"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 678:539.376

RABOTNOV, YU. N., PAPERNIK, L. KH., and STEPANYCHEV, YE. I., Moscow

"Description of the Creep of Composite Materials Under Tension and Compression"

Riga, Mekhanika Polimerov, No 5, Sep/Oct 73, pp 779-785

Abstract: A study was made of the possibility of applying a simplified variant of the non-linear hereditary theory to describe the creep under uniaxial tension and compression of anisotropic composite materials by means of a single equation. The equation characterizes the processes of active deformation in three principal directions of anisotropy (0°, 45°, and 90°). The direct and reverse creep of TS-8/3-250 glass textolite was investigated. The characteristics of the textolite can be used in calculating the supporting part of machine and structural elements made from this material. Four figures, 13 formulas, five bibliographic references.

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USSR

DERGYNOV, N. N., PAPERNIK, L. Kh., and RABOTNOV, Yu. N., Moscow

"Analysis of the Behavior of Graphite Based on the Theory of Nonlinear Heredity"

Novosibirsk, PMTF (Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki), No 2, 1971, pp 76-82

Abstract: The authors study the behavior of graphite, the description being based on the theory of nonlinear heredity, taking into consideration the temperature factor in the 20-3000°C range. The necessary characteristics are obtained from data on creep and stress-strain diagrams. An attempt is made to give the results a physical interpretation. Original article: two tables, four figures, 11 formulas, and nine bibliographic entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC: 539.183.2

SILANT'YEV, A. N., POLYAKOVA, T. V., RABOTNOVA, F. A., SHKURATOVA, I. G.

"Isotopic Analysis of Samples of Radioactive Fallout and Aerosols Using Beta Spectrometry"

Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR (Works. Institute of Experimental Meteorology. Main Administration of the Hydrometeorological Service Affiliated With the Council of Ministers of the USSR), 1972, vyp. 25, pp 136-140 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.1275)

Translation: The paper deals with a method of determining the content of isotopes radium-106, praseodymium-104, yttrium-90 and strontium-89 by beta spectrometric analysis. A scintillation beta-spectrometer with plastic scintillator 70 mm in diameter and 20 mm thick was used as the spectrometer. Only beta emission with energy above 630 keV is considered in processing the spectra. Spectra measured in the range from 630 keV to 3.5 MeV are broken down into intervals, and the system of equations

$$N_i = a_i^{89} S_{89} + a_i^{90} S_{90} + a_i^{144} S_{144} + a_i^{106} S_{106}, \quad i = 1, 2, 3, 4.$$

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USSR

SILANT'YEV, A. N., Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. min. SSSR, 1972, vyp. 25, pp 136-140

is solved, where N_i is the number of pulses registered in interval i; S is the number of pulses registered in the interval above 630 keV; a_i is a factor for converting from the number of pulses in an interval to the number of pulses registered in the interval above 630 keV; and conversion from the number of pulses registered to the radioactivity of the isotopes can be computed by the formula

$$N = A_0 \varepsilon \omega \frac{1 - e^{-\mu d}}{\mu d},$$

where N is the count rate in the interval above 630 keV; A_0 is the activity of the preparation; ε is the effectiveness of registration in the interval considered; ω is the solid angle which accounts for angular distribution; d is the thickness of the layer, and μ is the coefficient of attenuation of beta emission. Four illustrations, bibliography of two titles. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC 542.91

SHAFOROSTOVA, L. D., IVANOVA, I. I., and RABOTNOVA, I. L., Institute of Microbiology, Academy of Science USSR

"Change in Chemical Composition of Cells Because of Uneven Growth in the Exponential Phase of a Periodic Bac. megatherium Culture"

Moscow, Doklady Akademii Nauk SSSR, No 6, 1971, pp 1,449-1,451

Abstract: Fluctuations in the growth rate of Bac. megatherium cultured on a synthetic medium were accompanied by changes in the content of the main cell polymers. DNA was the most stable polymer. The RNA content increased parallel to the growth rate and was described by a two-peak curve. The dynamics of the protein content differed from that of the RNA. At the time of an acceleration of the growth rate, the amount of protein decreased before the first peak and increased before the second. Before the end of the exponential phase, the dynamics of the polysaccharide content was the same as that of protein synthesis. The polysaccharides decreased significantly in the periods of accelerated growth (between the first and second peaks). When the culture entered the stationary phase, the polysaccharides again began to increase. The synthesis of lipids and polu- β -hydroxybutyric acid also proceeded unevenly. The lipid content was highest after the first

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USSR

SHAFOROSTOVA, et al., Doklady Akademii Nauk SSSR, No 6, 1971, pp 1,449-1,451

peak and before the second. At the start of growth, citric acid was consumed most intensively, resulting in the release of acetic, pyruvic, and α-ketoglutaric acids. The amount of acids in the medium per unit of biomass was highest at this time. Thus, the exponential phase of Bac. megatherium growth is a multistage process characterized by a definite sequence of synthesis and consumption of the main cell polymers.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

UDC 576.851.5.095

USSR

IVANOVA, I. I., SHAFOROSTOVA, L. D., RABOTNOVA, I. L., and SOTNIKOV, G. G.,
Institute of Microbiology, Academy of Sciences USSR, Moscow

"The Role of Catabolic and Anabolic Processes Associated With the Uneven Growth of Bacillus megatherium in the Exponential Phase of Growth"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 64-67

Abstract: Bacillus megatherium was grown in a synthetic medium containing 0.3% sodium citrate as the only source of carbon. The activity of four enzymes was tested in the supernatant fluid after breaking the cells by ultrasound: pyruvate decarboxylase (PD), L-isocitric-$NADP^+$ dehydrogenase (ID), D-glucose-6-phosphate-$NADP^+$ dehydrogenase (G6D), and decarboxylase of oxalodiacetic acid (DOA). The production of CO_2 and the consumption of oxygen were tested in washed cell cultures and the level of adenosine 5-triphosphate (ATP) was tested in the extract from bacterial cells. During the first half of exponential growth, the anaerobic decomposition of citrate prevailed, whereas oxidative processes were characteristic for the second half. Each increase of growth was preceded by an increase in ATP concentration. DOA activity was maximal in the first part of growth, when no activity of ID could be detected. ID activity appeared and increased after 3 hours of growth,

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USSR

IVANOVA, I. I., et al., Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 64-67

when DOA activity decreased. The activity of both PD and G6D increased during growth with their maximum before the second growth peak was reached. The decrease of activity at the time of the second peak was typical for all four enzymes tested. The uneven growth rate during the exponential phase was due to the intracellular regulation of catabolic and anabolic processes. The monophosphate and glycolytic pathways were apparently involved in the anabolic processes in Bac. megatherium.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC: 577.1:578

CHEBOTAREV, Ye. Ye., RABOVA, E. Z., INDYK, V. M.

"Antiradiation Properties of DNA in the Case of Neutron Exposure"

V sb. Biofizika i radiobiol. (Biophysics and Radiobiology--collection of works), vyp. 3, Kiev, "Nauk. dumka", 1972, pp 74-79 (from RZh-Biologicheskaya Khimiya, No 12, Jun 72, Abstract No 12F2353)

Translation: The antiradiation properties of hetero-, homo- and isologic DNA, as well as products of thermal denaturation and enzymatic hydrolysis of DNA were studied on a Saccharomyce vini yeast culture. The corresponding solutions of DNA were exposed to fast neutrons in a dose of 10 kilorads (LD_{50}; the dose rate was 10-12 rads/min). It was found that the shielding properties of DNA do not depend on the degree of isologism and polymerism of its operators. The shielding action disappeared completely only when the DNA was broken down to its nitrogen bases. Possible mechanisms for the antiradiation action of DNA are discussed.

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USSR UDC 547.118

NIFANT'YEV, E. Ye., KOROTEYEV, M. P., and RABOVSKAYA, N. S.

"Arbuzov Reaction With Carbohydrate Phosphites and Amidophosphites as a Method of Synthesizing Halodesoxysugars"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1806-1811

Abstract: Arbuzov reaction with carbohydrate phosphites and amidophosphites was applied to the synthesis of halodesoxysugars. Sugar phenylenephosphites are not suitable for the synthesis of halodesoxysugars because of the low electron density at the phosphorus atom. Replacement of an oxygen atom in the starting phosphite by nitrogen changes drastically the reactivity of the molecule; the temperature required for the alkylation drops by about 15°, the duration of the reaction being cut in half. The best model compounds for this reaction are sugar tetraalkyldiamidophosphites. In spite of the fact that stable quasiphosphonium salts can be obtained when, under normal conditions, the reaction is stopped at the first stage of Arbuzov rearrangement, when heated, the process goes to completion, giving satisfactory yields of the final products.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC 632.95

NIFANT'YEV, E. YE., GALKINA, L. YE., and BABOVSKAYA, N. S., Moscow University

"A Means of Obtaining Trichlorvinylhexaalkyltriamidophosphonium Chlorides"

USSR Author's Certificate no 309934, filed 4 Mar 70, published 29 Sept 71 (from Referativnyy Zhurnal -- Khimiya, No 10 (II), 1972, Abstract No 10N517P by T. A. Belyayeva)

Translation: Physiologically active compounds of the formula $[Cl_2C{=}CClP(NR_2)_3]^+Cl^-$ (R=alkyl) are obtained by the reaction of neutral amides of phosphorous acid with $Cl_2C{=}CCl_2$ in ether in an atmosphere of inert gas. To a solution of 47 g of freshly distilled PCl_3 in ether (1:5) at -10° and in an atmosphere of inert gas is added a solution of 150 g Et_2NH (distilled over KOH) in ether (1:2). This is kept for 1 hour at ~20° and for 1 hour at the boiling point, filtered, evaporated, distilled under vacuum, washed with a 30% solution of NaOH and water, mixed with C_6H_6 (1:1), evaporated, distilled; and 18.4 g $(Et_2N)_3P$ (boiling point 96-98°/6, $n^{25}D$ 1.4710) is obtained. While mixing in a stream of inert gas, 15 g $(Et_2N)_3P$ in 25 ml ether is added to 10.1 g

