ABRAMOV, Ye.I.; [redacted]EYROS, V.V.; SARKISYANTS, Ye.A., redaktor; PISTRYAKOV, A.I., redaktor; GOR'KOVA, Z.D., tekhnicheskiy redaktor

[Disassembling and assembling the DT-24 tractor] Razborka i sborka traktora DT-24. Pod red. E.A.Sarkisiantsa. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 291 p. (MLRA 10:10)
(Tractors)

YEROKHIN, Nikolay Georgiyevich; KUPERSHMIDT, V.L.; MIROS, V.V.; PESKIYAKOV, A.I., red.; ZUBRILINA, Z.P., tekhn.red.

[Handbook for "Universal" DT-24, T-28, T-28M tractors] Spravochnik po traktoram "Universal" DT-24, T-28, T-28M. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 215 p. (MIRA 13:12)

(Tractors)

YEROKHIN, M.G.; MARTYNOV, D.I.; POLETAYEV, V.F.; EFROS, V.V.; BUNNIKOV, S.A.; PESTRYAKOV, A.I., red.; DEMINA, V.M., tekhn. red.

[Modernized T-28 row-crop tractors] Modernizirovannye propashnye traktory T-28. Moskva, Izd-vo sel'khoz. lit-ry, zhurnalov i plakatov, 1961. 279 p. (MIRA 15:2)
(Tractors)

YEROKHIN, N.M.

Work results of the Novosibirsk Inter-Province Conference on the Control of Malaria and Helminthiasis in autonomous republics, territories and provinces of the Urals, Siberia and the Far East. Med.parazit.i parazit.bol. no.4:379-381 Jl-Ag '53. (MLRA 6:9)

(Malarial fever) (Worms, Intestinal and parasitic)

YEROKHIN, N.M.; SARINA, I.I.; BEZUBOVA, V.P.

Epidemiology of tick-borne encephalitis in Novosibirsk Province. Med.paras. i parazit.bol. 27 no.1:30-33 Ja-F '58. (MIRA 11:4)

1. Iz Novosibirskoy oblastnoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach K.V.Sunina, zav. parazitologicheskim otdelom N.M. Yerokhin)

(ENCEPHALITIS, epidemiology
tick-borne encephalitis (Rus))

YEROKHIN, N.M.

Conference on the eradication of foci of diphyllobothriasis in Novosibirsk Province. Med.paras.i paras.bol. 26 no.6:754-755 N-D '57. (MIRA 13:4)
(NOVOSIBIRSK PROVINCE--WORMS, INTESTINAL AND PARASITIC)

YEROKHIN, N.M.; GULYAYEV, I.A., agronom; RUSINOVA, R.D., nauchnyy sotrudnik

Frunze Collective Farm in the Altai Territory is striving for higher standards of agriculture. Zemledelie 7 no.12:30-33 D '59. (MIRA 13:3)

1. Predsedatel' kolkhoza imeni Frunze, Yegor'yevskogo rayona, Altayskogo kraya (for Yerokhin). 2. Kolkhoz im. Frunze, Yegor'yevskogo rayona, Altayskogo kraya (for Gulyayev). 3. Altayskiy zonal'nyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva (for Rusinova).
(Altai Territory--Collective farms)

L 29600-66 EWP(m)/EWT(1)/T-2 IJP(c)

ACC NR: AP6013919 SOURCE CODE: UR/0207/66/000/002/0025/0029

AUTHOR: Yerokhin, N. S. (Novosibirsk); Moiseyev, S. S. (Novosibirsk)

65
63
B

ORG: none

TITLE: Some characteristics of problems in magnetohydrodynamic stability theory reducible to a differential equation in which the highest derivative has an arbitrary parameter

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1966, 25-29

TOPIC TAGS: magnetohydrodynamics, Laplace equation, Larmor radius, differential equation

ABSTRACT: The authors study the asymptotic properties of solutions for a fourth order differential equation where the highest derivative has an arbitrary parameter. It is shown that similarity of asymptotic behavior is independent of the value of this parameter for values of the argument which give zero coefficients at the second derivative. The Laplace method is used in conjunction with the analytical properties of the solutions to study the problem for various values of the given parameter. It is shown that the solutions have convergent asymptotic properties to a certain degree for arbitrary values of this parameter. Specific applications of the proposed theory are considered with regard to the effect which a finite Larmor radius of the ions and

Card 1/2

ion-ion viscosity have on the development of plasma instability in a magnetic field due to longitudinal current. We thank G. M. Zaslavskiy and R. Z. Sagdeyev for their useful discussions. Orig. art. has: 1 figure, 11 formulas.

SUB CODE: 20/ SUBM DATE: 10Nov65/ ORIG REF: 006/ OTH REF: 004

YEROKHIN, P., inzh.; BONDAREV, G., inzh.

Contactless BMR-3 magnetic regulator. Prom.Arm. 5 no.1:34-36 Ja '62. (MIRA 15:2)
(Armenia--Governors (Machinery)) (Milling machinery)

YEROKHIN, R. (g.Chelyabinsk)

Antenna amplifier. Radio no.8:47 Ag '60. (MIRA 13:9)
(Television) (Amplifiers (Electronics))

2824?
S/581/61/000/000/013/020
D299/D304

27.1220

AUTHORS: Rysina, T.N. and Yerokhin, R.A.

TITLE: The distribution and excretion of plutonium in dogs at remote dates after its introduction

SOURCE: Lebedinskiy, A.V. and Moskalev, Yu.I., eds. Biologicheskoye deystviye radiatsii i voprosy raspredeleniya radioaktivnykh izotopov; sbornik rabot. Moscow, Gosatomizdat, 1961, 119-127

TEXT: The aim of the experiment was to study the distribution and excretion of plutonium in dogs at remote dates after its introduction, to derive mathematical equations covering the behavior of plutonium in various organs and tissues and to assess the possibility of determining its total content from excretion data. The tests were run on dogs injected intravenously with $Pu(NO_3)_4$ solution. To simulate chronic radiation sickness the dogs were injected 4 times at monthly intervals. The total dose of plutonium was 0.2 μc/kg of the

Card 1/4

The distribution and excretion...

animal's weight. Plutonium distribution was studied 3, 6 and 11 months, and 3, 3.5 and 4 years after its introduction. Both exponential and power models were used for the mathematical description of the behavior of plutonium in the body, tissues and excreta, but the exponential method was found to conform best with the experimental findings. Mathematical calculation of the expressions was accomplished by the method of least squares. The distribution of plutonium in the body is shown in tabular and graphic form, broken down into skeleton, liver, spleen, muscles, lungs, kidneys and other organs, at the various stages of investigation. The distribution was as follows: skeleton 40%, liver 30%, muscles 2.4%, spleen 2.3%, lungs 0.45%, kidneys 0.36%. In all organs radioactivity decreased with time. In the spleen it dropped to 0.49% by the 600th day and in the kidneys to 0.12% by the 1000th day. Subsequently the plutonium content in these organs remained constant. The data from the excretion of plutonium is broken down into 2 periods: 1) 2nd-23rd day, 2) from the 23rd day onwards. For the first 3 weeks plutonium excretion with the stools was higher than excretion with the urine.

Card 2/4

The distribution and excretion...

