... Arleyeva "Studies on Lectures ... previously the work ...
He states that the beginning lecture ...
commendations therein and will arrive ...
conclusions.

AUTHOR: Kazakov, I.I., Dotsent, Candidate of Economics   3-10-7/30

TITLE: Methods of Seminar Work Require Improvement (Metodika se-
              minarskikh zanyatiy nuzhdayetsya v uluchshenii)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 10, pp 33-35 (USSR)

ABSTRACT:
     This article deals with some necessary reorganization
measures to be taken in regard to seminars on political
economy.
     The author suggests reducing the hours devoted to semi-
nars, and quotes the good results obtained at the Perm Uni-
versity by increasing lecture hours on important subjects.
On the other hand, lectures of introductory character can be
reduced. The methods of seminar education must be altered
as well.
     Manuals would enable the students to obtain in knowledge
of the basic literature. In this connection the author pro-
poses literary works to be studied, such as some chapters
from Marx' and Lenin's works.
     There is a note by the editorial office contesting some
of these suggestions.

Card 1/2

NESMELOV, A.F., inzhener; KAZAKOV, I.M., inzhener, redaktor.

[Trueing polishing wheels] Pravka shlifoval'nykh krugov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit. lit-ry, 1953. 109 p.

(MLRA 7:3)

(Grinding and polishing)

CHOCHIA, N.G.; BELYAKOVA, Ye.Ye.; BOROVSKAYA, I.S.; VOLKOV, A.M.; GRAYZER, M.I.;
    IL'INA, Ye.V.; KAZAKOV, I.N.; KIRKINSKAYA, V.N.; KISLYAKOV, V.N.;
    KRASIL'NIKOV, B.N.; MAYMINA, L.G.; OSIPOVA, N.A.; RADYUKEVICH, L.V.;
    ROMANOV, F.I.; KULIKOV, M.V.,red.; DOLMATOV, P.S.,vedushchiy red.;
    YASHCHURZHINSKAYA, A.B.,tekhn.red.

[Geology, and oil and gas potentials of the Minusinsk Lowland]
Geologicheskoe stroenie Minusinskikh mezhgornykh vpadin i
perspektivy ikh nefte-gazonosnosti. Leningrad, Gos.nauchn.
tekhn.izd-vo neft. i gorno-toplivnoi lit-ry Leningr. otd-nie,
1958. 288 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledo-
vatel'skii geologorazvedochnyi institut. Trudy, no.120)
                                                    (MIRA 12:5)
            (Minusinsk Lowland--Petroleum geology)
            (Minusinsk Lowland--Gas, Natural--Geology)

KAZAKOV, I. N., Cand Geol-Min Sci -- "Stratigraphy, tectonics, and history of the Western Sayan geological evolution."

Len, 1961. (Len Order of Lenin State U im A. A. Zhdanov)

(KL, 8-61, 234)

KAZAKOV, I.N.

New data on the stratigraphy of the Ordovician and lower Silurian
of the Western Sayans. Inform.sbor.VSEGEI no.21:65-76 '59.

(MIRA 14:12)
(Sayan Mountains--Geology, Stratigraphic)

KAZAKOV, I.N.

Geology of the Western Sayans. Trudy VSEGEI   58:61-104   '61.

(MIRA 15:5)

(Sayan Mountains—Geology)

KAZAKOV, I.N.

Effect of hexachloran on crop yields. Zashch. rast. ot vred. i bol. 8 no.5:24-25 My '63. (MIRA 16:9)

1. Stavropol'skoye proizvodstvennoye upravleniye, Kuybyshevskoy obl.; glavnyy agronom sovkhoza imeni Menzhinskogo.
(Plants, Effect of benzene hexachloride or.,

KAZAKOV, I.N.

Let us increase the yield of winter wheat. Zemledelie 26 no.8:
63-64 Ag '64.   (MIRA 17:11)

1. Glavnyy agronom sovkhoza imeni Menzhinskogo Stavropol'skogo
proizvodstvennogo upravleniya Kuybyshevskoy oblasti.

KAZAKOV, I.N.

Map on the weediness of fields. Zemledelie. 7 no.5:82-85 My '65.
(MIRA 78:6)

1. Glavnyy agronom sovkhoza imeni Menshinskogo, Stavropol'skogo rayona, Kuybyshevskoy oblasti.

KAZAKOV, I.N.

