FROLOV, N.M.; MAKARENKO, F.A., doktor geol.-mineral.nauk, otv.red.; STOLYAROV, A.G., red.izd-va; ROMANOV, G.N., tekhn.red.

[Underground waters in the western part of the Black Sea artesian basin; conditions of distribution, utilization, paleohydrogeology, and geothermy] Podzemnye vody zapadnoi chasti Prichernomorskogo artezianskogo basseina. Moskva, Izd-vo Akad.nauk SSSR, 1961. 113 p. (Akademia nauk SSSR. Laboratoriia gidrogeologicheskikh problem. Trudy, vol. 38). (MIRA 15:3)
(Black Sea region--Water, Underground)

ROMANOV, G.N.

Forming a colored design on the warp in multicolored weaving.
Tekst.prom. 16 no.11:29-32 N '56. (MLRA 9:12)
(Textile design) (Color in the textile industry)

ROMANOV, G. N.

36219. ROMANOV, G. N. I GURINA, YE. G. -- Motal'naya mashina MB-4 Tekstil. prom-st', 1949. No. 11, s 37-38.

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

IVANKOV, G. N.

23360 zamena pishchevykh produktov v shlikhtovanii. /s primech. red./ tekstil. prom-st', 1949, No. 6, c. 26

SO: LETOPIS NO. 31, 1949

GORBENKO,V.L.; TABACHNIKOV,I.Z.; KACHER,V.A.; ROMANOV,G.P.

A holding fixture for honing oscillating workpieces. Stan. i instr. 26 no.5:28 My '55. (MLRA 8:8)
(Grinding and polishing)

ROMANOV, G.P.

KHRYCHEV, A.S.; ROMANOV, G.P.

Producing dividing discs. Stan. i instr. 25 no.10:29-31 O '54.
(Milling machines) (MLRA 7:11)

KHRISTOV, V.; STANOLOV, A.; BUCHVAROV, N.; ROMANOV, G.

An automatically controlled diffusion Wilson chamber operating under conditions of intensive irradiation of the reactor neutron beams. Fiz mat spisanie BAN 7 no.1:30-38 '64.

ZLATOPOL'SKIY, M.Ya., inzh.; ROMANOV, G.P., inzh.

Modernization of automatic machine-tool lines. Mashinostroenie no.5:54-55 S-O '65. (MIRA 18:9)

ROMANOV, G. P.

USSR/Engineering - Measuring instruments

Card 1/1 Pub. 103 - 16/29

Authors : Khrychev, A. S., and Romanov, G. P.

Title : The production of index plates

Periodical : Stan. i instr. 10, 29-31, Oct 1954

Abstract : The editoral gives some information on production of index plates for the 345A spline-grinding machine and the 3A642 milling lathe. A description of production of theindex plates is given, together with diagrams and illustrations depicting the above mentioned components.

Institution : ...

Submitted : ...

ACCESSION NR: AP3003176 S/0250/63/007/006/0376/0377

AUTHORS: Anisimov, S. I.; Romanov, G. S.

TITLE: On kinetics of diatomic-molecule dissociation in absence of vibrational equilibrium

SOURCE: AN BSSR. Doklady, v. 7, no. 6, 1963, 376-377

TOPIC TAGS: rotational ~~equilibrium~~, vibration relaxation, dissociation rate, diatomic molecule, vibration equilibrium, Boltzmann distribution, vibration energy

ABSTRACT: On the assumption of rotational equilibrium, the effect of vibrational relaxation on the dissociation rate has been studied in diatomic molecules. The case of small deviations from vibrational equilibrium was considered, assuming a Boltzmann distribution for the vibrational degrees of freedom, with temperature T' slightly different from the translational temperature T, or, for $\Delta = T-T'/T$

$$\frac{k'}{k} \approx 1 + \frac{E(T) - \bar{E}_m}{KT}\Delta,$$

where $E(T) = \frac{1}{f(T)} \sum_{i=0}^{N-1} E_i e^{-E_i/(KT)}$, and $\bar{E}_m$ - arithmetic mean of vibrational energy in

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ACCESSION NR: AP3003176

interval (N-m,N). The largest effect caused by vibrational nonequilibrium has been evaluated for the distribution function $f_i = \begin{cases} 0 & i \neq 0 \\ 1 & i = 0. \end{cases}$ Orig. art. has: 6 formulas.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR)

SUBMITTED: 01Nov62 DATE ACQ: 24Jul63 ENCL: 00

SUB CODE: AI NO REF SOV: 003 OTHER: 000

Card 2/2

ANISIMOV, S.I. (Minsk); ROMANOV, G.S. (Minsk)

Nonequilibrium flow of air in nozzles. PMTF no.1:76-81 Ja-F '62. (MIRA 15:4)

(Supersonic nozzles)

ANISIMOV, S.I.; ROMANOV, G.S.

Kinetics of the decay of two-atomic molecules in the absence of vibrational equilibrium. Dokl. AN BSSR 7 no.6:376-377 Je '63. (MIRA 16:10)

1. Institut fiziki AN BSSR. Predstavleno akademikom AN BSSR M.A.Yel'yashevichem.

L 40385-66 EWD/EWT(l)/EWT(m)/EEC(k)-2/T/EWP(t)/ETI/EWP(k) IJP(c) WG/JD/WW/JG /

ACC NR: AP6025256 SOURCE CODE: UR/0057/66/036/007/1273/1284

AUTHOR: Anisimov,S.I.; Bonch-Bruyevich,A.M.; Yel'yashevich,M.A.; Imas,Ya.A.; Pavlenko,N.A.; Romanov,G.S.

ORG: none

TITLE: The effects of intense light beams on metals

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no.7, 1273-1284

TOPIC TAGS: laser effect, metal melting, metal vaporizing, heat of sublimation

ABSTRACT: The authors have investigated theoretically and experimentally the phenomena accompanying the disruption of metals by focused laser beams. In the present paper there is considered the case of a laser producing approximately 1 millisec pulses, each consisting of a sequence of approximately 1 microsec spikes. The phenomena accompanying disruption of metals by giant laser pulses will be discussed in a future paper. In the theoretical part of the paper, fluxes of 10^{12} to 10^{16} erg/cm^2 sec on an approximately 1 mm diameter spot are considered. It is shown that under these conditions the transport of energy in the metal by heat conduction during the duration of a spike is negligible, and the problem of the vaporization of the metal is accordingly treated in one dimension. Formulas are derived, and curves are presented for different metals, relating the energy flux in the laser beam, the temperature of the metal surface, the erosion rate of the metal surface (i.e., the rate of increase

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lost by the specimen was approximately equal to, but in most cases somewhat less than,

L 40385-66
ACC NR: AP6025256

in the depth of the hole), and the velocity and pressure of the jet of metal vapor. The temperature of the metal surface is not equal to the boiling temperature, as was erroneously assumed by J.F.Ready (J. Appl. Phys., 36, No.2, 462, 1965). The theoretical relations were tested by experiments on some 16 metals and alloys, using neodymium glass lasers producing up to 300 J pulses. The laser beam was focused with a lens onto the parallelepipedonical specimen and the disruptive process was recorded cinematographically at 10^5 frames per sec. In most of the experiments a glass plate was cemented to one face of the specimen and the laser beam was so directed parallel to the glass-metal boundary that about half of the beam passed freely through the glass and the other half penetrated into the metal, vaporizing it. In those experiments the process was photographed through the glass. The mass of metal removed by the laser pulse was determined by weighing the specimen, and the impulse due to reaction of the metal vapor jet was measured. The experiments were in qualitative agreement with the theory, and quantitative agreement in order of magnitude was found. The authors feel that development of a more accurate theory would not be worthwhile, owing to the large variations between different lasers. Three stages were distinguished in the disruption process: in the first stage the temperature of the metal surface increased at the rate of approximately 10^{10} degree/sec; in the second stage metal was vaporized from the specimen and a hole was formed in it; and in the third stage a pressure of 10^2 to 10^3 atmospheres developed within the hole and a powerful jet of metal vapor issued from it at supersonic velocities. The ratio of the laser pulse energy to the mass of metal

