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USSR

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

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USSR

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

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 621.383.292

POTAPOV, A. M., MELAMID, A. YE., IVANOV, A. P.

"Effect of Temperature on the Parameters of the FEU-86 Photomultiplier During Storage"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 181-183

Abstract: The variations in the basic parameters of the FEU-86 photomultiplier during storage were measured. The measurement procedure and results are presented. At a temperature of +50° C the parameters become sharply worse. At a storage temperature of +40° C no sharp variations in the parameters are observed. The sharpest changes in the parameters of the photomultiplier take place in the first 50 to 100 hours of storage, and the greater these variations, the greater the variations will be at the end of the storage period.

Absence of correlations between the variations in noise and anode sensitivity and, primarily, between the light noise and the anode sensitivity seems unlikely inasmuch as the variation in noise must be proportional to the variation in amplification (anode sensitivity). This is explained by the variation in sensitivity of the photocathode during storage and the occurrence of additional noise not connected with the photocathode noise (optical and ion feedback). The first cause is excluded since the variation in photocathode sensitivity after the measurements was no more than 20%. The absence of the

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POTAPOV, A. M., et al., Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 181-183

correlation must be attributed to the occurrence of additional noise. The absence of the correlation does not permit regulation of the anode sensitivity in the automatic gain control systems by the dark or light noise of the photomultiplier.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEW EFFICIENT PHOTOCATHODES FOR THE 900-150 A SPECTRAL REGION -U-

AUTHOR-(02)-MELAMID, A.YE., KHACHATRYAN, ZH.KH.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK ARMIANSKOI SSR, DOKLADY, VOL. 50, NO. 1, 1970, P. 23-37

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ALUMINUM ALLOY, MAGNESIUM ALLOY, SILICON ALLOY, BRONZE ALLOY, BERYLLIUM CONTAINING ALLOY, STRONIUM ALLOY, PHOTOCATHODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1083 STEP NO--UR/0252/70/050/001/0023/0027

CIRC ACCESSION NO--AT0119942

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DETERMINATION OF THE SPECTRAL CHARACTERISTICS OF A GROUP OF SECONDARY EMISSION ALLOYS (AL-MG-SR, AL-MG-SI, BERYLLIUM BRONZE, TUNGSTEN, AND TWO UNSPECIFIED ALLOYS) USED AS THE MATERIAL FOR PHOTOCATHODES IN OPEN TYPE RADIATION DETECTORS. IT IS FOUND THAT THESE MATERIALS CAN BE EFFECTIVELY USED FOR PHOTOCATHODES IN THE MEASUREMENT OF ABSOLUTE EXTRA ATMOSPHERIC RADIATION INTENSITIES AT WAVELENGTHS FROM 900 TO 1500 A. FACILITY: BIURAKANSKAIA ASTROFIZICHESKAIA OBSERVATORIIA, YEREVAN, ARMENIAN SSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--TRANSMISSION BAND OF THE RECORDING CHANNEL DURING DETECTION OF MODULATED SEQUENCE OF LIGHT PULSES -U-

AUTHOR-(03)-KOMAROV, L.I., MELAMID, A.E., PISAREVSKIY, A.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKLAD. SPEKTROSK (USSR), VOL. 12, NO. 4, P. 755-6 (APRIL 1970)

DATE PUBLISHED----APR 70

SUBJECT AREAS--PHYSICS, NAVIGATION

TOPIC TAGS--PHOTON, SIGNAL TO NOISE RATIO, OPTIC DENSITY, LIGHT PULSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1409 STEP NO--UR/0368/70/012/004/0755/0756

CIRC ACCESSION NO--AP0138419

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139419

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WORK CONCERNED THE DETERMINATION OF SPECTRAL DENSITY OF SIGNAL OBTAINED BY STATISTICAL MODULATION OF PULSE SEQUENCES. THESE WERE DERIVED FROM PHOTOMULTIPLE DETECTING WEAK RADIATION, AND THUS OPERATING WITH DISCRETE PHOTON REGIME. THE MATHEMATICAL ANALYSIS PROVIDES AND EQUATION OF OPTICAL DENSITY WHICH ALLOWS A FAMILYOF CURVES TO BE PLOTTED, AND INCLUDES VARIOUS INPUT PARAMETERS CORRESPONDING TO ACTUAL CONDITIONS. THE INTRODUCTION OF NOISE PARAMETER DOES NOT CHANGE THE STRUCTURE OF EXPRESSION FOR THE OPTICAL DENSITY, AND THE METHOD ENSURES DERIVATION OF SIGNAL-NOISE RATIO.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC: 621.373.826

BASHIROV, R. I., GLEBOVA, N. N., MELAMUD, G. B., TISHKOV, P. G.

"Use of a Ring Laser for Measuring Gas Flowrate by Mass"

Tr. Metrol. in-tov SSSR (Works of Metrological Institutes of the USSR), 1972, vyp. 136(196), pp 116-120 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D225 [résumé])

Translation: The paper presents the results of a study of a laser flowmeter based on a laser with rectangular ring cavity. Consideration was given to methods of increasing the sensitivity of the flowmeter, emission conditions, the zone of "frequency clamping" and losses in the cavity, and the effect of vibrations and remote equipment on laser operation. One illustration, bibliography of eight titles.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC: 8.74

BREKHOV, A. M., DAKELIN, A. I., MELAMUD, T. I.

"Automatic Distribution of the External Memory of the Computer Complex of an Automated Control System"

Tr. Leningr. inzh.-ekon. in-ta (Works of Leningrad Engineering Economics Institute), 1972, vyp. 94, pp 26-29 (from RZh-Kibernetika, No 5, May 73, abstract No 5V770 by V. Mikheyev)

Translation: The authors consider a machine algorithm for automatic distribution of the external memory when recording data blocks. In accordance with this algorithm, ordinal numbers are assigned to all data blocks during automatic processing. According to these ordinal numbers, catalog I is compiled which contains the following quantitative characteristic of each block: $\{r; l; m; k; A; a\}$, where r is the ordinal number of the block; l is a data recording tag; m is the number of quanta in the block; k is the length of a quantum; A and a are respectively the number of the magnetic tape and the address on that tape where the block begins;

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

BREKHOV, A. M. et al., Tr. Leningr. inzh.-ekon. in-ta (Works of Leningrad Engineering Economics Institute), 1972, vyp. 94, pp 26-29

$$l = \begin{cases} 0 & \text{if the block is recorded on one section of the external memory;} \\ 1 & \text{if the block is recorded on two sections of the external memory.} \end{cases}$$

When $l=1$ the quantitative characteristic of the second part of the block is contained in catalog II, whose structure is analogous to that of catalog I. The assignment of magnetic tape volumes set aside for solution of a specific problem is contained in catalog III. The cell address in catalog III is the number of the tape-transport mechanism, the length of the tape in this unit characterizing the content of this cell.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 624.132.3-82:627.422(282.255.1)

MELAMUT, D.L., Candidate of Technical Sciences, STEESHENKO, N.R., Engineer

"Hydraulic Mechanization of Bed-Straightening Operations in the Event of a "Deygish" on the Amudar'ya River"

Moscow, Gidrotekhnicheskoye Stroitel-stvo, No 3, 1971, pp 46-50

Abstract: A "deygish" is catastrophic destruction of the shores, characteristic to wandering rivers such the Amudar'ya. The article deals with measures against this phenomenon. The most effective of this is the employment of hydraulic mechanization facilities, as a result of which the stream is directed into a new straightening bed, prepared by earth-moving equipment. Recommendations are given for planning and conducting bed-straightening operations. 6 figures, 4 bibliographic entries.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 681.3.001.019.3

MELANED, I.B.

"Selection of Reliability Indicators for Complex Electromechanical Computer Products"

Nadezhnost' i Kontrol' Kachestva [Reliability and Quality Control -- Collection of Works], Moscow, No. 7, 1970, pp 58-66 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B47 by LSh).

Translation: The author describes a plan for standard specifications "Electromechanical punch-type computer machines, reliability indicators," developed in 1968 by the special design bureau for computers (Vil'nyus) and designed to select and demonstrate reliability indicators for complex electromechanical computer products. The requirements upon which the development of the plan for the standard was based are formulated. Indicators of reliability, repairability, and durability are analyzed. A combined indicator of effectiveness of utilization of the punch-type equipment is introduced. The level of reliability and conditions of reliability testing of punch-type equipment are studied. It is noted that the experience of the analysis performed in selecting and developing a basis for the reliability indicators may be useful in selecting reliability in other areas of technology as well. 2 biblio refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE CHOICE OF RATIONAL CONDITIONS OF TELEGAMMATHERAPY OF MALIGNANT TUMORS OF THE NASOPHARYNX -U-

AUTHOR-(02)-STIOP, L.D., MELBART, I.I.

M

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 6, PP 22-29

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, GAMMA IRRADIATION, RADIATION DOSE, RESPIRATORY SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1511 STEP NO--UR/0241/70/015/006/0022/0029

CIRC ACCESSION NO--AP0126906

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 026

CIRC ACCESSION NO--AP0128906

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS SUMMARIZE THE FIRST EXPERIENCE OF TELEGAMMATHERAPY OF PATIENTS WITH MALIGNANT TUMORS OF THE NASOPHARYNX ON ROKUS AND LUCH APPARATUS. CLINICAL OBSERVATIONS AND DATA OF DOSIMETRIC INVESTIGATIONS GIVE GROUNDS TO RECOMMEND IN RESTRICTED HIGHLY RADIOSENSITIVE TUMORS IRRADIATION IN A DOSE OF 6000-6500 RAD FROM TWO CONTRALATERAL FIELDS; IN A MORE DISTRIBUTED NEOPLASTIC PROCESS OR LESSER RADIOSENSITIVITY OF TUMORS, FOCAL DOSES OF 7000-8000 RAD FROM 3-4 FIELDS, WITH THE DOSE FROM LATERAL FIELDS THREE TIMES GREATER THAN FROM ANTERIOR FIELDS. THERE WAS NOTED A SIGNIFICANT REDUCTION OF THE LOCAL AND GENERAL RADIATION REACTION IN GOOD IMMEDIATE EFFECTIVENESS OF THE TREATMENT IN COMPARISON WITH ROENTGENOTHERAPY. FACILITY: OTDELENIYE DISTANTSIONNOY LUCHEVOY TERAPII, MOSKOVSKOGO NAUCHNO-ISSLEDOVATEL'SKOGO ONKOLOGICHESKOGO INSTITUTA IM. P. A. GERTSEN'A.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UDC 621.315.592

KREVOV, M.A., MALISOVA, Ye.V., MEL'CHENKO, E.N.

"Study of the Behavior of Gold in Gallium Arsenide"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 817-821

Abstract: This article discusses the method of measuring the temperature dependence of the photoconductivity of gallium arsenide doped with gold when growing from a melt to determine the shallow acceptor level $E_v + 0.04$ electron volts which is the hole capture level and is related to the presence of gold in the given material. On the basis of a study of the temperature dependence of the Hall effect in samples doped with copper and gold, the proposition is stated that the given acceptor level arises from the interaction of copper and gold.

