

VARVAROV, N., starshiy nauchnyy sotrudnik

Conquest of space by Soviet man. Izobr.i rats. no.6:2-3 Je '60.  
(MIRA 11:2)

(Space flight)

VARVAROV, N.

S/025/60/000/07/03/008

AUTHOR: Varvarov, N., Engineer

TITLE: Cosmic Meteorological Stations ✓

PERIODICAL: Nauka i zhizn', 1960, No 7, pp 17 - 20

TEXT: The article discusses the part which artificial earth satellites can play in weather forecasting. These satellites would make possible long-range weather forecasts for vast areas of the earth by recording the amount of solar radiation which reaches the upper atmosphere and the quantity which is reflected back into space or is absorbed by the atmosphere, by determining the thickness and extent of cloud cover, the temperature and movement of air masses and the other factors which govern the weather. Especially useful for this purpose are satellites, the orbit of which passes over the north and south poles. The "Siberian Anticyclone" in winter accumulates an air mass of 14 billion tons. It is assumed that this weight affects the daily rotation of the earth and causes the "wandering" of the geographic pole. This in turn influences the distribution of the air masses and the weather. Satellites passing over the poles can give useful information on the "wandering" of the pole. Data received from ✓

Card 1/2

Cosmic Meteorological Stations

S/025/60/000/07/03/008

them would be fed into electronic computers for analysis, as, for instance, into the special "Pogoda" computer at the Tsentral'nyy institut prognozov (Central Weather-Forecasting Institute). This machine can perform 200 operations a second with fifth-order figures.

Card 2/2

PHASE I BOOK EXPLOITATION

SOV/6261

Kernenergie und Flotte; Artikelsammlung (Nuclear Energy and the Navy; Collection of Articles) [Berlin] Deutscher Militärverlag [1961]. 232 p. Errata slip inserted. 2000 copies printed.

Translation from the Russian of: Atomnaya energiya i flot.

Translator: Erika Steuk, Lieutenant Commander. Responsibility for German edition: Claus Gruszka, Engineer; Ed.: Klaus Krumsieg.

PURPOSE: This collection of articles is intended for officers of the army, coast guard, and merchant marine.

COVERAGE: The book, a translation from the Russian, contains 25 articles dealing with the application of nuclear weapons to naval combat operations. Chapters 19 and 25 have been supplemented with additional data for this edition. The devastating features of nuclear explosions are discussed. Attention is also given to the protection of personnel, ships, and coastal facilities against nuclear weapons, and to the present and future applications of nuclear power plants to shipping. No personalities are mentioned. There are 16 references: 10 Russian (including 3 translations from English-language sources), 1 French, 1 German, 1 English, 1 American, and 2 either English or American.

SOV/6261

Nuclear Energy and the Navy (Cont.)

19. A. Uvarov, Engineer Lieutenant Commander, Docent, Candidate of Technical Sciences. U.S. Nuclear-Powered Submarines 162
20. P. Mikhailov, Engineer Lieutenant Colonel, Candidate of Technical Sciences. Depth Charges 189
21. M. Rudnitskiy, Engineer Rear Admiral. Nuclear Power Plants in Warships 192
22. N. Solntsev, Engineer Captain (Navy), Docent, Candidate of Technical Sciences. Utilization of Nuclear Power Plants in Shipping 197
23. V. Zvonkov, Corresponding Member, Academy of Sciences USSR, Honored Scientist and Technologist RSFSR. Nuclear Power Plants in Transportation 204
24. N. Varvarov, Guards Colonel. Nuclear-Powered Flying Boat 209

Card 5/6

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20385

S/025/61/000/002/002/003

A166/A033

3,9100

AUTHOR: Varvarov, N.

TITLE: Satellites as Explorers of the Earth Interior

PERIODICAL: Nauka i zhizn', 1961, No. 2, pp. 18-21

TEXT: Artificial earth satellites may be of great assistance in exploring the earth's structure and prospecting for mineral deposits and power resources. In its course over the earth's surface a satellite's speed will be affected by the greater or lesser gravitational effect exerted on it by rocks of different density. This in turn will affect its orbit, causing it to approach or recede from the earth. Observations of the satellite's orbit could therefore give a general idea of the location of large mineral deposits or unevennesses in the earth's crust. Satellites equipped with special optical, phototelevision and electronic apparatus could also be programmed to chart the more inaccessible areas of the earth's surface and radio back valuable data to ground stations. A further use would be to measure the distribution of the earth's electric and magnetic fields which would furnish data on the world's magnetic anomalies. Magnetic measurements performed by the third

X

Card 1/2

20385

S/025/61/000/002/002/003  
A166/A033

Satellites as Explorers of the Earth Interior

Soviet space ship enabled scientists to determine the decrease in height of the Eastern Siberian magnetic anomaly and led them to conclude that its sources were situated in the depths of the earth's interior. The satellites would be particularly useful in detecting mineral deposits or power resources underlying extensive water areas. By probing the geological structure of the earth's crust in various tectonic zones, the satellites could be of great help in establishing the structure of the earth's upper mantle. X

Card 2/2

VARVAROV, N.

Technological achievements in conquering space. NTO 3 no. 5:15-19  
My '61. (MIRA 14:5)

(Astronautics)



VARVAKOV, N.

Depth research from high altitudes. Eist tud 16 no.43:  
1363-1366 22 0 '61.

VARVAROV, N.

Toward the stars. Nauka i zhizn' 28 no.1:76-77 Ja '61.

(MIRA 14:1)

(Space flight)

VARVAROV, N.

Artificial satellites explore the internal structure and resources  
of the earth. Nauka i zhizn' 28 no. 2:18-21 F '61.

(MIRA 14:2)

(Earth--Internal structure) (Prospecting--Geophysical methods)

VARVAROV, N.A., nauchnyy sotrudnik

To the nearest planets. IUn. nat. no.12:22-24, D '62. (MIRA 16:1)  
(Astronautics)

VARVAROV, N.

What the space flights will give to the people. Nauka i  
tekh mladezh 14 no.9:28-29 S '62.

VARVAROV, N.

International cooperation in space research. Musz elet 17 no.8:7.  
Ap '62

1. A Szovjet APN sajtoszolgalat tudomanyos szakertoje.

VARVAROV, Nikolay

Factory of life in space. Prir i znanie 15 no.9:22-23 N '62.

1. Nauchen nabliudatel po astronomika na Agentsiata po pechata  
Novosti.

VARVAROV, N.

The doors to the cosmos are wide open. Grazhd. av. 19  
no.4:14-15 Ap '62. (MIRA 15:5)  
(Space flight)



S/029/63/000/003/001/002  
A004/A127

AUTHOR: Varvarov, N., Senior Scientific Worker

TITLE: Starting from orbit means .....

PERIODICAL: Tekhnika molodezhi, no. 3, 1963, 6-7

TEXT: The author enumerates the advantages of starting interplanetary spacecraft not from the Earth, but from satellites in orbit. He points out the consequences of even the slightest deviations from the right course which may happen when the satellites are being launched with rockets from the Earth and emphasizes the accuracy of trajectory when this is being done from satellites in orbit. If spacecraft are launched from a satellite they can carry a much bigger payload than it would be the case when they are launched from the surface of the Earth. The author points out further advantages of starting spacecraft from satellites in orbit and states that this method will be considerably improved once it is possible to launch them from stationary cosmic launching sites. There are 2 figures.

Card 1/1

VARVAROV, N.

