S/137/62/000/003/122/191
A060/A101

17.9200

AUTHOR: Fedorov, V. B.

TITLE: Residual stresses and fatigue strength under centrifugal-pellet cold hardening

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 26-27, abstract 3I157 ("Tr. Ural'skogo politekhn. in-ta", 1961, coll. 112, 23-33)

TEXT: An investigation is carried out into the effect of residual compressive stresses and hardening of the surface layer upon the increase of cyclic strength of steel 40X (40Kh) under centrifugal-pellet cold hardening of the surface. The hardening of the specimens was carried out at a circumferential velocity of the toughener of 18 m/sec with pellets 10 mm diameter in a special device of the rocking-center type. It was established that the increase of σ_w attains 30% mainly on account of the effect of residual compressive stresses. This increase depends upon the depth of the hardened layer, the magnitude and nature of the residual stresses, the degree of hardening. There exists an optimum hardening depth depending upon the character of the distribution and the magnitude of the residual stresses. The best effect in raising

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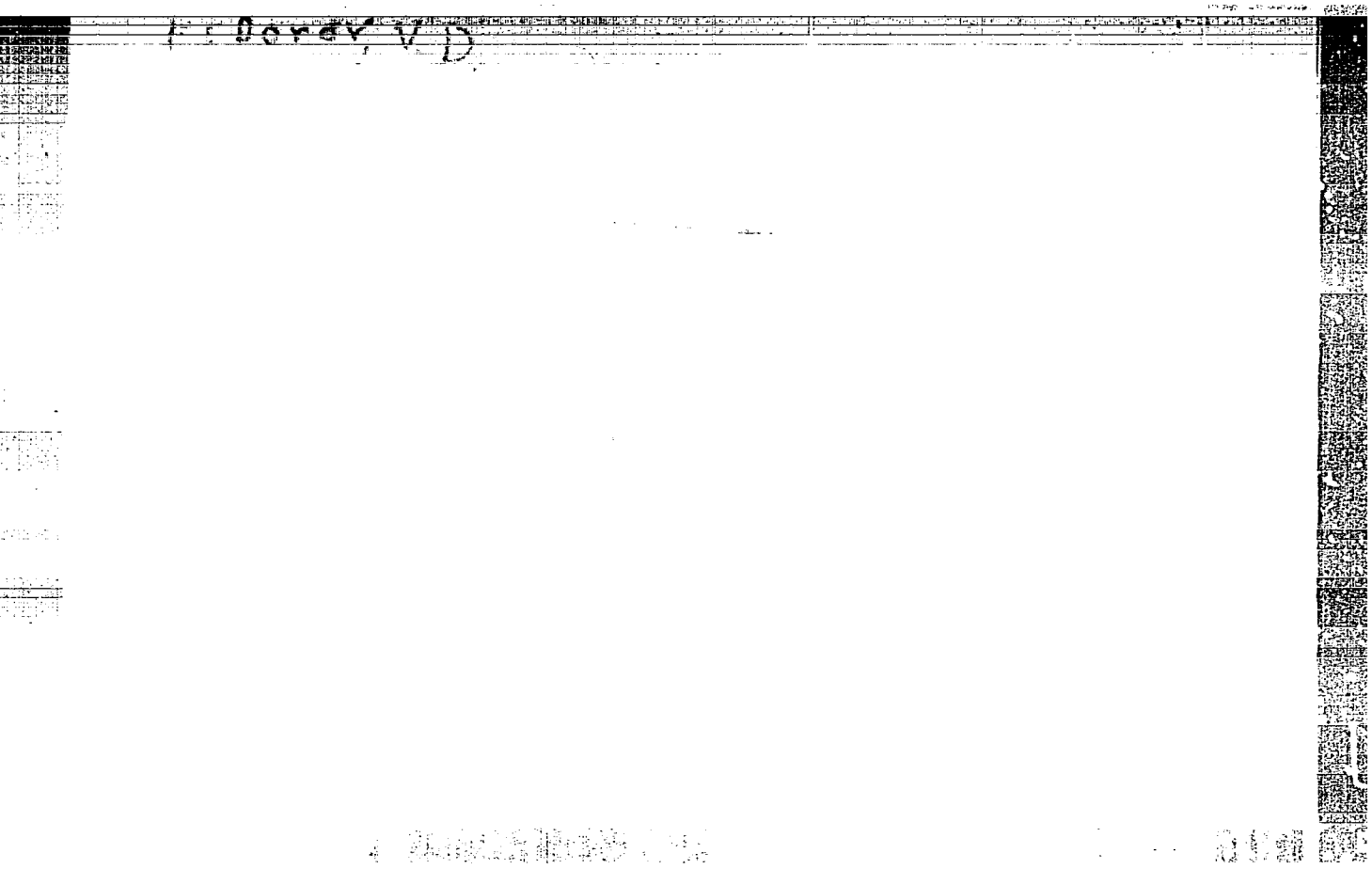
FEDOROV, V.D. (USSR)

The unforgettable Morse signals. Radiotechnika 11 no.11:2 of cover N '61.



S/044/62/000/004/058/099
C111/C333

AUTHOR: Fedorov, V.D.

TITLE: On the analogue of the topological principle of T. Ważewski for integro-differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 59-60, abstract 4B273. ("Issled. po integro-differents. uravneniyam v Kirgizii". No. I. Frunze, AN KirgSSR, 1961, 111-132)

TEXT: The topological principle of Ważewski (Ann. Soc. Polon. Math., 1947, 20, 279-313) is used in order to investigate the asymptotic behavior of the solutions of the system of integro-differential equations

$$\frac{dx}{dt} = f(t,x) + \int_a^t g\left[t,s,x(s)\right] ds \quad . \qquad (1)$$

The author follows Ważewski and introduces the following definitions : 1. The point $P \in \Omega$ is a) ordinary, b) singular of first kind, c) singular of second kind, if through P there passes a) a single integral curve of (1), b) more than one integral curve of (1), c) no integral

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curve of (1). O_0, O_1, O_2 denote the sets of ordinary points and of singular points of first and of second kind.

2. Each open subdomain of Ω is called tube. If T is a tube, then $fr(T, \Omega)$ denotes the boundary of T with respect to Ω .

3. The semiintegral $L^+(P_0)$ is called asymptotic with respect to the tube T, if $L^+(P_0) \subset T$.

4. The point $P_0(t_0, x^0) \in fr(T, \Omega)$ is called outlet point with respect to T, Ω and to the system (1), if to every integral $L(t, P_0)$ there is a number $\delta > 0$ such that $L([t_0 - \delta, t_0), P_0) \subset T$. S^* denotes the set of the outlet points. The point $P_0(t_0, x^0) \in fr(T, \Omega)$ is called rigorous outlet point with respect to T, Ω and to the system (1), if to every integral $L(t, P_0)$ there is a number $\delta > 0$ such that $L([t_0 - \delta, t_0), P_0) \subset T$; $L((t_0, t_0 + \delta], P_0) \subset \text{ext } \overline{T}$. The set of the rigorous outlet points is denoted by S.

5. The set $A \subset B$ is called quasiretract of the set B, if there is a mapping

K and a set $C \subset B$ such that 1.) $K(P) \subset A$, if $P \in B$; 2.) $K(P) = P$, if $P \in A$; 3.) the mapping K is continuous on the set C.. For the system (1) the author constructs analogues of the basic theorems of T.Wazewski, e.g.

