). The equilibrium constant of this extremely rapid reaction increases sharply with increasing alkali concentration.

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1/2 006 UNCLASSIFIED PROCESSING DATE--18NOV70
TITLE--HEPTAVALENT STATE OF THE TRANSURANIUM ELEMENTS. IX. NEP NEPTUNIUM
VII COMPOUNDS -U-
AUTHOR-(03)-MEFODYEVA, M.P., KRGT, N.N., GELMAN, I.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOKHIMIYA 1970, 12(2), 232-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NEPTUNIUM COMPOUND, COBALT COMPLEX, COMPLEX COMPOUND,
STABILITY CONSTANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1228 STEP NO--DR/0186/70/012/002/0232/0237
CIRC ACCESSION NO--A00128644
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128646

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A NEW CRYST. COMPO. OF NP(VII) OF
 COMPN. (CO(EN) SUB3) NPO SUB5. EN SUB2 J HAS BEEN ISOLATED. IT IS SOL.
 IN ALKALI AND WHEN STORED IN A DRY STATE IT GRADUALLY DECOMPS. WITH THE
 TRANSITION OF NP TO A HEXAVALENT STATE. A SPECTROPHOTOMETRIC STUDY OF
 COMPLEX FORMATION OF NPO SUB2 PRIME3 POSITIVE IN HCL SOLNS. WITH SULFATE
 IONS SHOWS THAT AT LESS THAN OR EQUAL TO 7 TIMES 10 PRIME NEGATIVE2 M NA
 SUB2 SO SUB4 AND NO EQUALS 1.0, THE COMPLEXES (NPO SUB2 SO SUB4) PRIME
 POSITIVE AND (NPO SUB2 (SO SUB4) SUB2) PRIME NEGATIVE ARE FORMED WITH
 STABILITY CONSTS. OF 1.6 TIMES 10 PRIME2 AND 1.1 TIMES 10 PRIME4, RESP.
 CONDITIONS ARE GIVEN AT WHICH NPO SUB2 PRIME3 POSITIVE FORMS PPTS. WITH
 PHOSPHATE AND PERIODATE IONS.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--HEPTAVALENT STATE OF NEPTUNIUM AND PLUTONIUM -U-

AUTHOR--(03)-KROT, N.N., GELMAN, A.D., MEFODYEVA, M.P.

COUNTRY OF INFO--USSR

SOURCE--VESTN. AKAD. NAUK SSSR 1970, 40(3), 47-61

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NEPTUNIUM, PLUTONIUM, REDOX REACTION, CHEMICAL VALENCE,
HYDROGEN ION CONCENTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1995/0825

STEP NO--UR/0030/70/040/003/0057/0061

CIRC ACCESSION NO--AP0116354

UNCLASSIFIED

272 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116354

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. PROVING THE EXISTENCE OF NP
PRIMEVII AND PU PRIMEVII ARE SURVEYED. REDOX POTENTIALS OF NP
PRIMEVII-NP PRIMEVI AND PU PRIMEVII-PU PRIMEVI WERE EXPTL. DETD. AS 0.8
AND 0.95 PLUS OR MINUS 0.15V IN M NaOH. THE POTENTIAL OF NP PRIMEVII-NP
PRIMEVI AT PH SMALLER THAN 7 WAS DETD. AS GREATER THAN 2 V.

UNCLASSIFIED

USSR

UDC: 538.4

SHARIKADZE, D. V., MEGAKHED, A. A.

"Nonstationary Flow of a Conductive Viscous Fluid Between Parallel Porous Walls With Heat Transfer"

Moscow, Magnitnaya Gidrodinamika, No 4, 1972, pp 25-30

Abstract: The authors consider nonstationary flow of a viscous, incompressible, electrically conductive fluid between two parallel permeable non-conductive moving walls with regard to heat transfer, when a homogeneous external magnetic field is applied perpendicular to the walls. Both viscous dissipation and Joule heat are considered in the heat transfer equations. In the basic equations of magnetohydrodynamics the rate of permeation is substituted for the transverse flow velocity, and the resultant system of equations is reduced to solution of Volterra integral equations of the second kind. In the case of a magnetic Prandtl number equal to unity a solution in explicit form is found, expressed in tabulatable functions.

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UDC 539.3

USSR

MEGLINSKIY, V. V.

"Bending of a Multiconnected Anisotropic Plate Supported Along the Contour"

V sb. Nekoter. zadachi teorii uprugosti o kontsentratsii napryazh i deformatsii uprug. tel. Vyp. 6 (Certain Problems in Elasticity Theory on Stress Concentration and the Deformation of Elastic Bodies. No. 6 -- Collection of Works), Saratov, Saratov University, 1971, pp 59-66 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6V149)

Translation: The bending of an elliptical anisotropic plate freely supported along the outer contour with a finite number of elliptical openings reinforced by absolutely rigid rings is considered. Complex functionals and Faber polynomials are used in the representation of the solution. After expansion of the right sides into Fourier series, the problem leads to $(2 + N)$ infinite systems of linear algebraic equations, where N is the number of internal contours. The system is not investigated. An example is given of a calculation of an orthotropic plate in the form of a circular concentric ring with a moment uniformly distributed along the outer contour. Diagrams of the moments along the contour of a joint with a rigid central disc are given. The sufficiency of the selected number of equations is evaluated in terms of the degree of satisfaction of the boundary conditions. A. G. Ugodchikov.

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UDC 518:512.25

USSR

MEGLINSKIY, V. V., and FROLOVA, G. I.

"Use of Electronic Computers in Solving the Problem of Bending an Anisotropic Plate With an Opening, Supported Along Its Edges"

Saratov, Vychisl. metody i programmirovaniye. -- Sbornik (Computational Methods and Programming -- Collection of Works), No 4, Saratov Univ. Pub. House, 1970, pp 46-55 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B904, by I. Shelikhova)

Translation: A numerical method of solving the problem of bending a thin anisotropic elliptical plate with an elliptical opening, supported on its edge and bent under the action of constant-intensity moments applied along its edge, is presented. By means of functions of generalized complex variables, the solution of the problem reduces to the solution of an infinite system for linear algebraic equations with complex coefficients. The results of numerical calculations on a Ural-2 computer, in which a specialized interpreting system was employed for computations with complex numbers, are discussed. These numerical calculations revealed the substantial effect of the material's anisotropy on the stress-strain state of the plate.

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USSR

MEGLINSKIY, V. V., Saratov

"Concentration of Stresses around Elliptical Elastic Inclusions in a Thin Anisotropic Plate"

Moscow, Mekhanika Tverdogo Tela, No 6, Nov/Dec 70, pp 97-103

Abstract: The author considers elastic equilibrium of an elliptical anisotropic plate of constant thickness with a finite number of elliptical openings. Freely fitting elastic bodies made from other anisotropic materials are cemented or soldered in these openings. The plate is assumed to be subjected to bending forces distributed around the outer edge. The solution reduces to an infinite system of linear algebraic equations with complex coefficients. It is shown that a solution may be derived from this system for the case where all or some of the inclusions are absolutely rigid or absolutely flexible. A plate with a single elastic inclusion is considered as a special case. It is assumed that the body is cemented in the center of the plate, and that uniformly distributed bending moments act around the edge of the plate.

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1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--FLUX DENSITIES OF SOME RADIO SOURCES IN THE FREQUENCY RANGE 12-25
 MHZ -U-
 AUTHOR--(05)-BRAUDE, S.YA., LEBEDEVA, O.M., MEGN, A.V., RYABOV, B.P.,
 ZHOUCK, I.N.
 COUNTRY OF INFO--USSR M
 SOURCE--ASTROPHYS. LETTERS (GB), VOL. 5, NO. 3, P. 129-32 (MARCH 1970)
 DATE PUBLISHED----MAR 70
 SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION
 TOPIC TAGS--ELECTRON FLUX, RADIO TELESCOPE, COSMIC RADIO SOURCE/(U)UTRI
 RADIO TELESCOPE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1992/0539 STEP NO--UK/0000/70/005/003/0129/0132
 CIRC ACCESSION NO--AP0111732
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 019

CIRC ACCESSION NO--AP0111732

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

ABSTRACT. THIS PAPER PRESENTS MEASUREMENTS OF THE FLUX DENSITIES OF 33 DISCRETE RADIO SOURCES, MADE WITH THE RADIO TELESCOPE UTR-1 IN GRAKOVO, AT FREQUENCIES RANGING FROM 12.6 TO 25 MHZ. FACILITY: ACAD. SCI. UKRAINIAN SSR, KHARKOV, USSR.