The temperature dependencies of the magnitude of the photosignal of gallium arsenide doped with gold and not doped with gold are presented in graphical form for two light intensities J_1 and J_2 ($J_1 > J_2$). On the basis of analysis of the experimental curves, the energy spectrum and type of deficiency levels are determined in the initial gallium arsenide samples and those doped with gold. The activation energy and ratio of the capture cross sections for the levels in the initial gallium arsenide and the doped gallium arsenide are presented in tabular form. The characteristics of samples doped with copper and gold are compared in a table and figure.

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KRIVOV, M.A., et al., Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 817-821

It is concluded that the introduction of gold into the samples of gallium arsenide leads to the occurrence of the $E_v + 0.04$ electron volt level which is observed in doped samples if the 0.02 electron volt level is present in the initial crystals. 2. The given level is the hole capture level in gallium arsenide. 3. Investigation of samples doped with copper and gold suggests that the $E_v + 0.04$ electron volt level is formed as a result of interaction of gold and defects arising from the presence of copper. 4. The presence of gold complicates the formation of the thermal acceptors in gallium arsenide.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 007 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ON THE VOLUME AND POSITION OF THE CALLOWIAN STAGE OF ARCTIC REGION

-U-

AUTHOR--SAKS, V.N., MELEDINA, S.V., MESEZHNIKOV, M.S., SHULGINA, N.I.

COUNTRY OF INFO--USSR, ARCTIC OCEAN

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 1 (121) PP 31-38

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--POLAR AREA, ARCTIC GEOLOGY, GEOLOGIC FORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1310 STEP NO--UR/0210/70/000/001/0031/0038

CIRC ACCESSION NO--AP0103192

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 007

CIRC ACCESSION NO--AP0103192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REASONABILITY OF THE CALLOWIAN STAGE RELATION TO THE UPPER SERIES OF THE YURASSIC IS SHOWN BASED UPON THE ARCTIC REGION DATA. IN THE CALLOWIAN OF THE ARCTIC ZOOGEOGRAPHICAL PROVINCE SOME ZONES ARE DISTINGUISHED: ARCTICOCERAS KOCHI, CADOCERAS ELATMAE (LOWER SUBSTAGE), CADOCERAS MILASCHEVICI (MIDDLE SUBSTAGE), LONGAEVICERAS KEYSERLING (UPPER SUBSTAGE).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/3 028 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--STRUCTURE OF TSIOLKOVSKIY CRATER -U-

AUTHOR-(04)-GORSHKOV, G.S., MELEKESTSEV, I.V., SHTEYNBERG, G.S., ERLIKH, E.N.

M

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, SERIYA GEOLOGICHESKAYA, NO. 2, 1970, PP 13-19

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS, SPACE TECHNOLOGY

TOPIC TAGS--LUNAR CRATER, SPACEBORNE PHOTOGRAPHY/(U)LUNIK 3 LUNAR PROBE, (U)TSIOLKOVSKIY LUNAR CRATER, (U)ARCHIMEDES LUNAR CRATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1020 STEP NO--UR/0011/70/000/002/0013/0019

CIRC ACCESSION NO--AP0112171

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--02OCT70

2/3 028

CIRC ACCESSION NO--AP0112171

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE GIVES INFORMATION ON TSIOLKOVSKIY CRATER, SITUATED ON THE FAR SIDE OF THE MOON. THE STUDY WAS MADE USING PHOTOGRAPHS TAKEN IN FEBRUARY 1967 BY LUNAR ORBITER 3 (PHOTOGRAPHS FURNISHED THE AUTHORS BY THE GODDARD SPACE CENTER). THE CRATER IS ROUND, 230-250 KM IN DIAMETER, SITUATED IN AN EXTENSIVE MOUNTAINOUS REGION. THIS CRATER OR DEPRESSION IS SURROUNDED BY A RING MOUNTAIN SYSTEM 40-70 KM WIDE. A DISTINGUISHING CHARACTERISTIC OF THIS CRATER IS THE ABSENCE OF A SOLID RING WALL SUCH AS AROUND ARCHIMEDES CRATER. THE RING MOUNTAIN SYSTEM SURROUNDING THE CRATER IS SIMILAR TO THAT OF ALPHONSUS CRATER. THE DEGREE OF DESTRUCTION OF THE RING MOUNTAIN SYSTEM IS NONUNIFORM: THE SECTORS ON THE NORTH AND SOUTH ARE MOST DESTROYED. IN CONTRAST TO MOST LARGE CRATERS, THERE ARE NO CRATERLETS OF SIGNIFICANT SIZE IN THE RING MOUNTAIN SYSTEM OF TSIOLKOVSKIY. THE FLOOR OF THIS CRATER HAS A COMPLEX STRUCTURE. THE DETAILED MORPHOLOGY OF THIS FORMATION CANNOT BE EXPLAINED ON THE BASIS OF THE METEORITE HYPOTHESIS. TAKING INTO ACCOUNT THE TECTONIC NATURE OF THE RING MOUNTAIN SYSTEM SURROUNDING THE CRATER, IT CAN BE SAID THAT IT IS MUCH UNLIKE CRATERS OF THE ARCHIMEDES TYPE CHARACTERISTIC FOR "SEA" REGIONS. THE RING MOUNTAIN SYSTEM OF THE LATTER HAS AN ACCUMULATIVE NATURE AND UNDERGOES A TRANSITION INTO THE "SEA" DEPOSITS SURROUNDING THE CRATER. CRATERS OF THE TSIOLKOVSKIY TYPE ARE CUSTOMARY FOR THE "MOUNTAIN" REGIONS. THE DEPOSITS OF THE DIRECTED EXPLOSION, ASSOCIATED WITH THE DEPRESSION, INDICATE A MAJOR ROLE OF THE GAS PHASE SEPARATED AT THE TIME OF THE EXPLOSION FROM THE SILICATE COMPONENT OF MAGMA.

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3/3 028 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112171

ABSTRACT/EXTRACT--UNDER TERRESTRIAL CONDITIONS SUCH DEPOSITS ARE USUALLY ASSOCIATED WITH ACIDIC PYROCLASTIC PRODUCTS (PUMICES, IGNIMBRITES). IT CAN BE ASSUMED BY ANALOGY THAT THE DEPOSITS ASSOCIATED WITH THE EXPLOSIVE PHASE OF ACTIVITY OF TSIOLKOVSKIY CRATER AND OTHER CRATERS OF A SIMILAR TYPE HAVE A SIMILAR COMPOSITION. FACILITY: INSTITUTE OF VOLCANOLOGY SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR.

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USSR

UDC 621.315.592

ANDREYEV, A.A., ALEKSEYEV, V.A., LEBEDEV, E.A., MAMADALIYEV, M., [illegible] REGEL', A.R., RYZHKOV, YU.F. [Institute Of Semiconductors, Academy Of Sciences, USSR, Leningrad]

"Switching Effect In Fluid Semiconductors"

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

Abstract: The switching effect is studied in a number of fluid semiconductors and the voltampere characteristics are shown for fluid Se (410° C), solid and fluid Sb_2S_3 (430 and 570° C) and As_2Se_3 up to softening temperature (470° C) and above (210° C). The circuit for measuring the voltampere characteristics of the switching effect is described. The high stability is emphasized of the switching effect in Se and Sb_2S_3 over a wide range of temperatures. An illustration is presented of relaxation oscillations in fluid selenium with a frequency of 10 MHz at a temperature of 230° C. The results of the observations show that the switching effect is also found in fluid semiconductors. The effect is consistently observed over a wide range of temperatures. The effect is observed for materials with various values of the absolute conductivity from 10^{-9} (Se) to 10^{-4} ohm^{-1} x cm^{-1} (Sb_2S_3). By a combination of the relationships revealed, the switching effect at high temperatures carries a mainly thermal character. This statement,

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

ANDREYEV, A.A., et al, Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 651-666

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

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M

USSR

ALYAKISHEV, S. A., BORISOVSKIY, S. P., MELEKHIN, G. B., OSTAPCHENKO, YE. P.

"Effect of the Discharge Parameters in Ne^{20} on the Magnitude of Laser Beam Absorption"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Engineering. Scientific and Technical Collection. Gas Discharge Devices), 1970, vyp. 1 (17), pp 27-36 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D381)

Translation: The energy absorption of a laser beam in the positive column of glow discharge of Ne^{20} with various discharge parameters is measured for the central frequency of the absorption line $2p_4$-$3s_2$ (λ = 0.6328 microns). The correspondence between the values of the total radiation energy absorption in the discharge gap and the absorption along its axis per unit length of discharge considering the divergence and nature of energy distribution in the transverse cross section of the laser beam and also the nature of distribution of absorption with respect to the radius of the discharge gap is established.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

Acc. Nr: AP0052083 Ref. Code: UR0396

PRIMARY SOURCE: Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, 1970, Vol 14, Nr 1, pp 59-63

THE MECHANISMS OF THE CHANGES OF BLOOD COPPER LEVEL AND OF CERULOPLASMIN ACTIVITY IN INFECTIOUS FEVER

V. D. Melekhin

Dynamics of copper level in whole blood and the activity of ceruloplasmin were studied in experiments on 90 rabbits to which endotoxin, pyrogenal, leukocytic pyrogen were given intravenously and the latter also intracysternally. A conclusion was drawn that hypercupremia and increased ceruloplasmin activity occurring by the end of the first 24 hours in response to pyrogens, was independent of temperature reaction; the author considers that this response was associated with the biological activity of lipopolysaccharide fraction of endotoxins of Gram-negative bacteria. These changes were not mediated through te leukocytic purogen.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

MELEKHIN, V. F.

JPRS 55392
9 MAR 72

UDC 669.094.22:669.296

CHARACTERISTIC FEATURES OF INTERACTION OF ZIRCONIUM DIOXIDE WITH CARBON AT HIGH TEMPERATURES

[Article by Yu. A. Pavlov, A. V. Manukhin, V. F. Melekhin, Moscow Steel and Alloys Institute, Department of High Temperature Materials, Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, Russian, No 5, 1971, submitted 9 February 1971, pp 108-111]

In references [1, 2], a study was made of the interaction of zirconium dioxide with carbon in the temperature range of 2,000-2,600 degrees under different contact conditions between the reagents. It was established that the process of reducing ZrO_2 by carbon black with a component ratio according to equation

$$ZrO_2 + 3C = ZrC + 2CO, \qquad (1)$$

takes place predominantly in the kinetic region. On the other hand, the interaction of ZrO_2 with graphite with the contact arrangement of the pressed samples of graphite oxide and tablets takes place in the kinetic region only during the initial period, and after a defined isothermal delay, diffusion inhibition takes place, and the process is limited by diffusion of carbon through the layer of the carbide phase formed. The formation of the reaction product film on the graphite sample and the presence of the carbide phase on the crucible walls indicates that the process of the interaction takes place on the surface of the reducing agent. This is caused by transfer of the zirconium to the reducing agent probably in the form of ZrO formed during the process of dissociation of ZrO_2 [3, 4]. Accordingly, the particle size of the reducer should play a significant role in changing the limiting stage of the interaction process.

