"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Acc. Nr: AP0049912 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR 0181

103299v Liquation nature of activator segregation in glasses. Milyukov, E. M.; Reishakhrit, A. L.; Tolstoi, M. N. (USSR). *Fiz. Tverd. Tela* 1970, 12(2), 525-7 (Russ). From the study of electron microscopic photographs of alkali germanate glasses of variable compn., activated with Nd, microliquation was inferred. Sepn. into 2 phases increases as the content of alkali oxide decreases, independently of the nature of the latter. At the same time, the fraction of the strongly alk. glass phase decreases. The phase sepn. under the conditions of microliquation leads to segregation of the activator. A. Libackyj

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USSR

UDC: 535.651

GUKASOV, V. R., KARABEGOV, M. A., MAILOV, Yu. G., MILYUKOV, [illegible] Ya., PASHKINA, M. N.

"Some Analytic Capabilities of the SFK-601 Spectrophotometer"

Optich. i Titrometrich. Analizatory Zhidk. Sred [Optical and Titrometric Analyzers for Liquid Media], Reports of All Union Conference, 1971, Part 1, Tbilisi, 1971, pp 20-24 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1090 by V. S. Krasnova)

Translation: A functional diagram and results of experimental determinations of characteristics of the SFK-601 spectrophotometer (spectrocolorimeter), developed by the Special Design Bureau AP [Expansion unknown - tr] are presented. The SKF-601 is produced in a modular version using a basic monochromator unit with a modulator. The interchangeable light sources are attached to one side of the base unit, the attachments for performance of various measurements to the other side: absorptiometry, turbidimetry, nephelometry with a goniometric device and fluorometry. The operating principle of the device is based on measurement of the difference between 2 modulated light beams passing through cuvettes with the tested and comparison fluids, then going on to 1 light receiver. The energy of the light streams is converted to electrical signals, the difference of which after amplification is recorded by

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GUKASOV, V. R., KARABEGOV, M. A., MAILOV, Yu. G., MILYUKOV, L. Ya., PASHKINA, M. N., Optich. i Titrometrich. Analizatory Zhidk. Sred [Optical and Titrometric Analyzers for Liquid Media], Reports of All Union Conference, 1971, Part 1, Tbilisis, 1971, pp 20-24 (translated from Referativnyy Zhurnal Metrologiya i Izmerital'naya Tekhnika, No 2, 1972, Abstract No 2.32.1090 by V. S. Krasnova)

a microameter. The results of investigation of the operating characteristics of the SKF-601 in various operating modes has shown that the error is not over 1 %, nonlinearity of calibrated graphs 1-2%. The reproducibility of indications is 1% of the scale length of the device. 1 figure

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MILYUKOV, N.

engr

SO: JPRS 55643
05 APRIL 1972

METHODS FOR AIRCRAFT NOISE SUPPRESSION

[Author: N. Milyukov [illegible]
[illegible]]

An aircraft traveling at supersonic speed is the source of an atmospheric disturbance which propagates along the flight path for great distances. This phenomenon is caused by the interaction of parts of the aircraft (fuselage, wings, engine nacelles and tail assembly) with the air flow and manifests itself as a system of shock waves. The compression shock system near the aircraft gradually develops into an N-shaped shock wave with sharply defined regions of compression and rarefaction. It produces a pressure surge at the earth's surface which is accompanied by a sharp, sonic boom. The shock front, moving as rapidly as the supersonic aircraft producing it, is capable of causing this effect over a very wide area. A significant noise intensity may be registered at the surface of the earth, along a path whose width may reach 120 km. The sudden sonic boom involves a wide spectrum of audio frequencies.

The duration and intensity of the shock wave decrease with increasing flight altitude, and also depend on the shape and configuration of the aircraft.

But an increase in altitude capability of a supersonic aircraft is associated with an increase in its weight and dimensions. Its lift is also correspondingly greater. All these changes increase the intensity of the sonic boom produced.

An optimal flight altitude must thus be established when manufacturing a supersonic aircraft, to minimize sonic boom but at the same time allow needed size and lift.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CHANGE IN THE THERMODYNAMIC FUNCTIONS DURING THE FORMATION OF NITROLOTRIACETATE COMPLEXES OF RARE EARTH ELEMENTS -U-

AUTHOR-(02)-MILYUKOV, P.M., POLENOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 284-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMIC FUNCTION, ACETATE, RARE EARTH COMPOUND, COMPLEX COMPOUND, ENTROPY, IONIC BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0839 STEP NO--UR/0153/70/013/002/0284/0286

CIRC ACCESSION NO--AT0137867

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

UNCLASSIFIED PROCESSING DATE--27NOV70

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CIRC ACCESSION NO--AT0137867

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ARE PRESENTED FOR THE TOTAL HEAT CONTENT, ENTROPY, AND GIBBS FREE ENERGY OF THE MONO AND BIS(NITRIOLTRIACETATE) COMPLEXES OF DY, HO, ER, AND YB AT 25DEGREES IN NITRATE SOLNS. AT 0.2 IONIC STRENGTH. FACILITY: IVANOV. KHIM. TEKHNOL. INST., IVANOVO, USSR.

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USSR

MILYUKOV, Ye. M., REYSHAKHRIT, A. L., TOLSTOY, M. N.

"Liquation Nature of Activator Segregation in Glasses"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 2, 1970, pp 515-527

Abstract: There is no data on liquation which may cause changes in the structure of alkali-germanate glasses appearing with variations in the spectroscopic characteristics of neodymium due to changes in the state of the glass. This paper obtains this data by making and studying electron microscope photographs which had been spectroscopically investigated in an earlier article. The photomicrographs show that for small alkali metal content, the nature of the nonuniformities is typical of glasses which have undergone microliquation. Five such photomicrographs are reproduced, each for a different composition of Na_2O and GeO_2. The results show that the conclusions drawn in an earlier paper co-authored by two of the writers of the present article (Reyshakhrit and Tolstoy, ZhPS, Vol 12, No 3, 1970) are valid; the conclusions of the earlier article were obtained on the basis of spectroscopic researches. In this paper, the authors conclude that the division of the glass into phases under the microliquation conditions

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USSR

MILYUKOV, Ye. M., et al., Fizika Tverdogo Tela, Vol 12, No 2, 1970. pp 525-527

is accompanied by activator segregation, which can be expressed by changes in its spectroscopic characteristics. They note also that the concept of micro-heterogeneity in the glass structure may explain the formation of multitypical luminescence centers within the limits of the nonuniform widening of the spectral lines.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF GAS LIQUID CHROMATOGRAPHY FOR THE ANALYSIS OF ADIPONITRILE AND HEXAMETHYLENEDIAMINE OBTAINED FROM ADIPIC ACID -U-

AUTHOR-(04)-USOVA, E.P., MITINA, L.I., MILYUKOVA, YU.F., ZNAMENSKAYA, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 571-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GAS CHROMATOGRAPHY, ADIPONITRILE, HEXAMETHYLENEDIAMINE, ADIPIC ACID, CYCLOPENTANE, KETONE, CYANIDE, ORGANIC OXIDE, BENZENE, PYRIDINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0003 STEP NO--UR/0075/70/025/003/0571/0575

CIRC ACCESSION NO--AP0132303

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2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132303

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAS LIQ. CHROMATOG. WAS USED TO ANALYZE ADIPONITRILE AND HEXAMETHYLENEDIAMINE OBTAINED FROM ADIPIC ACID. OPTIMUM CONDITIONS HAVE BEEN FOUND FOR THE QUANT. DETN. OF CYCLOPENTANE, CYCLOPENTYLIDENECYCLOPENTANONE, 2,CYANOCYCLOPENTANONE, BIPHENYL, DIPHENYL OXIDE, TRIS(TRIMETHYLENE)BENZENE, 1,CYANO,2,AMINOCYCLOPENTENE. 3,4,5,6,BIS(TRIMETHYLENE),2, AMINOPYRIDINE, 3,4,5,6,BIS(TRIMETHYLENE),2,BUTYLPYRIDINE, DELTA CYANOVALERAMIDE IN ADIPONITRILE. THE MOST UNIVERSAL STATIONARY PHASE WAS 20PERCENT POLYETHYLENE GLYCOL ON CELITE IN A 2 M COLUMN. LESS VOLATILE COMPOS. WERE SEPD. ON A 1 M COLUMN WITH 5PERCENT POLYETHYLENE GLYCOL ON CELITE AT 190DEGREES. FACILITY; STATE SCI.-RES. DES. INST. NITROGEN IND. ORG. SYN. PROD., MOSCOW, USSR.

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Pesticides

USSR UDC 577.15/17

YEVDOKIMOVA, G. A., RAYTSINA, G. I., KOSTYUKEVICH, L. I., and MILYUSHCHIKA, N. A., Peat Institute, Academy of Sciences Belorussian SSR

"Sulfuric Acid Hydrolyzates of Lowland Peats as Growth Stimulators for Microorganisms and Plants. Composition of Nitrogen-containing Compounds. II"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Khimicheskikh Nauk, No 6, 1970, pp 87-90

Abstract: The authors studied the amino acid composition of sulfuric acid hydrolyzates of five samples of lowland peat, obtained by the action of sulfuric acid of varying concentrations at atmospheric and elevated pressure. The amino acids were isolated from the hydrolyzates by absorption on cation exchanger KU-2, converted to acid form by treatment with chemically pure hydrochloric acid. It was found that hydrolysis of lowland peat with sulfuric acid (concentration 2-30 percent, temperature 90-95°, time 6 hours) gives a hydrolyzate containing 17 amino acids. The amino acid yield increases with increased acid concentration, 1/2

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YEVDOKIMOVA, G. A., et al., Izvestiya Akademii Nauk BSSR, Seriya Khimicheskikh Nauk, No 6, 1970, pp 87-93

6-6.5 percent of the organic substance of the hydrolysate and about 2 percent of the organic substance of the peat are acted upon by 15-30 percent H_2SO_4. The nitrogen of the sulfuric acid hydrolysates enters into the composition of amino acids (13.5-15.8 percent of the total nitrogen of the hydrolysate) and ammonia compounds (34.1-59.5 percent).