Theorem : If $S' = S$ and if the set Z is so that 1.) $Z \subset T \cdot (O_0 + O_1) + S$; 2.) $Z \cdot S$ is a quasiretract of S ; 3.) $Z \cdot S$ is not quasiretract of Z, then there exists at least one point $P_0 \in Z - S$ such that one of the semiintegrals $L^+(P_0)$ is asymptotic with respect to the tube T.

The author gives sufficient conditions that to every number $c (|c| \gg \infty)$ there is a one-parameter family of solutions x(t) of the scalar integro-differential equation

$$\frac{d}{dt} f\left(t, x, \frac{dx}{dt}\right) = g\left(t, x, \frac{dx}{dt}\right) + \int_{\alpha}^{t} h\left[t, s, x(t), x(s), \frac{dx}{dt}, \frac{dx}{ds}\right] ds$$

which satisfy the condition $\lim_{t \to \infty} x(t) = c$; the number α is de-

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On the analogue of the topological ... S/044/62/000/004/058/099
C111/C333

termined by the functions f,g,h.

[Abstracter's note : Complete translation.]

Card 4/4

S/830/62/000/001/018/012
E111/E192

AUTHORS: Tikhomirov, V.B., Galkin, N.P., and Fedorov, V.D.

TITLE: Investigation of mass exchange in a plate extraction column with air mixing

SOURCE: Ekstraktsiya; teoriya, primeneniye, apparatura. Ed. by A.P. Zefirov and M.M. Senyavin. Moscow, Gosatomizdat, 1962, 213-216

TEXT: The object of the investigation was to study the separating capacity of a plate column with air mixing, on a system: water - nitric acid - uranyl nitrate - 20% solution of tri-butyl phosphate in paraffin. Columns 50-200 mm in diameter with working sections 1000-3900 mm high were used. The sieve plates were without overflow tubes (at 100-mm spacings, free cross sectional area 0.25 m^2/m^2, hole diameter 4-5 mm). The total liquid flow was 20-24 m^3/m^2 hour; with a 2 : 1 organic : aqueous liquid ratio. A maximum efficiency (minimum height equivalent of theoretical stage, HETS) was found for each set of operating conditions below the flooding value. With the total liquid flow of 24 m^3/m^2 hour an air flow of about 65 m^3/m^2 hour gave maximum efficiency.

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Investigation of mass exchange in ... S/830/62/000/001/012/012
E111/E192

corresponding to an HETS of 900 mm. At lower liquid flows HETS values of about 600-700 mm were obtainable. Air mixing increased the efficiency 4-5 times to values characteristic of pulsating columns. Sampling at various levels in the columns indicated that air mixing gives a more uniform extraction efficiency over the whole column height.
There are 3 figures.

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21(1) 5(2) SOV/89-7-2-9/24

AUTHORS: Galkin, N. P., Tikhomirov, V. B., Goryaynov, N. Ye., Fedorov, V. D.

TITLE: The Mechanism by Which a Liquid Is Dispersed in a Plate Extractor and Ways of Improving the Dispersion (Mekhanizm dispergirovaniya zhidkostey v tarel'chatom ekstraktore i sposob yego intensifikatsii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 159 - 160 (USSR)

ABSTRACT: The difference between the normal and the better modified version of the extractor consists in the fact that in the modified extractor an air inlet pipe is installed beneath the inlet for the light phase. This opening of the pipe is in the center of the column and is directed upwards. There are no overflow pipes in the extractor. The whole stream has to pass thru the openings in the plate. A stable operation of the column is ensured when the airflow moves at 0.03 m/s over the whole cross section of the column. When the airconsumption increases, bubbles form between the liquid drops and these bubbles reduce the contact surface. The new column with the air agitation system incorporated, was tested with the following systems: water -

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nitric acid - uranyl nitrate - tributyl phosphate in petroleum. The separation properties are approximately threetimes higher than those of a normal column. The total liquid load can be $\sim 30\ m^3/m^2$ in case of an optimum air agitation. The dependency of the extraction capacity upon the intensity of the air agitation was determined by experiment. The result is shown in a diagram. The extraction loss caused by the air stream is negligibly small. There are 2 figures.

SUBMITTED: March 31, 1959

FEDOROV, V.D., GRINBERG, A.A. (Moskva)

Experimental ventricular fibrillation and its elimination.
Eksper.khir. 3 no.4:59 Jl-Ag '58 (MIRA 11:9)
(HEART--DISEASES)

GRINBERG, A.A., FEDOROV, V.D. (Moskva).

Hemodynamics and respiration during experimental hypothermia.
Eksper. khir. 3 no.5:56 S-O '58 (MIRA 11:11)
(HYPOTHERMIA)
(RESPIRATION)
(CARDIOVASCULAR SYSTEM)

FEDOROV, V.D.

Problem of pulmonary hypertensions in mitral stenosis. Grud. khir. 3 no.2:19-25 '61. (MIRA 14:4)
(MITRAL VALVE—DISEASES) (HYPERTENSION)
(PULMONARY ARTERY—DISEASES)

FEDOROV, V. D. (Moskva)

Measuring the pressure in the heart cavities and great vessels during mitral commissurotomy (General evaluation of the method of examination and results. Klin. med. no.11:65-70 '61. (MIRA 14:12)

1. Iz kliniki gospital'noy khirurgii lechebnogo fakul'teta (dir. - prof. V. S. Mayat) II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(MITRAL VALVE--SURGERY) (BLOOD PRESSURE)

ORLOV, L.L.; AKIMOV, Yu.I.; SOLOV'IEV, V.V.; FEDOROV, V.D.

Ballistocardiogram of patients suffering from rheumatic heart disease. Vop.kard. 2-go MGMI no.2:155-176 '62. (MIRA 16:1)
(BALLISTOCARDIOGRAPHY) (RHEUMATIC HEART DISEASE)

FEDOROV, V.D.; NESTERENKO, Yu.A.; BULYCHEV, V.V.; SOLOV'YEV, V.V.

Measurement of pressure in the cavities of the heart and large vessels in acquired heart defects. Vop.kard. 2-go MGMI no.2: 357-374 '62. (MIRA 16:1)

1. Iz kafedry gospital'noy khirurgii (zaveduyushchiy prof. V.S. Mayat) i kafedry gospital'noy terapii (zaveduyushchiy chlen-korrespondent AMN SSSR prof. P.Ye.Lukomskiy).
(BLOOD PRESSURE) (HEART--DISEASES)

AKIMOV, Yu.I.(Moskva, G-165, Kutuzovskiy prosp., d. 39/30 kv.337); FEDOROV, V.D.

Comparison of the electrokymographic changes with the anatomical and with the pressure in the left auricle and pulmonary artery in mitral stenosis. Grud.khir. no.4:51-58 Jl-Ag '62. (MIRA 15:10)

1. Iz gospital'noy terapevticheskoy kliniki (dir. - chlen-korr. AMN SSSR prof. P.Ye.Lukomskiy) i gospital'noy khirurgicheskoy kliniki (dir. - prof. V.S.Mayat) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.

