

BIRICH, T.V. prof.; IVANENKO, L.M., ordinator.

Oxygen therapy combined with other methods of treating amaurosis
caused by methyl alcohol and atrophy of the optic nerve. Zdrav.
Bel. 9 no.1:74-77 J'63. (MIRA 16:8)

1. Kafedra glaznych bolezney (zav. - prof. T.V.Birich) Min-
skogo meditsinskogo instituta.
(METHANOL—TOXICOLOGY) (OXYGEN THERAPY)
(AMAUROSIS)

ACCESSION NR: AT4019731

S/0000/63/000/000/0003/0005

AUTHOR: Ivanenko, L. M. (Ivanenko, L. N.)

TITLE: Some results of the application of new methods of conformal mappings of one-sheeted domains

SOURCE: AN UkrRSR. Insty*tut kiberneti*ky*. Obchy*alyuval'na matematy*ka i tekhnika (Computer mathematics and engineering). Kiev, Vy*d-vo AN UkrRSR, 1963, 3-5

TOPIC TAGS: conformal mapping, one-sheeted domain, ellipse, half-plane

ABSTRACT: The author discussed the results of the application of two new methods of conformal mappings to certain one-sheeted domains. The mapping problem is the following:

A domain Z is considered, which lies in the half-plane and has end points at $(-1, +1)$ [see figure 1]. Z has an arbitrary crescent-shaped form. A function $\Phi(z)$ of the form

$$\Phi(z) = a_0 + \sum_{k=1}^{\infty} \frac{a_k}{z^k}.$$

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ACCESSION NR: AT4019731

is desired, which maps the domain Z onto the half-plane.

The author describes two computer programs for finding the function $\Phi(z)$ and compares results using each method for the case where Z is an ellipse. Orig. art. has: 3 equations.

ASSOCIATION: none

SUBMITTED: 19Sep63

DATE ACQ: 06Jan64

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 001

Card 2/2

IVANENKO, L.N.

STREL'TSOV, O.A.; YUSHCHENKO, Ye.L.; IVANENKO, L.N.

Solving M.I. Temkin and V.M. Pyzhev's kinetic equation for
the synthesis of ammonia using an electronic computer (MESM).
Ukr.khim.zhur. 23 no.4:423-430 '57. (MIRA 10:10)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR i
Institut matematiki AN USSR.
(Chemical reaction, Rate of)

S/044/62/000/010/058/042
B158/B102

11.6.50

AUTHOR:

Ivanenko, L. ^{N.} ~~M.~~

TITLE:

Sample of formal language for writing algorithms

PERIODICAL:

Referativnyy zhurnal. Matematika; no. 10, 1962, 65,
abstract 10V345 (Zb. prats' z obchisl. matem. i tekhn. v. I.
Kiyev, AN USSR, 1961; 106-110 [Ukr.; summary in Russ.])

TEXT: A description is given of what is called a formal index language for writing algorithms, particularly applicable to algorithms for the transformation of vector quantities. Its use is exemplified in an algorithm for planning the longitudinal profile of a road, carried out on an MЭСМ (MESM) machine in July 1957. [Abstracter's note: Complete translation.] √B

Card 1/1

35207

S/696/61/002/000/005/009
D299/D302

9.7100

AUTHORS: Ivanenko, L.M. and Yushchenko, K.L.
TITLE: Basic principles of the programming instruction for the computer "Kyyiv"

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyval'nyy tsentr. Zbirnyk prats' z obchyslyval'noyi matematyky i tekhniky, v. 2, 1961, 26-28

TEXT: In developing the basic principles of the programming instructions for the PP-2 (PP-2) "Kyyiv", the authors assumed that the following 2 information problems have to be solved: 1) to reduce to a minimum the number of classes of information required, and 2) to encode the abstract words in such a way that the computer should be able to analyze the input information in the shortest possible way. In meeting these requirements, it was possible to develop the PP-2 program, containing only a few hundred instructions. This compares very favorably with the first programming instructions for the computers SHELM and "Strila" which have certain

Card 1/3

S/696/61/002/000/005/009
D299/D302

Basic principles of the ...

shortcomings. In developing general-purpose programming instructions, the authors (of the present article) were mainly concerned with convenient programming of computational problems involving the wide use of group operations. This does not exclude the programming of complex logical problems. In the PP-2 program, Lukasiewicz's calculus is used (for the first time in the USSR) for writing the formulas of algebraical transformations; thereby the parentheses are excluded which greatly simplify the programming algorithm. In addition, the authors standardized the principal methods of programming (construction of cyclical processes and schemes for the analysis of information). With regard to encoding, the authors adopted the principle of integration and standardization (as in industrial automation processes). By empirical methods, the information was encoded in such a way that the analytical units of the PP-2 program have almost the same number of instructions as the synthetic units. Only 2 operators (of analysis and of synthesis) were used. The formal language in which the input information is written, constitutes a linear record of sentences. The input information is encoded and inserted into

X

Card 2/3

S/696/61/002/000/005/009
D299/D302

Basic principles of the ...

the computer in the form of instruction-sentences, partially written in conventional addresses. This method leads to greater simplification. Provisions are made for writing the PP-2 program in the form of a set of subroutines which are programmed one after another at their actual places and automatically recorded on drums. The operation of PP-2 is automatically doubled. If all the results repeat themselves, they are printed. There are 4 Soviet-able references.

X

Card 3/3

S/696/61/003/000/002/011
D251/D304

AUTHOR:

Ivanenko, L.^NM.

TITLE:

On one of the algorithms for evaluating the constant of the Christoffel-Schwartz integral

SOURCE:

Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 3, 1961, 13 - 16

TEXT: The author describes an algorithm for evaluating the constant of the Christoffel-Schwartz integral for a closed polygon, $M_0 M_1 M_2, \dots, M_{n-1}$, with M_0 at the origin and M_{n-1} lying on the x-axis, the polygon being inscribed in the angle $M_1 M_0 M_{n-1}$. A three-fold transformation is carried out as follows: Stage 1: each of the sides $M_1 M_2, \dots, M_{n-2} M_{n-1}$ is dilated m times, (m and n are programming parameters). Stage 2: The following transformation is applied: $w = z^{-1/\alpha_0}$, where α_0 is the angle at the vertex M_0 . This transform

Card 1/2

S/696/61/003/000/002/011
D251/D304

On one of the algorithms for ...

mation is also given in terms of U and V ($W = U + iV$). One of the transformations of P.F. Fil'chakov is applied (Ref. 2: Ukr. matem. zhurn. v. 7, no. 4, 1955) especially E(S)

$$\xi = \sqrt{(W - m)^2 + S^2}$$

or E(R)

$$\xi = (W - m) + \frac{R}{W - m}$$

Stage 3: The constant is then evaluated by means of an iteration process. [Abstractor's note: Full programming details not given]. As an example a table of results obtained by this method on a "Strila" computer is given, these results according well with those obtained by the ЭПДА (EHDA) method of electromodelling on paper. The absolute error is briefly discussed. There are 1 table, 4 figures, and 3 Soviet-bloc references.

✓

Card 2/2

IVANENKO, L.N.

Some results of the application of the trigonometric interpolation method to a conformal mapping problem. Trudy Sem. po prikl. mat. 1 (MIRA 18:2) no.1:53-65 '63.

