

2/2 008

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106113

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PRODUCTION OF CU SUB2 OCL
SUB2, BASED ON A REACTION BETWEEN CUCL SUB2 AND A DISPERSION OF CHALK,
IN A 4 CASCADE PROCESS THE CONC. OF CUCL SUB2 IS AUTOMATICALLY DETD.
WITH A REFRACTOMETER, AND THE REFRACTION ANGLE IS FED TO A COMPUTER FOR
CONTROLLING THE AMT. RELEASED INTO THE REACTOR VATS OF CHALK DISPERSION
AUTOMATICALLY DETD. BY A RADIOACTIVE D. GAGE.

UNCLASSIFIED

Acc. Nr: AP0051922

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 47-49

RAT LIVER TRANSKETOLASE AND ERYTHROCYTES ACTIVITY UNDER THE EFFECT OF SOUND

N. V. Maydanova

Zaporozhie Medical Institute

Experiments staged on 113 albino rats demonstrated reduced transketolase activity under the effect of sound (94—96 dB, frequency 2 kHz) which progressed further as the exposure time was increased from 1/2 to 2 hours. When the exposure time lengthened to 38 days this effect became weaker. With long-term exposures (90, 130 days) the transketolase activity decreased by 2 and 4 times respectively. The fall of the erythrocytes transketolase activity becomes apparent only in a long-term effect of sound (130 days).

REEL/FRAME

19820405

Epidemiology

USSR

MAYDANOVA, Ye. G., Vladivostok Medical Institute

"Diagnosis of Influenza"

Vladivostok, Biologicheskiye i Meditsinskiye Issledovaniya nu Dal'nem Vostoke
(Biological and Medical Research in the Far East), Vladivostok, 1971, pp 137-138

Abstract: During the 1969 influenza epidemic in Vladivostok, a number of persons were hospitalized with an "atypical" clinical picture in the form of gastrointestinal symptoms, which led to an initial mistaken diagnosis of acute dysentery. Besides the failure to isolate dysentery or typhoid microbes, the clue to the correct diagnosis was provided by rectoromanoscopy which revealed moderately hyperemic rectal and sigmoid mucosa with pronounced vascular markings and petechial hemorrhages similar to the changes in pharyngeal mucosa characteristic of influenza.

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USSR

UDC 541.183

LOBANOVA, G. L., KIROVSKAYA, I. A., and MAYDANOVSKAYA, L. G. (deceased),
Tomsk State University imeni V. V. Kuybyshev

"Simultaneous Adsorption of Hydrogen and Oxygen on Gallium Arsenide"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71, p 2101

Translation: The paper presents the results of a study of adsorption of $H_2 + O_2$ mixtures on a GaAs semiconductor. The adsorbent was a finely dispersed powder (specific surface $0.3 \text{ m}^2/\text{g}$, weight 1.4 g) produced by pulverising a single crystal. The experiments were done in a statistical vacuum installation with an attainable vacuum of $5 \cdot 10^{-6}$ mm. The total gas pressure and its mixture for various ratios of components was 0.31-0.99 mm at temperatures from -183 to 375°C .

According to the resultant data, the most active component of the $H_2 + O_2$ mixture is oxygen. The degree of adsorption α of the gas mixtures occupies an intermediate position between α_{H_2} and α_{O_2} and increases with an increase in the concentration of the most active component, O_2 . At a ratio of $H_2:O_2 = 1:2$ and temperatures above 150°C , the value of α becomes larger than the value for the adsorption of oxygen. Basically, the curves for the adsorption

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LOBANOVA, G. I., et al., Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71,
p 2101

isobars of $H_2 + O_2$ mixtures behave in the same manner as for oxygen adsorption. In the interval from -183 to $300^\circ C$, equilibrium is reached in the system in about 30 minutes. At temperatures above $300^\circ C$, considerable time (more than a day) is required to reach equilibrium. The kinetic curves are quite complex and cannot be described by a single law.

On the basis of the above facts as well as calculations of heats of adsorption (by various methods) the authors make the following statements concerning the mechanism of the investigated phenomenon. In the interval from -183 to $0^\circ C$ physical adsorption takes place, while chemisorption predominates at higher temperatures. Chemisorption is accompanied by a chemical reaction of the components which shows up most noticeably above $300^\circ C$. During the reaction of H_2 and O_2 , the formation of a "dead-end" compound H_2O is noted as well as temperature conditions for retention of water on the surface. Oxygen is first to occupy the active sections on the surface. Hydrogen adsorption can take place on free sections and on

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LOBANOVA, G. I., et al., Zhurnal Fizicheskoy Khimii, Vol 45, No 8, Aug 71,
p 2101

sections occupied by oxygen, which is most readily ionized at relatively high temperatures: oxygen facilitates adsorption of hydrogen, and hydrogen adsorption then becomes predominant.

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UDC 541.183

KIROVSKAYA, I. A., MAYDANOVSKAYA, L. G., KNYAZEVA, E. I.,
MURZINA, G. D., NAGOVITSINA, V. N., Tomsk State University inst.
V. V. Kuybyshev, Tomsk, Ministry of Higher and Secondary Specialized
Education RSFSR

"Adsorption of CO on Semiconductors of the Zinc Blend Type"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 5, May 70,
pp 1260-1266

Abstract: A study is reported on the adsorption of carbon monoxide on semiconductors of the isoelectronic series of germanium: Ge, GaAs, ZnSe, and CuBr. Kinetics of the adsorption on all of these compounds was studied as well as the desorption kinetics of CuBr. Heats of adsorption of CO were calculated for several temperatures by the Clayperone-Clausius equation of the Boring-Sperpinski type, using empirical functions determined by the authors. A relationship was found between the chemisorptive activity and the width of forbidden zone ΔU of the above semiconductors: with the increase of ΔU the heat of adsorption is decreased, the temperature of the beginning of activated adsorption is increased as is the energy of $1/2$

USSR

KIROVSKAYA, I. A., et al, Zhurnal Fizicheskoy Khimii, Vol 44, No 5,
May 70, pp 1260-1266

activation. Relative adsorption coefficients were determined for several temperatures. An assumption was made that the adsorption of CO occurs on one of the lattice atoms of given semiconductors forming surface structures of the type of linear structure carbonyls. In the case of binary compounds the active center becomes the atom which is included in the lattice in the form of a negatively charged ion.

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USSR

UDC 519.2

MAYDANYUK, R. YA.

"Densities of Dimensions Corresponding to the Solutions of Differential Equations with Random Right-Hand Sides"

Teoriya veroyatnostey i mat. stat. Mezhd. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1972, vyp. 6, pp 98-102 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V66)

Translation: A study was made of the problem of absolute continuity of the measures corresponding to the solutions of the differential equations

$$y'(t) = \eta(t), \quad y_1'(t) + f(t)y_1(t) = \eta(t),$$

where $\eta(t) = \sum_{k=1}^{\infty} \lambda_k \xi_k \sin kt$, ξ_1, ξ_2, \dots are independent identically distributed

stable random variables with the characteristic index $\delta > 1$ and a distribution density $p(x)$. The explicit form of the density for these measures is written out.

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USSR

UDC 519.21

MAYDANYUK, R. Ya.

"Absolute Continuity of Measures Corresponding to Series of Independent Random Quantities with Linear Space Conversions"

Teoriya Veroyatnostey i Mat. Statist. Mezhd. Nauchn. Sb. [Theory of Probabilities and Mathematical Statistics, Interdepartmental Scientific Collection], No 2, 1970, pp 144-149 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V77 by the author).

Translation: Suppose μ is a measure in a σ -algebra of subsets \mathfrak{B} of a certain separable Hilbert space H , which generates the element

$$\eta = \sum_{k=1}^{\infty} \lambda_k \xi_k \in H,$$

where λ_k is a normalizing sequence of numbers, $\{\xi_k\}$ is the orthonormalized base of space H ; ξ_1, ξ_2, \dots is a sequence of independent, identically distributed random quantities with distribution density $p(x)$. Suppose A is a linear, measurable mapping of H in H . We represent by ν the measure produced from μ with mapping A , i.e., $\nu(B) = \mu A^{-1}(B)$ for all $B \in \mathfrak{B}$. This work determines conditions for which ν and μ are equivalent.

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Optics & Spectroscopy

USSR

AGEYEV, V. A., GAVRILYUK, V. I., KUPRYASHKIN, V. T., LATYSHEV, G. D., LYUTYY, I. N., ~~MAYDANYUK, V. K.~~, MAKOVETSKIY, Yu. V., and FEOKTISTOV, A. I., Institute of Physics of the Academy of Sciences UkrSSR

"Study of Conversion Electron Spectrum of Nb⁹⁶"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

Abstract: Individual segments of the conversion electron spectrum of Nb⁹⁶ associated with the doublet structure of transitions found by Monaro and others are also possible according to the decay scheme of Nb⁹⁶ are studied. The measurements were made on the magnetic β -spectrometer of the type $\pi/2$ of the Institute of Physics of the Academy of Sciences UkrSSR. The measurements showed K-line doublets of transitions in the regions 350, 720, and 810 keV and K241.3 is apparently a single line. The results of the measurements are given in a table. The energy of all transitions observed was determined with an error of ± 0.3 keV. The K-lines of the transitions 350.1 and 352.1 keV were weak and therefore only an estimate of their intensity is given. For all transitions observed, α_K were determined with respect

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AGEYEV, V. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

to the ratios of the intensities of the conversion lines to the intensities of γ -rays. The values of α_K for the transitions 350.1 and 352.1 were estimated. All transitions correspond to multipolarities M1 or E2. The exception was $\gamma_{812.4}$, for which the internal conversion ratio was less than that established from Tc^{96} decay. The ground states are evaluated on the basis of the shell model.

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USSR

UIC: 624.074.4.04

ALIYEV, SH. M., ~~MAYDEL'MAN, V. N.~~, TEPLOV, G. D. (Baku)

"Concerning the Calculation of an Oval Shell, Reinforced by Annular Ribs, With Account Taken of Their Discrete Disposition"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 1, 1972, pp 11-14

Abstract: The article deals with an infinitely long shell of oval cross-section, which is loaded by internal pressure and is reinforced by equidistant annular ribs, account being taken of their discrete disposition. The problem is solved on the basis of a method for the calculation of shells, proposed by S. N. Kan. The same denotations are adopted, as those used in Kan's paper. The shell under investigation constitutes a multiply static indeterminate system. In order to evaluate the applicability of the method of "smoothing" the rib rigidity, a formula for tying together the basic parameters of the container is given. An example of the calculation is given. 3 figures, 5 references.