At later stages excretion with the urine was 2-3 times that with the stools. The correlation between daily excretion with the stools ($\overline{S}$) and excretion with the urine ($\overline{U}$) is expressed as:

$$\overline{S}/\overline{U} = 2.84e^{-0.051 3t}, \quad 2 \leq t \leq 23,$$

$$\overline{S}/\overline{U} = 0.867e^{-0.0021t}, \quad t > 23.$$

The correlation between the basic quantities of radioactive element in the skeleton and the liver remained invariable at 1.34. This justifies the attempt to find a constant governing the excretion of plutonium from the system. Coefficients of excretion (the excretable fraction of plutonium expressed as a percentage of that contained in the body) were calculated to assess the plutonium content in the body. The coefficient is presented graphically. Using the expressions for the coefficient:

$$K_{excr} = 0.206e^{-0.08t}, \quad 2 < t < 23,$$

$$K_{excr} = 0.0327e^{0.0031t}, \quad t > 23,$$

Card 3/4

The distribution and excretion...

S/581/61/000/000/013/020
D299/D304

the plutonium content in a dog can be assessed from the daily total of plutonium excretion. There are 4 figures, 3 tables and 10 references: 3 Soviet-bloc and 7 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: M. Liscko, W. Kisieleski, Amer. J. Pathol., 29, 305 (1953); J. Schubert, J. Lab. Clin. Med., 34, 313 (1949); B.J. Stover, D.R. Atherton, N. Keller, Rad. Research, 9, 188 (1958); B.J. Stover, D.R. Atherton, N. Keller, Rad. Research, 10, 130 (1958).

Card 4/4

44060

S/742/62/000/000/002/021
I015/I215

27/220

AUTHORS: Rysina, T.N. and Yerokhin, R.A.

TITLE: Distribution and excretion of plutonium at remote periods after administration to dogs

SOURCE: Plutoniy-239; raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya. Ed. by A.V. Lebedinskiy and Yu.I. Moskalev. Moscow, Medgiz, 1962, 12-18

TEXT: The metabolism of plutonium in larger animals and in man has been insufficiently studied. Experiments were carried out on 15 adult dogs weighing 18-28 kg, with 4 i.v. injections of plutonium nitrate (pH 2.0) at monthly intervals. The total dose was 0.2 μCu/kg b.w. Seven dogs were also subjected to a daily gamma-irradiation of 10r during 5 months. The distribution of plutonium was studied within

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S/742/62/000/000/002/021
I015/I215

Distribution and excretion of plutonium...

3-54 months. The plutonium excretion was examined continuously for 21 months. The determination of plutonium in tissues and excretions was performed by incineration with subsequent application of a carried and radiometric method. 73% of the injected plutonium was still present in the organism 3 months after administration - - 40% in the bones and about 30% in the liver. The excretion rate varied for the various organs. The effective half-life period for the bones was calculated to be equal to about 4000 years, whereas no regularity was found for the liver. The greatest excretion rate was found within the first 3-4 days (1.42-0.19%/24 hours). The quantities excreted by the kidneys were the same as those excreted in feces during the first 6 months, but one and a half to twice as much later on. Gamma-irradiation did not affect the distribution nor the excretion rate of plutonium in dogs. There are 1 figure and 4 tables.

Card 2/2

BULDAKOV, L.A.; YEROKHIN, R.A.

Sr^{90} metabolism in the organism of rats kept on calcium-rich diet.
Med.rad. 10 no.3:66-72 Mr '65. (MIRA 18:6)

L 3200-66

ACCESSION NR: AP5009202 S/0211/65/010/003/0066/0072

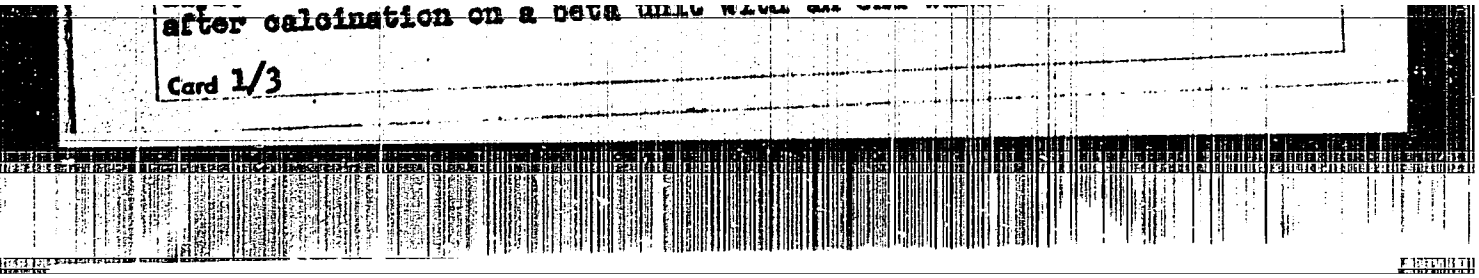
AUTHOR: Buldakov, L. A.; Yerokhin, R. A.

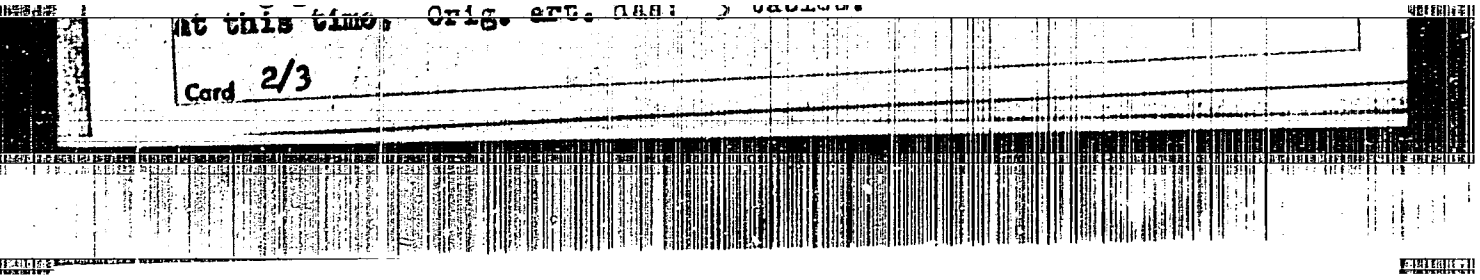
TITLE: Strontium 90 metabolism in the organism of rats maintained on a calcium enriched diet

SOURCE: Meditsinskaya radiologiya, v. 10, no. 3, 1965, 66-72

TOPIC TAGS: rat, strontium 90, calcium, food, radioactive isotope, metabolism

ABSTRACT: A series of experiments was conducted on 229 male and female rats to determine the effect of a calcium enriched diet on strontium 90 elimination





ACC NR: AP6014669 SOURCE CODE: UR/0241/65/010/010/0037/0041

AUTHOR: Yerokhin, R. A.--Erokhin, R. A.; Koshurnikova, N. A.; Tarnovskiy, I. A.--Tarnovsky, I. A.