(ELECTROKYMOGRAPHY)
(BLOOD PRESSURE)
(PULMONARY ARTERY)
(MITRAL VALVE—DISEASES)

FEDOROV, V. D.

Some changes in cardiac activity in punctures of its cavities and large vessels during surgery. Khirurgiia no.4:98-103 '62. (MIRA 15:6)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. V. S. Mayat) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(HEART—EXAMINATION)
(CORONARY VESSELS—SURGERY)
(PUNCTURES(MEDICINE))

FEDOROV, V.D.; SNEGIREV, B.V.

Use of framycin (neomycin) in surgical practice. Antibiotiki 8 no.12: 1116-1120 D '63. (MIRA 17:10)

1. Gospital'naya khirurgicheskaya klinika lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni Pirogova (nav.-prof. V.S. Mayat) i Gorodskaya klinicheskaya bol'nitsa No.59 (glavnyy vrach N.P. Korzhenkov).

SHAPOSHNIKOV, V.N., KONDRAT'YEVA, Ye.N., FEDOROV, V.D.

Studies on green sulfur bacteria of the generus Chlorobium. [with summary in English]. Mikrobiologiia 27 no.5:529-535 S-O '58 (MIRA 11:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(CHLOROBIUM, culture
thiosulfatophikum, isolation & properties (Rus))

17(2) SOV/20-123-2-43/50

AUTHORS: Kondrat'yeva, Ye. N. ~~Fedorov, V. D.,~~ Greshnykh, K. P.

TITLE: On the Investigation of the Morphology of the Chlorobium Thiosulfatophilum (K izucheniyu morfologii Chlorobium thiosulfatophilum)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 365-365 (USSR)

ABSTRACT: 4 samples of green sulphur bacteria were extracted from inland waters (2 from fresh-water deposits, 2 from salt lakes). As they all were oxidizing hydrogen sulfide as well as thiosulfate they were identified as the species mentioned in the title. The 2 samples from salt water utilized also molecular hydrogen at the CO_2-photoreduction process. The nutrient media (according to reference 3 as well as for example with pH 6 and 0.2% $Na_2S.9H_2O$) did not cause a change in shape of the bacteria.

They were ellipsoidal or short rod-shaped, 0.7-0.8 to 1-1.5 μ long and inelastic. They often formed chains differing in length. Exceptionally long chains are formed in liquid media with a low pH and in the mass of agar. But it was always possible to de-

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On the Investigation of the Morphology of the Chlorobium Thiosulfatophilum

termine by staining that these long forms consisted of individual small cells of sometimes nearly round shape. Some other forms (Refs 1,3,4,6) were not observed. Thus the results of the authors agree with those of Bicknell (Biknel) (Ref 2), who has found only ellipsoidal forms in his cultures. Figure 1 (Table on page 256) shows the typical cell-form of the bacteria mentioned (photographed by T. F. Filippova and L. V. Lazareva). There are 1 figure and 6 references, 1 of which is Soviet.

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

PRESENTED: July 3, 1958, by V. N. Shaposhnikov, Academician

SUBMITTED: April 4, 1958

17(2)

AUTHOR: Fedorov, V. D.

SOV/20-126-2-50/64

TITLE: Polyphosphates of Photosynthesizing Bacteria (Polifosfaty fotosinteziruyushchikh bakteriy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 406-409 (USSR)

ABSTRACT: Until now polyphosphates have been determined in several lower organisms (bacteria, fungi, algae). They play an important role in the intracellular phosphorus transformations and energetic cell processes (Refs 1 - 3 et al). Therefore it is of special interest to clarify the participation of polyphosphates in the process of bacterial photosynthesis. Not only certain data are missing on the this subject but also their very existence as mentioned in the title was never proven (Refs 4 - 6). For this reason the author experimented with direct chemical methods. Pure cultures of Chlorobium thiosulphatophilum (Chlorobacteriaceae), chromatium, breed K (Thiorhodaceae) and Rhodopseudomonas palustris (Athiorhodaceae) were used for this purpose. All of them were cultivated under anaërobic conditions at constant illumination for 24 hours (media according to Refs 7 and 8).

Table 1 gives the results obtained in the determinations of polyphosphates in the acid-soluble and acid-insoluble fraction. Table 2 gives data on the change of the polyphosphate content conditioned by age in these two fractions of Chl. thiosulphatophilum culture. The results obtained prove that the maximum accumulation of the labile phosphorus takes place during the stationary growth phase in which the processes of the cell synthesis are slowed down. During the phase of logarithmic growth a remarkable accumulation of polyphosphates is prevented by intensive synthetic processes. The analytical results obtained in the present paper refer to the presence of polyphosphates in the cells of the 3 representatives investigated of three different families of photosynthesizing bacteria. There are reasons for the assumption that polyphosphates of the acid--soluble fraction are on the whole low-polymeric. The investigation of changes in the polyphosphate content of various fractions caused by age confirms the regularities earlier determined in other organisms. Prof. A. N. Belozerskiy and A. S. Spirin assisted in the work and I. S. Kulayev participated as an advisor. There are 2 tables and 12

Polyphosphates of Photosynthesizing Bacteria SOV/20-126-2-50/64

references, 1 of which is Soviet.

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

PRESENTED: February 18, 1959, by V. N. Shaposhnikov, Academician

SUBMITTED: February 17, 1959

Card 3/3

SHAPOSHNIKOV, V.N.; FEDOROV, V.D.

Study of phosphorus metabolism in the green photosynthetizing sulfur bacteria and its relation to carbon dioxide fixation. Biokhimiia 25 no. 3:487-495 My-Je '60. (MIRA 14:4)

1. Biological Faculty, State University, Moscow.
(BACTERIA, SULFUR) (PHOSPHORUS METABOLISM) (PHOTOSYNTHESIS)

FEDOROV, V.D.

Characteristics of the utilization of various substances in the energy metabolism of micro-organisms. Biul. MOIP. Otd. biol. 65 no. 4:147-148 Jl-Ag '60. (MIRA 13:10)
(MICRO-ORGANISMS) (METABOLISM)

FEDOROV, V. D., CAND BIO SCI, "PHOSPHORUS METABOLISM OF GREEN SULFUR BACTERIA IN RELATION TO THE PHOTOASSIMILATION OF CARBON DIOXIDE." MOSCOW, 1961. (INST MICROBIO ACAD SCI USSR). (KL, 2-61, 205).

TELITCHENKO, M.M.; DAVYDOVA, N.V.; FEDOROV, V.D.

Interrelationship of algae and micro-organisms. Report No. 2: Effect of developing cultures of the protococcal algae Chlorella vulgaris and Scenedesmus obliquus on the survival of the mouse typhoid bacillus Salmonella typhimurium. Nauch.dokl.vys.shkoly; biol.nauki no.4:157-163 '62. (MIRA 15:10)

1. Rekomendovana kafedroy gidrobiologii Moskovskogo gosudarstvennogo universiteta im. Lomonosova.
(SALMONELLA TYPHIMURIUM) (ALGAE)

FEDOROV, V.D.; KUSHNER, S.G.; TELITCHENKO, M.M.