Construction in space. NTO 5 no.4:62-63 Ap '63.  
(Space stations)

(MIRA 16:3)

L 11279-63 EWT(1)/FS(s)/FCC(w)/FS(v)-2/BDS/ES(a)/ES(b)/ES(c)/ES(k)/ES(v)/  
EEO-2/ES(t)-2--AFMDC/AMD/AFITC/ESD-3/APGC/SSD--P1-4/Po-4/Pq-4/Pb-4/Pe-4--TT/A/GW/DD  
ACCESSION NR: AP3004079 S/0029/63/000/007/0020/0022

AUTHOR: Varvarov, N. (Senior scientific worker) 95

TITLE: When man flies to the Moon [Manned Lunar Flight] 2

SOURCE: Tekhnika - molodezhi, no. 7, 1963, 20-22

TOPIC TAGS: moon flight, moon satellite, earth satellite, spaceship, moon landing, automatic scientific research station

ABSTRACT: The use of unmanned lunar orbital satellites as the first stage in lunar exploration is advised, and the advantages and difficulties in the development of such satellites are outlined. The use of automatic stations on the Moon's surface for exploration and data transmission is discussed. The following program for manned flight to the Moon and for a lunar landing is set forth. Earth satellites would be launched to serve as fuel and supply depots. The manned vehicle would be launched so as to rendezvous with the fuel satellites; after refueling the manned vehicle would be restarted and launched toward the Moon. Coasting flight would occupy some 99% of the trip from Earth orbit to the Moon. Upon approach to the Moon, the vehicle would be placed in a lunar orbit. Smaller craft, carried on the main vehicle, would be used for the actual manned landing and exploration and would carry the explorers back to the main vehicle. The latter would then be restarted and launched toward the Earth.

Card 1/2

VARVAROV, N., starshiy nauchnyy sotrudnik

Launching from the orbit. Tekh. mol. 31 no.3:6-7 '63.  
(MIRA 16:6)

(Astronautics)

AUTHOR: [unclear]

TITLE: Interplanetary liners

SOURCE: Nauchno-tekhnicheskoye obozreniye SSSR no. 1, 1965, 51-63

TOPIC TAGS: spacecraft, space flight, life support system, spacecraft landing, spacesuit, air lock, interplanetary flight

ABSTRACT: The Voskhod flight is mentioned as an important step in the development of interplanetary liners. The Voskhod utilized two braking engines

and reliable. The Voskhod and its launch vehicle represent a new development in the development of spacecraft. Provisions (environment, food) for maintaining a crew during extended spaceflight are discussed. Use of an earth-like ecological system is mentioned. The use of a safety compartment in case of collision and means for leaving the ship are discussed. Conditions which the cosmonaut will experience in free

1 30018-55  
ACCESSION NR: AP5003379

television transmission from a studio. The studio television relay from a roving

VARVAROV, V.K., inzh.; LUR'YE, I.G., inzh.; LITMANOVICH, I.M., inzh.

Experimental operation of a tube dryer with two successive exhaust fans. Ugol' 36 no.9:48-49 S '61. (MIRA 14:9)  
(Coal preparation plants--Equipment and supplies)  
(Drying apparatus)

TANGIBERDIYEVA, Z.I.; VARVAROV, V.M.; KORABLEV, A.P., obshchiy red.

[Art industries of the R.S.F.S.R.; a reference manual] Khudozhestvennyye promysly RSFSR; spravochnik. Moskva, Vses.koop. izd-vo, 1959. 119 p. (MIRA 13:4)

1. Moscow. Nauchno-issledovatel'skiy institut khudozhestvennoy promyshlennosti.

(Art industries)



SHEBALOV, V.K.; BOYKO, V.I.; VARVARSKIY, V.S.

First Russian steam and gas turbine system. Energ. i elektrotekh.  
prom. no.1:42-44 Ja-Mr '63. (MIRA 16:5)  
(Electric power plants) (Turbines)

VARVARZHOVSKIY, Ludvig [Varvarovsky, Ludvik]; GRACHEV, I.G.  
[translator]; MEL'NIKOV, A.S. [translator]; PASHKOV, A.V.,  
kand. voyen. nauk, polkovnik, red.; BULATOV, A.A., kand.  
voyen. nauk, polkovnik, red.; PAVLOV, P.L., red.; SRIENIS,  
N.V., tekhn. red.

[Maneuverability] Manevrennost'. Moskva, Voenizdat, 1963.  
172 p. Translated from the Czech. (MIRA 16:10)  
(Germany--Military maneuvers)  
(Germany--Strategy)

VARVAROVSKY, M. ; PLZAK, F.

"Utilization of zirconium wastes in vacuum technique enterprises." p. 189.

SLABOPROUDY OBZOR. (MINISTERSTVO PRESNEHO STROJIRENSTVI, MINISTERSTVO SPOJU A VEDECKA TECHNICKA SPOLECNOST PRO ELEKTROTECHNIKU PRI CSAV.) Praha, Czechoslovakia, Vol. 20, no. 3, Mar. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.  
Uncl.

VARVARTSEV, Mykola

Vacuum retreated. Znan. ta pratsia no.11:2-4 N '62. (MIRA 16:1)  
(Dams)

VARVAS, B.; TAMM, I., red.; KOHU, H., tekhn. red.

[Work of the Permanent Committee of Trade] Alalise  
Kaubandufdkomisjoni Toost. Tallinn, Riiklik Kirjastus,  
1962. 45 p. (MIRA 17:1)

1. Eesti NSV Kaubandusministeeriumi Kaubanduse ja Kaupade  
Kvaliteedi Riikliku Inspektsiooni juhataja (for Varvas).  
(Estonia--Economic policy)

HÖDREJÄÄV, H.; OTT, R.; PIKSARV, A.; SIIRDE, A.; VARVAS, J.;  
VILBOK, H.

[Laboratory work in general chemistry] Praktilisi töid  
üldises keemias. Tallinn, Tallinna Polutehniline  
Instituut, 1963. 153 p. (MIRA 17:6)

VARVAS, YU. A.

VARVAS, YU. A.--"Electrokinetic Properties of Thin Layers on the Surface of Phase Boundaries." Min Higher Education USSR. Ural Polytechnic Inst imeni S. M. Kirov. Sverdlovsk, 1955. (Dissertation for the Degree of Candidate in Chemical Science).

SO. Knizhnaya letopis'  
No 2, 1956.

Category: USSR / Physical Chemistry - Colloid chemistry. Disperse systems.

B-14

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30238

Author : Mokrushin S. G., Varvas Yu. A.

Inst : Academy of Sciences USSR

Title : Electrophoresis of Disperse Particles at the Interphase Liquid - Gas Surface

Orig Pub: Dokl. AN SSSR, 1956, 110, No 4, 597-599

Abstract: For experimental study of electrophoresis of disperse particles at liquid surface a "surface microcamera" was designed in which displacement of dispersed films takes place in a slit cut in a glass plate placed on the surface of the solution. The surface is photographed by means of a microscope. A short exposure is made to record the initial position of the particles, and thereafter a long exposure is made corresponding to the time of electrophoresis, and velocity of the particles is calculated from the length of the tracks. For films of CuS, PbS and Fe (OH) were determined the following values, respectively, of  $\zeta$  - potential: -10, -16, + 29 mv; for the glass surface, in three experiments, -38, -34 and -39 mv.

Card : 1/1

-13-



L 1679-66 EWT(l)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD/AT

ACCESSION NR: AR5014414

UR/0058/65/000/004/E083/E083

SOURCE: Ref. zh. Fizika, Abs. 4E622

AUTHOR: Varvas, Yu. A.; Kukk, P. L. <sup>44.55</sup> <sub>19.85</sub>

TITLE: An approximation method for determining the lifetime of nonequilibrium electrons in cadmium sulfide <sup>21</sup> <sub>21</sub>

CITED SOURCE: Tr. Tallinsk. politekhn. in-ta, v. A, no. 210, 1964, 257-266 <sup>44.55</sup>

TOPIC TAGS: carrier lifetime, photosensitivity, cadmium sulfide, electron recombination, polycrystal

TRANSLATION: The method is based on excitation of photoconductivity in the specimen by rectangular pulses of light with a period  $T \ll \tau$  ( $\tau$  is the lifetime). Calculation shows that under given conditions in the first approximation the variation in photoconductivity is determined by stationary  $\tau$  and is independent of the nature of the recombination. Expressions are derived for  $\tau$  as a function of the characteristics of the specimen and the parameters of the output voltage pulses from a resistor ( $R_l$ ) connected in series with the sample. Linear and quadratic recombination are <sup>21.44.55</sup>

Card 1/2

L 1679-66

ACCESSION NR: AR5014414

considered and it is shown that at  $R_L \ll \bar{R}$  ( $\bar{R}$  is the average resistance of the specimen in time  $T$ ),  $\tau$  is independent of the type of recombination, while at  $R_L = \bar{R}$  the corresponding expressions for  $\tau$  differ in the numerical coefficient. The method is used for measuring  $\tau$  in polycrystalline samples of CdS with Cu and Cl impurities. Values of  $\tau$  range from  $1.1 \cdot 10^{-2}$  to  $3 \cdot 10^{-3}$  seconds. As was expected, a reduction was observed in  $\tau$  with an increase in the intensity of illumination. A. Zhdan.