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NIFANT'YEV, E. YE., et al., USSR Author's Certificate No 309934, filed 4 Mar 70, published 29 Sept 71

$Cl_2C=CCl_2$ in 25 ml of ether. This mixed for 10 hours at $\sim 20^0$, the precipitate is separated and washed with dioxane to give I(R=Et); yield: 80%.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 547.341.07

NIFANT'YEV, E. YE., GALKINA, L. YE., RABOVSKAYA, N. S., Moscow State University imeni M. V. Lomonosov

"A Method of Synthesizing Trichlorovinylhexaalkyltriamidophosphonium Chlorides"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, 1971, Author's Certificate No 309934, Division C, filed 4 March 1970, published 26 Jul 71, p 74

Translation: This Author's Certificate introduces: 1. A method of making trichlorovinylhexaalkyltriamidophosphonium chlorides. As a distinguishing feature of the patent, an absolute amide of phosphorous acid is interacted with tetrachloroethylene in an organic solvent such as ether with subsequent isolation of the goal product by conventional methods. 2. A modification of this method distinguished by the fact that an equimolar ratio of reagents is used. 3. A modification of this method distinguished by the fact that the process is carried out in an inert gas atmosphere. 4. A modification of this method distinguished by the fact that the initial phosphorous acid amide is first purified of chlorohydrates of dialkyl amines.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DIFFUSION OF IMPURITIES IN POLYCRYSTALLINE COPPER. II. DIFFUSION OF ARSENIC -U-

AUTHOR-(04)-KLOTSMAN, S.M., RABOVSKY, YA.A., TALINSKY, V.K., TIMOFEYEV, A.N.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, APR, 1970, 29, (4), 803-806

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--METAL IMPURITY, METAL DIFFUSION, COPPER, ARSENIC, RADIOACTIVE TRACER, POLYCRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1801 STEP NO--UR/0126/70/029/004/0803/0806

CIRC ACCESSION NO--AP0129169

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129169

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THREE DIMENSIONAL AND INTERCRYSTALLITE (TWO DIMENSIONAL OR BOUNDARY) DIFFUSION OF AS IN POLYCRYSTALLINE CU WAS STUDIED BY A RADIOISOTOPE METHOD (LAYER BY LAYER ANALYSIS). THE THREE DIMENSIONAL DIFFUSION EQUATION FOR THE RANGE 800-1100DEGREESC WAS D EQUALS 0.2 EXP(NEGATIVE 42 130-RT) CM PRIME2-S; THE INTERCRYSTALLITE DIFFUSION OBEYED THE RELATION DELTA D EQUALS 7.9 TIMES 10 PRIME NEGATIVE10 EXP(NEGATIVE 12 3500RT) CM PRIME3-S, WHERE DELTA WAS THE WIDTH OF THE BOUNDARY LAYER.

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UDC 616-001.28+616.12-073.97

USSR

CHAWLYTKA, A. A., SIDARENKA, YA. R., RABTSEVICH, T. S., LUCHNIKOW, YA. F., LYSTSOVA, G. V., PLENINA, G. N.

"Cardiac Function During the Various Periods of Acute Radiation Sickness in Dogs"

Minsk. Vesti Akademiyi Nauk BSSR Seryya Biyalagicheskikh Nauk, No 1m 1970, pp 76-84

Abstract: A complete study of 92 dogs was made including behavior, weight, temperature, hemocytology, serum chemistry - including all its fractional compenents, A/G ratio, pulse resporation, EKG studies, etc., before irradiation with a single dose of 600 r and during the various phases of radiation sickness. A total of 41 controls and 50 dogs treated 7-9 days after irradiation were studied. As the animals died, autopsies were performed, and complete gross, histological and pathomorphological studies were correlated with other findings. Disorganization of cardiac function in the dead and surviving animals, together with eletrocardiographic studies, were recorded concurrently with other clinical, laboratory, and
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CHAMLYTKA, A. A., et al., Minsk, Vesti Akademiyi Nauk BSSR, No 1, 1970, pp 76-84

physiological changes. Histological studies in treated animals show the reversability of myocardial shifts with only minor sequelae.

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ECON

RABTSEVICHYUS, YE.

CORRECT APPROACH TO SPECIALIZATION EMPHASIZED

[Article by Ye. Rabtsevichyus, candidate of economic sciences: "The Way to Greater Effectiveness"; Vilnyus, Sovetskaya Litva, Russian, 12 January 1972, p 2]

Specialization plays an important role in raising the technical level of production and efficiency. Great significance is being associated with this form of operation for enterprises and branches. In the directives of the 24th Party Congress a task for the Ninth Five-Year Plan is stated: "Improve the structure of industry and inter- and intra-branch balances, and expand specialization and cooperation in production.

Specialization is based on the social division of labor. Its role and significance lie in the fact, that it, by providing the concentration of production of articles, assemblies, and parts which are similar from a design and technological point of view, as well as of separate operations, opens the way for new equipment, technology, better ways of organizing production, and highly mechanized methods. Therefore, the further development of specialization and cooperation in all branches of the national economy is one of the important conditions for creating a material-technical base of Communism.

Specialization creates conditions for uniform production both by means of concentrating articles, parts, and operations of the same kind and type in separate branches, enterprises, shops, and sectors, as well as through the creation of uniformity based on standardization, normalization, and unification of articles and parts concentrated in one place.

Over the last 10 years great success has been achieved in our republic in developing industrial specialization. A number of sub-branches have been set up, the production profile of many enterprises has been updated, duplication in the output of the same kinds of articles is being eliminated, and a certain portion of the castings, forgings, tools, and other items have been concentrated. This has promoted the growth of labor productivity, increased production output, improved quality, and reduced production costs.

Nevertheless, the advantages of specialization are still not being put to full use. Until recently its level in the majority of branches of industry

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 . 043 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THE STRESS-STRAIN DIAGRAM AND INTERNAL FRICTION OF COPPER WHISKERS UNDER UNIAXIAL EXTENSION AND A NEW METHOD OF STUDY -U-

AUTHOR-(03)-RABUKHIN, V.B., PINES, B.YA., ANDRONOV, V.M.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 436-439

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--STRESS ANALYSIS, YIELD STRESS, HARMONIC OSCILLATION, TENSILE STRESS, INTERNAL FRICTION, CRYSTAL DISLOCATION, COPPER WHISKER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0343 STEP NO--UR/0126/70/029/002/0436/0439

CIRC ACCESSION NO--AP0129575

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 043 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW EXPERIMENTAL METHOD OF STUDYING THE STRESS-STRAIN DIAGRAM OF CU WHISKERS AND DETERMINING THEIR YIELD CHARACTERISTICS IS DESCRIBED. IN THIS METHOD THE ELASTIC STRESSES IN THE MATERIAL ARE DETERMINED BY ANALYSING THE RESONANCE FREQUENCY OF TRANSVERSE OSCILLATIONS SET UP IN THE STRETCHED SAMPLE. ONE NOTEWORTHY FEATURE IS THAT AT THE INITIAL STAGE OF EASY SLIP THE INTERNAL FRICTION REMAINS APPROX. CONSTANT, INDICATING THAT AT THIS STAGE A LARGE PROPORTION OF THE DISLOCATIONS FORMED PASS OUT OF THE CRYSTALS.

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1/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ON THE PATHOGENESIS OF MICROGENESIS -U-

AUTHOR-(03)-GRUZOKOVA, YE.V., RABUKHINA, N.A., STEPANOVA, I.G.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 46-48

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BONE DISEASE, JAW, ANATOMY, CLINICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0081 STEP NO--UR/0511/70/049/003/0046/0048

CIRC ACCESSION NO--AP0120781

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120781

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. THE AUTHORS DISCUSS PROBLEMS RELEVANT TO THE PATHOGENESIS OF UNILATERAL AND BILATERAL MICROGENESIS. THE ARTICLE ANALYZES 94 COVERING A SIX YEAR (1963-1968) PERIOD. STUDIES OF CLINICO ROENTGENOLOGICAL DATA MADE IT POSSIBLE TO ESTABLISH THE SEQUENCE OF PATHOLOGICAL CHANGES INVOLVING THE TEMPEROMANDIBULAR JOINT CAUSED BY AN INFLAMMATORY PROCESS, INJURY OF OSTEOMYELITIS. ONLY IN 12 PATIENTS THERE WERE CONGENITAL DISTURBANCES IN THE CRANIAL BONE FORMATION, IN PARTICULAR AN ABSENCE OF ARTICULAR PROCESSES. THE RESULTS OF THE INVESTIGATION TESTIFY TO THE FACT THAT THE OVERWHELMING MAJORITY OF CASES OF MICROGENESIS ARE A COMPLICATION OF PREVIOUS AFFECTIONS OF THE TEMPEROMANDIBULAR JOINT AND COULD NOT BE REFERRED TO THE GROUP OF MALFORMATION OF THE HUMAN JAWS.

FACILITY: TSENTRAL'NYY N-I INSTITUT STOMATOLOGII, MOSCOW.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Acc. Nr: AP0047198 Ref. Code: UR0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1, pp 32-34

N. A. Rabukhina, I. G. Stepanova, E. I. Zhibitskaya, A. E. Slamberg — CLINICO-ROENTGENOLOGICAL CHARACTERISTICS OF DEFORMATION OF THE SKULL AND MAXILLODENTAL SYSTEM IN CONGENITAL CLEFTS OF THE PALATE AND ALVEOLAR PROCESS OF THE MAXILLA IN ADULTA

Summary. The paper deals with an analysis of the results of clinico-roentgenological investigation of 51 patients with unilateral and bilateral complete cleft of the hard palate and alveolar process, aged 15—25 years. The authors carried out teleroentgenograms in frontal and lateral projections, enlarged panoramic roentgenograms of the jaws, tomograms of temperomandibular joints. It was found that in clefts of the hard palate and alveolar process the maxilla is displaced backwards and upwards; decrease of its basis is encountered more rarely than narrowing of the alveolar process of the maxilla. In 49 persons there were observed an increased size of the body and branch of the mandible, deformation of temperomandibular joints, whereby in 21 persons — disturbed formation of the base of the skull.