Age and correlation of the flyschoid formations of the Western
Sayan Mountains. Dokl. AN SSSR 164 no.6:1370-1373 0 '65.
(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy geokhimicheskiy institut.
Submitted June 2, 1965.

VAYNBERG, G.D., inzh.; YEVTIKHIN, V.F., kand. tekhn. nauk; KAZAKOV,
    I.V., inzh.; KAL'NITSKIY, A.A., kand. tekhn. nauk; NIKOLAYEV,
    N.A., kand.tekhn.nauk, nauchn. red.

[Asbestos cement elements in rural construction for residen-
tial, cultural, and industrial buildings] Asbestotsementnye
konstruktsii v sel'skom stroitel'stve dlia zhilykh, kul'turno-
bytovykh i proizvodstvennykh zdanii. [By] G.D.Vainberg i dr.
Moskva, Stroiizdat, 1965. 63 p.   (MIRA 18:3)

- KAZAKOV, I.V.

Additional protection of mercury rectifying devices. Elek. i tepl.
tiaga 4 no.11:28 N '60.   (MIRA 13:12)

1. Dezhurnyy tekhnik tyagovoy podstantsii Lobnya, Moskovskoy dorogi.
         (Electric railroads--Substations)

KAZAKOV, I.V., inzh.; KAL'NITSKIY, A.A., kand.tekhn.nauk

Use of asbestos cement articles in construction. Stroi. mat. 7
no.9:14-17 S '61.   (MIRA 14:11)
                          (Asbestos cement)

BOL'SHAKOV, V.M.; VINOGRADOV, A.M.; DOROKHOV, A.N.; LAZAROV, I.V.; MARTUMYAN, A.K.; ROMANOV, A.A.; SEMEMOVSKIY, V.D.

Floors made of large rolled gypsum cement concrete panels. Stroi. mat. 7 no.9:26-28 S '61.   (MIRA 14:11)
                    (Floors, Concrete)

\18.7530 |416 2808 1087   S/126/61/012/002/006/019
                     26557   E111/E435

AUTHORS: Rutkovskiy, M.L., Anufriyeva, N.A., Kop'yeva, O.M.
            Potapova, N.V. and Kazakov, I.V.

TITLE: Kinetics of gas boriding of nickel

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.12, No.2,
            pp.217-222

TEXT: Materials such as borides, silicides and carbides satisfy
the requirements of high chemical stability and resistance to
erosion which technical developments are imposing.   No
substantial investigation on the rate of boriding has yet been
reported and there is some divergence of views on results
obtainable (e.g. Ref.10: Zhigach A.F. and others, Metallovedeniye
i termicheskaya obrabotka. 1959. No.4. 45;   and Ref.11:Weintraub E.
Ind. a. Eng. Chem., 1911, 3. 299).   The authors have studied the
gas boriding of nickel at 900°C using a 1:4-1:10 mixture of
boron trichloride and hydrogen.   The gas mixture was stored in a
cylinder and admitted, at a measured rate, to a 30 mm diameter
horizontal quartz reaction tube (in a furnace) which could also be
flushed with nitrogen.   The flow of the gas mixture was started
when the temperature reached 500 to 600°C.   Specimens were in the
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26557

Kinetics of gas boriding ...

S/126/61/012/002/006/019
E111/E435

form of rectangular 25 x 10 x 2 mm nickel plates, cleaned with emery and washed with alcohol.   After thickness measurement with a micrometer the specimens were weighed.   The thickness Δl of metal consumed in the formation of the boride film was taken to be half the difference between the initial and final thicknesses (measured at the centre of the specimen).   A linear relation between Δl (mm) and boriding time (hours) (from attainment of the working temperature, 900°C) was found, Δl being 0.8 at the maximum of 30 hours.   Gas flows of 6, 24 and 96 litres/hour were used, the corresponding weight-gains in g/m² hour being 26.6, 54.1 and 99. All flow rates were in the laminar range.   From the results the authors conclude that the rate-controlling factor was boron diffusion from the gas phase to the metal surface.   In the range studied, the weight-gain rate (i.e. boriding rate) was found to be practically independent of the boron trichloride to hydrogen ratios. This suggests that the trichloride does not participate directly in boriding but forms an active intermediate compound.   A check on the weight of nickel lost during boriding showed that it was under 1%, indicating that nickel dichloride is not formed: this is
Card 2/3