UNCLASSIFIED

USSR
ENGINEERING
Acoustical and Ultrasonic

USSR

UDC 550.83.01

ALEKSEYEV, A. S. and MEGRABOV, A. G.

"Direct and Inverse Problem of Plane Wave Scattering in Non-Uniform Transition Layers. I. (Problems for SH-type Waves in the Hyperbolic Case)"

Novosibirsk, Mat. Probl. Geofiz.--Sbornik (Mathematical Problems of Geophysics --Collection of Works), No 3, 1972, pp 8-36 (from Referativnyy Zhurnal--Geologiya, No 5, May 73, Abstract No 5D115 by the authors)

Abstract: The problem of scattering of plane obliquely moving waves of the SH type on a non-uniform elastic and isotropic space (or in the partial case of a transition layer) with arbitrary laws of change of properties as functions of normal coordinates in the hypothesis about the plane character of a reflected wave can be reduced to a certain two-dimensional case with an oblique arbitrary wave which in relation to the nature of an un-uniform medium and angle of incidence can have hyperbolic, elliptical and mixed types. Formulation of the direct problem is given for the first two cases and the direct and inverse problems for the hyperbolic case are solved. Solution of the direct problem is based on the method of separation of variables; the corresponding unidimensional operator turns out to be non-self-adjoint in this instance. The found solution of the direct problem makes it possible to take the inverse problem--determination of the characteristics of non-uniform scattering;

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USSR

ALEKSEYEV, A. S. and MEGRABOV, A. G., Mat. Probl. Geofiz.--Sbornik, No 3,
1972, pp 8-36

half-space for the given forms of moving and reflected waves--to be known
inverse spectral problem of Sturm-Liouville.

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USSR

CHAVCHANIDZE, Corresponding Member of the Georgian Academy of Sciences V. V.;
MEGRELISHVILI, R. Sh.; EBRALIDZE, T. D. (Georgian Academy of Sciences, Institute of Cybernetics)

"Holography through a Diaphragm with a Small Opening"

Tbilisi, Bulletin of the Academy of Sciences of the Georgian SSR; March, 1974;
pp 569-72

Abstract: The authors present a theoretical analysis of the object images produced in a pinhole camera and reconstructed from part of hologram whose dimensions are commensurable with the dimensions of the pinhole camera. The identify of these images is shown mathematically, and the possibility of reconstructing the object projective image from a small part of the hologram in white light was found. On this basis the question of object holography in non-coherent light by means of a pinhole camera was studied.

The article includes six equations. There are three references.

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USSR

UDC: 621.371.332.3

LANDE, B. Sh., KRASYUK, N. P., MEGRETSKAYA, I. I.

"On the Space-Time Characteristics of the Field of Scattering From a Rough Surface"

Tr. Sev.-Zap. zauch. politekhn. in-t (Works of the Northwest Polytechnical Correspondence Institute), 1972, No 20, pp 16-18 (from *Elektronnaya Tekhnika*, No 12, Dec 72, abstract No 12G24 [résumé])

Translation: Solutions are found for the problem of scattering of microwaves on a statistically rough surface in the Kirchhoff approximation with small perturbations, and an expression is derived for space-time correlations in the envelope of scattered radio signals under conditions of high radar resolution.

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USSR

UDC 621.372.

KRASYUK, N. P., LANDE, B. SH. MEGRETSKAYA, I. I.

"Effect of Radar Resolution on the Spectral Width of a Microwave Signal Scattered by the Sea Surface"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2152-2184

Abstract: The theory of radio wave scattering from the sea surface simulated in the form of a superposition of large and small unevennesses has been presented previously as applied to electromagnetic waves [I. M. Fuks, Izv. vuzov MVSSO SSSR (Radiofizika), Vol 9, No 5, 876, 1966]. The nondissipative mechanism of broadening of the spectrum as a result of the orbital motion of the particles is established in the form

$$\Delta f(\text{hertz}) = (q/2)\sqrt{gh}\gamma/\pi,$$

where h is the mean square height of the surface, γ is the dispersion of the slope angles, g is the gravitational constant and q is the wave number. Considering that the sea surface is a random surface with respect to heights with a normal distribution law, the question of the effect of the dimensions of the resolved section of the surface on Δf has remained unclear. Expressions are derived for this mechanism, and the band width $2\Delta f$ at the half power level is $1/2$

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KRASYUK, N. P., et al., Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2182-2184

defined in the form

$$2\Delta f = \sqrt{2.8\beta + \delta^2} / \pi.$$

The values of $2\Delta f$ are plotted as a function of L -- the linear dimension of the resolved area. In the general case the graphs of the function contain two horizontal segments on the upper and lower levels. The first of these levels corresponds to the limiting high resolution and extends to $L \sim 30$ meters. In this case the spectral width is in accordance with the function presented by Fuks. The second horizontal segment corresponds to the limiting low resolution of the instrument and extends from $L \approx 1,000$ meters. In this case the spectral width arises from the dissipative mechanism of damping of the capillary waves and is in accordance with the function presented by F. G. Bass, et al., [Izv. vuzov MVSSO SSSR (Radiofizika), Vol 2, No 2, 290, 1963].

With high resolution of the instrument the value of $2\Delta f$ is larger, the higher the wind velocity and the slip angle of the radio beam. The minimum slip angle during irradiation of the surface opposite to the wind effect is approximately $3-4^\circ$ inasmuch as the distribution law of the slope angles differs from the normal in this case and has a shifted mean value.

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- 60 -

Acc. Nr:

AP0048444

Abstracting Service:

INTERNAT. AEROSPACE ABST

Ref. Code:

U R O O 3 0

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[A70-25129 # New photographic materials for astronomy and spectroscopy (Novye fotograficheskie materialy dlia astronomii i spektroskopii). P. V. Meiklar and G. D. Dokuchayev, *Akademiia Nauk SSSR, Vestnik*, vol. 80, Feb. 1970, p. 45-48. In Russian.]

Discussion of five astronomic films (A-600, A-600, A-660, A-700, and A-700 F) of improved light-sensitivity, produced at the Kazan Chemical Plant. The resolving power of the films is 70 to 80 lines per mm. The films are covered with a mechanically stable antihalo lacquer film. The A-700 F films retain their high light sensitivity beyond the green region of the spectrum. Several new emulsions are also noted.

V.P.

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USSR

UDC 547.567.5+547.26*118

TUTOV, YE. A., AVBEYENKO, A. P., and MEKH, A. YA.

"The Reaction of Substituted p-Quinonmonoamines with Di(chloralkyl) Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2577-2578

Abstract: The title reaction occurs by the 1-6 addition and leads to the formation of dichloralkyl [4-arenesulfonamidophenyl(naphthyl)] phosphates. The reaction of the unsubstituted dialkylphosphates occurs with more difficulty and at a higher temperature than the analogous reaction with the substituted compounds. IR spectra of the products showed bands at 3160, 1349, 1176, 1248, and 1033 cm^{-1} , characteristics of the NH, SO_2 , P — O — Ar,

P — O — Alk groups respectively.

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USSR

UDC 621.318.563.2

MEKHANIK, V. P., PROKUSHENKOV, G. I.

"Method of Recording Threshold Frequency"

USSR Author's Certificate No 285104, Filed 6/03/69, Published 7/04/71,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A50 P from the Resume).

Trans: In a well-known method the threshold frequency is recorded by conversion of the pulse repetition frequency to a voltage and subsequent comparison of this voltage with a voltage corresponding to the threshold value of frequency. One shortcoming of this method is its inertia, which is particularly manifest with a low threshold frequency. The method suggested allows the time required to record the threshold frequency to be decreased by formation of pulses, the length of which is equal to the period of pulses at the threshold frequency, which merge into a single comparison pulse when the frequency of the initial sequence of pulses becomes greater than the threshold frequency. At the same time, the length of each pulse formed is converted to a voltage. If the frequency of the initial sequence of pulses is less than the threshold frequency, when these pulses arrive at the input of the pulse former, threshold pulses are formed, the length of which is equal to the time interval between two successive pulses of the threshold frequency.

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UDC 621.318.563.2

MEKHANIK, V. P., PROKUSHENKOV, G. I., USSR Author's Certificate No 285104,
Filed 6/03/69, Published 7/04/71.