SUB CODE: EM, NP

ENCL: 00

Card 2/2

L 18424-66 EWT(1)/EWT(m)/EWP(t) IJP(o) JD/AT  
ACC NR: AT6003224 SOURCE CODE: UR/2807/64/000/215/0237/0243

AUTHORS: Kukk, P. L.; Varvas, Yu. A.

61

ORG: none

B+1

TITLE: On the possibility of determining the lifetime of photoelectrons and the quantum yield in polycrystalline cadmium sulfide

SOURCE: Tallinn. Politekhneskiy institut. Trudy, Seriya A, no. 215, 1964. Sbornik statey po khimii i khimicheskoy tekhnologii (Collection of articles on chemistry and chemical engineering), no. 11, 1964, 237-243

TOPIC TAGS: semiconductor theory, semiconductor material, photoconductor, photoconductivity, cadmium sulfide, cadmium compound

ABSTRACT: Expressions for the lifetimes and the quantum yields of photoelectrons in polycrystalline cadmium sulfide were derived. The investigation is an extension of a previously published work of the authors (Priblizhenny metod opredeleniya vremeni zhizni neravnovesnykh elektronov v sul'fide kadmiya. Trudy TPI, seriya A, No. 210, 257, 1964). The derivation is based on the model in which the crystal is illuminated by a steady light source of high intensity  $\phi_0$ . Superimposed on this

UDC: 537.311.33

2

Card 1/4

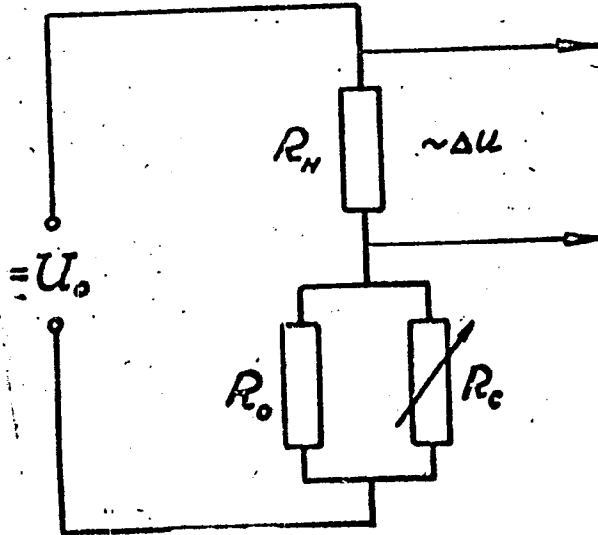
L 18424-66

ACC NR: AT6003224

light is a high frequency  $\sim 10^5$  cyc/sec light signal having a  $\square$ -shape and of much lower intensity,  $\phi_0$ . Under these conditions, the photoconductor is equivalent to the circuit (see Fig. 1).

Fig. 1. Equivalent scheme.  $R_H$  - load resistor,  $R_H$  and  $R_0$  - equivalent resistances representing the specimen,  $U_0$  - applied voltage,  $\Delta u$  - signal voltage.

$$\bar{V} = \frac{1}{T} \int_0^T \gamma_c(t) dt.$$



L 18424-66  
 ACC NR: AT6003224

Three expressions for the different relations between  $R_o$  and  $R_H$  are derived in

$$\begin{aligned}
 R_H = R_o & \approx \frac{TR_o U_o}{16\Delta u R_{co}}; \\
 R_H \ll R_o & \approx \frac{TR_H U_o}{4\Delta u R_{co}}; \\
 R_H \gg R_o & \approx \frac{TU_o R_o^2}{4\Delta u R_H R_{co}}
 \end{aligned}$$

where  $T$  is the lifetime of the photoelectrons,  $T$  is the period of the interrupted light signal, and  $R_{co}$  is the additional resistance of the crystal due to uninter-rupted  $\phi_o$ . Expressing  $R_o$  and  $R_{co}$  in terms of the semiconductor parameters

$$\begin{aligned}
 R_o &= \rho \frac{d}{S}; \\
 \rho &= \frac{1}{ne\mu}
 \end{aligned}$$

where  $\rho$  is the specific resistance of the specimen,  $d$  is the interelectrode distance,  $S$  is cross-sectional area of the excited layer,  $n$  is the concentration of free electrons,  $e$  is the electronic charge, and  $\mu$  the electron mobility, the following expression for the quantum yield  $\beta$  is derived as  
 Card 3/4

L 18424-66

ACC NR: AT6003224

$$\beta = \frac{4\lambda u}{TR_n U_e \epsilon_H \Phi_c}$$

The influence of several effects, e.g., nonlinear recombination, diffusion into deeper crystal layers, and incomplete population of the deeper energy levels of the crystal, on the lifetime and on the quantum yield are discussed in an attached note. Orig. art. has: 1 graph and 24 equations.

SUB CODE: 20, 07/ SUBM DATE: none/ ORIG REF: 016/ OTH REF: 008

Card 4/4 mc

L 18423-66 EWT(1)/EWT(π)/EWP(t) IJP(e) JD/AT  
ACC NR: AT6003225 SOURCE CODE: UG/2007/64/000/215/0245/0247

AUTHORS: Kukk, P. L.; Varvas, Yu. A.

60

ORG: none

B+1

TITLE: The threshold sensitivity of polycrystalline cadmium sulfide

SOURCE: Tallinn. Politekhneskiy institut. Trudy, Seriya A, no. 215, 1964. Sbornik statey po khimii i khimicheskoy tekhnologii (Collection of articles on chemistry and chemical engineering), no. 11, 1964, 245-247

TOPIC TAGS: semiconductor theory, semiconducting material, photoconductor, photoconductivity, cadmium sulfide, cadmium compound

ABSTRACT: An expression for the photoconductivity in polycrystalline cadmium sulfide is derived as

$$\Phi_{c_{min}} \approx \frac{16\sqrt{3}}{\pi} \sqrt{\frac{\Phi_0 \Delta f}{\beta \tau}}$$

The derivation is based on the work of Yu. A. Varvas and P. L. Kukk (Trudy TPI, seriya A, No. 210, 253, 1964), where  $\Phi_0$  is the intensity of the steady illumination,  $\Phi_{min}$  is the intensity of the superimposed  $\square$ -shaped light signal, T is the period of the superimposed light impulses,  $\tau$  is the lifetime of the photocurrent, and all

Card 1/2

UDC: 537.311.33 2

L 18423-66  
ACC NR: AT6003225

the other symbols are taken from the above reference. The expression was tested experimentally by the procedure described by P. L. Kukuk and Yu. A. Varvas (0 vozmozhnosti opredeleniya vremeni zhizni fotoelektronov i kvantovogo vykhoda v polikristallicheskom sul'fide kadmiya. Sm. nast. sbornik, str.). It was found that the predicted threshold sensitivity agreed with the measured sensitivity to within 20%. It is concluded that in order to increase the threshold sensitivity one must have  $\beta \approx 1$ , a narrow line, i.e.,  $\Delta f$  small, and a large photosensitive surface. Orig. art. has: 8 equations.