1. Institut kibernetiki AN UkrSSR, Kiyev.

ACCESSION NR: AT1005510

function is in the form of a series

$$z = \sum_{n=0}^{\infty} (a_n + ib_n) y^{1-n} \quad (1)$$

For regions with one or two axes of sym-
metry, the regions can be simply connected.

IVANENKO, M.F., inzh.

PSP-7m leveller of irrigated lands. Mashinostroenie no.1:83
Ja-F '63. (MIRA 16:7)

(Levellers)

NADYUK, K.; PETROV, V.; IVANENKO, N.; KALPIN, G.; RUBLEVA, K.

Consider the characteristics of agricultural labor. Sots.trud
4 no.12:35-36 D '59. (MIRA 13:6)

1. Ispolnyayushchiy obyazannosti direktora i glavnyy agronom sovkhosa im. Lunacharskogo Stalinskoy oblasti (for Nadyuk).
 2. Glavnyy inzhener Beshevskogo sovkhosa Stalinskoy oblasti (for Petrov).
 3. Glavnyy zootekhnik Beshevskogo sovkhosa Stalinskoy oblasti (for Ivanenko).
 4. Rabotniki Ministerstva sel'skogo khozyaystva SSSR (for Kalpin, Rubleva).
- (Agriculture--Labor productivity)
(Hours of labor)

NAKHMANSO, V.M.; OSIDZE, D.F.; SEROV, M.F.; ALEKSANDROVA, V.T.;
SOLOV'YEV, S.; MALYSHEV, N.; IVANENKO, N.M.; POTATURKIN, V.;
CHIZHOV, A.I.; MIKHAYLOV, N.N.

In the Soviet Union. Veterinariia 39 no.1:88-96 Ja '63.
(MIRA 16:6)

(Veterinary medicine)

IVANENKO, N.P. (stantsiya Pishpek)

Improved condensation lubricator for tandem pumps. Zhel.dor.transp.
37 no.2:76 F '56. (MLRA 9:5)

1. Nachal'nik tekhnicheskogo byuro oddeleniya dorogi.
(Locomotives--Lubrication)

PIVOVAROV, L.N., inzhener; IVANENKO, N.Ya., inzhener.

Mechanized construction of a drydeck in the Bulgarian People's
Republic. Mekh.trud.rab. 70 no.3:39-42 Mr '56. (MIRA 9:7)
(Bulgaria--Dry decks)

IVANENKO, N.Ya., inzh.; MEKLER, M.B.

What the construction tower crane must be like. Stroi. i dor.
masn. 6 no.6:11-12 Je '61. (MIRA 14:7)
(Cranes, derricks, etc.)

IVANENKO, N.Ya.; MEKLER, M.B.; ROGACHEVSKIY, B.M.

Flame boring of reinforced concrete. Biul. tekhn. i ekon. inform.
Gos. nauch.-issl. inst. nauch. i tekhn. inform. 17 no.2:30-31
'64. (MIRA 17:6)

IVANENKO, P.

Work of the training and consultation center in the city of Tula.
Zhil.-komm.khoz. 9 no.8:29-30 '59. (MIRA 12:11)

1. Zaveduyushchiy Tul'skim uchebno-konsul'tatsionnym punktom Moskov-
skogo zaochnogo zhilishchno-kommunal'nogo tekhnika.
(Tula--Municipal services--Study and teaching)

IVANENKO, P.D.; ROTENBERG, V.V.

Culturability of *B.Alkalescens* in 1957 and 1958 in the Ordzhonikidze District of Kharkov. Lab. delo 7 no.6:26-28 Je '61. (MIRA 14:7)

1. Sanitarno-epidemiologicheskaya stantsiya Ordzhonididzevskogo rayona (glavnyy vrach S.I.Lantsberg), Khar'kov.
(KHARKOV—SHIGELLA ALKALESCENS)

IVANENKO, P.F.; VOLGA, A.S.

Chromatographic determination of m- and p-diisopropylbenzene hydroperoxides, Zav. lab. 30 no.7:797-799 '64.

(MIRA 18v3)

1. Gornenskiy filial nauchno-issledovatel'skogo institut polimerizatsionnykh plastmass.

1. IVANENKO, S., Eng.
2. USSR (600)
4. Ships - Launching
7. Device for recording accelerations of vessels during launching, Mor. flot, 12, No. 11, 1952.

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

IVANENKO, S., inzhener.

Clinometer. Mor.1 rech.flot 13 no.5:28 S '53.

(MIRA 6:10)
(Clinometer)

IVANENKO, S., inzhener.

Device for taking patterns for pipelines on ships. Mor. i rech. flot
14 no.1:31 Ja '54. (MLRA 7:1)

(Marine pipe fitting)

IVANENKO, S., inzhener.

Improved hoist cleat for mounting heavy-weight assemblies.
Mer. 1 rech. flst 14 no.6:31 Je '54. (MLRA 7:7)
(Hoisting machinery)

IVANENKO, S.

Daily train loads of soda. Nauka i zhyttia 12 no.3:54 Mr '63.
(MIRA 16:11)

IVANENKO, S.A.

Decrease in steam and condensate losses in electric power plants.
Energ. i elektrotekh. prom. no.1:55-58 '62. (MIRA 15:6)

1. Gosudarstvennyy komitet Soveta Ministrov USSR po koordinatsii nauchno-issledovatel'skikh rabot.
(Steam power plants)

IVANENKO, S.H.

Mine hopper train. Ugol' Ukr. 3 no.12:38 D '59,
(MIRA 13:4)
(Mine railroads)

1. IVANENKO, S. S., ENG.
2. USSR (600)
4. Valves
7. Perfecting the design of a pressure valve. Vest. mash. 32 No. 9, 1952.

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

DEGTEREV, I.A.; LEV, I.Ya.; inzh. (Kolpashevo, Tomskoy oblasti);
GOLOVKO, I.; IVANENKO; S.S., inzh. (Nikolayev, USSR).

Our readers continue the discussion. Izobr. v SSSR 2 no.9:31-32
S '57. (MIRA 10:10)

1. Nachal'nik Byuro sodeystviya ratsionalizatsii i izobretatel'stvu
Altayskogo traktornogo zavoda im. M.I. Kalinina (for Degterev).
2. Nachal'nik Byuro sodeystviya ratsionalizatsii i izobretatel'stvu
Khar'kovskogo elektromashinostroitel'nogo zavoda (for Golovko).
(Inventions) (Suggestion systems)

IVANENKO, T. I., Candidate Med Sci (diss) -- "Some indexes of mineral exchange under the action of ionizing radiation". Moscow, 1959. 8 pp (Acad Med Sci USSR), 250 copies (KL, No 23, 1959, 171)

IVANENKO, T.I.

21(4), 17(0) PHASE I BOOK REPRODUCTION 807/2808

International Conference on the Peaceful Uses of Atomic Energy, 24, Geneva, 1958

Doklady sovetskikh uchebnykh radiobiologicheskikh i radiatsionnykh meditsinskikh seminarov (Reports of Soviet Scientists) Radiobiology and Radiation Medicine, Moscow, Izd-vo Glav. upr. po ispol. sovetskuyu atomnyy energii pri Sovetskiy Ministroy SSSR, 1959. 429 p. 6,000 copies printed. (Series: Vozrozh. Mezhmnozhdnyaya Konferentsiya po mirovomu ispol. sovetskuyu atomnyy energii. Trudy, tom 5)

General Ed.: A.V. Izbodinskiy, Corresponding Member, USSR Academy of Medical Sciences; Ed.: I.S. Shirokov; Tech. Ed.: Ye.I. Masal'.