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USSR

BEL'SKAYA, I. P., MILYUSHKEVICH, G. F., et al (Editors)

Fiziologicheskiye mekhanizmy adaptatsiy zhivotnykh k usloviyam zasushlivoy i aridnoy zon (Physiological Mechanisms of Adaptation of Animals to Conditions of Dry and Arid Zones), Novosivbirsk, "Nauka," 1970, 216 pp

Contents

	Page
Preface	5
I. Morphological Adaptations	
YURISOVA, M. N., POLENOV, A. L., Ecological and histophisiological investigation of the hypothalamus-hypophyseal neurosecretory system of susliks at the end of the active period	7
SOBOLEVA, A. D., On the mechanisms of adaptation to desert conditions in gerbil lungs	19
SOBOLEVA, A. D., On the pecularities of the morphological structure of camel lungs	25
KALISCHUK, V. A., FILUSHINA, Ye. Ye., LAZOVSKAYA, L. I., VINOGRADOV, V. V., On some morphological and histochemical peculiarities of rodent kidneys under normal conditions and during dehydration	30

1/6

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

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IVANOVA, S. F., FILIPCHENKO, R. Ye., On the density of circulatory capillaries in skeletal muscles of gerbils and susliks 40

IVANOVA, S. F., The length of the circulatory capillaries in the skeletal muscles of rats, gerbils and susliks 49

IVANOVA, S. F., KUZNETSOV, V. I., On the peculiarities of capillary circulation in the skeletal muscles of the lizard, monitor, and tortoise 60

FILUSHINA, E. E., KALISCHUK, V. A., VINOGRADOV, V. V., LAZOVSKAYA. L. I., On some morpho-histochemical features of mucous membrane of the digestive tract of rodents kept on a wet diet and during dehydration 67

II. Physiological Mechanisms of Adaptations

SHUL'GA, V. A., The external sodium and potassium balance in white rats under conditions of dehydration 81

2/6

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

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SHUL'GA, V. A., KOLAYEVA, S. D., SOKOLOVA, G. P., SAMSONENKO, R. A., KRASS, P. M., SHORIN, Yu. P., Functional activity of the adrenal cortex and of the juxtaglomerular apparatus of white rats under conditions of dehydration 87

VYSOCHINA, T. K., The sodium, potassium and water content in organs of Citellus erythrogenous under normal conditions and during dehydration 93

VYSOCHINA. T. K., The water, sodium and potassium content in the muscles of small rodents with different functional activity 100

DOROKHOVA, B. R., Dynamics of blood plasma electrolyte composition in the gerbil (Rhombomys opimus) during different seasons 109

SEREBRYAKOV, Ye. P., DOROKHOVA, B. R., Shifts in hydro-electrolyte metabolism in the great gerbil during dehydration 114

3/6

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

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VOYTENKO, N. N., Excretion of minerals through the digestive tract in gerbils 121
BEL'SKAYA, I. P., NASLEDOVA, N. I., Proteolytic activity of homogenates of the mucous membrane as a criterion of the secretory function of the stomach 125
YASGULYEV. A. Ya., Proteolytic activity of the mucous homogenate of stomach, stomach contents, of plasmopepsin and uropepsin in gerbils during hyperthermia 131
BEL'SKAYA, I. P., YASGULYEV. A. Ya., Proteolytic activity of the mucous homogenate of stomach contents, of plasmopepsin and uropepsin in gerbils during dehydration 136
BEL'SKAYA, I. P., VOYTENKO, N. N., The influence of dehydration and protein loading on the activity of stomach urease in mice 146

4/6

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

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GRIGORENKO, V. Ye., Hyaluronidase activity of animal tissues with different ecological specialization 153
DOLININ, V. A., Some peculiarities of adaptation of reptiles to desert conditions 158
LIVCHAK, G. B., Characteristics of tissue respiration in rodents under conditions of water deficiency in the food 167
DZHALILOV, M., Shifts in tissue respiration in guinea pigs under conditions of starvation 172
DZHALILOV, M., Shifts in tissue respiration and in general gas exchange in rats and susliks under conditions of starvation of long duration 177

III. Ecological Adapatation

5/6

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

BEL'SKAYA, I. P., MILYUSHKEVICH, G. F., et al, Fiziologicheskiye mekhanizmy adaptatsiy zhivotnykh k usloviyam zasushlivoy i aridnoy zon (Physiological Mechanisms of Adaptation of Animals to Conditions of Dry and Arid Zones), Novosibirsk, "Nauka," 1970, 216 pp

KUZNETSOV, B. I., Ecology of ground beetle (Coleoptera, Tenebrionidae) of the South-East Kara Kum 186
SHCHEGLOVA. A. I., The reproductive biology of the gerbil 194

6/6

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 621.385.632 (088.8)

AVERBUKH, M.E., MILYUTIN, D.D., POZDNYAKOV, L.V.

"Traveling-Wave Tube"

USSR Author's Certificate No 269325, filed 28 July 67, published 28 July 70 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A192P)

Translation: The proposed TWT with a spiral delay system and a magnetic periodic focusing system (MPFS) consists of successively mounted annular magnets between which are located annular pole pieces. With the object of assuring stable nonreciprocal absorption of energy of the microwave band and the possibility of changing the frequency range of the absorption, within the cylindrical volume of the TWT limited by the MPFS, alternating ferrite and nonmagnetic insulating units (e.g., in the form of rings or bars) are positioned, while ferrite units are located in the regions between the pole pieces of the MPFS where a longitudinal magnetic field has an identical direction. The proposed improvement of a TWT lies in the fact that, with the object of obtaining an increased nonreciprocal absorption of energy of the microwave band in a narrow frequency band, the ferrite units are located periodically with a period equal to or exceeding by a whole number of times the period of

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USSR

AVERBUKH, M. E., et al, USSR Author's Certificate No 269325, filed 28 July 1967, published 28 July 1970

the MPFS in the regions of the longitudinal magnetic field of identical magnitude. In another variation of a TWT, with the object of expanding the band of the frequencies being absorbed, the ferrite units are displaced with reference to the central regions between the pole pieces, different for each unit but not exceeding four periods of the MPFS spacing.

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M

UDC 621.385.632

USSR

ARDELYAN, N.G., MILYUTIN, D.D., SHTERN, V.A.

"Some Results Of An Experimental Investigation Of The Operation Of A TWT In A Regime Of Simultaneous Amplification Of Two Harmonic Signals Of Different Frequencies"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 3, pp 141-144 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A143)

Translation: An account is given of the results of an experimental investigation of the operation of a TWT with the delivery at the input of two harmonic signals with frequencies f_1 and f_2. On exposure of such signals to the TWT, predominant amplification of one of them was not observed for a detuning of the frequency $\Delta f = 15$ MHz. Under equal conditions the signals with frequencies f_1 and f_2 were amplified equally. With equality of the input powers of the signals f_1 and f_2, the powers of the signals of these frequencies at the output of a TWT were equal, and the powers of the combinative components of the second and third order were also equal. It is possible to compare the power of the combinative components with the power of the basic signals. The suppression coefficient with unequal powers of the input signal depends on the voltage in the decelerating system of the device, which permits it to be controlled. 6 ill. 3 ref. G.B.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Vacuum Tubes

M

UDC: 621.385.032

USSR

AVERBUKH, M. E., MILYUTIN, D. D., POZDNYAKOV, L. V.

"A Traveling Wave Tube"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 15, 1970, Author's Certificate No 209325, filed 28 Jul 67, p 52

Abstract: This author's certificate introduces: 1. A traveling wave tube with helical decelerating system and a magnetic periodic focusing system which consists of annular magnets mounted in series with annular pole pieces located between them. As a distinguishing feature of the patent, the tube is designed to assure stable non-mutual absorption of energy in the SHF range, and provision is made for changing the absorption frequency range. Inside the cylindrical volume of the traveling wave tube restricted by the magnetic periodic focusing system are alternating ferrite and nonmagnetic isolating elements (for instance in the form of rings or rods), the ferrite elements being located in the regions between the pole pieces of the magnetic periodic focusing system where the longitudinal magnetic field has the same direction. 2. A modification of this traveling wave tube distinguished by reduced non-mutual absorption of energy in the SHF range in a narrow frequency band. The ferromagnetic elements are periodically arranged with spacing which is equal to or a whole number multiple of

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USSR

AVERBUKH, M. E., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 15, 1970

the period of the magnetic periodic focusing system in regions of the magnetic field of identical magnitude. 3. A modification of this tube in which the distinguishing feature is extension of the band of frequencies absorbed. The ferrite elements are shifted with respect to the middle of the region between pole pieces by distances which differ for each element but do not exceed a quarter of the period of the magnetic periodic focusing system.

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USSR UDC 621.355.2.035.2:620.197.3

OZHIGANOVA, N. N., AGUF, I. A., DASOYAN, M. A., [redacted]

"Potentiodynamic Study of the Effect of Certain Inhibitors on the Electrochemical Behavior of a Lead Electrode"

Sb. rabot po khim. istochnikam toka. N.-I. akkumulyator. in-t (Collected Works on Chemical Current Sources. Scientific Research Battery Institute), 1971, vyp. 6, 22-27 (from RZh-Khimiya, No 6 (11), Jun 72, Abstract No 6L242)

Translation: A study was made of the effect of three self-discharge inhibitors: α-naphthol, sulfanol and α-nitroso-β-naphthol on the kinetics of processes taking place on the negative electrode of a lead battery. The potentiometric curves taken in a broad range of potentials of the given electrodes are presented. The theoretical interpretation of these curves permitted some information to be obtained on the mechanism of the effect of the indicated surface-active substance on the cathode and anode behavior in H_2SO_4.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 621.355.8.035.4

VOLDIN, R. V., SUSHENTSOVA, S. N., and MILYUTIN, N. N.

"Wettability of the Housing and Flow of Electrolyte in Hermatically Sealed Nickel-Cadmium Batteries"

Sb. rabot no khim. istochnikam toka Vses n.-n akkumulyator. in-t (Collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries) Vyp 7, 1972, pp 161-163 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L235 by V. S. Levinson)

Translation: Results are given for study of the wettability of steel 08KP, used to make the housings of alkali batteries, by a solution of alkali at different surface potentials of the metal. The greatest wettability, determined from the increased tendency of the electrolyte to flow over the battery housing, was observed for electrical junctions of the body with the negative terminal of the electrode and the least for the isolation of the case from the working electrode.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 621.385.63

BONDARENKO, B. N., SHUL'GA, V. G., KONOVALOV, V. I., MILYUTIN, S. I.

"Experimental Study of a Model of a Two-Beam Traveling Wave Tube (EVLBV)"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 1033-1036

Abstract: An experimental study was made of a model of the EVLBV two-beam traveling wave tube, and the results are compared with the theoretical calculations. In the nonlinear mode the velocity difference has the defining effect for achieving high efficiency of the two-beam traveling wave tube and it has optimal significance. The two-beam traveling wave tube is an efficient centimeter-band electronic device capable of insuring a high amplification factor of 40 decibels with a sufficiently high value of the electron economy 20%. The achieved electron economy is not the design limit. Increasing the space-charge parameter and the input signal level offers further possibilities for increasing the defined efficiency. The developed electron-optical system insures sufficiently good mixing of the beams for the occurrence of effective electron wave interaction. The two-beam traveling wave tube has good possibilities for wide band amplification of the input signals, and by selecting special operating conditions it is possible to reach an amplified frequency

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BONDARENKO, B. N., et al., Izvestiya vuzov SSR, Radioelektronika, Vol XV, No 8, 1972, pp 1033-1036

band of more than two octaves with an amplification nonuniformity no worse than 5 decibels. The experimental results agree well with the theoretical calculations, and the theoretical results can be recommended for use when developing efficient wide-band microwave amplifiers.