S/207/62/000/001/011/018
B145/B138

AUTHORS: Anisimov, S. I., Romanov, G. S. (Minsk)

TITLE: Nonequilibrium flow of air in nozzles

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1, 1962, 76 - 81

TEXT: The article deals with some problems of the kinetics of adjusting equilibrium between the translatory and inert degrees of freedom of the molecules in air at high temperature. The following slow processes which occur in air at high temperatures are studied:

$$O + O + M \rightleftarrows O_2 + M \quad (1)$$
$$N + N + M \rightleftarrows N_2 + M \quad (2)$$
$$N + O + M \rightleftarrows NO + M \quad (3)$$
$$O + N_2 \rightleftarrows NO + N \quad (4)$$
$$N + O_2 \rightleftarrows NO + O \quad (5)$$
$$O_2^* + M \rightleftarrows O_2 + M \quad (6)$$
$$N_2^* + M \rightleftarrows N_2 + M \quad (7)$$

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Nonequilibrium flow of ...

Since there is up to 150-200% uncertainty in the rate constant values (k_i rate constant of the go-reaction, k_i' of the return reaction), some simplifications are made: M, any molecule or atom, is equally effective as third body during recombination, the contribution of NO to the total energy and total pressure is neglected and $\sum_{i=3,4,5} (d[NO]/dt)_i = 0$ is assumed. The effect of the vibrational relaxation on the rate of recombination may be neglected when the condition $k\tau\rho/\bar{\mu} \ll 1$ (k rate constant of the reaction $M + O_2^* \rightarrow O + O + M$, ρ density, $\bar{\mu}$ mean molecular weight, τ relaxation time) is satisfied. If the weight fractions are denoted by α_i (i = 0, N), the dissociation energies by D_i, and the equilibrium energies of vibration by ε_i, using the equation system $\rho v A(x) = \text{const}$, $dp/dx + \rho v\, dv/dx = 0$, $h_o - h - v^2/2 = 0$ (18) (A(x) nozzle cross section) (for a one-dimensional flow without diffusion, friction or heat exchange), one obtains the equation

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Nonequilibrium flow of ...

$$\frac{d\alpha_O}{dx}[(1.5T + D_O - \varepsilon_O) F(\alpha_O, \alpha_N, T) - T] + 1.142 \frac{d\alpha_N}{dx}[(1.5T + D_N - \varepsilon_N) F(\alpha_O, \alpha_N, T) - T] + \frac{dT}{dx}\left[(1.5\alpha_O + 1.713\alpha_N + 3.882) F(\alpha_O, \alpha_N, T) - \frac{2\mu_O}{\bar{\mu}}\right] + \frac{d\varepsilon_O}{dx}(0.233 - \alpha_O) F(\alpha_O, \alpha_N, T) + 1.142 \frac{d\varepsilon_N}{dx}(0.767 - \alpha_N) F(\alpha_O, \alpha_N, T) + \frac{2\mu_O T}{\bar{\mu}} \frac{dA}{A\,dx} = 0 \qquad (21)$$

$$\left(F(\alpha_O, \alpha_N, T) = 1 - \frac{RT}{2\bar{\mu}(h_O - h)}\right)$$

which, together with the kinetic equations

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Nonequilibrium flow of ...

$$\frac{d\alpha_O}{dx} = \frac{2\rho}{v\bar{\mu}}\left(k_1\frac{0.233-\alpha_O}{2} - k_1'\frac{\alpha_O^2\rho}{\mu_O}\right) + \frac{2}{v}\left[k_5\frac{\rho\alpha_N(0.233-\alpha_O)}{2\mu_N} - k_5'\alpha_O[NO]\right]$$

$$\frac{d\alpha_N}{dx} = \frac{2\rho}{v\bar{\mu}}\left(k_2\frac{0.767-\alpha_N}{2} - k_2'\frac{\alpha_N^2\rho}{\mu_N}\right) + \frac{2}{v}\left[k_4\frac{\rho\alpha_O^2(0.767-\alpha_N)}{2\mu_O} - k_4'\alpha_N[NO]\right] \qquad (22)$$

Здесь

$$\frac{de_O}{dx} = \frac{1}{v}\frac{e_O(T)-e_O}{\tau_O(T,\rho)}, \qquad \frac{de_N}{dx} = \frac{1}{v}\frac{e_N(T)-e_N}{\tau_N(T,\rho)}$$

$$[NO] = \frac{\rho}{2}\frac{2k_3'\alpha_N\alpha_O\rho/\bar{\mu} + k_4\alpha_O(0.767-\alpha_N) + k_5\alpha_N(0.233-\alpha_O)}{k_3\mu_O\mu_N/\bar{\mu} + k_4'\alpha_N\mu_O + k_5'\alpha_O\mu_N}$$

forms a closed system, the integration of which requires numerical methods. In the case of a "partial freezing in" (vibration in equilibrium, but without change of gas composition) the following solution is easily obtained:

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$$\frac{A}{A_*} = \left(\frac{T}{T_*}\right)^{\frac{0.5\alpha_O + 0.571\alpha_N + 2.773}{\alpha_O + 1.142\alpha_N + 1.109}} \times \sqrt{\frac{c^2_*}{2(h_0 - h)}} \times$$

$$\times \exp \frac{(0.233 - \alpha_O)(f_O^* - f_O) + 1.142(0.767 - \alpha_N)(f_N^* - f_N)}{\alpha_O + 1.142\alpha_N + 1.109}$$

$$f_i = \frac{\theta_i}{T}\left(1 - \exp\frac{-\theta_i}{T}\right)^{-1} - \ln\left(\exp\frac{\theta_i}{T} - 1\right) \qquad (23)$$

The asterisks denote quantities which are variable in the critical cross section. The vibration was assumed to be harmonic. In the case of an equilibrium flow it is best to start from the changed Eq. (18): $\rho vA(x) = \text{const}$, $h_0 - h - v^2/2 = 0$, $S = S_0$ (S entropy), since integration of (21), (22) leads to unclear solutions. Calculation of the system (21), (22), by means of an electronic computer, for some concrete values of the initial densities and temperatures, showed that the deviation from equilibrium is high for nozzles of about 10 cm, and that the approximation of the "frozen-in flow" is better than that of the equilibrium flow. Ya. B.

Nonequilibrium flow of ...

Zel'dovich, N. M. Kuznetsov and M. A. Yel'yashevich are mentioned. There are 11 references: 4 Soviet and 7 non-Soviet. The three most recent references to English-language publications read as follows: Bray K. N. Atomic recombination in a hypersonic wind-tunnel nozzle. Journ. of Fluid Mech., 1959, vol. 6, pt. 1, 1; Byron S. Measurement of the rate dissociation of oxygen. Journ. of Chem. Phys., 1959, vol. 30, no. 4, 1380; Duff R., Davidson N., Calculation of reaction profiles behind steady-state shock waves. II, J. of Chem. Phys., 1959, vol. 31 no. 4 1018.