The pulse convertor transforms the pulse length to a proportional voltage which, however, does not reach the threshold value during the time of a threshold pulse. Increasing the frequency of the initial pulse sequence causes a decrease in the time interval between the threshold pulses formed. When the frequency of the initial pulse sequence reaches the threshold frequency, the threshold pulses merge and a coincident pulse is formed with a length determined by the time during which the frequency of the initial sequence of pulses is exactly equal to or greater than the threshold frequency. If the control voltage developed by the pulse convertor reaches the threshold voltage, a relay element fires. As soon as the frequency of the initial pulse sequence becomes less than the threshold frequency, formation of coincidence pulses stops. The control voltage becomes equal to zero and the relay element is deactivated. The recording time can be adjusted by changing the threshold voltage at which the relay element fires and also by changing the slope of the control voltage curve. The minimum recording time in the ideal case is equal to the length of a threshold pulse. However, in practice the minimum recording time should be set considering possible fluctuations of the time interval between pulses of the recorded threshold frequency. 2

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USSR

UDC 621.317.7.023.088

MEKHANIKOV A. I.

"Estimate of the Accuracy of Panorama Measurers on Superhigh Frequencies"

Moscow, Metrologiya, No 3, 1972, pp 31--35

Abstract: Panorama measurements in circuits with distributed parameters, like the majority of other measurements on superhigh frequencies, are erroneous, the components of the error are usually a random error and a mismatching error. If the values of the modules of the dispersion coefficients on every frequency are not known, additional conditions describing the statistical characteristics of the modules of dispersion coefficients in the frequency band must be introduced for estimating the resulting error. On the basis of these conditions, a method for the calculation of the resulting error in the frequency band is suggested. The confidence interval of the error by a 0.997 fiducial probability can be found from a plotted graph without calculations. The application of the method is demonstrated on an example. Two illustr., seven formulas, three biblio. refs.

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USSR

UDC: 621.317:621.372.8

MEKHANNIKOV, A. I., MYL'NIKOV, A. V.

"Master Waveguide Standards for Low Attenuations"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 32-40 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A210)

Translation: The authors describe the design and give the analytical calculation of master waveguide standards for small attenuations (0.1-1.0 DB). Master standards of this type have been developed at the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements. These standards are designed for inspection work in the section dealing with instruments for measuring low attenuations in waveguide channels at frequencies of 2.14-16.7 GHz. Five illustrations, two tables, bibliography of four titles. Resumé.

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USSR

UDC: 621.372.832

MEKHANNIKOV, A. I., GRIGOROVA, V. R.

"Directional Waveguide Couplers With Identical Coupling Elements in the Narrow Wall"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 170-176 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B129)

Translation: The authors consider the characteristics of a wide-band directional waveguide coupler with coupling in the common narrow wall. It is shown that high directivity (30-40 DB) can be realized with coupling elements of identical dimensions by proper arrangement of the elements. Experimental results are presented. Three illustrations, bibliography of three titles. Resumé.

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USSR

UDC: 621.317.34:621.372.8

MEKHANNIKOV, A. I., PETROVA, T. I.

"A Simple Method of Measuring Attenuation of a Section of Regular Waveguide"

Tr. VNIi fiz.-tekh. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 50-51 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B176)

Translation: A simple method is proposed for realizing the resonance method of measuring small attenuations of regular waveguides of rectangular cross section operating on the fundamental mode. A block diagram of the measurement installation is given. Resumé.

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USSR

UDC: 621.317.089.66

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MEKHANNIKOV, A. I.

"Standard Measures of Small Attenuations in Waveguide Channels and a Method for Calibrating Them"

Dokl. Nauchno-tekhn. seminar "Metrol. v radioelektron." Tezisy, Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, pp 43-45 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7A181)

Translation: At the All-Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements, standard waveguide measures for small attenuations (0.1-1 DB) have been developed for storage as well as for reproducing a unit of attenuation for work in the centimeter wavelength range (2.14-16.7 GHz). These measures have the following characteristics: $VSWR \leq 1.1$, attenuation error 0.01-0.03 DB. Some data are given on the construction of these measures and on a proposed method of comparison for checking them. E. L.

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USSR

UDC 539.4:536.453

MEKHED, G. N., MINTS, R. S., MALKOV, Yu. S., TOROPOV, V. M., AKIF'YEVA, O. I.

"Investigation of the Mechanical Properties of Type NIAN Alloys in the Cast and Deformed State"

V sb. Protsessy formoizmeneniya met. i splavov (Processes of Deformation of Metals and Alloys--collection of works), Moscow, "Manka", 1971, pp 122-125 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V893)

Translation: The mechanical properties (breaking point, relative lateral contraction, relative longitudinal extension) of type NIAN alloys (Ni, Nb, Al) were determined in the temperature range of 20-1100°C by a standard procedure. The resultant data show that the strength decreases monotonically with an increase in testing temperature. The ductility properties of the alloys change little with an increase in temperature up to a certain point, after which they increase noticeably. Adding molybdenum and zirconium to NIAN-2 alloy increases the strength properties of the alloy appreciably throughout the entire temperature range. It was found that deformation increases the strength and ductility of NIAN type alloys. The

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MEKHED, G. N. et al., Protsessy formoizmeneniya met. i splavov, Moscow, "Nauka", 1971, pp 122-125

breaking point of NIAN-2 alloy at room temperature in the deformed state is 2.5 times the breaking point of the alloy in the cast state. The increase in strength of type NIAN alloys after deformation may be attributed to cold hardening and deformation aging. Authors' abstract.

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USSR

UDC 539.4:536.453

MEKHED, G. N., MINTS, R. S., AKIF'YEVA, O. I., TOROPOV, V. M.

"Flow Curves for Nickel-Base Alloys"

V sb. Protsessy formoizmeneniya met. i splavov (Processes of Deformation of Metals and Alloys--collection of works), Moscow, "Nauka", 1971, pp 140-144 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V884)

Translation: A study was made of the effect which molybdenum and zirconium have on the mechanical properties of Ni-Nb-Al alloys in the cast state at heat-treat temperatures. The mechanical properties were determined by studying specimens on the MK-20 machine at temperatures of 900, 1000, and 1100°C. From the working diagrams, the maximum tangential stresses τ_{max} and octahedral shear q_n were computed, and flow curves were plotted. The results show that doping nickel-base alloys with Mo and Ir has a favorable effect on the high-temperature strength of these alloys, which may be attributed to the solubility of these elements in each of the structural components of the alloys, and to the refining action of Mo and Zr on the grains of the metal and on the boundaries between them. Authors' abstract.

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USSR

UDC 539.4:536.453

PAVLOV, I. M., MEKHED, G. N., Wang Yu-Ming

"Mechanical Properties of High-Strength Steels Grades 45KhNT and 60KhNYu"

V sb. Protsessy formoizmeneniya met. i splavov (Processes of Deformation of Metals and Alloys--collection of works), Moscow, "Nauka", 1971, pp 109-118 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V789)

Translation: The paper gives the mechanical properties and chemical composition of 45KhNT and 60KhNYu high-strength steels from room temperature to 1200°C. The mechanical properties were determined in tensile and impact strength tests. At room temperature, the breaking point of 45KhNT steel reaches 90-91 kg/mm², the yield point is 70-74 kg/mm², relative lateral contraction is 44%, and relative longitudinal extension is 17%. Under the same conditions, 60KhNYu steel has $\sigma_b \approx 98$ kg/mm², $\sigma_s \approx 76$ kg/mm², relative lateral contraction is 48%, and relative longitudinal extension and impact strength are the same as for 45KhNT steel. The presence of unstable regions of supercooled austenite on isothermal conversion diagrams means that these steels can be thermoplastically heat treated at low temperatures. Authors' abstract.

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USSR

UDC 539.385

LAVROV, B. A., MEKHEDA, V. A.

"Comparative Evaluation of Fatigue Strength Under Random and Programmed Loads"

Tr. Kuybyshev. aviats. in-t (Works of Kuybyshev Aviation Institute), 1971,
No. 48, pp 231-245 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1506)

Translation: Various methods for constructing a repetition curve necessary for the formation of block programs for fatigue tests are discussed. Program tests of samples, with a hole, made of 30KhGSA steel and D16Al alloy are given for which three types of blocks constructed on the basis of maximum peak values of the particular achievement, in terms of the extrema (after substituting the sign of the load) and on the basis of scale were applied. The results of program tests are compared with the results of tests under a random load on the basis of an achievement covered earlier. It is shown that block loading is a more harmful (in terms of breakdown) form of testing than a random test, so that the first two types of blocks give results that are little different. The program constructed on the basis of dimensions is called unsuitable for the reproduction of operational loading. 10 ref. S. V. Petinov.