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29

		Page
Fomchenkov, V. M., Shadrikov, O. A.	Application of the TsTS-19 Piezoceramic for Ultrasonic Scanning of a Laser Beam	402
Wanetsian, R. A., Lebedeva, L. N., Samylkin, N. I.	Rotation of the Lobes of the Reflection Pattern of Coherent Light on Rotation of the Reflecting Surfaces	408
Arsen'yan, T. I.	Study of the Statistical Properties of Variations of the Laser Field Intensity on Propagation on a Ground Route	412
Arsen'yan, T. I., Semenov, A. A.	Analysis of Random Variations of the Laser Field Intensity in the High-Frequency Part of the Spectrum During Propagation in the Troposphere	420
Gusev, V. G., Vorobeychikov	Study of the Passage of Phase Modulated and Amplitude Modulated Optical Band Signals Through the Atmosphere	425
Milyutin, Ye. P., Lobkova, L. M., Litvinova, T. P., Chistyakov, A. B.	Experimental Study of Laser Beam Propagation in the Atmosphere	429
Lobkova, L. M.	Power Fluctuations of Laser Radiation Caused by a Turbulent Atmosphere	435
Vlasov, G. I., Levin, I. M.	Laser Beam Videoinformation Transmission Range in an Aqueous Medium	443
Genin, V. N., Kabanov, M. V.	Spatial and Time Characteristics of Atmospheric Noise in the Visible Range of the Spectrum ...	447
Vaytsel, V. I., Khmelevtsov, S. S.	Holographic Recording Through Random Media ...	453
Senkevich, B. V., Lysakov, Ye. I., Osipov, Yu. N.	Frequency Stabilization of Laser Emission by the Active Method with the Application of an Auxiliary Heterodyne	460
Yegorov, Yu. P., Petrov, A. S.	Experimental Measurement of the Natural Radiation Line Width of a Gas Laser with Coupled Types of Oscillations	464
Sagatov, E. A., Nazarov, A. U.	Correlation Analysis of the Coherence of Laser Emission	471
Sagatov, E. A., Nazarov, A. U.	Laser Noise During Operation of an Optical Quantum Amplifier	478

MILYUTIN Ye. P.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

TECHNICAL TRANSLATION

FSTC-HT-23-2015-72
29 dec 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV, SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: I. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY IMENI T.G. SCHEVCHENKO

Translated for FSTC by ACSI

NOTICE

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- Title Page -

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 621.373.826:621.396

MILYUTIN, Ye. R.

"Dependence of the Frequency Spectrum for Signal Level Fluctuations Over Optical Communication Lines on the Type of Turbulent Atmosphere Model"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 225-229 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D401)

Translation: A comparison is made of the frequency spectra of signal level fluctuations in the use of two different methods for computing the spectral density of the fluctuations in the coefficient of refraction of the atmosphere (according to the Kolmogorov model and the modified Karman model in which the effect of small-scale nonuniformities is taken into account). Consideration of the limiting dimension of large-scale nonuniformities leads to a smoothing and to some reduction of the frequency spectrum width. In the low-frequency region, complete agreement of the frequency spectrum for the modified and Kolmogorov models is observed. Bibliography of five. A. L.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 621.373.826:621.396

LOBKOVA, L. M. and MILYUTIN, YE. R.

"The Effectiveness of Frequency Spacing on Optical Lines of Communication"

Tr. ucheb. in-tov svyazi. M-vo svyazi SSSR (Works of the Educational Institutes of Communication. USSR Ministry of Communication), 1972, vyp.58, pp 45-52 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D294)

Translation: Within the approximation of geometric optics, the authors study the processes associated with the propagation of coherent waves of the optical band in the turbulent troposphere. Expressions are derived for the coefficient of correlation at the point of reception between two fluctuating envelopes of signals differing with respect to frequency. It is shown that if the correlation function of the fluctuations of the refractive index of the troposphere is subjected to the Gauss rule, then the radius of the correlation with respect to frequency depends on the length of the route, scale of turbulence, and the intensity of fluctuation of the refractive index. Original article: three illustrations and three bibliographic entries. Resume.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC: 621.315.592

VAVILOV, V. S., GUMASYAN, N. A., KONOROVA, Ye. A., and MILYUTIN, Yu. V.

"Ionic Insertion of Antimony into Diamonds"

Leningrad, Fizika i tekhnika poluprovodnikov, No 12, 1972, pp 2384-2391

Abstract: In the experiments described in this paper, ions of arsenic, antimony, and bismuth were introduced into diamond. The method of an earlier paper (V. S. Vavilov, et al, FTP, 4, 10, 1970) in which phosphorus ions were introduced into a diamond layer with n-type conductivity, was followed. Since ions like those used in the experiments of the present paper have high masses, the concentration of radiation defects created in the introduction process is high, and even slight radiation doses result in graphitization of the layer during annealing. For that reason, the introduction process took place at high temperature levels, around 800° C. Curves are given for the electrical conductivity of specimens treated with antimony ions as functions of the annealing temperature and the thickness of the treated layer. Reproductions of electronograms of the irradiated diamond surfaces for specimens receiving various

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC: 621.315.592

VAVILOV, V. S., et al, Fizika i tekhnika poluprovodnikov, No 12, 1972, pp 2384-2391

dosages are shown; they indicate that higher doses of irradiation lead to destruction of the crystal lattice while annealing restores the crystallinity. It is noted that the electronograms were taken and interpreted by R. I. Nazarova of the Institute of Physical Chemistry, USSR Academy of Sciences. Others credited with assisting the authors are B. M. Vul and V. N. Vinogradov for their comments and discussions, V. V. Krasnopevtsev for his assistance with the ion insertions, and V. A. Mizonova and N. A. Shuvalova for preparing the specimens.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 621.315.592

GALKIN, V.V., KRASNOPEVTSEV, V.V., MELYUTIN, Yu.V.

"Introduction of Lithium Ions With an Energy of 10-80 Kiloelectron Volts Into Diamonds"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 837-846

Abstract: In this article the method of light interference was used to investigate imperfections of crystal lattice which occur in a diamond doped by introducing lithium ions with an energy from 20 to 80 kiloelectron volts with doses from 10^{14} to 10^{16} cm^{-2}. It is demonstrated that the doped region consists of two layers with different indexes of refraction. The first layer below the surface contains the basic mass of radiation defects; the thickness of the upper layer is determined by the free path of unchanneled ions, the thickness of which is several times greater than and obviously related to the free path of channeled ions. High temperature treatment leads to annealing of the defects in the case of small radiation doses and to conversion of the strongly damaged region of the diamond into graphite in the case of large radiation doses. Under certain conditions it is possible to observe the ionization region of the ion path. Preliminary data are also presented on the distribution of the electrically introduced active atoms of ^7Li with respect to depth. It is pointed out that the measured profile of the total conductivity agrees with the interference measurements.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

GALKIN, V.V., et al., Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 837-846

The sequence of interference peaks with a small period is used to obtain interesting data about the second, deeper layer in the doped diamond. The difficulties involved in quantitative determination of the thickness of this layer and its index of refraction are discussed. It is concluded that the formation of a significant number of radiation defects constitutes a satisfactory explanation for the variation in index of refraction of diamond subjected to bombardment by lithium ions. The mechanism of this effect is discussed in some detail.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

MILYUTINA, N. A.

JPRS 55320
1 Mar 72

UDC: 616.36-091.85-092.9

INVESTIGATION OF POSTMORTEM CELL DIVISION IN THE RAT'S HEPATIC PARENCHYMA

(Article by E.M. Dogan, N.A. Milyutina, L.L. Mulyarova, Central Scientific Research Laboratory, Second Moscow Medical Institute imeni N.I. Pirogov; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 1, 1972, pp 86-90)

Investigation of mitotic activity in surviving organs and tissues resulted in postulation of the position (Bullmann) that the nature of extinction of cell division following somatic death depends on the type of tissue. The theoretical as well as practical interest of this position is obvious. Thus, the degree of completion of cell division related to the time of cell survival could serve as a cytological indicator of viability of cadaver tissue, which is important to consider in organ transplantation, as well as in pathomatorical and forensic medical examinations.

The purpose of the present work was to study postmortem mitotic activity in the hepatic parenchyma of partially hepatectomized rats.

In the experiments we used 52 male rats weighing 200-250 and 120-130 grams. Under [illegible] anesthesia two-thirds of the liver was removed by the method of Higgins-Andersen, and the animals were decapitated 26-30 hours after surgery, during the period of intensive mitotic division of hepatocytes. The bodies of the animals were kept at room temperature. Analysis of the morphology of mitotic figures and a count of mitoses were performed on acetocarmine squash preparations. The mean mitotic index per case was derived from 10 values, each of which was determined by counting 1,000 hepatocyte nuclei (so that in all 10,000 nuclei were counted). For determination of the mitotic phase index, 400-600 mitotic figures were counted. We administered [illegible] (all microcuries/gram in 0.2 ml saline) to some of the animals [illegible]. Determination was made of the percentage of labelled dividing hepatocytes (mean of 4-6 readings each of which was derived from counting 100 mitotic figures) on autoradiograms of liver sections.

The material was analyzed with a microscope organization of 7-90. The statistical reliability of the results was checked using the t - test by the method of Fisher and Student. Three series of experiments were performed. In

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE INFLUENCE OF SOME VEGETABLE JUICES ON THE MOTOR EVACUATORY FUNCTION OF THE GALLBLADDER -U-

AUTHOR--MILYUTINA, V.N.

M

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 6, PP 70-74

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIOLOGY, GALLBLADDER, DUODENUM, DIET, BILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1790 STEP NO--UR/0497/70/048/006/0070/0074

CIRC ACCESSION NO--AP0129158

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129158

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER CONTAINS DATA OF ROENTGENOLOGICAL INVESTIGATION OF 60 PERSONS, INCLUDING HEALTHY PERSONS AND PATIENTS WITH DUODENAL PEPTIC ULCER AND CHRONIC CHOLECYSTITIS. FOR STUDIES OF THE MOTOR EVACUATORY FUNCTION OF THE GALLBLADDER THE AUTHOR EMPLOYED PERORAL CHOLECYSTOGRAPHY, WHILE AS A STIMULUS OF THE EVACUATORY FUNCTION 200 ML OF ONE OF THE VEGETABLE JUICES (BEET, CABBAGE OR CARROT) WAS GIVEN. IT WAS FOUND THAT THESE JUICES ARE STIMULI OF THE GALLBLADDER MOTOR EVACUATORY FUNCTION, THE VALUE OF THE RESPONSE REACTION DEPENDS UPON THE TYPE OF JUICE, ITS QUANTITY AND CONCENTRATION. WHOLE BEET JUICE POSSESSED THE MOST MARKED CHOLEKINETIC EFFECT. BESIDES, CARROT JUICE PRODUCED A DISTINCT CHOLEGOGUE EFFECT. ON THE BASIS OF THE DATA DERIVED THE AUTHOR RECOMMENDS VEGETABLE JUICES AS A STIMULANT OF THE MOTOR FUNCTION OF THE GALLBLADDER DURING THE CONDUCTION OF CHOLECYSTOGRAPHY, AS WELL AS MEDICINAL SUBSTANCES EXERTING A MILD EVACUATION OF THE GALLBLADDER IN DISEASES OF THE BILE EXCRETORY SYSTEM.