SUBMITTED: August 28, 1961

Card 6/6

ROMANOV, G. V. "Daily movements of the herring in the lower Volga", Zool. zhurnal, [illegible], to. 3 1949, Issue 3, p. 253-56, - Bibliog: 7 items. (Volga-Caspian Sci. Fishery Sta. [illegible])

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

[illegible] Sci. Inst. Lake and River Fishing and Oceanography

ROMANOV, G.V.; GARKAVI, P.G.

Quantitative determination of free amino acid nitrogen by the ninhydrin method of isothermic separation of CO_2 [with summary in English] Vop.med.khim. 2 no.5:390-392 S-O '56. (MLRA 9:12)

1. Gosudarstvennyy kontrol'nyy institut syvorotok i vaktsin imeni L.A.Tarasevicha, Moskva.
(MITROGEN, determination,
in free amino acids, ninhydrin method of isothermic separation of CO_2 (Rus))

ROMANOV, G.V.; SHNEYERSON, A.N.

Phosphate-peptone agar in determining the virulence of Corynebacterium diphtheriae. Zhur.mikrobiol.epid. i immun. 27 no.12:34-39 D '56. (MLRA 10:1)

1. Iz Gosudarstvennogo kontrol'nogo instituta syvorotok i vaktsin imeni Tarasevicha.

(CORYNEBACTERIUM DIPHTHERIAE,
virulence, determ. with phosphate-peptone agar (Rus))
(AGAR,
phosphate-peptone agar in determ. of Corynebacterium diphtheriae virulence (Rus))

ROMANOV, G.V.

Effect of floods on small murine rodents in the Volga Delta [with summary in English]. Zool.zhur. 36 no.12:1874-1881 D '57. (MIRA 11:1)

1.Astrakhanskaya protivochumnaya stantsiya.
(Volga Delta--Mice) (Floods)

ROMANOV, G.V.

Effect of the snow cover and low temperature on the activity of the lesser suslik (Citellus pygmaeus Pallas). Zool.zhur. 39 no.7: 1109-1110 Jl '60. (MIRA 13:7)

1. Astrakhan Anti-Plague Station
(Chernyye Zemli--Susliks)

ROMANOV, G.V.

Dry phosphate-peptone agar in the determination of Corynebacterium diphtheriae virulence. Zhur.mikrobiol.epid. i immun. 29 no.12:25-30 D '58. (MIRA 12:1)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha.

(CORYNEBACTERIUM DIPHTHERIAE,
virulence, determ. with dry phosphate-peptone agar (Rus))
(AGAR,
dry phosphate-peptone agar in determ. Corynebacterium diphtheriae virulence (Rus))

ROMANOV, G.V.; GAGARINSKAYA, V.V.; MOROZOVA, N.S.

D-hydrosulfite medium for controlling the sterility of biological preparations preserved by merthiolate. Zhur.mikrobiol.epid. i immun. 30 no.2:66-70 F '589. (MIRA 12:3)

1. Iz Gosudarstvennogo knotrol'nogo instituta meditsinskikh i biologicheskikh preparatov imeni Tarasevicha.

(ANTISEPTICS, MERCURIAL,
hydrosulfite medium in control of sterility of biol. prep. preserved by merthiolate (Rus))
(CULTURE MEDIUMS,
same)

GRACHEVA, L.I.; ZASUKHIN, D.N.; ROMANOV, G.V.

Use of new media for culturing leishmania. Lab. delo 7 no.6: 46-48 Je '61. (MIRA 14:7)

1. Otdel prirodno-ochagovykh bolezney (zav. - prof. P.A.Petrishcheva) instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR i Gosudatstvennyy kontrol'nyy institut meditsinskikh biologicheskikh preparatov imeni L.A.Tarasevicha (dir. L.S.Ogloblina), Moskva.
(LEISHMANIASIS)

ROMANOV, G.V.

Single-phase casein-yeast medium for culturing Trypanosoma cruzi. Lab.delo 7 no.7:54-55 Jl '61. (MIRA 14:6)

1. Gosudarstvennyy kontrol'nyy institut meditsinskikh biologicheskikh preparatov imeni L.A.Tarasevicha (dir. L.S.Ogloblina).
(TRYPANOSOMIASIS)

ROMANOV, G.V.

Epizooty of tularemia in the Volga Delta. Zool.zhur. 41 no.1:125-131 Ja '62. (MIRA 15:4)

1. Astrakhan Anti-Plague Station, U.S.S.R. Ministry of Health.
(Volga Delta--Tularemia)

L 7650-66

ACC NR: AP5025010 SOURCE CODE: UR/0286/65/000/016/0070/0070

AUTHOR: Romanov, G. V. 18 B

ORG: none

TITLE: Nutritional medium for the control of sterility of biological and chemico-pharmaceutical medicinal remedies. Class 30, No. 173896 [announced by State Control Institute for Medical Biological Preparations im. Tarasevich (Gosudarstvennyy kontrol'nyy institut meditsinskikh biologicheskikh preparatov)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 70

TOPIC TAGS: sterile medium, medicinal remedy, nutritional medium, casein hydrolyzate, pharmaceutical, pharmacology

ABSTRACT: This Author Certificate describes a nutritional medium for controlling sterility of biological and chemico-pharmaceutical medicinal remedies. The medium consists of acid pancreatic hydrolyzate of casein, yeast extract, table salt, agar-agar, distilled water, glucose, and minced meat. To improve control of mercury-free preparation and to foster conditions for the growth of bacteria and fungi, sodium phosphate is added to the composition. A medium different from the

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ACC NR: AP5025010 O

above may be prepared by taking the following substances in the proportions indicated below: acid pancreatic hydrolyzate of casein 15 g, yeast extract 5 g, table salt 2.5 g, sodium phosphate 2.5 g, agar-agar 1 g, glucose 5 g, minced meat 50 g, distilled water 100 g.

SUB CODE: LS/ SUBM DATE: 23Dec63

Card 2/2

ROMANOV, G.V.; GAGARINSKAYA, V.V.

Molecular stabilization of the sol of agar-agar in liquid culture media. Lab. delo 8 no.10:31-35 '62 (MIRA 17:4)

1. Gosudarstvennyy kontrol'nyy institut meditsinskikh biologicheskikh preparatov imeni L.A. Tarasevicha (dir. L.S. Ogloblina).