SUB CODE: 20/ SURM DATE: none/ ORIG REF: 002/ OTH REF: 015

Card 2/2 MC



ACC NR: AT7005782

SOURCE CODE: UR/2807/66/000/238/0003/0018

AUTHORS: Kukk, P. L.; Syugis, A. Yu.; Varvas, Yu. A.; Lippmaa, E. T.

ORG: none

TITLE: Investigation of the noise spectrum of polycrystalline cadmium sulfide

SOURCE: Tallinn. Politeknicheskiiy institut. Trudy. Seriya A, no. 238, 1966. Sbornik statey po khimii i khimicheskoy tekhnologii (Collection of articles on chemistry and chemical engineering), no. 15, 3-18

TOPIC TAGS: <sup>noise spectrum, radio noise,</sup> photoelectric effect, photoresistor, photodiode, photoconductor, cadmium sulfide / S-092 photoresistor

ABSTRACT: The noise spectrum of polycrystalline cadmium sulfide photoresistor S-092 was investigated. This work supplements the results of Yu. A. Varvas and P. L. Kukk (Trudy TPI, seriya A, No. 230, str. 109, 1965). A brief literature survey of pertinent papers dealing with the theory of experimental determination of noise in CdS photoresistors is presented, and a schematic of the experimental installation is included. The experimental results are shown graphically (see Fig. 1). It was found that the noise photocurrent in the resistor S-092 may be represented by the expression

$$S_i = \text{const. } U^2 \Phi P_f^{-1}$$

Card 1/2

UDC: 621.373.012

ACC NR: AT7005782

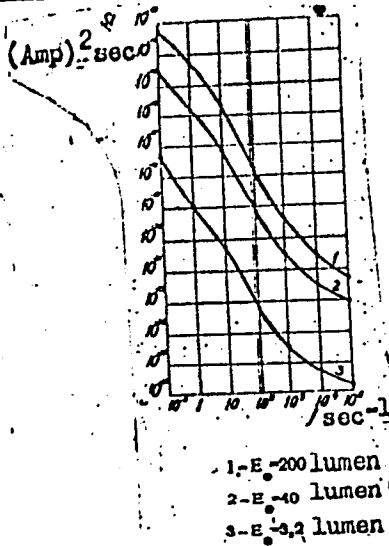


Fig. 1. Noise spectrum density  $S_1$  as a function of the light intensity  $E_0$  and of noise frequency  $f$

where  $U$  is the imposed voltage,  $\phi$  - the light density in watts/cm<sup>2</sup>, and  $f$  - the frequency of the incident light. It was found that the particular position of the measuring electrodes had no noticeable effect on the shape of the noise spectrum. Orig. art. has: 8 graphs and 10 equations.

SUB CODE: 20/  
Card 2/2

SUBM DATE: none/

ORIG REF: 016/

OTH REF: 061

SOV/112-58-2-2283

Translation from: Referativnyy zhurnal, Elektrotehnika, 1958, Nr 2, p 79 (USSR)

AUTHOR: Verzhbolovich, A. V., Gutnik, V. I., and Varvashenya, V. I.

TITLE: The Starting and Operation of a 3-Phase Motor With a Single-Phase Supply  
(Pusk i rabota trekhfaznogo dvigatelya na odnofaznom toke)

PERIODICAL: Sb. stud. nauchn. rabot. Belorussk. politekh. in-t, 1956, Nr 3,  
pp 110-111

ABSTRACT: Bibliographic entry.

Card 1/1

LIBBY, G.L., Prof. (Minsk, ul. Vesy Kharkovskoy, d.5-a, kv.7); U.S.S.R. Acad. Sci.

Chemical lung disease following the aspiration of foreign bodies.  
Vest. khir. 91 no.9:19-24 S'63. (Minsk 1963)

1. Iz kafedry umumoy khirurgii Sov. - prof. G.L. Libby  
Belorusskogo in-tituta usovarenbenstvovaniya vrachev.

VARVASHENYA, V.P.; EPSHTEYN, Ya.S.

Injuries of the pancreas and bile ducts in children. Zdrav.  
Bel. 9 no.8:36-38 Ag\*63 (MIRA 17:3)

1. Iz kafedry grudnoy khirurgii i anesteziologii ( zav. - ka-  
fedroy prof. S.L. Libov) Belorusskogo gosudarstvennogo insti-  
tuta usovershenstvovaniya vrachey (rektor - dotsent N.Ye.  
Savchenko).

13470-05 (S/WP(m)/S/WA(A)/S/WP(V)/T/SWP(L)/S/WP(K)/S/WP(B) Pf-4 JI/HM

ACQUISITION NUMBER: AFS/2238

145 64 996 011 0129 011

AUTHOR: Morozov, M.G. (Candidate of technical sciences, Docent); Varvanchevich, K. K. (Engineer)

TITLE: The structure and properties of the fusion zone of perlitic and austenitic steel

SOURCE: IVUZ. Mashinostroyeniye, no. 11, 1964, 129-133

TOPIC TAGS: steel structure, steel mechanical property, perlitic steel, austenitic steel, chromium content, weld seam /6

ABSTRACT: At present, steels with various physical properties and chemical compositions are often welded together. When austenitic and non-austenitic steels are welded, metal layers are formed in the fusion zone with reduced properties. The diffusion processes in the joint lead to a heterogeneous structure in the weld, and a martensitic type metal is formed. In the present work, metallographic, magnetic metalographic, magnetic

Card 1/2

L 23479-65

ACCESSION NR: AP5002338

location of the austenitic steel. The stresses were lowered by heat treatment, since normalizing and annealing relieved the internal stress and tempering led to disintegration of the martensite. Analysis of the tests indicates that the quality of welding of different steels

is not high. The tests show that the quality of welding of different steels is not high. The tests show that the quality of welding of different steels is not high.

These results are of interest for the design and construction of welded joints of different steels. The results are of interest for the design and construction of welded joints of different steels.

ASSOCIATION: Taganrogskiy radiotekhnicheskiy institut (Taganrog radio engineering institute)

SUBMITTED: 27Apr63

ENCL: 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 000

Card 2/2

L 2258-66 EWP(m)/EWP(w)/EWP(i)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) MJW/  
ACCESSION NR: AP5009478 JD/HW S/0145/65/000/002/0162/0164

AUTHORS: Morozov, M. G. (Candidate of technical sciences, Docent); Varvashevich, K. K. (Engineer); Lobanova, L. V. (Engineer)

TITLE: On the transition zone structure of plated steel

SOURCE: IVUZ. Mashinostroyeniye, no. 2, 1965, 162-164

TOPIC TAGS: martensite steel, perlite steel, plating, steel microstructure

ABSTRACT: The structure of the layer between steel 20 and a coating of stainless steel Kh18N9T was studied. This example is typical for all perlite type steels plated with austenitic steels. Carbon from the perlite steel and alloy elements from the stainless steel diffuse into the transition zone and form a martensite structure. Studies of the microstructure of this zone were not conclusive, mainly because of the minimal thickness of the zone. A method of colored layers was used for the examination of changes due to diffusion. The microstructure of a sample is discussed, and changes in microhardness are shown in a simple graph. In the case of peeling of the coating, brittle imperfections were observed in the

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L 2258-66

ACCESSION NR: AP5009478

transition zone. The martensite steel does not disappear during thermal treatment, but the thickness of the zone varies, due to chemical changes. The time of cooling also affects the martensite zone. Orig. art. has: 1 graph and 2 figures. B

ASSOCIATION: Taganrogskiy radiotekhnicheskiy institut (Taganrog Radiotechnical Institute) 44,55

SUBMITTED: MM

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

Card *dy* 2/2

~~VARVEDY, Janos~~  
KOVACS, Kalman, Dr.; VARVEDY, Janos, Dr.

Vagus shock during bronchoscopy. Tuberkulozis 10 no.10-12:289-290  
Oct-Dec 57.