Interrelations between algae and micro-organisms. Part 1. Effect of developing cultures of the protococcal algae Chlorella vulgaris and Scenedesmus obliquus on the survival of Escherichia coli. Nauch. dokl. vys. shkoly; biol. nauki no.2:160-165 '62. (MIRA 15:5)

1. Rekomendovana kafedroy gidrobiologii Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(ESCHERICHIA COLI) (ALGAE)

GUSEV, M.V.; FEDOROV, V.D.

Triphenyl-tetrazolium chlride study of the condition of morphologically differentiated cells in developing cultures of blue-green algae. Mikrobiologiia 31 no.3:478-481 My-Je '62. (MIRA 15:12)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.
(ALGAE—CULTURES AND CULTURE MEDIA)(TETRAZOLIUM COMPOUNDS)

FEDOROV, V.D.

Characteristics of the dying off of cells in multiplying cultures of the blue-green algae Anabaena variabiles and Amorphonostoc punctiforme. Dokl. AN SSSR. 144 no.6: 1380-1383 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova
Predstavleno akad. V.N.Shaposhnikovym.
(Algae--Cultures and culture media)

TELITCHENKO, M.M.; FEDOROV, V.D.

Problems of interrelations between algae and bacteria in bodies of water. Biul.MOIP.Otd.biol. 67 no.3:148-149 My-Je '62. (MIRA 15:11)

(Algae) (Water--Microbiology)

FEDOROV, V.D.

Characteristics of the dying of cells in reproducing cultures of blue-green algae. Biul.MOIP.Otd.biol. 67 no.3:149-150 My-Je '62. (MIRA 15:11)

(Algae--Cultures and culture media)

GUSEV, M.V.; FEDOROV, V.D.

Studying the state of morphologically differentiated cells in the developing cultures of blue-green algae by the use of triphenyltetrazole chloride. Biul.MOIP.Otd.biol. 67 no.3:151-152 My-Je '62. (MIRA 15:11)

(Tetrazolium compounds) (Algae—Cultures and culture media)

FEDOROV, V.D.; GUSEV, M.V.; SOKOLOV, L.I.; SOLIVO-DOBROVOL'SKIY, L.B.; KOPIROVSKIY, K.M.; SHLENOVA, G.S.; CHAYKIN, I. Ya.; RAZNOSHCHIK, V.V.; SPANOVSKAYA, V.D.; GRIGORASH, V.A.; MARKOVA, K.P.; MAKSIMOV, V.N.; TELITCHENKO, M.M.; LEVSHINA, N.A.

Supplement. V.D.Fedorov and others. Biul. MOIP, Otd. biol. 69 no. 3:158-166 My-Je '64. (MIRA 17:7)

FEDOROV, V.D., red.; TELITCHENKO, M.M., red.; ENDEL'MAN, G.N., ved. red.

[Biology of the blue-green algae] Biologiia sinezelenykh vodoroslei. Moskva, Izd-vo Mosk. univ., 1964. 162 p. (MIRA 18:5)

1. Moskovskoye obshchestvo ispytateley prirody. Sektsiya gidrobiologii i ikhtiologii.

FEDOROV, V.D.; MAKSIMOV, V.N.

Metabolism of sulfur compounds in cultures of photosynthetizing green sulfur bacteria Chlorobium thiosulphatophilum. Dokl. AN SSSR 160 no.5:1185-1186 F '65.

(MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet. Submitted June 8, 1964.

L 3212-66 EWT(1)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5009230 S/0020/65/161/001/0224/0227

AUTHOR: Fedorov, V. D.; Ionicheva, G. A.

TITLE: Phospholipids of photosynthesizing Chlorum thiosulfatum green sulfur bacteria

SOURCE: AN SSSR, Doklady, v. 161, no. 1, 1965, 224-227

TOPIC TAGS: Chlorum thiosulfatum, bacteria, photosynthesis, phospholipid, culture method, diurnal fluctuation, light brightness

ABSTRACT: Phospholipid composition of green sulfur bacteria and lipid changes under conditions of light and darkness were investigated. Pure cultures of Chlorobium thiosulfatophilum green sulfur bacteria were incubated on a Larsen medium at 30° under anaerobic conditions with alternating periods of light and darkness. After 2-3 days all the cultures were mixed together in a sterile flask, one third of the mixture was taken for analysis (I light sample), and the remaining two thirds were poured into jars and exposed to darkness for 48 hrs. Then half the mixture was taken for analysis (darkness sample) and the remaining half was exposed to light for 48 hrs and analyzed (II light sample). Following precipitation and filtering of

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L 3212-66

ACCESSION NR: AP5009230 2

bacteria, biomass volume was measured. Lipids were extracted from cells destroyed by dodecyl sulfate which proved to be the most effective agent. Chemical methods, paper chromatography, and spectrophotometry were used to determine phospholipid composition and changes. Inositolphosphatide, sphingomyelin, serinphosphatide, leucethin, and phosphatide acid were found in the phospholipid fractions of the green sulfur bacteria. No marked differences were found in samples exposed to different light conditions. This shows that phospholipids cannot be considered as mobile reserves of organic substances expended during dark reactions of endogenous substrate decomposition. The authors suggest that the phospholipids are not a readily available reserve dependent on diurnal fluctuations, but are mobilized only with prolonged incubation of photosynthesizing organisms in darkness or under other unfavorable conditions. Orig. art. has: 2 tables and 1 figure.

ASSOCIATION: None.

SUBMITTED: 08Jun64 ENCL: 00 SUB CODE: LS

NR REF SOV: 001 OTHER: 008

Card 2/2

L 13076-66

ACC NR: AP5028916 SOURCE CODE: UR/0020/65/165/003/0686/0689

AUTHOR: Bogorov, V.G. (Corresponding member AN SSSR); Maksimov, V.N.; Fedorov, V.D.

ORG: Moscow State University im. M.V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Selection of an optimum composition of the medium for the photosynthesis of green serous bacteria Chlorobium thiosulphatophilum using methods of mathematical planning of experiments

SOURCE: AN SSSR. Doklady, v. 165, no. 3, 1965, 686-689

TOPIC TAGS: bacteria, bacteriology, photosynthesis, CHEMICAL COMPOSITION

ABSTRACT: The attainment of a large yield of a given Bacterial culture can be achieved by the proper selection of the optimum medium for the type of organisms under study. Generally, three problems should be solved: 1) select from the totality of n factors only those the concentration of which significantly affects the yield of the culture; 2) establish the optimum qualitative relationships among the selected significant and possibly

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L 13076-66

ACC NR: AP5028916

interacting factors; and 3) eliminate surpluses in the concentration of nonessential factors with optimum combination of essential components. The optimum composition of the medium for the Chlorobium thiosulphatophilum bacteria was selected by the method of random balance (T.S. Budno, Technometrics, 1, No. 2, 139, 1959). A modified Larsen medium (H. Larsen, J. Bacteriol, 64, 187, 1952) was used as the base. The optimum combination of the selected factors was performed following the method of steepest ascent. After reducing the excess concentrations, the authors obtained an optimum medium, shown in Table 1, yielding 3 times as many bacteria as the Larsen medium.

Table 1. Comparative composition of nutrient media (in mg/l)

	NH_4Cl	KH_2PO_4	$MgCl_2$	NaCl	$CaCl_2$	Na_2S	$Na_2S_2O_3$	$NaHCO_3$	$FeCl_3$
Optimum medium	150	30	100	—	500	1000	8000	8000	25
Larsen medium	1000	250 or 1000	500	1000	200	1000	or 3000	3000	75

Card 2/3

L 13076-66
ACC NR: AP5028916

Orig. art. has: 2 figures and 4 tables.