In checking this assumption, experiments were performed with respect to studying the interaction of ZrO_2 with graphite powder the particles of which had appreciably greater size (~1 mm) than in the experiments with a finely dispersed reducing agent [1].

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UNCLASSIFIED

1/2 033 PROCESSING DATE--30OCT70

TITLE--REACTION OF ZIRCONIUM DIOXIDE WITH CARBON -U-

AUTHOR-(04)-PAVLOV, YU.A., MANUKHIN, A.V., MELEKHIN, V.F., YELYUTIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 5-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ZIRCONIUM DIOXIDE, GRAPHITE, HIGH TEMPERATURE HEAT TREATMENT, ZIRCONIUM CARBIDE, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1546 STEP NO--UR/0148/70/013/001/0005/0008

CIRC ACCESSION NO--AP0125172

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UNCLASSIFIED PROCESSING DATE--30OCT70

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CIRC ACCESSION NO--AP0125172

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZRO SUB2 PELLETS, IN CONTACT WITH GRAPHITE PELLETS WERE HEATED AT 2200-600DEGREES AND THE WT. LOSS OF THE ZRO SUB2 WAS DETD. AS A FUNCTION OF TIME AT A CONST. TEMP. FOR 90 MIN. THE WT. LOSS WAS CORRECTED FOR THE LOSS OBSD. WHEN ZRO SUB2 WAS HEATED ALONE. THE CORRECTED WT. LOSS, DELTA P GRAMS, COULD BE EXPRESSED BY DELTA P EQUALS A PLUS BT PRIMECNEHALF WHERE T IS THE TIME IN MIN AND A EQUALS 0.021 (2200DEGREES) TO 0.039 (2600DEGREES) AND B EQUALS 0.09 (2200DEGREES) TO 0.019 (2600DEGREES). THE ACTIVATION ENERGY WAS 60 KCAL-MOLE. A FILM OF ZRC WAS FORMED ON THE OXIDE SURFACE AND THE FILM THICKNESS, H (CM), CAN BE DERIVED AS A FUNCTION OF DELTA P AS WELL AS OF THE DIFFUSION CONST., D,: H EQUALS 0.262 DELTA P EQUALS (2DT) PRIMECNEHALF. D CAN THUS BE EVALUATED FROM A PLOT OF H VS. T PRIMECNEHALF. THE DIFFUSION OF C THROUGH ZRC WAS 2.5 TIMES 10 PRIME NEGATIVE6 CM PRIME2-SEC AT 2200DEGREES AND 1.3 TIMES 10 PRIME NEGATIVE5 CM PRIME2-SEC AT 2600DEGREES, WITH AN ACTIVATION ENERGY OF 60 KCAL-MOLE.

FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

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Graphite

USSR UDC 669.296:669.111.2:539.7:532.692

YELYUTIN, V. P., PAVLOV, YU. A., MANUKHIN, A. V., and MELEKHIN, V. F.
Moscow Institute of Steel and Alloys

"Interaction of Zirconium Dioxide With Carbon"

Moscow, IVUZ. Chernaya Metallurgiya, No 1, 1970, pp 5-8

Translation: The nature of the interaction of zirconium dioxide with graphite in the temperature interval 2200-2600°C, at contact arrangement of the specimens, is considered. Thermogravimetric methods are used to obtain the kinetic curves which characterize the interaction process of oxide with graphite and, separately, the processes taking place on the surface of the oxide specimen in the absence of graphite. Calculations are made of changes of the overall decrease in the mass of oxide and graphite specimens, dependent on the interaction of ZrO_2 with graphite in the contact zone, with the isothermic lag. The dependence of the thickness of the carbide layer on the time lag and the coefficients of carbon diffusion through ZRC at specific temperatures are calculated according to the diminishing mass of specimens. It appears that the interaction takes place due to oxide conversion of the gaseous phase followed by graphite deposition on zirconium monoxide. After the formation of carbide, the process of its interaction with ZRO is limited by carbon diffusion through a layer of ZrC.
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M UDC 548.4

USSR

MINTS, R. I., KORTOV, V. S., MELEKHIN, V. P., KISLITSIN, Ye. A., PLEKHANOVA, E. A., and PESHCHIN, G. F., Ural Polytechnic Institute imeni S. M. Kirov

"Effect of Deformation on Electron Work Function and Exoemission From Surface of Noble Metals"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 7, 1970, pp 37-42

Abstract: The article describes results of a study of regularities in the exoemission effect in the deformation of noble metals (silver, gold, platinum, and palladium). Changes in the electron work function and exoelectronic emission of the metals were studied under various types of deformation (tension, grinding, polishing). The electron work function was studied by measuring the contact potential difference by the dynamic capacitor method. The results indicate that plastic deformation due to surface tension and machining is accompanied by a decrease in the electron work function. This means that there is a

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MINTS, R. I., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 7, 1970, pp 37-42

decline in the potential barrier value and an increase in the probability of electron emission. This effect manifests itself in the appearance of exoelectronic emission, the intensity of which depends on the degree of deformation. Simultaneous measurement of these quantities makes it possible to establish the interrelationship between the changes observed in the surface electric properties and disturbance of the surface structure and the physicochemical processes initiated by deformation.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC: 621.396.6-181.48

BLINOV, I. G., YEL'CHANINOV, Ye. I., KRASANOV, V. G., PANKRATOV, L. M., MELEKHIN, Yu. Ya.

"The UVN-73P-1 Installation for Vacuum Application of Metal Films"

Elektron. promst'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 83-85 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V290)

Translation: The paper presents the basic results of development of an industrial installation for vacuum deposition of metal films. The particulars of design of the principal functional units are considered. Experimental results are given on the operational characteristics of the installation. Resumé.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

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[illegible] 621.396.6-[illegible]

BLINOV, I. G., [illegible], A. [illegible], Yu. Ya., [illegible], [illegible], [illegible], SLADKOV, V. I.

"Cathode Vaporization of Thin Films of Tantalum"

Elektron. prom-st', Nauchno-tekhn. sb. (The Electronics Industry, Scientific and Technical Collection), 1970, No 1, pp 69-70 (from RZh-Radiotekhnika, [illegible], Abstract No 1OV232)

Translation: A brief description is given of the Soviet UV-622-1 device for producing tantalum films. The unit can be used to make films with surface resistance spread of less than 4% in a single batch, and less than 7% from batch to batch. Two illustrations. N. S.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 621.397.332.1

MELEKHOV, G. I.

"A Digital-Analog Device for Shaping Spiral Scanning Voltage"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290434, division H, filed 24 May 69, published 22 Dec 70, pp 156-157

Translation: This Author's Certificate introduces a digital-analog device for shaping spiral scanning voltage. The unit contains a sawtooth voltage generator, a memory register, a switch for selection of direct and inverted codes, and digital-analog converters. As a distinguishing feature of the patent, the accuracy of shaping the scanning voltage is improved by connecting the sawtooth voltage generator to two adders. The voltage from the output of the first digital-analog converter is sent to the second input of one of the adders, and the voltage from the output of the second digital-analog converter is sent to the second input of the other adder. The output voltage of the adders is used as the supply voltage for the first and second digital-analog converters respectively.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR 681.2:621.317.42

BUZINOV, V.S., BELYAKOVA, G.M., [redacted], FILONOV, A.N.

"Standard Units For Checking And Calibration Of Field-Strength Meters With Loop And Dipole Antennas"

Izmeritel'naya tekhnika, No 5, May 1972, pp 55-56

Abstract: This paper discusses P1-4 and P1-5 units of the second class which at present are entering production and are intended for metrological servicing of electromagnetic field-strength meters. The P1-4 operates in the 10 kHz-30 MHz frequency range. The range of the rated values of the magnetic field strength, reproducible by four interchangeable loops antennas, lies within the limits 0.5--0.025 mA/m. The P1-5, which operates in the 30--1000 MHz frequency range, uses a set of dipole antennas tuned to the fixed frequencies 30, 40, 50, 60, 70, 80, 100, 125, 150, 175, 200, 225, 250, 275, 300, 400, 500, 600, 700, 800 and 1000 MHz. The rated values of the electrical field strength, measurable by the dipoles of the standard unit, lie within the limits 0.7--10 v/m (according to the frequency). 2 fig. 2 ref. Received, 19 October 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

Corrosion

UDC: 620.196

USSR

MELEKHOV, P. K., ZLOTNIKOV, S. A., VASILENKO, I. I., and KUSLITSKIY, A. E., Academy of Sciences of the Ukrainian SSR. L'vov Physicomechanical Institute

"The Effect of the Type of Nonmetallic Inclusions on the Sensitivity of 20 Grade Steel to Corrosion Cracking"

Moscow, Zashchita Metallov, Vol 7, No 3,, 1971, pp 327-329

Abstract: The authors study the effect of the type of nonmetallic inclusions (the plastic silicates, alumina, silica, and the nitrides of titanium) on resistance of grade 20 steel to corrosion cracking. Metal with the following composition of elements was used for specimens: 0.19-0.21% C, 0.21-0.23%Si, 0.35-0.36% Mn, 0.1% Cr, 0.16% Ni, 0.011-0.014% S, and 0.010-0.012% P. The metal was produced by programmed contamination in an induction furnace. The corrosion cracking tests were conducted using cylindrical specimens (heat treatment: quenching in oil at 850° with subsequent two hour tempering at 150°) in a boiling 50% NH_4NO_3 solution on the Zst 3/3 testing strength machine. A test base of 50 hr. was used. The relative sensitivity of steel to corrosion cracking in an alkaline medium was also determined. It is shown that in testing specimens in air at a stretching rate in the order of 10^{-3}mm/min., their

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USSR

MELEKHOV, P. K., et al., Zashchita Metallov, Vol 7, No 3, 1971, pp 327-329

plasticity remains the same as tested on standard tensile testing machines. In testing in boiling NH_4NO_3, the inclusion of titanium nitride seems least detrimental. Titanium nitride also seems to have the least harmful effect on the plasticity and strength of steel during testing in an alkaline solution. The type of nonmetallic inclusions notably affect the plasticity and strength of a metal, but not isotropy. The least harmful effect of the nitrides of titanium on the resistance of steel to corrosion cracking can be explained primarily by the fact that the nitrides of titanium are finely divided and that they are relatively uniformly distributed in a die. This results in the reduction of the local concentration of stresses in the metal. The second reason is the insignificant degree of electrochemical heterogeneity of the metal surface. The latter results in an increased incubation period for the development of corrosion cracking. Original article: two tables, two figures, and seven bibliographic entries.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 621.791.052:620.193:669.295

