

SERGEYEV, P.V., inzh.; SIDORENKO, G.A., inzh.

Electric-arc furnace with an electrode in the molten metal. Vest.  
elektroprov. 31 no.10:45-48 O '60. (MIRA 15:1)  
(Electric furnaces) (Electrode)

SERGEYEV, P.V.; PLATONOV, G.F.

Interconnection of electric and geometric parameters of electrode furnaces and their industrial purpose. Trudy Alt. GMNII AN  
Kazakh-SSR 9:181-188 '60. (MIRA 14:6)

1. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy institut AN Kazakhskoy SSR.

(Electric furnaces)  
(Lead--Electrometallurgy)

S/110/60/000/010/009/014  
E073/E435

AUTHORS: Sergeev, P.Y., Engineer and Sidorenko, G.A., Engineer

TITLE: Electric Arc Furnace with the Electrode Submerged in the Molten Metal

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.10, pp.45-48

TEXT: The furnace was developed in the Laboratoriya promyshlennoy energetiki, Akademiya nauk Kazakhskoy SSR (Industrial Power Laboratory of the AS KazSSR). In contrast to current types of arc furnaces, the arc burns under a layer of molten metal, the thickness of which can be varied as desired. Therefore, the heat is generated directly in the metal and the efficiency is considerably higher; the metal vapours which form in the arc zone condense again without rising to the surface and, therefore, very little metal is burned away. Air oxygen is not present, so that there is practically no burning-off of the graphite electrodes. Irrespective of the metal that is molten, the furnace has a high power-factor. The graphite electrode is a protective tube of a material thermally and chemically resistant

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to the particular melt; the tube is electrically insulated from the electrode and there is an appropriate gap between the two. This is filled with asbestos which, in addition to serving as electric insulation, also provides a hermetic seal between the electrode and the tube. The asbestos lining is discontinued at a distance of about 2 to 3 electrode diameters from the end of the electrode and the electrode is shorter than the protective tube by about 0.5 to 0.6 diameters. It is advisable to make the lower end of the tube in the form of an inverted funnel, to protect the edges from over-heating and to prevent shifting of the arc from the electrode to the walls and also to improve heat removal. In smelting lead, tubes of heat-resistant steel should be used; for low heating temperatures the tubes can be of ordinary steel. In smelting aluminium and its alloys, the protective tubes should be made of high-temperature cast iron. In smelting zinc, particular types of cast iron with alloying additions are also suitable. For all metals and alloys, tubes made of non-porous, high quality,  
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graphite are fully satisfactory. For initial starting of the furnace, a shallow liquid-metal bath has to be available. (This is not necessary for subsequent starts, since the electrode design is such that the furnace can be periodically stopped and during these stoppages the electrode is "frozen" into the bath.) On immersing the electrode into the molten metal the air in the cavity gets compressed, thus preventing penetration of liquid metal to the electrode. After the electrode has reached the necessary depth, a second electrode is introduced manually below the cavity for the purpose of igniting the arc; this igniting electrode can be removed after 3 to 5 min and from then onwards the arc will burn inside the gas space. The best results were obtained when the second electrode was at the same level as the metal. A furnace was tested in the laboratory (10 kW unit) and then in a larger version for smelting zinc (100 kW). The main factors which determine the satisfactory operation of such a furnace are: air-tightness of the electrode; suitable depth of the

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electrode inside the protective tube, so that a satisfactory gas space is formed. shape of the end of the protective tube, a funnel divergent towards the bottom being the most favourable; and the electrode as near to vertical as possible, since excessive inclination can lead to an undesirable shortening of the arc and also to short-circuits. In smelting lead, the electrode consumption was uniform at the rate of 1 mm/h in laboratory operation and 2 to 3 mm/h in industrial units. Particular attention was paid to the design of the equipment for continuous feeding of the electrode, which is so made that air leaks through the bottom of the protective tube are prevented. In a specific installation the power factor was 0,84 to 0,88, increasing with increasing loading to 0,85 to 0,95; the voltage across the arc was 23 to 28 V. In the case of lead smelting, the voltage drop at the near-cathode layer was about 12 V, at the near-anode layer about 3 V and in the arc column 11 to 14 V. Taking into consideration that the arc length is 5 to 10 mm, the voltage gradient across the arc is 1.5 to 2.0 V/mm. Therefore, the maximum possible arc voltage is 50 to 60 V, or

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AUTHOR: Sergeyev, P.V., Candidate of Technical Sciences

TITLE: Consideration on the Hydrogen Separation Overtension

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1960, No. 12, pp. 26 - 35

TEXT: The theoretical conception of the overtension of the hydrogen separation in the electrolytic separation of metals from acid electrolytes is interpreted from the physical point of view under consideration of the possible practical utilization. The overtension theory of delayed discharge suggested by Pol'ner and Erdey-Gruts (Russian transliteration) had been developed by Academician A.N. Frumkin whose mathematical overtension expressions had been verified in many experiments. Frumkin's formula for overtension for the case of acid electrolytes (Ref. 1) is

$$\eta = a_1 + \frac{RT}{\alpha F} \cdot \ln D + \varphi_1 - \frac{1-\alpha}{\alpha} \cdot \frac{RT}{F} \cdot \ln [H^+] \quad (1).$$

By union of constants the formula can be reduced to the Tafel' formula  $\eta = a + b \cdot \lg D$  (2). The formula (2) reflects the phenomenon showing that overtension consists of two components, one of which,  $\alpha$ , is independent of the current density and can only be explained by the electrochemical interaction of the electrolyte and the cathode material (e.g. zinc), and the formation of a stationary electrical field

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Consideration on the Hydrogen Separation Overtension

with two layers already before the electric current is switched on. a and b must be known. P.V. Sergeev's formula (Ref. 3,4) for electrolyzers with insoluble anode and aqueous sulfuric acid solution is used for this purpose:  $U_0 = U_a + b_a \cdot \lg D_a + b_k \cdot \lg D_k + D_0 \cdot \rho_0 \cdot \frac{1}{10,000}$  (5) where  $U_0 = a_a + a_k = U_a + U_k \approx U_a$  decomposition tension +  $\eta_k$ ; for the case of the electrolysis of zinc  $U_0 \approx 2.36$  v; 1.67 - decomposition tension of  $H_2SO_4$  and 0.69 - overtension of hydrogen;  $a_a = U_a$  - tension jump at the anode;  $a_k = \eta_k$  - tension jump at the cathode;  $D_a, D_k$  - current densities at the anode and at the cathode,  $\frac{A}{m^2}$ ;  $b_a$  and  $b_k$  - Tafel formula coefficients;  $\rho_0$  - specific resistance of the  $m^2$  electrolyte, in ohm/cm;  $l$  - space between electrodes in cm. For the case of a current density of 1 A/m<sup>2</sup> the resistance drop in the electrolyte may be ignored, and the formula (5) reduced to the form  $U_{B1} = U_0 \approx U_{decomp.tens.} + a_k$  hence  $a_k = U_{B1} - U_{decomp.tens.}$  (6). The formula (6) has been verified in experiments by the author. for cathodes from zinc, cadmium, cobalt, iron, aluminum, copper and antimony. The obtained values are (Table 1)

Cathode material	Zn	Cd	Co	Fe	Al	Cu	Sb
$a_k$ , volt Card 2/3	0.68	0.36	0.25	0.21	0.47	0.34	0.445



Z1180

S/141/66/003/000, 019/023  
E192/E382

16.9500 (1031, 1121, 1132)

AUTHOR: Sergeyev, P.V.