PURPOSE: This book is intended for physicians, scientists, and engineers as well as for students and students at various levels radiobiology and radiation medicine are taught.

CONTENTS: This is Volume 5 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains 12 reports edited by Candidates of Medical Sciences S.V. Levinitskiy and V.P. Sedov. The reports cover problems of the biological effects of ionizing radiation, acute consequences of radiation in small doses, genetic effects in medical and biological research, uses of radioactive isotopes and therapeutic purposes, soil absorption of atomic fission products, their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

Reports of Soviet Scientists (Cont.)

- Agre, I.Y. The Acetylating Function of the Coenzyme A System in Radiation Sickness (Report No. 2239) 160
- Krysal', M.S., E.D. Gal'torta, G.A. Medvedeva, E.A. Pevsichukhova, L.I. Seliverstova, and M.I. Shal'nom. Effect of Ionizing Radiation and of Radiochemical Substances on the Microbe Cell (Report No. 2280) 167
- Komarovskiy, S.M., and V.Y. Shikhovrov. Local Tests to Show the State of Homeostatism and Autoconservation of an Irradiated Organism (Report No. 2072) 160
- Raditskiy, A.A., P.B. Yuzovskiy, M.O. Buzubekova, M.P. Yuzovskiy, Yu. A. Sedukhin, V.Y. Kuznetsov, G.V. Kuznetsov, and M.K. Logvinov. Experiments in Treating Radiation Sickness With Leukocytes and Thrombocyte Substances (Report No. 2236) 169
- Lebedeva, A.G., and I.B. Kirin-Markus. Experiments to Determine Maximal Permissible Thermal Entropy Flux (Report No. 2072) 196
- Smolonskiy, D.P., and Ye. L. Ivanenko. Isotopic Method in Studying the Normative Effect on Metabolism in Ovarious Tissue (Report No. 2072) Card 3/7 205

GRODZENSKIY, D.E.; IVANENKO, T.I.

Changes in the metabolism of electrolytes in rats following
the action of ionizing radiation. *Biul. eksp. biol. i med.*
51 no.6:62-65 Je '61. (MIRA 15:6)

1. Iz radiatsionnoy laboratorii (zav. - dotsent D.E. Grodzenskiy)
Vsesoyuznogo instituta eksperimental'noy endokrinologii (dir. -
prof. Ye.A. Vasjukova), Moskva. Predstavlena deystvitel'nym
chlenom AMN SSSR F.G. Krotkovym.

(SODIUM METABOLISM) (POTASSIUM METABOLISM)
(X RAYS—PHYSIOLOGICAL EFFECTS)

IUVANENKO, T. I.

SESSION B-4-5 : Effects of the Suprarenal Cortex

(a)
Biochemical Aspects of the Effects of Ionizing Radiation on the Pituitary Adrenal System

3

D. E. Gerdensky, E. R. Bagrajan and T. I. Ivanenko

During the first hours after irradiation with minimal absolutely lethal X-ray doses the adrenocorticotrophic activity in the systemic blood of rats decreased or disappeared almost completely. Three hours after irradiation the ACTH content of extracts of the adenohypophysis was less than in the controls, whereas the corticosterone content of adrenal venous blood decreased. X-rays do not induce in hypophysectomized rats any adrenal ascorbic acid depletion. Experiments have been performed to elucidate the mechanism of the reduction of ACTH activity in systemic blood of irradiated rats. The ascorbic acid concentration in the left adrenal gland of irradiated and non-irradiated hypophysectomized rats was compared with that of the right gland, excised 1 hr after intravenous injection of ACTH. It was found that in irradiated hypophysectomized rats, 2 or 3 γ ACTH elicit the same adrenal response as in non-irradiated ones. It follows that no inactivation of exogenous ACTH takes place during exposure to X-rays, nor does the adrenal reaction to ACTH undergo any change. The drop of adrenal ascorbic acid and its recovery after intravenous injection of ACTH was followed in irradiated and non-irradiated hypophysectomized rats. The degree of depletion of adrenal ascorbic acid and the rate of its restoration was similar in both groups. The enzymic activity of adrenal homogenates was assayed in *in vitro* experiments, which showed that, following irradiation, biosynthesis of aldosterone slightly increased, while biosynthesis of corticosterone slightly decreased. Pregnenolone added to the adrenal homogenates of irradiated and non-irradiated rats greatly increased the formation of corticosterone. The rate of aldosterone biosynthesis remained unchanged. Thus, it appears that no change occurs in the enzyme system of the adrenal which is responsible for the ACTH effect upon this gland and for corticosterone biosynthesis.

The Institute of Experimental Embryology, Moscow, USSR

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

IVANENKO, T.I.; SAKHATSKAYA, T.S. (Moskva)

Method for determining the aldosterone in human urine. Probl.
endok.i gorm. no.1:50-57 '62. (MIRA 15:8)

1. Iz radiatsionnoy laboratorii (zav. - kand.med.nauk D.E.
Grodzenskiy) i biokhimicheskogo otdela (zav. - kand.med.nauk
Ye.A. Kolli) Vsesoyuznogo instituta eksperimental'noy endokrinolo-
gii (dir. - prof. Ye.A. Vasyukova).
(ALDOSTERONE) (URINE--ANALYSIS AND PATHOLOGY)

I 58430-65

SR/0205,65/005/003/0330/0341
612.014.48

AUTHOR: Ivanenko, T. I.

TITLE: Effect of X-irradiation on biosynthesis of corticosteroids

SOURCE: Radiobiologiya, v. 5, no. 3, 1965, 338-341

TOPIC TAGS: radiation, corticosteroid, biosynthesis, adrenocortical hormone, aldosterone, endocrinology

ABSTRACT: X-irradiation of rats with a lethal dose (700 r) resulted in intensified biosynthesis of aldosterone by the adrenals in vitro within 3 hours of exposure, but it had no effect on the biosynthesis of corticosterone. The rate of aldosterone biosynthesis returned to normal 24 hours after exposure, while the rate for corticosterone was the same as in the control animals. Incubation of the adrenals in

but it had no effect on the biosynthesis of corticosterone. The rate of aldosterone biosynthesis returned to normal 24 hours after exposure, while the rate for corticosterone was the same as in the control animals. Incubation of the adrenals in the presence of progesterone and desoxycorticosterone, the precursors of corticosteroid biosynthesis, failed to produce any significant changes in the activity of the enzyme in explants after 18 hours of irradiation. This plus the absence of changes in rate of corticosteroid biosynthesis suggests that the *in vitro* biosynthe-

Card 1/2

L 58430.65

ACCESSION NR: AP5015723

sis capacity of the adrenal cortex remains unimpaired in the early post-irradiation
period. (art. 28)

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut eksperimental'noy
meditsiny, Moscow, U.S.S.R.; Scientific Research Institute of Experimental

OTHER: 008

Card 2/2 *LLP*

BAGRAMYAN, E.R.; IVANENKO, T.I.