BLASHCHUK, V. YE., Engineer, GUREVICH, S. M., Doctor of Technical Sciences, SHELENKOV, G. M., Engineer, Electric Welding Institute imeni Ye. O. Paton; TKACHENKO, N. N., Candidate of Technical Sciences, VASILENKO, I. I., Candidate of Technical Sciences, LISKEVICH, I. YU., Engineer, ZAFIYOVSKIY, YU. N., Engineer, ISAYEVA, M. M., Engineer, and MELNIKOV, R. K., Engineer, Physico-mechanical Institute of the Academy of Sciences UkrSSR

"The Tendency of AT3 Titanium Alloy Welded Joints to Mechanical Corrosion Failure"

Moscow, Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 39-40

Abstract: A study was made of the tendency of AT3 titanium alloy and its welded joints to breakdown at increased temperature and pressure in a 0.6% solution of H_2SO_4, as applicable to the working conditions of hydrolytic apparatus. Specimens of AT3 alloy were cut from 24-mm-thick hot-rolled sheet. The failure of welded joints took place at stresses exceeding the yield limit of the alloy. The conditional limits of the corrosion-fatigue strength in axial load with symmetric tension and compression of AT3 alloy and its manually welded joints are close. Automatically welded joints show, in comparison with AT3 alloy,
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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

BIASHCHUK, V. YE., et al., Svarochnoye Proizvodstvo, No 1(471), Jun 74, pp 39-40

some decrease in strength at stresses exceeding the conditional limit of corrosion-fatigue strength. The AT3 alloy and its welded joints show practically the same durability at cyclic torsion. AT3 alloy is recommended for the production of welded experimental hydrolytic apparatus. Four figures, one table, eight bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 620.193.37

VASILENKO, I. I., MELEKHOV, R. K., SHULTE, A. Yu. KALINNIKOV, Ye. S.,

Physicomechanical Institute, Academy of Sciences, Ukrainian SSR. L'vov: Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, Moscow

"Increasing the Strength of Steel 17G1S Against Corrosive Cracking by Refining It With Synthetic Slag"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 31-33

Abstract: The tendency of carbon steel toward corrosive cracking is determined to a considerable degree by the quantity and sizes of microstructural defects, which are foci of corrosive mechanical cracks. Therefore the refining of steel by liquid synthetic slag in a crucible, which provides purification from harmful admixtures, nonmetallic inclusions, and an increase in density, should decrease its sensitivity to corrosive cracking. A study was made of the influence of this means of refining upon the stability of low-alloy steel 17G1S against cracking in an alkaline electrolyte and a nitrate electrolyte. One batch of steel was produced by the conventional open-hearth technology, and the other was refined with synthetic slag in a crucible. It

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USSR

VASILENKO, I. I., et al, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 31-33

was established that the refining of low-alloy steel by synthetic slag considerably increases its resistance against corrosive cracking in an alkaline solution and in a nitrate solution. The greater tendency of the steel melted by the conventional open-hearth method to corrosive cracking is caused principally by the presence of a large quantity of considerably large nonmetallic inclusions. 1 figure. 3 tables. 5 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ADSORPTION OF IONS FROM CONCENTRATED CESIUM FLUORIDE SOLUTIONS -U-

AUTHOR-(03)-DAMASKIN, B.B., IVANOV, V.F., MELEKHOVA, N.I.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 385-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, AQUEOUS SOLUTION, SURFACE TENSION, CESIUM COMPOUND, POTASSIUM COMPOUND, FLUORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1138 STEP NO--UR/0364/70/006/003/0385/0388

CIRC ACCESSION NO--AP0121697

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121697

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF IONS AT THE SOLN. HG AND SOLN. AIR INTERFACES FOR CSF SOLNS. WAS INVESTIGATED BY THE DIFFERENTIAL CAPACITY CURVE, ELECTROCAPILLARY CURVES, AND SURFACE TENSION METHODS. MEASUREMENTS WERE MADE IN SOLNS. AT CSF CONCNS. OF 0.01-15.4 M (SATD. SOLN). AT 20 PLUS OR MINUS 1DEGREE AND PH 7.5-8. A GREAT SIMILARITY WAS NOTED BETWEEN THE BEHAVIOR OF CSF SOLNS. AND KF SOLNS. THE DIFFERENCES AND SIMILARITIES IN THE BEHAVIOR OF THESE SALTS ARE DISCUSSED AND EXPLAINED. FACILITY: TUL. POLITEKH. INST., TULA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 621.791.042.4:669.891

MELENEVSKIY, I. P., Engineer, and BAZHENOV, V. V., Candidate of Technical Sciences

"Effect of Minor Additions of Calcium on the Properties of Metal in Welding Steel With Coated Electrodes"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 71, pp 12-14

Abstract: Results are presented of a study of the effect of minor additions of calcium on the properties of the weld metal in the welding of steels. A calcium silicon alloy (GOST 4762-49) was used as the additive, and a CaSi corresponding to 900-1200 holes per Cm^2 mesh was used for the electrodes. A sodium silicate solution served as the bond. The mechanical properties of the weld metal were determined after welding St. 3 steel test plates 16 mm thick. Gas analysis was made by the method of vacuum melting, with preliminary analysis of the diffusion hydrogen by the free-escape method. The weld metal analysis of nonferrous oxide content was done by electrolytic diffusion of samples. The results show that optimal sodium additions to the weld metal during welding have a refining effect, reducing its nonferrous and gas contents.

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USSR UDC 51:330.115

MELENT'YEV, B. V.

"One Plan for Matching Decisions in a System of Statistical Interbranch Models"

Probl. Narodnokhoz. Optimuma [Problems of the National Economic Optimum -- Collection of Works], No 3, Part 1, Novosibirsk, 1970, pp 156-175, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V540).

NO ABSTRACT.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 621.317.743

MELENT'YEV, V. V., RABINOVICH, Yu. I., and SHCHUKIN, G. G.

"Airplane Measurements of Radio Illumination of the Subsurface"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 5 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 5--collection of works) "Nauka," 1972, pp 119-124 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A429)

Translation: Results are given of measurements of the radio intensity temperature of a turbulent sea surface as a function of the sighting angle for horizontal polarization in waves of 0.8, 1.35, 1.6, and 3.2 cm, at various wave heights in the sea and at an airplane altitude of 300 m. The increase in radio intensity temperature with increases in sea-wave height for horizontal polarization is established. Data is also given on airplane measurements of forest and snow cover. It is shown that from measurements of the absolute values of the radio intensity temperature and the polarization characteristics of the subsurface, its structure, temperature, humidity, as well as their distribution in the subsurface layer, can be determined. Four illustrations, bibliography of one.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 551.521.2

MELENT'YEV, V. V. and RABINOVICH, Yu. I.

"Radiation Characteristics of Natural Surfaces in the UHF Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 5 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 5--collection of works) "Nauka," 1972, pp 111-118 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A383)

Translation: The significance of the radiation characteristics of natural surfaces (water, soil, plant cover, etc.) is noted from the point of view of radar investigations of meteorology, geophysics, and astrophysics. Results are given of computations of the dielectric permeability and the radiation coefficient of smooth fresh-water and sea surfaces for various temperature values, salinities, and wavelengths (0.3-8.5 cm) as well as computations of the radio emission of disturbed sea surfaces under actually observed turbulence conditions. Experiments are described for measuring the emission capabilities of various surfaces; data is given for sand, gravel, concrete, grass, etc.; in particular, the effect of foam and films of kerosene and oil on the radiation of water surfaces is given. One illustration, three tables, bibliography of eight.
N. S.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC: 621.373.531(088.8)

MELENT'YEV, Ya. P., IRBITS-VAYVODS, Yu. S., Central Design and Planning and Technological Office of the Main Administration of the Fishing Industry of the Western Basin

"A Two-Channel Self-Excited Pulse Oscillator"

USSR Author's Certificate No 265184, filed 22 Jun 68, published 17 Jun 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12G240 P)

Translation: This Author's Certificate introduces a two-channel self-excited pulse oscillator which contains a series-connected circuit made up of a power supply, charging choke, two thyristors and an output transformer, and also a capacitor with one plate connected between the thyristors and the other connected between the power supply and the output transformer. The device also contains semiconductor diodes and resistors. To increase efficiency and double the output pulse frequency, the primary windings of an additional pulse transformer are connected through resistors and semiconductor diodes in parallel with the anode-cathode junction of each thyristor. One of the secondary windings of this pulse transformer is connected between the controlling electrode of the first thyristor and the anode of the second thyristor, and the other secondary is connected between the controlling electrode and cathode of the second thyristor.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

Acc. Nr: 9T0107995 Abstracting Service: CHEMICAL ABST. 6170 Ref. Code: 4A0020

124749g Isolation of tobermorite-like hydrated silicates on quartz surfaces under conditions close to their stability limit. Lyubimova, T. Yu.; Melentyev, G. G.; Rehbinder, P. A. (Inst. Fiz. Khim., Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970 190(6), 1410-13 [Chem Technol] (Russ). A suspension of $3CaO.SiO_2$ obtained by the sepn. from the solid at the moment of max. concn. with respect to SiO_2, was filtered into hermetically sealed polyethylene vessels, empty or filled with quartz sand, at a solid-liq. ratio 1:4. The concn. [CaO] and [SiO_2] and the ratio $(C/S)_l$ in the liq. phase and the amt., Q, of the new phase and $(C/S)_s$ in the solid phase were detd. at regular periods, τ. At τ = 5-7 hr $(C/S)_s$ increased sharply from the initial 3 to 12-15. Q increased during the 1st 17 hr, i.e. the period of the initial decrease of [CaO] from 3M. At τ = 24 hr [CaO] decreased and [SiO_2] increased slightly, whereas Q and $(C/S)_s$ increased. The min. [CaO] at τ = 24-48 hr corresponded to the min. $(C/S)_s$ of 0.78-0.98. The labile characteristics of hydrated silicates of the tobermorite type in contact with the liq. phase of [CaO] $\leq$ 3-4M was confirmed. Dehydration of silicates, at the decrease of [CaO], occurs on the solid surface before it takes place in the liq. phase. GBJR

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--BILE BYPASSING OPERATIONS IN MECHANICAL JAUNDICE ASSOCIATED WITH ALVEOCIATED WITH ALVEOCOCCOSIS OF THE LIVER -U-

AUTHOR-(03)-DEDERER, YU.M., KRYLOVA, N.P., MELENTYEVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 2, PP 16-20

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BILE, SURGERY, JAUNDICE, LIVER, TUMOR, PARASITIC DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1317 STEP NO--UR/0531/70/000/002/0016/0020