1. A IV. ker. Fovarosi Kozkorhaz (Ujpesti Varosi Korhaz) tutobeteg-  
osztalyanak (Igazgato es osztalyos foorvos: Devenyi Rudolf dr.) es  
Prosecturajanak (Foorvos: Varvedy Janos dr.) kozlemenye.

(BRONCHOSCOPY, compl.

fatal shock during bronchoscopy in cancer patient caused  
by compression of vagus nerve by tumors (Hun))

(NERVES, VAGUS

compression of vagus nerve by tumors causing fatal shock  
in cancer patient during bronchoscopy (Hun))

(SHOCK, etiol. & pathogen.  
same)

VARVINOK, M. S.

M. S. Varvinok, Spectro-photometric investigation of the cobalt (II) halide complexes. P. 1100.

In 0.1m water solutions of cobalt perchlorate the presence of blue complexes has been established by the Beckman spectro-photometer at concentration of 2 m/l of hydrochloric acid. The absorption maximum of complexes from  $\text{CoCl}_4^{--}$  to  $\text{CoI}_4^{--}$  shifts to the region of lower vibration frequencies.

Academy of Military Transport,  
Leningrad  
August 2, 1947

SO: Journal of Physical Chemistry (USSR) 22, No. 9, 1948

VARVINSKAYA, L.G.

Rapid determination of calcium oxide content in lime.  
Sbor.rats.predl.vnedr.v proizvod. no.1:50 '61. (MIRA 14:7)

1. Zaporozhskiy zavod ferrosplavov.  
(Lime--Testing)

VARY, Arpad, mezogazdasagi mernok, agronomusa

Some thoughts on the location and design of irrigation plants.  
Vizugyi kozl no.3:455-458 '64.

KEMENY, Pal, dr.,; VARY, Istvan, dr.

Eye symptoms in chronic polyarthritis in childhood.  
Gyermekgyógyászat 6 no.8:225-231 Aug 55.

1. A Budapesti Orvostudományi Egyetem II. sz. Gyermekklinikajának  
(igazgató: dr. Petenyi Géza egyetemi tanár) és II. sz. Szemklinikajának  
(igazgató: dr. Nonag Tibor egyetemi tanár) közleménye.

(ARTHRITIS, RHEUMATOID, in infant and child  
ocular manifest., iridocyclitis, striae keratitis,  
and complicated cataract, occurrence and diag.)

(EYE, in various diseases  
rheumatoid arthritis in infant and child, iridocyclitis,  
striae keratitis, and complicated cataract, occurrence  
and diag.)

VARY, Istvan

Temporary blocking of puncta lacrimalia. Szemeszet 94 no.2:89-91  
July 57.

1. A Budapesti Orvostudományi Egyetem II. sz. Szemklinikajának Igazgató:  
Nonay Tibor egyetemi tanár, az orvostudományok kandidátusa) közleménye.  
(LACRIMAL APPARATUS, surg.  
appar. for temporary blocking of puncta lacrimalia (Hun))

VARY, Istvan; BALAZS, Erzsébet

Contribution to surgery of complicated cataract and complications following cataract surgery. Szemeszet 99 no.2:80-87 Je '62.

1. Budapesti Orvostudományi Egyetem II. Szemklinikájának közleménye.  
(Igazgató: Nonay Tibor egy. tanár, as orvostudományok kandidátusa.  
(CATARACT EXTRACTION)



BALAZS, Erzsebet; NAGY, Ferenc; VARY, Istvan

Congenital inversion of the upper eyelid. Szemeszet. 99 no.3:157-159  
S '62.

1. A Budapesti Orvostudományi Egyetem II. sz. Szemklinikájának közleménye  
(Igazgató: Nonay Tibor dr. egyet. tanár).  
(EYELIDS abnorm)

WANI, Istvan

Modification of Imre's blepharorrhaphy for the reconstruction of the lower eyelid. Szemeszet. 99 no.3:176-178 S '62.

1. A Budapesti Orvostudományi Egyetem II. Szemklinikájának közleménye  
(Igazgató: Nonay Tibor egyetemi tanár, az orvostudományok kandidátusa).  
(EYELIDS surg)

VARY, Istvan

Keratinized epithelial spot in the conjunctiva. Szemeszet 100  
no. 2:116-117 Je '63.

1. Budapesti Orvostudományi Egyetem II. sz. Szemklinikájának  
(Igazgató: Nonay Tibor egyetemi tanár) közleménye.  
(CONJUNCTIVA)

VARY, Istvan

A simple method for the prevention of folding of the inner eye corner following extirpation of xanthelasma. Szemeszet 100 no.4: 230-234 D '63.

1. A Budapesti II. sz. Szemklinika közleménye. (Igazgato: Nonay Tibor egyetemi tanar, az orvostudományok kandidátusa).

\*

HUNGARY

BOHAR, Anna, Dr. CSAPÓDY, István, Jr., Dr. VARY, István, Dr. VÖLZ, Margit, Dr. Medical University of Budapest, II. Eye Clinic (Budapest: *Árvíztudományi Egyetem, II. Szemklinika*).

"Retinopathy of Premature Infants."

Budapest, *Orvosi Hetilap*, Vol 104, No 13, 31 Mar 63, pages 579-584.

Abstract: [Authors' Hungarian summary modified] The authors review the experiences, investigations, results, theories published on the subject as well as the cases observed in their institute. They call attention to the fact that prolonged or concentrated doses or abrupt discontinuation of oxygen therapy can cause severe, irreversible damage in the eye of premature infants. Because of the increasing number of such cases in Hungary, the authors call for an increased number of Eastern European, ~~54~~ Western references.

1/1

VARY, I.

Principles of eyelid plastic. Acta chir. plast. (Szeged) 7  
no.1:31-32 '65

1. University Medical School, 2nd Department of Ophthalmology  
Budapest, Hungary (Director: T. Nonay).

MARY, L.

Registration of lands. p. 59.  
(GEODEZIA ES KARTOGRAFIA. Vol. 9, no. 1/2, 1957, Hungary)

SO: Monthly List of East European Accessions (EMAL) IC. Vol. 6, no. 12, Dec. 1957.  
Uncl.

L 27865-66 EWT(1) IJP(c) CC

ACC NR: AP5028463

SOURCE CODE: UR/0286/65/000/020/0030/0030

INVENTOR: Pozhela, Yu. K.; Levitas, I. S.; Varyakonte, A. P.

ORG: none

TITLE: Superhigh-frequency and infrared radiation modulator. <sup>25B</sup> Class 21, No. 175535  
[announced by the Institute of Physics and Mathematics (Institut fiziki i matematiki)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 30

TOPIC TAGS: superhigh frequency modulation, infrared radiation modulator

ABSTRACT: This Author Certificate introduces a superhigh-frequency and infrared radiation modulator in the form of a waveguide with a semiconductor plate. To simplify the design of the device and to obtain the highest possible potential difference across the surface of the plate, the plate is made, for example, from a germanium single crystal so that its wide sides lie in the (110) plane and the current direction makes an angle of 30° with the (001) direction. [JR]

SUB CODE: 09/ <sup>171</sup> SUBM DATE: 24Mar64/ ATD PRESS: 4/66

Card 1/1 <sup>20</sup>

UDC: 621.376.9



VARYAN, R. S.

Cand Agr Sci - (diss) "Reproductive capacity of Ukrainian steppe white and speckled boars." Kishinev, 1961. 20 pp; (Ministry of Agriculture Moldavian SSR, Kishinev Agr Inst imeni M. V. Frunze); 200 copies; price not given; (KL, 7-61 sup, 250)

SHIMEL'FENIG, S.A.; VARYAGIN, K.Yu.

Regimes for the consumption of gas by the population and the municipal  
sector of cities. Gaz.prom. 10 no.5: 8-21 '65.

(MIRA 18:6)

*Var'yash, I.G.*

SHATROV, S.M.; VIKENT'YEV, I.P.; VAR'YASH, I.G.; ZEMSKOV, M.D.