24656
S/076/61/035/006/008/013
B110/B220

21.2400

AUTHORS: Panchenkov, G. M., Makarov, A. V., and Romanov, G. V. (Moscow)

TITLE: Separation of boron isotopes by the chemical exchange method. III. Production of $B^{11}F_3$ concentrate

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 6, 1961, 1315 - 1320

TEXT: Since the effective capture cross section of thermal neutrons amounts to 0.05 barn for B^{11}, it may be used in form of zirconium and yttrium boride, etc. as heat-resisting material in reactor construction. The present paper deals with a chemical exchange method for the separation of B^{10} and B^{11} isotopes according to:

$$B^{10}F_3 + B^{11}F_3 \cdot C_6H_5OCH_3 \rightleftharpoons B^{11}F_3 + B^{10}F_3 \cdot C_6H_5OCH_3 \quad (1).$$

Phase transformation is obtained:

$$BF_3 \cdot C_6H_5OCH_3 \underset{\text{absorber } 20^\circ C}{\overset{\text{desorber } 150^\circ C}{\rightleftharpoons}} BF_3 + C_6H_5OCH_3 \quad (2).$$

The liquid $BF_3 \cdot C_6H_5OCH_3$ passes from the "infinitely large" tank 1 (Fig. 1)

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Separation of boron...

with constant velocity into the desorber heated to ~150°C by anisole. From 2 BF_3 enters the bottom part of column 3, the liquid anisole passing the pump system 6 enters the absorber 4, where also BF_3 enters after having passed the column. Here, the complex compound BF_3-anisole is formed again. Samples were taken periodically by means of 5. By means of 4, 5, 8 (Fig.2) 6 l. anisole were filled into the 15 l. glass vessel 1. The electromagnetic эмив (EMIB) agitator 2 was started and then BF_3 introduced. The water cooling of absorber 26 and coolers 14, 24, 44 was put into operation, the thermostats 19, 42 connected and the temperature of column 41 and desorber 18 adjusted. The boron complex passed through a rubber bulb and 10 into the siphon preceding the dosing device 12-17. By means of electromagnet and impulse transmitter a copperplated iron bar fitted in the glass tube 12 was moved up and down rhythmically as desired (2-12 imp/min). Then the complex passes the water-cooled elbow 14, the buffer vessel 15 filled with a glass spiral, and the dropper 16 and enters the desorber 18. The best results were obtained with the mechanical pulse transmitter with,

СД 2 (SD-2) synchronous motor, РКС (RKS) relay: 4 imp/min. The optimum flow velocity was 2 ml/min. The electronic pulse transmitter with, ДГЦ-26 (DGTs-26) rectifier, СГ2С (SG2S) tube, РСМ-1 (RSM-1) and РН-90 (RN-90) relays gave a large number of pulses (3-30 imp/min) with low consumption of liquid. The complex was decomposed in the glass-packed desorber 18 (length = 50 cm, interior diameter = 20 mm) which was heated by warm oil from the ТС-24 (TS-24) thermostat 19. BF_3 passed through the return condenser 44 into column 41. The anisole contaminated by resin entered the evaporator 21. It flowed through the inner tube and then over the glass beads, where it was evaporated. The resin was evacuated by 20. 21, 22, and 23 were it was heated by a nichrome coil. The anisole vapors passed into the columns 22 and 23 consisting of 3 glass tubes telescoped into each other. Anisole vapors passed through the inner tube (diameter = 1 cm), the nichrome spiral was wound around the intermediate (diameter = 2 cm), the outer (diameter = 4 cm) served as heat insulation. The temperature of the column was regulated by means of a rheostat and controlled with a Cr-Al thermocouple. Anisole for spraying the absorber 26 packed with glass rings was supplied by the cooler 24. 25 served for evacuating the CH_3F presumably formed. The complex subject to isotopic exchange in

Separation of boron...

column 41 was formed in the absorber. The column consisted of a tube (length = 1.5-2.2 m, diameter = 18 mm) in the outer jacket of which water coming from the TC-15 (TS-15) thermostat circulated. The inset consisting of Fenske glass rings etched with HF + NH_4F occupied a space of 3·3·0.6 mm. The sampling system 27-39 was evacuated through 38 in a prevacuum. Then 26, 32, and 33 were cooled with liquid nitrogen by means of Dewar vessels, 31 and 35 closed. A certain quantity of gas tapped from the column through 29, 25 being closed for this period, was frozen in 36 by means of a Dewar vessel and further cooled in 32 and 33. 32 and 33 were unsoldered. The analysis was made by a MC-3 (MS-3) mass spectroscope, the sample obtained in test 3 was converted to borax and analyzed by means of MC-4 (MS-4) according to A. M. Kolchin. In the first test (I) (length of column = 2.20 m, of absorber = 6 cm) a part of the BF_3 was not absorbed by anisole and escaped, thus the low coefficient of separation: 1.05. Also in the second test (II) (column = 1.5 m; absorber = 50 cm) BF_3 escaped. Only in the third test (III) (dimensions as for (II)) BF_3 was absorbed quantitatively. A coefficient of separation of 1.42 was attained after 32 hr.

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With too high (A) or too low (B) temperatures in the column either complex formation occurs in the column and sampling is impossible (A) or a part of BF_3 escapes (B). Consequently, the temperature of the column has to be such that the complex of given composition is saturated. This was obtained in the following way: the temperature was slowly increased until BF_3 vapors left 25 and then reduced by 2-3°C. It was found that the red color of the anisole complex is due to products of resinification formed under the influence of atmospheric humidity. The complex is colorless in the column. The plant may serve for any complexes whatsoever, provided that the temperatures in desorber and pump system are changed. The production of $B^{10}F_3$ concentrate requires charging into the top part of the column. A. M. Kolchin and V. F. Malakhov are thanked for their assistance in the experiments. There are 3 figures, 1 table, and 15 references: 10 Soviet-bloc and 5 non-Soviet-bloc. The most recent references to English-language publications read as follows: S. V. Ribnicar, G. A. Bootsma, Bull. Inst. nuclear sci. "B. Kidrich" (Belgrade), 9, 91, 1959. A. L. Conn, I. E. Wofl, Ind. Eng. Chem., 50, 1231, 1958.

Card 5/9

24656
S/076/61/035/006/008/013
B110/B220

Separation of boron...

A. A. Palko, Ind. Eng. Chem., 51, 121, 1959.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 28, 1959

Card 6/9

ROMANOV, I.

Three years of operation of the Novosibirsk locks. Rech. transp. 20 no. 1:33-35 Ja '61. (MIRA 14:2)

1. Nachal'nik Novosibirskogo shlyuza.
(Novosibirsk Hydroelectric Power Station--Locks (Hydraulic engineering))

23432
S/121/61/000/006/009/012
D040/D112

181120 also 2908

AUTHORS: Funke, V.F., Romanov, K.F., Novikova, T.A., Guseva, A.N., and Bystrova, K.A.

TITLE: Wear resistance of W-Co hard-alloy cutter tips in machining EI437 alloy

PERIODICAL: Stanki i instrument, no. 6, 1961, 32-33

TEXT: Results are given of an experimental investigation with W-Co alloy-tipped cutters in turning cylindrical smooth and grooved blanks of ЭИ 437 (EI437) heat-resistant alloy. The experiments were performed on a Gustlow Werke lathe, using a cutting speed v=30 m/min, cutting depth t=1.0 mm and feed rates s of 0.6 and 0.3 mm/rev for continuous cutting (on smooth blanks); intermittent cutting (grooved blanks) was done with v=10 m/min, t=1.0 mm and s=0.2 mm/revolution, and with v=6 m/min, t = 1.0 mm, and s=0.6 mm/rev. Wear on the rear face of the tips was used as a criterion of the wear. The results are illustrated in four graphs (Fig. 1-4). It was established that 8% Co gave the maximum wear resistance and hardness. A Co content lower than 8% gave lower wear resistance on account of insufficient alloy strength (the cutting edge crumbled), and higher than 8% also resulted in lower wear resis-

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23432
S/121/61/000/006/009/012
D040/D112

Wear resistance of W-Co ...

tance on account of insufficient hardness. A lower feed rate facilitated cutting and raised wear resistance. It was concluded that the cutter tips used for machining EI437 alloy must have higher strength than those used for cutting cast iron or steel. The maximum wear resistance for continuous cutting of EI437 is shown by cutter tips with 8% Co; for intermittent cutting of cast iron and steel the Co content in W-Co alloy cutting tips must be lower. There are 4 figures and 2 Soviet-bloc references.