Biosynthesis of aldosterone in the adrenal glands of hypophysectomized
rats. Probl. endok. i gorm. 10 no.6:77-81 N-D '64. (MIRA 18:7)

1. Radiatsionnaya laboratoriya (zav. - dotsent D.E.Grodzenskiy) Vsesoyuz-
nogo instituta eksperimental'noy endokrinologii (dir. prof. Ye.A.Vasyukova),
Moskva.

IVANENKO, T. I.

Effect of irradiation on biosynthesis of corticosteroids in the
cortex of the adrenal glands. Radiobiologiya 5 no.3:333-341 '65.

(MIRA 18:7)

! Vsesoyuznyy nauchno-issledovatel'skiy institut eksperimental'noy
endokrinologii, Moskva.

GRODZENSKIY, D.E.; IVANENKO, T.I.; BAGRAMYAN, E.R.; ALESHINA, L.V.

Biosynthesis of corticosteroids in adrenal tissues in irradiated
hypophysectomized rats and electrolyte metabolism. Probl. endok.
i gorm. 11 no.5:77-81 S-O '65. (MIRA 19:1)

1. Vsesoyuznyy institut eksperimental'noy endokrinologii, Moskva.
Submitted October 20, 1964.

IVANENKO, T.P.

Preliminary data on the etiology, epidemiology and clinical aspects of salmonellosis in Vladivostok. Report No.1. Trudy VladIFMG no.2:163-167 '62. (MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny.

IVANENKO, T.P.

Use of material dried on filtering paper for bacteriological diagnosis
in experimental salmonellosis. Trudy VladIEMG no.2:167-172 '62.
(MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta
epidemiologii, mikrobiologii i gigiyeny.

IVANENKO, T.P.

Results of the use of tissue cultures for the determination of
the pathogenicity degree of Salmonella. Trudy Vladivensk no.28
232-235 '62. (MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta
epidemiologii, mikrobiologii i gigiyeny.

IVANENKO, T.P.; SHAPIRO, M.I.; ZNAMENSKIY, V.A.

Use of the fluorescent antibodies method for the detection of
bacteria of the Salmonella genus. Trudy VladIEMG no. 2: 244-
247 '62. (MIRA 18:5)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta
epidemiologii, mikrobiologii i gigiyeny.

IVANENKO, V.; KHURTIN, A., inzh.

Combined duties on cargo steamboats of the Gorkiy Steamboat
lines. Rech.transp. 19 no.9:41-42 S '60. (MIRA 13:9)

1. Nachal'nik sluzhby ekspluatatsii Gor'kovskogo lineynogo parokhodstva (for Ivanenko).
(Gorkiy--Steamboat lines)
(Merchant seaman)

IVANENKO, V., inzh.; BOBKO, P., inzh.

Automatic couplings for tugboats. Rech. transp. 20 no. 1:26
Jan '61. (NIA 14:2)
(Automatic control) (Tugboats)

IVANENKO, V.

Most important potentiality for increasing labor productivity. Rech.
transp. 22 no.6:9-10 Je '63. (MIRA 16:9)

1. Nachal'nik Kazanskogo porta.
(Cargo handling--Labor productivity)

IVANENKO, V.

Auxiliary modes of operation for the electric propulsion
system on ships of the "Dneproges"-type. Mor. flot 23
no.9:27-28 S '63. (MIRA 16:11)

1. Starshiy elektromekhanik dizel'-elektrokhoda "Volkhovges"
Murmanskogo parokhodstva.

37918

S/108/62/017/006/005/007
D407/D301

9,4173

AUTHOR:

Ivanenko, V.D., Member of the Society (see Association)

TITLE:

Parasitic modulation in radiometers incorporating regenerative amplifiers

PERIODICAL:

Radiotekhnika, v. 17, no. 6, 1962, 29 - 31

TEXT:

The use of a regenerative amplifier at the input of receiving device permits increasing the sensitivity of modulation radiometers, but it produces a new parasitic effect -- the gain factor changes with the modulation frequency, (owing to the change in the coupled resistance). The author determines this effect, related to periodic variations of the reflections (on switching the receiver input from the antenna to the equivalent). The regenerative amplifier is connected to the input of the high-frequency part of the modulation radiometer. From the formulas for the gain factor K and the resistance Z_B of the line at the point of connection with the amplifier, one obtains the small relative gain-variation

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Card 1/3

Parasitic modulation ...

S/108/62/017/62/005/007
D407/D301

$$\frac{\delta K}{K} = \sqrt{\frac{\bar{K}}{L}} \frac{\delta Z_a}{W}, \quad (3)$$

where W is the wave resistance, L -- the decoupling and δZ_a -- the input resistance variation. With the most unfavorable reflection-phases, one obtains

$$\frac{\delta K}{K} = 2\sqrt{\frac{\bar{K}}{L}} (|\Gamma_a| + |\Gamma_e|), \quad (4)$$

where Γ_a and Γ_e are the reflection coefficients of the antenna and of the equivalent. The sensitivity of radiometers is not reduced as a result of regular gain fluctuations during unfavorable reflection-phases if the condition

$$\frac{\bar{L}}{K} \gg \frac{2}{\pi} \frac{\Delta\omega}{\Delta\Omega} (|\Gamma_a| + |\Gamma_e|), \quad (7)$$

Card 2/3

Parasitic modulation ...

S/108/62/017/006/005/007
D407/D301

is satisfied. A comparison of formulas shows that the parasitic signal, due to gain modulation, is larger than that produced by noise reflection and interference, (since stable operation of the amplifier is possible only if $L > K$). In the case of a one-circuit diode parametric amplifier, the condition that the parasitic signal, due to variations in modulation, be weak, is:

$$L_m \gg 0,1 \sqrt{K} (|\Gamma_a| + |\Gamma_e|) \frac{\Delta\omega}{\Delta\Omega}, \quad (10)$$

where L_m is the attenuation of the modulation on passing through the waveguide channel. There is 1 figure. +

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

SUBMITTED: April 3, 1961 (initially)
September 28, 1961 (after revision)

Card 3/3

... position
... no. 3, 1954, 85-89
... automatic arc welding, shielded
... for carbon-dioxide shielded arc
... position have been developed.
... steel. The pipe yard

welding of pipeline joints in a fixed position. The pipes were
The welded pipelines were made of 12X1MF and 20 steel. The
100-100 mm in diameter with a wall thickness of 10-10 mm. The
of the root pass can be done upwards or downwards; a switch
which ensures complete penet-

Card 1 / 2

E 11326-65

ACCESSION NR: AP4041208

ASSOCIATION: none

SUB CODE: MM

NO REP SOV: 000

OTHER: 000

Card 2/2

03607-65 EWT(I) Pm-4/Pab
A 03607-65 EWT(I) Pm-4/Pab

8/0108/65/020/002/0014/0018

... (PA) is theoretically considered. It is found
... by the number of degrees of freedom ...

Card 1/2

ACCESSION NR: AP5005979

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi
(Scientific and Technical Society of Radio Engineering and Electrocommunication)

IVANENKO, V.D.