Efficient solution of a highway and railroad crossing. Avt. dor.  
21 no.2:21-22 F '58. (MIRA 11:2)  
(Underpasses) (Railroad bridges) (Road construction)

VAR'YEV, V.I., tekhnik

Simplification of the switching in circuit for the A-2050  
automatic machine. Energetik 8 no.2:13-14 F '60.  
(MIRA 13:6)

(Electric circuits)

VAR'YEV, V.I.; MITYUSHKIN, V.G.; KONONENKO, I.V.

Experience in the operation of power supplying plants in a factory.  
Koks i khim. no.11:59 '63. (MIRA 16:12)

1. Yasinovskiy koksokhimicheskiy zavod.

VARYGIN, L.A.

Hand cart for collecting oleoresin. Gidroliz.1 lesokhim.prom.  
15 no.8:20-22 '62. (MIRA 15:12)

1. Moskovskiy lesotekhnicheskij institut.  
(Oleoresins)

82776

SOV/184-59-5-3/17

5,1220

AUTHORS:

Varygin, N.N., Engineer, Martyushin, I.G., Candidate of Technical Sciences

TITLE:

The Calculation of the Heat Exchange Surface in Apparatuses With a Fluidized Bed <sup>2/</sup>

PERIODICAL:

Khimicheskoye mashinostroeniye, 1959, Nr. 5, pp. 6-9 (USSR)

ABSTRACT:

The known methods of studying thermal properties of a fluidized bed are based mainly on stationary conditions of heat transfer. Lately, methods based on non-stationary heat conductivity have become popular (Ref. 2). These methods require considerably less time for measurements while the accuracy of determining the thermophysical constants is noticeably higher in some cases. The method of the regular process, developed by G.M. Kondratyev and his students (Ref. 3) occupies an outstanding place among these methods. It is based on the assumption that the coefficient of heat emission from a cooled body to an ambient medium is constant and that there is no internal source of heat in a body. In this case the cooling process can be divided into a stage of an irregular heat transfer process and a stage of a regular process. At the moment, when the regular process begins, the natural logarithm of the difference between the

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temperature of any point of the body and the temperature of the ambient medium will vary linearly in time. The gradient of the straight line describes the rate of cooling. (Formula 1). A silver ball of 10 mm radius was used for the experimental investigation. The coefficient of heat emission of the silver ball was  $\alpha = 1.96 \text{ m} \cdot \text{kcal/m}^2 \cdot \text{h}^\circ\text{C}$ . The experimental set-up for determining the coefficient of heat emission in a fluidized bed is shown in diagram, Figure 1. The fluidized bed was produced in apparatuses of 82.5 and 157 mm diameter, but no influence of the diameters on the heat transfer process was found. The ball was heated to  $800^\circ\text{C}$  and was immersed rapidly into the fluidized bed. The change of its temperature during the cooling process was recorded with an "ЭПП-9" (EPP-09) automatic potentiometer (speed of tape 2.665 mm/sec). The fluidized bed was kept at a temperature of  $20\text{-}30^\circ\text{C}$  by blowing air into it at room temperature. The electric heating furnace was equipped with a МРШНР-54 (MRShchPR-54) keeping the temperature control within 1.5%. The error in determining the coefficient of heat emission did not exceed 10%. Quartz sand, ferrosilicon, hematite, glass balls and carborundum were used for producing the fluidized bed. Air without any preliminary treatment was used

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## The Calculation of the Heat Exchange Surface in Apparatuses With a Fluidized Bed

as a pseudoliquefying medium. Curves showing the cooling of the silver ball wer plotted for each material at different linear air velocities in the apparatus. These curves were used for computing the graphs of the coefficients of heat emission, shown in Figure 2. These graphs show the combined influence of the physical properties of the system and the pseudoliquefying conditions on the coefficient of heat emission. Wicke (Ref. 4) and S.S. Zabrodskiy (Ref. 5 and 6) noticed a maximum on the curve of dependence of the coefficient of heat emission on the gas velocity in the apparatus. This led them to the assumption that there is one pseudoliquefying process common to all materials which is called the optimum process. The hydro-mechanical conditions of this process have not yet been established. The heat exchange in a pseudoliquefied layer has all features of an intensive convective heat exchange in which the moving particles of solid matter play the part of turbulent vortices. To prove that the criterion equation for gases  $Nu = A_1 Re^m$  (3) is also true for the optimum process (criterion  $Re_0$ ) the maximum coefficients of heat emission  $\alpha_{max}$  and the corresponding gas velocities  $\omega_0$  (the optimum pseudoliquefaction speeds) were determined and the values of  $Nu_{max}$  and  $Re_0$  were computed. The equation  $Nu_{max} = 2Re_0^{0.4}$  (4) generalizes

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## The Calculation of the Heat Exchange Surface in Apparatuses With a Fluidized Bed

the authors' experimental data and those of Wicke (Ref. 4), obtained by the method of the stationary heat transfer, with an accuracy of about 18%. For the process of motion of solid matter in a pseudo-liquefied state the equation  $Re = BAr^u$  (Ar - Archimedes' criterion) is given. The assumption that this equation is also true for the optimum pseudoliquefaction process and that the latter is affected solely by physical properties of a system is confirmed by the graph, Figure 4, where the straight line represents the equation  $Re_0 = 0.121 Ar^{0.5}$  (5). The equation  $Numax = 0.86 Ar^{0.2}$  (6) is obtained by a combined solution of equations (4) and (5). The true coefficient of heat emission  $\alpha_t$  will differ from that computed by the equation (6) depending on the shape and position of the heat exchange surface. To account for these factors a coefficient  $K = \frac{\alpha_t}{\alpha_{max}}$  is introduced. The experimental data available do not suggest any definite values of K.  $K = 0.8-0.9$  can be used for preliminary calculations of industrial apparatuses while  $K = 0.5-0.8$  is used for small laboratory models. The value of  $\alpha_{max}$ , derived from equation (6) is in good agreement with the empirical equation of S.S. Zabrodskiy (Ref. 6). However, Zabrodskiy's equation does not take into account the effects of temperature and pressure on the properties of gas. The

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authors' equations in the criterion form can be used to calculate any conditions of the process within the range of values of the Archimedes' criterion from 30 to 135,000. There are 4 graphs, 1 diagram, 1 table and 8 references: 4 Soviet, 3 English and 1 German. X

Card 5/5

VARYGIN, N.N., inzh.

"Fluidized bed" is a new hardening medium with controlled cooling properties. Metalloved. i term. obr. met. no.6:13-18 Je'61. (MIRA 14:6)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.  
(Fluidization)  
(Metals--Hardening)

L 20973-65 ENT(m)/T/EMP(t)/EMP(b) ASD(m)-3 JD

ACCESSION NR: AP5000935

S/0129/64/000/012/0028/0030

AUTHOR: Varygin, N.N., Martyskin, I.G.

TITLE: Heating of articles in a fluidized bed 6

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1964, 28-30

TOPIC TAGS: fluidized bed, heat treatment, high temperature heating

ABSTRACT: The purpose of this investigation was to compare the heating capacity of a fluidized bed and other media for heat treatment and to study the mechanism of high-temperature heating in a fluidized bed. A device was designed for this purpose (see Fig. 1 of the Enclosure) in which a layer of granular material was placed on a metal grating. The fluidized layer was heated by two electric heaters. Air, passed through the lower heater, was heated to a given temperature and delivered to a cylinder with the granular material. At a gas velocity exceeding the critical, the layer of granular material passed into a pseudo-liquefied fluidized state. To compensate for heat losses into the ambient medium outside of the cylinder, an electric heater was installed at the level of the fluidized bed. The preassigned temperature in the fluidized bed was maintained by temperature regulators through a thermocouple submerged in a fluidized bed. Quartz sand was used as the granular material, grain size 0.256 mm. A silver ball, 20 mm in

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ACCESSION NR: AP5000935

diameter, was submerged into the bed. In the center of the ball was the hot junction of a chromelalumel thermocouple. The heating curves were recorded by an electronic potentiometer. Two rotameters measured the consumption of air. Heat transfer between the pseudo-injected medium and the ball surface was studied at various gas velocities and fluidized bed temperatures of 100-300°C. With an increase of the bed temperature from 100 to 300°C, the value of the maximum heat transfer coefficient increased from 415 to 1000 kcal/m<sup>2</sup>·h·°C. With an increase of the bed temperature, the coefficient of heating in the fluidized bed can be controlled and regulated. Orig. art. has: 3 figures.