CIRC ACCESSION NO--AP0054201

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054201

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ISSUE SETS FORTH THE RESULTS OF BILE BY PASSING OPERATIONS PERFORMED IN 93 PATIENTS FOR MECHANICAL JAUNDICE ASSOCIATED WITH ALVEOCOCCOSIS OF THE LIVER. FIVE PRINCIPAL TYPES OF OPERATIVE INTERVENTIONS WERE CARRIED OUT, CHOLANGIOHEPATOJEJUNOSTOMY WITH A CLOSE DRAINAGE (IN LOCALIZATION OF THE PARASITIC TUMOR IN THE RIGHT LOBE AND HEPATIC PORTALS, 41 OPERATIONS), CHOLANGIOCHOLECYSTOJEJUNOSTOMY OR CHOLANGIOCHOLECYSTOGASTROSCOPY (IN PARASITIC TUMOR IN THE LEFT LOBE, FIVE OPERATIONS CAVERNOJEJUNOSTOMY AND IN THE PRESENCE OF THE LESION IN THE DISINTEGRATION CAVITY COMMUNICATING WITH A LARGE BILIARY PASSAGE IN PROFILIRATION, IN ALVEOCOCCOCCUS PROLIFERATION NOT ONLY INTO THE RIGHT AND LEFT HEPATIC DUCTS BUT EVEN MINOR BRANCHING, DISSECTION OF THE CONTRAL PART OF THE PARASITIC NODE WITH DRAINAGE AND SUBSEQUENT FISTULOJAJUNOSTOMY. IN COMPRESSION OF MAJOR DUCTS BOUGINAGE AND INTERNAL DRAINAGE WAS DONE DURING THE OPERATION. THE OPERATION ELIMINATED COMPLETELY IN 35 PATIENTS, REDUCED IN 24. 10 PATIENTS WERE DISCHARGED WITHOUT CHANGES AND 23 DIED. THE AVERAGE LIFE SPAN COMPRISED 2-3 YEARS. THE AUTHORS ARRIVED AT THE CONCLUSION THAT SUCH OPERATIONS IN A COMPLEX OF ANTIPARASITIC AGENTS IMPROVE THE STATE OF PATIENTS.

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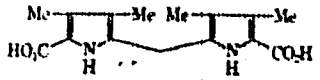
"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

Acc. Nr: AP0101487 — Abstracting Service: — CHEMICAL ABST. 6-79 Ref. Code: 4R0079

121502k Synthesis of metallic complexes of decamethyltetradehydrocorrin. Melent'eva, T. A.; Pekel, N. D.; Berezovskii, V. M. (Vses. Nauchno-issled. Vitam. Inst., USSR). Zh. Obshch. Khim. 1970, 40(1), 165-71 (Russ). Electronic and NMR spectra were reported for perchlorates of Ni and Co complexes of the title substance as well as dicyanides of the Co complex. Treating 20 g 2-carbethoxy-3,4,5-trimethylpyrrole in AcOH with 56 g $Pb(OAc)_4$ 3 hr gave 80% 2-carbethoxy-3,4-dimethyl-5-(acetoxymethyl)pyrrole, m. 98-100°, which refluxed with alc. HCl 1 hr gave 36% bis(3,4-dimethyl-5-carbethoxypyrr-2-yl)methane, m. 196-7°, which, heated 3 hr with NaOH in aq. EtOH, gave 35% in fusible free acid (I). Reaction of HCN with 3,4,5-trimethylpyrrole and hydrolysis gave 63% 2-formyl-3,4,5-trimethylpyrrole, m. 145-6°. This (1.5 g) and 17 g I in MeOH-HBr 20



(I)

min gave 90% 1,2,3,7,8,12,13,17,18,19-decamethyl-ac-biladiene, did not m. <250°, which heated with $Ni(OAc)_2$ and NaOAc in MeOH 5 min gave a chelate Ni complex, which suspended in MeOH contg. $Ni(OAc)_2$ and refluxed with aeration 1 hr gave,

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after addn. of $NaClO_4$, 44% perchlorate of Ni complex of 1,2,3,-7,8,12,13,17,18,19-decamethyltetradehydrocorrin, violet infusible solid. Similar reaction with $Co(OAc)_2$ gave the perchlorate of the Co complex, black solid, which with NaCN in hot EtOH gave dicyanide of the Co complex a gray-green solid.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTIONS OF HYDROXYPHTHALANS WITH ACETYLENIC RADICALS. 3,3,DIPHENYL,1,ARYLETHYNYL,1,HYDROXYPHTHALANS -U-

AUTHOR-(03)-MELENTYEVA, T.G., ANDREYEV, S.A., PAVLOVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 853-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, FREE RADICAL, BENZENE DERIVATIVE, HYDROXYL RADICAL, KETONE, AMINE, ORGANIC NITRO COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2082 STEP NO--UR/0366/70/006/004/0853/0856

CIRC ACCESSION NO--AP0125669

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--30OCT70

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CIRC ACCESSION NO--AP0125669

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ISOMERIZATION OF 3,3,DIPHENYL,1,PHENYLETHYNYL,1,HYDROXYPHTHALAN (I) OR 3,3,DIPHENYL,1,(P,TOLYLETHYNYL),1,HYDROXYPHTHALAN (II) TO PHENYL 3,3,DIPHENYL,1,PHTHALANYLIDENEMETHYL KETONE OR TOLYL 3,3,DIPHENYL,1,PHTHALANYLIDENEMETHYL KETONE IN BOILING ACOH PROCEEDS SLOWER THAN IS THE CASE WITH 3,3,DIMETHYL I OR II ANALOGS. THE FOLLOWING REACTIONS ARE SIMILAR IN BOTH SERIES. THE REACTION OF I OR II WITH 3,METHYL,1,PHENYL,2,PYRAZOLIN,5,ONE GAVE BETA,(3,3,DIPHENYL,1,PHTHALANYLIDENE),ALPHA,(3,METHYL,1, PHENYL,2,PYRAZOLIN,5,ON,4,YLIDENE)ETHYLBENZENE OR P,(BETA,(3,3,DIPHENYL,1,PHTHALANYLIDENE), ALPHA,(3,METHYL,1,PHENYL,2,PYRAZOLIN,5,ON,4,YLIDENE)ETHYL) TOLUENE. THE REACTION OF I WITH 2,4,(O SUB2 N) SUB2 C SUB6 H SUB3 NHNH SUB2 GAVE 2,PH SUB2 (OH), CC SUB6 H SUB4 C(C TRIPLE BOND CR):NNHC SUB6 H SUB3 (NO SUB2) SUB2,2,4 (R EQUALS PH OR P,MEC SUB3 H SUB4. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

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USSR UDC 613.32:661.727

MELESHCHENKO K. F., Candidate of Medical Sciences, Kiev Scientific Research Institute of General and Communal Hygiene imeni A. N. Marneyev

"Sanitary Hygienic Characteristics of Methyl Pyrrolidone as a Pollutant of Bodies of Water"

Moscow, Gigiyena i Sanitariya, No 6, 1970, pp 84-85

Abstract: Methyl pyrrolidone is used to isolate acetylene from gaseous mixtures employed in the manufacture of synthetic rubber, synthetic fibers, and plastics. It has no effect on the color or transparency of water up to a concentration of 1,000 mg/liter. Its threshold concentration before affecting taste and odor is 40 to 43 mg/liter. At high concentrations (4 to 50 mg/liter) it intensifies the biochemical oxygen demand, thus affecting the quality of water. Toxicity experiments on rats and rabbits showed methyl pyrrolidone to be innocuous at doses below 2.5 mg/kg. At this dose it produced significant shifts in blood morphology and gylcogen content of the liver and adversely affected conditioned reflexes.

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USSR UDC [537.226+537.311.33]:[537+535]

GAVRILOVA, N. D., MELESHINA, V. A., NOVIK, V. K., KOPTSIK, V. A.

"Peculiarities in the Behavior of Pyroelectric Coefficients of Triglycine Sulfate (TGS) Crystals With Varying Domain Structure in the Region of the Phase Transition Point"

Elektron. tekhnika. Nauch.-tekhn. sb. Materialy (Electronic Engineering: Collection of Scientific and Technical Works on Materials), 1970, vyp. 8, pp 15-18 (from RZh-Fizika, No 10, Oct 71, Abstract No 10YE613 from summary)

Translation: The article presents results of experimental research on the pyroelectric coefficients of TGS crystals for naturally unipolar specimens with varying domain structure and bias fields.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THERMAL AND ELECTRICAL PROPERTIES OF A TRIGLYCINE SULFATE SINGLE CRYSTAL -U-

AUTHOR-(03)-TARASKIN, S.A., STRUKOV, B.A., MELESHINA, V.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1386-92

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ELECTRIC PROPERTY, TRIGLYCINE SULFATE, SINGLE CRYSTAL, ELECTRIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0925 STEP NO--UR/0181/70/012/005/1386/1392

CIRC ACCESSION NO--AP0134654

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134654

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN OF THE MEASUREMENTS OF SP. HEAT AND DIELEC. CONST. OF SINGLE CRYSTAL TRIGLYCINE SULFATE IN THE REGION OF THE FERROELEC. PHASE TRANSITION (46.6-49.2DEGREES) IN THE CONTROL OF ITS DOMAIN STRUCTURE. THE EFFECT WAS CONSIDERED OF AN ELEC. FIELD ON SP. HEAT OF THE CRYSTALS IN THE SAME TEMP. INTERVAL. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 678.675.046.32.011537

KHIMCHENKO, YU. I., MELESHEVICH, A. P., KOMPANIYETS, V. A., and RADKEVICH, L. S.

"Effect of γ-Radiation on the Electric Properties of Metal Polymers Based on Polycaproamide"

Moscow, Plasticheskiye Massy, No 5, 1973, pp 27-29

Abstract: A study was made of the results of investigating the effect of γ-radiation on the electric properties of polycaproamide filled with highly dispersed metals. The electrical conductivity of the metal polymers depends essentially on the radiation dosage. The greatest increase in electrical conductivity is observed for polycaproamide filled with copper or nickel; the electrical conductivity of polycaproamide with iron or cobalt depends on the radiation dosage to a lesser degree. The variations in electrical conductivity are caused by the difference in supramolecular structures of the polymer in contact with different metals. By variation of the electrical conductivity in combination with ionizing radiation, it is possible to estimate the uniformity of the structure of the polymer compounds with electrically conducting fillers.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 621.316.722.1

MELESHKEVICH, M. F., and PETROVSKIY, I. I.

"Voltage Regulation With the Aid of Germanium Diodes With Negative Resistance"

Vestn. Belorus. un-ta (Bulletin of Belorussian University), 1970, Series I, No 3, pp 86-90 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B494)

Translation: The possibility is considered of voltage regulation with the aid of semiconductor diodes with negative resistance, and the conditions necessary for this. The results are described of an experimental test of the operation of a regulator using germanium semiconductor diodes, for voltage with both constant and periodically changing polarity. Conclusions are made concerning the possibility of their practical use. 3 ill. 1 tab. 3 ref. Author's Abstract.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 620.193.01:669.29

TSODIKOV, V. V., DANILKIN, V. A., YAKIMENKO, L. M., MALKINA, R. I., and MELESHKINA, YE. P.