ORG: none

61
B

TITLE: Gamma-spectrometric intravital determination of Pu in the living organism

SOURCE: Meditsinskaya radiologiya, v. 10, no. 10, 1965, 37-41

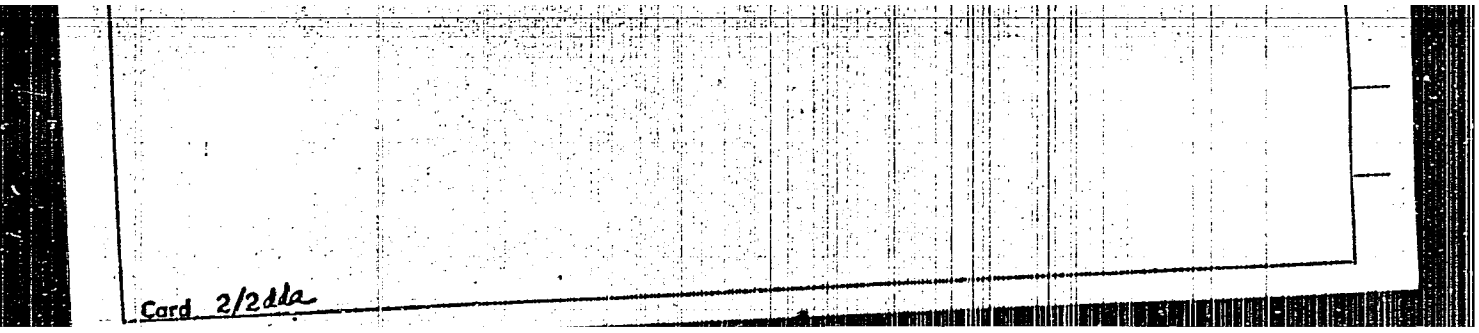
TOPIC TAGS: plutonium, gamma spectrometer, radiology, americium, scintillation spectrometer, photomultiplier, pulse analyzer, pulse amplitude, rat, liver/FEU-24 photomultiplier, AI-100 pulse analyzer

ABSTRACT: The results of an experimental determination of the possibility of the direct intravital measurement of ^{239}Pu and Am^{241} in the organism by means of a scintillation gamma-spectrometer are presented. The principal components of the spectrometer used were: a NaI(Tl) scintillation crystal 20 mm thick and 40 mm in diameter, with an FEU-24 photomultiplier and an AI-100 pulse-amplitude analyzer. White rats were given, intravenously or intratracheally, Pu in the form of the nitrate salt $[Pu(NO_3)_4]$ with a pH value of 2.0, in the amount of 5 microcuries per rat, or Am^{241} in the form of the nitrate $[Am(NO_3)_3]$ with a pH of 2.8, in the amount of 2.72 microcuries per rat. The Pu and Am^{241} contents of the rat organism were measured immediately afterward as well as at intervals of 1, 2, 4, 8, 16, 32, and 64 days. Lung activity varied identically in rats intratracheally poisoned with Pu and Am^{241}

Card 1/2 UDC: 616-008.9:27.994-073.584

L 24233-66
ACC NR: AP6014669

nitrates: toward the 16th day the activity dropped 30%; toward the 32nd day, 50%; and toward the end of the experiment, 65%. Throughout the experiment, the content of Pu exceeded that of Am^{241}. The dynamics of the change in liver activity following administration of the Pu nitrate toward the 3rd, 7th, 30th, and 60th day was 87, 72, 41.8, and 22.5%, respectively, for Am^{241}. These dyna- [illegible] the minimum amounts of Pu and Am^{241}



YEROKHIN, S

85-9-11/33

AUTHORS: Semenov M., Correspondent of Kryl'ya Rodiny; Yerokhin S., Deputy Chief Arbiter of Competitions; Kuznetsov I., Chief Arbiter of Competitions; Grigorenko A., Chief Arbiter of Competitions

TITLE:: At the Places of the Beginning of Zonal Competitions (Na startakh zonal'nykh sorevnovaniy)

PERIODICAL: Kryl'ya Rodiny 1957, Nr 9, pp. 8-9 (USSR)

ABSTRACT: A composite report on the zonal competitions of aircraft model builders of the aeroclubs of the Central, Volga, Siberia and Far Eastern competition zones, consisting of 4 letters from local correspondents of Kryl'ya Rodiny. The competitions were held for the selection of model-builder teams destined to participate in the forthcoming All-Union competitions. Similar preparatory competitions were also organized in the Northern, Central-Black-Earth, North Caucasian and Ural zones. No reports from these last five zones appear in the present Nr 9 issue of Kryl'ya Rodiny. All four letters, written along the same pattern, give a succinct description of the organization of the competitions and cite the clubs and the individual sportsmen having shown best results. The

Card 1/2

At the Places of The Beginning of Zonal Competitions (Cont.)

letter of M. Semenov, reporting from Silicatnaya (Moskovskaya Oblast') on the competitions held in the Central zone stresses the high quality of the 1957 showings of certain clubs and aeroclubs, and quotes figures. Other letters come from Khabarovsk (S. Yerokhin, Far Eastern zone), Novosibirsk (I. Kuznatsov, Siberia zone), and Saratov (A. Grigorenko, Volga zone). The article contains no information of scientific interest. 3 photos.

AVAILABLE: Library of Congress

Card 2/2

YEROKHIN, S.

On the Black Sea. Voen.znan. 25 no.6:2 Je '59.
(MIRA 12:12)

1. Zaveduyushchiy voyenno-fizkul'turnym otdelom Krymskogo obkoma Vsesoyuznogo Leninskogo kommunisticheskogo soyuza molodezhi.
(Crimea--Naval education)

YEROKHIN, S. (Noril'sk)

Transportation of goods in containers in the North. Sov.torg. 36 no.12:45-46 D '62. (MIRA 16:1)
(Russia, Northern—Freight and freightage)
(Noril'sk—Containers)

L 57538-65 EWT(d)/EWT(m)/EWP(c)/EWA(d)/EWP(v)/T/ EWP(t)/EWP(k)/EWP(h)/
EWP(b)/EWP(1)/EWA(c) Pf-4 JD/HW
ACCESSION NR: AR5015178 UR/0137/65/000/005/D015/D035

37
B

SOURCE: Ref. zh. Metallurgiya, Abs. 5D212

AUTHOR: Rozenfel'd, M. B.; Bykov, F. M.; Muryatnikov, A. V.; Mogilevkin, F. D.; Kugayevskiy, N. V.; Karpenko, L. N.; Yerokhin, S. A.; Finkel'shteyn, Ya. S.

TITLE: Increasing accuracy in the production of thin walled tubes in a type 114 automatic apparatus

18

CITED SOURCE: Sb. Proiz-vo svarn. i besshovn. trub. Vyp. 2. M., Metallurgiya, 1964, 84-88

14

TOPIC TAGS: metal tube, metal boring, milling machine, metalworking machine/ 114 automatic apparatus

TRANSLATION: The article demonstrates the possibility of manufacturing tubes with diameters of 76, 83, and 89 mm with a wall thickness of 3.25 mm under existing technology. A study was made of the influence of the form of the boring instrument on the accuracy of the wall thickness of rolled tubes, and the expediency of using an automatic mill bit with an "ovalization" of 0.04-1.06 is pointed out. It is established that with a redistribution of the deformation between the first and second passages of an automatic mill (that is, with a decrease in the difference

Card 1/2

14

L 57538-65

ACCESSION NR: AR5015178

between the diameters of the mandrels to 1 mm), the accuracy of the tubes is increased. A. Lisnt'yev.

SUB CODE: MM, IE ENCL: 00

dm
Card 2/2

CHAPEK, A., kand. med. nauk; YEROKHIN, V., mladshiy nauchnyy sotrudnik

The pilot in an emergency situation. Grazhd. av., 22 no.2:19-21 F '65. (MIRA 18:5)

YEROKHIN, V.