Card 2/4

BOGOLYUBSKIY, N.; BORISOV, S.; GRIGOR'YEV, N.; GUSAROV, M.; GUSEV, L.; ZHAROV, S.; ZHETVIN, N.; ZALOGIN, S.; ZOLOTOV, G.; INOZEMTSEV, N.; KLEMENT'YEVA, A.; KOMAROV, A.; KOSMACHEV, V.; LAPTEV, V.; LOMONOSOV, V.; MIKHAYLOV, A.; NOVIKOV, I.; PERTSEV, M.; PROKOPOVICH, P.; ROMANOV, I.; RUBLINSKAYA, R.; SVIRIDOV, G.; SOTNIKOV, G.; SUBBOTIN, A.; TURTANOV, I.; CHESNOKOV, S.; CHICHKIN, K.; CHIKHANOV, I.

Grigorii Markelovich Il'in; an obituary. Metallurg 3 no.10:36 O '58. (MIRA 11:10)

(Il'in, Grigorii Markelovich, 1894-1958)

COUNTRY : USSR
CATEGORY : Cultivated Plants. Commercial. Oleiferous. Sugar-Bearing. N
ABS. JOUR. : RZhBiol., No 1, 1959, No.1733

AUTHOR : Romanov, I.
INST. : —
TITLE : Auxiliary Feeding Experiments of Cotton with Fluid Nitrogen Fertilizers.

PUB. JOUR. : Khlopkovodstvo, 1956, No.7, 50-54

ABSTRACT : Experiments have shown that fluid nitrogen fertilizers by their own activity do not surpass P_2O_5. They should be introduced at a depth of not more than 12 cm depending on the condition of the plants and the mechanical composition of the soil in the U.S.A. liquid ammonia is usually introduced at a depth of 15-35 cm at a rate of 40-150 kg/hectare or conversion to N_2O. A description of machines utilized for the introduction of fluid fertilizers in the U.S.A. and Czechoslovakia is given. A procedure of industrial experiments in the introduction of fluid fertilizers

CARD: 1/2

ROMANOV, I.

"A Transformer for Electron-Ray Tubes," Soviet journal "Radio," Issue No. 4, 1952.

ROMANOV, I., kapitan

Knowledge and skill sufficed. Starsh.-serzh. no.7:26 Jl '61. (MIRA 14:9)

(Military education)

ROMANOV, I.

Radio - Rectifiers

Rectifier for an electron light tube. Radio, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

ROMANOV, I., gvardii kapitan

Self-propelled guns. Voen.znan. 36 no.3:24 Mr '60.
(MIRA 13:3)

(Russia--Army--Artillery)

ROMANOV, I.

Toil shall become the lord of the world. Sov.profsoiuzy 16 no.6:14-17 Mr '60. (MIRA 13:3)

1. Starshiy master listoprokatnogo tsekha zavoda "Serp i molot."
(Moscow--Steelworkers) (Socialist competition)

ROMANOV, I.

"Rectifier for an electron ray tube."

So. Radio, Vol. 4, p. 55, 1952

ROMANOV, I.A.

3

1-4E2c

Apparatus for determination of admixtures in metals. B. A. Batmanovskii and I. A. Romanov. U.S.S.R. 102,-274, Mar. 25, 1956. To det. impurities in a melt, e.g. during refining, the elec. cond. of the melt is compared with that of a melt of known compn. This is accomplished by means of a bridge system comprising resistances and automatic indicators. The app. consists of 2 V-shaped tubes of refractory material, one of which is filled with the analyzed melt and the other with the standard. M. Hosch

jaf

[redacted], I. P.

"Two New Forms of Tulip-Sick in the Genus Tulipa," Dok.AN, 22, No.3, 1939.
Biological Inst., Central Asia Univ., Tashkent.

1. ROMANOV, I. D.

2. USSR (600)

4. Botany - Anatomy

7. Anatomy of relict plants; anatomy of the Tulipa Regliy leaf. Biul. MOIP. Otd. biol. 57, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

ROMANOV, I.D.

Embryological study of the cotton plant. Trudy SAGU no.53:3-58 '54. (MLRA 9:11)

(Cotton) (Botany--Embryology)

ROMANOV, I.D.

Tetrad pollen grains of Fritillaria Eduard Rgl. Biul.MOIP. Otd.biol. 59 no.6:61-70 N-D '54. (MLRA 8:2)
(Pollen) (Liliaceae)

20-5-48/54

AUTHOR: Romanov, I. D.

TITLE: The Embryo-Sac in the Genus Tulipa (Zarodyshevyy meshok v rode Tulipa).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 5, pp. 1025-1027 (USSR).

ABSTRACT: The genus Tulipa undoubtedly ranges first among the few angiospermous groups in which the normal, ordinary type of embryonal sac is replaced by another evolutionarily new type. Among 28 central Asiatic genera of tulips the author found a variety of different kinds of development of the embryo sac. The embryo sac of all types of development have 4 spores. No septa are formed on the occasion of the two meiotic divisions, so that a 4-spore "zoenocyte" (plasmodium) with 4 macroporous cores is formed. These types differ by the number of phases of development which are determined by the number of mitoses. These mitoses follow meiosis. A further difference is constituted by the manner in which a certain organization of the ready embryo sac is created. This organization is above all determined by the distribution of the macrosporous cores in the embryo sac. Every kind of development is characteristic of certain genera or groups of genera, i. e. it here forms a more or less stabilized developent of the ontogeny of the embryo sac. Though the by no means rare individual

Card 1/4

The Embryo-Sac in the Genus Tulipa.

ontogenetic deviations are of importance for the evaluation of the reciprocal relations and the manner of creation of individual types of development, they are disregarded in this case. Further, the characteristics of the types of development of the embryo sac as well as the features characterizing the genera of tulips are mentioned. 1.) Fritillaria type. Distribution of macrosporous cores 1 + 3 ; 2 Mitoses; the genera of tulips belonging to this group are enumerated. 2.) Drusa type. Macrosporous cores as in the case of type 1, but division of chalaza cores is not anomalous and they divide independently; up to 11 antipodes in the embryo sac; Tulipa rosea Vved., Tulipa korolkovii Rgl., Tulipa wilsoniana Hoog, and Tulipa chrysantha Boiss. 3.) Adoxa type. Distribution of macrosporous cores 2 + 2 ; one mitosis. Ripe embryo sac has a 3-cell ovulation. Tulipa ostrovskiana Rgl. and Tulipa kolpakavskiana Rgl. 4.) Tulipa tetraphylla type. Macrosporous cores 1 + 3, one mitosis, ovular system of 5 cells in embryo sac. Found only in one single case mentioned above. 5.) Eriostemones type. Macrosporous cores 4 + 0, one mitosis. Ovular system of 7 cells, no antipodes. Occurs in the case of several types mentioned here. The Fritillaria type is considered to be the historically original type. The phylogeny of the lilioidae group (family of the liliaceae) is discussed. In all probability the primary and phylogene-

Card 2/4

20-5-48/54

The Embryo-Sac in the Genus Tulipa.

tic lilioidae core developed as a component of the tertiary meso-phyllic forest flora of the northern hemisphere. The genus Tulipa is a later formation, which developed in connection with the development of the xerophilous flora of the old Mediterranean region. It must not be looked upon as the most primitive, for morphological as well as for florogenetic reasons. As to embryological peculiarities, all other genera of lilioideae are characterized by the uniformity of the development of their embryo sacs. Of all Lilium-, Fritillaria-, Gagea-, and Lloydia genera, only the Fritillaria type was determined. It also predominates in most of the Erythronium genera, of which only two have an adoxa type. This is a certain parallelism to the Tulipa. Among the principal groups of Tulipa the Fritillaria type predominates. When judging the phylogenetic relations of some types of embryo sacs it must be remembered that the types with only one mitosis are secondary.
There are 4 Slavic references.