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1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--OXIDATION OF HIGHLY CONCENTRATED SULFUR DIOXIDE USING TECHNICAL
GRADE OXYGEN IN A CONTACT UNIT WITH FLUIDIZED CATALYST BEDS -U-
AUTHOR--MAYDUROVA, D.V., MALKIMAN, V.I., KONDRATYEVA, G.P., KRAYCHENKO,
E.A.
COUNTRY OF INFO--USSR M
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1) 24-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--FLUIDIZED BED CATALYST, WEAR RESISTANCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/0012 STEP NO--UR/0064/70/046/001/0024/0027
CIRC ACCESSION NO--AP0102112
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102112

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GASEOUS MIXT. CONTG. 56.5 VOL. PERCENT SO SUB2 AND 42.6 VOL. PERCENT O SUB2 WAS PASSED (AT A FLOW RATE OF 1600 VOL. PER HR) THROUGH A CATALYTIC REACTOR WITH 3 FLUIDIZED BEDS OF A WEAR RESISTANT CATALYST; THE TEMPS. OF THE FIRST, SECOND, AND THIRD BEDS WERE 600, 550, AND 500DEGREES, RESP., AND THE PRESSURE WAS 1 ATM. THE DEGREE OF OXIDN. OF THE SO SUB2 AFTER THE THIRD BED WAS 93.1PERCENT. EXPTS. IN A PILOT PLANT REACTOR CONFIRMED THAT STABLE OPERATION MAY BE ACHIEVED WITHOUT PREHEATING THE GAS; A FLOW SHEET FOR A LARGE SCALE OXIDN. PLANT IS PROPOSED.

UNCLASSIFIED

USSR

UDC 612.846.12.766.1

NAVAKATYKYAN, O. O., KURDIYEV, Yu. I., LYSYNA, G. G., BISHUNOV, M. P.,
HRYSHKO, F. I., DERKACH, V. S., KAPSHUK, O. P., KYRYENKO, A. Ye., KARAKASHYAN,
A. N., KOVAL'OVA, G. I., RATUSHINA, A. M., TOMASHEVC'KA, L. I., MAGORNA, A. M.,
and MAYDYKOV, Yu. L., Kiev Institute of the Work Hygiene and Occupational
Diseases, Kiev

"Nervous Emotional Stresses as a Problem of Modern Work Physiology"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 533-546

Abstract: The introduction of machines and automatic control instrumentation into production lines at plants and factories and at many other institutions requires of workers rapid coordination of actions combined with mental activity. The volume of information input which requires a combination of physical and mental ability has been increasing tremendously for the last decade. This has produced nervous and emotional stresses and disturbances in the normal functions of many human organs. Analysis of many workers from various branches of industry as well as people occupied with mental work has shown that modern technology imposes heavy stresses on an individual which are accompanied by abnormal function of the adrenal glands, and hypothalamus, and the hypophysial and sympatho-adrenal systems. Measurements have shown that corticosteroid blood and urine

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NAVAKATYKYAN, O. O., et al., Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 535-546

levels exceed the norm by as much as 42-57% in people under heavy stress. Emotional stress with distortion in the function of many systems were more often encountered among the young (17-18 year olds). These malfunctions included the secretion of adrenalin and noradrenalin, and disturbances in hemodynamics. Shifts in physiological functions among different occupational groups under identical stresses occur at different times and are closely related to age. They were more pronounced among older people (31-40 years old). The cardiovascular system occupies a prominent place in labor physiology, and there are many methods and approaches to study it. Some literature methods and those of the authors are described, including instrumentation. Mental work which is accompanied by nervous-emotional stresses influences profoundly the cardiovascular system within a wide range of deviations, including pathological functional disturbances and hypertension. The same is true for other occupations as well. The authors recommend the rational use of working hours and rest periods to avoid overstresses.

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USSR

UDC: 547.944/945

KHODZHAYEV, V. G., MAYEKH, S. Kh., YUNUSOV, S. Yu., "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Uzbek SSR Academy of Sciences

"Investigation of Alkaloids of *Thalictrum Longipedunculatum*. Structure of Thalicsin"

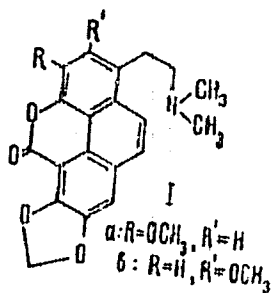
Tashkent, *Khimiya Prirodnikh Soyedineniy*, No 3, 1973, pp 441-442

Abstract: An attempt is made to determine the structure of thalicsin isolated from the aerial part of *Thalictrum longipedunculatum*. Elementary analysis gives the empirical formula $C_{21}H_{19}O_6N$, but according to the mass-spectrometrically determined molecular weight the formula should be $C_{21}H_{19}O_5N$. An analysis of the UV, IR, NMR and mass spectra and a comparison with the properties of thaliglucinone shows that the correct empirical formula is $C_{21}H_{19}O_6N$ with probable structure

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KHODZHAYEV, V. G., et al., Khimiya Prirodnykh Soyedineniy, No 3, 1973,
pp 441-442



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USSR

UDC 538.113

KOMAR'M I. N., NIKOLOV, O. T., and MAYER, I.

"On the Structure and Stability of Free Radicals Produced in γ -Irradiated Glycine"

Kiev, Teoreticheskaya i Eksperimental'naya Khimiya, No 4, Jul/Aug 70, pp 561-566

Abstract: The article deals with post-radiation processes in gamma-irradiated glycine. Polycrystalline and monocrystalline specimens of α -glycine were studied. A Co^{60} source with a dose rate of 3000 roentgens per minute was used. The total dose was 10^5 - 10^7 roentgens. Post-radiation heating of the irradiated specimens showed that three types of free radicals are formed under normal conditions: $CH_2COO\cdot$, $\cdot NH_2CHCOO^-$ and $NH_2\dot{C}HCOO^-$. Specimens freshly irradiated at room temperature contain about 38, 58 and 4% of these free radicals, respectively. The last free radical is the most stable, while the first is the least stable. With irradiation doses of about 10^5 roentgens, recombination of all three free radicals is described by first order processes. Electron paramagnetic resonance spectra of polycrystalline and monocrystalline specimens of normal α -glycine irradiated at room temperature are identified.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INITIATED DECARBOXYLATION OF MERCURY SALTS OF CYCLOHEXANE AND
CYCLOPENTANECARBOXYLIC ACIDS. SYNTHESIS OF CYCLOHEXYL AND
AUTHOR--(03)-OLDEKOP, YU.A., MAYER, N.A., BUTKO, YU.D.

M

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 641-4

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOMERCURY COMPOUND, CYCLOHEXANE, CYCLOPENTANE, CARBOXYLIC
ACID, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0927

STEP NO--UR/0079/70/040/003/0641/0644

CIRC ACCESSION NO--AP0124588

UNCLASSIFIED

2/2 009

CIRC ACCESSION NO--AP0124588

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDG. A SOLN. OF PEROXIDE
 (CYCLOHEXANOYL, BENZOYL, ACETYL) TO REFLUXING SOLN. OF HG DIACRYLATE IN C
 SUB6 H SUB6 AND HEATING DURING GAS EVOLUTION, OR A SIMILAR REACTION RUN
 IN UV LIGHT, RESULTED IN DECARBOXYLATION OF THE HG SALTS TO FORM
 CYCLOALKYLMERCURY SALTS. THE BEST YIELDS (92-3PERCENT) WERE OBTAINED
 WHEN THE PEROXIDE USED HAD THE SAME ORG. RADICAL AS THE HG SALT. THUS
 WERE OBTAINED SALTS OF CYCLOPENTYL, AND CYCLOHEXYLMERCURY. ALSO FORMED
 WERE MINOR AMOUNTS OF HG(I) SALTS, HG, AND SALTS OF PHHG. WHEN AC SUB2
 O SUB2 WAS USED, 23-9PERCENT MENO SALTS WERE ISOLATED. THE
 DECARBOXYLATION IS A CHAIN REACTION COURSE AND THE CHAIN LENGTH IS
 SIMILAR FOR REACTIONS WITH BZ SUB2 O SUB2 AND AC SUB2 O SUB2.
 FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--INITIATED DECARBOXYLATION OF MERCURIC VALERATE, CAPROATE, AND
CAPRATE. SYNTHESIS OF N BUTYL, N AMYL, AND N NONYLMERCURY COMPOUNDS -U-
AUTHOR--(04)-OLDEKOP, YU.A., MAYER, N.A., ERDMAN, A.A., OZHONIDAVA, YU.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 637-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DECARBOXYLATION, ORGANOMERCURY COMPOUND, UV LIGHT, ORGANIC
PEROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1472

STEP NO--UR/0019/70/040/003/0637/0641

CIRC ACCESSION NO--AP0135142

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135142

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HG(II) VALERATE (I) CAPROATE (II), AND CAPRATE (III), ARE DECARBOXYLATED BY UV LIGHT OR ACYL PEROXIDES TO FORM SALTS OF ALKYL MERCURY IN GOOD YIELDS. (I), M. 95DEGREES (II), M. 104DEGREES, (III), M. 112-13DEGREES. HEATING 10G I WITH 10 G VALEROYL PEROXIDE AND 200 G BUCO SUB2 H AT 97-8DEGREES UNTIL GAS EVOLUTION CEASED (1 HR) GAVE MAINLY CO SUB2, TRACES OF BUTENES, AND SOME C SUB4 H SUB10 IN THE EFFLUENT GASES; THE RESIDUE GAVE 75.1PERCENT BUHG SALTS, 12.3PERCENT HG PRIME POSITIVE, 12.6PERCENT HG PRIME2 POSITIVE. TO HG 5 AND BUCO SUB2 H 100 WAS ADDED HNO SUB3 0.8 AND, OVER 15 MIN 30PERCENT H SUB2 O SUB2 12 MILLIMOLES, THE MIXT. STIRRED 0.5 HR AT ROOM TEMP. AND 0.5 HR AT 85DEGREES, TO FORM A CLEAR SOLN. FREE OF HG OR HG(II) SALTS, AND CONCD. TO GIVE 99.5PERCENT I. SUCH A SOLN. AFTER REMOVAL OF MOST OF THE SOLVENT WAS TREATED WITH 1.5 MILLIMOLES DRY NA VALERATE AND 42 MILLIMOLES VALERIC ANHYDRIDE, COOLED TO MINUS 5DEGREES AND TREATED WITH 12 MILLIMOLES 60PERCENT H SUB2 O SUB2, KEPT 40 MIN, RAPIDLY HEATED TO 98DEGREES, KEPT 1 HR DURING GAS EVOLUTION, FILTERED TO REMOVE 0.05 G HG, AND CONCD. TO YIELD, AFTER ADDN. OF KCL, 92.8PERCENT BUHGCL; ACIDIFICATION OF THE FILTRATE GAVE ON TREATMENT WITH H SUB2 S 0.02 G HGS. SIMILAR REACTIONS WITH SOLN. OF II, USING CAPROIC ACID DERIVS., GAVE 94.4PERCENT N C SUB5 H SUB11 HGCL. SIMILARLY WAS PREPD. A SOLN. OF BUTYLMERCURY VALERATE, WHICH WAS CONCD., TAKEN UP IN ACOH AND H SUB2 O, AND TREATED WITH 25PERCENT NH SUB4 OH AND H SUB2 S TO YIELD 75PERCENT BU SUB2 HG; SIMILARLY WAS PREPD. 69PERCENT IN C SUB5 H SUB11SUB2 HG.