Handling of the "Raketa-33" on the Oka River. Rech. transp. 21 no.6:44 Je '62. (MIRA 15:7)

1. Inzhener-inspektor sudokhodnoy inspektsii Ryazanskogo uchastka.

(Oka River—Planing hulls)

YEROKHIN, V. A.

KUDRYAVTSEV, A.S., professor, redaktor; YEROKHIN, V.A., redaktor; ZHELEZNOVA, L.M., redaktor; KOPYLOVA, L.P., redaktor; RAKOV, S.I., tekhnicheskiy redaktor

[Labor economics] Ekonomika truda. Odobreno Uchenym sovetom Moskovskoi VShPD v kachestve uchebnogo posobiia. [Moskva] Izd-vo VTsSPS Profizdat, 1957. 476 p. (MLRA 10:10)
(Labor and laboring classes)

YEROKHIN, V.A.

Reconditioning of used tires in the Sverdlovsk Automobile Tire Plant. Kauch.i rez. 22 no.4:44-49 Ap '63. (MIRA 16:6)

1. Sverdlovskiy shinnyy zavod.
(Sverdlovsk—Tires, Rubber—Repairing)

KARAMELEV, K.N.; YEROKHIN, V.A.

Experimental re-treading section of the Sverdlovsk Tire Factory.
Kauch. i rez. 20 no.6:38-40 Je '61. (MIRA 14:6)

1. Sverdlovskiy shinny zavod.
(Sverdlovsk--Tires, Rubber)

YEROKHIN, V.A.

Device for the pressing on of sheet rubber in tire repair. Kauch. i rez. 22 no.6:48-49 Je '63. (MIRA 16:7)

1. Sverdlovskiy shinnyy zavod.
(Tires, Rubber—Repairing)

YEROKHIN, V.D.

AUTHOR: Yerokhin, V.D. 12-1-15/26

TITLE: Boris Konstantinovich Manteyfel'

PERIODICAL: Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva, 1958, # 1, pp 79 - 80 (USSR)

ABSTRACT: The article is a short biography of B.K. Manteyfel' (1896 - 1957), a well known Soviet archeologist and phenologist, who resided at Novgorod.

AVAILABLE: Library of Congress

Card 1/1

3(5) SOV/12-91-2-19/21

AUTHOR: Yerokhin, V.D., Morzhov, B.A.

TITLE: The Inspection of the Society's Branches and Departments

PERIODICAL: Izvestiya Vsesoyuznogo geograficheskogo obshchestva, 1959, Nr 2, pp 201 - 202 (USSR)

ABSTRACT: The authors inform the readers that inspections of the following branches of the Society were carried out during the months of May and June 1958: Buryat; East Siberian; Krasnoyarsk; Novosibirsk; Omsk; Tyumen' (by inspector V.D. Yerokhin); Yaroslavl'; Gork'iy; Kazan'; Mari (by inspector B.A. Morzhov); Kuybyshev; Saratov; Stalingrad (by inspector M.I. Lopatin). All these branches, except the Mari, increased their activities. But a number of defects were also pointed out, namely the lack of cooperation with the staffs of the scientific bodies and the absence of the records of proceedings, etc.

Card 1/1

MELAMUT, D.L., kand.tekhn.nauk; YEROKHIN, V.D., insh.

Using hydraulic fill methods on one side only in building the dam of a reservoir. Transp. stroi. 11 no.1:18-20 Ja '61. (MIRA 14:1)

(Dams)

52-III-1-8/9

AUTHOR: Erokhin, V.

TITLE: The ε-entropy of a Discrete Random Variable. (ε-entropiya diskretnogo sluchaynogo ob"ekta.)

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1958, Vol.III, Nr.1, pp. 103-107. (USSR)

ABSTRACT: Let ξ be a random variable which takes on (abstract) values $x_1, x_2, \ldots, x_n$ with probabilities $p_1, p_2, \ldots, p_n, \ldots$ $(\sum p_k=1)$; ξ' denotes another random variable with

$$q_k = P(\xi'=x_k) \geqslant 0, \quad \sum q_k = 1$$

and

$$P(\xi' \neq \xi) < \varepsilon, \qquad (W_\varepsilon^1)$$

or

$$P(\xi' \neq \xi | \xi') < \varepsilon \qquad (W_\varepsilon^2)$$

Let

$$H_{W_\varepsilon^i}(\xi) = \inf_{\xi' \in W_\varepsilon^i} J(\xi,\xi'), \ (i = 1,2), \qquad (Eq.1)$$

where J is the amount of information about ξ contained

Card 1/3

The ε-entropy of a Discrete Random Variable.

in ξ'. It is shown that $H_{W_\varepsilon^1}(\xi)$ and $H_{W_\varepsilon^2}(\xi)$ are equal. The paper gives the precise formula for their common value $H_\varepsilon(\xi)$ as well as for distributions $P_{\xi\xi'}$ for which the infimum in Eq.1 is attained:

$$H_\varepsilon(\xi) = \sum_{p_k > \theta} p_k \log\frac{1}{p_k} - [n(\theta) - 1]\theta \log\frac{1}{\theta} - (1-\varepsilon)\log\frac{1}{1-\varepsilon} \qquad \text{(Eq.11)}$$

If $\|r_{kl}\|$ is the probability matrix for the economic code (permissible probability distribution when the lower bound in Eq.1 is attained) then

$$r_{kl} = a_k q_l (k \neq l), \quad r_{kk} = a_0 a_k q_k, \qquad \text{(Eq.13)}$$

where $0 < \theta < p_1$, and $a_0, a_1, \ldots, a_n$ are positive numbers such that $a_k = \text{const} = \theta$ if

Card 2/3

52-III-1-8/9

The ε-entropy of a Discrete Random Variable.

$q_k > 0$; $a_k = p_k$ if $q_k = 0$;

$$a_0\theta = s - m\theta + \theta, \quad s = \sum_{q_k>0} p_k; \quad q_k=(p_k-\theta)/(s-m\theta)$$

if only $q_k > 0$. (ξ has n possible values, ξ' has $m \leq n$ possible values). There is 1 Soviet reference.

SUBMITTED: November 18, 1957.

AVAILABLE: Library of Congress.

1. Probability (Statistics)-Applications 2. Matrix algebra

Card 3/3

AUTHOR: Yerokhin, V. SOV/42-13-6-8/33

TITLE: The Connection Between Metric Dimension and Harmonic Capacity (Svyaz' mezhdu metricheskoy razmernost'yu i garmonicheskoy yemkost'yu)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 6, pp 81-88 (USSR)

ABSTRACT: Let E be a subset of the R^n measurable according to Borel, let $c_n(E)$ be the n-dimensional capacity of the set E; let $\varrho(Q,P)$ be the distance of the points Q and P; let $\varphi(\varrho)$ be a continuous, non-negative, non-decreasing function defined on $0 < \varrho < 1$; let m_φ be the metric (of the type of Caratheodory) outer measure defined with the aid of φ.

Theorem: Let $\varphi(\varrho)$ satisfy the condition $\int_0^1 \varrho^{1-n} \varphi(\varrho)\, d\varrho < \infty$.

If for a Borel set E there holds $m_\varphi(E) > 0$, then also $c_n(E) > 0$ is valid.