ASSOCIATION: State University imeni V. I. Lenin of Central Asia (Sredneaziatskiy gosudarstvennyy universitet imeni V. I. Lenina).

Card 3/4

The Embryo-Sac in the Genus Tulipa. 20-5-48/54

PRESENTED: By N. V. Tsitsin, Academician, March 20, 1957

SUBMITTED: October 12, 1956.

AVAILABLE: Library of Congress.

Card 4/4

ROMANOV, I.D.; VLASOVA, N.A.

Rates of development of the embryo sack in cotton plant. Uzb. biol. zhur. no.1:9-14 '61. (MIRA 14:3)

1. Institut genetiki i fiziologii rasteniy AN UzSSR.
(COTTON) (BOTANY—EMBRYOLOGY)

ROMANOV, I.D.

Origin of the specific structure of endosperm nuclei in Gagea.
Dokl. AN SSSR 141 no.4:984-986 D '61. (MIRA 14:11)

1. Vsesoyuznyy institut rasteniyevodstva. Predstavleno akademikom V.N. Sukachevym.
(Cell nuclei) (Endosperm)

ROMANOV, I.D.

Anomalous mitoses and cytoplasmic gradient in the embryo sacks of some flowering plants. Report No.1: Rhinopetalum species and Erythronium sibiricum. TSitologiia 5 no.6:623-629 N-D '63. (MIRA 17:10)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

ROMANOV, I. P.

"Anomalous mitoses in the embryo sacs of some Liliolideae."

report submitted for 10th Intl Botanical Cong, Edinburgh, 3-12 Aug 64.

All-Union Plant Industry Inst, Leningrad.

ROMANOV, I.D.

Analysis of some developmental characteristics of the Fritillaria-type embryo sac. Bot. zhur. 50 no.9:1276-1287 S '65.
(MIRA 18:10)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.

ROMANOV, I.I., inzh.; CHAYTANOV, V.I., inzh.

Mechanization and automation of manual work in the industry of the White-Russian Economic Council. Mekh. i avt.proizv. 18 no.8:10-13 Ag '64. (MIRA 17:10)

KUCHKPATOVA, Ye.G.; ROMANOV, I.I.; TARASOV, Ye.F.; SHESTOV, A.I.; MAKAROV, N.A., otvetstvennyy redaktor; BOYARSKAYA, L., redaktor; PAVLOVA, M., tekhnicheskiy redaktor

[The "Urals" pavilion (Sverdlovsk and Molotov Provinces, Udmurt A.S.S.R., Chelyabinsk and Kurgan provinces); a guidebook] Pavil'on "Ural" (Sverdlovskaia i Molotovskaia oblasti, Udmurtskaia ASSR, Cheliabinskaia i Kurganskaia oblasti); putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 27 p. (MIRA 9:8)

1. Moscow. Vsesoyuznaia sel'skokhozyaystvennaya vystavka, 1954-
(Ural Mountain region--Agriculture)
(Moscow--Agricultural exhibitions)

POLYANSKIY, G.I., inzhener; ROMANOV, I.I., inzhener; FEDURKIN, N.N., instruktor stakhanovskikh metodov truda.

Installation of pliable roofing material Sbor.mat. o nov.tekh. v stroi. 15 no.7:21-23 Jl '53. (MLRA 6:7) (Roofing)

ROMANOV, I.I., inzh.

Review of the periodical "Promyshlennost' Belorossii." Mekh.i avtom.proizv. 17 no.7:53-54 Jl '63. (MIRA 16:8)
(White Russia--Industry--Periodicals)

ROMANOV, I.I.

Scientific technical information and propaganda promote the mechanization and automation of production processes. Mekh. i avtom. proizv. 16 no.6:43-45 Je '62. (MIRA 15:6)

1. Glavnyy inzhener Instituta nauchno-tekhnicheskoy informatsii i propagandy.
(Technology---Information services) (Automation)
(Technological innovations)

KHLEBTSEVICH, Aleksey Ivanovich; IVANOV, Aleksey Yefimovich; ROMANOV, Ivan Ivanovich; MAKAROVA, E.A., red.; ANDREYEVA, L.S., tekhn. red.

[Public office of technical information] Obshchestvennoe biuro tekhnicheskoi informatsii. Moskva, Profizdat, 1963. 44 p. (MIRA 16:9)
(Technology--Information services)

YEREMIN, B.F. ; STIGNEYEV, YA. F. ;
KONYASHOV, V.V. ; VISHNEVSKIY, P.I.;
SHNEYBERG, V.I. ; GORBUNOV, E.K. ;
ROMANOV, I.I.

Stigneyev, Ya.F.

"Study of Stakhanovite experience, and its introduction into machine building."
Reviewed by S.A.Nikitin. Avt.trakt.prom., no. 7, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, NOVEMBER 1952. UNCLASSIFIED.

ROMANOV, I. I., Cand Agr Sci -- "Improvement of the industrial assortment of varieties of table grapes of Moldaviya." Kishinev, 1960. (Min of Agr UkSSR. Odessa Agr Inst). (KL, 1-61, 202)

1. ROMANOV, I. K.

2. USSR (600)

4. Seed Industry

7. Seeds and seed production. Sel. i sem. 20, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KAMAKIN, N.M.; ROMANKOVA, I.K.; OGLOBLINA, L.I.; NESMEYANOVA, T.S.

Causes of the aging of aluminum silicate catalyst. Trudy GrozNII no.4:90-101 '59. (MIRA 12:9)
(Catalysis) (Aluminum silicates)

38213. ROMANOV, I. K.

Opyt razvedeniya duba gnezdovym sposobom v usloviyakh Voroshilovgradskoy oblasti. Les i step', 1949, No 8, s. 52-53

AUTHORS: Ostroushko, Yu. I., Romanov, I. L. SOV/32-24-10-33/70

TITLE: A Simple Construction of a Flame Photometer (Prostaya konstruktsiya plamennogo fotometra)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1254-1255 (USSR)

ABSTRACT: The photometer devised in this paper was constructed for the determination of the alkali metals and alkaline earth metals in ores, concentrates, solutions, etc. This apparatus is divided into two parts, a smaller one with a gas burner, and a larger one with the optical parts. The gas burner uses an air-acetylene mixture. Interference light filters with a transmission half width of band of about 50 Å and a coefficient of the transparency maximum of about 50% were used. In a lithium determination the colored glasses KS-7, in potassium determinations KS-7 or ZS-7, and in sodium determinations OS-14 glasses are also used. The filtered light falls on the photo cathode of a photomultiplier FEU-12 or FEU-19. This secures a high degree of sensitivity in the analysis and a low inertia of the apparatus. The feed of the photomultiplier is modified by a high-voltage rectifier and the units VS-5, VS-9 and VS-2500. Also a feed by batteries is provided. The burner is ignited by sparks

Card 1/2

A Simple Construction of a Flame Photometer

from the spark generator IG-100. The photometer consists of standard units. There is 1 figure.