SUB CODE: 06 / SUBM DATE: 24Jul65 / ORIG REF: 004 / OTH REF: 003

Card 3/3

FEDEROV, V.F.

Federov, V.F. "The Balaysk deposit of kaolin in Western Siberia," in symposium: Syr'yevyye resursy tonkokeram. promsti SSSR i puti ikh ispol'zovaniya, Moscow-Leningrad, 1948, p. 215-23

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

AUTHORS: Fedorov, V.F., Troitskiy, A.V. SOV-127-58-9-1/23

TITLE: A More Complete and Effective Use of Mineral Deposits in the USSR (Polneye i ratsional'neye ispol'zovat' rudnyye bogatstva SSSR)

PERIODICAL: Gornyy zhurnal, 1958, Nr 9, pp 3-6 (USSR)

ABSTRACT: The output of different ores will be increased in the next 15 years, in accordance with orders issued by the Party and the government. New large processing plants and mines will be put into operation, and processing methods of complex utilization of ores will be improved and modernized. Very often rare and precious minerals are lost during dressing operations of ferrous and non-ferrous ores. In the present level of technology, many of the components are extracted but in general the level of complex utilization of all components of the ores is still very low. During prospecting operations, these rare additional components are not taken into consideration and the Gosudarstvennaya komissiya po zapasam - GKZ (The State Commission on Reserves - GKZ) cannot evaluate completely the reserves because of a lack of information on the additional component. The authors cite many cases where the utilization of various additional components was made impossible in adequate

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A More Complete and Effective Use of Mineral Deposits in the USSR

analyzing apparatuses. In other regions where ore concentration plants were to be built, their construction was delayed far too long. The authors appeal to different geological workers and to all institutions concerned with such tasks to increase their efforts and to find new methods and processes for complex utilization of all composite ores.
There are 2 Soviet references.

1. Mining industry--USSR 2. Ores--Production 3. Ores--Processi

Card 2/2

FEDOROV, V.F.

Precast block construction of an underground reinforced concrete water tank. Vod. i sanit. tekh. no.8:18-21 Ag '61. (MIRA 14:9)
(Tanks)
(Precast concrete construction)

URUSOV, I.D., doktor tekhn.nauk; FEDULOV, L.N., inzh.; FEDOROV, V.F., inzh.

Artificial damping in large synchronous machines. Elektrichestvo no.7:13-18 Jl '61. (MIRA 14:9)
(Electric machinery, Synchronous)

FEDOROV, V.F., inzh.

Concerning the term "Shielded electrical motor." Elektrotekhnika 34 no.11:72 N '63. (MIRA 17:2)

FEDOROV, V.F.; TSUKERMAN, B.S.; PANICHEVA, A.G.

Mobile mill for the manufacture and installation of pipes. Gaz. delo. no.12:52-55 '63. (MIRA 17:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhniko-ekonomicheskikh issledovaniy po neftyanoy, neftekhimicheskoy i gazovoy promyshlennosti.

FEDOROV, V.F.; SHUROVSKIY, V.

Increasing the power of two gas-turbine units. Gaz. delo no. 3:43-46 '64. (MIRA 17:5)

ZHUKOVSKIY, A.A., insh.; IVANOV, N.A., insh.; FEDOROV, V.F., insh.

Instrument for the determination of the nonuniformity of machine performance. Izv.vys.ucheb.zav.; gor.zhur. no.7: 117-120 '60. (MIRA 13:7)

1. Chelyabinskiy nauchno-issledovatel'skiy institut gornogo dela. Rekomendovana kafedroy obshchey elektrotekhniki Sverdlovskogo gornogo instituta.
(Machinery, Kinematics of)

GALAYEV, N.Z., dots.; FEDOROV, V.F., mekhanik

DS-2 dynamometer-transmitters for modeling rock pressure by the equivalent materials method. Gor.zhur. no.9:75 S '60. (MIRA 13:9)

1. Leningradskiy gornyy institut.
(Rock pressure) (Geological modeling)

FEDOROV, V.F., inzh.

Automatic control of the operation of large jaw crushers in ore-dressing and crushing-sorting plants. Izv. vys. ucheb. zav.; gor. zhur. no.5:173-176 '61. (MIRA 16:7)

1. Chelyabinskiy institut gornogo dela. Rekomendovana kafedroy avtomatizatsii proizvodstvennykh protsessov. Sverdlovskogo gornogo instituta.

(Crushing machinery)
(Automatic control)

FEDOROV, V.F., inzh.

Static touching moment of jaw crushers. Izv. vys. ucheb. zav.; gor. zhur. 5 no.3:138-142 '62. (MIRA 15:7)

1. Chelyabinskiy nauchno-issledovatel'skiy institut gornogo dela. Rekomendovana kafedroy gornoy elektrotekhniki Sverdlovskogo gornogo instituta.

(Crushing machinery)

FEDOROV, V.F., inzh.

Improving the operating indices of large jaw crushers. Izv.vys. uchab.zav.; gor.zhur. 5 no.9:154-156 '62. (MIRA 15:11)

1. Chelyabinskiy nauchno-issledovatel'skiy institut gornogo dela. Rekomendovana kafedroy avtomatizatsii proizvodstvennykh protsessov Sverdlovskogo gornogo instituta.
(Crushing machinery)

FEDOROV, V.F., inzh.

Automation of large jaw crushers. Mekh.i avtom.proizv. 16 no.10:11-13 O '62. (MIRA 15:11)
(Crushing machinery)
(Automation)

FEDOROV, V.F., inzh.

Drive of large jaw crushers. Mekh.stroi. 19 no.12:13-14 D '62.
(MIRA 15:12)
(Crushing machinery)

FEDOROV, V.F., insh.

Concerning the article "Terminology in the field of airtight chemical-technological machinery and apparatus." Khim. i neft. mashinostr. no.3:44 S '64. (MIRA 17:12)

FEDOROV, V.F., kand. tekhn. nauk; ZHUKOVSKIY, A.A., inzh.

Apparatus for determining the efficiency of the motor of an electric drive. Izv.vys.ucheb.zav.;gor.zhur. 7 no.6:88-92 '64.

(MIRA 17:12)

1. Sverdlovskiy gornyy institut imeni V.V.Vakhrusheva (for Fedorov). 2. NIIOGR (for Zhukovskiy). Rekomendovana Kafedroy avtomatizatsii proizvodstvennykh protsessov Sverdlovskogo gornogo instituta imeni V.V.Vakhrusheva.