Theorem: Let $\varphi(\varrho)$ satisfy the conditions

$$\liminf_{\varrho \to 0} \varphi(\varrho)\, \varrho^{2-n} > 0 \qquad (n \geq 3);$$

Card 1/2

The Connection Between Metric Dimension and Harmonic Capacity

SOV/42-13-6-8/33

$$\lim_{\varrho \to 0} \inf \varphi(\varrho) \log \frac{1}{\varrho} > 0 \qquad (n=2).$$

If for a Borel set E the measure $m_{\varphi}(E)$ is σ-finite (i.e. E can be covered by the sum of countably many B-sets of finite measure), then $c_n(E) = 0$.
The conditions of the theorems are minimal.
There are 5 references, 3 of which are Soviet, 1 German, and 1 Polish.

SUBMITTED: April 9, 1957

Card 2/2

20-120-4-1/67

AUTHOR: Yerokhin, V.D.

TITLE: On Conformal Transformations of the Rings and on the Fundamental Base of the Space of the Functions Analytic in an Elementary Neighborhood of an Arbitrary Continuum (O konformnykh preobrazovaniyakh kolets i ob osnovnom bazise prostranstva funktsiy, analiticheskikh v elementarnoy okrestnosti proizvol'nogo kontinuuma)

PERIODICAL: Doklady Akademii nauk SSSR,1958,Vol 120, Nr 4,pp689-692 (USSR)

ABSTRACT: Let G be a simply connected domain of the z-plane and let K be a bounded continuum in G. Let A_G^K be the class of all functions f(z) analytic in G with the norm $\|f\| = \max_{z \in K} f(z)$.

Generalizing the results of Faber [Ref 2,3] the author shows that there always exist a sequence of functions $e_n(z)$ analytic in G and linearly independent which form a base in the space A_G^K, whereby this base may be denoted as the "most effective one" inasmuch as the decomposition of an arbitrary function with respect to another base on K converges slower

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On Conformal Transformations of the Rings and on the Fundamental Base of the Space of the Functions Analytic in an Elementary Neighborhood of an Arbitrary Continuum

than the decomposition with respect to the $e_n(z)$. From the polynomials

$$\sum_{k=0}^{n} a_k e_k(z)$$ an "asymptotically" minimum ε-net

can be obtained for suitable n, $n \asymp \log \frac{1}{\varepsilon}$ (in the compact class $f(z) \in A_G^K$, $|f(z)| \leqslant M$ for arbitrary $M > 0$). There are several further related results (conformal mapping of twicely connected domains, determination of the base functions and of the coefficients of the expansions with respect to them.) There are 3 references, 2 of which are Soviet, and 1 German.

PRESENTED: January 27, 1958, by A.N. Kolmogorov, Academician
SUBMITTED: January 11, 1958

1. Conformal mapping 2. Mathematics

Card 2/2

AUTHOR: Yerokhin, V. D. 20-120-5-5/67

TITLE: On the Asymptotic Behavior of the ε-Entropy of Analytic Functions (Ob asimptotike ε-entropii analiticheskikh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 5, pp 949-952 (USSR)

ABSTRACT: Let K be a continuum different from one point and from the whole plane in the z-plane and let K be contained in the domain G. Let $A_G^K(M)$ be the compactum consisting of all functions unique in G and analytic for which $\sup_{z \in G} |f(z)| \leq M$ and the norm $\|f\|$ is defined as follows: $\|f\| = \max_{z \in K} |f(z)|$. Let further $H_\varepsilon(F)$ denote the ε-entropy of the compactum F. Kolmogorov [Ref 1] found:

$0 < c_1(K/G) < H_\varepsilon(A_G^K(M))(\log_2 \frac{M}{\varepsilon})^{-2} < c_2(K/G) < +\infty$. Further similar results are due to Vitushkin [Ref 2]. The author generalizes the results of [Ref 2]:

Theorem: Let G be an elementary non degenerating neighborhood of the continuum K, $\{D_q\}$ a sequence of domains limiting to K, $G_q = D_q \cap G$; R_q modul of the two times connected domains G_q

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On the Asymptotic Behavior of the ϵ-Entropy of Analytic Functions 20-120-5-5/67

$(1 < R_q \leq +\infty)$; if G_q is simply connected, then $R_q = +\infty$. Under these assumptions there holds

$$H_\varepsilon(A_G^K(M)) \approx \tau(K/G)(\log_2 \frac{M}{\varepsilon})^2, \qquad \tau(K/G) = \sum_q \frac{1}{\log_2 R_q}.$$

The second theorem contains the asymptotic behavior of H_ε for n complex variables and polycylindrical G and K. A third theorem generalizes the result of Vitushkin for K ≡ product of circles. The proof of the first theorem is shortly given, it is based essentially on a somewhat earlier published function theoretical paper of the author [Ref 3].
There are 3 Soviet references.

PRESENTED: January 27, 1958, by A.N.Kolmogorov, Academician
SUBMITTED: January 11, 1958

1. Mathematics

Card 2/2

16(1)

AUTHOR: Yerokhin, P. SOV/20-127-6-2/51

TITLE: On the Theory of Conformal and Quasi-Conformal Mapping of Multiply Connected Regions

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 6, pp 1155-1157 (USSR)

ABSTRACT: Theorem 1: Let D be a schlicht n-fold connected region of the compact z-plane. Let $\zeta = f(z)$ be a schlicht conformal mapping of D into the ζ-plane. There always exist n conformal mappings $\zeta_k = f_k(\zeta_{k-1})$ $(k=1,2,..,n;\ \zeta_0=z,\ \zeta_n=\zeta)$ of certain simply connected regions so that the initial mapping is a superposition:

(1) $f(z) = f_n(f_{n-1}(\ldots(f_1(z))\ldots))$.

Here the boundary continua $C_1, C_2, \ldots, C_n$ of D can be ordered arbitrarily and it can be demanded that for every k the mapping $\zeta_k = f_k(\zeta_{k-1})$ is conformal and schlicht in the simply connected region $D_{k-1,k}$ which contains the region $D_{k-1}=f_{k-1}(\ldots(f_1(D))\ldots)$ and is bounded by $C_{k-1,k}= f_{k-1}(\ldots(f_1(C_k))\ldots)$, $(C_{0,1}=C_1, D_0=D)$. Then (1) is determined uniquely with the exception of broken-linear intermediate substitutions.

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On the Theory of Conformal and Quasi-Conformal Mapping of Multiply Connected Regions SOV/20-127-6-2/51

Theorem 2 generalizes an earlier theorem of the author [Ref 4]. The theorems 3 and 4 are conclusions of theorem 1 and enable to give a simple proof of a principle of Grötzsch [Ref 1]. Theorem 5 generalizes theorem 1 to Q-quasi-conformal mappings. Theorem 6 is a conclusion of theorem 5. The author mentions M.A.Lavrent'yev, and I.N.Pesin.
There are 9 references, 8 of which are Soviet, and 1 German.