TITLE: Detailed Diagrams of I.A. Vyshnegradskiy and the  
Choice of Optimum Parameters for an Indirect Control  
System with Correcting Differentiator

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Radiofizika, 1961, Vol. 5, No. 6, pp. 1077-1092

TEXT: The method of analysis adopted in this work is based  
on the discriminant curve introduced by Bulgakov (Ref. 1)  
and the  $D_\alpha$ -operation proposed by Neymark (Refs. 2, 3). A  
typical indirect control system is illustrated diagrammatically  
in Fig. 1. This comprises a differentiating circuit and an  
amplifying stage. The transfer function of the system is given  
by:

$$Y(p) = \frac{\delta(rp^2 + kp + 1)(sp + 1)(\tau_1 p + 1)}{p(rp^2 + kp + 1)(sp + 1)(\tau_1 p + 1) + ck_0(\tau_1 p + 1)}, \quad (1.1)$$

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Detailed Diagrams ....

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where a normalised time  $\bar{t} = t/\delta T_a$  was introduced; the other parameters in Eq. (1.1) are defined by Eqs. (1.2). In evaluating the effect of the derivative, it is desirable to preserve the static error which is achieved when  $ck_0 = 1$ . In the case of an ideal differentiator for which  $\tau_1 = 0$ , the characteristic equation of the system is:

$$D(p) = rsp^4 + (r + ks)p^3 + (k + s)p^2 + (\tau + 1)p + 1 = 0. \quad (1.3)$$



D-operation leads to the following parametric equations for the boundary curve:

$$k = \frac{s\tau\omega^2 + 1}{\omega^2(1 + s^2\omega^2)}, \quad r = \frac{s^2\omega^2 + (\tau + 1) - s}{\omega^2(1 + s^2\omega^2)}, \quad (1.4) \quad (1.4)$$

which, together with the straight line  $r = 0$ , determine the stability region on the plane of the parameters of the

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Detailed Diagrams ....

sensor element. Fig. 2 shows the regions of stability depending on the position of the principal point relative to the straight line  $s = \tilde{\tau} + 1$ ,  $s = \tilde{\tau}$  and  $\tilde{\tau} = 0$ . It can be shown that the plane  $\tilde{\tau}, s$  (such as shown in Fig. 2) can be divided into 10 regions which are characterised by differing behaviour of the discriminant curve in the plane  $k, r$ ; all the basic types of the discriminants are investigated. For the construction of the detailed diagrams of I.A. Vyshnegradskiy it is assumed that  $p = -\alpha + j\omega$  and so Eq. (1.5) can be written in the parametric form as follows:

$$k = \frac{(2s^2\alpha + \tau s)z^2 + |1 - 4s\alpha + 2\alpha(\tau+1)(1-2s\alpha)|z - 4\alpha^2(1-2s\alpha)}{(1 - 2s\alpha + s^2z)z^2}; \quad (1.14) \quad \checkmark$$

$$r = \frac{s^2z^2 + |(\tau+1)(1-2s\alpha) - s|z - 2\alpha(1-2s\alpha)}{(1 - 2s\alpha + s^2z)z^2}, \quad (1.14a) \quad (1.14a)$$

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Detailed Diagrams ....

where  $z = \alpha^2 + \omega^2$  which represents a "free" parameter. These parametric equations are employed to analyse various special cases. The Vyshnegradskiy diagrams are also used to determine the optimum parameters for the control system. These parameters are chosen in such a way as to secure an optimum control time which is chosen as a compromise value, such that the rise time of the transient response is comparatively short and the overshoot and the oscillatory portion of the response are not excessive. There are 17 figures and 8 Soviet references;

ASSOCIATION: Omskiy mashinstroitel'nyy institut  
(Omsk Machine-building Institute)

SUBMITTED: May 3, 1960

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Detailed Diagrams ....

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Fig. 1:

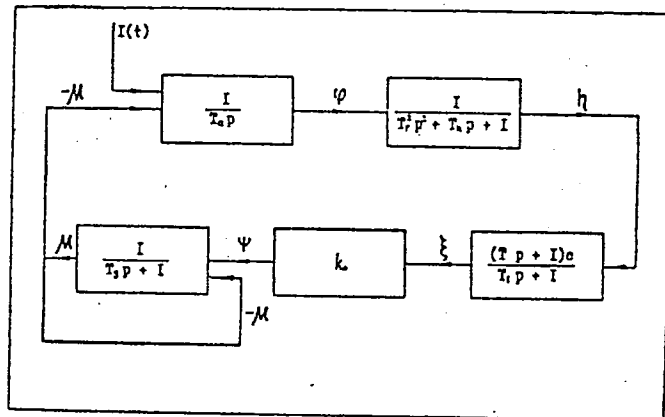


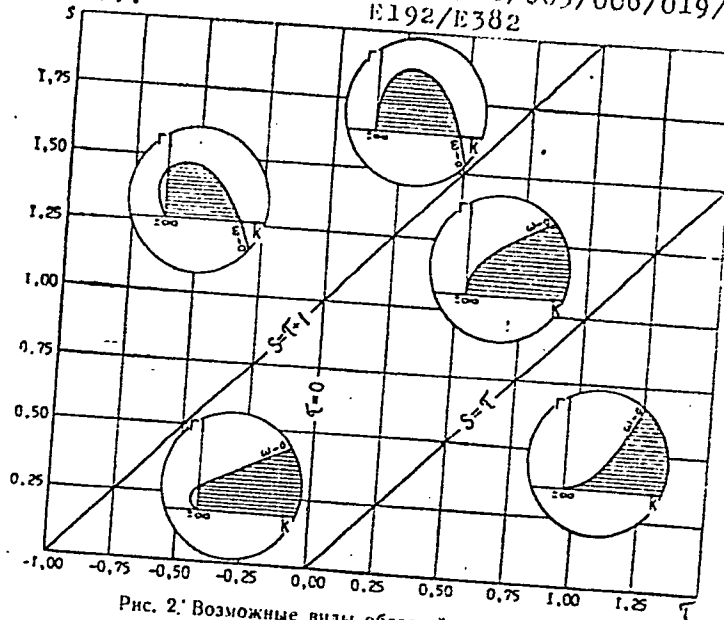
Рис. 1. Структурная схема непрямого регулирования с воздействием по производной.

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Detailed Diagrams . . . .

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Fig. 2:



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Рис. 2. Возможные виды областей устойчивости.

STOLYAREVSKIY, N.A.; SERGEYEV, P.V.; TIKHANIN, V.A.

Measurement of leakage currents in zinc electrolysis systems. Prom.  
energ. 16 no.11:15-19 N '61. (MIRA 14:10)

(Electric currents, Leakage—Measurement)  
(Electrometallurgy—Electric equipment)

SERGEYEV, P.V.

Concerning the design of electric ore-smelting furnaces. Izv.  
AN Kazakh. SSR. Ser. energ. no.1:11-20 '61. (MIRA 14:12)  
(Electric furnaces)



SERGEYEV P.V., kand. tekhn. nauk

Overvoltage in the liberation of hydrogen. Vest. AN Kazakh.  
SSR 17 no.12:83-87 D '61. (MIRA 553)  
(Hydrogen)  
(Electrolysis)

SERGEYEV, P.V. (g.Ust'-Kamenogorsk)

Concerning the design of electric ore smelting furnaces.  
Elektrichestvo no.3:32-37 Mr '62. (MIRA 15:2)  
(Electric furnaces)

SERGEYEV, P.V., kand.tekhn.nauk

General power characteristics of the electric arc and electrolysis. Vest. AN Kazakh. SSR 18 no.6:30-39 Je '62. (MIRA 15:9)  
(Electric arc) (Electrolysis)

SERGEYEV, P. V.