FACILITY: INST. FIZ. ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/2 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--DECARBOXYLATION OF MERCURIC BUTYRATE AND THE INFLUENCE OF
PEROXIDES. SYNTHESIS OF PROPYLMERCURY COMPOUNDS --(U)--
AUTHOR--(04)--OLDEKOP, YU.A., MAYER, N.A., ERDMAN, A.A., DZHOMIDAYA, YU.A.

COUNTRY OF INFO--USSR

M

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2) 300-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DECARBOXYLATION, ORGANOMERCURY COMPOUND, PEROXIDE, CHEMICAL
SYNTHESIS, CHAIN REACTION, ACETATE, PROPIONATE, BENZOYL PEROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1409

STEP NO--UR/0079/70/040/002/0300/0305

CIRC ACCESSION NO--AP0101499

UNCLASSIFIED

2.2 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101499

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTING PRODUCTS FROM REACTION OF MERCURIC BUTYRATE (I) WITH 8Z SUB2 O SUB2 AND (PCO SUB2) SUB2 IN C SUB6 H SUB6, PCO SUB2 H AND MECN WERE TABULATED UNDER A VARIETY OF CONDITIONS AND REACTANT RATIOS. THE MAJOR PRODUCTS WERE THE APPROPRIATE PROPYLMERCURY SALTS (II), FOLLOWED IN ORDER BY PHENYLMERCURY SALTS, MERCURIC SALTS, CO SUB2, AND SMALL AMTS. CO, C SUB3 H SUB6, C SUB3 H SUB8, AND LITTLE IF AN HG. IN ALL CASES I IS DECARBOXYLATED TO FORM UP TO 92PERCENT II; IN PCO SUB2 H AND C SUB6 H SUB6 THE REACTION HAS A CHAIN MECHANISM. FOR SYNTHESIS OF I THE SCHEME DEVELOPED WAS SIMILAR TO THAT USED EARLIER FOR THE ACETATE AND THE PROPIONATE (O. ET AL., 1969). SIMILAR REACTION OF 40 HG, 400 PCO SUB2 H, 3 HNO SUB3 AND 60 MILLIMOLES H SUB2 O SUB2. IN THE 1ST STEP, FOLLOWED BY 500 (PCO SUB2) SUB2, 80 H SUB2 O SUB2 AND 6 MILLIMOLES PCO SUB2 NA IN THE 2ND STEP, EVAPN. OF THE SOLVENT, ADDN. OF 30 ML ACDH AND 500 ML H SUB2 O, NEUTRALIZATION WITH NH SUB4 OH, AND SATN. WITH H SUB2 S GAVE 86PERCENT PRHGS, WHICH HEATED AT 130 TO 80DEGREES GAVE 69.8PERCENT PR SUB2 HG, 8 SUB13 78 TO 80DEGREES.

UNCLASSIFIED

152 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ACYL PEROXIDES. XXVIII. REACTIONS OF VALEROYL AND CAPROYL
PEROXIDES WITH MERCUROUS SALTS -U-
AUTHOR--(04)-OLDEKOP, YU.A., MAYER, N.A., PSHENICHNYY, V.N., IZMAYLOVA,
A.F.
COUNTRY OF INFO--USSR M
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 308-11
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC PEROXIDE, ORGANOMERCURY COMPOUND, THERMAL
DECOMPOSITION, BUTANE, BUTENE, HEAT EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1408 STEP NO--UK/0019/70/040/002/0308/0311
CIRC ACCESSION NO--AP0101498
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

272 = 021

CIRC ACCESSION NO--AP0101498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING VALEROYL PEROXIDE (I) WITH MERCUROUS VALERATE OR BENZOATE IN C SUB6 H SUB6 AT 80DEGREES OR IN BUCCO SUB2 H (AT 98DEGREES), OR HEATING CAPROYL PEROXIDE (II) IN MERCUROUS CAPROATE OR BENZOATE IN C SUB6 H SUB6 OR IN CAPROIC ACID, RESULTED LARGELY IN FORMATION OF 30 TO 40PERCENT HG AND UP TO 32PERCENT CORRESPONDING ALKYL MERCURY SALTS. ALSO FORMED WERE CO SUB2, THE ALKANE AND ALKENE CORRESPONDING TO THE RADICAL OF THE PEROXIDE EMPLOYED, WITH CO, AND MERCUROUS SALTS. THE NEEDED MERCUROUS VALERATE WAS PREPD. FROM MERCUROUS NITRATE AND NA VALERATE IN AQ. MEDIUM. THUS, THE REACTION OF THE RADICALS R TIMES FROM THE PEROXIDE WITH MERCUROUS ACYLATES YIELD RHGO SUB2 CR'. REACTION OF I WITH THE MERCUROUS SALTS GAVE BUHG SALTS, INDICATING THAT THE BU TMES RADICALS FORMED IN THE PEROXIDIC DECOMPN. ARE ABLE TO REACT WITH MERCUROUS SALTS AS INDICATED ABOVE. THESE RADICALS ALSO UNDERGO THE USUAL DISPROPORTIONATION AND CLEAVAGE OF H ATOMS FOR THE SOLVENT; IN THESE REACTIONS BUTANE GREATLY EXCEEDED BUTENES IN THE REACTION MIXT. IN REACTION OF II WITH THE MERCUROUS CAPROATE IN C SUB6 H SUB6, THE YIELD OF CO SUB2 WAS ALWAYS GREATER THAN FOUND FOR OTHER REACTIONS OF PEROXIDES WITH OTHER MERCUROUS SALTS; THE SOURCE OF THE ADDED CO SUB2 WAS MERCUROUS CAPROATE, WHICH WITH PEROXIDE GAVE CO SUB2 PLUS C SUB5 H SUB11 HGO SUB2 C SUB5 H SUB11.

UNCLASSIFIED

1/2 G20 UNCLASSIFIED PROCESSING DATE--18SEP70
 TITLE--INITIATION OF THE DECARBOXYLATION OF MERCURIC ENANTHATE, CAPRYLATE,
 AND PELARGONATE. SYNTHESIS OF C SUB6 THROUGH C SUB8 N, ALKYL MERCURY
 AUTHOR--(04)-OLDEKOP, YU.A., MAYER, N.A., ERDMAN, A.A., STANOVAYA, S.S.
 COUNTRY OF INFO--USSR M
 SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2) 305-8
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY, PHYSICS
 TOPIC TAGS--DECARBOXYLATION, ORGANOMERCURY COMPOUND, ORGANIC PEROXIDE, UV
 LIGHT, CHAIN REACTION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1985/1407 STEP NO--UR/0079/70/040/002/0305/0308
 CIRC ACCESSION NO--AP0101497
 UNCLASSIFIED

272 020

CIRC ACCESSION NO--AP0101497

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING (RC D SUB2) SUB2 HG
 (ENANTHATE, CAPRYLATE OR PELARGONATE) WITH ENANTHOL PEROXIDE, B2 SUB2 O
 SUB2, CAPRYLOYL PEROXIDE OR PELARGONYL PEROXIDE 1-10 HR AT 80DEGREES OR
 EXPOSURE OF THESE SYSTEMS TO UV LIGHT RESULTED IN DECARBOXYLATION OF THE
 SALTS TO FORM THE CORRESPONDING ALKYL MERCURY SALTS. IN THIS MANNER 40
 TO 93PERCENT YIELDS OF ALKYL MERCURY SALTS WERE OBTAINED (HEXYL, HEPTYL
 AND OCTYL) ALONG WITH LESSER YIELDS OF SALTS OF PHENYL MERCURY, SMALLER
 AMTS. MERCUROUS SALTS AND MERCURIC SALTS, MINOR AMTS. HG AND APPROPRIATE
 AMTS. CO SUB2. THE DECARBOXYLATION APPEARS TO BE A CHAIN REACTION.
 REFLUXING THE HG DIACYLATE IN C SUB6 H SUB6 6 HR GAVE 38 TO 50PERCENT
 PHENYL MERCURY SALT, FREE OF ALKYL MERCURY SALTS. CONVERTED TO THE
 HALIDES THESE WERE ISOLATED AS: PHHGCL, M. 250DEGREES, PHHGSR, M. 272 TO
 50RGRES. SIMILARLY WERE ISOLATED C SUB6 H SUB13 HGCL, M. 124DEGREES;
 BROMIDE, M. 121DEGREES; C SUB7 H SUB15 HGSR, M. 114DEGREES, AND C SUB8 H
 SUB17 HGCL, M. 115DEGREES.

UNCLASSIFIED .

USSR

PUKHOV, G. Ye., Academician of the Academy of Sciences of the UkrSSR,
MAYERGOYZ, I. D., KATKOV, A. F., and GUMENYUK-SYCHEVSKIY, V. I., Institute
of Cybernetics, Academy of Sciences of the UkrSSR, Kiev

"On the Theory of One Class of Devices for Computer Input of Graphic Data"

Moscow, DAN SSSR, Vol 200, No 1, Sep 71, pp 53-55

Abstract: This paper deals with a class of devices for automatic input of graphic information into a computer. Using conductive sheets of films, the devices considered operate on the basis of modeling distributions with a structure which is known and is as simple as possible. The only known representative of this class is a device which utilizes a square conductive sheet in which time-alternating electric fields are set up in two mutually perpendicular directions parallel to the sides of the square. A pen (pencil) is used for time-sequential measurements of the voltage, approximately proportional to the x and y coordinates, which are sent through an analog-code converter to the computer and to a display. A broader principle is introduced for improving this type of device. In essence, this generalized principle is as follows. Two potential distributions alternating in time and described by the equations

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USSR

PUKHOV, G. Ye., et al., DAN SSSR, Vol 200, No 1, Sep 71, pp 53-55

$$U = \varphi_1(x, y), \quad U = \varphi_2(x, y)$$

are set up in the conducting plate. The voltages U_1 and U_2 measured by the pen on each cycle isolate equipotential lines to which the contact point of the pen belongs on each cycle. The equations of these lines take the form

$$U_1 = \varphi_1(x, y); \quad U_2 = \varphi_2(x, y).$$

Solving this system, we find the coordinates of the point of contact of the pen as the coordinates of the point of intersection of the equipotentials. Two realizations of this generalized approach are presented. Two figures, bibliography of nine titles.

2/2

USSR

UDC: 518.5:681.3.06

MAYERGOYZ, M. D., KHAZANKINA, S. P.

"Solution of a System of Nonlinear Algebraic and Transcendental Equations
by the Generalized Newton Method"

V sb. Mashiny dlya inzh. raschetov (Machines for Engineering Calculations--
collection of works), vyp. 4, Kiev, 1971, pp 3-7 (from RZh-Kibernetika,
No 12, Dec 71, Abstract No 12V965)

[No abstract]

1/1

USSR

UDC 617.51-001+616.89-036.117-085.835.3

KONDRASHCHENKO, V. T., GLANTS, B. R., and MAYEROVICH, I. M.