FACILITY: KAFEDRA TERAPII DLYA USOVERSHENSTVOVANIYA VRACHEY VOYENNO MEDITSINSKOY AKADEMII IM G. M. KIROVA, LENINGRAD.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USS.

UDC 615.214.24:547.854.5].015.2:615.285.7

LINYUCHEV, N. M., MIHA, YU. P., SERGEYEV, V. V., Military Medical Academy imeni S. M. Kirov, Leningrad

"Effect of Phenobarbital on Toxicity and Anticholinesterase Activity of Chlorophos"

Moscow, Gigiyena Sanitariya, No 10, 1972, pp 106-107

Abstract: A study was made of the role of the liver of experimental animals in the detoxication of chlorophos and the effect of activity stimulators (phenobarbital) of the microsomal enzymes of the liver on its toxicity and anticholinesterase activity. Two series of experiments were performed on white male mice weighing 13-22 grams. In the first series of experiments a study was made of the effect of the phenobarbital on the resistance of the mice to the toxic effect of chlorophos on intraperitoneal and peroral administration of it. The difference in LD_{50} ratios for the experimental and control mice in both cases offers the possibility of proposing that the chlorophos in the liver is converted to a less toxic compound, and stimulation of the enzyme systems of the liver microsomes by phenobarbital causes a significant increase in resistance of the experimental animals to the chlorophos. In the second series of experiments performed with three groups of mice under analogous conditions, the effect of the phenobarbital on the anticholinesterase

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USSR

LINYUCHEV, N. M., et al., Gigiyena Sanitariya, No 10, 1972, pp 106-107

activity of the chlorophos was studied. Peroral administration of chlorophos in a dose of 455 mg/kg (LD_{16}) in mice treated with phenobarbital causes an expressed decrease in the degree of suppression of the cholinesterase activity of the brain. Whereas in the control mice the residual activity of the brain cholinesterase was 24.5%, against the phenobarbital background it was 42%. Phenobarbital does not decrease the anticholinesterase activity of the chlorophos in the blood. The data agree with the opinion of Arthur and Casida [J. Agricult. Food Chem., Vol 5, 186, 1957] that preliminary treatment with phenobarbital raises the resistance of experimental animals to the toxic effect of chlorophos by accelerating the enzymic hydrolysis of the poison in the liver with the formation of nontoxic products.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 022

UNCLASSIFIED

TITLE--DECAY OF ZIRCONIUM 97 -U- PROCESSING DATE--16OCT70

AUTHOR-(03)-MIMINOSHVILI, Z.N., MURAVYEVA, V.V., SOROKIN, A.A.

COUNTRY OF INFO--USSR

SOURCE--IAV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 62-8

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ZIRCONIUM ISOTOPE, RADIOACTIVE DECAY SCHEME, GAMMA SPECTRUM, COINCIDENCE COUNTING, SEMICONDUCTOR DETECTOR, TRANSITION RADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0227 STEP NO--UR/0048/70/034/001/0062/0068

CIRC ACCESSION NO--AP0105303

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AP0105303 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAMMA SPECTRA AND COINCIDENCE SPECTRA WERE STUDIED BY USING SEMICONDUCTOR GE(LI) AND SI(LI) DETECTORS WITH HIGH RESONS. THE DECAY SCHEME BY A. A. SOROKIN, ET AL. (CA 58: 9809H) WAS CORRECTED BY INCLUDING NEW LEVELS (1250, 1276, AND 1549 KEV) IN PRIME97 NB. CONVERSION COEFFS. OF THE 255 AND 357 KEV TRANSITIONS WERE SMALLER THAN 0.02 AND (5 PLUS OR MINUS 2.5) TIMES 10 PRIME NEGATIVE3, RESP., WHICH CORRESPONDED TO E1 AND M1 TRANSITIONS.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

MINACHEV, KHABIB MINACHEVICH

(2)

UDC 541.15

RADIATION CATALYTIC ACTIVATION OF OXYGEN

[Article by Corresponding Member of the AS USSR Kh. M. Minachev and Candidate of Chemical Sciences G. V. [illegible] 1973, pp 52-60]

Recently a region lying on the border of radiation chemistry and heterogeneous catalysis, which has been called radiation catalysis, has attracted much attention of investigators. This happened because radiation catalysis can prove to be extremely promising for the practical use of the energy of ionizing radiation in chemistry. The irradiation of a reaction mixture in the presence of porous solids permits increasing the effectiveness of radiation chemical processes through more complete use of the radiation energy and regulation of the selectivity of reactions. From the theoretical point of view, of great interest is study of the mechanism of the transfer by reacting substances of the energy absorbed by the solid, and also the possibility of changing the catalytic properties of solids by means of irradiation (radiation modification of catalysts).

In 1966, in the Institute of Organic Chemistry imeni N. D. Zelinskiy of the AS USSR, it was discovered that the irradiation of the heterogeneous system consisting of molecular oxygen and neodymium oxide with γ-radiation of Co^{60} at temperatures up to 300°C leads to a redistribution of atoms in the molecules of gaseous oxygen. That process was observed by means of the model reaction of homomolecular isotopic exchange of oxygen:

$$O_2^{16} + O_2^{18} = 2O^{16}O^{18}$$

Irradiation of molecular oxygen in the absence of the oxide does not cause that reaction, just as preliminary irradiation of the oxide at 100-300°C has no influence on its catalytic activity. Since the reaction proceeds only during the simultaneous effect, on a nonequilibrium mixture of isotopic molecules of oxygen, of ionizing radiation and a heterogeneous catalyst, that effect has been called radiation catalytic.

JPRS 60661
30 Nov 73

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--KINETICS AND MECHANISM OF THE ISOMERIZATION OF N,PENTANE ON THE HYDROGEN FORM OF MORDENITE -U-

AUTHOR-(03)-MINACHEV, KH.M., GARANIN, V.I., KHARLAMOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 835-40

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION KINETICS, CHEMICAL REACTION MECHANISM, ISOMERIZATION, PENTANE, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1016 STEP NO--UR/0062/70/000/004/0835/0840

CIRC ACCESSION NO--AP0134728

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134728

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE REACTION, STUDIED IN A FLOW REACTOR IN H ATM., SHOWED DIRECT PROPORTIONALITY BETWEEN THE RATE OF ISOMERIZATION OF PENTANE AND ITS PARTIAL PRESSURE. THE RATE WAS INVERSELY PROPORTIONAL TO H PRESSURE, AND THE APPARENT ACTIVATION ENERGY IS 31 KCAL-MOLE IN THE 210-300DEGREES RANGE. THE REACTION EVIDENTLY PROCEEDS BY A CARBONIUM ION MECHANISM. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Radiation Chemistry

USSR

UDC 546.98'221.09:542.973.2:546.791.6

SOKOLOVA, I. D., SAVEL'YEVA, V. I., GROMOV, B. V., RYASHENTSEVA, M. A., and MINACHEV, Kh. M.

"Utilization of Palladium Sulfide as a Catalyst During the Reduction of the Uranyl Ion"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, Vyp 9, 1972, pp 1938-1941

Abstract: Paladium sulfide acts as a catalyst in the reduction of U(VI) to U(IV) by formaldehyde without using radiation. Approximately 75% of the U is reduced in a $SO_4^=$ solution, 50% in an NO_3^-, and 35% in a Cl^- soln. Addition of HF increases the yield to 100% and 90% for $SO_4^=$ and NO_3^-, respectively. The difference in yield is due to complexing of U(IV) by the anions; the more effectively free U(IV) is complexed, e.g. removed from solution, the further the reduction will proceed to completion. The reduction is strongly temperature-dependent. At about 60°C the yield jumps sharply from about 5% to about 75% then rapidly levels off. Unlike the metallic platinum and palladium catalysts, which rapidly lose their activity, the palladium sulfide surface does not become poisoned and may be used many times without regeneration.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 024

TITLE--ISOMERIZATION OF N,BUTENES ON NICKEL ZEOLITE CATALYSTS -U-

AUTHOR--ISAKOV, YA.I., LAPIDUS, A.L., AVETISYAN, R.V., SENDEL, A.K., MINACHEV, KH.M.

COUNTRY OF INFO--USSR

M

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 57-63

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMERIZATION, BUTENE, NICKEL, ZEOLITE, CHEMICAL KINETICS, CATALYST ACTIVITY, DIMERIZATION, ETHYLENE, ION EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0062/70/000/001/0057/0063

PROXY REEL/FRAME--1984/1674

CIRC ACCESSION NO--AP0200278

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0200278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE REPORTED IN GRAPHIC AND TABULAR FORM FOR THE TITLE REACTIONS OF A MIXT. OF 1 AND 2 BUTENES OVER SYNTHETIC ZEOLITES WITH VARYING AMTS. NI, CA AND DY, PREPD. BY PREVIOUSLY REPORTED METHODS. THE ZEOLITES OF TYPES CAA, CAX, CAY, DY AND HM AS WELL AS NI,CONTG. DERIVS. WERE VERY ACTIVE IN TRANSPOSITION OF DOUBLE BOND IN THE BUTENES AND THE MOST ACTIVE WERE NI-NAY, CAX, 5PERCENT NI-DY AND 5PERCENT NI-HM CONTACTS. THE ZEOLITES OF THE Y TYPE SHOWED INCREASING ACTIVITY WITH INCREASING DEGREE OF EXCHANGE OF NA BY NI IONS. BESIDES TRANSPOSING THE DOUBLE BOND, THE CATALYSTS ALSO BROUGHT ABOUT FORMATION OF MECH: CH SUB2 AND HIGHER HYDROCARBONS, MAINLY AMYLENES, AS WELL AS INTERCONVERSION OF CIS AND TRANS FORMS OF BUTENES. THE SUGGESTION OF PRIMARY FORMATION OF 2 BUTENE ON ION EXCHANGING NI, ZEOLITE CATALYST IN DIMERICATION OF C SUB2 H SUB4 WAS CONFIRMED.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC: 666.117.9