Distortion of the form of carbon electrodes in electrical  
furnaces. Izv. AN Kazakh. SSR. Ser. energ. no.2:39-46 '62.  
(MIRA 16:1)

(Electric furnaces) (Electrodes)

PLATONOV, G.F., kand. tekhn. nauk (Ust'-Kamenogorsk); SERGEYEV, P.V.,  
kand. tekhn. nauk (Ust'-Kamenogorsk)

Design of electric ore-smelting furnaces. Elektrichestvo no.5:  
88-90 My '63. (MIRA 16:7)

(Electric furnaces)

SERGEYEV, P.V. (Ust'-Kamenogorsk)

Distribution of electric current in the tank of an electric ore-smelting furnace. Elektrichestvo no. 7:88-89 JI '63. (MIRA 16:9)  
(Electric furnaces)

SERGEYEV, P.V.; VOLKOV, A.F.

Distribution of I<sup>131</sup>-labeled triotrast in white rats. Farm. i  
toks. 27 no.4:468-470 J1-Ag '64.

(MIRA 17:11)

1. Kafedra farmakologii (zav. - prof. V.V. Vasil'yeva) II Mos-  
kovskogo meditsinskogo instituta imeni Pirogova.

VASIL'YEVA, V.V.; LAKIN, K.M.; SERBINOV, P.V.

Study of coronary circulation in the combined use of contrast media and anticoagulants. Vestn. rent. i rad. 39 no.6:16-20 N-D '64.

(MIRA 18:6)

1. Kafedra farmakologii (zav. - prof. V.V.Vasil'yeva) II Moskovskogo meditsinskogo instituta imeni Pirogova.



Название статьи: МАКОВИЧ, Л.А.; ГИЗЕВ, А.И.; ГИЗАРОВ, Я.А.; ЧИСТЯКОВ, В.А.

Вопросы устранения осложнений при использовании контрастных методов рентгеновских исследований. Вест. рент. и рад. 39 no.6:31-36 M-D '64.

(MIRA 18:6)

Л. Госпитальная хирургическая клиника (зав. - действительный член АМН СССР проф. Д.В.Петровский) и Московского ордена Ленина радиологического института имени Соколовых, кафедра фармакологии (зав. - проф. В.В.Васильева) и Центральной детской лаборатории (зав. - проф. М.Ф.Моркочев) и Московского радиологического института имени Соколовых.

SERGEYEV, P.V.; GUBAREV, Ye.A.

Effect of antihistamine preparations and triurol on the passage of sodium from the blood into tissues. Pat. fiziol. i eksp. terap. 9 no.1:53-56 Ja-F '65. (MIRA 18:11)

1. Kafedra farmakologii (zav. - prof. V.V. Vasil'yeva) i radiologicheskaya laboratoriya (zav. - prof. M.F. Merkulov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.

SERGEYEV, I.V.; GUBAREV, Ye.A.

Effect of hypertonic solutions on the vascular permeability.  
Farm. i toks. 28 no.1:63-65 Ja-F '65.

(MIRA 18:12)

1. Kafedra farmakologii (zav. - prof. V.V.Vasil'yeva) i  
radiobiologicheskaya laboratoriya (zav. - prof. M.F.Merkulov)  
II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.  
Submitted February 5, 1964.

S/124/63/000/001/005/080  
D234/D308


AUTHORS: Bychkov, A.I., Rutman, A.Sh. And Sergeyev, P.V.

TITLE: Comparison of indirect methods of analysis of automatic control systems on the basis of I.A. Vyshnegradskiy's problem

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1965, 18, abstract 1A17 (Tr. Omskogo mashinostroit. in-ta, 1959, no. 3, 33-47)

TEXT: For the choice of optimum parameters of a system of direct control, methods are applied which become widely popular for estimation of the quality of the transient process: the method of distribution of roots, integral criteria and the method of choice of parameters, based on minimizing the deviations. The results obtained are compared with the data of direct numerical computation. In this way I.A. Vyshnegradskiy's problem is used for verifying the indirect methods of quality estimation. Comparison shows that all methods give the general tendency in the position of the zone of

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Comparison of indirect methods ...

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optimum parameters with sufficient accuracy. The largest inaccuracy is found in a version of the method of root distribution which uses the notion of relative damping. 13 references.  
[Abstracter's note: Complete translation]



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L 35495-65 EWT(d)/EWP(1) Pg-4/Pk-4/Pl-4/Po-4/Pq-4 IJP(c) BC

ACCESSION NR: AP5007840

S/0288/64/000/003/0103/0109 30

AUTHOR: Sergeyev, P.V.

29  
B

TITLE: The Vyshnegradskiy problem in the theory of direct control taking into account delays and derivative interactions

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no. 3, 1964, 103-109

TOPIC TAGS: direct control, minimum damping control, delay parameter, derivative interaction parameter, Vyshnegradskiy problem, control system stability 9

ABSTRACT: The effect of delays on the stability of a system of direct control is studied and an estimate is given of the effect of the introduction of derivative interactions. The investigation was based on the D-subdivision operation proposed by Yu. I. Neymark (Ustoychivost' linearizovannykh sistem (diskretnykh i raspredelennykh), L., LKVVIA, 1949). The system, analyzed within the linear region, leads to a four-parameter form treated conveniently within a four-dimensional hyperspace. The theory shows that the delay and derivative pulse represent the main parameters, and that their incorrect choice cannot be compensated by other parameters. The range of the permissible values of the delay (from the stability point of view) may be enlarged by the introduction of derivative

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ACCESSION NR: AP5007840

interactions. By means of a diagram given in the paper, one can, for given delays and derivative pulses, choose the kind of derivative interaction which ensures the stability of the system with a minimum of damping. Orig. art. has: 11 formulas and 6 figures.

ASSOCIATION: Omskiy mashinostroitel'nyy institut (Omsk Machinebuilding Institute)

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SUB CODE: IE, MA

NO REF SOV: 003

OTHER: 000

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Card 2/2

BABICHEV, V.A., dots.; PYKHTINA, A.A., dots.; KOVALEV, I.Ye.,  
assistant; LAKIN, K.M., assistant; TOLVINSKAYA, L.S.,  
assistant; SAPEZHINSKAYA, N.V., assistant; SERGEYEV,  
P.V., assistant; VASIL'YEVA, V.V., doktor med. nauk,  
prof., red.; VISHNEVETSKAYA, L.B., tekhn. red.

[Laboratory manual in pharmacology and general pre-  
scription writing] Rukovodstvo k prakticheskim zania-  
tiam po farmakologii i obshchei retsepture. Moskva,  
1962. 79 p. (MIRA 16:4)

1. Moscow. Vtoroy Moskovskiy meditsinskiy institut.  
(PHARMACOLOGY—LABORATORY MANUALS)  
(PRESCRIPTION WRITING)



SERGEYEV, R.

Maintain residential houses in model order. Zhil.-kom.khoz.  
7 no.7:7-9 '57. (MIRA 10:10)  
(Dwellings) (Apartment houses)

TREUSHNIKOV, A., inzh. ekspluatatsii vodnogo transporta;  
SAZANOVA, M., inzh. ekspluatatsii vodnogo transporta;  
MAMONOV, N., inzh. ekspluatatsii vodnogo transporta;  
SERGEYEV, R., inzh. ekspluatatsii vodnogo transporta

Correct formulation of the problem. Rech. transp. 22 no.4:42  
Ap '63. (MIRA 16:4)

(Inland water transportation—Employees)

SERGEYEV, R.S.; PERMITIN, I.Ye.; YASTREBKOV, A.A.

Fertility of fishes in Rybinsk Reservoir. Trudy Biol.sta."Borok"  
no.2:278-300 '55. (MIRA 9:6)  
(Rybinsk Reservoir--Fishes)

SERGEYEV, R.S.