"Hyperbaric Oxygen Therapy of Hypoxia in Acute Brain Injuries and Acute Exogenous Psychoses"

Moscow, Zhurnal Nevropatologii i Psikhatrii, No 2, 1971, pp 271-277

Abstract: Sixty-three patients with acute brain injuries (2d-3d degree concussion) and 61 others suffering from acute exogenous psychoses (carbon monoxide poisoning, alcohol psychosis) were treated either with hyperbaric oxygen, oxygen at normal barometric pressure, or oxygen inhalation combined with various drugs. Hyperbaric oxygen was found to be more effective in both groups than either of the other modes of treatment. Besides exerting a favorable effect on the blood picture of the patients with brain injuries, hyperbaric oxygen abolished headaches after two to three treatments, normalized sleep, and enhanced the sense of well-being. In those suffering from mental disorders, one or two treatments with hyperbaric oxygen markedly reduced the respiratory insufficiency and hypoxia while relieving the psychotic symptoms. Inhalation of oxygen at ordinary pressure in pure form or combined with drugs was much less effective.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SPECIAL STANDARD IN STATE QUALITY CERTIFICATION -U-
AUTHOR--MAYEV, F.R. M
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 19-20
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--INDUSTRIAL STANDARD, QUALITY CONTROL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/2030 STEP NO--UR/0422/70/000/002/0019/0020
CIRC ACCESSION NO--AP0100595
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100595

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCEDURE OF THE DEVELOPMENT OF NEW STATE STANDARDS FOR THE PRODUCTS CERTIFIED FOR HIGH QUALITY IS DESCRIBED, THE REQUIREMENTS FOR THE STRUCTURE AND CONTENTS OF THESE STANDARDS ARE PRESENTED, AND THEIR IMPORTANCE IN QUALITY IMPROVEMENT OF THE PRODUCTS IS INDICATED.

UNCLASSIFIED

USSR

UDC 616.993.1(477.84)

MAYEVSKIY, A. G., USTENKO, A. N., and VOLYK, A. D., Ternopol'skaya Oblast'
Sanitary-Epidemiological Station, Ternopol'

"Some Data on the Incidence of Toxoplasmosis Among the Population of Ternopol'skaya Oblast"

Kiev, Vrachebnoye Delo, No 5, May 71, pp 145-146

Abstract: Intracutaneous allergy tests for toxoplasmosis carried out in Ternopolskaya Oblast' yielded positive results in 45.8% of cases. The ratio of positive results in these tests increased from 12% for subjects in the age group up to 15 years to 36.6% for persons 31-55 years old. Among pregnant women tested for toxoplasmosis by the complement fixation reaction during 1952-1965, 19.1% showed a positive reaction. Complement fixation tests indicated that toxoplasmosis occurred predominantly in May-July. The rural population was affected to the greatest extent, but the infection also occurred among persons living in cities who had contact with animals and animal products. Toxoplasmosis is a disease with a natural focus that affects wild and domestic animals including rodents, from which the disease is transmitted to human beings. Results obtained in a study conducted at toxoplasmosis foci indicated that consumption of food products such as milk, raw eggs, etc., played a

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USSR

MAYEVSKIY, A. G., et al., Vrachebnoye Delo, No 5, May 71, pp 145-146

major role in the infection of humans. At 42 foci of acquired toxoplasmosis investigated in 1963, domestic animals (cats, dogs, etc) formed the source of infection of humans in 11 cases. Cases of congenital toxoplasmosis were found.

2/2

- 54 -

USSR

UDC 612.591.1-06:[615.382:582.892+613.36

AFANAS'YEV, B. G., ZHESTOVSKIY, V. A., MAZUROV, K. V., and KAYEVSKIY, K. L.,
Academy of Military Medicine im. S. M. Kirov, Leningrad

"Comparison of the Effects of Eleutherococcus and an Acid-Saline Beverage on
Adaptation to Intermittent Heat"

Moscow, Voprosy Pitaniya, No 1, 1973, pp 3-9

Abstract: Eight young men were exposed to hot air in a thermal chamber (37.7 to 38.5°C and 75 to 80% relative humidity) for 4 hours a day for 9 days. Four of them drank an extract of eleutherococcus (an adaptogen like ginseng, known to be able to increase nonspecific resistance) 12 days before and during the experiment and unlimited amounts of tap water while in the chamber. The other four drank only a concoction of 0.2% citric acid solution, 2% potassium and calcium chloride, and 0.5% sugar. Those who drank the eleutherococcus extract exhibited symptoms of a negative water balance, relative and absolute increase in glucocorticoid and androgenic functions of the adrenal cortex, increased sodium excretion with perspiration, and intensified consumption of oxygen. On the other, drinking the special beverage resulted in the establishment of a balance between the intake and elimination of fluid from the body, lowering of the glucocorticoid and androgenic functions of the adrenal cortex, higher

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USSR

AFANAS'YEV, B. G., et al., Voprosy Pitaniya, No 1, 1973, pp 3-9

sodium retention, and decreased oxygen consumption. All these phenomena increased resistance to heat and accelerated adaptation.

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USSR

UDC: 621.317.373

BATUREVICH, Ye. K., MAYEVSKIY, S. M.

"A Phase Radio Frequency Calibrator"

Dokl. Vses. nauchno-tekhn. konferentsii no radiotekhn. izmereniyam. T. 2 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 2), Novosibirsk, 1970, pp 71-74 (from RZh-Radiotekhn-
nika, No 1, Jan 71, Abstract No 1A320)

Translation: The operating principle of a phase calibrator for the 1-100 MHz frequency range is based on transferring the phase shift given on a fixed low frequency to any frequency in the band by means of an automatic tracking regulation system. A functional block diagram is given and its operation is described. In addition to the master oscillator for the above-mentioned frequency band with attenuators and phase shifters, the calibrator, which utilizes two intermediate frequencies, contains a phase setting device of discrete type based on phase ratios with frequency division.
E. L.

1/1

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USSR

UDC: 621.317.77

MAYEVSKIY, S. M., BATUREVICH, Ye. K., SHPIL'KO, V. N., TRACHENKO, L. P.,
TROKHIMETS, A. P.

"A Wide-Band Automatic Phase Meter Frequency Converter"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 2), Novosibirsk, 1970, pp 99-101 (from RZh-Radiotekh-
nika, No 12, Dec 70, Abstract No 12A332)

Translation: To measure phase displacements over a broad frequency range,
frequency conversion is used in many phase meters in order to transfer the
measured displacement to a fixed low frequency. The authors describe one
circuit for this kind of conversion with a frequency shifter as the hetero-
dyne voltage source. Block diagrams are presented, and the properties of
the shaper and converter are described. The proposed circuit was used by
the authors to transfer measured phase shifts to a frequency of 277 Hz in
the frequency band from 500 Hz to 100 kHz. An estimate is given for the
phase error when the voltages to be compared are distorted by odd harmonics.
Bibliography of one title. E. L.

1/1

- 39 -

172 017 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ON EXTRAHEPATIC LOCALIZATION OF BILIARY PASSAGES -U-

AUTHOR--(02)--POPOV, S.D., MAYEVSKIY, V.A. M

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA 1970, VOL 104, NR 4, PP
40-42

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BILE, LIVER, ANATOMY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/1256

STEP NO--UR/0589/70/104/004/0040/0042

CIRC ACCESSION NO--AP0106037

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106037

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDYING THE TOPOGRAPHIC DETAILS OF INTRAHEPATIC BILIARY PASSAGES ON HUMAN CADAVERS BY MEANS OF INFUSING VARIOUS SUBSTANCES VIA THE COMMON BILE DUCT INTO INTRAHEPATIC DUCTS IT WAS FOUND THAT BILIARY PASSAGES LOCATED BEYOND THE LIVER BOUNDARIES (FOR INSTANCE IN THE LEFT TRIANGLE LIGAMENT OF THE LIVER AND OTHER LIGAMENTS) AND COMMUNICATING WITH INTRAHEPATIC BILIARY PASSAGES WERE FILLED AND MARKEDLY DETECTED IN A CONSIDERABLE PER CENT OF CASES.

UNCLASSIFIED

USSR

UDC 537.534.8

MAYFET, YU. P., and CHEREPIN, V. T., Institute of Metal Physics, Academy of Sciences Ukr SSR

"An Ion Mass-Spectrum Microscope"

Kiev, Metallofizika, No 40, 1972, pp 109-114

Abstract: An ion mass-spectrum microscope for chemical and isotope analysis of solids is described which uses the phenomenon of ion-ion emission. The possibilities of using the microscope for solving a number of physical metallurgy problems are indicated. 6 figures, 12 bibliographic references.

1/1

Optical

USSR

UDC: 537.533.5

CHEREPIN, V. T., MAYEET, Yu. P., Institute of Physics of Metals, Academy of Sciences of the UkrSSR, Kiev

"An Ion-Electron Image Converter"

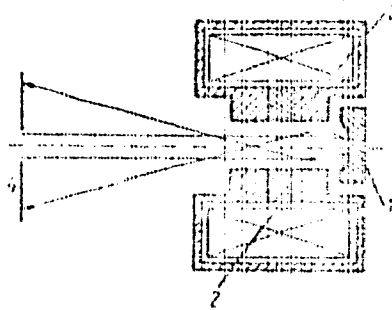
Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, pp 969-971

Abstract: The article describes an ion-electron image converter for ionic mass-spectral microscopes. The converter is a two-electrode magnetoelectrostatic immersion lens with separate accelerating and focusing functions. The working principle of the system is as follows. The ion beam which carries the image is projected on the cathode of image converter 1 (see figure) after leaving the mass analyzer. This induces emission of electrons which are accelerated in the field of the lens between cathode 1 and anode 3, which is formed by the pole piece of a magnetic lens which focuses the electron beam on fluorescent screen 4. Computational and experimental data are given on image reduction.

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USSR

CHEREPIN, V. T., MAYFET, Yu. P., Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, pp 969-971



1--cathode; 2--nonmagnetic insert; 3--anode-polepiece; 4--screen

2/2

USSR

MAYGARIN, B. ZH., MAYSAKANOV, S. ZH.

"The Problem of the Absolute Stability of Third-Order Automatic Control Systems"

Matematika i Mekhanika. Tzisy Dokl 4-y Kazakhstan. Mezhd. Nauch. Konf. Po Mat. i Mekh. Ch. 2. [Mathematics and Mechanics, Theses of Reports of 4th Kazkhstan Inter-University Scientific Conference on Mathematics and Mechanics. Part II -- Collection of Works], Alma-Ata, 1971, pp 4-5. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1A170).

Translation: The absolute stability of a system such as

$$\frac{d\eta_k}{dt} = \sum_{\alpha=1}^2 a_{k\alpha} \eta_\alpha + b_k \xi + m_k f(\sigma) \quad (k=1, 2)$$

$$\frac{d\xi}{dt} = f(\sigma), \quad \sigma = \sum_{\alpha=1}^2 c_\alpha \eta_\alpha - r\xi \quad (1)$$

is studied. The necessary and sufficient conditions for absolute stability of system (1), are produced, when the object of control is stable or neutral with respect to one of the coordinates η_1, η_2 .