PRESENTED: April 29, 1959, by A.N.Kolmogorov, Academician

SUBMITTED: April 26, 1959

Card 2/2

16(1)

AUTHOR: Yerokhin, V. SOV/20-128-1-6/58

TITLE: On the Best Approximation of Analytic Functions by Rational Fractions With Free Poles

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 128,Nr 1,pp 29-32 (USSR)

ABSTRACT: Let $r>0$, $p \geqslant 1$; $\|f(z)\|_r = \sup_{|z|<r} |f(z)|$;

$$\|f(z)\|_{p,r} = \left(\frac{1}{2\pi r} \int_{|z|=r} |f(z)|^p |dz|\right)^{1/p} ,$$

$$\|f(z)\|'_{p,r} = \left(\frac{1}{\pi r^2} \iint_{|z|<r} |f(z)|^p |dz|^2\right)^{1/p} .$$ The class $H_{p,r}$ is formed by the the functions f(z) analytic for $|z|<r$, for which $\|f(z)\|_{p,\varrho}$ for $0<\varrho<r$ is bounded. Let $H^{(1)}_{p,r}$ be the

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unit sphere in $H_{p,r}$. Let analogously $H'_{p,r}$ be the space of the functions analytic in $|z|<r$ for which $\|f(z)\|'_{p,r}$ are bounded ; $H'^{(1)}_{p,r}$ unit sphere in $H'_{p,r}$. The index r will not be written for r = 1. Let $\mathcal{R}^1_n$ be the class of the rational fractions $R_n(z)$, the order of which is $\leq n$ and the poles of which lie in $|z|<1$. For $f(z)\in H_p$, $f(z)\in H'_p$ let

$$\mathcal{E}_{p,n}[f(z)] = \min_{R_n(z)\in\mathcal{R}^1_n} \|f(z)-R_n(z)\|_p \; ; \; \mathcal{E}'_{p,n}[f(z)] =$$

$$= \min_{R_n(z)\in\mathcal{R}^1_n} \|f(z)-R_n(z)\|'_p \; ; \; \mathcal{C}[f(z)] = \lim_{n\to\infty} \left(\mathcal{E}_n[f(z)]\right)^{1/n},$$

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On the Best Approximation of Analytic Functions by Rational Fractions With Free Poles

SOV/20-128-1-6/58

$\tau_R = \sup_{f(z)\in A_R} \tau[f(z)]$, $\varepsilon_{n,R} = \sup_{f(z)\in H_R^{(1)}} \varepsilon_n[f(z)]$,

$\tau_R^* = \overline{\lim_{n\to\infty}} (\varepsilon_{n,R})^{1/n}$. The magnitudes $\tau_p[f(z)]$, $\tau_{p,R}$,

$\varepsilon_{p,n,R}$, $\tau_{p,R}^*$, $\tau_p'[f(z)]$, $\tau'_{p,R}$, $\varepsilon'_{p,n,R}$, $\tau'^*_{p,R}$

are formed analogously. A_R is the class of all functions analytic for $|z| < R$, $R > 1$.

Theorem 1 : For all $p \geq 1$, $R > 1$ it is $\tau_R = \tau_R^* = \tau_{p,R} = \tau_{p,R}^* = \tau'_{p,R} = \tau'^*_{p,R} = \frac{1}{R}$.

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On the Best Approximation of Analytic Functions by Rational Fractions With Free Poles

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Theorem 3 : If $f(z) \subset H_2$ (or H_2'), then all rational fractions of the best approximation of $f(z)$ in the metric $\| \varphi(z) \|_2$ (or $\| \varphi(z) \|_2'$) in the class $\mathcal{R}_n^1$ are given by the formula

$$(1) \quad R_n(z) = f(z) - \frac{z B_n(z)}{2\pi i} \int_{|t|=\rho} \frac{f(t)dt}{(t-z)t B_n(t)}, \quad |z| < \rho,$$

where it is $B_n(z) = \prod_{k=1}^{n} \frac{z-a_k}{1-\bar{a}_k z}$ and $\max_{1 \leq k \leq n} |a_k| < \rho < 1$

From theorem 6 there follows the existence of functions $f(z) \in A_R$ for which it is $\overline{\lim_{n \to \infty}} (\varepsilon_n [f(z)])^{1/n} = \frac{1}{R}$ (see A.G. Vitushkin [Ref 1]).

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On the Best Approximation of Analytic Functions by Rational Fractions With Free Poles

SOV/20-128-1-6/58

Theorem 7 : Let $f(z)$ be analytic in $r<|z|<R$, $r<1<R$. Then it rigorously holds :

$$\overline{\lim_{n\to\infty}} \left(\min_{R_n(z)\in \mathcal{R}_n} \max_{|z|=1} |f(z)-R_n(z)| \right)^{1/n} \leq \exp\left(- \frac{\ln R \cdot \ln\frac{1}{r}}{\ln \frac{R}{r}} \right)$$

The author mentions K.I. Babenko.
There are 4 references, 3 of which are Soviet, and 1 American.

PRESENTED: May 14, 1959, by A.N. Kolmogorov, Academician

SUBMITTED: May 5, 1959

Card 5/5

YEROKHIN, V. D., CAND PHYS-MATH SCI, "ON [redacted] optimum LINEAR APPROXIMATION OF FUNCTIONS ANALYTICALLY EXTENDED FROM A GIVEN CONTINUUM INTO A GIVEN DOMAIN." YEREVAN, 1960. (YEREVAN STATE UNIV). (KL, 2-61, 199).

YEROKHIN, V.D.

Note on the theory of measure. Usp.mat.nauk 16 no.3:175-180 My-Je '61. (MIRA 14:8)

(Aggregates)

YEROKHOV, V.F.

Cenozoic subalkaline igneous rocks in the eastern part of southern Sakhalin. Geol. i geofiz. no.7:114-118 '54. (MIRA 18:8)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya AN SSSR, poselok Novo-Aleksandrovsk.

MAKHAN'KO, M.G., dotsent; YEMCHENIN, V.S., dotsent

Determining the temperature of engine exhaust gases taking the change of the cylinder volume during the exhaust process into account. Trudy MIIT no. 179:101-105 '64. (MIRA 17:7)

YEROKHIN, Viktor Georgiyevich,; KALININ, V.K., inzh., red.; BOBROVA, Ye. N., tekhn. red.

[Electric heating installations and their use] Elektronagrevatel'nye ustanovki i ikh primenenie. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 65 p. (MIRA 11:11)
(Electric heating)

YEROKHIN, V.I.

Excitation regulator for diesel-electric stations of drilling rigs. Mash. i neft. obor. no.7:23-29 '63. (MIRA 17:1)

1. TSentral'noye konstruktorskoye byuro "Elektroprivod" Vsesoyuznogo nauchno-issledovatel'skogo instituta elektromekhaniki.

YEROKHIN, V.I.

Semiautomatic line for the planing and surfacing of boards.
Der. prom. 14 no.2:26-27 F '65. (MIRA 18:6)

1. Gor'kovskiy avtomobil'nyy zavod.

GAVRILOV, N.I.; GRIGOR'YEVA, I.P.; AKIMOVA, L.N.; YEROKHIN, V.K. [deceased]

Certain properties of trityl peptides. Zhur. ob. khim. 31 no.3:739-742 Mr '61. (MIRA 14:3)

1. Moskovskiy gosudarstvennyy universitet.
(Peptides)

KABAKCHI, A. M., GRAMOLIN, V. A., and YEROKHIN, V. M.