Materials on the biology of burbot in Rybinsk Reservoir. Trudy Inst.  
biol. vodokhran. no.1:235-258 '59. (MIRA 13:2)  
(Rybinsk Reservoir--Burbot)

AUTHOR: Davydov, G.; Sergeyev, S. SOV-107-58-4-35/57

TITLE: Miniature Tube Radio Receivers (Malolampovyye radiopriyemniki)

PERIODICAL: Radio, 1958, Nr 4, pp 34-37 (USSR)

ABSTRACT: Two superheterodyne receivers which are built around a miniature triode-heptode tube are described. In this tube the grids have no internal connection and the two parts of the tube can therefore function quite independently. The first receiver is a heterodyne with mixed antenna coupling for use on medium and long waves. The heptode is used as a frequency convertor and the resultant IF signal, after detection by a diode transistor, is fed back to the heptode's grid, which then acts as an AF amplifier. Finally the AF signal is fed into the triode output section and goes from there to the loudspeaker. The set is powered from the mains via a diode rectifier. The construction details are given and coil and transformer winding data, together with tuning technique, supplied. The second receiver is a 2-tube heterodyne, this time with a powerful pentode output stage, which makes it suitable for use as a phonograph amplifier. Capacitance feedback is employed. The heptode acts as a frequency conver-

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Miniature Tube Radio Receivers

SOV-107-58-4-35/57

tor, and the triode as both IF and first AF amplifier. Current rectification is achieved through 2 germanium diodes, and the detector is also a germanium diode. The layout and coil data are given and the construction of a suitable vernier drive and pick-up jack described and illustrated.

There are 2 circuit diagrams, 2 tables, 3 diagrams and 1 drawing.

1. Radio receivers--Design
2. Miniature electron tubes--Applications

Card 2/2

AUTHORS: Davydov, G.; Sergeyev, S. SOV-107-58-9-27/38

TITLE: A Three-tube Superheterodyne (Trékhlampovyy superheterodin)

PERIODICAL: Radio, 1958, Nr 9, pp 43 - 44 (USSR)

ABSTRACT: The receiver covers SW 19-65 m, MW 187-578 m and LW 750-2,000 m. The IF is 465 kc. The receiver has a rated output of 0.5 va and sensitivity is around 300  $\mu$ v in the MW and LW bands and 500  $\mu$ v in the SW band. There is inductance antenna coupling in the SW band; for MW and LW reception a magnetic antenna is used with capacitance feedback. A push-button unit is used for wave-changing. To use the set as a grammophone amplifier, the MW and LW keys are pressed simultaneously, thus cutting out the input circuits and thereby radio reception. The two sections of the 1st heptode-triode are used respectively as mixer and heterodyne, those of the 2nd as IF amplifier and 1st AF amplifier. The detector is a DG-Ts4 transistor diode. The final stage is a pentode output amplifier with nega-

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A Three-tube Superheterodyne

SOV-107-58-9-27/38

tive feedback. The power unit uses junction-type germanium diodes as doublers. Constructional details and coil winding data are supplied. There are 2 sets of diagrams, 1 table, 1 circuit diagram and 2 figures.

1. Radio receivers--Design
2. Radio receivers--Performance
3. Radio receivers--Instruction manuals

Card 2/2



SERGEYEV, S.

Laying ceramic block walls. Stroitel' 2 no.2:8-9 F '56. (MLRA 9:12)  
(Walls) (Hollow bricks)

SERGEYEV, S.

Aleksei Piv<sup>an</sup>ov, innovator and plasterer. Stroitel' 2 no.4-5:14-15  
Ap-My '56. (MIRA 10:1)

(Plastering)

SERGEYEV, S. inzh.

Colored facing tiles. Stroi. mat. 4 no.1:9-10 Ja '58.

(MIRA 11:2)

(Gorkiy--Tiles)

SANDLER, S., starshiy trener; SERGEYEV, S., master sporta.

Brake system of a motorcycle for races on a winding road. Voен.znan. 29  
no.8:21 Ag '53. (MLA 6:8)

1. Leningradskiy avto-motorklub Vsesoyuznogo dobrovol'nogo obshchestva  
sodeystviya armii, aviatsii i flotu. (Motorcycles)

TATAR'YAN, G.; SERGEYEV, S.

Forms and systems of wages for workers with chemical apparatus and  
equipment. Sots. trud. no.8:59-64 Ag '58. (MIRA 11:9)  
(Chemical industries) (Wages)

28.2.48.424, 5.

21(2)

PHASE I BOOK EXPLOITATION

SOV/2708

Atomnaya energiya i flot; sbornik statey (Atomic Energy and the Navy; Collection of Articles) Moscow, Voenizdat, 1959. 232 p. (Series: Nauchno-populyarnaya biblioteka) Number of copies printed not given.

Ed.: Ya. M. Kader; Tech. Ed.: A.M. Gavrilova; Ed. and Compiler: L. D. Chernous'ko, Engineer, Captain.

PURPOSE: This book is intended for the general reader.

COVERAGE: The papers in this collection discuss in popular style, and on the basis of data published in the Soviet and non-Soviet press, problems of the use of atomic and hydrogen weapons in combat operations at sea. The collection includes reports on the damaging factors of a nuclear explosion and on the immense power of this weapon of mass destruction. A number of articles are devoted to the antinuclear defense of ships and of shore objects, and to the introduction of nuclear power plants in naval vessels. Also included in the collection are papers dealing with the future prospects for naval use of nuclear energy, and with the construction of the world's first atomic icebreaker, the "Lenin", which is expected to play an important part in the further conquest

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Atomic Energy and the Navy (Cont.)

SOV/2708

of the Arctic regions. The collection also contains papers published in the journal Sovetskiy flot in 1955 - 1958, in revised and supplemented form.

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Atomic Energy and the Navy (Cont.)

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Chernous'ko, L., Engineer Captain. The World's First Atomic Icebreaker, "Lenin"

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AVAILABLE: Library of Congress (UF767.C39)

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Nuclear Energy and the Navy (Cont.)

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SERGEYEV, S.

Refrigerators. Rubotnitsa 37 no.5:30 My '59.  
(Refrigerators)

(MIRA 12:7)

SERGEYEV, S.

Dispatching and line control in action. Avt. transp. 42  
no. 5:14 My '64. (MIRA 17:5)

SERGEYEV, S.M.

BELINA, T.G.; NOZDRIN, A.A.; PRASOLOV, M.A.; SERGEYEV, S.A., ROGUSKAYA, Ye.F.; SHAVKIN, G.B., inzhener, redaktor; KHITROV, P.A., tekhnicheskii redaktor.

[Experience in closer loading of railroad cars; accounts by young weighers] Opyt uplotnennoi zagruzki vagonov; rasskazy molodykh vesovshchikov. Moskva, Gos. transportnoe zhel.-dor. izd-vo, 1954.  
45 p. (MLRA 8:1)

(Railroads--Freight)



~~SERGEYEV, S.A.~~; PANOV, V.I., redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor.

[Compact loading of cars and containers] Uplotnennaya zagruzka vagonov i konteynerov, Moskva, Gos.transp.shel-dor.izd-vo, 1957.  
85 p. (MLRA 10:6)

1. Russia (1923- U.S.S.R.) Glavnoye gruzovoye upravleniye.  
(Loading and unloading)  
(Railroads--Freight cars)

9,2540

82890

S/120/60/000/02/021/052

E192/E382

AUTHORS: Sanin, A.A. and Sergeev, S.A.