1/1

Acc. Nr:

AP0040881

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Ref. Code:

UR 0103

PRIMARY SOURCE: Avtomatika i Telemekhanika, 1970, Nr 1, pp 182
191

CERTAIN CRITERIA OF ABSOLUTE STABILITY
OF CONTROLLED SYSTEMS

B. Zb. MAYGARIN

The mathematical problem of M. A. Aizerman [1] for a system of automatic control with one nonlinearity reduced to a canonical form is considered. Certain classes of systems for which the problem possesses positive solutions have been defined.

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REEL/FRAME
19750620

USSR

UDC 629.78.018.1

ARDASHEVA, M. M., IL'INA, S. A., LODYGIN, N. A., MAYKAPAR, G. I.,
PERVUSHIN, G. Ye., TOLMACHEVA, K. F.

"Use of Fusible Temperature Indicators to Measure Heat Fluxes to Models in Wind Tunnels"

Uch. zap. Tsentr. Aero-gidrodinam. Inta [Scientific Writings of Central Aero-Hydrodynamics Institute], Vol 3, No 1, 1972, pp 77-82, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.171 from the Resume).

Translation: Temperature-indicating countings are widely used in studying heat transfer in aerodynamic experiments. A method is described for studying fusible heat indicators which allows the temperature and temperature interval of melting of the temperature indicators to be determined as a function of pressure and heating rate. The rate of sublimation of the temperature indicators is determined at various pressures. The use of this method has allowed the All-Union Scientific Research Institute of Luminophors and high-purity substances to develop fusible temperature indicators suitable for investigation of heat transfer to flight vehicle models. Model photographs produced in various wind tunnels are presented as examples. 7 Figures; 1 Table; 4 Biblio. Refs.

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USSR

UDC 629.78.015:533.6.011.5

MAYKAPAR, G. I.

"Calculation of Resistance of a Body from the Form of the Head Shockwave"

Uch. zap. Tsentr. Aero-gidrodinam. In-ta [Scientific Writings of Central Aero-Hydrodynamics Institute], Vol 2, No 6, 1971, pp 23-31, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.138 from the Resume).

Translation: Based on the theorem of conservation of mass and momentum, analysis of the order of magnitude and numerical results, the correctness of a formula for calculation of the wave resistance of a semi-infinite cylindrical body on the basis of the form of the head wave is confirmed. The formula can be used to determine the resistance of the nose portions of axisymmetrical and cylindrical bodies on the basis of shadow flow photographs. 9 Figures; 4 Biblio. Refs.

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MAYKAPAR, O. I.

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35

TECHNICAL TRANSLATION

Doc | ISTC-AT 23-2015-07
29 Nov 72

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

RUSSIAN TITLE: PROBLEMY PREDACHI INFORMATSII LAZERNYH IZLUCHENIYEM

AUTHOR: I. A. DERYGIN, ET AL.

SOURCE: KIEV ODESA OF LENIN STATE UNIVERSITY
IMENI T.G. SHERSHENKO

Translated for FSTC by ACS1

NOTICE

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

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USSR

UDC 576.851.48.097:616-006.04

MAYKO, I. I., KACANS'KA, M. B., RASHBA, O. Ya., SHVAYGER, M. O., MANDRIK, T. P.,
and ZHEREBILO. O. S., Institute of Microbiology and Virology, Academy of
Sciences Ukrainian SSR

"Antitumor Activity of Polysaccharide-Containing Complexes of Escherichia coli"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 5, Sep/Oct 71, pp 548-552

Abstract: The antitumor activity of polysaccharide-containing complexes derived from the alkali-forming mutant KM of E. coli was studied in experiments on mice infected with sarcoma 37, lymphadenoma NK/Ly, lymphoma Ly0-1, Ehrlich's tumor, and sarcoma K-239. The following polysaccharide-containing complexes were used: Boivin's antigen; complex antigen prepared according to O. Westfal; complex antigen prepared according to G. Freeman; "alkali" polysaccharides obtained by heating the bacterial mass with alkali; and exocellular polysaccharides isolated from the culture liquid. The highest activity was exhibited by Boivin's and Westfal's antigens, which inhibited the growth of most of the tumors studied. Toxicity (LD50 in mg/kg) was 130, 525, 2200, 3000, and 1700 for Boivin's antigen, Westfal's antigen, Freeman's antigen, "alkali" polysaccharides, and exocellular polysaccharides, respectively. The monosaccharide composition of the polysaccharide-containing complexes was determined chromatographically (table).

1/1

USSR

UDC 547.241 + 547.281.2 + 547.422

RAZUMOV, A. I., MAYKOVA, A. I., and MOSKVA, V. V., Kazan' Chemical-
Technological Institute imeni S. M. Korov, and Chuvash State University
imeni I. N. Ul'yanov

"Reaction of Diethylchlorophosphine With Cyclic Acetals"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol 16, No 10, 1973, pp
1600-1602

Abstract: Cyclic acetals react in a more complex manner with P(III) acid
chlorides than the open acetals. This is due to the fact that a ring may
be opened at various positions of unsymmetric acetals and because of the
various ways in which the intermediate product may react: intra and
intermolecular Arbuzov reaction is possible.

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- 30 -

USSR

UDC 547.26'118+547.292'26 /

GAZIZOV, M. B., SULTANOVA, D. B., MOSKVA, V. V., MAYKOVA, A. I., and
RAZUMOV, A. I.

"Reaction of Diethyl Chlorophosphite With Carboxylic Acid Acylals"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 932-933

Abstract: Acetic acid acylals react easily with diethyl chlorophosphite yielding a mixture of products consisting of ethyl acetophosphonate, ethyl α -alkoxyethylphosphonate, an α -chloroether, and acetyl chloride.

1/1

- 36 -

USSR

UDC 612.826.1:612.825.014.42

MAYORCHIK, V. Ye., VASIN, N. Ya., and IL'INSKIY, I. A., N. N. Burdenko
Institute of Neurosurgery, Academy of Medical Sciences USSR, Moscow

"Role of Specific and Nonspecific Thalamic Nuclei in the Origin of Some
Slow Rhythms in the Human Electroencephalogram"

Kiev, Neyrofiziologiya, No 3, May/Jun 73, pp 227-235

Abstract: The authors developed a technique for electroencephalographic recording of trace reactions of the cortex to electrostimulation of nuclei of the optic thalamus and limbic structures and applied it to 42 patients operated for hyperkinesia, intractable pain, and continuous epilepsy. After discharge cortical activity following stimulation of the ventral-oral nuclei and centrum medianum of the thalamus and amygdaloid nucleus was found to differ in distribution of trace synchronization of the slow rhythms, duration of bursts of trace activity, and intensity of the accompanying autonomic reactions. Electrostimulation of the ventral-oral nuclei during the aftereffect period resulted in relatively local trace synchronization of the slow rhythms in the premotor electroencephalogram on the side stimulated. Cessation of stimulation of the central medianum, in contrast to
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USSR

MAYORCHIK, V. Ye., et al., *Neyrofiziologiya*, No 3, May/June 73, pp 227-235

the ventral-oral nuclei, caused bilateral synchronization of the slow rhythms that sometimes coincided with the onset of bradypnea, bradycardia, and vaso- and pilomotor reactions. Stimulation of the amygdaloid nucleus elicited the most pronounced autonomic reactions combined with prolonged bursts of trace hypersynchronization of the slow oscillations or epileptogenic discharges.

2/2

Theoretical Automation

USSR

UDC 8.74

KRAYZMER, L. P., MATYUKHIN, S. A., and MAYORKIN, S. G.

"Memory of Cybernetic Systems (Principles of Mnemotika)"

Pamyat' kiberneticheskikh sistem (osnovy mnemologii) (cf. English above), Moscow, "Sov. Radio," 1971, 399 pp, ill. 1 r. 29 k. (from Elektronika, No 5, May 72, Abstract No 5V479K by V. MIDCHEYEV)

Translation: The work sets forth the principles of mnemology -- the body of knowledge about the memory of cybernetic systems. Questions of the organization, structure, and functioning of the memory of technical and biological systems are dealt with. The book consists of 12 chapters. In Chapter I the authors note the important role of the memory in cybernetic systems and examine the principles of information accumulation and certain questions of terminology. Chapter II gives a general survey of ideas about memory and data-storage devices, beginning with the precybernetic period. Chapter III presents basic parameters, a classification, and comparative characteristics of technical storage devices with human memory. Chapter IV discusses the question of a material medium as an information file. Chapter V is devoted to the classification and general characteristics of biological and technical storage elements. Chapter VI presents concepts of the neuron networks of living organisms and the 1/2

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KRAYZMER, L. P., et al., Pamyat' kiberneticheskikh sistem (osnovy memologii)
"Sov. Radio", 1971, 399 pp.

idea of a trace in biological neuron networks and artificial networks of formal neurons. It also presents basic circuits of technical storage units. Chapter VII considers the structural peculiarities of the memory of computers, and questions of the localization and hierarchy of human memory. Chapter VIII discusses questions of data input and output in biological and technical memory systems. Chapter IX gives a characterization of read-only memories (ROMs) considers the question of employing holographic methods of data representation in ROMs, and gives a description of genetic memory. Chapter X is devoted to questions of information retrieval in the memory. Chapter XI sets forth questions of the operating stability of storage units, informational reliability of the memory, and structural redundancy in storage units. Chapter XII considers the prospective lines of further research and development in the field of technical and biological memory devices.

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UDC: 8.74

KRAYZMER, L. P., MATYUKHIN, S. A., MAYORKIN, S. G.

"Memory in Cybernetic Systems (Principles of Mnemology)"

Pamyat' kiberneticheskikh sistem (osnovy mnemologii) (cf. English above), Moscow, "Sov. radio", 1971, 399 pp, ill. 1 r. 29 k. (from RZh-Kibernetika, No 5, May 72, Abstract No 5V479 K)

Translation: The book presents the principles of mnemology -- the study of memory in cybernetic systems. Problems of the organization, structure and functioning of memory in technical and biological systems are considered from common procedural standpoints. The book consists of twelve chapters. In chapter I the authors note the important part played by memory in cybernetic systems, consider the principles of accumulating information, and discuss certain questions of terminology. Chapter II contains a general survey of the concepts of memory and data storage devices beginning with the precybernetic period. Chapter III gives the basic parameters, classification and comparative characteristics of technical storage devices and the human memory. In chapter IV the problem of a material medium as an accumulator of information is discussed. Chapter V is devoted to classification and to the common characteristics of biological and technical

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KRAYZMER, L. P. et al., Pamyat' kiberneticheskikh sistem (osnovy mnemologii), Moscow, "Sov. radio", 1971

memory elements. Chapter VI deals with the concepts of neuron networks in animate organisms, the idea of a trace in networks of biological neurons and artificial networks of formal neurons, as well as presenting basic circuits for technical memory units. Chapter VII examines the particulars of memory structure in cybernetic systems, memory structure in computers, and problems of localization and hierarchy in the human memory. In chapter VIII, problems of input and output of information in biological and technical memory systems are discussed. Chapter IX gives the characteristics of permanent memory devices, examines the question of using holographic methods of data representation in permanent memories, and describes the genetic memory. Chapter X deals with problems of data retrieval in a memory. Chapter XI takes up problems of operational stability of a memory device, informational reliability of a memory, and structural redundancy in a memory device. Chapter XII examines prospects for the development of further research and advance in the field of technical and biological memory units. V. Mikheyev.