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Pharmacology and Toxicology

USSR UDC 615.285.7.099

BUCHKO, V. M., RABIKHINA, V. A., and CHISTYAKOVA, I. V., Chair of Internal Diseases, First Leningrad Medical Institute imeni I. P. Pavlov, Hospital Number Two, Zhdanovskiy Rayon

"Clinical Manifestations of Occupational Intoxications With Some Organophosphorus Compounds"

Moscow, Sovetskaya Meditsina, No 10, Oct 70, pp 143-145

Abstract: Clinical manifestations and methods of treatment are described for 106 cases of intoxication with chlorophos (Dipterex) or thiophos, organophosphorus compounds widely used in agriculture for the control of insects and rodents. The patients arrived at the hospital within 1 to 15 hours after intake of 30 to 500 g of the poisons. On the basis of clinical symptoms, intoxications with these compounds are divided into mild, moderately severe, and severe categories. Severity of intoxication varies according to the time lag between intake of the poison and medical treatment. No definite relationship between dose and severity was established. Symptoms of moderate intoxication include bradycardia, moisis, muscular fibrillation, and, in some cases, asthma induced by bronchospasms. In mild cases, these symptoms are less

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USSR

BUCHKO, V. M., et al, Sovetskaya Meditsina, No 10, Oct 70, pp 143-145

strongly expressed. Severe cases are usually accompanied by disturbances of the central nervous system, coma, disturbed respiration, low arterial pressure, and pulmonary edema, in addition to the above symptoms. Treatment usually consists of administration of atropine, ephedrine, cardiac preparations, glucose with vitamins, artificial respiration, and camphor and oxygen when necessary. Prompt gastric lavage is an important factor in prevention of the development of severe forms of this intoxication.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC 542.49:546.791.3'131

TARASOVA, L. A., RACHEV, V. V., and PAVLOVA-VEREVKINA, A. I.

"Purification of Uranium Trichloride by Vacuum Sublimation"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 405-407

Abstract: A study was made of the possibility of more efficient sublimation in purification of UCl_3. UCl_3 sublimation experiments were conducted on special equipment in the 750-950° range. A stable vacuum was maintained at 10^{-6}-10^{-5} torr. Sublimation apparatus material was quartz. Quartz, molybdenum, tantalum, or their combinations were tested for the vaporization part of the apparatus. A table listed effect of various factors on yield of UCl_3 in vacuum sublimation: sublimation temperature, impurity (UO_2 and UOCl) content, material of vaporization assembly, amount of loaded UCl_3. Tabled data revealed that the yield of UCl_3 in sublimation is determined by the material of the vaporization assembly and by observance of measures to prevent interaction of the trichloride with components of the air entering the system due to adsorption on the preparations and apparatus assemblies in preparatory stages. When these precautions are taken and when molybdenum or tantalum is used for the vaporization assembly, the UCl_2 yield reaches 50%, and in some cases 70% of the amount loaded into the apparatus.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC 621.438-596.6:536.2

ANTONOVICH, A. V., BASHKATOV, Yu. N., TRIFSIK, M. I., and RACHIM, E. V.

"Dynamics of Thermal Conditions of the Turbine at Various Stop Methods of the Gas Turbine Unit"

V sb. "Dinamika Teplov. Protsessov v Energetike i Tekhnol." [In the Collection "Dynamics of Thermal Processes in Power Engineering and Technology], Kiev, "Nauk. Dumka", 1971, pp 61-67 (from Referativnyy Zhurnal, No 6, Jun 72. 49. Turbostroyeniye. Abstract No 6.49.133)

Translation: The stop method with instantaneous turning off of the combustion chamber, usually applied on gas turbine units, results in a sharp change of the heat conditions of turbine parts reached by working gases, negatively affecting their reliability and life; the internal potentialities of the gas turbine unit practically make it possible to control the turbine heat conditions by a programmed change of the fuel consumption not only when starting but also when stopping; thanks to this fact, the thermal nonuniformity of turbine parts decreases. A simple and effective system of programmed stop, developed and put into practice on a gas turbine unit, made possible to increase the operational reliability of the unit. Four illustr., two biblio. refs.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 621.357.7:669.258(088.8)

RACHINSKAS, V. S., and ORLOVSKAYA, L. V., Institute of Chemistry and Chemical Technology of the Academy of Sciences Lithuanian SSR

"Electrolytic Deposition of Cobalt Alloys"

USSR Author's Certificate No 326253, Filed 12 Jun 70, Published 3 Mar 72 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), 1972, Abstract No 23I266P)

Translation: The patented electrolytic method for deposition of Co alloys requires the presence of $MnSO_4$ in electrolyte, in order to obtain hard magnetic Co-W-Mn films. The electrolytic plating is carried out at pH 3.5.5, D_c 0.2-1.5 a/dm^2, and 20-40°C with continuous agitation of the electrolyte. The electrolyte consists of (g/liter): $CoSO_4$ 30-150, Na_2WO_4 5-30, $MgSO_4$ 5-100, $MnSO_4$ 50-150, H_3BO_3 25-35.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 621.357.7:669.258(088.8)

MATULIS, YU. YU., RACHINSKAS, V. S., KHOTYANOVICH, S. I., RACHINSKENE, S. G.

"Method of Electrolytic Deposition of Cobalt Alloys"

USSR Author's Certificate No 316754, filed 18 May 70, published 22 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L333P)

Translation: A procedure has been patented for electrolytic deposition of Co alloys distinguished by the fact that in order to obtain a bright film of Co-Pt alloy, chloroplatinic acid is introduced into the electrolyte, and the process takes place at pH 2-5, D_c 0.2-2 a/dm^2, and a temperature of 18-40° with mixing of the electrolyte. The electrolyte contains (in g/liter): $CoSO_4$ 100-150, chloroplatinic acid 0.1-2.0, $MgSO_4$ 50-100, H_3BO_3 25-35.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 621.357.7:669.258(088.8)

MATULIS, YU. YU., RACHINSKAS, V. S., KHOTYANOVICH, S. I., RACHINSKENE, S. G.

"Method of Electrolytic Deposition of Cobalt Alloys"

USSR Author's Certificate No 316754, filed 18 May 70, published 22 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L333P)

Translation: A procedure has been patented for electrolytic deposition of Co alloys distinguished by the fact that in order to obtain a bright film of Co-Pt alloy, chloroplatinic acid is introduced into the electrolyte, and the process takes place at pH 2-5, D_c 0.2-2 a/dm^2, and a temperature of 18-40° with mixing of the electrolyte. The electrolyte contains (in g/liter): $CoSO_4$ 100-150, chloroplatinic acid 0.1-2.0, $MgSO_4$ 50-100, H_3BO_3 25-35.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 615.28:547.337.3

SHAPILOV, O. D., RACHINSKIY, F. YU., OSIPYAN, V. T., DEKEL'BAUM, A. B., POTANENKO, T. G., KRUNENINA, A. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"Hexamethyleneimonium Compounds Containing Alkoxy-, Hydroxy- and Cyanoalkyl Substituents at the Quaternary Nitrogen Atom, and Their Bactericidal Properties"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 2, Feb 71, Vol 5, pp 19-22

Abstract: Hexamethyleneimonium compounds with alkyl, carbalkoxymethyl, phenoxyethyl and other substituents with 17 to 21 carbon atoms at the N exhibit marked bactericidal action; ammonium compounds with alkoxymethyl groups at the quaternary nitrogen atom are both good bactericides and highly water-soluble.

The author obtained a number of hexamethylimonium compounds by alkylation of tertiary derivatives of hexamethylenimine, and also some highly water-soluble compounds through synthesis of substances

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

SHAPILOV, O. D., et al, Khimiko-Farmatsevticheskiy Zhurnal, No 2, Feb 71, Vol 5, pp 19-22

with cyanoethyl and cyanomethyl groups at the quaternary nitrogen atom. Thirty-six compounds in all were studied for bactericidal and other properties.

Some 30 of these were quite effective against E. coli and Staphylococcus aureus, and were moderately or highly water-soluble. Physical and bactericidal properties are given in the paper.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR UDC 6161.9-085.7:546.272.1

SHAPILOV, O. D., RACHINSKIY, F. Yu., DELEL'BAUM, A. B., OSIPYAN, V. T., and KRUPENINA, A. A.

"Derivatives of Diethyl Ether Containing Phenoxy- and Hexamethyleneimonium Groups, as Bactericides"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 223-226

Abstract: Some quite effective bactericides among hexamethylamineimonium compounds have already been discovered (1968, 1970).

Of the subgroup mentioned above, 18 compounds were synthesized and tested for bactericidal action (Staphylococcus aureus).

Of these 18, the bromide of the [β-(2,4-dichlorophenoxy)-β'-(N-decylhexamethyleneimonium)] derivative of diethyl ether was found to be the most promising. Physical constants of the 18 compounds and details of the synthesis are included in the paper.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ISOTOPIC COMPOSITION OF HYDROGEN IN THE WATERS AND PETROLEUMS OF THE APSHERON 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

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/FRAME--1996/1640 STEP NO--IR/0152/70/013/001/0003/0006

CIRC ACCESSION NO--AT0118619

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AT0118619 PROCESSING DATE--23OCT70

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

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 518.9

RACHKO, Peter

"Effectiveness of Reconnaissance in the Gross Problem"

V sb. Issled. operatsiy. Vyp. 2 (Operations Research--collection of works. No 2), Moscow, 1971, pp 58-68 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V774)

Translation: The author considers the problem of distributing offensive and defensive facilities among several points differing with respect to effectiveness of defensive facilities. The value of the guaranteed result is found as well as the pure strategies of the players which realize this result In the case where the defense has the option of setting apart some of its facilities for reconnaissance to obtain precise information on the distribution of some of the offensive facilities. A study is made of the way in which the results depend on the effectiveness of reconnaissance.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 621.319.4

RACHKOV, S. P., MAKAROVA, I. A., YEVDOKIMOV, V. P.