TITLE: Application of Positive Feedback in Stabilized Power Supplies

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 2, pp 80 - 82 (USSR)

ABSTRACT: A voltage stabilizer suitable for supplying various types of radiation detectors is shown in Figure 1. The principal feature of this device is that it is provided with considerable positive feedback. By this means it was possible to obtain the stabilization coefficient  $k_c > 10^4$ . The device gives an output current of 5 mA at 1 kV. The drift of the output voltage over 8 hours is less than  $\pm 0.01\%$ . When the heater voltage is changed by 10% the output voltage varies by less than  $5 \times 10^{-3} \%$ . The output impedance of this system is less than  $10 \Omega$ . Although the circuit of Figure 1 was principally designed for a constant output voltage, it is possible to vary this voltage by changing the resistances  $R_1$ ,  $R_4$  and  $R_5$ . The source of the

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S/120/60/000/02/021/052

Application of Positive Feedback in <sup>E192/E382</sup> Stabilized Power Supplies

reference voltage is provided by a corona stabilizer type SG-7S (refs 4, 5). Such a reference tube has a temperature coefficient of  $\pm 0.014 \%/^{\circ}\text{C}$  over the temperature range from 20 to 30  $^{\circ}\text{C}$ . In the circuit of Figure 1, the temperature coefficient was compensated in the following manner. The resistor  $R_2$  of the divider network is in the form of a coil wound on the corona stabilizer. The coil is made of copper wire so that it has a large temperature coefficient. The former of this coil is made of brass. The temperatures of the corona stabilizer and the coil are identical. The value of the coil resistance is chosen in such a way that the change of the maintaining voltage of the corona stabilizer and the change of the voltage drop on the resistors  $R_2$  and  $R_3$  caused by the temperature change, are identical. These changes are applied to the inputs of the differential amplifier and so the voltage at the output of the stabilizer should be constant even if the temperature of the corona tube is changing. The amount of the positive

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S/120/60/000/02/021/052

Application of Positive Feedback in <sup>E192/E382</sup> Stabilized Power Supplies

feedback in the circuit is varied by the resistance  $R_7$ . A similar stabilizer for the output voltage of 280 - 300 V is shown in Figure 3. The output impedance in this device is less than 1  $\Omega$  and its maximum output current is 200 mA. The output voltage is varied by the potentiometer  $R_3$ . A graph showing the dependence of the output voltage of this stabilizer on the input voltage is given in Figure 4. Curve A corresponds to a stabilizer without positive feedback, while Curve B is for the stabilizer of Figure 3. There are 4 figures and 7 references, 3 of which are English and 4 Soviet; one of the Soviet references is translated from English.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki  
MGU (Scientific-Research Institute for Nuclear Physics of  
Moscow State University)

SUBMITTED: February 13, 1959

Card 3/3

S/120/62/000/001/003/061  
E032/E514

AUTHORS: Bryukhanov, V.A., Delyagin, N.N., Zvenglinskiy, B.,  
Sergeyev, S.A. and Shpinel', V.S.

TITLE: Measurement of the resonance absorption spectra of  
gamma-rays in crystals

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 23-28

TEXT: In a previous paper (Ref.5: Zh.eksperim. i teor.fiz.,  
1960, 39, 220; Ibid 40, 713) the authors described an apparatus  
which was used to investigate the Mössbauer effect (23.8 kV  
gamma-rays on Sn<sup>119</sup> nuclei in crystals). In this apparatus the  
relative velocity of the source and the absorber is varied  
linearly with time with the aid of a mechanical device and the  
intensity of the gamma-rays corresponding to different values of  
this velocity is recorded with a multi-channel kicksorter and an  
amplitude modulator working in synchronism with the device  
producing the above velocity variation. In the present note the  
authors give a more detailed description of the apparatus,  
including both the mechanical and the electronic parts of it. A  
typical absorption spectrum for a SnO<sub>2</sub> crystal (9 mg/cm<sup>2</sup> target  
Card 1/2

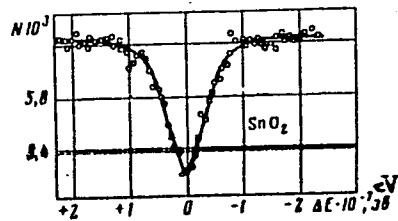
Measurement of the resonance ... S/120/62/000/001/003/061  
E032/E514

and 6 mg/cm<sup>2</sup> source, both at room temperature) is shown in Fig.6. It is reported that the width of the 23.8 keV excited state of Sn<sup>119</sup> is  $(2.6 \pm 0.25) \times 10^{-8}$  eV. There are 6 figures.

ASSOCIATION: Institut yadernoy fiziki MGU  
(Institute of Nuclear Physics MGU)

SUBMITTED: June 15, 1961

Fig.6



Card 2/2

SERGEYEV, Sergey Dmitriyevich; SHELENSKAYA, V.A., redaktor; VIKTOROVA, B.I.,  
tekhnicheskly redaktor

[Economic cooperation and interrelationship between countries of  
the socialist camp] Ekonomicheskoe sotrudnichestvo i vzaimo-  
pomoshch' stran sotsialisticheskogo lageria. Moskva, Vneshtorg-  
izdat, 1956. 198 p. (MIRA 9:3)  
(Europe, Eastern--Economic conditions)

ANAN'INA, N.; SERGEYEV, S. )

Conference on economic problems of socialist agriculture.  
Vop. ekon. no.10:145-159-0 '56. (MLRA 9:11)

(Agriculture--Economic aspects)



SERGEYEV, Sergey Dmitriyevich; DOBROKHOTOV, Andrey Fedorovich;  
ZINCHENKO, V.S., red. izd-va; TSAGURIYA, G.M., tekhn. red.

[The People's Republic of Bulgaria; its economy and foreign  
trade] Narodnaia Respublika Bolgariia; ekonomika i vneshniaia  
torgovlia. Moskva, Vneshtorgizdat, 1962. 271 p.

(MIRA 15:12)

(Bulgaria--Economic conditions) (Bulgaria--Commerce)

SERGEYEV, Sergey Dmitriyevich; KHADZHAYEV, A.M., red.

[Economic cooperation and mutual aid of socialist countries] Ekonomicheskoe sotrudnichestvo i vzaimopomoshch' sotsialisticheskikh stran. Moskva, Vnesh-torgizdat, 1962. 415 p. (NIRA 18:1)

LYUBIMOV, N.N., prof., doktor ekon. nauk; PLETNEV, E.P., doktor ekon. nauk; SERGEYEV, S.D., dots., kand. ekon. nauk; MEN'SHIKOV, S.M., doktor ekon. nauk; BUZYKIN, Yu.I., kand.ekon.nauk; DYUMULEN, I.I., dots., kand.ekon.nauk; IKONNIKOV, I.S., kand.ekon.nauk; KUZ'MIN, I.A., dots., kand.ekon.nauk; NESTEROV, M.V.; POPOV, A.N., dots., kand.ekon.nauk; SOLOV'YEV, A.A., kand.ekon.nauk; STEPANOV, G.P., dots., kand.ekon.nauk; SHCHETININ, V.D., dots. kand. ekon. nauk; MOGILEVCHIK, A.Ye., red.; SHLENSKAYA, V.A., red.

[Modern international economic relations] Sovremennye mezhdunarodnye ekonomicheskie otnosheniia. Pod red. N.N.Liubimova. Moskva, Izd-vo "Mezhdunarodnye otnosheniia," 1964. 583 p.  
(MIRA 17:5)

1. Moscow. Institut mezhdunarodnykh otnosheniy. 2. Predsedatel' Prezidiuma Vsesoyuznoy trgovoy palaty (for Nesterov).

SOV/124-58-5-5244

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 42 (USSR)

AUTHORS: Frolov, M.A., Merkulov, V.A., Sergeyev, S.I., Khripkov, N.S.