CHERNOUSOV, N.P.; KUTIN, A.N.; FEDOROV, V.F.; KOZULIN, N.A., doktor tekhn. nauk, prof., retsenzent

[Air-tight chemical and technological machinery and apparatus] Germeticheskie khimiko-tekhnologicheskie mashiny i apparaty. Moskva, Mashinostroenie, 1965. 351 p. (MIRA 18:7)

L 5371-66 EWT(1)/EPA(s)-2

ACC NR: AP5024577 SOURCE CODE: UR/0292/65/000/009/0018/0019

AUTHOR: Berger, A. Ya. (Prof.); Volyako, I. M. (Engr.); Fedorov, V. F. (Engr.); Fomenko, Yu. A. (Engr.); Oranskiy, M. I. (Candidate of technical sciences)

ORG: none

TITLE: Induction motors with protective enclosures

SOURCE: Elektrotekhnika, no. 9, 1965, 18-19

TOPIC TAGS: induction motor

ABSTRACT: The induction motors whose stator winding -- and sometimes also the rotor -- are protected against corrosive medium by a nonmagnetic-material enclosure are considered. Simple formulas based on an equivalent circuit are offered which allow for the variation of motor characteristics due to the presence of the enclosure. Three induction motors (A51-4, A52-4, and A-42-2) equipped with 1Kh18N9T stainless-steel enclosures of different thicknesses and lengths were tested at 50 cps; also one of the motors was tested with a copper enclosure. These conclusions are reported: (1) The losses in the special-enclosure motors are higher and their specific power is lower than those of conventional motors; (2) Protective enclosures having

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ACC NR: AP5024577

minimum thickness and length and a high resistivity are recommended; (3) The protective enclosure has no effect on the motor short-circuit parameters. Orig. art. has: 1 figures, 5 formulas, and 4 tables.

SUB CODE: EE/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 003

Card 2/2

FEDOROV, V.F., dotsent; PROKOF'YEV, Ye.V., inzh.

Experimental results of the adjustment of a two-engine electric drive of a superheavy conveyer. Izv. vys. ucheb. zav.; gor. zhur. 8 no.7:167-169 '65. (MIRA 18:9)

1. Sverdlovskiy gornyy institut imeni Vakhrusheva. Rekomendovana kafedroy avtomatizatsii proizvodstvennykh protsessov.

FEDOROV, V.F., inzhener.

Use of ultrasonic waves for detecting defects. Mech.transp. 15 no.2:28-29 F '56. (MIRA 9:6)
(Ultrasonic wave--Industrial applications) (Metals--Defects)

Fedorov, V.F.

POPOV, Aleksandr Anatol'yevich; KRUTIN, G.I., retsenzent; FEDOROV, V.F., retsenzent; LEONT'YEVSKIY, Ye.S., red.; EBERLIN, K.Z., red.izd-va; TSVETKOVA, S.V., tekhn.red.

[Internal combustion marine engines] Sudovye dvigateli vnutrennego sgoraniia. Moskva, Izd-vo "Rechnoi transport," 1957. 426 p.
(Marine engines) (MIRA 11:2)

FEDOROV, Vasiliy Fedorovich; KOMOGORTSEV, P.Ya., red.; SEMNIKOVSKIY, N.M., inzh., retsenzent; POLTAVTSEV, A.Ye., inzh., retsenzent; VITASHKINA, S.A., red. izd-va; YERMAKOVA, T.T., tekhn.red.

[Steam boilers and engines for river vessels] Rechnye parovye kotly i mashiny. Moskva, Izd-vo "Rechnoi transport," Pt.2. 1958. 312 p. (MIRA 12:1)
(Boilers, Marine) (Marine engines)

FEDOROV, Vasiliy Fedorovich; SIZYKH, V.A., retsenzent; KONONOV, M.F., retsenzent; ARISTOV, Yu.K., red.; SKOBILING, L.F., red. izd-va; RIDNAYA, I.V., tekhn. red.

[Organization and technology of ship repairs] Organizatsiia i tekhnologiia sudoremonta. Moskva, Izd-vo "Rechnoi transport," 1963. 263 p. (MIRA 16:5)
(Ships--Maintenance and repair)

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.; KOTLYAR, D.I.; MAYKOV, N.K.; PRAYSMAN, A.D.; SERGEYEV, V.I.; TRUFANOV, V.G.; FEDOROV, V.F.; FRUMIN, S.R.; CHERTKOV, Kh.A.; SHIBANOV, B.V.; CHERNOV, M.I., red.; VITASHKINA, S.A., red.izd-va; BODROVA, V.A., tekhn. red.

[Handbook on ship repairs in two volumes] Spravochnik po remontu sudov v dvukh tomakh. Pod obshchei red. M.I. Chernova. Moskva, Izd-vo "Rechnoi transport." Vol.1. 1963. 550 p. (MIRA 16:12)

(Ships--Maintenance and repair)
(Marine engineering--Handbooks, manuals, etc.)

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.; KATLER, A.I.; MAYKOV, N.K.; PFAYSMAN, A.D.; SERGEYEV, V.I.; TRUFANOV, V.G.; FEDOROV, N.F.; FRUMIN, S.R.; CHERTKOV, Kh.A.; SHIBANOV, B.V.; VATAGINA, S.A., red.izd-va; CHERNOV, M.I., red.; BODROVA, V.A., tekhn. red.

[Handbook on ship repairs in two volumes] Spravochnik po remontu sudov v dvukh tomakh. Pod obshchei red. M.I.Chernova. Moskva, Izd-vo "Rechnoi transport." Vol.2. 1963. 600 p. (MIRA 16:9)
(Ships--Maintenance and repair)

ACC NR: AP7012399 SOURCE CODE: UR/0292/67/000/001/0022/0025

AUTHOR: Fedorov, V. F. (Candidate of technical Sciences); Bannikov, E. V. (Engineer)

ORG: none

TITLE: Application of nonlinear resistance in the excitation circuit of a synchronous machine

SOURCE: Elektrotekhnika, no. 1, 1967, 22-25

TOPIC TAGS: electric resistance, electronic circuit, electric machine

SUB CODE: 13,09

ABSTRACT: Test performed with selenium resistances, consisting of 150 parallel discs of 50, 70, and 130 mm diameter and thicknesses ranging from 5 - 12 mm, show that a selenium resistance permanently cut in the excitation circuit of synchronous machines provides an effective protection against overload and at the same time permits asynchronous starting of synchronous machines.

For an efficient and economical operation the nonlinear resistance should have a nonlinearity coefficient between 5.5 and 6.6. At these values the nonlinear resistance decreases more than 50 times for a voltage increase

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ACC NR: AP7012399

of 2.25 to 2.5 times. The test data was confirmed by calculations on a digital computer. Orig. art. has: 7 figures, 4 formulas and 1 table.
[JPRS: 40,450]

2/2

FEDOROV, V.F.

Effect of artificial damping on synchronizing and asynchronous moments of a synchronous machine. Sbor. rab. po vop. elektromekh. no.10:168-174 '63. (MIRA 17:8)

FEDOROV, V.F.

Concerning the possibility of using linearized equations in the theory of synchronous machines. Elektrichestvo no.10:18-20 O '64. (MIRA 17:12)

FEDOROV, Vladimir Georgiyevich[Fedorov, V.H.]; KARPOVA, L.I., inzh., retsenzent; ZELENYUK, O.O., inzh., red. izd-va; STARODUB, T.O., tekhn. red.

[Rayon spinning]Priadinnia viskoznoho shovku. Kyiv, Derzhtekhvydav URSR, 1962. 76 p. (MIRA 16:3)
(Rayon spinning)

FEDOROV, V.G.

Adaptation of some molluscs to the drying up of water reservoirs.
Zool. zhur. 40 no. 1:133 Ja '61. (MIRA 14:2)

1. Agricultural Institute, Omsk.
(Omsk Province--Mollusks) (Adaptation (Biology))

YERMOLAYEVA, L.M.; FEDOROV, V.G.