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USSR

UDC 669.046.5

STEPANOV, V. I., YAVOYSKIY, V. I., and MAYOROV, A. I.

"Phosphorus and Sulfur Removal Processes in an Oxygen Converter"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS) (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys) Izd-vo "Metallurgiya," No 61, 1970, pp 170-172

Translation of Abstract: The results of investigations on metal quality carried out during operation of a 3-ton test oxygen converter with two axes of rotation are presented. By varying the converter rpm and oxygen flow rate it is possible to control the phosphorus and carbon oxidation rate in reduction of high-phosphorus pig iron. The sulfur oxidation process is described. It occurs along two directions: the sulfur removal with the slag and through the gas phase (more than 35% S is removed through the gas phase). The results show that favorable conditions for dephosphoration and desulfuration reactions are generated in a converter with two axes of rotation. 1 figure.

1/1

USSR

UDC:620.179.152

FIRSTOV, V. G., MAYOROV, A. N., SUL'KIN, A. G., CHEREVATENKO, G. A. and
YAKSHIN, V. V.

"New Sharp-Focus Iridium-192 Sources for Radiography"

Defektoskopiya, No. 3, 1970, pp. 95-100

Abstract: Some problems involved in the application of sharp-focus iridium-192 sources in the radiography of industrial products are studied. The expediency of using these sources for radioscopy of welded tubes is demonstrated, particularly for testing in difficulty accessible locations at short focal lengths. The results produced are explained using data on quantities comparing the unsharpness of gamma images and spectral distributions from standard and sharp-focus sources. The use of sharp-focus gamma radiation sources of this type allows radiographic testing of industrial products at focal distances 3-times shorter than when standard sources are used, expanding the boundaries of application of gamma defectoscopy of welded joints. The sensitivity of radiography using

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USSR

UDC:620.179.152

FIRSTOV, V. G., MAYOROV, A. N., SUL'KIN, A. G., CHEREVATENIKO, G. A.,
YAKSHIN, V. V., Defektoskopiya, No. 3, 1970, pp. 95-100

sharp-focus sources is improved in comparison with standard sources, both as a result of the decrease in the geometric unsharpness of gamma images and due to improvement of the spectral distribution of the radiation.

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1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--WASHING OF SUSPENSION POLYMERS IN A ROTOR PULSATION APPARATUS -U-

AUTHOR--(05)-MAYOROV, B.A., GARBUZOVA, G.L., SVICHAR, L.I., DERKO, P.P.,
NOVICHKOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 59-60

DATE PUBLISHED-----70

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

TOPIC TAGS--POLYVINYL ACETAL RESIN, CELLULOSE RESIN, CHEMICAL SUSPENSION,
MANUFACTURING METHOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0579

STEP NO--UR/0191/70/000/003/0059/0060

CIRC ACCESSION NO--AP0119497

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119497

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WASHING PROCESS OF POLY(VINYL BUTYRAL) AND ET CELLULOSE IN A ROTOR PULSATION APP. WAS STUDIED ANAL. TO DET. THE OPTIMUM NO. OF WASHING CYLCES UNDER MANUFG. CONDITIONS. THE WASHING WAS EFFICIENT, REQUIRED LESSER AMTS. OF WASHING AGENTS, AND COULD BE USED AS A CONTINUOUS PROCESS.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF A STEP BY STEP DYNAMIC EXPERIMENT FOR DETERMINING THE
OPTIMUM CONDITIONS OF A CATALYTIC PROCESS -U-
AUTHOR-(05)-BLANDIN, YU.V., KALININA, E.V., KUDRYAVTSEY, B.M., MAYOROV,
D.M., MOROZOV, G.A.
COUNTRY ~~USSR~~ *M* USSR AND HUNGARY
SOURCE--NEFTEPERARAB. NEFTEKHIM. (MOSCOW) 1970, (2), 32-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CATALYSIS, HYDROGENATION, FATTY ACID, CHEMICAL REACTOR,
CHEMICAL PRODUCT PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0567 STEP NO--UR/0318/70/000/0027/0032/0034
CIRC ACCESSION NO--AP0119465
UNCLASSIFIED

2/2 008
CIRC ACCESSION NO--AP0119485

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD WAS APPLIED TO DIRECT HYDROGENATION OF FATTY ACIDS TO ALCS. USING FACTORIAL PLANNING BY MEANS OF A PILOT PLANT. THE MAX. PRODUCTIVITY, TAKEN AS OPTIMIZATION CRITERION, WAS OBTAINED AT 240DEGREES AT THE REACTOR BOTTOM INTAKE STOCK SPACE VELOCITY 0.3 ML-HR AND INTAKE STOCK H RATIO 1:700.

UNCLASSIFIED

USSR

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UDC 621.396.677.4:621.396.965(088.9)

KHLYUPIN, G. D., SYCHEVA, L. A., MAYOROV, G. I.

"Device for Control of the Beam of a Planar Array"

USSR Author's Certificate No 249061, Filed 24 Oct 67, Published 27 Jan 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B76P)

Translation: The proposed device contains a control unit, a converter and decoders. In order to simplify the device it contains two coordinate multipliers executed from calculating circuits the outputs of which are connected via logical OR circuits to the inputs of the decoders, and the inputs of the multipliers are connected to the outputs of the converter. There are five illustrations.

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(5)

USSR

UDC 535.37:621.375.8

BOL'SHOV, M. A., GUZEYEV, I. D., ZYBIN, A. V., KOLOSHNIROV, V. G., MAYDROV, I. A., NEDLER, V. V., MANDEL'SHTAM, S. L., TIMOFEYEV, Ye. F., and FILIMINOV, L. N.

"Determining Small Na Concentrations by the Fluorescence Resonance Method Using Tunable, Pulsed Dye Lasers"

Minsk, Zhurnal Prikladnoy Spektroskopii, November 1973, pp 821-824

Abstract: The subject of this article involves the method of fluorescence resonance in the use of tunable radiation dye lasers for detecting small concentrations of elements. Experiments designed to demonstrate the possibilities of this method in the saturation mode of resonance transition with Na as the element to be detected are described. For the excitation of the Na vapor a rhodamine laser of the 6Zh type, pumped by the second harmonic radiation of a neodymium laser, was employed. The duration of the pulses was $2 \cdot 10^{-8}$ sec, their power was 10^5 W, the width of the fluorescence line was 1 Å, and the tunable range 5600-6200 Å, with an interval of 20-30 sec between scintillations. The FNR-3 was used as receiver. A block diagram of the equipment is given, together with a curve for the amplitude of the
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BOL'SHOV, M. A., et al., Zhurnal Prikladnoy Spektroskopii, November 1973,
pp 821-824

fluorescence signal varying with time. The authors find that using a laser
with high scintillation repetition rates and increasing the light power
increase the sensitivity of the element detection.

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USSR

UDC 661.143

DESYUK, V. G., KAPLENOV, I. G., and MAYOROV, M. I.

"Photoelectric Registration of Total Light "

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Substances), 1971, vyp 6, pp 149-151 (from Zh-Khimiya, No 17 Oct 72, Abstract No 17L172)

Translation: By using a converter which changes an input signal to pulses, the total light can be registered with respect to attenuation in 3-5 minutes, which is a considerable gain over the photographic method. The installation can be used for determining other integrated luminescence characteristics.

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USSR

UDC: 577.4

GOL'DMAN, R. S., MAYOROV, S. A., CHIPULIS, V. P.

"Test Check of Circuits in the Production Process"

Tr. IV Vses. soveshch. po avtomat. upr., 1968. Tekhn. sredstva avtomatiki
(Works of the Fourth All-Union Conference on Automatic Control, 1968. Technical Facilities for Automation), Moscow, "Nauka", 1971, pp 34-44 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V389)

[no abstract]

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USSR

UDC 691.3

KRUGLIKOV, V. K., ~~MAYOROV, S. A.~~, TEYMURAZOV, E. S., Leningrad Institute of Precision Mechanics and Optics

"Increasing the Reliability of Detecting a Useful Signal in a Photocreadout Device"

Leningrad, Izvestiya vysshikh uchebnykh zavedeniy - Priborostroyeniye, No. 11, 1971, pp 65-67

Abstract: The basic reasons for fluctuations in the output current of a photo-reader are analyzed and a method is proposed for dynamic selection of the threshold maximizing the reliability of distinguishing a useful signal. A useful signal s is said to have a dual nature: either $s = 0$ is absent or $s = 1$ is present. A change in the supply voltage, inhomogeneity in the paper, soiling, uneven printing of the symbols, etc. result in the output current corresponding to the presence or absence of a useful signal not being stable and in extreme cases the photocurrent corresponding to the presence of a useful signal (maximum darkening) appears greater than the photocurrent from the background. The reliability of distinguishing a useful signal under a constant threshold h may not be high under such fluctuations. Contrast is suggested to

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KRUGLIKOV, V. K., et al, Izvestiya vysshikh uchebnykh zavedeniy - Priborostro-
yeniye, No. 11, 1971, pp 65-67

raise the reliability: a drop in the intensities of the light flow correspond-
ing to the code 0 or 1 of the useful signal s . Fluctuations in photocurrent
caused by paper inhomogeneities, soiling of the paper and uneven printing are
identified with white noise, since the correlation time of these rapid fluctu-
ations is less than the discreteness interval Δt for reading the information.
Information from the paper is reduced discretely with step Δt . The output
current $s_0, s_1, s_2 \dots$ then exhibits aftereffect properties so that in select-
ing the threshold h the probability of the appearance of a zero $P(0/s_1, s_2, \dots)$
or one $P(1/s_1, s_2, \dots)$ is taken into account under the condition that before
this a certain combination s_1, s_2, \dots of zeros and ones is assumed. An expres-
sion is obtained for the optimal value of the threshold h . In an experimental
test the application of this dynamic threshold decreased the number of reading
errors by a factor of approximately 2.8.

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USSR

UDC: 681.32.001

MAYOROV, S. A., PETUKHOV, G. A., SKORUBSKIY, V. I., SONDLOVA, N. S., CHESNOKOV, M. N.