ARTAMONOVA, M. V., LITVINOV, A. V., MINAKOV, A. G., MINAKOV, V. A., PAVLUSHKIN, N. M., STREKALOV, A. V., Konstantinovskiy "Order of the Red Banner of Labor" Plant "Avtosteklo"

"A Photochromic Glass"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332059, Division C, filed 26 Jan 70, published 14 Mar 72, pp 85-86

Translation: This Author's Certificate introduces: 1. A photochromic glass containing SiO_2, Al_2O_3, B_2O_3, Li_2O, P_2O_5, CaO and Ag. As a distinguishing feature of the patent, the chemical resistance and mechanical strength of the glass are increased by taking the above-mentioned components in the following proportions (in wt.%):

SiO_2	64-81
Al_2O_3	3-21
B_2O_3	0.1-3.8
Li_2O	8-15
P_2O_5	1-4

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

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ARTAMONOVA, M. V. et al., USSR Author's Certificate No 332059

	CuO	0.01-0.1
	Ag	0.2-0.7
with the addition of	Na_2O	0.5-3.8
and in excess of 100%	F_2	0.8-2
	Cl	0.5-2.5
	Br	0.3-1.2

2. A modification of this glass distinguished by the fact that the following are added (in wt.%):

Bi_2O_3	0.2-3
LnO	0.1-1
PbO	0.01-0.5
CaO	0.5-5
MgO	0.5-5
GeO_2	0.5-6
K_2O	0.5-5.8
Rb_2O	0.5-7.5
MnO	0.01-1.5

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 666.263.2

MUNAKOV, A. G., PAVLOVA, V. N., and LITVINOV, A. V. Candidates of Technical Sciences (Scientific Research Institute of Automation of Glass Industry)

"Aventurine Slag Glass"

Moscow, Steklo i Keramika, No 8, Aug 71, pp 14-16

Abstract: A new variety of low alkali, high-calcium slag glass called aventurine slag glass developed jointly by the Scientific Research Institute of Automation of Glass Industry (NIIAvtosteklo) and the Moscow Institute of Chemical Technology im. D. I. Mendeleyev (MKhTI) is reported. Melting and production of aventurine slag glass at experimental installation showed that this glass has satisfactory qualities and high physical properties. It can be produced by continuous method or in the form of plates with flame polished surface by casting into a mold. It has pronounced decorative properties and can be widely used in building industry as covering material. Raw materials, melting temperature, external appearance, structural characteristic of synthesized glass as well as possibilities of its use are listed. This glass differs from existing aventurine glasses by a low alkali (up to 6.5% in weight) content and by the absence of such expensive components as B_2O_3 and PbO.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 669.11:691.6

MINAKOV, A. G., Candidate of Technical Sciences, MINAKOV, V. A., Candidate of Technical Sciences, and DVORKINA, S. Ye., Engineer, Scientific Research Institute Avtosteklo

"Production of Stemalite From Low-Alkaline Glasses"

Moscow, Steklo i Keramika, No 10, Oct 71, pp 23—24

Abstract : The developed technology of the production of annealed Stemalite from low-alkaline glass with a high content of Ca (Marblite) is described. This technology uses chemically stable, inexpensive, and non-toxic glasses. Some technological and molding properties of low-alkaline with high Ca-content glasses, the production of which is adopted industrially, are indicated. The temperature dependences of the viscosity of melts of standard silicate glasses of industrial composition and low-alkaline with high Ca-content glasses on the base of blast furnace slags are discussed by reference to a diagram. The described new type of Stemalite, besides reduction of prices of glass and annual compositions, can be cut and processed directly on the building platform. One illustr., one biblio. ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Acc. Nr.: AP0046770

Ref. Code: UR0115

USSR

UIC 681.2.002.3

MINAKOV, A. G., ZOLOTAREVA, R. S., MIN'KO, N. I., ORLOVA, YE. S., LITVINOV, A. V., and GUMILEVSKIY, A. A.

"Introduction of Pyroceramics in the Instrument-Making Industry"

Moscow, Izmeritel'naya Tekhnika (Measurement Technology), No 1, 1970, p 107

Translation: At the Scientific Research Institute of Auto Glass, transparent and semi-transparent pyroceramics were synthesized, replacing the jewels used in the instrument-making industry. Information was presented on the course of tests and adoption of the pyroceramics. (1 table)

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1 P.N.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

3

USSR UDC 621.762.001.669.541.45

PASHCHENKO, I. S., PETROV, G. I., KRAPUKHIN, V. V., SHIGINA, L. N., MINAKOV, A. T., and GALKIN, P. N.

"Study of Certain Properties of GeO_2 and Powdered Germanium"

Kremniy i germaniy [Silicon and Germanium -- collection of works], No. 2, Moscow, Metallurgiya Press, 1970, pp. 67-70, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No 1 G429 by the authors).

Translation: The properties of GeO_2 produced by various methods of hydrolysis of $GeCl_4$ are studied. The influence of particle size of GeO_2 and powdered Ge on changes in bulk mass, picnometric density, gas permeability, specific surface, and friability is demonstrated. 4 tables; 6 biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--PECULIARITIES OF WELDING THE MULTILAYER SYLPHONS OF AUSTENITE AND CHROMIUM NICKEL STEELS AND ALLOYS -U-

AUTHOR-(02)-PETRUSHIN, I.V., MINAKOV, I.T.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 1, 70, PP 18-19

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL SYLPHON, METAL BELLOWS, CHROMIUM NICKEL STEEL, CHROMIUM NICKEL ALLOY, BIBLIOGRAPHY, ELECTRON BEAM WELDING, INTERGRANULAR CORROSION, PERMEABILITY, INERT GAS ARC WELDING, BIMETAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/2028 STEP NO--UR/0135/70/000/001/0018/0019

CIRC ACCESSION NO--AP0118982

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118982

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCEDURE AND REGIMES ARE DESCRIBED OF THE ARGON SHIELDED ARC AND ELECTRON RAY WELDING OF SYLPHONS FABRICATED FROM CHROMIUM NICKEL STEELS AND ALLOYS, AT WHICH THE JOINTS SATISFY THE REQUIREMENTS WITH RESPECT TO THE IMPERMEABILITY AND INTERCRYSTLLINE CORROSION.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 621.791.7.162-762.65:669.15-194.56

PETRUSHIN, I. V., Engineer, MINAKOV, I. T., Candidate of Technical Sciences

"Multilayered Sylphon Bellows Made of Austenitic Chromium-Nickel Steels and Alloys"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 70, pp 18-19

Abstract: Sylphon bellows made of OKh18N10T steel are presently welded by an automatic TIG method. The resulting welds are solid, without cracks, pores, and other defects. An attempt was made to use the same method for welding sylphon bellows made of high-nickel alloys. However, it was found that the bellows had cracks up to 1 mm long. A study was made to find a way of preventing the formation of cracks. One of the most successful ways of preventing crack formation is welding of the bellows with an electron-beam welder, and preheating the bellows prior to welding. Also, to eliminate all the traces of dirt and grease, it is recommended that the bellow elements be cleaned, prior to welding, with alcohol with subsequent annealing in a vacuum furnace at

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

PETRUSHIN, I. V., et al., Svarochnoye Proizvodstvo, No 1, Jan 70, pp 18-19

400°C for 30 min. The tests of electron-beam welded bellows revealed that the welds were free of cracks and satisfied the intergranular corrosion requirements in accordance with GOST 6032-58.

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USSR

UDC: 531.715.2 531.717.53

SIZONENKO, G. A., BOGRETS, G. N., SHUKIS, Z. E., GOKHBERG, Yu. L., KOLODYAZHNYY, A. P., VYKHRIST, N. S., MINAKOV, N. A.

"A Device for Measuring the Thickness of Nonmagnetic Coatings on the Inside of Pipes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329373, Division G, filed 25 Mar 70, published 9 Feb 72, p 151

Translation: This Author's Certificate introduces a device for measuring the thickness of nonmagnetic coatings on the inside of pipes. The device contains a micrometer unit, a tubular bar, a movable rod, a force-measuring spring, and a head with a permanent magnet connected to the movable rod. The micrometer unit is fastened to the end of the tubular bar which is on the outside of the pipe to be inspected, and the movable rod is coaxial with the tubular bar and is coupled to the micrometer unit. The head with permanent magnet is fastened to the end of the tubular bar on the inside of the pipe to be inspected. As a distinguishing feature of the patent, the device is designed for improved accuracy in measuring the thickness of coatings on

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

SIZONENKO, G. A. et al., USSR Author's Certificate No 329373

the inside of long pipes, and especially those of small cross section. Inside the measurement head is a modular mechanism made up of two rollers wound with a flexible thread fastened by one end to the permanent magnet, and connected by the other end to the force-measurement spring. Also included in the device is a microcontact indicator of the position of the magnet fastened to one of its ends.

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USSR

UDC: 666.117.9

ARTAMONOVA, M. V., LITVINOV, A. V., MINAKOV, A. G., MINAKOV, V. A., PAVLUSHKIN, N. M., STREKALOV, A. V., Konstantinovskiy "Order of the Red Banner of Labor" Plant "Avtosteklo"

"A Photochromic Glass"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332059, Division C, filed 26 Jan 70, published 14 Mar 72, pp 85-86

Translation: This Author's Certificate introduces: 1. A photochromic glass containing SiO_2, Al_2O_3, B_2O_3, Li_2O, P_2O_5, CaO and Ag. As a distinguishing feature of the patent, the chemical resistance and mechanical strength of the glass are increased by taking the above-mentioned components in the following proportions (in wt.%):

SiO_2	64-81
Al_2O_3	3-21
B_2O_3	0.1-3.8
Li_2O	8-15
P_2O_5	1-4

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

ARTAMONOVA, M. V. et al., USSR Author's Certificate No 332059

	CuO	0.01-0.1
	Ag	0.2-0.7
with the addition of	Na_2O	0.5-3.8
and in excess of 100%	F_2	0.8-2
	Cl	0.5-2.5
	Br	0.3-1.2

2. A modification of this glass distinguished by the fact that the following are added (in wt.%):

Bi_2O_3	0.2-3
LnO	0.1-1
PbO	0.01-0.5
CaO	0.5-5
MgO	0.5-5
GeO_2	0.5-6
K_2O	0.5-5.8
Rb_2O	0.5-7.5
MnO	0.01-1.5

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 669.11:691.6

MINAKOV, A. G., Candidate of Technical Sciences, [redacted] Candidate of Technical Sciences, and DVORKINA, S. Ye., Engineer, Scientific Research Institute Avtosteklo

"Production of Stemalite From Low-Alkaline Glasses"