L 33954-66 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AR6017189 SOURCE CODE: UR/0058/65/000/012/A031/A031

40

AUTHOR: Bovin, V. P.; Romanov, I. L.

TITLE: Concerning combined phosphors and methods of separating pulses by shape

SOURCE: Ref. zh. Fizika, Abs. 12A304

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat, 1964, 21-31

TOPIC TAGS: phosphorescent material, pulse shape, radiation detection, scintillator

ABSTRACT: The authors consider two simplest and most effective methods of separating pulses by shape when recording different types of nuclear radiation with combined phosphors: the method of using space charge in a photo[illegible] and the method of short-circuited line. The relative advantages and shortcomings of these methods are discussed when combined phosphors of different types are used. It is concluded that both methods can be successfully used to separate pulses in combined phosphors CsI(Tl)-stilbene and CsI(Tl)-plastic scintillator. The space-charge method is a simpler electronic scheme, but has a limitation at radiation intensities of the order of 10^4 pulses/sec. For the method of short-circuited lines it is necessary to have a relatively more complicated electronic apparatus, a broadband amplifier and coincidence circuit, but is not subject to deterioration of linearity of the counting characteristics when high radiation intensities are measured. L. S. [Translation of abstract]

SUB CODE: 20

Card 1/1

OSTROUSHKO, Yu.I.; ROMANOV, I.L.

Simple flame photometer. Zav.lab. 24 no.10:1254-1255 '58.
(Photometers) (MIRA 11:11)

MEDEL', Vladimir Borisovich, professor, doktor tekhnicheskikh nauk; SIDOROV, N.I., inzhener, redaktor; ROMANOV, I.M., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Rolling stock of electric railroads] Podvizhnoi sostav elektricheskikh zheleznykh dorog. Izd.2-oe, perer. Moskva, Gos.transp.zheldor. izd-vo. Vol.1. [Construction and dynamics] Konstruktsiia i dinamika. 1957. 343 p. (MLRA 10:9)
(Electric railroads--Rolling stock)

ROMANOV, I. K.

33992 ROMANOV, I. K. Pribor Dlya Izmeryeniya Vyesma Slabykh Postoyannykh Napryazhyeniy Vchyen Zapiski Kazansk Gos Un-Ta Im Lycnina T. CIX Kn 1, 1949, S. 121-23

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

ROMANOV, I. M.

8864. Problem of the dispersion of the magnetic permeability of paramagnetics in perpendicular fields for frequencies 10^8 c/s. I. M. ROMANOV. Letter in *J. Exp. Theor. Phys., USSR*, 20, 572 (June, 1950) *In Russian.*

Supplements Altschuler, Zavoiskii and Kozyrev's determination of the imaginary part of the dynamic permeability [*J. Exp. Theor. Phys., USSR*, 17, 1122 (1947)] by the corresponding real part based on Kramer's theorem and the formula of the above authors. Paramagnetic salts of the 1st, 6th and 7th group exhibit a permeability corresponding to the formula presented.

B. F. KRAUS

Kazan State U. im V.I. Ul'yanov (Lenin)

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

8864. Problem of the dispersion of the magnetic permeability of paramagnetics in perpendicular fields

[illegible], Z. A.

"Problems of Dispersion of Magnetic Susceptibility of Ferromagnetics in Perpendicular Fields," Vch. Z[illegible]. Kazansk. un-ta, 113, No 9, 1953, pp 147-167

Basic results obtained in 1950 in research on dispersion of magnetic susceptibility of Mn, Cr, Cu salts are described, as well as the reduction of absorption formulas into dispersive ones by means of Cramers formula. (RZhFiz, No 7, 1955) SO: Sum.No. 713, 9 Nov 55

L 42166-66 EWT(d)/FSS-2

ACC NR: AR6013868 SOURCE CODE: UR/0274/65/000/011/A007/A007

AUTHORS: Romanov, I. M.; Nezhmetdinov, T. K.; Khasanov, A. Kh. 71 B

TITLE: The theory of VRTS. Probability of servicing signals transmitted by binary code

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 11A65

REF SOURCE: Sb. Itog. nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sektsiya paramagnitn. rezonansa, spektroskopii i fiz. polimerov, radiofiz., astron., biom. Kazan', 1964, 64-66

TOPIC TAGS: binary code, detection probability, signal processing, telephone signal, signal coding

ABSTRACT: Three principles determining the possibility of receiving a signal in the VRTS were formulated. On the basis of these principles the probability was determined of servicing a complex signal. This probability permits the determination of the parameters of the signal for the assumed circuit of the servicing equipment when designing the VRTS. The relationship determining the probability of servicing a complex signal W_o was obtained in the form

$$W_o = W_{vp}[R\delta(1+A\cdot\varphi_s)]^n,$$

in which is introduced the probability of a call W_{vp}, the probability p of servicing

Card 1/2 UDC: 621.395.1

L 42166-66

ACC NR: AR6013868

"1" in the position of the information group, the probability q_g of the absence of other elementary signals in the interval in the limits of which it is possible to record "1" in the register, and n is the number of positions in the information group. Bibliography of 3 citations. L. S. [Translation of abstract]

SUB CODE: 17

Card 2/2

ROMANOV, I. M.

F-6

Category : USSR/Magnetism - Magnetic radiospectroscopy

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1465

Author : Romanov, I.M.
Title : ~~Basis for Using~~ the "Standing Wave Method" for the Investigation of Resonant Paramagnetic Absorption.

Orig Pub : Uch. zap. Kazansk. gos. un-ta, 1955, 115, No 12, 73-84

Abstract : This method employs a slotted line, having one end connected through a capacitive coupling and matching elements to a klystron generator, and the other connected to a rectangular waveguide containing the investigated substance (cavity). In the case considered, the substance fills a space considerably shorter than λ_p; the variation of the readings of the indicating instrument are thus independent of the amount of substance in the resonator. If the measurements are made for a minimum SWR, with the probe of the indicator block located at the extrema of the standing-wave amplitudes, the resultant values of the resonant field H* and of the half-width δ of the resonance curve are inaccurate. If phase unbalance is introduced by shifting the probe position by $\Delta l < \lambda/8$, the readings of the compensated instrument are strictly proportional to $\chi' = \chi''$ (H) and the measurements give an accurate value of the

Card : 1/2

F-6

Category : USSR/Magnetism - Magnetic radiospectroscopy

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1465

resonant field H*. Measurements made for a maximum SWR with good matching and with placement of the probe at the extrema of the standing-wave amplitudes give accurate value of the width of the resonant live and an accurate value of the resonant field H*. Shifting the probe by $\Delta l < \lambda/8$ relative to the extrema of the standing waves results in inaccurate values of the shape of the dispersion curve and of the resonant field H*, and in an erroneous width of the line. The measurement accuracy is not less than 10%.

Card : 2/2

MAL'TSEV, N.A.; ROMANOV, I.M.; SHARGIN, A.G.

Device for measuring the speed and volume of liquid and gas flows. Zav. lab. 22 no.9:1114-1116 '56. (MLRA 9:12)

1. Kazanskiy gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina.
(Flow meters) (Gas meters)

BOCHKAREV, Konstantin Stepanovich, general-mayor; PRUSANOV, Ivan Petrovich, polkovnik; BABAKOV, Aleksandr Aleksandrovich, polkovnik; ROMANOV, I.M., red.