"A Device for Assembling Electrolytic Capacitors"

USSR Author's Certificate No 268548, filed 10 Jan 69, published 10 Sep 70 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V339 P)

Translation: This Author's Certificate introduces a device for assembling electrolytic capacitors. The unit contains a rotating table carrying die molds, a mechanism for pouring the electrolyte into the capacitors, a rolling mechanism, and a mechanism for removing the finished capacitors. To simplify the design of the device and improve its operational reliability, the pouring mechanism is made in the form of a rotating batcher which carries a pinion connected to a gear sector resting on a lug of the die mold, which is equipped with floating female dies; the rolling mechanism is fitted with a hydraulic cylinder whose rod is connected to the male die, and the mechanism for re-mvoing the capacitors is made in the form of a clamp fastened to the rod of a second hydraulic cylinder.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Vacuum Tubes

USSR

UDC 621.385.6.089.3 (088.8)

DMITRIYEV, B.S., ZHARKOV, YU.D., RACHKOV, V.A.

"Method Of Measurement Of The Coupling Impedance Of Delay Systems"

USSR Author's Certificate No 297087, filed 22 Aug 68, published 23 July 71 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A165P)

Translation: The method is based on the interaction of an electron beam with a traveling electromagnetic wave propagating in the delay system in question. With the object of simplifying and accelerating the process of measurement, the dependence is taken of the voltage corresponding to a regime of absence of interaction of an electron beam with a slowed-down electromagnetic wave, on the current of the electron beam, and subsequently by a formula the coupling impedance

$$R_{CI} = 12/(\beta_e l)^2 \left(\frac{5}{2} \frac{I_k}{U} - \frac{dI_k}{dU} \right),$$

is determined where R_{CI} is the coupling impedance of the delay system, β_e is the propagation constant of the electron beam; l is the geometric length of the delay system; U isthe accelerating voltage; I_k is the current of the collector.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 621.317.3

RACHKOV, V. A., ZHARKOV, Yu. D., DMITRIYEV, B. S.

"On the Effect Which the Input Signal Level has on the Results of Electron Probe Measurements of the Dispersion and Resistance of Coupling of Decelerating Systems"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Technology. Scientific and Technical Collection. Monitoring and Measuring Equipment), 1970, vyp. 2 (20), pp 27-33 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A302)

Translation: The authors analyze the effect which the input signal level has on measuring the coupling resistance and dispersion of decelerating systems by using an electron probe. A relationship is found which can be used to evaluate the input signal power at which relationships of linear theory may still be used. Resumé.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--A METHOD OF MEASURING THE VELOCITY OF CHARGED PARTICLES -U-

AUTHOR-(03)-DMITRIYEV, B.S., ZHARKOV, YU.D., RACHKOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, OTKRYTIYA, IZOVRETENIYA, NO 7, 4 FEB 70, P 62, PATENT NO 263047

DATE PUBLISHED--04FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CHARGED PARTICLE, VELOCITY MEASURING INSTRUMENT, AUTHOR CERTIFICATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1116 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112238

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0112238

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A METHOD OF MEASURING THE VELOCITY OF CHARGED PARTICLES WHICH INVOLVES PASSING THE CHARGED PARTICLES THROUGH A MODERATING STRUCTURE WITH A KNOWN DISPERSION (PHASE VELOCITY). THE UNIT DIFFERS BECAUSE IT IS DESIGNED FOR IMPROVED ACCURACTY AND SIMPLIFIED MEASUREMENT. THE NO EFFECT MODE IS SET BY SELECTING THE FREQUENCY OF THE HIGH FREQUENCY SIGNAL APPLIED TO THE MODULATING STRUCTURE. THIS MODE IS CHARACTERIZED BY THE ABSENCE OF INTERACTION BETWEEN THE MOVING FLUX OF THE CHARGED PARTICLES AND THE MODERATED ELECTROMAGNETIC WAVE AND BY EQUALITY FO THE PARTICLE VELOCITIES AND THE PHASE VELOCITY OF THE WAVE. THEN THE PHASE VELOCITY OF THE WAVE ON THE GIVEN FREQUENCY IS DETERMINED AS EQUAL TO THE MEASURED PARTICLE VELOCITY.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 621.385.6.083.9

DMITRIYEV, B. S., ZHARKOV, Yu. D., RACHKOV, V. A.

"A Method of Measuring the Velocity of Charged Particles"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, 4 Feb 70, p 62, Patent No 263047, Filed 14 Jan 67

Translation: This Author's Certificate introduces a method of measuring the velocity of charged particles which involves passing the charged particles through a moderating structure with a known dispersion (phase velocity). The unit differs because it is designed for improved accuracy and simplified measurement. The no-effect mode is set by selecting the frequency of the high-frequency signal applied to the modulating structure. This mode is characterized by the absence of interaction between the moving flux of the charged particles and the moderated electromagnetic wave and by equality of the particle velocities and the phase velocity of the wave. Then the phase velocity of the wave on the given frequency is determined as equal to the measured particle velocity.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--MASS SPECTRUM OF TITANIUM TETRACHLORIDE -U-

AUTHOR-(03)-AGAFONOV, I.L., ZUYEVA, M.V., RACHKOV, V.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2) 574-6

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ISOTOPE, CHEMICAL COMPOSITION, TITANIUM CHLORIDE, MASS SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0299 STEP NO--UR/0078/70/015/002/0574/0576

CIRC ACCESSION NO--AP0053284

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0053284 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MASS SPECTRUM OF TICL SUB4 IS TABULATED. THE ISOTOPIC COMPN. OF TICL SUB4 IS GIVEN.

UNCLASSIFIED 89

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

RACHKOV, V. I. UDC 624.07:534.1

"Stability of Spherical and Ellipsoidal Shells Resting on an Extended Elastic Base"

Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr. (Works of the All-Union Scientific Research and Design Institute of Chemical Machine Building), 1972, No. 56, pp 43-52 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V305)

Translation: The stability of spherical and ellipsoidal shells resting on an extended elastic base is discussed. An extended elastic base is understood to be a base in which reactions arise that are proportional to the bends and reactions (in the form of moments) proportional to the angles of rotation of the cross sections. The problem is solved both in the linear and in the nonlinear formulation. The stability of a spherical shell is obtained as a function of the rigidity of the elastic base. 9 ref. Author's abstract.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Acoustical and Ultrasonic

USSR

UDC 534.26:551.26

ZEL'DIS, V. I., LEYKIN, I. A., ROZENBERG, A. D., and RUSKEVICH, V. G., Institute of Radio Physics and Electronics, Academy of Sciences, Ukrainian SSR

"A Study of the Amplitude Characteristics of Sound Signals Scattered by a Rough Water Surface"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 2, Mar-Apr 73, pp 170-177

Abstract: The results are presented of an experimental investigation of the amplitude characteristics of a back-scattered hydroacoustic signal within the range of 15 to 150 kHz and with slip angles from 10 to 50°. With the aim of additional verification of the basic propositions of the theory of resonance scattering, based upon the theory of small perturbations, the investigation was conducted in a tank and on the open sea. Detailed measurements were taken of the characteristics of the scattering surface under swell conditions of up to 5 points [very rough sea]; this permitted the data of acoustic measurements to be compared with calculation results. A good explanation of the obtained results can be provided within the framework of the theory of resonance scattering. 6 figures. 7 references.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Acoustical and Ultrasonic

USSR

UDC 534.26:551.26

ZEL'DIS, V. I., LEYKIN, I. A., ROZENBERG, A. D., and RUSKEVICH, V. G., Institute of Radio Physics and Electronics, Academy of Sciences, Ukrainian SSR

"A Study of the Amplitude Characteristics of Sound Signals Scattered by a Rough Water Surface"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 2, Mar-Apr 73, pp 170-177

Abstract: The results are presented of an experimental investigation of the amplitude characteristics of a back-scattered hydroacoustic signal within the range of 15 to 150 kHz and with slip angles from 10 to 50°. With the aim of additional verification of the basic propositions of the theory of resonance scattering, based upon the theory of small perturbations, the investigation was conducted in a tank and on the open sea. Detailed measurements were taken of the characteristics of the scattering surface under swell conditions of up to 5 points [very rough sea]; this permitted the data of acoustic measurements to be compared with calculation results. A good explanation of the obtained results can be provided within the framework of the theory of resonance scattering. 6 figures. 7 references.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 007 UNCLASSIFIED

TITLE--PLATINUM MONOCARBONYL -U- PROCESSING DATE--16OCT70

AUTHOR-(03)-RACHKOVSKAYA, L.N., YEREMENKO, N.K., MATVEYEV, K.I.

COUNTRY OF INFO--USSR

R

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1396-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM COMPOUND, CARBONYL COMPOUND, CHLORINE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1592 STEP NO--UR/0020/70/190/006/1396/1398

CIRC ACCESSION NO--AT0117000

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AT0117000 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PT MONOCARBONYL IS PREPD. IN THE SOLID STATE AND ITS COMPN. AND PROPERTIES ARE STUDIED BY MEANS OF IR ANAL. THE COMPN. OF THE COMPD. IS PT(CO)(HCL) SUB2. IN SOLN. THIS COMPD. ADDS A 3RD MOL. OF HCL AND IS CONVERTED TO THE ACID H(PTCO(HCL) SUB2 CL). THE CL NEGATIVE IN THE COMPLEX ARE NOT EQUIV. AND THE H HAVE A HYDRIDE CHARACTER. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 681.333.519.2

BUTSEVICHYUS, S. G., GIRDZIYAUSKAS, S. I., ZARETSKAS, V.-S. S., RAGUL'SKIS, K. M., RACHKUS-RACHKAUSKAS, A.-I. I., Kaunas Polytechnical Institute

"A Random Pulse Recorder"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 29, 1970, Soviet Patent No 281910, Class 42, filed 5 Jun 69, p 134

Abstract: This Author's Certificate introduces a random pulse recorder which contains an optical system with a device for compensating image rotation, and a medium which supports a photosensitized recording layer. As a distinguishing feature of the patent, scanning precision is improved and optical and assembly errors are reduced by incorporating a rotating penta prism into the device in the path of the image formed by the light. The stationary annular medium which supports the photosensitized film is installed concentrically with the axis of rotation of the penta prism.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 008 UNCLASSIFIED