Transformation of a random and determinate process in a
single-stage parametric amplifier. Radiotekhnika 20 no.2:
14-18 F '65. (MIRA 18:4)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi imeni Popova.

L 40800-06 EWF(k), EWF(m), T/EWF(v), EWF(t)/ETI LJP(c) JD/AM

ACC NR: AP6021005

SOURCE CODE: UR/0125/66/000/006/0045/0047

AUTHOR: Ivanenko, V. D.; Kasatkin, B. S.; Dynnikov, O. N.

46
B

ORG: Institute of Electric Welding im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki im. Ye. O. Patona AN UkrSSR)

TITLE: Welding of the swivel-butt joints of thick-walled steam lines without using backing rings

SOURCE: Avtomaticheskaya svarka, no. 6, 1966, 45-47

TOPIC TAGS: pearlitic steel, metal joining, steam auxiliary equipment, welding technology / 12Kh1MF pearlitic steel

ABSTRACT: At boiler-building plants thick-walled steam lines of carbon and low-alloy steels are chiefly welded with the aid of backing rings; this occasionally involves the formation of tears and cracks at the site of fusion between the base metal and the backing ring in the course of operation of the steam line. In this connection, the authors investigated the possibility of the CO₂-shielded horizontal girth welding of vertical swivel-butt joints of carbon and low-alloy steels (such as 12Kh1MF type pearlitic heat resistant steel) without backing rings.

Card 1/2

UDC: 621.791.8:621.643.23

L 40800-66

ACC NR: AP6021005

The best results were obtained when the electrode was positioned at the angle of 10-15° to the horizontal plane (Fig. 1), with the tube rotating at a low speed (3-6 m/hr), in the presence of a welding current of 100-120 a and voltage of 20-21 v. The welding is accomplished with the aid of sweeping transverse back-and-forth movements of the electrode wire in contact with the hot built-up metal of the weld; this assures a slow and uniform cooling of the fine

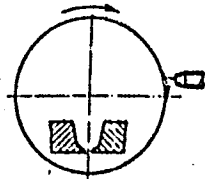


Fig. 1. Build-up of root weld

columnar crystals and hence also a high resistance to cracking. Orig. art. has: 6 figures.

SUB CODE: 11, 13/ SUBM DATE: 12Feb66/ ORIG REF: 006/

ms
Card 2/2

IVANENKO, V. F.

Insecticides

Mechanizing the treatment of seedling roots with a hexachloran dust. Les. khoz. 5, no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, ¹⁹⁵² September 1952, Unclassified.

L 27742-00 ENT(m)/SWA(h)

ACC NR: AF6018706

SOURCE CODE: UR/0386/66/003/011/0452/0455

AUTHOR: Ivanchenko, V. G.; Ratner, B. S.ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)TITLE: Shell effects in the cross section of the reaction $Zn^{67}(\gamma p)$

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 11, 1966, 452-455

TOPIC TAGS: zinc, gamma interaction, scattering cross section, photon scattering, nuclear shell model, photoeffect

ABSTRACT: To obtain more accurate data on the connection between the photoproton cross section and the shell structure of the nucleus, the authors have investigated the nucleus Zn^{67} , which has two protons in the state $2p_{3/2}$ in excess of the filled $1f_{7/2}$ shell, for which it can be assumed that the yield of the reaction $Zn^{67}(\gamma p)$ is due essentially to the direct photoeffect. This yield was measured as a function of the maximum γ -quantum energy of the Physics Institute 30-Mev synchrotron, by recording the β activity of the final Cu^{66} nucleus. Data on the contribution of the two p-shell protons to the cross section of the $Zn^{67}(\gamma p)$ reaction were obtained from an analysis of the obtained cross section curve and from published data on the $Ni^{62}(\gamma p)$ reaction. It is found that the contribution from the protons in excess of the shell has a maximum at $E_{\gamma} = 17.0$ Mev. The distance between the p and f levels is

Card 1/2

ACC NR: AF6018706

3

found to be 5 Mev. The maximum at 17 Mev corresponds to a considerable proton anisotropy, but another maximum, at 22.0 Mev, deduced from the comparison with the data on Ni⁵², corresponds to practically isotropic proton distribution. It is concluded that the use of low-energy reactions such as (p,2p) and (e,e'p) can yield data on the proton binding energies in the internal shells of nuclei provided the bombardment nuclei are appropriately chosen. The authors thank V. G. Volkov, N. I. Izotov, and Yu. N. Yefimov for help with the work. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 22Mar65/ ORIG REF: 004/ OTH REF: 004

Card 2/2 *So*

IVANENKO, V. I.

24177 IVANENKO, V. I. Spredeleniye shiznesposobnosti serykh snushkovykh yagnyd pri rozhdenii. Karkulovodstvo i zverovodstvo, 1949, No. 4, S. 20-24.

SO: Letopis, No. 32, 1949.

Ivanenko, V. I.

"The Productivity of Karakul Sheep under the Conditions of the Ukrainian Forest Steppe and Methods of Increasing It." Min Higher Education USSR. Khar'kov Sototechnical Inst. Khar'kov, 1955 (Dissertation for the degree of Candidate in Agricultural Sciences)

SO: Knizhnaya letopis' No. 27, 2 July 1955

USSR / Farm Animals. Small Horned Stock. Q

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40456.

Author : Ivanenko V. I.
Inst : Not given.
Title : The Effectiveness of the Mating of Sheep With
Uniform Gray Coloration in the Breeding of
the Sokolki Sheep.

Orig Pub: Karakulevodstvo i zverovodstvo, 1956, No 5,
14-17.

Abstract: In the raising of the Sokolki sheep, the mating
of the individuals with uniform gray coloration
is applied, which makes it possible to obtain
up to 62.9% of gray lambskins. A table of the
shading of gray lambs is provided, in which
the increase of the production of the most val-
uable medium-gray and less desirable light gray

Card 1/2

USSR / Farm Animals. Small Horned Stock. Q

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619010002-2

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40456.

Abstract: lambs, and the decrease of the production of the
undesirable dark gray and partially gray lambs,
are shown. In order to bring down the frequency
of the appearance of light grey lambs, it is re-
commended to pay attention to the adequate se-
lection and mating of the sheep. In the mating
of individuals with uniform gray coloration,
chronic tympanitis, a hereditary disease, is
observed in lambs. By applying the method of
the early diagnosis of this disease, it was pos-
sible to bring down the mortality rate of lambs,
in different years, to 2.9%, 1.33%, and 3.9%.

Card 2/2

33

USSR/Farm Animals - Small Horned Cattle.

C-3

Ab's Jour : Ref Zhur - Biol., No 18, 1958, 83402

Author : Doroshenko, N.Ya., Ivanenko, V.I.

Inst : -

Title : Some Problems of Feeding and Keeping of Sheep in Kolkhozes of Ukrainian Forest-steppes and Woodlands .

Orig Pub : Ovtsevodstvo, 1958, No 2, 14-19

Abstract : The article discusses advanced methods of feeding and keeping of sheep (such as successfully achieving that birth be given to lambs during the months of January-December, organization of artificial pastures and green fodder conveyor belts, installation of semi-stall and stall sheep keeping, organization of winter grazings) in kolkhozes of Ukrainian Foreststeppes and Woodlands.

Card 1/1

IVANENKO, V.I.; KOROLYUK, V.S.