"Several Facts Concerning the Effects of Ionizing Radiation on Concentrated Water Solutions of Inorganic Salts" p.51

Inst. Phys Chem. AS USSR

Trudy Transactions of the First Conference on Radiochemistry, Moscow, Izd-vo AN SSSR, 1958. 330pp.
Conference -25-30 March 1957, Moscow

SOV/76-32-9-31/46

AUTHORS: Kabakchi, A. M., Gramolin, V. A, Yerokhin, V. M. (Moscow)

TITLE: The Effect of Ionizing Radiation on Aqueous Potassium Nitrate Solutions (Deystviye ioniziruyushchikh izlucheniy na vodnyye rastvory azotnokislogo kaliya)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 2149-2154 (USSR)

ABSTRACT: The authors investigated the effect of γ-radiation from Co^{60}, β-radiation from P^{32}, and α-radiation from Pu^{239} upon aqueous potassium nitrate solutions. The concentration of these solutions ranges from 0,01 m to 2 m (just below the limit of solubility). The pH value of each solution was measured with a LP -5 potentiometer with glass electrode. The nitrite concentration was determined in the FEK-M photoelectric colorimeter using the reagent of Griss. The results are given in two diagrams and a small table. The nitrite concentration depends primarily on the concentration of the nitrate and changes little with changes in the ionization density. The work was guided by Professor N. A. Bakh, S. V. Belov, and

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SOV/76-32-9-31/46

The Effect of Ionizing Radiation on Aqueous Potassium Nitrate Solutions

V. S. Shevyrev.
There are 2 figures, 1 table, and 18 references, 9 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR Institut fizicheskoy khimii (AS USSR, Institute of Physical Chemistry)

SUBMITTED: April 18, 1957

Card 2/2

BELOV, S.V.; YEROKHIN, V.M.; ANOKHINA, L.M.; SOLOV'YEV, Yu.V.

Accounting for self-absorption and self-scattering in measuring absolute activity of thick-layer specimen. Prib.i tekh.eksp. 6 no.5:56-61 S-O '61. (MIRA 14:10)
(Nuclear counters)

YEROKHIN, Viktor Mikhaylovich, inzh.; LANIN, Gennadiy Izrailevich, inzh.; KOSITSINA, K.N., inzh., red.

[D-521 bulldozer with hydraulic control; the Bryansk Plant for Road Machinery and Building Equipment] Buldozer D-521 s gidravlicheskim upravleniem; Bryanskii zavod dorozhnykh i stroitel'nykh mashin. Moskva, Stroiizdat, 1964. 21 p. (MIRA 18:5)

1. Nachal'nik konstruktorskogo otdela navesnogo oborudovaniya Bryanskogo zavoda dorozhnykh i stroitel'nykh mashin (for Yerokhin). 2. Bryanskiy zavod dorozhnykh i stroitel'nykh mashin (for Lanin).

SADOVNIKOVA, I.P.; YEROKHIN, V.N.; KRUGLYAK, S.A.; VERMEL', Ye.M.; EMANUEL', N.M.

Use of kinetic parameters in the evaluation of the antineoplastic activity of chemical compounds in an experiment. Vop.onk. 11 no.11:63-68 '65.

(MIRA 19:1)

1. Iz otdela khimicheskikh i biologicheskikh protsessov (zav. - chlen-korrespondent AN SSSR N.M.Emanuel') Instituta khimicheskoy fiziki AN SSSR (direktor - akademik N.N.Semenov).

YEROKHIN, Ya. [IErokhin, IA.]

Collective farm canning factory. Sil'.bud. 13 no.10:7-8 O '63.
(MIRA 17:3)

1. Nachal'nik otdela stroitel'stva Krymskogo oblastnogo upravleniya proizvodstva i zagotovok sel'skokhozyastvennykh produktov.

YEROKHIN, Ya. V.

FOMIN, A.I., inshener; YEROKHIN, Ya.V., instruktor peredovykh metodov truda, (Moskva).

Development of the method for artificial seasoning of lumber in petrolatum. Stroi.pred.neft.prom. 1 no.10:24-26 D '56. (MLRA 10:2)

(Lumber--Drying) (Petrolatum)

YEROKHIN, Ye., inzh.

Safety of sailing with icing-up of the ship. Mor. flot 21 no.9:15-18 S '61. (MIRA 14:9)

1. Zamestitel' direktora Sevastopol'skogo filiala Odesskogo politekhnicheskogo instituta.
(Ships--Cold weather operation)
(Navigation--Safety measures)

28 (2)

AUTHORS: Vitenberg, I. M., Candidate of Technical Sciences, Yerokhin, Ye. A., Engineer

SOV/119-59-6-1/18

TITLE: Group Systems of Automatic Control and Zero Adjustment in Direct Current Amplifiers of Electric Models (Gruppovyye sistemy avtomaticheskogo kontrolya i nastroyki nuley usiliteley postoyannogo toka elektricheskikh modeley)

PERIODICAL: Priborostroyeniye, 1959, Nr 6, pp 1 - 4 (USSR)

ABSTRACT: The present paper deals with circuit diagrams for the zero adjustment of multitubular direct current amplifiers which carry out linear mathematical operations by feedback, requiring mean or low accuracy. A distinction is made between manual and automatic zero adjustment. The latter may be a single- or group adjustment. A middle course is the automatic control with subsequent manual zero adjustment. The principle of the zero adjustment control by groups is based on the consecutive measurement of the zero drift voltages by means of a zero element. Since the zero drift voltage in direct current amplifiers varies but slowly, such a method is acceptable for models of mean accuracy. In all known systems the zero adjustment control is carried out with mechanical commutators by means of step for step switch-

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es. Constructions are shown for an exemplification, which were worked out in the electromodel department of the NIISchetMash (Nauchno-issledovatel'skiy institut schetnykh mashin - Scientific Research Institute of Computers). Figure 1 shows the circuit diagram of the electromechanical system of the automatic zero adjustment in the electric models MN-2 and MN-3. The amplifiers are subdivided in groups of 25 each. The zero adjustment is brought about by the motion of the sliding contact of a potentiometer; this motion is released by a relay of the zero element. Figure 2 shows the circuit diagram of an electronic system, as is applied in the model MN-9. A similar system has been applied in the model MN-11. The step for step compensation of the zero drift voltage occurs by a change in potential on the second grid of the tube over a condenser. When using amplifying tubes with a good zero stability, the zero adjustment for the solution of problems which do not require great accuracy, may take place within longer periods of time. The automatic control of the zero adjustment with subsequent manual control is then recommended. Figure 5 shows such a control circuit for electric models with 300 - 400 amplifying tubes. S. V. Petrakov

Group Systems of Automatic Control and Zero Adjustment in Direct Current Amplifiers of Electric Models SOV/119-59-6-1/18

and V. M. Gerkhanova development in the elaboration and testing of this system. The system exhibits two zero elements, the first of which controls the zero drift, and the second serves for the zero adjustment. There are 6 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut schetnykh mashin (Scientific Research Institute of Computers)

Card 3/3

28200
S/194/61/000/005/017/078
D201/D303

9,7200
24 4100 1132, 1538, 1327, 1013

AUTHORS: Vitenberg, I.M. and Yerokhin, Ye.A.

TITLE: The use of electrical analogues for solving boundary problems

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1961, 17, abstract 5 B113 (Tr. 1-y Mezhvuz nauchno-tekhn. Konferentsii po elektr. modelirovaniya zadach stroit. mekhan., soprotivleniya materialov i teorii uprugosti. B.m. Novocherk. politekhn. in-t 1960, 34-42)

TEXT: The formulation is considered of the boundary problem for a system of ordinary linear andnon-linear differential equations and the effectiveness is noted of using electrical analogues, when solving the above problems by the search method. A short description of two methods of searching for a given solution is given: the method of minimization and the method of survey. The main fea-

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The use of electrical analogues...

tures are given of the electrical analogue MH-11 (MN-11) designed at the НИИСЧЕТМАШ (NIISChETMASh) and having an automatic solution search system. The machine MN-11 can solve boundary problems as described by systems of ordinary differential equations up to the 6-9 order: it determines 6 unknowns with up to 6 boundary conditions, working periodically at frequencies from 1 to 100 kc/s. A model of MN-11 is stated to have solved, with an accuracy of 5-10%, the problem of a beam on an elastic base and the problem of caving-in of a spherical cover. The above problems have been set as boundary and described by systems of linear differential equations of the 4th order. The search for a solution was automatic and lasted 5 and 20 seconds respectively, with a periodicity of 20 c/s. 5 figures. 3 references. [Abstracter's note: Complete translation]

Card 2/2

39905
S/044/62/000/007/084/100
C111/C333

9,7000

AUTHOR: Yerokhin, Ya. A.