Moscow, Steklo i Keramika, No 10, Oct 71, pp 23--24

Abstract : The developed technology of the production of annealed Stemalite from low-alkaline glass with a high content of Ca (Marblite) is described. This technology uses chemically stable, inexpensive, and non-toxic glazes. Some technological and molding properties of low-alkaline with high Ca-content glasses, the production of which is adopted industrially, are indicated. The temperature dependences of the viscosity of melts of standard silicate glasses of industrial composition and low-alkaline with high Ca-content glasses on the base of blast furnace slags are discussed by reference to a diagram. The described new type of Stemalite, besides reduction of prices of glass and enamel compositions, can be cut and processed directly on the building platform. One illustr., one biblio. ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 539.56

BELOUS, O. A., DANILOVTSEVA, O. G., KUZNETSOVA, V. A., MAL'TSEV, M. V., MINAKOV, V. N., TREFILOV, V. I., KHACHATUROV, A. A., SHCHERIN, A. A., Moscow, Kiev. VNIITS (All-Union Scientific Research Institute of Hard Alloys); Institute of Metallophysics, Academy of Sciences, Ukrainian SSR

"An Investigation of the Influence of Admixtures of Carbon and Zirconium Carbide on the Cold Brittleness of Cast Molybdenum"

Kiev, Problemy Prochnosti, No. 6, 1971, pp 97-101

Abstract: An investigation is made of the influence of carbon and zirconium carbide upon the structure of cast molybdenum alloys; and of the relationship of the structure to the temperature of transition to a brittle state. It is found that even for alloys which have a complex structural state, the rules governing the change of the cold-brittleness temperature may be explained if account is taken of the composition of the solid solution, its structural state, and the nature of the formation of excess phases on the grain boundaries. 5 figures, 1 table, 11 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 669.17

GRIDNEV, V. N., MESHKOV, YU. YA., MINAKOV, V. N., and OSHMARKOV, S. P.,
Institute of Metal Physics, Academy of Sciences UkrSSR

"The Characteristics of High-Speed Austenization of Hypoeutectoid Steels"

Kiev, Metallofizika, No 31, 1970, pp 121-126

Translation: The characteristics of the process of formation of austenite in annealed, hardened, and highly tempered carbon steels of a hypoeutectoid composition in a heating rate interval from 20 to 7000 degrees per second were studied by overall investigation methods. It is shown that the temperature conditions of austenite formation in high-speed heating depend on the initial structural state. When steel with an annealed structure is heated at a rate of more than 500 degrees per second, the transformation occurs according to a two-stage pattern, when first the pearlite and then the ferrite steel components are transformed into austenite. Bibliography: 8 entries, 3 illustrations.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 669.018.45-122.4

KAVERINA, S. N., LIZUNOV, V. A., MIHAKOV, V. N., and TREFILOV, V. I.,
Institute of Metal Physics, Academy of Sciences Ukr SSR

"Structural Changes in the Deformation of Molybdenum Alloys"

Kiev, Metallofizika, No 39, 1972, pp 57-65

Abstract: Molybdenum alloys are examined after different modes of thermo-mechanical treatment: high-temperature rolling plus intermediate heatings, and low-temperature rolling plus intermediate anneals. Data are presented for the change in structure which were obtained by methods of optic and electron microscopy, from lattice parameters and mechanical properties of alloys in the deformed state and after annealing in the 1100-2000°C interval. It was shown that the use of low-temperature rolling significantly lowers the ductile-brittle transition temperature, increases the number of bends, and increases the recrystallization temperature. 7 figures, 1 table, 14 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 539.292.536.425

BURDIN, V. V., GRIDNEV, V. N., and MINAKOV, V. N., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Carbon Content in the Ferrite of Carbon Steels"

Kiev, Metallofizika, No 39, 1972, pp 85-88

Abstract: The change of the alpha-phase lattice parameters for rapid heating (up to 500°/sec) and cooling (up to 100°/sec) of carbon steels was studied with the use of rapid x-ray examination. Results of this work show that for rapid heating and cooling of carbon steels it is not possible to dissolve more carbon in the alpha-phase than indicated by the phase diagram for the steel. The hypothesis that the QP and GP lines on the Fe-C phase diagram can be extrapolated to values corresponding to a large carbon content is not confirmed. 4 figures. 20 bibliographic references.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 539.3

VOROVICH, I. I., MINAKOVA, N. I., Rostov-na-Donu

"Equations of Axisymmetric Stress-Strained State of a Curved Spherical Shell Made of a Nonlinear Elastic Material With Large Deformations"

Moscow, Prikladnaya metematika i mekhanika, Vol 37, No 5, 1973, pp 934-939

Abstract: A successive derivation is presented for the basic equations of axisymmetric deformation of a spherical shell made of nonlinear elastic material under the assumption of smallness of the relative elongations by comparison with one and with arbitrary angles of rotation. The most widespread versions of the boundary problems for studying curved shells with large deformations were proposed earlier /E. Reissner, Contributions to Appl. Mech., J. W. Edwards, Ann Arbor, Michigan, 1949; Proc. Appl. Math., Vol 3, 1950, pp 27-52, and so on/. The general formulation of the boundary problems for studying curved shells with large deformations appears in the papers by J. L. Sanders /Quart. Appl. Math., Vol 21, No 1, 1963/ and W. T. Koiter /Proc. Koninkl. nederl. acad. wet., C, Vol 69, No 1, 1966/. However, only the geometric nonlinearity is considered in these papers. Equations in boundary conditions for axisymmetric deformation of curved spherical shells are now presented for finite displacements considering physical nonlinearity. On the basis of the boundary problems obtained it is possible to investigate the effect of the curvature and physical nonlinearity on the critical state of the shell.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC: 539.1.074

SHEVCHENKO, K. M., MINAKOVSKIY, V. M., and TSARENKO, N. V.

"Radiation Energy Sensor"

Leningrad, Priborostroyeniye, No 6, 1972, pp 119-121

Abstract: The sensor described in this paper overcomes the difficulty in radiometers with nonselective elements in which protective windows made of materials which are diathermal in the near infrared region have the effect of making the readings of the instrument depend on the infrared radiation spectrum, thus depriving the instrument of its basic advantage. The principle of the device proposed by the authors is based on the existence of a unique dependence between the radiation flux incident on its sensitive element and the difference in temperature between the center and periphery of the sensitive element. This latter is a disc of 4 mm in diameter, made of constantan foil 0.05 mm thick, soldered along its periphery to the end of a copper block. Part of the energy output by the foil flows radially to the block and part to the surrounding medium. The intensity of the incident energy is reflected in the aforementioned difference in temperature. A table of the technical characteristics of the radiometer using this type of sensor is given. The authors are with the Kiev Polytechnical Institute.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 621.181.7.021.001.5:
:539.4.014.13

MINASARYAN, A. A., Candidate of Technical Sciences, and
BELIKOVA, R. V., Engineer

"Residual Stresses in Gasproof Panels"

Leningrad, Energomashinostroyeniye, No 12, Dec 72, pp 33-35

Abstract: The residual stresses in welded eight-pipe gasproof panels from finned pipes and in four-pipe gasproof panels welded according to the schema pipe-strip spacer were tensometrically investigated after welding and after thermal treatment in order to determine the expediency of thermal treatment. The distribution of residual stresses on surfaces of 12Kh1M1F steel panels is discussed by reference to diagrams. A comparison of stress distribution curves after thermal treatment and welding of eight-pipe panels from finned pipes shows that the residual stresses increased after termal treatment but the uniformity of their distributions did not improve. A high cooling rate of the panels after tempering is inadmissible. The cooling with the furnace to 450°C and following cooling in air may cause the formation of

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

MINASARYAN, A. A. and BELIKOVA, R. V., Energomashinostroyeniye, No 12, Dec 72, pp 33-35

high residual stresses of thermal origin which, in addition to residual stresses after holding at temper temperature, will be even higher than the initial welding stresses. Three figures, two tables, nine bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/3 047 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THE FUTURE OF SPACE COMMUNICATIONS, ORBITA SYSTEM WILL BE MODERNIZED AND EXPANDED -U-

AUTHOR--MINASHIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK SVAYAZI, NO 4, APRIL 1970, P 29

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION

TOPIC TAGS--SPACE COMMUNICATION, COMMUNICATION SATELLITE, COLOR TV, GROUND COMMUNICATION EQUIPMENT/(U)ORBITA STATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0036 STEP NO--UR/0111/70/000/004/0029/0029

CIRC ACCESSION NO--AP0138911

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/3 047 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138911

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FIRST RESULTS OF THE OPERATION OF THE NETWORK OF "ORBITA" STATIONS SHOW THAT THE DEVELOPMENT OF TELEVISION USING SATELLITE BORNE FACILITIES IS ADVANTAGEOUS AND GIVES GOOD RESULTS. NEW STATIONS HAVE BEEN BUILT SINCE THE CONSTRUCTION OF THE FIRST (2) "ORBITA" STATIONS. IN THE JUBILEE YEAR OF 1970 THE NUMBER OF STATIONS WILL REACH 36, AND THE NUMEROUS TELEVISION VIEWERS NOW RECEIVING BROADCASTS FROM MOSCOW WILL BE JOINED BY INHABITANTS OF POPULATED POINTS IN THE FAR EAST OF OUR COUNTRY, SUCH AS OKHOTSK, SOVETSKAYA GAVAN', NIKOLAYEVSK-NA AMURE AND OTHERS. THE "ORBITA" SYSTEM HAS RATHER GREAT TECHNICAL POSSIBILITIES AND THIS MAKES IT POSSIBLE TO USE THE SYSTEM FOR THE TRANSMISSION OF COLOR TELEVISION PROGRAMS. SINCE THE END OF 1969 THE INHABITANTS OF ASHKABAD, ALMA-ATA AND FRUNZE HAVE BEEN ABLE TO RECEIVE COLOR TRANSMISSIONS. IN 1970 MORE THAN 10 CITIES, INCLUDING SUCH LARGE ONES AS NOVOSIBIRSK, KRASNOYARSK AND KHABAROVSK WILL BE ABLE TO WATCH COLOR TELEVISION PROGRAMS. AS A RESULT OF THE FACT THAT THE VOLUME OF INFORMATION TRANSMITTED OVER SATELLITE COMMUNICATIONS LINKS IS CONTINUOUSLY GROWING AND THE DEMANDS FOR COMMUNICATIONS RELIABILITY AND STABILITY ARE INCREASING, IT IS INTENDED TO START WORK ON THE RECONSTRUCTION AND EXPANSION OF THE CAPABILITIES OF "ORBITA" STATIONS SO THAT THEY CAN BE USED IN A MODERNIZED SPACE COMMUNICATIONS SYSTEM. STATIONS WILL BE EQUIPPED WITH NEW RECEIVERS WHICH WILL OPERATE IN A FREQUENCY RANGE SPECIALLY SET ASIDE FOR PURPOSES OF SATELLITE COMMUNICATIONS ON THE BASIS OF INTERNATIONAL AGREEMENTS.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