Method for the synthesis of optimum automatic control systems.
Kibernetika no.2:98-101 Mr-Apr '65. (MIRA 18:5)

IVANENKO, V.I.

"Study of Automatic Speed Control Systems for the Mine Elevator," Report
submitted at the Second All-Union Conference on Automatic Control Theory, Moscow,
1953.

Sum 1467

15-57-10-14932

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,
pp 266-267 (USSR)

AUTHOR: Ivanenko, V. I.

TITLE: The Selection of a Proper System of Automatic Control of
the Shaft Hoisting Machinery During Deceleration
(Vybor ratsional'noy skhemy avtomaticheskogo reguliro-
vaniya shakhtnoy pod"yemnoy mashiny v rezhime zamedle-
niya)

PERIODICAL: V sb.: Avtomatizatsiya v ugol'n. prom-sti, Moscow,
Ugletekhizdat, 1956, pp 164-187

ABSTRACT: The author examines the problems of selecting a proper
system of automatic control of a mine-hoisting non-
balanced arrangement with variable loads in the hoist
buckets, for the deceleration period when only dynamic
braking is used. This mathematical design and the
choice for a properly constructed regulator are
explained. A velocity-regulating system is described
which does not complicate the design. The author notes

Card 1/3

The Selection of a Proper System of Automatic Control (Cont.) 15-57-10-14932

the harmful influence of increasing the inertia of the boosters in the process of braking. He presents oscillograms of the process of regulating automatic hoists in the "Grigor'yevka" mine No. 12-13 of the Krasnogvardeyskiy Coal Trust. He analyzes the combined braking controls for the hoists and the boosters. In mining operations with the automatic hoist, it was found that the latter suffer only minor secondary disturbances. This proves that, in the system of combined regulation, when a coupling which eliminates the error produced by this disturbance is present, it is possible to select a design calling for a small power coefficient. The working of the system, with a noninertial relay regulator, is analyzed. It was determined that the use of the relay regulator leads to vibrations. A regulator with a two-pole relay proves to be unstable. A regulator with a three-pole relay may be stable under definite conditions. The author proposes a design for a regulator which eliminates the cause of vibration by using a relay element effective in counteracting actual disturbances by increasing the braking power. An approximate correction is applied to the design, for various loads by using a simple power relay of the type E-516 manufactured by the Precision Card 2/3

The Selection of a Proper System of Automatic Control (Cont.) 15-57-10-14932

Electrical Instruments Plant (in Kiyev).
Card 3/3

V. K. Yasnyy

IVANENKO, V.I.

Comparing three control methods used in automatic control systems.
Avtomatyka no.1:34-39 '56. (MIRA 9:10)

1. Institut elektrotehniki Akademii nauk URSR.
(Automatic control)

IVANENKO, V.I.

Static strength in control systems with "dropping" characteristics.
Avtomatyka no.2:15-20 '56. (MIRA 9:10)

1. Institut yelektrotekhniki Akademii nauk URSR.
(Automatic control)

IVANENKO, V. I.

... ..
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ALEKSEYEV, I.N.; IVANENKO, V.I.; PUSHCHALOVSKIY, A.A.

Potential regulator for drainage protection of gas pipes.
Gas.prom. [no.11]:34-39 '57. (MIRA 10:12)
(Electrolytic corrosion)
(Voltage regulators)

102-55-1-12/12

AUTHORS: ~~Ivanenko, V.I.~~ Pushchalovs'kyj, A.D. and Reuts'kyj, V.Yu.

TITLE: A Commutator for Controlling a Three-phase Pulsed (Step-by-step) Motor (Komutator dlya upravlinnya tryfaznym impul'snym (krokovym) divgunom)

PERIODICAL: Avtomatika (Kiyev), 1958, Nr 1, pp 107-109 (Ukrainian SSR)

ABSTRACT: When a triple-wound motor (three-phase or three-stator) is to be controlled in this way (reversal to be included) a uniform sequence of current pulses must be supplied to the motor coils (phases). Contactor switching is used in certain step-by-step motor control circuits to provide uniform time-division pulse trains (Figure 1a). When stepping motors are used in pulse-controlled circuits containing digital computing devices concerned with the programme control of metal-working machines, circuits in which the control is effected using a single-phase generator to provide the pulse trains to the motor are of considerable value (Figure 1b). The generator can be programmed from a tape having the pulse trains recorded on it.

To control three-phase step-by-step motors in this way, we require a device to distribute the control pulses to the motor phases and to produce reversal. If high repetition frequencies (up to 1 kc/s are used to ensure reliable operation, an

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102-58-1-12/12

A Commutator for Controlling a Three-phase Pulsed (Step-by-step) Motor

electronic switch is required to distribute the pulses (this switch will in future be termed the "commutator") (Figure 2). The commutator has to fulfil the following requirements:

- 1) To distribute the pulse trains (GI, Figure 4) to the motor phases in such a way that when forward rotation is required, the phase sequence will be I-II-III-I and when reverse, to reverse the sequence of phase switching, i.e. to I-III-II-I ;
- 2) To provide reversal from any phase. For instance, suppose the first pulse in response to a signal "forwards" is applied to the first phase, but before the second pulse is applied a signal "backwards" is supplied, the second pulse must be applied (The operative principle is similar to that of a ring circuit, the main difference is that the sense of rotation in the switching can be reversed) to phase three instead of phase two, to produce reverse rotation. Figure 3 shows the block diagram of the commutator; it is comprised of three triggers, 12 pulse-voltage gating circuits (C_2 and C_3), and 6 high-voltage gating circuits (C_1). The generator pulses are supplied via the generator line ShGI.

The rotation direction is chosen by supplying a gating voltage

Card 2/4

102-08-102/12

A Commutator for Controlling a Three-phase Pulsed (Step-by-step) Motor

(high) to the "forward" or "reverse" terminal. The resulting high voltages at points A-C can be applied to rectifiers included in the motor phases (e.g. to the control grids of thyatron rectifiers). The operation of the circuit is illustrated by the time-division diagram (Figure 4). Let us suppose that the direction chosen is "forward"; a high voltage is then applied to terminal C, so the rectifiers C_3^i and

the C_1^i circuits of all three triggers are ready to operate.

Let us suppose that at this instant phase three is drawing current; then trigger Tr3 produces a high voltage at point C, which consequently prepares another C_1^i circuit,

which latter prepares the rectifier C_2 in trigger Tr1.

Then the first pulse from the ShGI line is applied to Tr1 via another rectifier C_2^i , so it flips over and a high voltage appears at the A points on the C_1^i and C_3^i circuits.

The high voltage is applied via C_1^i to C_2^i (in Tr2) and renders it conducting. Then the same first pulse is transferred via C_2^i to C_3^i and C_3^i in Tr3, passing through

Card3/4

102-58-1-12/12

A Commutator for Controlling a Three-phase Pulsed (Step-by-step) Motor

C_3^1 (conducting) to the input of Tr_3 and causing this to flip over to the non-conducting state, which removes the high voltage from the B points. This results in phase one being out in and phase three being out out, while Tr_2 is prepared. The operation of the circuit in response to the command "backwards" does not differ from that above. An important feature of the commutator is that it produces magnetic locking of the rotor at any position on any phase, which ensures reliability and improves the control response. A commutator of this type has been built at the Institute of Electrical Engineering, Ac.Sc. Ukrainian SSR, which uses thyatrons for control purposes at frequencies up to 1 kc/s. The theoretical circuit can be built round logical circuits, using valves, transistors, magnetic switching circuits, etc. (Complete translation apart from figures and references) There are 4 figures and 1 Soviet reference.