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USSR

UDC: 621.372.852.4

KOROBKIN, V. A., PYATAK, N. I., MEKHRIKIN, A. A., Khar'kov "Order of the Red Banner of Labor" State University imeni A. M. Gor'kiy

"An Electrically Controlled Waveguide Polarizer"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 310601, Division H, filed 5 Jan 70, published 30 Mar 72, p 241

Translation: This Author's Certificate introduces an electrically controlled waveguide polarizer consisting of a section of circular waveguide with a ferrite insert installed on its axis in a controlling external longitudinal magnetic field. As a distinguishing feature of the patent, the polarizer is designed for converting a linearly polarized wave to right- or left-hand circularly polarized waves in a wide frequency band, and for reducing the external magnetic field strength. The above-mentioned insert is made in the form of coaxial ferrite cylinders separated by an air space.

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--PRODUCTION OF TRITIUM ON ALUMINUM, TIN, LEAD, AND BISMUTH BY HIGH
 ENERGY PROTONS -U-
 AUTHOR--(02)-MEKHEDOV, B.N., MEKHEDOV, V.N. *M*
 COUNTRY OF INFO--USSR
 SOURCE--YAD. FIZ. 1970, 11(4), 708-10
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS
 TOPIC TAGS--TRITIUM, ALUMINUM, TIN, LEAD, BISMUTH, HIGH ENERGY PARTICLE,
 PROTON, PARTICLE PRODUCTION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--2000/0991 STEP NO--UR/0367/70/011/004/0708/0710
 CIRC ACCESSION NO--AP0124650
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

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CIRC ACCESSION NO--AP0124650
ABSTRACT/EXTRACT--(U) GP-0--
ON AL, SN, PB, AND BI WAS DETD. AT THE ENERGIES OF THE INCIDENT P
0.15-0.66 AND 3-10 GEV. THE MEASURED DATA AGREE WITH THE RESULTS OF
OTHER WORKS.
USSR.

ABSTRACT. THE PRODUCTION CROSS SECTION OF T
FACILITY: OB'EDIN. INST. YAD. ISSLED., DUBNA,

UNCLASSIFIED

172 017 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--COMPARATIVE INVESTIGATION OF NEURAMINIDASE ACTIVITY OF TWO
 INFLUENZA A2 STRAINS -U-
 AUTHOR--(02)-ORLOVA, N.G.; MEKHEDOV, L.N.
 COUNTRY OF INFO--USSR
 SOURCE--VOPRUSY VIRUSOLOGII, 1970, NR 3, PP 341-346
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--INFLUENZA VIRUS, ERYTHROCYTE, ENZYME ACTIVITY
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--2000/1837 STEP NO--UR/0402/70/000/003/0341/0346
 CIRC ACCESSION NO--AP0125448
 UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125448

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEURAMINIDASE ACTIVITY WAS STUDIED IN TWO INFLUENZA A2 STRAINS (971-MOSCOW-59 AND 101-KRASNOYAR-59) DIFFERING IN A NUMBER OF GENETIC MARKERS. THE 971 STRAIN PATHOGENIC FOR MAN AND PRACTICALLY INCAPABLE OF ELUTION FROM ERYTHROCYTES WAS FOUND TO POSSESS NEURAMINIDASE ACTIVITY WHICH WAS CHARACTERIZED BY A LOWER TEMPERATURE OPTIMUM (38DEGREESC INSTEAD OF 58DEGREES FOR THE 101 STRAIN) AND A NARROWER RANGE OF OPTIMUM PH (PH 6.0-6.2 IN 0.15M PHOSPHATE BUFFER AS COMPARED WITH PH 5.3-6.0 F OR THE 101 STRAIN). ADDITIONAL DIFFERENCE WAS FOUND IN KINETICS OF VIRAL NEURAMINIDASE INTERACTION WITH THE SUBSTRATE: WITH THE 971 STRAIN, SPLITTING OF NEURAMINIC ACID FROM OVOMUCOID OR NEURAMINE LACTOSE WAS OBSERVED AS EARLY AS 1 MIN. OR 20 SEC. AFTER MIXING THE SUBSTRATE WITH THE VIRUS PREPARATION WHILE THE 101 STRAIN SOME DELAY WAS OBSERVED LASTING FROM 1 TO 5 MIN. THIS DELAY BECAME SHORTER AT HIGHER INCUBATION TEMPERATURES AND COULD BE ELIMINATED BY ADDITION OF THE SURFACE ACTIVE AGENT (0.1PERCENT SOLUTION OF TWEEN-80). SIMILAR DELAY IN NEURAMINIDASE ACTION WAS FOUND IN EXPERIMENTS WITH 3 INFLUENZA TYPE B VIRUS STRAINS UNDER STUDY.

FACILITY: INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII IMENI N. F. GAMALEI AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PRODUCTION OF TRITIUM ON ALUMINUM, TIN, LEAD, AND BISMUTH BY HIGH
ENERGY PROTONS -U-
AUTHOR-(02)-MEKHEDOV, B.N., MEKHEDOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(4), 708-10
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--TRITIUM, ALUMINUM, TIN, LEAD, BISMUTH, HIGH ENERGY PARTICLE,
PROTON, PARTICLE PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0991 STEP NO--UR/0367/70/011/004/0708/0710
CIRC ACCESSION NO--AP0124650
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--APO124650

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRODUCTION CROSS SECTION OF T
ON AL, SN, PB, AND BI WAS DETD. AT THE ENERGIES OF THE INCIDENT P
0.15-0.66 AND 3-10 GEV. THE MEASURED DATA AGREE WITH THE RESULTS OF
OTHER WORKS. FACILITY: OB'EDIN. INST. YAD. ISSLED., DUBNA,
USSR.

UNCLASSIFIED

Public Health, Hygiene and Sanitation

UDC 613.68:613.644

USSR

RUMYANTSEV, G. I. and ~~MEKHIEVSON, D. A.~~, First Moscow Medical Institute and I. M. Sechenov and Scientific Research Institute of the Hygiene of Water Transport, Moscow

"Effects of Noise and Vibration on Sailors Under Conditions Prevailing on Ships"

Moscow, Gigiyena i Sanitariya, No 9, 1971, pp 25-27

Abstract: Among the many factors which make life on ships different from life on land, noise and vibration seem to be especially important, because the crew is exposed to these factors both at work and during rest and because in the machine section the intensity level in the low and medium frequency ranges exceeds the limit permitted on industrial plants by 10-15 decibels. Blood serum tests performed on 86 sailors on eight ships revealed a statistically significant increase, among machine shop personnel, in glucose concentration on the 15th day and in beta lipoproteins on the 30th day of cruising. In a similar group of machine-servicing sailors who were given daily doses of 5 mg of thiamine and 50 mg of nicotinic acid admixed in their food, plasma glucose and beta lipoprotein concentrations were essentially the same as among deck crew members who served as controls. Although the

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USSR

RUMYANTSEV, G. I. and MEKHEL'SON, D. A., *Gigiyena i Sanitariya*, No 9, 1971,
pp 25-27

authors refrain from drawing a definitive conclusion on the basis of the results of this investigation, they suggest that these vitamins may be of beneficial value in protecting sailors from the adverse effects of continuous noise and vibration.

2/2

Nitrogen Compounds

USSR

UDC 541.127:547.486.41

RIZAYEV, R. G., SHEYNIN, V. Ye., MEKHLYEV, S. D., and GAYDARLY, N. I.

"Investigation of the Kinetics of Ammonolysis of m-Xylene by a Gradientless Method"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 3 (69), 1970, pp 29-32

Abstract: In this paper the authors study the kinetics of ammo-oxidation of m-xylene over a vanadium oxide catalyst (6% V₂O₅ and 2% MnO₂) applied to calcined aluminum oxide in a system with continuous circulation. To determine the fraction of homogeneous reaction, noncatalytic experiments were conducted under conditions similar to the catalytic experiments. More than 90% of the m-xylene was unreacted. Use of the gradientless method made it possible to find the reaction rates in differential form. After the onset of the steady state, the reaction rate was determined from the formula $\mu = n/G \cdot \Delta t$, where n is the number of moles of reacted or formed products in time Δt , G is the amount of catalyst in grams, and Δt is the time from the instant of the onset of the steady state in hours. The effect which the concentrations of O₂ and NH₃ have on the bulk conversion of m-xylene, and on the rate of formation of main products and byproducts of the reaction was studied. It was found that 1/2

USSR

RIZAYEV, R. G., et al, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 3 (69), 1970, pp 29-32

in the region of partial pressures $O_2 > P_{O_2 \min}$ and $NH_3 > P_{NH_3 \min}$, a zero kinetic order is observed with respect to O_2 and NH_3 .