"Hydrogenation of Titanium and Platinized Titanium With Cathode Polarization in an Alkaline Medium"

Moscow, Zashchita Metallov, No 4, 1972, pp 446-448.

Abstract: The authors studied the influence of platinum, galvanically deposited on the surface of titanium, the duration of cathode polarization, current density, the presence of potassium bichromate in the solution on the quantity of hydrogen absorbed during cathode polarization. The electrolyte consisted of potassium carbonate and potassium hydroxide. The results indicated that hydrogenation of platinized titanium increases with time according to a parabolic curve. The influence of the platinum layer decreases with the passage of time. The presence of bichromate in the solution decreased the hydrogenation of titanium, with and without the platinum layer. The bichromate probably reacts with the hydrogen on the surface of the electrode, without separation of chromium. When platinized titanium is stored in air, or particularly in the carbonate-alkaline solution being studied, hydrogen content drops rather sharply with the current off.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

MELESHKO, G. I.

JPRS 56080
18 May 72

UDC 582.[illegible]-111.5:546.262-31

DYNAMICS OF THE CONTENT OF CARBON MONOXIDE IN AN ATMOSPHERE REGENERATED BY CHLORELLA

[Article by A. I. [illegible], G. I. Meleshko and Yu. V. Pepelyayev; Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 6, No 2, March-April 1972, pp 13-16, submitted for publication 26 July 1971]

Abstract: This paper presents experimental results indicating that carbon monoxide can be accumulated in the enclosed environment of a Chlorella reactor in a "man-Chlorella" system and remain at a relatively constant level. The stabilized level of the carbon monoxide content in an enclosed atmosphere may vary. It is likely to be associated with the photosynthetic activity of Chlorella cells, which as was shown previously, may absorb carbon monoxide from the atmosphere.

It is well known that carbon monoxide is formed in the process of vital functions in animals and man. Carbon monoxide is released primarily in exhaled air. In man the concentration of carbon monoxide in the exhaled air, according to data from different authors, attains 0.0028-0.011 mg/liter (Sjöstrand; P. I. Bogatkov, et al.; V. V. Kustov). The rate of its release, according to investigations made by Coburn, et al., is 0.42±0.07 ml/hour.

The endogenous formation and release of carbon monoxide into the atmosphere has also been noted for plants (Langdon; B. Rogg and G. Rogg), including unicellular algae (Wilks; Gafford and Craft; Myers; Bates; Biget). Cultivation of unicellular algae in a closed air volume results in the atmospheric accumulation of carbon monoxide in a concentration from 0.003% (Bates) to 0.08% Gafford and Craft). According to our data (M. M. Korotayev, et al.), the carbon monoxide concentration in the air in an algae cultivator was 0.003-0.09 mg/liter and was inversely proportional to the intensity of the photosynthesis process in algae cells.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

JPRS 55287
12 Apr 1972

UDC 582.264.65-113-053

AGE CHARACTERISTICS OF ABSORPTION OF MINERAL SUBSTANCES FROM A NUTRIENT MEDIUM BY CHLORELLA CELLS

[Article by Ye. K. Lebedeva, A. A. Antonyan, T. B. Gelkina and [redacted], Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 6, No 1, pp 15-17, 1972, submitted for publication 13 April 1971]

Abstract: Age peculiarities of mineral metabolism of Chlorella SpK cells were investigated during intensive cultivation. The results confirm the fact that the age structure of the Chlorella population and nitrogen and phosphorus removal from the medium are correlated. The correlation also finds support in data concerning the fractionation of nitrogen and phosphorus compounds in cells. This is mainly related to the protein form of nitrogen and the acid-soluble fraction of organic phosphate actively involved in the intracellular metabolism. These findings concerning cell requirements varying with respect to the age structure of the Chlorella population should be taken into account when cultivating an intensive Chlorella culture and determining the quantity of minerals to be added.

The method of prolonged continuous cultivation of Chlorella is based on a systematic replenishment of the loss of mineral elements absorbed by the cells in a nutrient medium and transported mechanically with the growing biomass. Such a study is based on a transfer value experimentally established for a heterogeneous population which varies about its mean value. These mean data are used in preparing a single correcting solution which under stable cultivation conditions ensures the limits of variations in the concentrations of mineral nutrient elements in the medium necessary for normal growth. However, in the course of an experiment one can observe deviations in the cell consumption of mineral elements from the nutrient medium from the established mean values. One of the direct causes of these deviations may be a partial synchronization (a change in the relationship of cells of different physiological age in the population), which is an inevitable result of impairment in cultivation conditions if they exert even an insignificant selective effect on any age stage in the cells.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

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UDC 582.263.095.4

USSR

PIMENOVA, M. N., MAKSIMOVA, I. V., MELESHKO, G. I., and LEBEDEVA, Ye. K., Chair of Microbiology, Soil Biology Faculty, Moscow State University imeni M. V. Lomonosov

"Dynamics of Quantitative Changes in Extracellular Organic Substances During Prolonged Cultivation of Chlorella sp. K"

Moscow, Mikrobiologiya, Vol 39, No 2, Mar/Apr 70, pp 274-279

Abstract: Cultivation of Chlorella sp. K in a rotary fermentation apparatus with direct return of the medium was accompanied by accumulation in the medium of organic substances constituting extracellular products of algae metabolism. During 38 days of cultivation, the content of organic substances in the medium increased from 333.3 to 1465.3 mg/l. The substances consisted of polysaccharides, N-containing compounds, keto acids, and volatile organic acids. During the 38 days of cultivation, the content of carbohydrates in the medium was approximately 50% organic substances, varying from 26 to 42% with approximately 50% N-containing compounds, varying between 21.9 and 63.4% and passing through a major maximum (63.4%) on the 30th day; about the same amount of keto acids (1.3%); and 0.3-7.1% of volatile acids. Maxima in the content of N-containing substances and of

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

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PIMENOVA, M. N., et al, Mikrobiologiya, Vol 38, No 2, Mar/Apr 70, pp 274-279

volatile acids coincided with maxima in Chlorella reproduction, while decreases in the content of these substances were accompanied by intensive propagation of bacteria. An equilibrium was established between the vital processes of Chlorella and those of the accompanying microflora, which utilized products of Chlorella metabolism (amino acids and volatile organic acids), thus preventing an increase in the amount of these products to a level at which they would have interfered with the propagation of Chlorella.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THE DYNAMICS OF QUANTITATIVE CHANGES IN INTRACELLULAR ORGANIC SUBSTANCES DURING LONG TERM GROWTH OF CHLORELLA SP. K. -U-

AUTHOR-(04)-PIMENOVA, M.N., MAKSIMOVA, I.V., MELESHKO, G.I., LEBEDEVA, YE.K.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 274-279

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHLORELLA, CULTURE MEDIUM, SACCHARIDE, NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1410 STEP NO--UR/0220/70/039/002/0274/0279

CIRC ACCESSION NO--AP0054273

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054273

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LONG TERM CULTIVATION OF CHLORELLA SP. K IN THE FERMENTER OF A ROTATION TYPE WITH A DIRECT RETURN OF THE MEDIUM WAS ACCOMPANIED BY THE ACCUMULATION OF INTRACELLULAR ORGANIC SUBSTANCES. ENRICHMENT OF THE MEDIUM WITH METABOLIC PRODUCTS OF THE ALGAE WAS THE MOST INTENSIVE DURING THE FIRST TWO WEEKS OF THE EXPERIMENT. POLYSACCHARIDES AND NITROGEN COMPOUNDS PREVAILED AMONG SUBSTANCES ACCUMULATED IN THE MEDIUM. ORGANIC ACIDS WERE NOT ACCUMULATED IN THE MEDIUM UNDER THESE CONDITIONS OF GROWTH, SINCE THEY WERE THE SUBSTRATE FOR GROWTH OF THE ACCOMPANYING MICROFLORA.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC: 51

MELESHKO, V. I., PESINA, R. I.

"Optimum Synthesis of Complex Systems by Methods of Adaptive Optimization in the Presence of Limitations of Strict Classification"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Devices and Systems of Automation. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 26, pp 15-25 (from RZh--Kibernetika, No 7, Jul 73, abstract No 7V509 by the authors)

Translation: Methods are considered for solving optimization problems for a conditional extremum in the presence of limitations, including limitations of strict classification. The extremum is sought by a modified method of conjugate gradients. This method has a quadratic rate of convergence. For reduction to an unconditional extremum use is made of a combination of the methods of penalty functions and minimization in the space of least dimensionality with exit to the boundary of the region of search. It is proved that the proposed method converges to a local extremum for functionals bounded from below when their derivative satisfies the Lipschitz condition. A model is presented for inventory control

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

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MELESHKO, V. I., PESINA, R. I., Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb., 1973, vyp. 26, pp 15-25

with grouped deliveries and a limited deficit.

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USSR

UDC: 519.2

MELESHKO, V. I.

"Determining the Essential Parameters of Probabilistic Systems by Using Extremum Grouping in the Class of Nonlinear Transformations"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Systems and Devices. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 26, pp 25-32 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V234 by the author)

Translation: The paper deals with the further development of the theory of distinguishing essential factors on the basis of extremum grouping of parameters. Algorithms are presented for extremum grouping in the class of nonlinear transformations. These algorithms are extended to the set of random quantities and random processes. It is proposed that the Lagrange method of multipliers be used for solving the optimization problems with limitations which arise in extremum grouping. The search for extrema is done by a modified method of conjugate gradients. This approach to distinguishing essential factors enables extremum grouping in both the class of linear transformations and the class of nonlinear transformations.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--RAISING THE ACCURACY OF AN EXPERIMENTAL DETERMINATION OF CONTACT FORCES IN THE CENTRE OF DEFORMATION: AND THEORY OF THE MATHEMATICAL

AUTHOR-(04)-CHERMAREV, A.P., CHERNYAVSKY, A.A., MELESHKO, V.I., KILIYEVICH, A.F.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., CHERNAYA MET., 1970(2), 91-96

DATE PUBLISHED--------70

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

TOPIC TAGS--METALLURGIC RESEARCH FACILITY, ACCURACY STANDARD, METAL ROLLING, METAL DEFORMATION, MATHEMATIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0561 STEP NO--UR/0148/70/000/002/0091/0096

CIRC ACCESSION NO--AP0124256

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124256

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CF. IBID., 1969, (12), 83; ENG. A., 7007-52 0432. THE QUESTION OF THE MATHEMATICAL ANALYSIS OF EXPERIMENTAL DATA RELATING TO CONTACT FORCES ARISING IN THE ROLLING OF METALS, REPRODUCED ELECTRONICALLY IN THE FORM OF A SERIES OF OSCILLOGRAMS, IS CONSIDERED WITH SPECIAL REF. TO THE PROBLEM OF CORRECTING THE END EFFECT OF THESE OSCILLOGRAMS SO AS TO INCREASE THE ACCURACY OF THE EXPERIMENTAL DETERMINATION OF CONTACT FORCES. IN TYPICAL EXISTING EXPERIMENTAL METHODS, THE ACCURACY WITH WHICH THE POSITION OF THE NEUTRAL SECTION MAY BE DETERMINED IS SIMILAR TO 3PERCENT.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

Ion Exchange Phenomena

UDC 541.183.24:661.183.123

USSR

MELESHKO, V. P., SHAPOSHNIK, V. A., and PESTUCHKO, N. N., Voronezh Technological Institute

"Kinetics of Electrochemical Regeneration of Highly Ionized Anion Exchange Resin AV-17"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 8, Aug 73, pp 2153-2154

Abstract: The aim of the study was to evaluate the possibility of application of the equation $a=1-e^{-k}$ to the study of the kinetics of the process of electrochemical regeneration of the anion exchange resin AV-17. It was established that the rate of determining the stage of electrochemical regeneration is the removal of the regeneration products from the ion exchange granules into the solution.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

UDC 541.13

ALYMOVA, A. T., MELESHKO, V. P., and SHATALOV, A. Ya.