TITLE: On the logical possibilities of the automatized electronic model MN-11 (MN-11) when seeking the solution under complicated conditions

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 70, abstract 7V335. ("Vychisl. tekhnika", no. 2, M., Atomizdat, 1961, 73-87)

TEXT: Many problems on the elasticity theory, on the technical aspects of air traffic of heating and others lead to either boundary value problems in which the initial conditions for the variables are partly not known, or to problems in which certain constant coefficients are unknown and the optimal relations between these coefficients are sought. The electrical analogue system (e.a.s.) MN-11 serves to automatically determine the solutions of problems described by linear or non-linear systems of differential equations of orders 6 to 9. The system can simultaneously determine up to six unknowns from six given conditions. The formulation of the problem: Given is the system of differential equations

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On the logical possibilities of the ...

$$\frac{dx_i}{dt} = f_i(x_1, x_2, \ldots, x_n; a_{ij}; t) \qquad (1)$$

$$i = 1,2,\ldots,n; \; j = 1,2,\ldots, m$$

and the system of equations

$$\varepsilon_i [x_i(t_o); x_i(t_k)] = 0 \qquad (2)$$

where in (1) a portion of the initial conditions $x_i(0)$ and a portion of the coefficients a_{ij} are not known. The e.a.s. automatically determines the unknowns $x_i(0)$ and a_{ij} and thereby the solution $x_i(t)$ which satisfy (1) and (2). It is pointed out that the peculiarity of the e.a.s. MN-11 is the automization of the problem solving process. For this purpose the e.a.s. contains a logical network and works very fast; the machine completes 100 problems solutions per second, a speed which is attained by using an electronic control of the integrators. The solution is found by successive approximations with an automatic substimate of the result after the i-th variation of the unknown and

with control signals originating from this estimate before the (i+1) variation. The estimate consists of comparing the i-th solution to the (i-1)-th solution contained in the memory. The circuit diagram of the machine and the time run of its work are given. The machine consists of two principle parts; an electrical analogue network and a network of logical operations. The e.a.s. solves the system of differential equations in the integration intervals; here the conditions ε_i are modelled in case they are complicated. The logical network receives from e.a.s. informations of the type $x_i(t)$, $\varepsilon_i(t)$, conducts a number of logical operations and as a result the increments $\Delta x_i(0)$ or Δa_{rj} are introduced into the e.a.s. Then integration follows again (with different values of the unknowns). This process is continued until

$\mu_{(t=t_k)} = \sum_{i=1}^{6} |\varepsilon_i| = 0$, which corresponds to the problem solution.

Single units of the machine are described, such as those concerned with the formation of the control signal, the automatic measurement of the

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On the logical possibilities of the ... C111/C333

increments, the removal of false minima and the automatic adjustment of the level of the computor. There are 11 illustrations and the bibliography has 5 titles.

[Abstracter's note: Complete translation.]

4

Card 4/4

ACC NR: AP7005612 (A) SOURCE CODE: UR/0413/67/000/002/0049/0050

INVENTOR: Yerokhin, Yu. A.; Kanonykhin, N. M.

ORG: None

TITLE: A simulative monitor for checking the accuracy of distance measurements made by pulse-type radio range finders. Class 21, No. 190437 [announced by the Military "Order of Lenin" and "Order of Suvorov" Military Academy (Voyennaya inzhenernaya ordenov Lenina i Suvorova akademiya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 49-50

TOPIC TAGS: pulse signal, radio rangefinder, electronic measurement, instrument calibration equipment

ABSTRACT: This Author's Certificate introduces: 1. A simulative monitor for checking the accuracy of distance measurements made by pulse-type radio range finders. The installation contains a master oscillator with frequency divider, a course imitator of the analog type, a unit which gives a reference distance and devices for detecting and locating unit failures. In order to use the installation for monitoring precision radio range finders, the outputs of the frequency divider in the master oscillator are connected to the inputs of the course imitator and reference distance unit and to one input of a coincidence circuit with its second input connected to the output of the course imitator. 2. A modification of this monitor in which information on unit fail-

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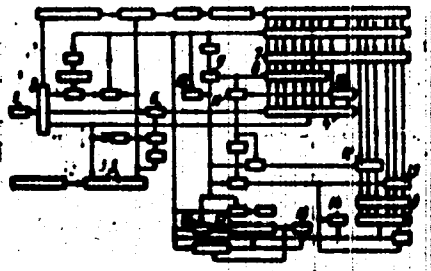
ures is produced by connecting the outputs of the most significant digits in the reference distance counter and distance register of the radio range finder to a comparison circuit. This comparison circuit is connected to a rectifier and the second input of the rectifier is connected to a coincidence circuit while the output is connected to a flip-flop for locating the failure. 3. A simplified modification of this monitor in which the outputs for the least significant digit in the reference distance counter and the intermediate digit in the distance register of the radio range finder are connected to a comparison circuit. This comparison circuit is connected to a coincidence circuit with its second input connected to the output of a circuit for comparing the most significant digits of the distance register in the range finder and the reference distance counter. The outputs of the coincidence circuit are connected through rectifiers to an error counter. 4. A modification of this monitor designed for tolerance control of the radio range finder. The outputs of the "add" flip-flop and counter are connected to the coincidence circuit output which generates a pulse for comparison of the reference distance with that given by the instrument. The input of the "subtract" control flip-flop and the input of the reference distance counter are connected to the output of a rectifier controlled by the circuit for comparison of the most significant digits in the reference distance counter and the distance register of the radio range finder. The outputs of these counters are connected to the tolerance flip-flop.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001962830002-0"

ACC NR: AP7005612



1--master oscillator; 2--frequency dividers; 3--course initator; 4--unit for setting the reference distance; 5--device for detecting and locating failures; 6, 9 and 11--coincidence circuit; 7--distance register in the radio range finder; 8 and 10--comparison circuit; 12 and 13--rectifiers; 14--failure location flip-flop; 15--control flip-flop; 16--tolerance flip-flop; 17--reversible counter; 18--comparison circuit

SUB CODE: 09/ SUBM DATE: 12Mar65

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Inst : The Forestry Institute of the Academy of Sciences, USSR.

Title : A Contribution to the Problem of the Soil Blanket of India.

Orig Pub : Soobshch. In-ta lesa AN SSSR, 1957, vyp. 7, 66-74

Abstract : A survey of works on the soil blanket of India is presented on the basis of subject literature sources. The greatest expanse in the country is taken up by red earth soils occupying ~ 380 thousand square kilometers, laterites (including the lateritized red earths) occupying ~ 90 thousand square kilometers the regur or chernozem soils occupying ~ 3.8 thousand square kilometers.
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