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USSR

UDC 615.212.7:547.9437.074:543.544

CHICHIRO, V. YE., KOSTENNIKOVA, Z. P., and MEKHULKHANOV, S. D., Moscow Central
Pharmaceutical Scientific-Research Institute

"Densitometric Determination of Opium Alkaloids with Use of Thin-Layer Chroma-
tographic Separation"

Moscow, Farmatsiya, Vol XI, No 6, Nov-Dec 71, pp 37-42

Abstract: Spectrophotometric determination of the principal opium alkaloids following separation in a thin layer of sorbent (and also on paper, in combination with use of densitometry), has been practiced for roughly a decade. However, quantitative densitometric determination following separation in a thin layer of sorbent has not been developed.

Using the Soviet-developed DI-3 densitometer, the authors made quantitative determinations of five alkaloids for tincture of opium (3.1% alkaloids) and opium powder (29.27%), arriving at the following figures: morphine, 0.98% and 11.46%; codein, 0.35% and 4.36%; thebaine, 0.14% and 1.69% papavarine, 0.28% and 3.26%; and narcotine, 1.32% and 8.5%. These figures are in close agreement with those obtained with use of the method prescribed by the USSR State Pharmacopoeia, 10th ed.

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USSR

CHICHIRO, V. YE., et al., *Farmatsiya*, Vol XX, No 6, Nov-Dec 71, pp 37-42

It was demonstrated that thin-layer chromatography and paper chromatography are of equal sensitivity, but that the interval of direct proportionality between concentration and the optical density of the alkaloids is much greater with use of the thin-layer technique (5-60 μ g, as against 5-25 μ g). A distinct advantage of thin-layer chromatography in the analysis of opium alkaloids is that it requires only a third of the time needed for paper chromatography. Full details of the laboratory methods used, along with graphic and tabular data from the results, are included in the paper.

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UDC: 8.74

USSR

KERIMOV, S. K., ~~MEKHITIYEV, A. A.~~

"Organizing Storage and Retrieval of Data on Chemical Compounds"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 111-117 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V627)

Translation: This article deals with a method of algorithmic coding of chemical compounds developed at IITTEKHIM [expansion not known] (Moscow), and also with an algorithm for retrieving information on these compounds. Magnetic tape storage of the codes of the chemical compounds in the computer memory is done by the direct method. Criteria of sense correspondence are described as well as an algorithm for search of chemical compounds. The main distinguishing feature of the given data retrieval system of factographic type is the combination of the descriptor method of characterizing documents with a specialized symbolic language of linear codes. Authors' abstract.

1/1

MEKHTIYEV, A.K.

TECHNICAL TRANSLATION

HTC-W-21-2291-72

ENGLISH TITLE:

Interaction Between Plane Compression Waves in Ground and
the Elastic-Plastic Coverings of Underground Structures

AUTORS:

I. P. DOBROVOI'SKIY, A. E. KALITVINA, G. S. SIZOVA

SOURCE: *Zaklucheniya Deformatsiya Tverdykh Tel, Maku, Kin, 1970,*
p. 50-59

Translated for FTIC by

LEO KAHNER ASSOCIATES

NOTICE

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An element which has twice a thick layer of homogeneous ground of unit width is depicted as a single-span beam with spring supports (Fig. 1). The moment-curvature diagram for the beam is taken in the form of the parallel diagram (Fig. 2). It is assumed that the element does not have an underlying stratum, and that its height is h . The pressure P which

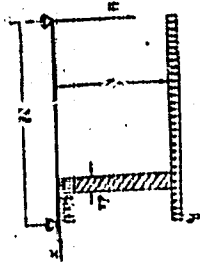


FIG. 1

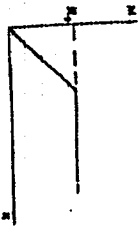


FIG. 2

does not vary over time is applied instantaneously to the surface of the soil. We assume that the instant $t = 0$ corresponds to the instant when the shock wave reaches the element under consideration which is bent.

We will represent the soil layer above the beam in the form of a system of elementary poles with width dx and height h , and we will ignore tangential stresses which arise between these poles due to the curvilinearly of the reflection for wave. This problem has been studied in this formulation for the case of an elastic core in article [1], and the following

USSR

GASANOV, G. T., SADYKHOV, B. O., and MEKHTIYEV, A. K., Azerbaijan Polytechnical Institute

"A Problem in the Nonstationary Motion of a Viscous Liquid"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSSR, Seriya Fiziko-tekhnicheskikh i Matematicheskikh Nauk, No 3, 1972, pp 93-98

Abstract: In connection with the problem of the motion of a viscous liquid through a tube with permeable walls, the authors theoretically consider a nonstationary, rectilinear, parallel motion of two viscous fluids between two coaxial cylindrical tubes, under the assumption that the tube of lesser radius is concentrically immersed, with a specified velocity, in the cylindrical tube of larger radius. They begin their solution by finding the change in pressure on the end face of the immersed cylinder, in the presence of the layer adjacent to the wall of the larger cylinder, for a known immersion velocity. The solution is then found by solving a system of two partial differential equations, both of which are given.

1/1

- 48 -

PROCESSING DATE--23OCT70

UNCLASSIFIED

1/2 046

TITLE--PHONON PLASMA INTERACTION AND INTERBAND TRANSITIONS IN MERCURY
TELLURIDE -U-

AUTHOR--(05)-IVANOVOMSKIY, V.I., KOLOMIYETS, B.T., MALKOVA, A.A., MARKOV,
YU.F., MEKHTIYEV, A.SH.

COUNTRY OF INFO--USSR

M I

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 417-19

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MERCURY COMPOUND, TELLURIDE, SINGLE CRYSTAL PROPERTY, ELECTRON
MOBILITY, IR REFLECTANCE, PHONON INTERACTION, PLASMA INTERACTION,
CRYOGENIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--198B/0091

STEP NO--UR/0449/70/Q04/002/0417/0419

CIRC ACCESSION NO--AP0105177

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 046

CIRC ACCESSION NO--AP0105177

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

ABSTRACT. THE IR REFLECTANCE WAS MEASURED FOR WAVELENGTHS OF 50-90 MU FROM INTRINSIC HGTE AT 80DEGREEEK USING AN OPTICALLY POLISHED SURFACE OF A SINGLE CRYSTAL WITH N EQUALS 1.6 TIMES 10 PRIME15-CM PRIME3 AND AN ELECTRON MOBILITY OF 8 TIMES 10 PRIMES CM PRIME2-V-SEC AT 4.2DEGREEEK. EXPRESSIONS ARE GIVEN FOR ACCOUNTING FOR THE PHONON PLASHA INTERACTION, AND A THEORETICAL CURVE WAS SET UP FOR THE REFLECTANCE AT 80DEGREEEK.

FACILITY: FIZ. TEKH. INST. IM.

IOFFE, LENINGRAD, USSR.

USSR

UDC 628.58:549.74

ABDULLAYEV, G. B., GASANOV, G. G., MEKHITIYEV, M. A., DZHAFAROV, A. I., MAZANOV, D. M., BABAYEV, R. A., SADYKHOV, S. T., TEPIYAKOVA, G. V., and RAGIMOV, R. N.

"Radioprotective Effect of Selenium"

Bsku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 12-17

Abstract: Sodium selenite administered to Wistar rats 20 minutes after X-irradiation at 490 rad had little protective effect, the survival rate and average life-span being insignificantly higher than in the controls (50% survival rate by day 30). However, the same dose of the compound administered 30 minutes prior to irradiation (intraperitoneally, subcutaneously, or perorally) had a markedly protective effect; the survival rate was 90% and the average life-span 28 ± 3.6 days. When sodium selenite was combined with vitamins E (as an antioxidant) and A (to promote the retention of vitamin E in the body), the protective effect was even more pronounced, the survival rate and average life-span being significantly higher than in the controls (given selenium but not the vitamins).