"Problem of the Concentration Dependence of the Electrical Conductivity of Ion-Exchange Resins"

Moscow, Doklady Akademii Nauk SSR, Vol 196, No 4, 1971, pp 840-843

Abstract: The problem of quantitative calculation of the concentration dependence of the electrical conductivity of ion exchange resins is considered analytically and experimentally in this paper. An equation for this relation is obtained in the form

$$\bar{\chi}(C) = \bar{\chi}(\infty)C^{\alpha},$$

or

$$\chi(C) = \bar{\chi}(\infty) \exp(-\beta/C).$$

where the constants α and β can be found graphically by data obtained from measuring the electrical conductivity of the given ion-exchange resin. Measurements were performed using cation-exchange resins KU-2 and KU-2P and anion-exchange resins AV-17 and AV-17p with varying contents of crosslink-forming DVB and various acids and bases. The checks were made for a limited concentration range of the external solution from 0.01 N to 0.5 N. A table of

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USSR

ALYMOVA, A. T., et al, Doklady Akademii Nauk SSR, Vol 196, No 4, 1971, pp 840-843

values of the constant (C) is presented for the mentioned cation-exchange and anion-exchange resins and Zerolite. The mechanism of variation of the electrical conductivity is discussed.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 541.183.24

MELESHKO, V. P., SHAPOSHNIK, V. A., ISAYEV, N. I., and PISKUSHKO, N. N.
Voronezh Technological Institute

"Kinetics of Electrochemical Regeneration of Ion Exchange Resins"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 1, Jan 71, p 196

Abstract: Electrochemical regeneration of ion exchange resins is based on removal of the absorbed ions by the action of electric potential gradient applied to it, and replacement of these ions by hydrogen or hydroxyl ions formed by electrode reactions. With high values of the applied potential gradient, the kinetics of the process is determined by the rate of removal of adsorbed ions from the resin. A simplified formula is proposed for calculation of the degree of regeneration:

$$Q = 1-e^{-k\tau},$$

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 543.13.541.183

MELESHKO, V. P., ZOLOTAREVA, R. I., PESTUSHKO, N. N., and ISAYEV, N. I.,
Voronezh Technological Institute

"The Question of the Sources of Regenerating Ions During Electrochemical Regeneration of Ion Exchange Resins"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 5, May 72, pp 1188-1190

Abstract: It has been shown that the ion exchange resins may be regenerated with hydrogen or hydroxyl ions forming on the interphases: ion exchange membrane -- solution, or ion exchange resin -- solution in the process of their polarization with current densities exceeding the treshold level. Maximal effect is achieved when the regeneration is a result of a combined action of two sources of regenerating ions: the electrode reaction and the process on the bipolar border or on the border between the membrane and solution. The degree of the regeneration of ion exchange resin alters down the electric field line of forces, increasing from the anode to cathode for the anion exchange resin and decreasing for the cation exchange resin regardless of the source of regenerating ions.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REACTIONS OF EPOXY COMPOUNDS OCCURRING AS A RESULT OF RADICAL MECHANISM -U-

AUTHOR--MELESHVICH, A.P.

COUNTRY OF INFO--USSR

SOURCE--USP. KHIM. 1970, 39(3), 444-70

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EPOXY COMPOUND, PYROLYSIS, FREE RADICAL, PHOTOCHEMISTRY, RADIATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0075 STEP NO--UR/0074/70/039/003/0444/0470

CIRC ACCESSION NO--AP0125910

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125910

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 134 REFS. THROUGH PART OF 1969, COVERING FORMATION OF RADICALS IN PYROLYSIS OF EPOXY COMPOS., RADICAL REACTIONS OF EPOXY COMPOS. INITIATED BY PEROXIDES, PHOTOCHEM. REACTIONS OF EPOXIDES AND THOSE INDUCED BY HIGH-ENERGY RADIATION. FACILITY: INST. FIZ. KHIM., KIEV, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

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USSR

UDC 537.311.33:546.19'681

KRIVOV, M.A., BRUDNYY, V.N., MALYANOV, S.V., MELEV, V.G., RAKAZANOV, P.YE., RED'KO, V.P.

"Effect Of Electron (1.5 Mev) And Proton (5 Mev) Irradiation On Electrical, Optical, And Photoelectric Characteristics Of Gallium Arsenide"

V sb. Radiats. fiz.nemet. kristallov (Radiation Physics Of Nonmetallic Crystals-Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 16-21 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10349)

Translation: The paper studies the spectra of radiation defects created by electrons (1.5 Mev) and protons (5 Mev) at temperatures close to 300° K, their resistance to annealing, and also the effect of Cu impurity on the spectra of the levels originating after irradiation. GaAs of n- and p-type was used with carrier concentrations of $5 \cdot 10^{15}$ -- 10^{18} cm^{-3}. The mobilities for n- and p-type specimens at a temperature of 300° K were 2200--4500 cm^2v^{-1} and 140-330 $cm^2v^{-1}sec^{-1}$, respectively. The GaAs was doped with Te and Zn and part of the material was specially not doped. 3 ill. 7 ref. I.V.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 669.18:669.046.5

MELEZHIK, V. D., PETRICHENKO, A. G., KHITRIK, S. I., LYSENKO, I. V., and POLYANSKIY, V. I.

"Investigation of Ferrosilicon From Kaolins for Deoxidation of Pipe Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 15-16

Abstract: Data are given on the use of ferrosilicon from kaolin for the deoxidation of low-carbon pipe steels. The procedure for the production of ferrosilicon from secondary kaolins from the Cherkassk region of the Ukrainian SSR, and experimental meltings in 300-ton-capacity Martin furnaces using ferrosilicon for preliminary deoxidation reduce the expenditure of carbon ferromanganese and 45% ferrosilicon, thus reducing the cost of melting steel. In spite of the high phosphorus content in kaolin ferrosilicon (03%), its use does not increase the phosphorus content in the metal. Steel deoxidation by kaolin ferrosilicon does not involve additional contamination by nonmetallic impurities.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE EFFECT OF COLD TREATMENT ON THE AXIAL RIGIDITY OF RADIAL THRUST BALL BEARINGS -U-

AUTHOR-(03)-BARANOV, I.A., GOLOSOV, L.V., MELGUNOV, N.P.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY. PRIBOROSTROYENIYE, NO 2, 1970, PP 119-121

DATE PUBLISHED-------70

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

TOPIC TAGS--BALL BEARING, CRYOGENIC EFFECT, COLD EXPOSURE, METAL HEAT TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1678 STEP NO--UR/0146/70/000/002/0119/0121

CIRC ACCESSION NO--AT0123502

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

2/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0123502

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT A CHANGE TAKES PLACE IN THE AXIAL RIGIDITY OF RADIAL THRUST BALL BEARINGS AS THE RESULT OF COLD TREATMENT. FACILITY: MOSCOW AVIATION TECHNOLOGICAL INSTITUTE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 550.42+546.791

MEL'GUNOV, S. V., and VARVARINA, Ye. K.

"Use of Neutron-Fragment Radiography for the Study of Distribution of Uranium in Certain Metamorphic Formations"

Novosibirsk, Geologiya i Geofizika, No 10, Oct 70, pp 38-44

Abstract: The neutron-fragment radiography method briefly described in this article is used to determine the nature of the distribution and the form of uranium in ore and rock-forming minerals. Most of the uranium in the outer portions of pegmatoid units is concentrated in ilmenites, accessory minerals, and biotite, forming branches and fringes around the units. The track densities in ilmenites of variable composition depend on the content of the ilmenite component in the structures resulting from decomposition of the solid solution, and indicates a direct correlation between the contents of uranium and titanium. The nature of the distribution of the tracks indicates isomorphic inclusion of uranium in the crystalline lattice of the ore

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 550.42+546.791

MEL'GUNOV, S. V., and VARVARINA, Ye. K., Geologiya i Geofizika, No 10, Oct 70, pp 38-44

and accessory minerals. In case of rutilization, the uranium contained in the ilmenites is redistributed. The method of neutron-fragment radiography in combination with luminescent-pearl analysis indicates the general direction of migration of uranium during formation of pegmatoid units.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

KREYN, M. G., and MELIK-ADAMYAN, F. E., Odessa Construction Engineering Institute, Yerevan State University

"Some Applications of the Unitary Matrix Factorization Theorem"

Moscow, Funktsional'nyy Analiz i Yego Prilozheniya, Vol 4, No 4, Oct-Dec 70, pp 73-75

Abstract: Let the matrix function $\Gamma_0 \in L_1^{(n\times n)}(0,\infty)$ be given. It generates the completely continuous operator Γ_0 in each of the spaces $L_p^{(n\times 1)}(0,\alpha)\ (p \geqslant 1)$ according to the formula

$$(\Gamma_0 f)(t) = \int_0^\infty \Gamma_0(t+s) f(s)\, ds \quad (f \in L_p^{(n\times 1)}(0,\infty)).$$

A previous article by the authors proved that if and only if

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KREYN, M. G., and MELIK-ADAMYAN, F. E., Funktsional'nyy Analiz i Yego Prilozheniya, Vol 4, No 4, Oct-Dec 70, pp 73-75

$\|\Gamma_0\|_1 < 1$, (for $\Gamma_0(t)$ there exists a unique continuation $\Gamma \in L_1^{(n\times n)}(-\infty,\infty)$ $(\Gamma(t) = \Gamma_0(t)$, given $t \geqslant 0)$, such that the matrix function

$$S_\Gamma(\lambda) = I_n + \int_{-\infty}^{\infty} \Gamma(t)\, e^{-i\lambda t} dt \qquad (-\infty < \lambda < \infty)$$

is unitary and admits factorization with zero partial indices. If the matrix Γ_0 is replaced by $\Gamma_0 \mathcal{B}^*$, where $\mathcal{B}$ is an arbitrary constant unitary matrix $(\mathcal{B}^*\mathcal{B} = I_n)$, this leads