3/3 . 047 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138911

ABSTRACT/EXTRACT--SOME STATIONS WILL ALSO BE EQUIPPED WITH TRANSMITTERS AND WILL BE USED BOTH FOR THE EXCHANGE OF TELEPHONE AND TELEGRAPH COMMUNICATIONS AS WELL AS TELEVISION PROGRAMS. SATELLITE COMMUNICATIONS CAN ALSO BE USED SUCCESSFULLY FOR THE TRANSMISSION OF DIGITAL DATA, FOR THE COLLECTION OF METEOROLOGICAL INFORMATION FROM WEATHER OBSERVATION STATIONS AND THE TRANSMISSION OF SUCH INFORMATION TO METEOROLOGICAL CENTERS FOR PROCESSING AND THE COMPILATION OF FORECASTS AND WEATHER MAPS. THIS SYSTEM WILL HAVE GREAT IMPORTANCE FOR PURPOSES OF NAVIGATION AND FOR COMMUNICATION WITH AIRCRAFT. SHORTWAVE COMMUNICATION BETWEEN AIRCRAFT AND THE GROUND IS INFLUENCED GREATLY BY ATMOSPHERIC NOISE AND THE STATE OF THE IONOSPHERE. USING COMMUNICATIONS SATELLITES, PILOTS WILL HAVE AT THEIR DISPOSAL A RELIABLE SYSTEM OF LONG RANGE RADIOTELEPHONE COMMUNICATIONS WITH GROUND STATIONS.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Acc. Nr. AP0105535 Abstracting Service: CHEMICAL ABST. Ref. Code UR 0370

M

125823p Coefficient of the extraction of an impurity during zone melting. Konovalov, E. E.; Peizulaev, Sh. I.; Minashina, L. Ya. (USSR). *Izv. Akad. Nauk SSSR, Metal.* 1970, (1), 48-50 (Russ). The extn. coeff. is detd. as a function of the crystn. rate, of the equil. distribution coeff., of the no. of zones, and of the mixing conditions of the melt in the zone. The results are plotted in several graphs, enabling detn. of the efficiency of the process. Z. Klimova

EB

REEL/FRAME
19880550

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC: 616.76-002-02-616.981.42

MINASYAN, A. M., Docent, Chair of Hospital Surgery, Yerevan Medical Institute

"Brucellosis Bursitis"

Moscow, Khirurgiya, No 1, Jan 71, pp 95-99

Abstract: A followup study was made of 30 patients who had had brucellosis bursitis for 20 years. They constituted 11.8% of all the patients with surgical forms of the disease and 17.5% of those with involvement of the locomotor apparatus. X-ray examinations showed changes in one-third of the patients after a few years (thornlike bone processes, calcification of the bursa, induration of soft tissues). Twenty-six patients responded favorably to treatment (vaccine, blood transfusions, immobilization, application of heat, physical therapy after subsidence of the inflammation, etc.). Seven showed good results immediately but suffered disabling recurrences. In such cases, bursectomy provided a permanent cure. Prompt treatment is essential for good results. With delayed treatment, the disease tends to become chronic.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE SIGNIFICANCE OF BODY REACTIVITY IN FORMATION OF ADHESIONS IN EXPERIMENTAL TALCUM ADMINISTRATION INTO THE ABDOMINAL CAVITY -U-

AUTHOR-(03)-MINASYAN, A.M., TERKASPAROVA, M.R., ARUTYUNYAN, L.O.

COUNTRY OF INFO--USSR

M

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIA, 1970, NR 2, PP 48-50

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADHESION, ANIMAL PHYSIOLOGY, INHIBITION, TRYPSIN, EXPERIMENTAL SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0646 STEP NO--UR/0481/70/000/002/0048/0050

CIRC ACCESSION NO--AP0108857

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0108857

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADHESIONS FORM IN THE SENSITIZED ANIMALS TWICE OFTENER THAN IN THE CONTROL GROUP. IN DESENSITIZED ANIMALS ADHESIONS WERE SEEN IN ONLY ONE THIRD OF CASES. ADMINISTRATION OF LIDASE AND TRYPSIN TO SENSITIZED ANIMALS PREVENTS FORMATION OF ADHESIONS. FACILITY: KAFEDRA GOSPITAL'NOY KHIRURGII, KAFEDRA PATOLOGICHESKOY ANATOMII AND KAFEDRA PATOLOGICHESKOY FIZIOLOGII YEREVANSKOGO MEDITSINSKOGO INSTITUTA.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THEORY OF THE FARADAY EFFECT OF DIAMAGNETIC MOLECULES -U-

AUTHOR-(02)-ASLANYAN, V.M., MINASYAN, D.M.

M

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(2), 375-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FARADAY EFFECT, DIAMAGNETISM, MOLECULE, QUANTUM MECHANICS, MAGNETOOPTIC EFFECT, ELECTRIC DIPOLE MOMENT, UV SPECTRUM, MAGNETIC PROPERTY, ELECTRIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1730 STEP NO--UR/0051/70/028/002/0375/0377

CIRC ACCESSION NO--AP0112766

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112766

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHENOMENOLOGICAL THEORY OF FARADAY EFFECT, WHICH IS CLASSICAL ANALOG OF QUANTUM MECH. THEORY BY GROENWEGE, IS GIVEN. THE PHYS. MEANING OF MAGNETOOPTICAL PARAMETERS ETA AND EPSILON WHICH APPEARED IN QUANTUM MECH. THEORY WAS DISCUSSED. THE PARAMETER ETA CHARACTERIZED THE CHANGE OF OPTICAL POLARIZABILITY IN MAGNETIC FIELD, I.E. DETD. MAGNETOOPTICAL EFFECT CORRESPONDING TO ELEC. DIPOLE RADIATION. THIS EFFECT OCCURRED MAINLY IN THE UV REGION OF THE SPECTRUM. THE PARAMETER EPSILON CHARACTERIZED CHANGE OF MAGNETIC SUSCEPTIBILITY IN MAGNETIC FIELD, I.E. DETD. MAGNETOOPTICAL EFFECT IN MAGNETIC DIPOLE APPROACH, AND OCCURRED IN THE MICROWAVE SPECTRAL REGION. THE RATIO OF THESE PARAMETERS WAS PRACTICALLY EQUAL TO THAT OF CORRESPONDING INTENSITIES OF RADIATION, I.E. ETA-EPSILON EQUALS I SUB1-I SUB2 APPROXIMATELY EQUAL TO 10 PRIME4, WHERE I SUB1 AND I SUB2 ARE INTENSITIES OF ELEC. AND MAGNETIC RADIATIONS, RESP.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 666.112.5

YARLOVA, K. S., MINASYAN, G. S., ABOVYAN, M. M. and NKHEYAN, L. O., Byurakan Optico-Mechanical Laboratory, Academy of Sciences, Armenian SSR, and Scientific Research Institute of Rocks and Silicates

"Glass"

USSR Author's Certificate No 366155, Filed 9 Nov 70, Published 16 Jan 73 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar(a) 73, Claim No 1490339/29-33)

Translation: A glass including SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO and TiO_2, distinguished by the fact that in order to increase the coefficient of reflection and decrease the coefficient of thermal expansion it contains the above components in the following quantities, weight %: SiO_2 50-60, Al_2O_3 18.2-19.2, Fe_2O_3 10.9, CaO 1.04-1.05, MgO 5-7.2, TiO_2 1.6-1.7 and F 3-3.5.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

MINASYAN, L.

ArSSR

Identified as Chief of the Department of Cultural-Instructive Institutions of the Ministry of Culture of the Armenian SSR.

Nachal'nik Otdela Kul'turno-Prosvetitel'nykh Uchrezhdenii Ministerstva Kultury Armyanskoy SSR.

Source: KOMMUNIST, 12 December 1971, p4, c3

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SYNTHESES BASED ON 4,ALKOXYBENZYL AND 4,ALKOXYPHENYLAMINES -U-

AUTHOR-(03)-TRADYAN, M.A., MINASYAN, L.V., AROYAN, A.A.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(1), 54-60

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, ALKOXIDE, BENZENE DERIVATIVE, AMINE, IMIDAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1450 STEP NO--UR/0426/70/023/001/0054/0060

CIRC ACCESSION NO--AP0116889

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116889

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RHO,RC SUB6 H SUB4 CH SUB2 NHC SUB6 H SUB4 OR PRIME1 RHO (I) WERE PREPD. BY HEATING 0.8 MOLE OF A 4,ALKOXYPHENYLAMINE WITH 0.2 MOLE 4,ALKOXYBENZYL CHLORIDE 6-8 HR (R, R PRIME1, PERCENT YIELD, B.P. (1 MM), M.P., AND M.P. CHL SALT GIVEN): (CONTAINED ON MICROFICHE). FACILITY: INST. TONKOI ORG. KHIM., EREVAN, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 542.921+547.333.4

MINASYAN, R. B., INDZHIKYAN, M. G., BABAYAN, A. T., Institute of Organic Chemistry, Yerevan, Academy of Sciences Armenian SSR

"Research in the Field of Amines and Ammonium Compounds. LXVIII. Alkaline Splitting of Quaternary Ammonium Salts Containing the 1-Alkoxy-2-Bromoethyl Group"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 234-239

Abstract: In a previous paper by these same authors (Izv. AN ArmSSR, KhN, 18, 572, 1965), it was shown that quaternary ammonium salts containing the 1-ethoxy-2-bromoethyl group, in addition to a group of the allyl type, are dehydrobrominated by alkali hydroxide followed by regrouping and splitting with the formation of esters of the free acids produced by ester hydrolysis. It is reported in this article that substitution of the butoxyl group for the ethoxy group completely suppresses alkaline hydrolysis, resulting in the formation of nothing but unsaturated carboxylic acid esters. For instance, alkali hydroxide splitting of dimethylallyl(1-butoxy-2-bromoethyl)ammonium bromide yields only butyl ester of butene-3-carboxylic acid (64%). Similarly interacting alkali with bromine salts of dimethylmethallyl(1-butoxy-2-bromoethyl)-

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MINASYAN, R. B., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 234-239

and dimethyl-α-methylcrotyl(1-butoxy-2-bromoethyl)-ammonium produces butyl esters of 3-methylbutene-3-carboxylic (59%) and 2-methylpentene-3-carboxylic (63%) acids. Nucleophilic substitution or hydratation of the α-alkoxyvinyl group may take place in quaternary ammonium salts in an alkali hydroxide. Results of investigation of alkaline splitting are tabulated for six compounds.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC 547.558.1

KIREYEV, V. V., KORSHAK, V. V., ERYAN, M. A., and MINAS'YAN, R. M., Moscow Chemical Technological Institute Imeni D. I. Mendeleyev