"Problem of Arrangement of Structural Units When Planning and Designing Digital Devices"

Skaisiavimo technika, Vychisl. Tekhnika. T. 1 (Computer Engineering, Vol 1), Kaunas, 1970, pp 275-279 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep 70, Abstract No 9B200)

Translation: A generalized statement of the arrangement problem for devices of any level is presented by introducing the concept of the functional-structural unit and mounting space. The following steps in obtaining optimal arrangement are investigated: selection of the initial arrangement, optimization of the circuits connecting more than two contacts, processing the connection list, and improvement of the selected arrangement. The results of practical execution of the described problem on the Minsk-22 digital computer are presented. There is one illustration and a two-entry bibliography.

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USSR

UDC 632.96

KAMILOVA, R. M., KHIKMATOVA, A., MAYOROV, S. A., MAKHUMOV, A. G., SAFAYEV, A., and MIRZABAYEV, E. A.

"A Herbicide"

USSR Author's Certificate No 324025, filed 7 Oct 69, published 18 Feb 72
(from RZh-Khimiya, No 22, Nov 72, Abstract No 2211489 F)

Translation: It is proposed that 2,5-bis-(2,4,6-triiodophenoxy)methyl thiophene (I) be used as a high-quality herbicide. Pregermination treatment with compound I in a dose of 10 kilograms per hectare killed 100% of the weeds, (purslane, barnyard millet) without damage to cotton. T. A. Belyayeva.

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MAYOROV, S.V.

Photoelectronics Thermoelectronic Instruments

1. REPORT NUMBER JNS 59951	2. DATE 4 September 1973	
3. TITLE PHOTOELECTRONIC AND THERMOELECTRONIC INSTRUMENTS AND THEIR APPLICATIONS <i>Photoelektronika i termoelektronika instrumenty i ikh primeneniye</i>		
4. AUTHOR S. V. Mayorov		
5. ORGANIZATION Joint Publications Research Service 1090 North Glebe Road Arlington, Virginia 22201		
6. AVAILABILITY STATEMENT AS EXEMPT		
7. SUBJECT TERMS The general operating specifications of the design and physical principles of operation of various photoelectronic and thermoelectronic instruments including multipliers, transmitting television tubes and image converters. Nine tables, 111 illustrations, 53 bibliographic references.		
8. DISTRIBUTION STATEMENT USAR Electronics Photoelectronic Instruments Thermoelectronic Instruments		
9. SECURITY CLASSIFICATION UNCLASSIFIED		
10. DISTRIBUTION STATEMENT The following information is available: 10.1. This report is available to the public. 10.2. This report is available to the public. 10.3. This report is available to the public. 10.4. This report is available to the public. 10.5. This report is available to the public.	11. NUMBER OF PAGES 23	
12. THIS FORM MAY BE REPRODUCED		

USSR

UDC: 518.5:681.3.06

MAYOROV, V. I.

"Programs of Calculations for an On-Line Production Planning System on the 'Ural-2' Computer"

V sb. Vychisl. metody i programmir. (Computer Methods and Programming--collection of works), vyp. 4, Saratov, Saratov University, 1970, pp 62-93 (from RZh-Matematika, No 11, Nov 71, Abstract No 11V950)

Translation: The following programs are described: 1) a program for determining the quota of an enterprise by commodities; 2) a program for recording commodity data on magnetic tape storage; 3) a program of data selection for each subdivision of the commodity quota plan of the enterprise; 4) a program for inserting the expected quantity of a commodity and the numbers of daily assignments into the commodity data for a department, and determining the original ordinal number of the daily assignment for a commodity with respect to incompleting production; 5) programs for processing data on goods made (rejected) by a department on preceding days; 6) a program for correcting commodity data; 7) auxiliary programs.
V. Mikheyev.

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1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF NOMOGRAMS TO DESCRIBE PYROLYSIS PROCESSES -U-

AUTHOR--(021)-MAYOROV, V.I., MUKHINA, T.N.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTKHM. (MOSCOW) 1970, (3), 19-22

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--NOMOGRAPH, PYROLYSIS, ETHANE, PROPANE, BUTANE, GASOLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/2049

STEP NO--UR/0318/70/000/003/0019/0022

CIRC ACCESSION NO--AP0125637

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125637

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AN ATTEMPT WAS MADE TO SYSTEMATIZE EXPTL. DATA ON HYDROCARBON PYROLYSIS BY COMPARING NEMOGRAMS DEPICTING PYROLYSIS YIELDS FROM C SUB2 H SUB6, C SUB3 H SUB8, N,C SUB4 H SUB10, ISO,C SUB4 H SUB10 AND STRAIGHT DISIN., PLATFORMING, AND HYDROFORMING GASOLINES AS FUNCTIONS OF TEMP., CONTACT TIME, AND STEAM DILN. EXAMPLES SHOW THE USE OF SPECIAL NEMOGRAMS FOR CASES IN WHICH THE STEAM WAS HEATED BY THE OUTFLOWING PYROLYSIS GAS AND WHERE IT WAS PRODUCED BY COMBUSTION OF H.

UNCLASSIFIED

USSR

UDC: 621.397.61

SIDORKIN, N. A., MAKAROV, Yu. S., MAYOROV, V. N., ZAYTSEV, G. N., KUDRYAV-
TSEV, V. A.

"A Stereoscopic Television Camera"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 3, Jan 71, Author's Certificate No 291377, Division H, filed 31 Mar 69,
published 6 Jan 71, p 162

Translation: This Author's Certificate introduces a stereoscopic television camera for inspection of wells, pipelines, etc. The device contains two television transmitting tubes, scanning devices, an optical system containing two identical reflecting truncated cones located on a single optical axis with the objective lenses, and a receiver. As a distinguishing feature of the patent, the unit is designed for more detailed inspection of individual sections of the surrounding space. Between each of the reflecting truncated cones and the transmitting camera lens is a flat mirror with a hinged device set at an angle to the optical axis of the objective lenses and connected by a rod and speed reducer to the focusing system of the objective lenses. The hinged device of the mirror is connected to an electrical interlock system which is coupled to the inverse stage of the scanning device.

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USSR

UDC: 550.834

BALASHKAND, M. I., FILIPPOV, N. G., YEFIMENKO, M. D., CHEN, O. L., MAYOROV,
V. V., KRASHNOL'SKIY, A. D., SOLODILOV, L. N., YEVDOKHINOV, G. S., Ramen-
skoye Department of the All-Union Scientific Research Institute of Geo-
physical Methods of Prospecting

"A Device for Emission of a Seismic Signal"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye Znaki,
No 8, Mar 72, Author's Certificate No 330407, Division G, filed 20 Jan 70,
published 24 Feb 72, p 142

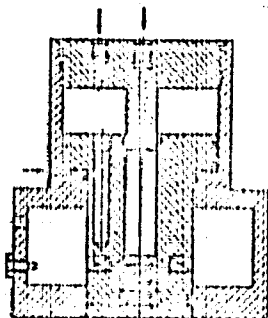
Translation: This Author's Certificate introduces: 1. A device for emis-
sion of a seismic signal. The device contains compressed-air and liquid-fuel
supply systems and a pneumatic chamber with movable piston which opens and
closes the outlet part of the chamber. As a distinguishing feature of the
patent, the compressed-air discharge energy is increased and the heat and
force load on the chamber is reduced by fitting the movable piston with
atomizers which break up the fuel in the compressed air during gas exhaust
and by attaching a device for ignition of the fuel mixture to the chamber
housing. 2. A modification of this device distinguished by the fact that

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JALASHKAND, M. I. et al., USSR Author's Certificate No 330407

the movable piston has a channel filled with fuel and communicating with the atomizer through a check valve, and the cover of the chamber has a rod which enters the channel of the piston and feeds fuel into it through the check valve. 3. A modification of this device distinguished by the fact that the attachment for igniting the fuel mixture is made in the form of a wedge.



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USSR

UDC 550.834.05

BALASHKAND, M. I., SHEVELEV, V. A., TETERIN, A. I., MICHEYEVA, L. V.,
MAYOROV, V. V., LOVLYA, S. A., Ramenskoye Department of the All-Union
Scientific Research Institute of Geophysics

"A Gas Detonation Installation"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzyy, Tovarnyye Znaki,
No 2, Jan 73, Author's Certificate No 362131, Division G, filed 24 Aug 67,
published 13 Dec 72, p 74

Translation: This Author's Certificate introduces a gas detonation in-
stallation consisting of tanks with oxidizer and fuel, measuring vessels,
a detonation head, an explosive chamber, an exhaust chamber, electro-
magnetic valves, tubing, pipelines, and a unit for controlling the elec-
tromagnetic valve system. As a distinguishing feature of the patent, the
reliability of explosion cutoff is improved by making the explosive deto-
nation head in the form of cavities separated by valves. One of the cavi-
ties is equipped with a device for igniting the gas mixture, and is con-
nected to the explosion chamber by a channel with check valve.

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USSR

UDC 621.385.6

KOROZA, V. I., MAYOROV, Yu. K., SALIN, R. A.

"The Problem of Spatial Harmonics and Partial Flows"

V sb. Uskoriteli (Accelerators -- Collection of Works), No 12, Moscow, Atomizdat, 1970, pp 205-207 (from RZh--Elektronika i yeye primenaniya, No 10, October 1970, Abstract No 10A21)

Translation: An analysis is conducted of equations in the general form for the flow of energy through a delaying system with a period D. It is possible to use the expressions obtained if a further determination is introduced. As a function of the method of extension of the field, the effect of the equation is extended, either at the space interaction only or at all the interior of the delaying system. 2 ref. V. A.

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UDC 621.372.853:621.385.63

VOSKRESENSKIY, G. V., MAYOROV, YU. K.

"Calculating Charge Losses to Radiation in an Iris Waveguide"

Uskoriteli (Accelerators), vyp. 12, Moscow, Atomizdat Press, 1970, pp 27-35
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B105)

Translation: This article contains a study of the problem of exciting electromagnetic waves by a charge which moves in a round waveguide periodically loaded by irises. It is proposed that the charge moves uniformly at some distance from the axis of symmetry of the waveguide. The solution is found with the help of Vaynshteyn excitation theory. Expressions are obtained for the longitudinal component of the electric field and the charge energy losses to radiation in the pass band. The dependence of the radiated energy in the lower pass band of the symmetrical E-wave on the charge velocity is presented. Losses to radiation in various transmission zones are given for a closed cylindrical resonator. There are three illustrations and a three-entry bibliography.

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USSR

UDC 621.372.851

VOSKRESENSKIY, G. V., MAYOROV, YU. K.

"Study of the Properties of Magnetic Symmetrical Waves in an Eris Waveguide"

Uskoriteli (Accelerators), vyp. 12, Moscow, Atomizdat Press, 1970, pp 49-53
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B104)

Translation: The dispersion properties of magnetic symmetrical waves are analyzed as a function of the waveguide geometry (See Uskoriteli [Accelerators], vyp. X, 1968, page 52). There are three illustrations and a three-entry bibliography. See RZhEiP, 1969, 5A196.