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

KREYN, M. G., and MELIK-ADAMYAN, F. E., Funktsional'nyy Analiz i Yego Prilozheniya, Vol 4, No 4, Oct-Dec 70, pp 73-75

to a certain unitary matrix function which, on being multiplied on the right by $\mathcal{S}$, is designated as $S_{\mathcal{S}}(\lambda)$. For this matrix, given any real λ, we shall have

$$S_{\mathcal{S}}(\lambda) = (P_-(\lambda)\mathcal{S} + Q_-(\lambda))(Q_+(\lambda)\mathcal{S} + P_+(\lambda))^{-1} = \mathcal{S} + \int_{-\infty}^{\infty} \Gamma_{\mathcal{S}}(t)\, e^{-i\lambda t}\, dt.$$

The following theorem is formulated: Let $\Gamma_0 \in L_1^{(n\times n)}(0,\infty)$ and $\|\Gamma_0\|_1 < 1$. Then the formula

$$\Phi(\lambda) + \mathcal{F}_-(\Gamma_0;\lambda) = (P_-(\lambda)\mathcal{S}(\lambda) + Q_-(\lambda))(Q_+(\lambda)\mathcal{S}(\lambda) + P_+(\lambda))^{-1}.$$

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR

KREYN, M. G., and MELIK-ADAMYAN, F. E., Funktsional'nyy Analiz i Yego Prilozheniya, Vol 4, No 4, Oct-Dec 70, pp 73-75

where $\mathcal{S} \in B^{(n\times n)}$, gives a description of all functions $\Phi \in H_\infty^{(n\times n)}$ such that for boundary values of Φ on a real axis the inequality

$$|\Phi(\lambda) + \mathcal{F}_-(\Gamma_0; \lambda)| \leqslant 1, \quad (-\infty < \lambda < \infty),$$

is satisfied almost everywhere.

The article also considers a canonical differential equation of the form

$$J\, dY/dr = \lambda Y + V(r) Y \quad (0 \leqslant r < \infty),$$

where V(r) is a Hermitian (2n X 2n)-matrix function.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--11DEC70

1/2 011

TITLE--DETERMINATION OF THE THREE DIMENSIONAL STRUCTURE OF A PEPSIN MOLECULE AT 5.5 A. RESOLUTION -U-

AUTHOR-(05)-ANDREYEVA, N.S., BORISOV, V.V., GOVORUN, N.N., MELIKADAMYAN, V.R., RAYZ, V.SH.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 216-19

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEPSIN, MOLECULE, CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/F02 STEP NO--UR/0020/70/192/001/0216/0219

CIRC ACCESSION NO--AT0139815

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UNCLASSIFIED PROCESSING DATE--11DEC70

2/2 011

CIRC ACCESSION NO--AT0139815

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMN. OF A MONOCLINIC FORM OF PEPSIN CRYSTALS PREPD. AT PH 2 (MAX. ACTIVITY OF THE ENZYME IS AT THIS PH) SHOWED THAT THE UNIT CELL OF THE ENZYME HAD PARAMETERS OF: A EQUALS 54.7ANGSTROM, B EQUALS 36.3ANGSTROM, C EQUALS 73.5ANGSTROM, AND BETA EQUALS 104DEGREES; THE UNIT CELL CONTAINS 2 MOLS. OF THE PROTEIN. ISOMORPHOUS DERIVS. WERE MADE BY ION DIFFUSION OF HG(SUB3, HGBR SUB3, PT(C SUB2 O SUB4) SUB2 PRIME2 NEGATIVE, PTCL SUB4 PRIME2 NEGATIVE, AND PT(NO SUB2) SUB4 PRIME2 NEGATIVE. THE INTRODUCTION OF THESE HEAVY ATOMS WAS FOLLOWED BY DIFFRACTION ANAL. THE ENZYME CONTAINS DISTINCT ALTERNATING, FLAT LAYERS WITHOUT INTERNAL VOIDS BUT WITH A VERY COMPLEX RELIEF SURFACE. FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UDC: 621.398.1:622

USSR

MELIK-ASKAROV, A. G., SHOYKHET, L. A., Doctor of Technical Sciences

"Combined Telemechanics Device for Mine Control"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 4, 1970, pp 55-58

Abstract: The Institute of Automation (Kiev) has developed a combined telemechanics device designed for operation under mine conditions. The device can operate in combination with a control computer and performs the following functions: remote control of the position or condition of two-position commutation apparatus and equipment; remote signalling of the condition or position of the objects being tested; telemetry with simultaneous signalling of deviations beyond fixed limits in the measured parameters. The capacity of the device is 512 testing and control points, arbitrarily divided among remote control, remote signalling, and telemetry points. The maximum time between cyclical interrogation of each object is one minute. The maximum range is 10-12 km. The device is diagramed and its operation is briefly explained. This multichannel code device has undergone preliminary testing and is currently being used at the Bereznyakovskiy Potash Combine mine.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 612.42.014.426

BOGINICH, L. F., VASIL'YEV, N. V., DANCHUK, V. A., and MELIK-GAYKAZYAN, Ye. V., Chair of Microbiology, Tomsk Medical Institute

"Complex Reaction of Lymphoid Tissue to the Effect of an Alternating Magnetic Field"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 4, Jul/Aug 70, pp 73-74

Abstract: A study was made of cytological shifts in the spleen, thymus, and lymph nodes of rats exposed to an alternating magnetic field over an extended period of time. The reaction of the lymphoid tissue occurred in two stages. The first stage, lasting less than a day, consisted of a decrease in the number of lymphoblasts and proplasmocytes and an increase in the number of medium-size lymphocytes. The second stage developed by the 3rd day and was marked by an increase in the number of proplasmacytes and medium-size lymphocytes in all of the organs studied and by an increase in the number of medium-size lymphocytes in the thymus and lymph nodes. The resemblance of the dynamics of proplasmacytes with that of cells of the plasmatic series in the early stages of immunogenesis (the inductive phase of antibody formation) suggests that nonspecific mechanisms play an important part in the development of immunomorphological shifts.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

USSR UDC 539.12.04:591.412

MELIK-ISRAYELYAN, Sh. S., Radiobiology Sector, Ministry of Health, Armenian SSR

"Effect of Strophanthin on the Degree and Rate of Onset of Myocardial Fatigue in Irradiated Animals"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 23, No 7, 1970, pp 105-100

Abstract: The effect of strophanthin on myocardial fatigue was studied in irradiated and nonirradiated rats. For the latter, the amplitude of myocardial contraction in response to physical exercise gradually decreased to 60-65% of the original level in animals that did not receive strophanthin and to 80-85% in animals that received subcutaneous injections of strophanthin (0.1 mg/kg) 30 min before exercise. These results indicate that strophanthin prevents premature and rapid acute myocardial insufficiency. In irradiated rats, the myocardium was less sensitive to strophanthin during the latent period of radiation sickness than at its height; 60 and 90 min after exercise, the amplitude of contractions decreased by 40% and 50%, respectively. At the height of radiation sickness, subcutaneous injection of a larger dose of strophanthin (0.2 mg/kg) 30 min before exercise had almost the same effect in diminishing myocardial fatigue as it did in the nonirradiated animals.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010018-5

UDC 621.762.002.5(088.8)

USSR

DZHAPARIDZE, P. N., DRAKIN, L. A., and MELIK-NUBAROV, T. T., Institute of Inorganic Chemistry and Electrochemistry, Academy of Sciences Georgain SSR

"APParatus for Briquetting and Sintering of Preforms"

USSR Authors' Certificate No 275810, Cl. 80a, 25/10, (B 28-b5/02, B 30 b 11/14), filed 3 Feb 69, published 29 Oct 70 (from Rzh-Metallurgiya, No 3, Mar 71, Abstract No 3G480)

Translation: The apparatus contains a feeder, cellular conveyer, pressing mechanism, and a heating apparatus. In order to make possible briquetting and sintering of preforms under pressure without the use of binders and for simplification of design, the apparatus is enclosed in an airtight chamber, which has air-lock arrangements for loading the material and for unloading the preforms, while the press is made in the form of a vibroplate, mounted above the cellular conveyer and connected by a rod to a vibrator located outside the chamber. One illustration.

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USSR

UDC 621.3.049.75

KOPYLOV, S. G., KAZAKOV, S. N., YEGUNOV, A. V., KUZ'MICHEV, V. S., MELIK-OGANDZHANYAN, P. B., IGNATOV, B. M., FEDOTOV, V. A., YAKOVLEV, YE. G.

" Multilayer Printed Board"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 43, Patent No 270029, Filed 4 Mar 68

Translation: This Author's Certificate introduces a multilayer printed board containing alternating layers of dielectric and electrically conducting material designed for mounting integral circuits with flat leads in which grooves are cut out on both sides of the integral circuit. The interlayer connections are made in these grooves. They are executed by welding or soldering. The board is distinguished by the fact that in order to insure high density of arrangement of highly reliable interlayer connections with a minimum number of them and also to lower the labor involved in manufacturing the boards, the interlayer connections are executed in the form of bunches of printed conductors made during the process of pressing the multilayer printed board, and the number of bunches leading into the groove is determined by the number of leads of the integral circuits mounted on the board.

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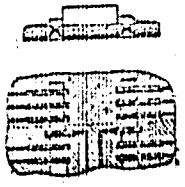
KOPYLOV, S. G., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 43, Patent No 270029, Filed 4 Mar 68



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USSR UDC 621.316.99:621.315.1.3.024(083.8)

TURETSKIY, V. YE., BERKOVSKIY, A. M., SHAPOSHNIKOV, I. N., MELIK-SARKISOV, B. S.

"High Voltage Remote Operating Ground"

USSR Author's Certificate No 270062, Filed 12 Jul 65, Published 13 Aug 70 (from RZh-Elektrotekhnika i Energetika, No 3, Mar 71, Abstract No 3Ye154P)

Translation: A scheme is proposed for a remote operating ground executed by wires split into two equal insulated branches. A measurement and relay protect circuit is provided to insure continuous control of the state of the ground branches. An auxiliary power transformer with the secondary winding midpoint joined to the ground circuit of the substation is used in the ground unit. The ground wires are connected to the secondary winding leads of the transformer. The primary winding of the transformer is connected to the 380 volt AC network. Control of the state of repair of the ground circuit is realized with respect to the presence and magnitude of the current in the branches of the ground lines and the primary winding of the transformer. Signal relays and a balanced protection circuit are used. The unit is applied in the operating circuit of two-pole and single-pole PPT [semiconductor triode?] lines. There is 1 illustration.

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