TITLE: On the Effectiveness of Using Auxiliary Blowers to Combat Dust in Mines During Operation of UKT Combination Coal-cutting-and-loading Machines (Issledovaniye effektivnosti primeneniya vspomogatel'nykh ventilyatorov dlya bor'by s pyl'yu pri rabote kombaynov UKT)

PERIODICAL: Tr. Novocherkasskogo politekhn. in-ta, 1957, Vol 45/59, pp 91-112

ABSTRACT: Results are given of a study made of the effectiveness of using auxiliary blowers to combat dust in mines at sites where UKT combination cutting-and-loading machines are working slender seams of anthracite. Conditions were investigated at the working faces of several Donbass mines. The authors summarize their findings as follows: 1- The rate of air flow at a mine working-face when the auxiliary blower is turned off does not, as a rule, exceed 0.25-0.35 m/sec---which is not up to standard. 2- The use of auxiliary blowers makes it possible in some cases to reduce the dust content of the air in a mine shaft

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SOV/124-58-5-5244

On the Effectiveness of (cont.)

by as much as 30-50%. 3- The dust content of the incoming current of supposedly fresh air prior to its arrival at the working faces (where the studies were being conducted) greatly exceeded the permissible limit from the point of view of health protection. 4- To combat dust effectively at sites where the combination cutting-and-loading machines are working slender, gently slanting seams of anthracite, the rate of air flow at the working faces must be increased to 0.7-1.0 m/sec.

Yu.A. Lashkov

1. Blowers--Effectiveness
2. Underground structures--Ventilation
3. Particles (Airborne)

Card 2/2

SERGEYEV, S.I., inzh.

Manufacture of granulated glue. Kozh.-obuv. prom. no.11:38 N  
'59. (MIRA 13:3)

(Glue)

SERGEYEV, S.I., inzh.

Replies to readers' questions. Elek.i tepl.tiaga 3 no.11:44  
N '59. (MIRA 13:3)

(Railroads--Maintenance and repair)

SERGEYEV, S.I., inzhener

On the article "Salt processing of dehaired hides." Leg.prom. 15  
no.5:45-47 My '55. (MIRA 8:7)  
(Hides and skins)



SERGEYEV, S.I.

Pulsation of gas in pipes and measurement of its flow. *Iss.*  
tekh. no.7:43-46 JI '63. (MIRA 16:8)

(Gas meters)

SEROBYEV, S.I., inzh.

Ultrasonic homogenizers (from "Chemical Engineering").  
Kozh.-obuv.prom. no.10:37 0 '59. (MIRA 13:2)  
(United States--Ultrasonic waves--Industrial application)  
(Homogenization)

17919-63 EWP(g)/EWT(m)/BDS AFFTC/ASD WW/JD/JG/AB  
ACCESSION NR: AT3002439 S/2935/62/000/000/0034/0055

AUTHOR: Burshteyn, R. Kh.; Larin, L. A.; Sergeyev, S. I. 63  
62

TITLE: Effect of <sup>n</sup>oxygen and water vapor on the surface properties of germanium and silicon (Report at the Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June, 1961)

SOURCE: Poverkhnostnyye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 34-55

TOPIC TAGS: Ge surface property, Si surface property

ABSTRACT: The experimentally-determined rate of chemisorption and effect of oxygen and water vapor adsorbed by Ge and Si are reported. Ge films were cleaned by repeated reduction of Ge in hydrogen with subsequent exhaustion at  $10^{-7}$  -  $10^{-9}$  torr and at 400-450 C. The rate-of-oxygen-adsorption curve showed

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ACCESSION NR: AT3002439

that the process, while rapid in the beginning, slowed down after one-half of  $O_2$  was adsorbed. A 2-hr heating in a vacuum at 400 C did not result in any desorption of  $O_2$ . Water-vapor adsorption by  $O_2$ -treated Ge surface was found irreversible and resulted in the increased ability of Ge to adsorb more  $O_2$ . The effect of adsorbed  $O_2$  on the work function was investigated at  $10^{-3}$  -100 torr; it was found that the work function, for both p- and n-Ge, increases upon  $O_2$  adsorption. Irreversible adsorption was observed at pressures up to 10 torr; when the pressure during the adsorption period was increased to 100 torr, both irreversible and reversible types of adsorption were detected. Further experiments revealed that at 1 torr or less, chemisorption of  $O_2$  had no effect on the lifetime of minority carriers; with higher pressures, the lifetime decreased; type GeO oxide is considered responsible for lifetime changes. Principal experiments were repeated with Si instead of Ge. These conclusions are offered: (1) Water vapor impairs the protective oxide film on the Ge surface, which results in a thicker oxide layer that changes the electrophysical properties of semiconductors; (2) The oxide-film impairment is probably connected with the penetration of

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I 17919-63

ACCESSION NR: AT3002439

semiconductor atoms into the oxide surface as a result of water-vapor adsorption. Orig. art. has: 15 figures and 3 formulas.

ASSOCIATION: Institut elektokhimii AN SSSR (Institute of Electrochemistry, AN SSSR)

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 008

OTHER: 021

Card 3/3

S/124/62/000/003/052/052  
D237/D302

AUTHOR: Sergeyev, S.I.

TITLE: Measuring mechanical oscillations by means of elastic  
tensometric recorders

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 77,  
abstract 3V592 (Tr. Vses. n.-i. in-ta kislородn.  
mashinostr., 1961, no. 3, 134 - 139)

TEXT: Problems are considered, arising during the design of elas-  
tic tensometric vibro-recorders. Optimal size of the beam of the  
vibro-recorder is determined from the solution of a differential  
equation describing the motion of the points of an elastic beam of  
constant thickness. Recommendations are made regarding the choice  
of material for the manufacture of the beam. Peculiarities of the  
process of setting-up the vibro-recorder on the part tested, are  
indicated. [Abstractor's note: Complete translation].

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25483

S/020/61/139/001/015/018  
B103/B226

94,9700

AUTHORS: Burshteyn, R. Kh. and Sergeyev, S. I.

TITLE: Effect of oxygen adsorbed on the germanium surface upon the lifetime of minority carriers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 1, 1961, 134-136

TEXT: In their laboratory, the authors determined that the slow and rapid stages of chemisorption of oxygen on the germanium surface differently affect the work function of the electron. The rapid stage corresponds to the formation of a monomolecular layer of the GeO type; the slow one, however, to that of the GeO<sub>2</sub> type on the surface of germanium (R. Kh. Burshteyn et al. Ref. 1: DAN, 130, No. 4, 801 (1960); R. Kh. Burshteyn et al. Ref. 2: ibid. No. 3, 565 (1960)). The present study explains the effect of these two types of oxygen chemisorption upon the lifetime of minority carriers in germanium. For this purpose, lifetime has been investigated: 1) on the surface of pure germanium; 2) on that which has chemisorbed oxygen. The authors emphasize the fact that H. H. Madden and H. E. Farnsworth (Ref. 3: Phys. Rev., 112, 793 (1958)) have studied the influence  
Card 1/6

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Effect of oxygen adsorbed on...