"Aromatic Bisphosphazo Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 434-435

Abstract: A new synthetic route was proposed for 1,4-bis(triphenylphosphazo)-benzene (I) and tetraphenyl-p-phenylene-bis(phosphazophenyl) (II) based on the Kirsanov reaction. The phosphazo reaction was carried out in refluxing anhydrous xylene using excess diphenyltrichlorophosphorus in the synthesis of (I) and an excess of aniline hydrochloride during the synthesis of (II).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR UDC 591.181

MINASYAN, S. M., Chair of Animal and Human Physiology, Yerevan State University

"The Reaction of the Hypothalamus of Irradiated Animals to Vibration"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 26, No 1, 1973, pp 50-56

Abstract: EEGs were recorded from various hypothalamic and cortical areas in rabbits at rest and during vibration (80 c/sec, amplitude 1 mm, for 10 min) prior to and after irradiation with 80 r. In the early stage of the radiation sickness, the hypothalamus exerts its normal stabilizing effect (shift toward high-frequency, low-amplitude waves and lowered threshold) on the activity of the cerebral cortex during vibration. At the height of the disease (7th-10th days), this effect is considerably reduced (predominance of slow waves and elevated threshold). No further modifications occur in the electrical activity of the hypothalamus in the late stage (15th-20th days). The findings support the view that the hypothalamus plays an important role in the irradiated body's reaction to vibration.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DIODES WITH NEGATIVE RESISTANCE BASED ON NICKEL COMPENSATED SILICON -U-

AUTHOR-(03)-AVAKYANTS, G.M., MINASYAN, S.V., URGANESYAN, D.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK ARM. SSR, 1970, 50(1), 20-2

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--DIODE, NICKEL, SILICON, ALUMINUM NICKEL ALLOY, RESISTIVITY, ELECTRIC FIELD, VOLT AMPERE CHARACTERISTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2060 STEP NO--UR/0252/70/050/001/0020/0022

CIRC ACCESSION NO--AT0122289

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0122289

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CURRENT VOLTAGE CHARACTERISTICS, I(V), WERE STUDIED OF P PRIME POSITIVE-I-N PRIME POSITIVE DIODES (AL-NI DOPED SI WITH RESISTIVITY 2-20 KILOHM,CM,AU PLUS 0.01PERCENT SB; BASE THICKNESS 150-250 MU) AT 228-353DEGREESK. THE CHARACTERISTICS ARE S SHAPED; THE 1ST PART OF THE CURVE OBEYS THE FORMULA I EQUALS BV PRIMEN, WHERE 1.5 IS SMALLER THAN OR EQUAL TO N IS SMALLER THAN OR EQUAL TO 2.5 AND B IS A CONST. THE POTENTIAL DISTRIBUTION ALONG THE BASE WAS DETD.; THE MAX. ELEC FIELD INTENSITY OCCURRED NEAR N PRIME POSITIVE AND P PRIME POSITIVE CONTACT, IN P PRIME POSITIVE-N-N PRIME POSITIVE AND P PRIME POSITIVE-P-N PRIME POSITIVE, RESP.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

Acc. Nr: AP0040325 M Ref. Code: UR 0481

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya, 1970, Nr 1, pp 45-48

METHODS OF AUTORADIOGRAPHY OF THE BONE TISSUE

V. A. Minasyan, A. I. Voloshin

The authors propose an universal technique of autoradiography of the bone tissue which makes it possible to investigate calcium metabolism in the jaws and teeth. The stude of mineral metabolism of the bone tissue was conducted with the aid of Ca^{45} isotope on 10 dogs at the age of 1—1.5 years. The article presents data of canine maxillary bones which are the most structerally complicated calcified tissues. The proposed technique could be successfully employed for studying calcium metabolism also in other sceleton bones.

REEL/FRAME
19741756

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

UDC: 621.313.322-82.001.3

STANISLAVSKIY, L. YA. (Candidate of Technical Science), KALMYKOV, I. Z. (Engineer), MINATSEVICH, E. N. (Engineer), and SIMBIRSKIY, N. A. (Engineer)

"A 40 Megawatt Vertical Reversible Hydroelectric Motor-Generator Set with Direct Line Starting"

Moscow, Elektrotekhnika, No 3, 1970, pp 9-13

Abstract: A reversible hydroelectric generating system has been developed for the Kiev Hydrostorage Power Station, and is claimed to be unique for its type. Three units are to be installed at the Kiev station, each rated at 40 Mw in the motor mode and 33.4 Mw in the generator mode. Rotational speed is 166.7 rpm; rotor axes are vertical. The design is intended for peak load handling, hence had to be more versatile than usual hydropower generating systems; in addition to being reversible, the equipment must withstand three startups and shutdowns per day, which creates extra problems in heating of the starter windings and in bearing friction in the support thrust bearing. The bulk of the discussion concerns the solutions obtained to these problems. Design calculations are given for optimum spacing and size of the starter winding so as to insure even heating of all segments; as a result the system may be thrown on the line directly without danger of winding burnout. Because of the reversibility feature, the thrust

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

USSR

STANISLAVSKIY, L. YA, et al, Elektrotekhnika, No 3, 1970, pp 9-13

bearing had to be specially designed for maximum entrainment of oil in the seg-
ments. To avoid the possibility of dry starts due to heat deformation of the
bearing surfaces, high-pressure oil is forced into the bearing gaps during the
start and stop periods. Two structural drawings of the system are included.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PASCHEN BACK EFFECT FOR THE MUONIUM ATOM -U-

AUTHOR-(05)-MINAYCHEV, YE.V., MYASISHCHEVA, G.G., DMUKHOV, YU.V., ROGANOV, V.S., SAVELYEV, G.I.

COUNTRY OF INFO--USSR

M

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1586-1592

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LONGITUDINAL MAGNETIC FIELD, MAGNETIC FIELD INTENSITY, MAGNETIC POLARIZATION, MUON, SINGLE CRYSTAL PROPERTY, QUARTZ, CORUNDUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2236 STEP NO--UR/0056/70/058/005/1586/1592

CIRC ACCESSION NO--AP0127598

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLARIZATIONOF MU PRIME POSITIVE MESONS AS A FUNCTION OF LONGITUDINAL MAGNETIC FIELD STRENGTH IS MEASURED BETWEEN 0 AND 3 KOE IN SINGLE CRYSTAL QUARTZ AND CORUNDUM. FOR QUARTZ THE EXPERIMENTAL DATA ARE FOUND TO BE IN GOOD AGREEMENT WITH THE THEORY OF MUONIUM DEPOLARIZATION. THE EXPERIMENTAL VALUE OF THE CRITICAL MAGNETIC FIELD STRENGTH FOR MUONIUM IN QUARTZ EQUALS WITHIN THE EXPERIMENTAL ERRORS THE VALUE OBTAINED IN VACUUM. THE POSSIBILITIES WHICH THE METHOD AFFORDS FOR MEASURING THE SIZE OF MUONIUM IN VARIOUS MEDIA ARE CONSIDERED.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF THE CRYSTAL LATTICE OF SILICON ON THE HYPERFINE SPLITTING ENERGY OF MUONIUM -U-

AUTHOR-(05)-ANDRIANOV, D.G., MINAYCHEV, YE.V., MYASISHCHEVA, G.G., OSUKHOV, YU.V., ROGANOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 6, PP 1896-1898

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL LATTICE, SILICON, SINGLE CRYSTAL, LONGITUDINAL MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1728 STEP NO--UR/0056/70/058/006/1896/1898

CIRC ACCESSION NO--AP0120440

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202030006-6

2/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120440

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF MU E DECAY POLARIZATION ON LONGITUDINAL MAGNETIC FIELD STRENGTH IS MEASURED IN SILICON SINGLE CRYSTALS. THE HYPERFINE SPLITTING ENERGY OF THE MUONIUM ATOM IN THE CRYSTAL LATTICE DIFFERS FROM THE VACUUM VALUE AND CORRESPONDS TO A MUONUIM SIZE R EQUALS (9,719 PLUS OR MINUS 9,016) ANGSTROM.

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AUTHOR-- MINAYEV, A., ENGINEER /RYAZAN/

TITLE-- ADVANTAGES OF POWDER METALLURGY ARE QUITE OBVIOUS, AND THEY MUST BE USED

NEWSPAPER-- SOTSIALISTICHESKAYA INDUSTRIYA, JANUARY 21, 1970, P 2, COLS 1-3

ABSTRACT-- THE ARTICLE BRIEFLY REVIEWS THE STATE OF THE ART OF POWDER METALLURGICAL PRODUCTION OF THE MINISTRY OF INSTRUMENT CONSTRUCTION, AUTOMATION AND CONTROL SYSTEMS. THE LEADING ORGANIZATION OF THE MINISTRY IN THIS AREA IS THE RYAZAN DESIGN PLANNING AND TECHNOLOGICAL INSTITUTE /RPTI/. THE AUTHOR IS HIGHLY CRITICAL OF THE EXISTING PRODUCTION FIGURES, MATERIALS AND PRESSES USED IN THE POWDER METALLURGICAL INDUSTRY. HECLAIMS, FOR EXAMPLE, THAT THE SOVIET IRON POWDER "PZH/M2/ REQUIRES 80 PERCENT HIGHER PRESSURE, AS COMPARED TO THE ITALIAN POWDER "NC-100", IN ORDER TO PRODUCE DEUSE PARTS.

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USSR

GALKIN, M. S., MINAYEV, A. E., POPOVSKIY, V. N.

"Dynamic Aeroelastic Stability of a Flight Vehicle with an Automatic Control System"

4-ya Vses. Konf. po Probl. Ustoychivosti v Stroyit. Mekh., Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability in Structural Mechanics, Theses of Reports -- Collection of Works], Moscow, 1972, pp 151-152, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V415, from the Resume).

Translation: An elastic flight vehicle of arbitrary design is studied in a stream of air when the control organs are deflected by an automatic control system in response to signals from sensing elements. Thus, a closed system is produced, the stability of which is determined by the transfer functions of its parts. The oscillations and stability of the system in a stream of air are described by ordinary second order differential equations in generalized coordinates. The coefficients of these equations form matrices of inertia, rigidity of the structure, aerodynamic rigidity and aerodynamic damping. A set of computer programs is developed, allowing the elements of the initial matrices to be defined for an arbitrary shape of the structure with N = 40 degrees of freedom. Conversion of the equations of free oscillations can be used to produce transfer functions which relate the displacements at points of attachment of sensing

1/2

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elements to deflections of the control organs. The stability of the system is determined by comparing the frequency characteristics of its parts for various levels of input signal. A specific example of investigation of the stability of an aircraft with a short wing is studied. The influence of various parameters is analyzed.

2/2

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