SUBMITTED: August 10, 1957
Card 4/4

AUTHOR: V.I. Ivanenko & V. Yu. Rents'kyy SOV/102-58-2-9/10

TITLE: A single-shot pulse generator (Datchyk odynychyngkh impul'siv)

PERIODICAL: Avtomatyka, 1958, No. 2, pp. 95-6

ABSTRACT: Pulse sources and repeaters are very important in automatic control circuits which include computer elements. Fig. 1. shows a single-shot pulse generator designed round a standard unit from the "Kyiv" computer. The pulse shaper F is a blocking oscillator biased to quiescence which is controlled by a telegraphy key and which is coupled via a gating circuit S to the input of the trigger T. In the normal state the key applies a voltage + P to grid 1 of the trigger; then the high voltage applied from the cathode follower KP keeps the gating circuit S open. When the key K is thrown over the voltage + P is applied to the grid of the blocking oscillator instead, and this then gives out a pulse train. The first pulse is fed to S and is applied (via the transformers) to the left-hand grid, which switches the trigger over to its other stable state; it also appears at the V output simultaneously. The trigger closes the gating circuit, and no further pulses are transmitted. The circuit operates correctly if the transfer time of the trigger circuit is less than the time between successive pulses. If this is so the circuit gives just one pulse. When K is released the blocking oscillator ceases to function and the trigger returns to its former state, and prepares the gating circuit S. Hence each operation of the key gives just one pulse. Fig. 2. shows

Card 1 2

A single-shot pulse generator.

SOV/102-58-2-0/10

the block diagram of a circuit to give single pulses of 25V amplitude and 0.3 μ sec duration. Line voltage fluctuations ($\pm 20\%$) do not influence the operation. If the blocking oscillator operates continuously and the pulses are supplied via the contacts of the key K to the grating circuit S, the time when the contacts close and when the pulse is emitted cannot be made to coincide, and so errors are introduced. This source of error is impossible with the circuit of Fig.1. There are 2 figures.

(complete translation: Inclusion in Figure "Core of Oxifer 1000")

SUBMITTED: February, 20, 1958.

1. Pulse generators--Design
2. Pulse generators--Equipment
3. Mathematical computers--Control systems

Card 2/2

AUTHOR: V.I. Ivanenko & V. Yu. Routs'kyy SOV/102-58-2-10/10

TITLE: Some remarks on Mayorov's book "Electronic Regulators" (Deyaki zavvazheniya na klychi F.V. Mayorova "Elektronni Regulyatory")

PERIODICAL: Avtomatyka, 1958, No.2, pp. 97-8

ABSTRACT: Mayorov's book (State Press for Technical-Theoretical Literature Moscow 1956, 492 pp) on electronics as applied to automatic control, and to the units and components employed in such regulators, is critically reviewed; the objection is made that some of the circuits given could not in fact be used, or else that vital numerical data are omitted, e.g. in the numerous d-c amplifier circuits the parameters are often omitted, or the type of transistor etc., used is not stated, or else that accumulators are employed as power sources (which is an undesirable design feature). The section on phase discriminators, phase inverters and repeaters is too sketchy and no detailed circuits are given. In the long chapter on sampled-data regulators, too little attention is paid to vital factors such as pulse shape or amplitude, or to rise time, duration etc., even when fully detailed circuits are given. The diode plus transformer circuits frequently used in switching applications are not even mentioned in the chapter on switching. Stability problems are neglected; analogue-digital converters are only mentioned once. The theoretical explanation of subjects such as static and dynamic error, and the remarks on the possibility of using regulators which hunt, are also found to be at fault. It is concluded,

Card 1/2

Some remarks on Maslov's book 'Electronic Regulators'

SOV/102-58-2-10, 10

however, that in spite of its many faults, the book is the first attempt to treat an important topic systematically, but that it should be revised and supplemented at an early date.

SUBMITTED: February, 20, 1958.

1. Literature--USSR
2. Electronic equipment--Applications
3. Electrical equipment--Circuits

Card 2/2

SOV/102-58-4-2/11

AUTHOR: Ivanenko, V.I., Krementulo, Yu.V., and Pushchalovs'kiy, A.D.

TITLE: An Automatic Regulator for the Anticorrosion Potentials of Gas Mains

PERIODICAL: Avtomatika, 1958, Nr 4, pp 19-26 (UkrSSR)

ABSTRACT: The system uses a two-stage electronic amplifier followed by magnetic amplifiers to keep the potential of the pipe at a preset value. The steady-state and transient response characteristics are given. Graphs from which the regulator may be adjusted to work with a steady-state error below a set limit are also presented. The system has been tested for four months on the Rusheva-Kiev main gas line.

Card 1/1 There are 9 figures and 4 references, 2 of which are Soviet, 1 Ukrainian and 1 collection of translations from foreign periodicals.

ASSOCIATION: Instytut elektrotekhniki AN URSR
(Electro-technical Institute, Ac.Sc. Ukr.SSR)

05366

SOV/102-59-1-10/12

AUTHORS: Ivanenko, v.I. and Reuts'kiy, v.Yu.

TITLE: A Sign Detector

PERIODICAL: Avtomatika, 1959, Nr 1, pp 90-92 (USSR)

ABSTRACT: The device is intended to transform pulses of both signs into pulses of one sign only while preserving the information about the signs of the original pulses; Fig 1 illustrates the block diagram and the waveforms. Fig 2 and 3 illustrate different forms that unit 2 of Fig 1 may take. That of Fig 3 is intended for use in feedback circuits. Fig 4 shows a practical circuit based on cold-cathode valves and crystal diodes; it has been used in a lathe controlled to a program by a magnetic tape. There are 4 figures.

ASSOCIATION: Vikonano v laboratoriy avtomatizatsiy virobnichikh protsesiv Institutu elektrotekhniki AN URSR
(Industrial Automation Laboratory, Institute of Electrical Engineering, AS UkrSSR)

SUBMITTED: October 30, 1958

Card 1/1

80174

S/102/59/000/02/010/011

6.5200

AUTHORS: Ivanenko, V.I. and Reutskyy, V.Yu.

TITLE: Recording and Reproduction of a Digital Signal for a Single-Channel Magnetic Tape

PERIODICAL: Avtomatika, 1959, Nr 2, pp 105-108 (Ukr SSR)

ABSTRACT: The paper relates to means of recording a program in the form of a pulse train on a tape; only one channel is to be used to indicate the sign of a pulse as well as the existence of a pulse. Fig 1 is simply the hysteresis loop of the tape; point A denotes a positive pulse, and conversely. Fig 2 shows the pulses produced when the records are played back; Fig 3 shows the effect of excessive amplitude (third pulse). (These are results obtained with pulses of 10-70 μ sec duration at a tape speed of 192 mm/sec, with pulse repetition rates up to 7000 pulses per sec). Fig 4 shows the amplifying and other circuits used to read, shape and sort the pulses in accordance with polarity. There are 4 figures and 2 Soviet references.