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USSR

UDC 612.013.1.014.43.014.461

POKROVSKIY, V. I., BULYCHEV, V. V., LISYKOV, T. Ye., MALIYEV, V. V.,
UTEKHIN, V. A., CHERNAYEVA, T. Ye., MAYOROV, Yu. M., MILOVIDOVA, S. S., and
KAFAROV, K. A., Central Department of Infectious Pathology, Scientific Research
imeni N. N. Pirogova, Institute of Epidemiology, Ministry of Health USSR,
and chair of Hospital Therapy, Evening Faculty, Second Moscow Medical Institute,
and Chair of Hygiene, State Central Institute for Physical Culture

"Effect of Dehydration and Hyperthermia on Homeostasis in Healthy Persons"

Moscow, Sovetskaya Meditsina, No 2, 1973, pp 27-31

Abstract: Blood chemistry and cardiovascular changes were studied in 20
healthy males aged 18 to 32 before and after staying various lengths of time
in a sauna bath (15 to 30 and 35 to 55 minutes of exposure to temperatures of
80 to 100° and humidity of 8%). In those who remained in the sauna 15 to 30
minutes, hyperthermia resulted in hyperfunction of the heart, slowing of the
blood flow, elevation of the pH and pressure of venous blood, increase in
serum proteins and in the specific gravity and viscosity of blood, decrease in
clotting time, loss of chlorine and potassium. In the group that remained in
the sauna over 35 minutes, dehydration caused a loss of electrolytes (chiefly
chlorine and potassium) with urine, cardiac hypofunction, slowing of the blood

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USSR

POKROVSKIY, V. I., et al., Sovetskaya Meditsina, No 2, 1973, pp 27-31

flow, decrease in venous and arterial blood pressure, shortening of clotting time, and increase in blood proteins, specific gravity, viscosity, and pH. The biochemical changes in both groups were within physiological limits and had no lasting effects. These findings can be used to determine disruptions of homeostasis, evaluate alterations in water-salt metabolism, acid-base equilibrium, etc. in infectious patients, and assess the efficacy of therapy, particularly in gastrointestinal diseases.

2/2

UDC: 681.325.3

USSR

GORODETSKIY, M. S., BRONSHTEYN, G. V., MAYOROVA, E. A.

"Procedure for Manufacturing Code Discs of Contact Angle-Code Converters"

USSR Author's Certificate No 254221, Filed 14 Jun 68, Published 20 Jan 70
(from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep
70, Abstract No 9B565P)

Translation: Procedures for manufacturing code discs of contact angle-code converters based on etching or applying a thin layer of metal to a substrate of insulating material are known. However, code discs manufactured by these methods are insufficiently long-lived, and they cannot be restored because of the small thickness of the metal layer. This Author's Certificate introduces a procedure which differs from the known procedures by the fact that the code mask in the foundry mold is made of bit rings which have centering heads, orienting grooves, and fixing holes. Then they are poured under pressure from wear resistant plastic, and after hardening, the risers are removed for electric separation of the contacts. This permits manufacture of the lamella of the code disc from quenched steel, which operation increases the life appreciably. The considerable thickness of the metal permits multiple restoration of the disc by grinding its operating surface. There are four illustrations.

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1/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--POLAROGRAPHIC STUDY OF THE KINETICS AND MECHANISM OF N, N-DIMETHYLFORMAMIDE HYDROLYSIS IN THE PRESENCE OF FORMIC ACID -U--
AUTHOR--(04)-SEROVA, N.V., TURVAN, YA.I., MAYOROVA, G.G., VENGRYAZHINA, T.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 899-902

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL KINETICS, CHEMICAL REACTION MECHANISM, FORMIC ACID, AMIDE, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1510

STEP NO--UR/0079/70/0407004/0399/0902

CIRC ACCESSION NO--AP0135171

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135171

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE TABULATED FOR HYDROLYSIS OF DMF IN SOLNS. OF HCO SUB2 NA CONTG. NACLO SUB4 OR IN HCO SUB2 H HCO SUB2 NA, AT 80 TO 140DEGREES. THE HYDROLYSIS IS A REACTION OF 1ST ORDER IN RESPECT TO H SUB2 O AND IN RESPECT TO DMF; IT IS CATALYZED BY ACIDS IN THE PRESENCE OF HCO SUB2 H. AT LESS THAN 20 WT PERCENT H SUB2 O IN THE SYSTEM, CATALYSIS BY MOL. HCO SUB2 H PREDOMINATES. AS H SUB2 O CONC. IS RAISED, CATALYSIS BY H SUB3 O PRIME POSITIVE ALSO INCREASES IN IMPORTANCE. FACILITY: NAUCH. ISSLED. INST. MONOMER. SIN. KAUCH., YAROSLAVL; USSR.

UNCLASSIFIED

USSR

UDC: 533.6.013.42

VORONOVA, L. S., MAYOROVA, I. S.

"Oscillations of a Plate in a Reservoir With a Bottom Having Nonlocal Pliability"

Tr. koordinats. soveshch. po gidrotekhn. (Works of the Coordination Conference on Hydraulic Engineering), 1972, vyp. 64, pp 135-140 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7V314)

Translation: The plane problem is solved for a plate oscillating in accordance with a harmonic law on a boundary with a semi-infinite layer of ideal compressible fluid. The fluid layer is bounded by a free surface above, and from below it is bounded by a base having elastic pliability described by two characteristics: the coefficient of rigidity which characterizes the influence of elastic pliability and inertia of the base, and a coefficient which accounts for the degree of nonlocality of stress distribution due to the presence in the base material of tangential stresses which distribute the load. The calculations revealed an appreciable influence from the coefficient of rigidity and the coefficient of stress nonlocality on the position of resonance of the fluid layer. R. A. Shipov.

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1/2 010 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--SOLVENT EFFECT ON THE DIFFERENTIAL CAPACITY AND INTERFACIAL TENSION
OF A MERCURY ELECTRODE IN CONCENTRATED LITHIUM NITRATE SOLUTIONS -U-
AUTHOR-(03)-IVANUV, V.F., DAMASKIN, B.B., MAYOROVA, L.F.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKIMIYA 1970, 6(3), 382-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MERCURY, DROPPING MERCURY ELECTRODE, LITHIUM COMPOUND, NITRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0211

STEP NO--UR/0364/70/006/003/0382/0384

CIRC ACCESSION NO--AP0115915

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL CAPACITY C AND THE INTERFACIAL TENSION σ OF A Hg ELECTRODE WERE MEASURED IN 0.1N AND SATD. SOLNS. OF LIND SUB3. THE ΔC AT THE MIN. OF THE C ϕ CURVES AT EPSILON SMALLER THAN 0, AND $\Delta \sigma$ AT EPSILON EQUALS 0 WERE PLOTTED VS. THE MOLAR CONC. C SUBO, OF LIND SUB3 IN SOLNS. OF H SUB2 O, MEOH, AND ETOH, WHERE ϕ IS THE ELECTRODE POTENTIAL AND EPSILON THE SURFACE CHARGE D. ON THE ELECTRODE. THE C AT EPSILON SMALLER THAN 0, INCREASES AND σ AT EPSILON EQUALS 0, DECREASES, WITH INCREASING C SUBO, IN THE ORDER H SUB2 O LARGER THAN MEOH LARGER THAN ETOH. THESE EFFECTS ARE ATTRIBUTED BASICALLY TO A LOW SOLV TION OF NO SUB3 PRIME NEGATIVE IONS AND THE DISPLACEMENT EFFECT OF THE SOLVENT MOLS. THEREON. MIN. IN THE ΔC σ C SUBO CURVES FOR MEOH AND ETOH ARE ASCRIBED TO THE ADSORPTION ON THE Hg SURFACE OF A LAYER OF SOLVENT MOLS, BENEATH ADSORBED NO SUB3 PRIME NEGATIVE IONS. THE VALUES OF THE SHIFT OF THE ZERO CHARGE POTENTIAL, ON INCREASING C SUBO FROM 0.1N TO SATN., ARE MINUS 140, MINUS 100, AND MINUS 20 MV IN H SUB2 O, MEOH, AND ETOH SOLNS. RESP., I.E., IN THE ORDER OF DECREASING DISPLACING EFFECT.

FACILITY: TUL. POLITEKH. INST., TULA, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--USE OF A CHROMIUM CONTAINING CONCENTRATE TO IMPROVE THE SURFACE OF
STEEL CASTINGS -U-
AUTHOR-(03)-MAYOROVA, L.I., KRYLOVA, S.SH., KHRAPACH, I.P.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, 2, 38
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CAST STEEL, CHROMIUM CONTAINING ALLOY, FOUNDRY TECHNOLOGY,
PROTECTIVE COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1739

STEP NO--UR/0128/70/002/000/0038/0038

CIRC ACCESSION NO--AP0118717

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 018

CIRC ACCESSION NO--AP0118717
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A NEW MIXT. WAS PRODUCED WHICH WAS USED AS A COATING FOR THE PROTECTION OF STEEL CASTINGS FROM PITTING. THE MIXT. CONSISTS OF A 100PERCENT CR CONCENTRATE, 15PERCENT CLAYEY PASTE (4PERCENT MOISTURE), AND A 5PERCENT SULFIDE ALC. WASTE LIQUOR. ITS CHEM. COMPN. IS CR SUB2 0 SUB3 62.48, SIO SUB2 1.6, CAO 0.2, FE SUB2 0 SUB3 13.58PERCENT, OTHER COMPS. 1.5PERCENT, MOISTURE CONTENT 0.04PERCENT. THE MOLDS ARE COATED WITH THE MIXT. TO A THICKNESS OF 20-30 MM AND THEN DRIED AT 350-400DEGREES.

UNCLASSIFIED

UDC 632.95.024:635.13

USSR

IVANOVA, Ye. P., Kazakhsky Scientific Studies Institute of Potato and Vegetable Farming, NEKRASOVA, A. S., BAKANOV, Sh. A., and MAYOROVA, R. I., Kazakh Scientific Research Institute of Regional Pathology

"The Effectiveness of Prometrin Against Weeds on Carrot Seedlings and the Occurrence of Its Residues in the Crop and in the Plant"

Moscow, Khimiya v Sel'skom Khozyystve, No 7, Vol 11, 1973, pp 61-63

Abstract: Prometrin -- 2-methylthio-4,6-bis(isopropylamino)sym-triazine -- is one of the herbicides suggested for use on carrots in the Alma-Atinsky region. Under the conditions in this area, prometrin was singularly effective against annual monocotyledon and dicotyledon weeds. The amount of control for 3 years -- 1969 through 1971 -- is shown together with the meteorological conditions. Values for several indicators of plant productivity and vitality are shown for a control group and groups treated with 1.5 kg/hectare or 2.0 kg/hectare for 1969 and 1970. In doses of 1.5 kg/hectare it reduces the choking by 97.0% and the overall mass of weeds by 96.8%. No adverse effects on the seedlings or residue in the crop were observed for this dose. Residues were observed when higher doses (2.5 to 3.5 kg/hectare) were used.

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