TITLE--SYNTHESIS OF 4,PHENOXYBIPHENYL -U- PROCESSING DATE--13NOV70

AUTHOR-(04)-BARONI, YE.YE., KAREGISHVILI, L.I., KOVYRZINA, K.A., RADAIKINA, L.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 719-20

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, BENZENE DERIVATIVE, OXYGEN COMPOUND, POLYNUCLEAR HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0341 STEP NO--UR/0080/70/043/003/0719/0720

CIRC ACCESSION NO--AP0111535

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2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0111535

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 4.8 ML HNO SUB3 (D. 1.4) OVER 70 MIN TO A MIXT. OF 38.5 G PH SUB2, 100 ML HOAC, 31.8 G IODINE, AND 27.5 ML H SUB2 SO SUB4 (D. 1.84) AT 34-6DEGREES GAVE 54PERCENT 4,PHC SUB6 H SUB4 I (I), M. 112DEGREES (ETOH). REACTION OF 70 G I WITH KOPH (FROM 45.5 G PHOH AND 15.4 G KOH) 6 HR IN THE PRESENCE OF 1.5 G POWD. CU AT 270-90DEGREES GAVE 97PERCENT 4,PHOC SUB6 H SUB4 PH (II), B SUB2 160DEGREES, M. 68-9DEGREES. COM. FEASIBLE PREPN. OF II FROM PHBR AND 4,PHC SUB6, H SUB4 OH (III) WAS STUDIED WITH RESPECT TO REACTANT RATIO AND REACTION TIME AND TEMP. II YIELDS WERE MAX. (89.2PERCENT) WHEN 25 G III, 12 G KOH, 0.75 G CU, AND 40 ML PHBR WAS HEATED FIRST AT 180DEGREES UNDER A DEPHLEGMATOR 2.5 HR WITH DISTN. OF H SUB2 O FORMED IN THE REACTION AND THEN 1.5 HR AT 300DEGREES; THE MIXT., COOLED TO 50DEGREES, WAS TREATED WITH 50 ML AQ. 20PERCENT KOH, AND THE FILTERED, WASHED, DRIED PRODUCT WAS VACUUM DISTD. FACILITY: SUKHUM. FIZ.-TEKH. INST., SUKHUMI, USSR.

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Acc. Nr. AP0054356 Abstracting Service: CHEMICAL ABST. 5-70

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102588b Transformations of subsurface petroleum. Radakov, G. V. (USSR). *Nature (London)* 1970, 225(5230), 370-1 (Eng). An oil reservoir exemplifies a self-regulating system of petroleum, connate water, and rock. The process that decreases the free surface energy is accompanied by a decrease in production of entropy (adsorption of polar materials). These processes should be considered as thermodynamically irreversible and stationary.

B. W. Hotten

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REEL/FRAME
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

RADAUTSAN, S. I., Editor

UDC: None

Poluprovodnikovyye Soyedineniya i ikh Tverdyye Rastvory (Semiconductor Compounds and Their Solid Solutions) Kishinev, 1970, Moldavian SSR Academy of Sciences, 228 pp, p 2

Translation: This collection contains descriptions of the physical and physico-chemical characteristics of semiconductor compounds and rectifying structures on the basis of experimental research first begun in Moldavia by M. V. Kot.

The general theoretical problems relating to the phenomena of migration and photon-photon-electron interaction in crystals and layers, as well as specific problems in obtaining heterostructures and n-p structures, concentration distributions of impurities in crystals, and phase equilibria in multicomponent systems, are examined.

A considerable amount of space is devoted to investigations of solid solutions of $A^{II}B^{VI}$ and $A^{III}_2B^{VI}_3$ compounds. Recommendations in applications of the materials studied are made.

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. USSR

RADAUTSAN, S. I., Poluprovodnikovyye Soyedineniya i ikh Tverdyye Rastvory, 1970, 228 pp, p 2

The book should appeal to scientific and engineer-technician personnel engaged in the development, research and application of semiconductors. It should also be useful to instructors, aspirants, and students of advanced courses specializing in semiconductor electronics.

The materials of the collection were approved for publication at a meeting of the Section of Physico-Technical and Mathematical Sciences of the Editor-Publisher Council, Moldavian SSR Academy of Sciences, 8 April 1968.

Editorial Staff: Corresponding Member of the Moldavian Academy of Sciences S. I. Radautsan (Editor-in-Chief), Candidates of the Physico-Mathematical Sciences D. V. Gitsu, V. A. Kas'yan, I. P. Molodyan (Assistant Editor), V. F. Zhitar', and V. P. Mushinskiy

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USSR

RADAUTSAN, S. I., Editor

UDC: None

Poluprovodnikovyye Soyedineniya i ikh Tverdyye Rastvory (Semiconductor Compounds and Their Solid Solutions) Kishinev, 1970, Moldavian SSR Academy of Sciences, 228 pp, pp 227-228

Translation:

TABLE OF CONTENTS

Kot, M. V. (Deceased), Prilepov, V. D., Tsurkan, A. Ye., Electrical Characteristics of Doped p-Type ZnTe. . . .
Kot, M. V. (Dec.), Tsurkan, A. Ye., Recombination Radiation in p-n Junctions and ZnTe Doped with Various Impurities . . . . . .
Kot, M. V. (Dec.), Danilyuk, S. A., Pasechnik, F. I., Senokosov, E. A., Effect of an Electric Field on Optical Absorption in ZnSe, ZnTe, and CdTe Films . . .
Kot, M. V. (Dec.), Korotkov, V. A., Koval', L. S., The Structure of Epitaxial Zinc Telluride and Cadmium Telluride Layers on Germanium Substrates . . .

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USSR

RADAUTSAN, S. I., Poluprovodnikovyye Soyedineniya i ikh Tverdyye Rastvory, 1970, 228 pp, pp 227-228

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Kot, M. V. (Dec.), Tyrziu, V. G., A Method for Obtaining Fine Layers of Varying Composition of Type $A^{II}B^{VI}$ Semiconductor Systems . . . . . .

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USSR

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

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Kas'yan, V. A., Nikol'skiy, Yu. A., Structure and Electrical Characteristics of InSb-GaSb System Films . . . . . .
Aliyev, M. I., Zeynalov, S. A., Phonon Dispersion in Solid Solutions of $(InSb)_x-(GaSb)_{1-x}$. . . . . .
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Goryunova, N. A., Oleksevuk, I. D., Golovey, M. I., Solid Solutions in $(ZnTe)_{2x}-(Zn_3As_2)_{1-x}$ Systems . . . . .
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M. V. Kot (Deceased) . . . . . .
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Bibliography . . . . . .

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JPRS 59208
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4

VIII-10. GROWTH OF SINGLE CRYSTALS OF SOME SEMICONDUCTOR COMPOUNDS WITH SPINDLE STRUCTURE

[Article by S. I. Radautsan, M. I. Val'kovskaya, K. P. Sherban, V. E. Tezlevan, Institute of Applied Physics of the Moldavian SSSR Academy of Sciences, Kishinev; Novosibirsk, III Simposium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 112]

The majority of semiconductor compounds with spindle structure are characterized by a high melting point. Therefore, in order to grow single crystals of certain compounds in this group, In_2S_3, $CdIn_2S_4$, $CuIn_5S_3$, $AgIn_5S_3$ and also solid solutions based on them, the method of chemical transport reactions was used.

A study was made of the most probable reactions promoting transport of alloys of different composition. The study of the transport kinetics of the compounds permitted discovery of the optimal growth conditions of the crystals. Single crystals grown by the method of chemical transport reactions basically have octahedral faceting. The Laue diffraction patterns and epigrams demonstrated that repeatedly growing facets have the [111] direction and are G-type facets. The crystal habit reaches 15×10×10 mm^3 as a result of a special procedure permitting reduction of the number of crystallization centers to a minimum.

The large crystals of the indicated compounds were obtained by the method of zone recrystallization. Technological conditions were developed for which the synthesis of the material and growth of single crystals were combined in one cycle. In the specimens obtained, a study was made of the effect of the etching agents. The selective etching agents permitted discovery of the dislocation picture formed around the impressions and scratches. Studies were also made of some physical properties of the named compounds.

RADAUTSAN, S. I.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

RADAUTSAN, S.I.

JPRS 59208
6-73

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III-11. GROWTH DIRECTION OF THE PURE AND ALLOYED SINGLE CRYSTALS OF ZINC TELLURIDE

[Article by V. I. Verian, S. I. Radautsan, A. Ye. Murkan; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 35]

The study of the directional growth of crystals was made in sealed quartz ampoules with graphite containers with a quartz jacket. The crystals were grown on a monocrystalline seed both from the vapor phase by the Piper method and from a melt by the directional crystallization method. The studies were made for different constant vapor pressure of zinc or tellurium and also with cesium, lithium or phosphorus additives present in the melt as the alloying admixture. It was established that for a zinc or tellurium vapor pressure above the equilibrium pressure the crystals are oriented by the side of the plane (111) for which there is a favorable possibility of growth. The crystallographic orientation of the predominant growth direction <111> has been studied for deviation from the stoichiometry. It has been demonstrated that with excess zinc vapor pressure above the melt the crystal is oriented by the $(111)_{Te}$ plane in the direction of the melt. The presence of one of the indicated admixtures in the melt with equilibrium pressure of the components leads to preferable orientation in the melt of the plane $(111)_{Zn}$. The growth mechanism of crystals of the given compound has been studied. It is demonstrated that the crystallization process in the direction of the predominant growth is determined by the crystallographic ratio between the transient layer at the phase interface. The structure of the transition layer depends on the supercooling of the melt (vapor) at the crystallization front, and it is determined by the electron structure of the melt atoms.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 621.373:530.145.6

DAMASKIN, I. A., KOVARSKIY, V. A., PYSHKIN, S. L., RADAUTSAN, S. I., FERDMAN, N. A., and TEZLEVAN, V. Ye.