ANALYZED IN: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: 00                      ENCL: 01                      SER CODE: MM  
NO REF SOV: 005                    OTHER: 001

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L 20973-65

ENCLOSURE: 01

ACCESSION NR: AP5006935

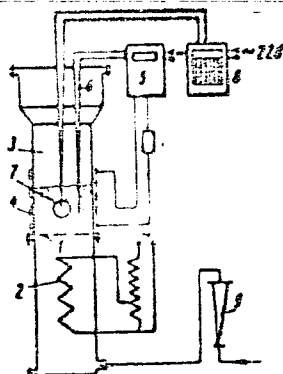


Fig. 1 Diagram of the experimental apparatus: 1 - metal grating, 2 - heater, 3 - cylinder, 4 - heater, 5 - temperature regulator, 6 - thermocouple, 7 - silver ball, 8 - electronic potentiometer, 9 - rotameter.

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VARYGIN, N.N.

Heat transfer from thin wires to the fluidized bed. Trudy MIKHM  
26:33-38 '64. (MIRA 18:5)



AKOPYAN, L.A.; VARYGIN, N.N.; GUTAREV, V.V.; ZYKOV, D.D.; KARAVAYEV, N.M.;  
KONDUKOV, N.B.; LASTOVITSEV, A.M.; MAKAROV, Yu.I.; MAZUROV, D.Ya.;  
MARTYUSHIN, I.G.; MASLOVSKIY, M.F.; NIKOLAYEV, P.I.; PLANOVSKIY,  
A.N.; RYCHKOV, A.I. [deceased]; CHEKHOV, O.S.; KHVAL'NOV, A.M.;  
SHAKHOVA, N.A.

Theory and practice of heterogeneous processes in a fluidized  
bed. Trudy MIKHM 26:3-22 '64. (MIRA 18:5)

VAK 77742 V, V.N.

FEDOT'YEV, N.P.; VARYPAYEV, V.N.

Behavior of nitrate ion on Pt anode. Zhur. prikl.khim. 31 no.3:  
434-440 Mr '58.

(MIRA 11:4)

(Platinum) (Nitrates)

VARYPAYEV, V.N.; FEDOT'YEV, N.P.

Study of electrodeposition of lead dioxide. Trudy LTI no.46:103-  
112 '58. (MIRA 14:4)

(Lead oxide)

88812

S/103/61/022/001/003/012  
B019/B056

16.9500(1031,1132,1121)

AUTHOR: Varygin, V. N. (Moscow)

TITLE: Some Constructional Problems for Systems With Correction  
Devices, Automatically Adjusting Themselves to an Extremum

PERIODICAL: Avtomatika i telemekhanika, 1961, Vol. 22, No.1, pp.27 - 36

TEXT: The author derives the equations describing the selfadjustment of correction devices of linear systems to an extremum. Here, it is assumed that the scanning frequencies are comparable with the eigenfrequency of the main control circuit. Fig. 1 shows the block diagram of such a system, in which the dynamic characteristic is stabilized by a correcting unit. The author defines an operator  $W = W_0 + W_c$

of the system shown in Fig. 1:  $W(D, X_1, X_2, \dots, X_n, t) = W_0(D, X_1, X_2, \dots, X_n, t) + \sum_{i=1}^n x_{i0} \cos \omega_i t W_i(D, X_1, X_2, \dots, X_n, t) + \sum_{i=1}^n x_{i0} \omega_i \sin \omega_i t W_i'(D, X_1, X_2, \dots, X_n, t) + P(D, X_1, X_2, \dots, X_n, t)$

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Here,  $D$  is the differential operator,  $\omega_i$  the scanning frequency with respect to the  $i$ -th parameter,  $W_i$  and  $W_i'$  the components of the operator which in first approximation take the scanning-oscillations, with respect to the  $i$ -th parameter, into account,  $X_i$  are the adjusting parameters. It further holds that  $x_i = X_i + x_{i0} \cos \omega_i t$ ,  $x_{i0} \ll X_i$ . The weight function of the system is described by

$$\begin{aligned}
K(X_1, X_2, \dots, X_n, t, \tau) &= K_0(X_1, X_2, \dots, X_n, t, \tau) + \\
&+ \sum_{i=1}^n x_{i0} \cos \omega_i t K_i(X_1, X_2, \dots, X_n, t, \tau) + \\
&+ \sum_{i=1}^n x_{i0} \omega_i \sin \omega_i t K_i'(X_1, X_2, \dots, X_n, t, \tau),
\end{aligned}
\tag{2}$$

where the following series hold:

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$$\begin{aligned}
 K_0(X_1, X_2, \dots, X_n, t, \tau) &= K_{00}(t, \tau) + \sum_{j=1}^n \left( \frac{\partial K_0}{\partial X_j} \right) \Delta X_j + \dots \\
 K_t(X_1, X_2, \dots, X_n, t, \tau) &= K_{t0}(t, \tau) + \sum_{j=1}^n \left( \frac{\partial K_t}{\partial X_j} \right) \Delta X_j + \dots \quad (3) \\
 K'_t(X_1, X_2, \dots, X_n, t, \tau) &= K'_{t0}(t, \tau) + \sum_{j=1}^n \left( \frac{\partial K'_t}{\partial X_j} \right) \Delta X_j + \dots
 \end{aligned}$$

By substitution of (3) in (2) the author obtains

$$\begin{aligned}
 K(t, \tau) &= K_{00}(t, \tau) + \sum_{j=1}^n \left( \frac{\partial K_0}{\partial X_j} \right) \Delta X_j + \sum_{i=1}^n x_{i0} \cos \omega_i t K_{t0}(t, \tau) + \quad (4) \\
 &\quad + \sum_{i=1}^n x_{i0} \omega_i \sin \omega_i t K'_{t0}(t, \tau).
 \end{aligned}$$

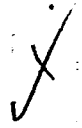
The function  $\epsilon(t) = \int_{-\infty}^{+\infty} K(t, \tau) \vartheta(\tau) d\tau$  (5) is defined and by substitution

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of (4) in (5) one obtains the expression

e^2(t) = 2 sum\_{i=1}^n x\_{i0} cos omega\_i t S\_i + 2 sum\_{i=1}^n x\_{i0} omega\_i sin omega\_i t S\_i' + R, (8)

On the assumption that the linear part of the self-adjusting circuit completely filters out the combination frequencies of the output signal of the multiplication term, the relation X\_i = -k\_i W\_phi(D) S\_i, (i = 1, 2, ..., n) (12) holds for the scheme shown in Fig. 1, where W\_phi is the operator necessary for satisfying the above assumption. (12) is developed in explicit form

DX\_1 = -k\_1 W\_phi(D) [S\_{01} + sum\_{j=1}^n Delta X\_j S\_{1j}],
DX\_2 = -k\_2 W\_phi(D) [S\_{02} + sum\_{j=1}^n Delta X\_j S\_{2j}],
...
DX\_n = -k\_n W\_phi(D) [S\_{0n} + sum\_{j=1}^n Delta X\_j S\_{nj}]. (16)

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Adjusting Themselves to an Extremum