1/1

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Oncology

UDC 577.391:616.0064.577.15/17

USSR

ABDULLAYEV, G. B., GASANOV, G. G., RAGIMOV, R. N., TEPLYAKOVA, G. V.,
MEKHTIYEV, M. A., and DZHAFAROV, A. I., Institute of Physiology, Institute
of Physics, and Institute of Roentgenology and Oncology

"Selenium and Tumor Growth Under Experimental Conditions"

Baku, Doklady Akademii Nauk Azerbaydzhanskoj SSR, No 3, 1973, pp 18-24

Abstract: In mice and rats with transplanted tumors (M-1 sarcoma, Ehrlich's ascitic tumor, and Geren's carcinoma), a single injection of sodium selenite significantly retarded the growth of the tumor, especially if the injection was given when the tumor could barely be felt. The inhibition of tumor growth was even more pronounced when sodium selenite was combined with X-irradiation. In addition, the compound increased the animals' tolerance for radiation. When the animals received the tumor suspension after it had been treated with sodium selenite and heated to 40° for 2 hours, tumors did not begin to appear until 12 to 21 days after inoculation compared to 9 days in the control (given the tumor suspension treated with sodium selenite at room temperature). The inhibitory effect of the selenium compound is attributed to its ability to stimulate the production of endogenous antioxidants and lower the oxygen concentration of the tissues.

1/1

USSR

AGRANOVICH, V. M., MEKHTIYEV, M. A., Institute of Spectroscopy, Academy of Sciences of the USSR, Akademgorodok, Podol'skiy Rayon, Moskovskaya Oblast

"Spectra of Organic Molecules Introduced Into a Metallic Matrix, and the Exciton Mechanism of High-Temperature Superconductivity"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 9, Sep 71, pp 2732-2742

Abstract: The authors consider renormalization of the spectrum and quenching of excitons resulting from the effect of interaction between excitons and metal conduction electrons. They also discuss the spectrum of an organic impurity molecule introduced into a metallic matrix. It is shown that in the absorption spectrum of these systems absorption lines corresponding to the simultaneous excitation of the organic molecules and the metallic matrix can be observed in addition to the absorption lines corresponding to excitation of the organic molecules alone. Electron-electron interaction at high exciton concentrations is investigated. The case of laminar organometallic media is also discussed. It is shown that under certain conditions effective interelectron interaction at high exciton

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USSR

AGRANOVICH, V. M., MEKHTIYEV, M. A., Fizika Tverdogo Tela, Vol 13, No 9,
Sep 71, pp 2732-2742

concentrations may lead to pairing of electrons and, accordingly, to the development of superconductivity. However, the effect may be inhibited by exciton decay accompanied by the decay of Cooper pairs. This process may be insignificant if the lifetime of an exciton is determined by radiation decay rather than by the nonradiative transition accompanied by the excitation of electron-hole pairs. The authors thank V. L. Ginzburg and the members of his seminar for constructive criticism. One figure, bibliography of thirteen titles.

2/2

- 91 -

USSR

UDC 632.95

ISMAYLOV, R. G. A., GUSEYNOV, D. M., MEKHTIYEV, S. D., SHCHEGOL', Sh. S.,
ISAYEVA, F. G. A., KONYSHEV, I. N.

"Plant Growth Regulator"

USSR Author's Certificate No 334961, Filed 30/07/69, Published 24/05/72
(Translated from Referativnyy Zhurnal Khimiya, No 24(11), 1972, Abstract
No 24N643 P, by T. A. Belyayeva)

Translation: It is suggested that the Na-salt of octyltoluic acid (I) be used as a plant growth regulator. I is produced by alkylation of xylenes with diisobutylene with subsequent oxidation of tert-octylxylene with O_2 and neutralization of the acid with an aqueous solution of NaOH or soda. The influence of I on the coleoptiles of wheat sprouts and the growth of winter wheat roots is demonstrated.

1/1

PROCESSING DATE--23OCT70

UNCLASSIFIED

1/2 018

TITLE--ISOTOPIC COMPOSITION OF HYDROGEN IN THE WATERS AND PETROLEUMS OF
THE APHERON OIL AND GAS BEARING REGION -U-
AUTHOR-(05)-MEKHTIYEV, SH.F., BREZGUNOV, V.S., VLASOVA, L.S., RACHINSKIY,
M.Z., SOYFER, V.N.
COUNTRY OF INFO--USSR

M

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT. GAZ 1970, 13(1), 3-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ISOTOPE, HYDROGEN, PETROLEUM DEPOSIT, CRUDE OIL, NATURAL GAS,
GROUND WATER, HYDROCARBON, DEUTERIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1640

STEP NO--IR/0152/70/013/001/0003/0006

CIRC ACCESSION NO--A0118619

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 018

CIRC ACCESSION NO--AT0118619

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

ABSTRACT. THE AV. ISOTOPIC COMPN. OF H IN WATERS OF VARIOUS FORMATIONS VARIED FROM 1.04 TO 1.065 RELATIVE UNITS, BUT DID NOT DEPEND ON THEIR TYPE AND MINERALIZATION. THE RATHER HIGH CONTENT OF D IN THE WATERS OF ALL HORIZONS SHOWED THE STAGNANT CONDITIONS OF THE BASINS IN THE PRODUCTIVE STRATA, THE COMPN. BEING CLOSE TO THAT OF THE SEDIMENTATION WATERS. THE CONCN. OF D IN PETROLEUMS VARIED 0.86-1.01 (AV. 0.93) UNITS AND DID NOT DEPEND ON THEIR SP. GR., HYDROCARBON COMPN., AND OCCURRENCE DEPTH; THEREFORE, THE CAUSES OF THE VARIATION COULD NOT BE DETD. THE AV. D CONTENT OF CONDENSATES WAS 0.90 UNITS.

FACILITY: AZERB. INST. NEFTI KHIM. IM.

AZIZVEKOVA, BAKU, USSR.

UNCLASSIFIED

Acc. Nr.

AT0045638

Abstracting Service:
CHEMICAL ABST.

4/70

Ref. Code
UR 0020

M

89718x Preparation of methyl methacrylate from methacrylonitrile. Mekhtiev, S. I.; Dalin, M. A.; Guseinov, A. G.; Sleptsova, O. M.; Lukina, E. M.; Polshacy, B. A. (USSR). Dokl. Akad. Nauk SSSR 1970, 190(1), 108-9 (Chem) (Russ). Me methacrylate (I) was prepd. in 86.2% yield in a continuous reactor by heating equimolar amts. of methacrylonitrile and 84% H₂SO₄ 30 min at 100°, followed by heating the intermediate methacrylamide with 2 moles MeOH 2 hr at 95°. I (87.8%) was also obtained when the process was run in a 60-l. exchange reactor. DBJR

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1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF AMYLOXYGLYCOLIC ESTERS OF ALIPHATIC ACIDS -U-
AUTHOR--(03)--ZEINALOV, B.K., MEKHTIYEVA, F.A., KHRMUSHINA, E.I.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK AZERB. SSR 1969, 25(9), 23-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC SYNTHESIS, GLYCOLLIC ACID, CARBOXYLIC ACID ESTER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1100 STEP NO--UR/0249/70/025/009/0023/0026
CIRC ACCESSION NO--AT0124755
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124755

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE ESTERS RCO SUB2 CH SUB2 CH SUB2 OC SUB5 H SUB11 (I) WERE PREPD. BY A REACTION OF HOCH SUB2 CH SUB2 OC SUB5 H SUB11 (II) WITH ALIPHATIC ACIDS IN DRY PHME IN THE PRESENCE OF H SUB2 SO SUB4. NEW I (17) (R EQUALS H, ALKYL FROM ME TO C SUB17 H SUB33) WERE PREPD. IN 41-88PERCENT YIELD. THE PHYS. CONSTS. OF THE ESTERS ARE TABULATED.

UNCLASSIFIED

USSR

ABDULLAYEV, G. B., et al, Doklady Akademii Nauk SSSR, Vol 194, No 4, 1 Oct 70,
pp 798-800

that admixtures which are active in the crystalline state become inactive in the amorphous state. Under deoxygenization of polycrystalline hexagonal selenium the conductance at a given temperature reduces by a factor of 1000; i.e., is approximately 100 times greater than in the case of single crystalline selenium. This is attributed to two factors: (a) in the production of single crystals of selenium the selenium is cleaned of oxygen admixtures; and (b) oxygen atoms in polycrystalline samples, by reducing the intermolecular potential barriers, cause a growth in the mobility of current carriers during the motion of current carriers. The change in the electrical properties of single crystals of selenium under deoxygenization is attributed to the entry of oxygen atoms in the selenium lattice.