"Luminescence of $CdIn_2S_4$ Monocrystals in the Excitation of Ruby Laser Light by Giant Pulses"

V sb. Issled. slozhn. poluprovodnikov (Investigating Complex Semiconductors--collection of works) Kishinev, 1970, pp 85-89 (from RZh-Radiotekhnika, No. 3, March 71, No. 3, Abstract No. 3D312)

Translation: The results are given of an investigation of $CdIn_2S_4$ monocrystals in two-photon optical excitation. With an excitation intensity of about $8 \cdot 10^{25}$ kV/cm^{2}sec, a narrow intense band at 660 nm is detected in the luminescence spectrum, whose half-width decreases substantially with increasing intensity of the excitation light. The detected phenomenon is interpreted as forced radiation in the so-called phononless line. Estimates of the luminescence spectrum half-width are obtained and a model of the detected phenomenon is proposed. Four illustrations, bibliography of eight. Author's abstract.

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UNCLASSIFIED

TITLE--DEFECTIVE DIAMOND LIKE SEMICONDUCTORS AS INTERMEDIATE PHASES BETWEEN CRYSTALLINE AND VITREOUS STATES -U-

PROCESSING DATE--20NOV70

AUTHOR--RADAUTSAN, S.

R

COUNTRY OF INFO--USSR

SOURCE--J. NON CRYST. SOLIDS (NETHERLANDS), VOL. 4, P. 370-7, APRIL 1970

DATE PUBLISHED----APR70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--AMORPHOUS SEMICONDUCTOR, CRYSTAL PROPERTY, VITREOUS SILICA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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STEP NO--NE/0000/70/004/000/0370/0377

CIRC ACCESSION NO--AP0133648

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133648

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEFECTIVE DIAMOND LIKE SEMICONDUCTORS HAVE BEEN STUDIED IN COMPARISON WITH NONDEFECTIVE COMPOUNDS AND VITREOUS PHASES. EXAMPLES OF THE INFLUENCE OF THE ORDERING ON PHYSICAL PROPERTIES OF THE SUBSTANCE ARE GIVEN. IN THE SYSTEMS AND (ZNS) SUB3X (IN SUB2 S SUB3) R SUBX THE PHASES WHICH ARE OBTAINED ON THE BASIS OF IN SUB2 S SUB3 HAVE BEEN INVESTIGATED. IN THE FIRST SYSTEM SOLID SOLUTIONS ARE OBTAINED AT X EQUALS 0.0-0.3 AND IN THE SECOND ONE, AT COMPOSITIONS X EQUALS 0.25, 0.4, 0.5, TERNARY PHASES WITH THE STRUCTURE OF A SPINEL TYPE ARE FORMED. DEPENDING ON THE DEGREE OF FILLING OF THE TETRAHEDRAL AND OCTAHEDRAL VACANCIES IN THE CATION SUBLATTICE, CHANGES ARE OBSERVED OF THE MAIN SEMICONDUCTOR CHARACTERISTICS IN THE SYSTEMS I AND II. FACILITY: S. LASC POLYTECH. INST. KISHINEV, MOLD., USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 669.14-41:620.186.5

VOSTRIKOV, A. A., GUBCHEVSKIY, V. P., ZBOROVSKIY, A. A., NEMKINA, E. D., RADAYEV, G. D.

"Ultrasonic Method of Studying Recrystallization of Sheet Steel"

Zavodskaya Laboratoriya, No 3, 1971, pp 302-304.

ABSTRACT: Specimens of Type 08 kp steel 1 mm thick, annealed at 50°C intervals in the 100-1,200°C range, were used to study the dependence of attenuation of ultrasound (inclination of piezoelement 40°, frequency 2.5 MHz) on angle of beam deflection in relationship to the rolling direction. Parallel x-ray structural studies of the process of recrystallization of these specimens confirmed the possibility of determining the temperatures of beginning and ending of recrystallization on the basis of approximate attenuation curves of ultrasound, and also of studying the kinetics of the process of recrystallization of sheets of this steel. 3 Figures; 1 Table; 2 Biblio. Refs.

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USSR

Composite Materials

UDC: 669.715:621.002.3

SEVERDENKO, V. P., MATUSEVICH, A. S., CHUTAYEV, I. Kh., RADAYEV, M. A.

"Hardening of Aluminum by Fibers of Stainless Steel"

Moscow, Tsvetnyye Metally, No 12, Dec 73, pp 60-61.

Abstract: A specimen consisting of alternating layers of degreased steel wire and surface-treated aluminum foil was placed in an envelope of copper sheets, the edges of which were sealed by gas welding. The air was extracted from the envelope to a residual pressure of $1 \cdot 10^{-4}$-$1 \cdot 10^{-5}$ mm hg, after which the packet was heated to 450° C for 30-45 minutes, depending on packet thickness. The residual pressure in the packet before rolling was not over $5 \cdot 10^{-5}$ mm hg. Based on the experiments, a nomogram was constructed which can be used to determine the spacing of wires, foil thickness and minimum necessary degree of compression for fixed values of volumetric content and a diameter of hardening wires. Reinforced sheets measuring (1.0-3.5) by 180 by 220 mm were made. The highest strength values were achieved for a composite material consisting of aluminum plus 44% EP-322 wire.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 621.396.69:621.319.4(088.8)

SHOKOROV, V. A., RADAYEV, N. S.

"A Variable Vacuum Capacitor"

USSR Author's Certificate No 265290, filed 20 May 68, published 26 Jun 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1Y299 P)

Translation: As a distinguishing feature of the variable vacuum capacitor covered by this patent, specific capacitance is increased and the operational reliability of the condenser is improved by using a current-conducting bellows to interconnect the stacks of rotor plates. Inside the bellows is a drive shaft with right-hand and left-hand threads at the ends.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 621.396.69(088.8)

RADAYEV, N. S., SHOKOROV, V. A., SIMONOVA, L. S.

"A Device for Locking a Nut"

USSR Author's Certificate No 258457, Filed 26 Jul 68, Published 17 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V394 P)

Translation: The proposed device for locking a nut contains a set-screw threaded into the nut radially. As a distinguishing feature of the patent, the operational reliability of the device during vibrations is improved by making the screw with a flat end, making a platform on the thread of the sleeve onto which the nut fits in the region where the screw is threaded into it, and installing balls between sleeve and nut on one or both sides of the screw.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC 616-099-516.9

DANOVSKIY, L. V., and RADRIL', O. S., Chair of Therapy No 2, Kazan' State Institute for Advanced Training of Physicians imeni V. I. Lenin

"Clinic and Therapy of Acute Intoxications"

Kazan', Kazanskiy Meditsinskiy Zhurnal, No 1, Jan/Feb 70, pp 35-37

Abstract: A report of case histories of several types of poisoning: methanol, ethanol, vinegar, antabuse (Teturam), and several drugs taken in excessive doses and in combination with other toxic agents. Treatment consisted of stomach pumping, IV and IM glucose injections, oxygen therapy and various combinations of vitamins and drugs tailored to the symptoms of individual cases.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Corrosion

USSR

UDC 620.194.8:629.7.02

ZAYKA, A. YA. and RADCHENKO, A. I., Kiev Institute of Civil Aviation Engineers

"Statistical Evaluation of the Effect of Prior Uniform Corrosion on the Service Life of Thin-Wall Sheet Designs"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 6, 1973, pp 35-40

Abstract: Smooth sections of aircraft panels, made of D16ATV alloy, were studied to determine the criteria on which to base probability-statistical principles with respect to the permissability or degree of corrosion damage allowable before a panel will lose its static and fatigue strength as a result of this corrosion, as well as the reduction of service life. Corrosion-fatigue tests were donucted on smooth panels and panels with 4-mm-diameter holes using potassium nitrate (3% solution) as the corrosive media. From these tests, data were used to plot distribution curves for fatigue life with respect to corrosion damage and load after a 500 cycle/min-frequency exposure for a time exceeding 10^6 cycles, relationships of service life to corrosion damage, relationship of permissable corrosion to probability of failure, and relationship of corrosion damage to cyclic-load level. No specific conclusions were made except that corrosion-fatigue tests should be conducted for loads very close to actual operating conditions. Six figures, four bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Miscellaneous

USSR UDC 669:539.43

KARLASHOV, A.V., RADCHENKO, A. I., ZAYKA, A. YA., and VORONKIN, N. F., Kiev Institute of Civil Aviation Engineers

"Fatigue Resistance of Corrosion-Damaged Aircraft Covering"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Academy of Sciences Ukrainian SSR, Vol 7, No 1, 1971, pp 53-56

Abstract: An investigation was made of the effect that a group of corrosion craters, simulating local corrosion of aircraft covering, has on the fatigue longevity of smooth and structural specimens made, respectively, of D16AT (1.85 mm thick) and D16ATV (2.5 mm thick) sheet materials. The fatigue tests of the smooth specimens of two batches were performed with net symmetrical bending (σ = 14 dynes/mm^2) at a frequency of 70 cpm. The corrosion craters on the surface of the first-batch specimens were of constant geometrical dimensions (depth t = 0.3 mm and diameter d = 1.3 mm), varying only in the number of craters per unit surface. On the specimens of the second batch, in the middle of small craters 0.3 mm deep and 1.3 mm in diameter there was one "general" crater: t = 1.0 mm and d = 3.5 mm. It was found that the adverse effect of a group of corrosion craters of identical geometrical size covering approximately 10% of the area involved is practically the same as the effect of a single damage area, in the variation of fatigue longevity

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

KARLASHOV, A.V., et al, Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Academy of Sciences Ukrainian SSR, Vol 7, No 1, 1971, pp 53-56

of duralumin D16AT as a function of density of corrosion damage. For the case when the group of corrosion craters included a general crater in the D16AT duralumin specimens, it was found that the added presence of the small craters did not lead to a further reduction in fatigue longevity of the material beyond that induced by the general crater. In contrast to smooth specimens, specimens with rivetted joints were found to be practically unaffected by the presence of groups of corrosion craters.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 8.74

RADCHENKO, A. N., Scientific Council on the Complex Problem of Cybernetics, Academy of Sciences of the USSR

"Pattern Recognition by Means of Stabilizing Translation"

Moscow, Opoznavaniye obrazov posredstvom stabiliziruyushchego perevoda (cf. English above), 1972, 23 pp, ill. bibl. of 5 titles (manuscript deposited in VINITI 8 Jan 73, No 5373-73 Dep.) (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V708 Dep. by the author)

Translation: A new method of pattern recognition is analyzed in which each separate sample (presentation) is a set of vectors which are strongly dispersed in metric space. The image corresponds to a set of dispersed regions whose relative position to some extent repeats and generalizes the disposition of each sample of a given class. The proposed method of recognition does not require that separation of the metric space correspond to the number of classes to be recognized.