of oxygen under conditions not being comparable with those of their own experiments (Refs. 1 and 2). To be able to compare the determined lifetime with the kinetics of chemisorption and work function, the lifetime of minority carriers has been measured under the conditions mentioned in Refs. 1 and 2. The "photogalvanomagnetic" (fotogal'vanomagnitnyy) method (A. F. Gibson et al. Ref. 4: Progr. in Semiconductors. 1. London, 1958, p. 165; T. I. Galkina, Ref. 5: Fiz. tverd. tela, 1, No. 2, 216 (1959)). served for the purpose. An electromagnet ( $B = 3200$  gauss) produced a magnetic field; a motion-picture lamp of 500 w producing light with a modulation frequency of 60 cps served as a light source. The signal was amplified by a narrow-band amplifier having an amplification factor of 60 cps. Rectangular, laminated samples of p-type germanium, ground and pickled in  $H_2O_2$  ( $\rho = 20$  ohms·cm,  $L = 1.5$  mm and  $\rho = 48$  ohms·cm,  $L = 3.2$  mm) were studied by means of a special support in the device of Fig. 1. Front contacts  $\bar{3}$  served for conducting d.c. through the sample and for collecting the voltage caused by the photogalvanic effect and the photoconductivity. A thermocouple was used for measuring the temperature. The Ge surface was cleaned by a repeated reduction in hydrogen at  $400^\circ C$  and a subsequent degassing in vacuum at  $10^{-7}$  mm Hg. The effect of oxygen chemisorbed at Card 26



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Effect of oxygen adsorbed on...

different pressures between 20 and 400°C was investigated. Lifetime was measured at room temperature. The rapid chemisorption stage (at 10<sup>-3</sup> mm Hg) took less than 1 min, while that of the slow stage took several days. With increasing pressure, slow chemisorption is accelerated. Its rate is proportional to the square root of pressure. The different effect of the two chemisorption stages upon the lifetime of minority carriers on the Ge surface has been proved by this study. At oxygen pressures of less than 0.1 mm Hg, lifetime is not affected by chemisorption (according to measurements 5 minutes after beginning of experiments). The rapid chemisorption mainly proceeds under these conditions. At high pressures, causing slow chemisorption to prevail, lifetime is shortened. This shortening is dependent on the time germanium is kept in oxygen. The effect of heating in vacuum: A 1-hr heating of germanium ( $\rho = 48\text{ohms}\cdot\text{cm}$ ,  $L = 3.2\text{ mm}$ ) with chemisorbed oxygen in vacuum showed that lifetime increased with increasing heating temperature. This increase is particularly high at 400°C. The value of lifetime after heating is dependent on the duration of heating. A 3-hr heating in vacuum increases the lifetime up to the value of that of a pure germanium surface. Heating of germanium in the presence of oxygen in the gaseous phase (5 mm Hg) shortens the lifetime by 100 $\mu\text{sec}$  (at room  
Card 3/6

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B103/B226

Effect of oxygen adsorbed on...

temperature) after heating at 400°C. After comparing their findings, the authors conclude that the rapid chemisorption of oxygen does not affect the lifetime and only little changes the electron yield. On the other hand, the slow chemisorption considerably increases the electron yield due to the formation of a GeO<sub>2</sub> layer on the surface. This layer, however, simultaneously shortens the lifetime. When heating germanium with chemisorbed oxygen in vacuum, thus causing the reaction  $\text{GeO}_2 + \text{Ge} = 2\text{GeO}$ , the work function decreases; the lifetime, however, is increased. Heating of germanium in oxygen, which causes the work function to be considerably increased, considerably shortens lifetime. The authors think that it is as yet impossible to show clearly how far these results comply with the theory by C. G. B. Garret and W. H. Brattain (Ref. 6: Bell Syst. Techn. J., 35, 5, 1041 (1956)). This theory gives a statement on the connection between the rate of recombination on the surface and the surface charge. The authors' results prove the assumption that the change of lifetime in oxygen adsorption is largely due to the formation of a germanium oxide of the GeO<sub>2</sub> type. The sections of germanium covered by this oxide apparently form the centers of surface recombination. A. V. Rzhanov is thanked for advice in assembling

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Effect of oxygen adsorbed on...

S/020/61/139/001/015/018  
B103/B226

the apparatus for galvanomagnetic measurements. There are 3 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The important references to English-language publications are mentioned in the text.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences USSR)

PRESENTED: February 24, 1961, by A. N. Frumkin, Academician

SUBMITTED: February 18, 1961

Card 5/6

SERGEYEV, S.I

L16472-65 ENG(j)/ENT(m)/EPF(c)/EPF(n)-2/EPR/EMP(t)/EMP(b) Pr-4/Pa-4/Pu-4  
IJP(c)/RPL/Pa-4/ESD(gs)/AESDC(a)/ASD(a)-5/ASD(p)-3/AFETR/AFPC(a) JD/WW/JW

ACCESSION NR AM4049552

BOOK EXPLOITATION

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Kapiladova, V. I. (Candidate of Technical Sciences); Akol'rod, L. S. (Doctor of Technical Sciences); Gorokhov, V. S. (Engineer); Dy'khno N. M. (Candidate of Chemical Sciences); Cherny'shev, B. A. (Engineer); Grushevskiy, V. M. (Engineer); Antipenkov, V. M. (Engineer); Gil'man, I. I. (Engineer); Mironlavukaya, YU. A. (Engineer); Sergeyev, S. I. (Candidate of Technical Sciences); Denishchuk, B. V. (Engineer); Kaganer, M. G. (Candidate of Technical Sciences); Vasyunina, G. V. (Candidate of Technical Sciences); Glebova, L. I. (Candidate of Technical Sciences); Denisenko, G. F. (Candidate of Technical Sciences); Katina, N. F. (Candidate of Technical Sciences); Morozov, A. I. (Candidate of Technical Sciences); Martyushov, B. I. (Engineer)

Purifying air by deep cooling; technology and apparatus, in two volumes. V. 2: Industrial plants, machinery and accessory equipment (Razdeleniye vozdukh metodom glubokogo okhlazhdeniya; tekhnologiya i oborudovaniye v dvukh tomakh. t. 2: Promyshlennyye ustanovki, mashinnoye i vopomogatel'noye oborudovaniye), Moscow, Izd-vo "Mashinostroyeniye", 1964, 591 p. illus., biblio., index. Errata slip inserted. 3,000 copies printed.

TOPIC TAGS: oxygen generation, argon, crypton, neon, xenon, centrifugal  
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L 15473-65  
ACCESSION NR AM4049552

compressor, pump, liquid oxygen, liquid nitrogen, air purification

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Card 3/3

SERGEYEV, S. I.: Doc Med Sci (diss) -- "Material on the pathogenesis and surgical treatment of arteriosclerosis obliterans". Moscow, 1959. 32 pp (Second Moscow State Med Inst im N. I. Pirogov), 300 copies (KL, No 9, 1959, 116)

SERGEYEV, S.I., dotsent

D.N.Dumbadze's operation for spontaneous gangrene. Khirurgia 32  
no.2:69-73 F '56. (MIRA 9:7)

1. Iz Khabarovskogo meditsinskogo instituta.  
(NERVOUS SYSTEM, SYMPATHETIC--SURGERY)  
(ARTERIES--DISEASES)



FRANKOV, S. I.

"Computation of the Damping of the Rotor of a Turbo Machine," Kislorod, No. 6, 1947.  
Engr.

SERGEYEV, S.I., ENGINEER

"Vibration Damping of Turbine Rotors." Thesis for degree of Cand. Technical Sci.,  
Sub 10 Jun 49, Moscow Order of Lenin Power Engineering Institute V.M. Molotov.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering  
in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

С. Г. Н. Е. С. Е. С. Е. С. Е.  
TORSKIY, P.N., kandidat tekhnicheskikh nauk; KHRIPKOV, N.S., assistant;  
MERKULOV, V.A., assistant; SERGEYEV, S.I., assistant.

Dust formation and its control in the process of operating the  
ShBM cutter-loader. Nauch. trudy NPI 32:63-70 '55. (MLRA 10:2)

(Mine dusts)

(Donets Basin--Coal mining machinery)

SERGEYEV, S.I., kandidat tekhnicheskikh nauk.