ASSOCIATION: Laboratory avtomatichnyy rehulyuvanny Instytut elektrotekhnky AS UkrSSR (Laboratory of Automatic Control. Electrical Engineering Institute AS UkrSSR)

SUBMITTED: May 6, 1959.
Caral/l 5

IVANENKO, V.I., starshiy nauchnyy sotrudnik

First International Congress of Automatic Control. Izv. vys.
ucheb. zav.; radiotekh. 3 no.6:672-674 N-D '60. (MIRA 14:8)
(Automatic control--Congresses)

16.6800 (1327, 1024)
9.7000

29212

S/102/61/000/005/004/005
D274/D302

AUTHOR: Ivanenko, V.I. (Kyiv)

TITLE: On simulating self-adaptive control systems

PERIODICAL: Avtomatyka, no. 5, 1961, 59 - 61

TEXT: In order to facilitate the solution of problems related to self-adaptive systems, a combined system for analog simulation has been developed by the Computer Center of the AS UkrSSR. This combined system incorporates an analog- and a general-purpose (digital) computer. A wide variety of investigations can be carried out on this system, in particular if a good noise generator is available, (i.e. for both static- and analytic noises). The experience already gained (though short) has shown that this combined system is particularly suited for studying the following problems of adaptive systems: 1) To find the transfer functions of multidimensional systems by means of typical analytical noises; 2) To find the transfer functions by statistical noises; 3) Simulation of extremal systems with considerable changes in the control law; 4) Multidimensional

Card 1/3

29212

S/102/61/000/005/004/005
D274/D302

On simulating self-adaptive ...

control to achieve a velocity-optimal system; 5) Study of complex pulse systems with pulses at unequal time-intervals and variable pulse modulation; 6) Optimization by statistical criteria; 7) Experimental study of the learning- and self-organizing processes. The advantages of using analog simulation are: The cybernetic nature of the object of investigation is preserved, i.e. the behavior of object and control device can be separately observed. In solving concrete problems, the parameters of the control device can be adjusted and its design planned; this is important economically. In the majority of cases, the real time scale can be preserved which is very difficult to achieve in digital computers; this is important for comparing human reactions and computer operation. In addition, the combined system can be used for solving mathematical problems; thus, a boundary problem is much more quickly solved than by a computer only, the gain in time being greater, the higher the order of the equations. There are 1 figure and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The references to the English language publications read as follows: G.P. West, Computer control experience gained from operation of a large combined analog-digital

4

Card 2/3

29212

S/102/61/000/005/004/005
D274/D302

On simulating self-adaptive ...

computation system, Proc. Computers in control systems conference,
1957, New York, Amer. Inst. Electr. Eng., 1958, pp. 95-97; W.F.
Bauer, Aspects of real-time modulating, Trans. IRE, 1958, v. EC-7,
no. 2, p. 134.

SUBMITTED: April 4, 1961

Card 3/3

L 18209-63
Pg-4 GG

EWT(d)/FCC(w)/BDS

ASD/ESD-3/APGC/IJP(C)

Pg-4/PK-4/Po-4/

ACCESSION NR: AT3001872

S/2906/62/000/000/0021/0029

AUTHOR: Ivanenko, V. I.

74

TITLE: Simulation of some new mathematical problems

SOURCE: Kombinirovannyye vychislitel'nyye mashiny; trudy II Vsesoyuznoy konferentsii-seminara po teorii i metodam matematicheskogo modelirovaniya. Moscow, Izd-vo AN SSSR, 1962, 21-29

TOPIC TAGS: computer, combined, digital, analog, analog-digital, variational, calculus, boundary condition, maximal, minimal, extremal, Pontryagin, simulation, trajectory, optimal, minimum-time, function, adaptive

ABSTRACT: This theoretical paper explores the possible use of combined analog and digital computer elements, selected to suit the physical content of certain variational problems, to solve problems which hitherto have not been accessible to any general solution. Many automatic-control problems can be reduced to a system of ordinary differential equations for points in phase space, in control space, and in perturbation space. Usually, the said system of equations, the characteristics of the phase and the control spaces, the boundary conditions, and the character of the perturbations are known. A certain functional F is given, and it is desired to

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find those points in control space which bring F to either a minimal or a maximal extremal value. Fundamentally, the scheme outlined here consists of an analog computer (AC), a universal digital computer (DC), and a perturbation generator (PB). The AC is then most suitably employed as a model of the dynamic system, so that the DC is no longer burdened with the operations involved in integrating the system of differential equations. An additional advantage is that the results of the numerical integration do not depend on the method employed, but are determined by the accuracy of the simulation, that is, the process of solution does not require a preliminary analysis of convergence. Examples analyzed: (1) Synthesis of a time-wise optimal control for a certain dynamic system. The initial and final boundary conditions are fixed, and the control procedure resulting in the shortest-time trajectory from the initial to the final condition is solved. Reference is made to recent works by L. S. Pontryagin and his students (which, however, in the general case, lead to an analytically insolvable problem) issuing from the basic consideration that if in any one small step of a trajectory a trajectory segment (TS) can be found which requires less time than another given TS, then the latter is no longer minimal (optimal). Basically this can be accomplished by using switching functions and determining at each step an increment of the functional F that is of interest to us. The difficulty in this method consists in a need for numerical integration of the equations for every single step. It is proposed here that the

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fundamental differential equation be simulated on the AC. Only then is discreteness introduced and the remaining work for all given initial conditions transferred to the DC. The saving in equipment and in programming time is illustrated by an example of the method of the numerical solution of boundary problems proposed by V. Ye. Shamanskiy (Akad. nauk SSSR, Dokl., v. 137, no. 19, 1961), an iterative method of sorts. A brief analysis of certain peculiarities of the connection between a direct-current AC and a parallel-acting DC is set forth, and it is shown that a universal system can be devised for the coupling of any parallel-acting universal DC and direct-current AC. Orig. art. has 6 figs. and 20 numbered equations.

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TITLE: Synthesis of time optimal control for second-order systems

SOURCE: AN SSSR. Izv. Otdel. tekhn. nauk. Tekhn. kibernetika, no. 6, 1963, 72-77

TOPIC TAGS: time optimal control synthesis, second-order control system, phase space method, optimal switching curve, switching curve determination, second-order differential equation, Cauchy problem, automatic-control system, relay-control system, time optimum problem

ABSTRACT: In earlier works, the hypersurface of sign-changing of the relay element was obtained as a nonlinear function of phase coordinates of the controlled system. In this article, a relay-type control system is considered

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whose linear part is described by a second-order differential equation with an arbitrary-root characteristic equation. Synthesizing a quick-response-optimized control is based on a phase-space method using a speedy simulator for plotting the optimum switching curve. "Experimental investigations showed a satisfactory operation of the system with the processes in the controlled system very near to optimum." No description of any experiments is given. Three oscillograms of transients in the controlled system show the system output variable, its derivative, and the control signal at the input. Orig. art. has: 5 figures and 18 formulas.

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Effect of couplings through a common power supply on the behavior
of automatic control systems. Izv. AN SSSR. Tekh. kib. no.5:
171-174 S-O '63. (MIRA 16:12)