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UDC 612.821.2 : 519.954519.92

94. USSR

SO: FOREIGN PRESS DIGEST
29 OCT 1971

RADCHENKO A.N.

"Analytical Research on the Neurophysiological Processes of Memory and the Reproduction of Information in a Conditional Model"

Kibernoticheskiye Aspekty v Izuchenii Raboty Mozga (Cybernetic Aspects of the Study of the Brain's Functioning), Moscow, Nauka Publishing House, 1970, pp 198-215

Abstract: A logical diagram of associative memory and the reproduction of information is described. The associations in the diagram depend on the time sequence of symbols during training.

Hypotheses on the possible neurophysiological mechanisms of memory are presented. It is assumed that the sequence of impulses that act on a neuron determine the place of origin of the impulse which propagates the excitation. In this way, evolvement of the information on the surface of the neural membrane is brought about, thereby making possible the recording of different signals in the trajectory of the evolvement.

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ARM/FSTC /HT-23-1291-72

DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
220 SEVENTH STREET NE.
CHARLOTTESVILLE, VIRGINIA 22901

TRANSLATION

In Reply Refer to:
FSTC-HT-23-1291-72
DIA Task No. T70-23 01

Date: 8 March 1973

ENGLISH TITLE: Application of Muller's Method to Photoelasticity

SOURCE: Prikladnaya Mekhanika, Otdeleniye Matematiki, Mekhaniki Kibernetiki AN UkrSSR, Vol. 7, No. 3, 1971

AUTHOR: G. D. Radchenko

REQUESTOR:
TRANSLATOR:
COUNTRY: USSR

LANGUAGE: Russian

RADCHENKO, G. D.

NOTICE

The contents of this publication have been translated as presented in the original text. No attempt has been made to verify the accuracy of any statement contained herein. This translation is published with a minimum of copy editing and graphics preparation in order to expedite the dissemination of information.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MULTIDIMENSIONAL, DETERMINATIVE SELF INSTRUCTED CONTROL SYSTEM WITH A SINGLE STEP SEARCH FOR THE OPTIMUM FOR COMPLEX CHEMICAL PROCESSING -U-

AUTHOR-(02)-GRUBOV, V.I., RADCHENKO, I.F.

R

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. UKR. 1970, (1), 32-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCINATION, COMPUTER APPLICATION, SODIUM CARBONATE, AUTOMATIC CHEMICAL PROCESS CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1306 STEP NO--UR/0436/70/000/001/0032/0035

CIRC ACCESSION NO--AP0109390

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 007

CIRC ACCESSION NO--AP0109390

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPUTER OPTIMIZATION OF CHEM. PROCESSES IS DISCUSSED; THE APPROACH TAKEN IN OPTIMIZING THE NA SUB2 CO SUB3 CALCINATION PROCESS IS OUTLINED. FACILITY: VYSCHISL, TSENTR, KIEV. GOS. UNIV., KIEV, USSR.

UNCLASSIFIED

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2.

Refractory Materials

USSR

UDC 669.01:666.76.001.5

KHARCHENKO, I. G., SAZHIN, V. A., STARUN, V. R., RADCHENKO, I. I., TANDURA, I. P., and KOVALENKO, A. N.

"Some Problems of Internal Heat Exchange During Roasting of Magnesian Refractories"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, Jul-Aug 70, pp 49-51

Abstract: Experimental material on the effect of the heating rate of the heat-and mass-transfer processes on the thermophysical parameters of roasted refractories is summarized. The material, published for the first time in the Soviet literature, can be used as a basis for further studies for determination of effective methods of heat treatment of magnesian refractories.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--BUTADIENE NITRILE RUBBERS -U-

AUTHOR-(05)-FISHER, S.L., RADCHENKO, I.I., PERMINOV, A.M., PODDUBNYY, I.YA., RABINERZON, M.A.

COUNTRY OF INFO--USSR

R

SOURCE--U.S.S.R. 256,250
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--17MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NITRILE RUBBER, CHEMICAL PATENT, COPOLYMERIZATION, BUTADIENE, ACRYLONITRILE, SOAP, FROST, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1789 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132055

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0132055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE RUBBERS ARE PRODUCED BY AQ. EMULSION COPOLYM. OF BUTADIENE WITH ACRYLONITRILE IN THE PRESENCE OF FREE RADICAL TYPE INITIATORS, EMULSIFIERS COMPRISING SOAPS OF CARBOXYLIC ACIDS, AND S-CONTG. REGULATORS OF THE MOL. WT. AND OF THE MOL. WT. DISTRIBUTION. TO IMPROVE THE FROST RESISTANCE OF THE RUBBERS, THE REGULATORS ARE INTRODUCED IN THE FORM OF AN EMULSION OR SUSPENSION CONSISTING OF PRODUCTS OF ALK. SAPON. OF THE REGULATOR SOLN. IN A FATTY ACID. THE EMULSION OR SUSPENSION IS ADDED IN UNEQUAL PORTIONS DURING THE COPOLYM. PROCESS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 035 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--COLLOIDAL COLOR CENTERS IN POTASSIUM CHLORIDE, POTASSIUM BROMIDE, AND POTASSIUM IODIDE CRYSTALS -U-

AUTHOR-(02)-RADCHENKO, I.S., UDOD, V.V.

R

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1511-14

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--OPTIC PROPERTY, ABSORPTION SPECTRUM, CRYSTAL STRUCTURE, MATHEMATIC EXPRESSION, COLLOID, POTASSIUM BROMIDE, POTASSIUM CHLORIDE, POTASSIUM IODIDE, ELECTRON STRUCTURE, ELECTROMAGNETIC RADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0160 STEP NO--UR/0181/70/012/005/1511/1514

CIRC ACCESSION NO--AP0129416

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 035 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129416

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS WAS INVESTIGATED OF PHOTOCHEM. TRANSFORMATION OF F CENTERS INTO LARGER AGGREGATES OF THE X CENTER TYPE. BY USING THE MIE FORMULA, CALCN. WAS MADE OF THE COEFFS. OF WEAKENING (K SUBO), SCATTERING (K SUBP), AND ABSORPTION (K SUBA) OF ELECTROMAGNETIC RADIATION BY SOME ALKALI HALIDE CRYSTALS CONTG. K IN THE COLLOIDAL STATE. IN THE CALCN. OF THE ABOVE COEFFS., DIFFUSE REFLECTION WAS CONSIDERED OF CONDUCTION ELECTRONS ON THE COLLOID PARTICLE CRYSTAL BOUNDARY AND THE PRESENCE OF TAMM LEVELS. FOR THE SYSTEM KCL,K, A DETAILED COMPARISON WAS MADE OF THE CALCD. CURVES K SUBO WITH THE EXPTL. VALUES. MAX. ON THE CALCD. CURVES COINCIDE WITH THOSE OBSD. WHEN THE RATIO OF THE NO. OF FREE ELECTRONS PER UNIT VOL. OF COLLOID PARTICLE TO THE NO. OF FREE ELECTRONS PER UNIT VOL. OF MASSIVE K IS SIMILAR TO 0.93.

FACILITY: KRIVOROZH. GOS. PEDAGOG. INST., KRIVOI ROG, USSR.

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USSR

ANDRUSHCHUK, A. O., MOL'CHENKO, E. F., RADCHENKO, N. O., and LISYANA, T. O.

"Quantitative Characteristics of Immunoglobulins During Acute Respiratory Infections of Children"

Pediatriya, Akusherstvo i Ginekol (Pediatry, Obstetrics and Gynecology) 1973, No 4, pp 6-7 (From RZh - Biologicheskaya Khimiya, No 22, Nov 73, Abstract No 1705)

Translation: One hundred twenty six children were studied during acute respiratory illness (ARI). The studies carried out explained the changes in the concentration of immunoglobulins in blood serum, in relationship to age, type of the disease, and complications. Children up to 1 year of age ailing with grippe and ARI of unknown etiology exhibited a lower concentration of immunoglobulin G and an increased content of the immunoglobulin A. In the 1-3 year group of children sick with grippe and pneumonia a significantly increased content of immunoglobulin G was noted with lower concentration of the immunoglobulin A. The macroglobulins of these children exhibited a tendency to an enlargement, in case of children ailing with pneumonia this elevation was statistically significant. With otitis complications the concentration of immunoglobulin M increased steadily.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ABSORPTION COEFFICIENT OF N-TYPE INDIUM ARSENIDE WITH VARIOUS DEGREES OF DOPING -U-

AUTHOR-(03)-CHIZHOVA, Z.V., RADCHENKO, R.A., TAUBKIN, I.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL. 4, MAY 1970, P. 935-937

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--INDIUM ARSENIDE, ABSORPTION COEFFICIENT, SINGLE CRYSTAL, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0883 STEP NO--UR/0449/70/004/000/0935/0937

CIRC ACCESSION NO--AP0136317

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136317

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE SPECTRAL DEPENDENCES OF THE ABSORPTION COEFFICIENT OF INDIUM ARSENIDE SINGLE CRYSTALS WITH ELECTRON CONCENTRATIONS RANGING FROM 2 TIMES 10 TO THE 16TH TO 4.6 TIMES 10 TO THE 19TH PER CU CM AT TEMPERATURES OF 107 AND 300 K. SPECIMENS WITH CONCENTRATIONS OF 2 TIMES 10 TO THE 18TH PER CU CM AND ABOVE WERE DOPED WITH TELLURIUM, WHILE THOSE WITH CONCENTRATIONS OF 2 TIMES 10 TO THE 16TH AND 1.8 TIMES 10 TO THE 17TH PER CU CM WERE NOT SPECIALLY DOPED. WITH AN INCREASE IN THE ELECTRON CONCENTRATION A SHIFT IN THE LONG WAVE EDGE OF THE INTRINSIC ABSORPTION BAND TOWARD LOWER WAVELENGTHS, DUE TO THE BURSTEIN-MOSS EFFECT, IS OBSERVED, AS WELL AS AN INCREASE IN THE ABSORPTION COEFFICIENT DURING ABSORPTION BY FREE CARRIERS. A DEPENDENCE OF THEINTRINSIC ABSORPTION EDGE ON THE ELECTRON CONCENTRATION IS NOTED FOR CONCENTRATIONS GREATER THAN 8 TIMES 10 TO THE 17TH PER CU CM AT 300 K AND GREATER THAN 5 TIMES 10 TO THE 17TH PER CU CM AT 107 K.