Vibration of rotors with gaps in connected parts. Trudy VNIIMASH  
no.1:71-80 '56. (MIRA 10:1)

(Rotors--Vibration)

SERGEYEV, S.I., kandidat tekhnicheskikh nauk.

Simple device for precise balancing of rotors. Trudy VNI IKIMASH  
no.1:81-88 '56. (MIRA 10:1)  
(Rotors) (Balancing of machinery)

Sergeyev, S.I

124-1957-10-11259

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 12 (USSR)

AUTHOR: Sergeyev, S. I.

TITLE: Damped Vibrations of Mechanisms (Dempfirovannyye kolebaniya mekhanizmov)

PERIODICAL: Tr. Vses. n.-i. in-t kislород. mashinostr., 1956, Nr 1, pp 89-101

ABSTRACT: The article examines the damping of multi-mass systems (such as a turbine rotor, crankshaft, etc., ) by means of a linear visco-elastic damper. Recommendations are made relative to the selection of optimum parameters for a damper. The difference in damper mechanisms for free and forced oscillations is pointed out. In the first case (free oscillation) the energy is dispersed in the damper itself; in the second case the purpose of the damper is to modify the boundary conditions of the vibration (depending on the excitation frequency) to such an extent that the phase relationship between excitation forces and displacements renders the development of resonance impossible.

Card 1/1

G. I. Nikolenko

SERGEYEV, S.I. (Moskva).

Solving O.Reynolds' equations for sliding bearings. Izv.AN SSSR  
Otd.tekh.nauk no.12:126-128 D '56. (MLRA 10:1)  
(Bearings(Machinery))

25(2) 24(6) PULSE I BOOK EXPLOITATION SVU/3991

Akademiya nauk SSSR. Institut mashinovedeniya  
Kolbaniya v turbomashinakh; sbornik statey (Vibrations in Turbomachines)  
Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 117 p. Errata slip  
inserted. 2,500 copies printed.

Red. Ed. S. V. Serasim. Academician, Academy of Sciences, USSR; Ed. of  
Publishing House: Ye. A. Filizovskiy; Tech. Ed.: V. V. Volkov.

PURPOSE: This collection of articles is intended for scientific research workers,  
engineers, and designers in the field of turbomachinery.

COVERAGES: This collection of articles deals with vibrations in turbomachinery.  
The following topics are discussed: vibrations and stresses in the rotor and  
bearings of a turbogenerator, vibrations and stability of beams, flexural  
vibrations of a rotating shaft, whirling speeds of a flexible rotor with two  
unbalanced masses, acceleration through resonance of a nonlinear system,  
whirling speed and clearance in bearings, dynamic stresses in blades of an  
axial compressor, and damping of vibrations. No personalizations are mentioned.  
References show several of the articles.

Davidenko, M. V., M. G. Dimsenberg, A. S. Zil'berman, G. I. Lyudin, M. I. Prigodina,  
A. M. Kozlov, and V. A. Kuznetsov. Investigation of Vibrations and Stresses in the  
Rotor and Bearings of a Turbogenerator During Operation  
The authors discuss an experiment investigation made on a high-power  
turbogenerator in order to analyze the influence of the mass of the rotor  
and vibrations of the rotor and bearings. The dynamic behavior of the  
whole system of joined rotors and bearings is treated. The influence of the  
base and foundations are not taken into consideration.

Boledin, I. I. Vibration and Stability of Beams Under Action of Nonconserva-  
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A cantilever rectilinear beam loaded by uniformly distributed following  
forces acting in the plane of its maximum rigidity is analyzed for stability  
with respect to lateral deformation. Critical parameters of the loading with and  
without consideration of damping are established.

Guzarov, J. A. Acceleration Through Critical Speeds of a Flexible Rotor 31  
with Two Unbalanced Masses in the Presence of Friction  
and their drives system of two complex differential equations as a  
solution to the problem. The solution is based on the following assump-  
tions: that the deflections of the shaft, the gyroscopic moments of masses  
caused by deflections of the shaft, the centrifugal forces of the  
shaft are negligible; that the shaft supports are absolutely rigid; that  
the shaft itself is torsionally rigid; and that the acceleration through  
critical speeds is uniform.

Bubanik, V. P. Acceleration Through Resonance in One Case of a Nonlinear  
System 75  
Analysis is made of a nonlinear vibrating system with one degree of  
freedom having a nonlinear restoring force and excited by a low-fre-  
quency sine-shaped disturbing force. The effect of the rate of accelera-  
tion on amplitudes of the motion is discussed.

Zakharov, I. A. (Successor). Critical Speeds of a Rotor and Clearance in  
Bearings 81  
The effect of the clearance in rolling contact bearings on the motion and  
whirling speed of a rotor is discussed. Rotors having no critical speed  
are described together with an experimental checking installation for  
selecting eccentricities of disks.

Buzanov, Ye. I. Investigation of Dynamic Stresses in Blades of an Axial  
Compressor With a Wide Control Range 104  
The basic results of an experimental investigation of dynamic stresses in  
the blades of an axial compressor by means of wire resistance transducers  
placed in the root sections are presented. The behavior of the blade  
at various speeds, including resonance is described.

Serejyev, S. I. Damping of Vibrations of Anticlastic Rotors  
Conditions for successful damping of a rotor with unequal elasticity  
coefficients along its principal axis are discussed. The inertia and  
8



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PHASE I BOOK EXPLOITATION SOV/3022

Sergeyev, Sergey Ivanovich

Dempfirovaniye mekhanicheskikh kolebaniy (Damping of Mechanical Vibrations) Moscow, Fizmatgiz, 1959. 408 p. Errata slip inserted. 5,000 copies printed.

Ed.: S.A. Meyngard; Tech. Ed.: Ye.A. Yermakova.

PURPOSE: This book is intended for engineers.

COVERAGE: The book deals with vibrations in machine parts and methods of damping them. Vibration excitation forces acting in machines and the design of vibration dampers are described. Attention is given to hydraulic dampers and vibrations in linear mechanical systems with viscous friction. Special questions concerned with damping rotor vibrations in turbo-machinery are discussed. The hydromechanics of heavily loaded dampers and the use of dampers in industry are also discussed.

Card ~~1/5~~

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28 (5)

AUTHORS: Velikanova, T.A., Sergeyev, S.I.

TITLE:

Low Temperature Measurement of Deformations of Loaded Mechanisms

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 10, pp 1252-1254 (USSR)

ABSTRACT:

Tests were carried out for the selection of material for the production of wire transmitters with an electric resistivity, which operate within the temperature interval of -190° to +100°. Under these conditions, the best adhesion to metal was shown by transmitters on a base consisting of a viniflex film, which was pasted on by means of a viniflex adhesive, dried in air, and was polymerized at +180° (for two hours). As a material for the wire of the transmitter a constantan wire (diameter 0.03 mm) of the type NMMts 58.5 - 1.5 (not thermally treated or annealed at 3900) gave the best results. Investigations of the wire transmitter with respect to a variation of the electric resistivity with temperature were carried out on various metal bases and showed (Figure 1) that the transmitters made from annealed wire are considerably more sensitive to temperature than non-pretreated ones. Among other materials used for the production of pressure-measurement transmitters, which were investigated, chromium and

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VELIKANOVA, T. A., inzh.; SERGEYEV, S. I., kand. tekhn. nauk

Low temperature strain measurement. Trudy VNIKIMASH no. 3:117-  
133 '60. (MIRA 13:9)

(Strain gauges)

SERGEYEV, S. I., kand. tekhn. nauk

Measurement of mechanical vibrations by means of resistance  
strain gauges. Trudy VNIKIMASH no.3:134-139 '60.

(MIRA 13:9)

(Vibration) (Strain gauges)