Effect of gibberellin on the development of algae. Nauch. dokl. vys. chkoly; biol. nauki no.1:133-135 '64. (MIRA 17:4)

1. Rekomendovana kafedroy obshchey biologii Omskogo meditsinskogo instituta.

FEDOROV, V. G.

"Data on the Fauna and Phenology of Mosquitoes (Dipters, Culicidae) in the Area of Chkalov," Ent. ob., 31, No.3, 1951

FEDOROV, V.G.

Effect of certain external factors on the development of eggs of the tapeworm Diphyllobothrium latum L. [with English summary in insert]. Zool.zhur.35 no.5:652-656 My '56. (MLRA 9:9)

1.Kafedra obshchey biologii Omskogo meditsinskogo instituta imeni M.I.Kalinina.

(TAPEWORMS)

Fedorov, V.G.

FEDOROV, V.G.

Carrying of helminth eggs by flies in Omsk. Med.paraz. i paraz.bol. supplement to no.1:73 '57. (MIRA 11:1)

1. Iz kafedry obshchey biologii Omskogo meditsinskogo instituta imeni M.I.Kalinina.
(OMSK--WORMS, INTESTINAL AND PARASITIC)
(FLIES [redacted], CARRIERS OF DISEASE)

ALYFANOV, V.I.; ZAKORKINA, T.N.; NETSKIY, G.I.; FEDOROV, V.Q.

Experimental data on the role of the Gamasidae in the transmission of tick-borne encephalitis and Omsk hemorrhagic fever viruses. Med.paraz.iparaz.bol. 30 no.1:24-26 Ja '61. (MIRA 14:3)

1. Iz Nauchno-issledovatel'skogo instituta prirodnoochagovykh infektsii Ministerstva zdravookhraneniya RSFSR v Omske (dir. instituta G.V. Kornilova).
(EPIDEMIC HEMORRHAGIC FEVER) (ENCEPHALITIS)
(MITES AS CARRIERS OF DISEASE)

ALIFANOV, V.I.; NETSKIY, G.I.; RAVDONIKAS, O.V.; FEDOROV, V.G.

Data on the epidemiological prognosis of Omsk hemorrhagic fever. Med. paraz. i paraz. bol. 32 no.5:621 S-O'63 (MIRA 16:12)

1. Iz nauchno issledovatel'skogo instituta prirodnoochagovykh infektsiy (dir. G.V. Kornilova) Ministerstva zdravookhraneniya, RSFSR, Omsk.

YERMOLAYEVA, L.M.; FEDOROV, V.G.

Brief survey of research on the algal population of the ponds of Western Siberia. Trudy TSSBS no.8:19-20 '64. (MIRA 18:7)

Fedorov, V.G.

AUTHORS: Tychinskiy, V.P., and Fedorov, V.G. 109-10-16/19

TITLE: Frequency Changing in a Travelling-Wave Tube Fitted with a Drift Tube (Preobrazovaniye chastoty v LBV s trubkoy dreyfa)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, No.10, pp. 1306 - 1307 (USSR).

ABSTRACT: It was shown earlier by one of the authors (Radiotekhnika i Elektronika, 1956, Vol.I, No.12, p.1525) that if the potential of the drift tube in a travelling-wave tube is varied in accordance with the hyperbolic law as given by Eq.(1), the change of frequency in the tube is expressed by Eq.(2) where ℓ is length of the drift tube, v_o is the electron velocity and a is the rate of change of the drift tube potential. Some experiments were carried out on a tube having ℓ = 15.7 cm and it was found that the change in frequency did, in fact, occur and that Eqs.(1) and (2) were accurate to within 6%.

SUBMITTED: March 12, 1957.

AVAILABLE: Library of Congress.

Card 1/1

GERASHCHENKO, Oleg Arkad'yevich, kand. tekhn. nauk; FEDOROV, Vladimir Gavrilovich, inzh.; MORDVINOVA, N.P., inzh., ved. red.; TOLCHINSKIY, Ye.M., inzh., red.; SOROKINA, T.M., tekhn. red.

[Heat flow transducers]Datchik teplovogo potoka. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 10 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 34. No.P-58-80/8) (MIRA 16:3)
(Transducers) (Heat--Transmission) (Heat exchangers)

SOV/109-59-4-2-12/27

AUTHORS: Tychinskiy, V.P., and Fedorov, V.G.

TITLE: A Travelling-Wave Tube Oscillator with an Electronic Phase Shifter (Generator na lampe begushchey volny s elektronnym fazovrashchatelem)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 2, pp 241-245 (USSR)

ABSTRACT: In 1950 one of the authors proposed a method of the electronic tuning of U.H.F. oscillators by employing an electronic phase shifter, which is in the form of a drift tube having a variable potential; such a drift tube is inserted between two sections of a slow-wave system. The resulting oscillator is shown in Fig 1. The wavelength generated by the oscillator can be expressed by:

$$\lambda_0 = \frac{L_\Sigma}{n_0}(1 + kV^{-1/2}) \qquad (4)$$

where

$$k = \frac{l}{L_\Sigma}\frac{c}{\eta}(1 \pm \frac{\omega_q}{\omega}) \qquad (5)$$

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A Travelling-Wave Tube Oscillator with an Electronic Phase Shifter

In Eq (4) and (5), the parameter $L_\Sigma = L_o + L_1 m_1 + L_2 m_2$ where L_o is the length of the feedback path, L_1 and L_2 is the length of the helix and ℓ is the length of the phase shifter (See Fig 1); m_1 and m_2 are the delay coefficients of the two helices; n_o is the number of the mode of the oscillation, ω_q is the effective plasma frequency, V is the potential of the drift tube and $\eta = (2\ell/m)^{1/2}$. The coefficient k of Eq (5) is proportional to the length of the drift tube and determines the slope of the electronic tuning curve. The possibility of the electronic tuning was investigated on an experimental tube which had L_1 = 11 cm; L_2 = 4.8 cm; ℓ = 4.4 cm; $m_1 = m_2$ = 16 cm and L_Σ = 505 cm. The typical oscillograms of the oscillation modes are shown in Fig 2 and 3. The results of a large number of this type of measurements are plotted in Fig 4. From the experiments it is concluded that the principal factor limiting the tuning range is the separation of the neighbouring oscillation modes. Reduction of the index of an oscillation mode was possible, but this led to the increase of the starting current. The slope of the

A Travelling-Wave Tube Oscillator with an Electronic Phase Shifter

electronic tuning curves indicated the excitation of a slow wave in the drift tube. The largest electronic tuning range obtainable was of the order of 4%. There are 4 figures and 4 references of which 2 are Soviet and 2 English.

SUBMITTED: 8th July 1957

Card 3/3

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AUTHORS: Tychinskiy, V.P., Fedorov, V.G. and Savilov, P.I.