2/2

- 16 -

172 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--RADIOPROTECTIVE ACTION OF SOME ANTIOXIDANTS OBTAINED FROM PETROLEUM
PRODUCTS -U-
AUTHOR-(04)-KAREYEV, A.I., GASANOV, G.I., MEKHTIYEVA, S.M., SHAKHGELDIYEV,
H.
COUNTRY OF INFO--USSR
SOURCE--BIOL. NAUKI 1970, (5), 47-55
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RADIOPROTECTIVE ACTION, GASOLINE ANTIOXIDANT, PETROLEUM
PRODUCT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3009/0190 STEP NO--UR/0325/70/0001/0057/0047/0055
CIRC ACCESSION NO--AP0132053

2/2 014

UNCLASSIFIED

PROCESSING DATE--0400070

CIRC ACCESSION NO--AP0139053

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OF 5 AROMATIC QUATERNARY AMMONIUM SALTS TESTED, ONLY N,N-DIMETHYL,N, PROPYL,(2, HYDROXY, 5, BUTYL) BENZYLAMINE WAS APPRECIABLY RADIOPROTECTIVE, AS INDICATED BY ITS EFFECT ON THE OXIDN.-REDN. POTENTIAL OF THE TIBIAL TRICIPITAL MUSCLE OF IRRADIATED RATS, THE RATE OF BETA-CAROTENE OR OLEIC ACID OXIDN. IN VITRO, AND ON THE SURVIVAL RATE OF IRRADIATED RATS. OF 8 PHENOL DERIVS. TESTED, ONLY O,TERT,BUTYL,P,METHOXYPHENOL OR A MIXT. OF THIS AND M,TERT,BUTYL,P,METHOXYPHENOL WERE RADIOPROTECTIVE BY THESE CRITERIA.
FACILITY: INST. FIZIOL., BAKU, USSR.

UNCLASSIFIED

USSR

UDC 621.317.727.2-52

MEKINYAN, R. S.

"Analysis of the Influence of Nonlinearities Upon the Readings of Electronic Compensators"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Seriya Tekhnicheskikh Nauk, No 1, 1972, pp 35-40

Abstract: The article presents an analysis of the influence of nonlinearities such as "the insensitivity zone" and "limitation" of the indicator speed of an autocompensator upon its readings, the influence of the linear part of the instrument not being taken into account. Expressions are obtained for determining the relative time of influence of the insensitivity zone upon the character of movement of the autocompensator indicator in relation to the amplitude and frequency of the sinusoidal input signal. Expressions are also obtained for determining the amplitude of the first harmonic of the movement curve of the instrument indicator in relation to the value of the insensitivity zone at various amplitudes of the input sinusoidal signal. Graphs of the indicated relationships are presented. 4 figures. 3 references.

1/1

- 79 -

USSR

UDC 616-006/092.9-02:576.558.75 (Sendai).097.5

SHLYANKEVICH, M. A., MEKLER, L. D., and SHEVLYAGIN, V. YA., Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR

"Function of the Genome of Inactivated Sendai Virus in the Formation of Artificial Heterokaryons"

Leningrad, Voprosy Onkologii, No 1, 1970, pp 58-62

Abstract: Using the immunofluorescence method, the authors found that during the formation of heterokaryons obtained from HR0 cells and chick fibroblasts, Sendai virus inactivated by ultraviolet irradiation or treatment with betapropiolactone stimulated the production of T-antigen alone. There was no biosynthesis of viral components (V-antigen, hemagglutinins, ribonucleoproteins) or of the complete infective virus. T-antigen was found in ordinary cells and heterokaryons for a brief period of time, disappearing after 5-7 days. T-antigen occurred only in the cytoplasm, not on the cell surface.

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1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--INDIRECT POLAROGRAPHIC DETERMINATION OF PHENOTHIAZINE -U-

AUTHOR--(03)-TURVAN, YA.I., MEKSYUKOVA, T.V., BOGDANOVA, O.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 384-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLAROGRAPHIC ANALYSIS, ORGANIC AZINE COMPOUND, BENZENE
DERIVATIVE, NITRATION, ORGANIC SULFUR COMPOUND, DROPPING MERCURY
ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0686

STEP NO--UR/007570/02570027038470500

CIRC ACCESSION NO--AP0113557

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--15OCT70

CIRC ACCESSION NO--AP0113557

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS INDIRECT POLAROGRAPHIC METHOD FOR PHENOTHIAZINE ON A DROPPING HG ELECTRODE WAS DEVELOPED. THE METHOD IS BASED ON NITRATION AND OBTAINING THE CATHODIC POLAROGRAPHIC WAVE. THE NITROSCAMINE FORMED GIVES A REDN. WAVE ON A DROPPING HG ELECTRODE WITH E SUBONE HALF EQUALS MINUS 0.93 IN A SUPPORTING ELECTROLYTE OF NA SUB2 SO SUB4 (SATD.) PLUS 0.04M NAOH PLUS 14PERCENT H SUB2 O PLUS 18PERCENT MEOH PLUS 68PERCENT ETOH. TO 1 G OF THE SAMPLE IN HCONME SUB2 OR MEOH, ADD 9 ML MEOH, 2 ML 6M NANO SUB2, AND 1 ML 2N H SUB2 SO. AFTER 10 MIN ADD 4 ML 2.5N NAOH AND DIL. TO 50 ML WITH ETOH. RECORD THE POLAROGRAM IN THE POTENTIAL RANGE OF MINUS 0.5 TO MINUS 1.4V. THE SENSITIVITY OF THE DETN. IS 5 TIMES 10 PRIME NEGATIVE3 PERCENT. THE ERROR IS PLUS OR MINUS 5PERCENT. FACILITY: SCL. RES. INST. MONUMERS. SYN. RUBBERS, YAKOSLAYL, USSR.

UNCLASSIFIED

Molecular Biology

USSR

UINC 575

MEKSHENKOV, M. I., and GUSEYNOV, R. D., Institute of General Genetics, Academy of Sciences USSR, Moscow

"Interrupted Transfer of T4B Phage Chromosomes into Cells, Cyclic Permutation of Genes, and Infective Activity of Fragmented Genomes"

Moscow, Molekulyarnaya Biologiya, Vol 5, No 3, May/June 71, pp 444-452

Abstract: At low incubation temperatures (0-20°C), the rate at which molecules of phage DNA are transferred into cells considerably decreases. With a brief treatment in a mixer (14,000 RPM, 40 sec), it is possible to interrupt the DNA transfer at a stage when only a portion of the phage genome has entered the cell. Several DNA fragments introduced into the cell by various phages are jointly able to develop infection and to form mature particles. This proves that: 1) different T4r+ phages simultaneously introduce, into the cell, separate DNA fragments with various sets of genes and that therefore cyclic gene permutations must take place in the chromosomes of these phages; and 2) artificially fragmented genomes possess the ability to induce infections.

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1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PROOF OF CYCLIC GENE REARRANGEMENTS IN THE CHROMOSOMES OF PHAGE T4R
PRIME POSITIVE -U-
AUTHOR--(02)-MEKSHENKOV, M.I., GUSEYNOV, R.D. *M*
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK, SSSR 1970, 19(2), 457-60
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ESCHERICHIA COLI, PHOSPHORUS ISOTOPE, CHEMICAL LABELLING,
PHAGE, GENE, CHROMOSOME, DNA, BACTERIAL GENETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0744 STEP NO--UR/0020/70/191/002/0457/0460
CIRC ACCESSION NO--AT0132846
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132846

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESCHERICHIA COLI CULTURES AND PHAGE T4R PRIME POSITIVE LACKING IN TRYPTOPHAN WERE USED IN THE TITLE STUDY, APPLIED TO PRIME32 P TAGGED PHAGE. ENTRY OF PRIME 32 P INTO THE CELLS BEGINS WITHIN MIN OF CONTACT OF THE PHAGE WITH THE BACTERIA AND INCREASES LINEARLY WITH TIME; AT 7DEGREES THIS CEASES IN SIMILAR TO 18 MIN, WHEN A SHARP INCREASE IS NOTED IN RESISTANCE OF THE COMPLEXES TO DECOMP. IN A MECH. BLENDER. IF INJECTION OF DNA IS INTERRUPTED IN SMALLER THAN 18 MIN, THEN EACH PHAGE PARTICLE SUCCEEDS IN INTRODUCING INTO THE CELL ONLY A PART OF ITS GENOME, AND THE INFECTIVE CENTER IS NOT ESTABLISHED. AT LOW TEMP., THE RATE OF TRANSFER OF PHAGE DNA INTO THE CELL IS REDUCED, WITH CONSEQUENT PARTICAL GENOME INTRODUCTION.
FACILITY: INST. OBSHCH. GENET., MOSCOW, USSR.