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and the characteristic equation of (16) is given. This characteristic equation agrees in this form with the analogous equation obtained by A. A. Krasovskiy (Ref. 3). The solution of this characteristic equation is:  $I_i = \lambda/W_{\Phi}(\lambda)$  (21). This solution leads to the study of the stability of the scheme shown in Fig. 2. As control time, the relation  $t_{\text{cont}} \approx 3/\lambda_{\text{min}}$  is given, where  $\lambda_{\text{min}}$  is the lowest amount of the roots from (21). In a number of cases, the introduction of scanning oscillations into the main system is impossible. In this case, the introduction of scanning oscillations according to the parameters of a standard system is suggested, which offers a number of advantages. Finally, the stabilization system for the transmission band of a simple follow-up system is investigated, whose equation reads  $\dot{y} + ky = kx$  (24). (24) may be represented with satisfactory accuracy as  $\dot{y}(T_c - T_o \cos \omega_o t) + y = x$ , where  $T_c = 1/k_c$ ,  $T_o = k_o/k_c^2$  and  $k = k_c + k_o \cos \omega_o t$ . As a characteristic equation for selfadjustment  $S_{11}$

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Some Constructional Problems for Systems  
With Correction Devices, Automatically  
Adjusting Themselves to an Extremum

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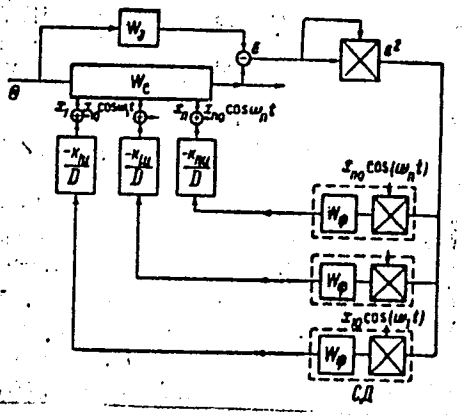
-  $\lambda/k_1 W_{\Xi}(\lambda) = 0$  (33), is given, where  $S_{11} = S_{11}(T_{\Xi}, \omega)$ . In an appendix, the determination of the frequency characteristic of a system an extremum-selfadjusting correction device is dealt with. Here, a method is discussed which has been introduced by Zadeh (Ref. 6) and which is based upon the extension of a method frequently used for the study of systems with constant parameters to the study of systems with changing parameters. The author thanks G. Yu. Pokanov for his help in the experiments. There are 3 figures, 1 table and 7 references: 6 Soviet and 1 US. ✓

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Legend to Fig. 1:  
 $W_0$  is the main system,  
 $W_2$  the standard system.

Fig. 1

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KOGAN, L.S.; VARYPAYEVA, Z.A.

Possibility and conditions for long-term storage of cinders in  
vertical tanks in the form of unmilled clay-cinder residue.

Trudy Giprotsement no.27:3-20 '63.

(MIRA 17:12)

VARYPAEVA, A. G.

USSR / Plant Diseases. Diseases of Cultivated Plants

N-3

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22992

Author : Varypaeva, A.G.

Inst : Not Given

Title : Means of Controlling Cherry Grey Fruit Rot.

Orig Pub : Tr. Grodnensk. s.-kh. in-ta, 1956, No 2, 176-186

Abstract : In controlling grey fruit rot, besides taking thorough sanitary measures, a single spraying with a 9% solution of peat-coal carbolineum during the pheno-phase of swelling buds is recommended. The spraying diminishes the raceme and branch disease infection 5-10 times, and also increases the yield 2-2½ times. Spraying with a 5% copperas solution over swelling buds has little effect. A single spraying of trees with a 1% solution of Bordeaux liquid during the phase of pink buds or at the end of flowering is no less effective than a triple spraying by a 1% solution of Bordeaux liquid during the period of bud swelling, after flowering and 15 days after the previous spraying.

Card : 1/1

COUNTRY : USSR  
CATEGORY : Plant Diseases. Diseases of Cultivated Plants 0  
ABS. JOUR. : ZEMiol., No. 23 1958, No. 105028  
AUTHOR : ~~Варыпаева, А. Г.~~  
INST. : Grodno Agricultural Institute  
TITLE : On the Bioecology of the Causal Agent of Gray Mold Rot  
in Stone Fruit Plants in Belorussian SSR  
ORIG. PUB. : Tr. Grodnensk. s.-kh. in-ta, 1957, vyp. 3, 75-88  
ABSTRACT : Surveys of cherry plantations carried out during 1951-1956  
on the territories of the Botanical Garden, Academy of  
Sciences, Belorussian SSR and experimental orchards of  
Belorussian Fruit and Vegetable Experiment Station, de-  
termined the infection of the entire assortment of cherry  
varieties with the fruit gray mold rot (*Monilia cinerea*  
Bon.). A comparative evaluation of the resistance of the  
varieties was carried out. It was determined in field and  
laboratory studies that the fungus develops three genera-  
tions of conidial sporogenesis. The first conidia appear

TIMOSHININ, Valentin Dmitriyevich; KRECHKO, Andrey Yustinovich;  
VARYPAYEVA, Anna Grigor'yevna; SVIRIDONOV, Mikhail Grigor'yevich;  
~~KAZACHENOK, V., red.~~; KALECHITS, G., tekhn. red.

[Manual on sugar beet cultivation in the B.S.S.R.] Spravochnik  
po vzdelyvaniu sakharnoi svekly v BSSR. Minsk, Gos.izd-vo  
BSSR. Red.sel'khoz.lit-ry, 1961. 194 p. (MIRA 15:1)  
(White Russia--Sugar beets--Handbooks, manuals, etc.)

VARYPA YEVA, I.S.

VARYPA YEVA, I.S., Can Biol Sci -- (diss) <sup>Age-related</sup> Changes in "Free"  
 and Colloid-Bound <sup>Fluid</sup> <sup>various</sup> Liquid in Different Sections of the Brain,  
~~according to Age~~. Perm', 1958, 11 <sup>pp</sup> ~~pages~~ (Perm' State Medical  
 Inst). 200 copies (KL 10-58, 119)

colloid-bound

USSR / Human and Animal Physiology (Normal and Pathological).  
Nervous System.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60768

Author : Varypayeva, I. S.

Inst : Gorkiy Medical Institute

Title : Changes with Age in the Free and Colloid-bound Water  
in the Different Parts of the Brain

Orig Pub : Uch. zap. Gor'kovsk. med. in-ta, 1957, Vyp. 1, 35-44

Abstract : In the human brain the major part of the water (W) is found in the free state. The total content of W in the grey matter at all ages is higher than in the white matter. In the grey matter of the different regions of the cerebral cortex of the adult (frontal, occipital and temporal lobes), the total quantity of W, and also that of free and colloid-bound W is not the same. In the process of ontogenesis the content of the different

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CHALYSHEV, V.I.; VARYUKHINA, L.M.

New data on the age of coal-bearing sediments of the Surekay  
Valley (Bashkiria). *Biul. MDIP. Otd. geol.* 39 no.3:67-70 My-Je '64.  
(MIRA 17:12)

CHALYSHEV, Vasil'y Ivanovich; VARYUKHINA, Liliya Mikhaylovna;  
KOLIN, Vladimir Afanas'yevich; PLOTNIKOV, V.A., kand.  
geol.-miner. nauk, otv. red.

[Boundary of Permian and Triassic red beds in the northern  
part of the cis-Ural region] Granitsa permi i triasa v  
krasnetsvatnykh otlozheniakh Severnogo Priural'ia. Moskva,  
Nauka, 1965. 128 p. (MIRA 18:8)

VARYUKHINA, L.M.

Spore and pollen complexes of Permian and Triassic sediments in  
the middle Pechora Valley. Trudy Komi fil. AN SSSR no.7:47-53 '59.  
(MIRA 13:11)

(Pechora Valley--Palynology)

VARYUKHINA, L.M.

Spores and pollen of Triassic deposits in the south of the Pechora Basin. Dokl.AN SSSR 138 no.3:631-634 My '61. (MIRA 14:5)

1. Institut geologii Komi filiala AN SSSR. Predstavleno akademikom D.V.Nalivkinym.

(Pechora Basin--Palynology)