TITLE: Regenerative Amplifier-Converter Using Diodes with Nonlinear Capacitance

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 4, pp 677-679 (USSR)

ABSTRACT: A regenerative amplifier-converter using the nonlinear capacitance of a semiconductor diode, based on the Manley-Rowe theorem (Ref 1), has been built and studied. The gain and noise factor at frequencies between 200 and 1000 Mcs were measured. At 750 Mcs the gain is of the order of 20 to 35 dB practically constant for input power levels of 10^{-6} to 10^{-5} W. The noise factor was 1.25 to 2.0 dB. The conversion gain did not exceed 3 to 5 dB. Acknowledgements are expressed to Yu.T.Derkach for his assistance in evaluating the results. There are 2 figures and 4 English references.

SUBMITTED: August 17, 1959

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S/108/62/017/006/007/007
D407/D301

AUTHORS: Paderno, I.P. and Fedorov, V.G., Members of the Society (see Association)

TITLE: Counting of objects

PERIODICAL: Radiotekhnika, v. 17, no. 6, 1962, 60 - 67

TEXT: The scanning device and memory cells used in automatic counting of objects, are described, as well as the operating principle involved. It is shown that the problems of counting of objects and of pattern recognition are related: both problems involve the singling out of one "essential" property, common to all the objects under consideration, and the neglect of all the other secondary properties. The counting of the objects is based on the transformation of physical characteristics into an electric-pulse sequence which affects the corresponding memory cells (the cell mosaic). The transformation is effected by means of a two-dimensional scanning system. A pick-up, sensitive to the K-character (i.e. the essential property) of the object, determines the presence of this character.

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Counting of objects

in the scanned zone. Thereupon a pulse is transmitted to the corresponding memory-cell, which stores the received information until it is read. The scanning device should have adequate resolving power: the length of the scanning element should be not more than half the minimum distance between two neighboring objects. The cell mosaic forms a two-dimensional matrix. On completing the scanning cycle, the electrical images of the object-shapes appear on the matrix. In order to ensure that (on reading the information) the count should be accurate, the excited memory-cells which are close to each other, form an electrically-coupled "K-group", characterized by the fact that all the cells of such a group are in the same state. The counting of the objects begins after the formation of the K-groups, by transmitting interrogation pulses to the cell mosaic by means of a second scanning-system. The duration of the two scanning cycles is determined by the operating conditions of the device and by the fastness required. The specific design of the scanning system is selected in accordance with reliability- and convenience requirements. The memory cells of the

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D407/D301

Counting of objects

matrix can be made of contact, as well as contactless elements. Basic diagrams of the counting device, consisting of contact (respectively contactless) elements, are shown. The principal elements of the counting device are: distributers, mobile electromagnets, scanning commutators, relays and capacitors. The system also incorporates a selector and a recording device. The number of discharge pulses of the capacitor is determined by the number of K-groups, which corresponds to the number of objects to be counted. If it is required to ascertain the number of objects as a function of time, as in the case of studies of bactericide properties, the recording device can be supplemented by a discrete-to-continuous converter of variables and by a device which records the counting results on tape. There are 8 figures.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications im. A.S. Popov

Card 3/3

L 5359-66 EWT(1)/EWA(h)
ACC NR: AP5023655 SOURCE CODE: UR/0119/65/000/008/0016/0019

AUTHOR: Kaplan, M. I. (Engr.); Lyubovskiy, I. A. (Engr.); Fedorov, V. G. (Engr.)

ORG: none

TITLE: Electronic pulse recorders

SOURCE: Priborostroyeniye, no. 8, 1965, 16-18

TOPIC TAGS: recorder, pulse recorder

ABSTRACT: Pulse recorders are considered which are based on the electronic pulse relay; in the latter, an additional winding of an electromagnetic relay forms a part of a positive feedback circuit, while the main relay winding is connected to the collector circuit of a P-25 transistor. Such a device permits recording even a very short electric pulses (1 μsec) with slow (10 msec) electromechanical relays and without any intermediate signal transducer. Application of the above electornic-relay principle to a pulse counter and a light-pulse recorder is briefly described. Orig. art. has: 4 figures, 1 formula and 1 table.

SUB CODE: EC/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 000

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SOV/96-58-6-19/24

AUTHOR: Gerashchenko, O.A., Cand.Tech.Sci. and Fedorov, V.G., Engineer.

TITLE: An instrument for measuring local thermal fluxes. (Pribor dlya izmereniya lokal'nykh teplovykh potokov)

PERIODICAL: Teploenergetika, 1958. . . . No.6. pp. 89-90. (USSR)

ABSTRACT: Working in the Institute of Thermal Power Engineering of the Acad.Sci. Ukrainian SSR, the authors have developed an instrument which is used to determine local values of heat flux over a wide range of temperatures and thermal loadings. It is based on the use of a three-layer probe of thermo-electrode materials, the central one being the active element, and the two outers serving to carry current. Fig.1. gives a sketch of the probe. When heat passes through the device the temperature difference set up across the centre layer is proportional to the rate of heat-flow; this temperature difference produces an electro-motive force, which is measured. The outer layers are made of different material from the middle one, so that a sort of differential thermocouple is set up. Normal thermocouple materials are used in the construction. The leads to the instrument must meet special requirements, and in particular, they must be very homogeneous - platinum, copper and silver proved satisfactory. The centre layer was made of such material as Constantan or Copel. The temperature difference between the current-carrying plates is about 2.10^{-5}°C per mm thickness for a heat flow of

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An instrument for measuring local thermal fluxes. SOV/96-58-6-19/24

1 kcal/m^2.hr. In order to respond to thermal fluxes not less than 100 kcal/m^2.hr. with a thickness of 1 mm, the instrument must be sensitive to power of the order of 10^{-15} to 10^{-12} W. Accordingly a double-cascade differential magnetic amplifier was used, fed by a stabilized frequency-generator connected to a constant-voltage device of the static type embodying a resonant reactor. A simple block circuit diagram is given in fig.2. Various procedures that were used to make up the probe are described. For example, high-temperature probes were made by forging the sheets in a high-frequency field in an inert atmosphere. A radiation method of calibration was used, the intensity being measured by a thermo-electric compensation radiometer. The circuit is given in fig.3. and the principles are described, with an explanation of difficulties that arise during calibration. The calibration curve (heat flux against meter reading) is a straight line; the scatter of the experimental points does not exceed 3%, and is due to zero drift of the magnetic amplifier. By improvements to the latter, the error could be reduced to 1%. There remains the difficulty of calibrating the device at heat fluxes greater than 20,000 kcal/m^2.hr., and linear extrapolation of the calibration curve is recommended for this purpose. As a method of measuring local values of heat flux with a probe 10 mm diameter and 1 mm thick, the instrument is quicker and more accurate than the usual methods, despite the defects mentioned. There are 4 figures. 1. Thermocouples--Development 2. Temperature--Measurement

Card 2/2

FEDOROV, V.G. [Fedorov, V.H.]; GERASHCHENKO, O.A.[Herashchenko, O.A.]

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(MIRA 13:11)

(Heat--Transmission)

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(Combustion)
(Coal, Pulverized)

KOCHEREZHKO, A.N.; FEDOROV, V.G.

System for the automatic control of combustibles in the fly ash of large boiler systems. Energ. i elektrotekh. prom. no.1:6-8 '62. (MIRA 15:6)

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(Boilers) (Fuel)
(Automatic control)

BOROVIKOV, S.I. [Borovykov, S.I.]; GERASHCHENKO, O.A. [Herashchenko, O.A.]; FEDOROV, V.G. [Fedorov, V.H.]

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