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USSR UDC:621.039.516.338.4

ARSEN'YEV, YU. D., RADCHENKO, S. V., and CHERNYAYEV, V. A.

"Multiparameter Optimization of Nuclear Power Stations With Desalination of Sea Water by the Base Point Method"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, p 418

Abstract: Dual-purpose desalination installations used with atomic electric power stations are characterized by complex, physically interrelated parameters. Dimensionless complexes summarizing all initial cost and technical indicators can be composed by approximating each expenditure component with an equation. The individual functions can be represented for computer calculation as polynominals, and optimization is performed for each parameter individually with subsequent refinement of the solution by iterations. The system of iterations is constructed so that when one of the parameters is optimized, the optimization depends on the base values of the other parameters but not on the base value of the one being optimized.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

RADCHENKO V. D.

Ref. Code: UR9003

Acc. Nr.: AN0104123

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-PURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. AL.PEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IOFFE, M. A. KUPFER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. T. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

Acc. Nr.: AN0104123

"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUS,KO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIR,YANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIMPIEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYRUTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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Reel/Frame

19870556

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--1,1,3,TRICHLOROACETONE -U-

AUTHOR-(05)-BUGROVA, L.V., RUDNEV, G.K., RADCHENKO, V.I., KHRISTICH, A.I., DRAKINA, N.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,385.
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETONE, CHLORINATED ORGANIC COMPOUND, CHEMICAL PATENT, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0841 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136275

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136275

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,1,3,TRICHLOROACETONE IS PREPD. BY CHLORINATING ACETONE WITH GASEOUS CL IN THE PRESENCE OF A SUBSTITUTED AMINE CATALYST NR PRIME1 R PRIME2 R PRIME3 (R PRIME1 EQUALS H, ET, PH; R PRIME2 EQUALS H, ME, ET; R PRIME3 EQUALS ME, ET, PH. THE CL IS FED INITIALLY AT A RATE OF 0.8-1 G-MIN (OPTIMUN 0.983 G-MIN) AND AT THE END AT A RATE OF 162 G-MIN FOR 1 G ACETONE. THE END PRODUCT IS SEPD. BY H SUB2 O EXTN. WITH THE RATIO 1:2 CHLORINATED PRODUCT, H SUB2 O AT 15-16DEGREES.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--TRIS, DIFLUORDAMINO, FLUOROMETHANE -U-

AUTHOR-(04)-FOKIN, A.V., GALAKHOV, V.S., RADCHENKO, V.P., DAVYDOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,758
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, METHANE, AMINE DERIVATIVE, GUANIDINE, FLUORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1740 STEP NO--UR/0482/70/000/001/0000/0000

CIRC ACCESSION NO--AA0132006

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

2/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0132006

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIS(DIFLUOROAMINO)FLUOROMETHANE (I) WAS PREPD. BY TREATING GUANIDINE DERIVS. WITH FREE F, DILD. WITH AN INERT GAS, DURING COOLING FROM PLUS 30 TO MINUS 60DEGREES. INORG. SALTS OF GUANIDINE WERE USED TO INCREASE THE YIELD OF I.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

UDC: 512.25/.26+519.3:330.115

RADCHENKO, V. V.

"A Method of Solving a Problem in Economic Dynamics"

V sb. Mat. analiz ekon. modeley (Mathematical Analysis of Economic Models --collection of works), Ch. 1, Novosibirsk, 1971, pp 64-79 (from RZh--Kibernetika, No 12, Dec 71, Abstract No 12V835)

Translation: The paper deals with an optimum control problem distinguished by the fact that the set of controlling functions depends on the phase state of the system. The methods of linear programming theory make it possible to reduce solution of the optimum control problem to solution of some functional equation of the form

$$f(x) = \max_{0<y<x} [F(x, y) + G(x, y) f(T(x, y))].$$

A method is presented which enables approximation of the solution of this equation by solutions of simpler equations, and a proof is also given for the theorem of existence of the solution of the problem formulated in §1. From the introduction.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610018-9

USSR

RADETSKIY, K. K., VASIL'YEVA, M. V. UDC 534-14

"Model Unit for Study of the Correlation Characteristics of Echo-Signals"

Tr. Akust.in-ta (Works of the Institute of Acoustics), 1971, No 16, pp 37-43 (from RZh:Elektronika i yeye primenenive, No 1, Jan 72, Abstract No 1A644)

Translation: A unit for measurement of the cross-correlation function of direct and reflected signals under model conditions is described. A pseudo-random signal of long duration is used as a probing signal in the unit. The device for generation of the pseudo-random sequences consists of a digital shift register and a modulo two summator. The formed and pseudo-random sequence is subjected to filtration and subsequent heterodyning in the proper frequency region. The unit contains a master oscillator, a transmitting channel, a receiving channel, and a measuring device. It is shown that the autocorrelation function of the probing signal has a damped oscillatory character. A block diagram of the pseudo-random sequences and the functional circuit of the unit are given. 4 ill. 4 ref. L.K.

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USSR UDC: 621.373.001.24:621.372.413

VINOGRADOV, G. I., KREYNOVICH, Ya. R., RADETSKIY, M. N., SLUTSKIY, P. G., SHERAYZIN, A. K., CHISTYAKOV, V. A.

"A Device for Tuning Resonant Circuits"

USSR Author's Certificate No 280579, filed 5 Jan 67, published 17 Nov 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D384 P)

Translation: A device is proposed for tuning resonant circuits such as cavity circuits. The device contains a two-armed lever connected by a rod to the tuning element of the circuit to be adjusted, and resting on the cams of a discrete controlling mechanism. To improve the operating precision of the device, the two-armed lever is made in the form of a yoke equipped with regulating screws and connected to a set of levers whose spring-loaded shanks rest on the cams of the control mechanism. Two illustrations. V. P.

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RADEV, Ye. I.

"Two Heuristic Methods of Solution of the Traveling Salesman Problem"

Tr. Mosk. Ekon.-Stat. In-ta [Works of Moscow Institute of Economics and Statistics], 1972, Ch. 1, pp 134-150 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V528, by Yc. Gabovich).

Translation: A symmetrical matric $C = (c_{ij})$ of order n is studied, the nature of the elements of which is not indicated. The length of the permutation $\ell = (\ell_1, \ldots, \ell_n)$ refers to the sum of $c_{\ell_1\ell_2} + \cdots + c_{\ell_{n-1}\ell_n} + c_{\ell_n\ell_1}$. Permutation ℓ is called zero minimal (the author calls it the "local minimum of zero rank of a permutation of n elements") if its length does not exceed the length of any of the permutations $(\ell_1 \ldots \ell_k \ell_{k+p} \ldots \ell_{k+2} \ell_{k+1} \ell_{k+p+1} \ldots \ell_n)$, $2 \leq p \leq n - 2$ (in the definition of the author, $p \leq n - 3$, but in his example $p = n - 2$). The sequence $\ell_{k+2}, \ldots, \ell_{k+p}$ is called a p chain. If movement of any p chain to an arbitrary position between two neighboring elements in a permutation does not decrease its length, we call this permutation p minimal.

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Radev, Ye. I., Tr. Mosk. Ekon.-Stat. In-ta, 1972, Ch. 1, pp 134-150.

A permutation which is p minimal where p = 0, 1,..., n - 3 is called locally minimal.

A theorem is formulated: from an arbitrary fixed permutation, we can produce a certain local minimum. The meaning of "produce" is not explained. A one and one-half page proof of this statement is given. The absurdity of the proof is obvious: due to the finite nature of the set of all permutations with the given n, the existence of not only a "locally minimal" permutation, but also a permutation whose length is globally minimal is beyond doubt.

The entire article is written at the same, low mathematical level. The author believes that exchanging positions of the first and last elements of a p chain is equivalent to "rotating" it. He uses the following statements: "Taking one element for displacement, we eliminate two connections between neighboring elements" or "Based on the proof of the theorem, we can define the local minimum as a function fixed in a set of permutations of (n - 1)!/2 elements." The carelessness of the formulation, errors in many formulas and abundant terminological creativity make the reading of this article a fatiguing, mind bursting task.

Two approximate algorithms are suggested for solution of the traveling salesman problem (neither the formulation of the problem nor references to any bibliography is provided). Judging from the example, interpretation of

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Radev, Ye. I., Tr. Mosk. Ekon.-Stat. In-ta, 1972, Ch. 1, pp 134-150.

which is hindered by the lack of any explanation, and the rather careless description of the algorithm itself, the first of these is as follows. Two cities i and j are selected at random and path iji is analyzed. In the first step, a transition is made from this path to the shortest of the paths ikji or ijki, where k runs through the set of cities other than i and j. If path $i_1 i_2, \ldots, i_s i_1$ is produced by the time of any subsequent step, the shortest of the paths $i_1 k i_2, \ldots, i_s i_1$, $i_1 i_2 k i_3, \ldots, i_s i_1, \ldots, i_1 i_2, \ldots, i_s k i_1$ is selected. The last step produces a cyclical path passing through all n cities. This path is taken as the initial path for the procedure of local minimization, called a smoothing procedure. Its algorithmic description is not presented, although the author believes that he has done so. No comparisons of the algorithm for construction of the initial path with the many other such algorithms available is presented. The article contains no information concerning computational experiments.

The second algorithm for determination of the initial path is constructed using the same idea, except that this time a p chain is placed between two neighboring cities in the path being constructed, the chain being the solution

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