UNCLASSIFIED

A.G. Melamed

AA0044248.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243952 GASES OR LIQUIDS ANALYSIS where the gas analyser comprises an infra-red radiation source (1); a shutter system (2); photoelectric pickup (3) for the reference signal; working cell (4); optical-acoustical radiation receiver consisting of receiving chambers (5,6) and a microphone (7) arranged in tandem. A phase measuring device consists of an amplifier (8), phase shifter (9), limiter (10), phase detector (11) and a secondary instrument, millivoltmeter (12).

The instrument zero is set by the phase shifter (9). It can also be done by a screen placed between the radiation receiver chambers, or by varying the reference signal phase. The chambers (5,6) have different volumes, which shifts the phases of the pressure oscillations in these chambers, so that the phase of the signal at the radiation receiver output is a function of the component to be determined concentration in the working cell.

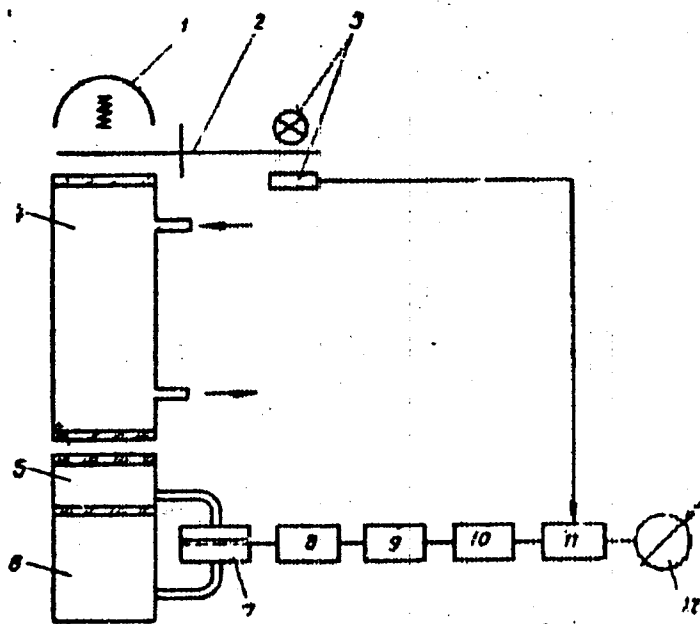
S.S.64 as 898645/26-25. LOBITSKII, I.T. et al. AUTOMATION EXPERIMENTAL & DES. OFFICE. (3.10.69) Bul 17/14.5.69. 421. Int.C.I.G. Oln.

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AUTHORS: Lositskiy, I. T., Melamed, A. G., Rylov, V. A.

Opytno-Konstruktorskoye Byuro Avtomatiki

5/3

19770757

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--INDUSTRIAL TESTING OF COLORED SOLE RUBBERS PREPARED WITH HYDROGEN
 XANTHANE 5, IMINO, 1, 2, 4, DITHIAZOLIDIN, 3, THIONE -U-
 AUTHOR-(04)-MELAMED, CH.L., BLOKH, G.A., TSIPENYUK, E.V., LEBED, I.G.

COUNTRY OF INFO--USSR

M

SOURCE--KOZH. OBUV. PROM. 1970, 12(2), 54-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MILITARY SCIENCES

TOPIC TAGS--FOOTGEAR, STYRENE, VULCANIZATION, THIAZOLE, RUBBER/(U)SKMS30RP
 STYRENE RUBBER, (U)BS45AK SYNTHETIC RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--2000/0938

STEP NO--UR/0498/70/012/002/0054/0056

CIRC ACCESSION NO--AP0124598

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 012

CIRC ACCESSION NO--AP0124598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGEN XANTHANE IS A GOOD
VULCANIZATION ACCELERATOR FOR STYRENE RESINS OF THE TYPE SKMS-30R2 AND
BS-45-AK AND MAY REPLACE CAPTAX AND ALTAX. FOR MIXTS. CONTG. NATURAL
RUBBER A MIXT. OF HYDROGEN XANTHANE AND CAPTAX OR ALTAX WAS USED.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--21NOV70
 TITLE--VULCANIZATION OF LOW MOLECULAR WEIGHT CARBOXYL CONTAINING RUBBER
 SKD-1 -U-
 AUTHOR--(05)-EBICH, YU.R., BLOKH, G.A., MELNEO, CH.L., GRIDORYANTS, I.K.,
 SHANINA, L.P.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 263-6
 DATE PUBLISHED-----70

M

SUBJECT AREAS--MATERIALS
 TOPIC TAGS--VULCANIZATION, CARBOXYLATE RUBBER, ORGANIC SULFUR COMPOUND,
 ZINC OXIDE, TENSILE STRENGTH/(U)SKDI SYNTHETIC RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3005/0183

STEP NO--UR/0153/70/013/002/0263/0266

CIRC ACCESSION NO--AT0132460
 UNCLASSIFIED

UNCLASSIFIED

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

ABSTRACT. THE VULCANIZATION RATES, SWELLING, CO SUB2 H GROUP CONTENTS, AND UNSAT. WERE DETD. FOR SKD-1 RUBBER DURING AND AFTER ITS VULCANIZATION WITH 5, IMINO, 1, 2, 4, DITHIAZOLIDINE, 3, THIONE (I), ZNO MIXT. OR WITH PIPERIDINO TRISULFIDE (II), ZNO MIXT. ZNO, I, OR II ALONE WERE NOT SATISFACTORY. THE BEST RESULTS WERE OBTAINED WITH 7 PARTS I AND 5 PARTS ZNO IN 100 PARTS SKD-1 AT 80DEGREES. THE VULCANIZATES OBTAINED WITH I AND ZNO HAD 2-3 TIMES LARGER TENSILE STRENGTH AT BREAK THAN THE VULCANIZATES OBTAINED WITH ZNO ALONE.

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MELAMED, V. B.

"Branching of Solutions to Nonlinear Equations with Several Complex Parameters"

Moscow, Sibirskiy Matematicheskiy Zhurnal, Vol 12, No 4, Jul/Aug 71,
pp 805-811

Abstract: The author studies the problem of branching of solutions to a certain class of equations with analytical nonlinearities. The concept of a simple solution introduced by A. Ye. Gel'man for an equation of one complex parameter is expanded to an equation of several complex parameters. He examines the question of the convergence of formal solutions. He cites the conditions for the coefficients of a formal equation for which the solution will be real and simple. He proves the convergence of all formal solutions of the equation examined and shows that the number of non-identical formal solutions is finite. Using the mathematical apparatus of theorems, the author formulates his problems and finds a proof thereof which he expresses through equations. The article contains 10 bibliographic entries.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF DONOR ACCEPTOR ADDITIVES, E.G., N,N-DIMETHYLBENZYLAMINE (I) AND PHENYL GLYCIDYL ETHER (II), I AND GLYCIDOL, I AND EPICHLOROHYDRIN (III), AND II AND ET SUB3 N, ON THE AGING RESISTANCE OF CROSSLINKED POLYURETHANES (IV) WERE STUDIED. THE STABILITY OF IV WAS INVERSELY PROPORTIONAL TO THE TOTAL ADDITIVE CONTENT, REACHING A MIN. WHEN BOTH COMPONENTS WERE PRESENT IN AN EQUIMOLAR RATIO. THE STABILITY OF IV INCREASED WHEN III WAS USED, PRESUMABLY DUE TO THE FORMATION OF A STABLE QUATERNARY AMMONIUM COMPD.

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MELAMED, V.G.

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MELAMEDOV, I. M.

Fizicheskiye Osnovy Nadezhnosti (Physical Principles of Reliability),
Leningrad, Energiya Publishing House, 1970, 152 pp

Annotation: Modern physical concepts of the mechanism and kinetics of a number of physicochemical processes occurring in the materials of the components of technical devices as a result of various factors are presented in the book. The effect of these processes on changes in the properties and parameters of component materials and on their life and reliability are considered. Some of the characteristics of the life of materials and the speed of processes given in the book can serve directly as reliability indicators or join generally accepted reliability indicators.

The book can be useful to engineers working in the field of investigation and provision of the reliability of technical devices, and to students and teachers of higher technical institutions specializing in the field of the theory and techniques of reliability.

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