[Program of the CPSU on the defence of the socialist fatherland] Programma KPSS o zashchite sotsialisticheskogo otechestva. 2., perer. i dop. izd. Moskva, Voenizdat, 1965. 173 p. (MIRA 18:12)

L 11229-67 EWT(d)/EWP(c)/EWP(k)/EWP(v)/EWP(1) IJP(c) GD

ACC NR: AT6022374 SOURCE CODE: UR/0000/66/000/000/0030/0036

32
31

AUTHOR: Romanov, I. M.; Nugmanov, I. S.

ORG: none

TITLE: Logic hypothesis analyzers

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio, 22d, 1966. Sektsiya kibernetiki. Doklady. Moscow, 1966, 30-36

TOPIC TAGS: logic design, binary logic, probability, statistic analysis, mathematic analysis, quality control, SIGNAL RECEPTION

ABSTRACT: In practice there often are encountered sequences of random binary events of the "yes-no" type, characterized by the probability p of the occurrence of an event in a given experiment. These sequences may be exemplified by the occurrence of acceptable and defective products in an inspected lot of products, by the reception or nonreception of the needed signals in a packet of signals, etc. If the value of p, corresponding to the observed sequence, could be estimated by means of some device, then this device could be utilized for the automatic separation of the batch of products into acceptable ($1 > p \geq p_1$); indeterminate,

Card 1/3

subject to additional analysis ($p_1 > p > p_0$); and defective ($p_0 \geq p > 0$). In this connection, the authors present a mathematical substantiation of the operating principles of such a device, which they term the logic hypothesis analyzer (LHA), and they briefly describe the design principles of the LHA devices constructed and tested at the Kiev State University. It is shown that the concrete realization of a sequence of events may be reflected by means of a mapping point for which one coordinate x equals the number of occurrences of acceptable products and the other coordinate y, the number of occurrences of defective products in a sampling of length n. With the aid of an LHA consisting of a controller, two counters ("0" and "1"), a diode memory, a comparator, the indicator of hypothesis H_0, the indicator of hypothesis H_1, and an algebraic adder it is possible to analyze in a real-time scale a large number of sequences. Two-decision making algorithms are presented, essentially as follows: 1. Hypothesis H_0 is accepted prior to the μ-th test (μ is the maximum length of sampling warranted by technical or economic considerations) if the mapping point coincides with points having the coordinates

$$y_k = k, \text{ where } k = 0, 1, 2, \ldots m = \left[\frac{\mu \ln \frac{p_1}{p_0} + \ln \frac{1-a}{\beta}}{\ln \frac{p_1}{p_0} + \ln \frac{1-p_0}{1-p_1}} \right] \quad (1)$$

2. Hypothesis H_0 is accepted at the μ-th test if the mapping point coincides with points having the coordinates

$$y_j = m + 1,\ y_{j+1} = m + 2, \ldots,\ y_s = \left[\frac{\mu \ln \frac{p_1}{p_0}}{\ln \frac{p_1}{p_0} + \ln \frac{1 - p_0}{1 - p_1}} \right] \quad (2)$$

Similar decision-making algorithms and methods of constructing LHA may be employed in research into n-variate sequences of random events, as described in the authors' further investigations (see e.g. Nugmanov, I. S. Raschet veroyatnosti resheniy pri kontrole kachestva partiy izdeliy. V sb. "Aspirantskiye raboty KGU," 1965). Orig. art. has: 3 figures, 15 formulas.

SUB CODE: 09, 12 / SUBM DATE: 05Mar66/ ORIG REF: 004

Card 3/3

ACC NR: AT6022309 SOURCE CODE: UR/0000/66/000/000/0056/0060

AUTHOR: Romanov, I. M.; Nezhmetdinov, T. K.

ORG: none

TITLE: Some problems in the reception and processing of binary signals in asynchronous radio remote control systems

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya telemekhaniki. Doklady. Moscow, 1966, 56-60

TOPIC TAGS: remote control, remote control system, radio signal, synchronous communication, signal reception, signal processing, queueing theory

ABSTRACT: The authors discuss the problem of binary signal reception and processing in multichannel asynchronous radio remote control systems having at the receiving end a common inertial receiving-decoding unit. Usually, in such systems the flow of discrete signals has a random character which determines, with a certain approximation, both the intensity and the distribution of probability density for intervals between signals and for moments at which signals occur at the input of the receiver. Such a consideration has made it possible to relate asynchronous radio remote control systems to queueing systems with losses and without expectation, and to use mathematical methods of the queueing theory for the analytic determination of a series of characteristics of an asynchronous system, in particular, for determining the probability of correct response of servo mechanisms to the arrival of a single compound signal,

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ACC NR: AT6022309

for estimating the length of a series of equal compound signals from which the desired signal is isolated, for estimating the relative carrying capacity of the receiver, and for determining a number of other characteristics affecting the efficiency of the system. Orig. art. has: 2 formulas.

SUB CODE: 09/17/ SUBM DATE: 24Mar66/ ORIG REF: 004

Card 2/2

L 3093-66 EWT(d)/EED-2

ACCESSION NR: AR5013609 UR/0271/65/000/004/A022/A022
621.398.001:621.391.13

48
B

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 4A140

AUTHOR: Romanov, I. M. 44

TITLE: Notes on the selection of modulating frequencies in radio-telemechanical systems with an allowance for the effect of interference on the reception of AM signals

CITED SOURCE: Sb. Itog. nauchn. konferentsiya Kazansk. un-ta za 1962 g. Kazan', Kazansk. un-t, 1963, 76-79 44

TOPIC TAGS: AM reception, radio remote control 81 44

TRANSLATION: Some effects of the interference of the direct and reflected coherent waves, which result in a reduced communication range or in a false signal, are considered. Assuming that the receiver delay is short and the receiver-amplifier channel before the detector is linear, this formula for the mean value of the detector current over the r-f period for the small-signal case and a square-law detector, is given:

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$$I_g = I_{g_0} + \frac{\beta U_{c_0}^2}{2} \cdot 2(1-\cos\gamma)\left\{1 + \frac{M^2\cdot\cos\psi}{2} + M\cos\frac{\psi}{2}\cos\left(\Omega t + \frac{\psi}{2}\right) + \frac{M^2}{2}\cdot\cos(2\Omega t + \psi)\right\} -$$

$$-\beta\frac{U_{c_0}^2}{2}M^2(1-\cos\psi)\cdot(1-\cos(2\Omega t+\psi)),$$

where β is the detector constant; U_{c_0} is the signal amplitude; γ and ψ are the phase shifts due to interference in the modulated and the modulating waves, respectively; M is the percentage modulation. The analysis of the above formulas brings about the following conclusions: (a) if $\gamma = (2n+1)\pi$, no nonmodulated signal will be received; however, an AM signal will result in a d-c component and a double-modulating-frequency current at the detector output; (b) if $\gamma \neq (2n+1)\pi$ and $\psi = (2m+1)\pi$, no basic current of the modulating frequency will be received; a d-c component and a double-modulated-frequency current will appear at the detector output; (c) if $\gamma \neq (2n+1)\pi$ and $\psi = 2m\pi$, the detector current will have a usual structure; (d) if $\gamma \neq (2n+1)\pi$ and $\psi \neq 2m\pi$, the percentage modulation will decrease, and the second harmonic will become more pronounced.

SUB CODE: EC ENCL: 00

Card 2/2

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