Kinetics of gas boriding 26557

S/126/61/012/002/006/019
E111/E435

...ntrary to the views of Powell. The boride film was found to consist of three layers (probably NiB outside, followed by Ni_3B_2 and Ni_2B) with different microhardness. The inner layer is thinnest. The boundaries between the layers are probably non-borided or weakly borided components, such as carbon, copper, sulphur or silicon. All the boundaries are serrated. V.K.Kryukova and Z.A.Borisova and M.L.Mironenko participated in the experiments. There are 5 figures and 17 references: 12 Soviet and 5 non-Soviet. The two references to English language publications read as follows:
Laubengayer A.W., Hurd D.T., Newkirk A.E., Hoard J.L., J. Am. Chem. So., 1943, Vol. 65, 1924
Weintraub E. Ind. a. Eng. Chem., 1911, 3, 299.

SUBMITTED: October 14, 1960 (initially)
January 13, 1961 (after revision)

Card 3/3

KAZAKOV, I.V.

Spermaturic reaction in male lake frogs in obstetric and
gynecological practice (in particular with the use of dry serum).
Sov. med. 25 no.2:141-145 F '62.   (MIRA 15:3)

1. Iz kafedry akusherstva i ginekologii (zav. - prof.
V.A. Pokrovskiy) Voronezhskogo meditsinskogo instituta.
                (PREGNANCY—SIGNS AND DIAGNOSIS)
                      (SPERMATURIA)

KAZAKOV, I.V., inzh.; BUYANOV, Yu.P., inzh.; ROMANOV, A.A., inzh.;
TSAREGRADSKIY, A.V., inzh.; YAKUSHEV, A.P., inzh.; ZHUKOV,
K.V., kand. arkh.; GOLOVIN, V.V., inzh.; LOS', A.A., inzh.;
CHERKINSKAYA, R.L., red. izd-va; SHERSTNEVA, N.V., tekhn.
red.

[Catalog of asbestos-cement products and elements for
residential buildings] Katalog asbestotsementrykh izdelii i
konstruktsii dlia zhilykh domov. Moskva, Gosstroiizdat,
1963. 34 p.   (MIRA 16:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. TSentral'nyy
nauchno-issledovatel'skiy i proyektno-eksperimental'nyy in-
stitut industrial'nykh zhilykh i massovykh kul'turno-bytovykh
zdaniy. 2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-
eksperimental'nyy institut industrial'nykh zhilykh i massovykh
kul'turno-bytovykh zdaniy (for Kazakov, Buyanov, Romanov,
TSaregradskiy, Yakushev, Zhukov). 3. Gosudarstvennyy trest po
proyektirovaniyu zhilykh i obshchestvennykh zdaniy, ikh obo-
rudovaniya i blagoustroystva naselennykh mest (for Golovin,
Los').   (Asbestos cement)
        (Apartment houses—Design and construction)

KAZAKOV, I.E.

KAZAKOV, I. YE

Kazakov, I. E. Approximate probability a alysis of the exactness of performance of essentially non-linear automatic systems. Avtomat. i Telemeh. 17 (1956), no. 5, 385-409 (1 plate). (Russian)

A thorough exposition of a method developed independently and at about the same time by the author and I. A. Zadeh (Proc. Symposium on Nonlinear Circuit Analysis, Polytech. Inst. Brooklyn, 1953, pp. 369 ... , MR 16 ...). Consider a nonlinear element f which is subjected to a random input $X(t)$ and let

$$X(t) = m_x(t) + X^0(t),$$

where $m_x(t)$ is the expectation of $X(t)$. The element f is linearized by replacing it with a linear element characterized by two coefficients k_0 and k_1 such that the output of f is approximately given by $Y(t) = k_0 m_x(t) + k_1 X^0(t)$; k_0 and k_1 are determined by the relations $k_0 = m_y / m_x$, where m_y is the expectation of $Y(t)$, and $k_1 = \sigma_y / \sigma_x$, where σ_y and σ_x are the variances of Y and X respectively. Alternatively k_0 and k_1 may be determined from the least squares condition $E(Y - k_0 m_x - k_1 X^0)^2 = \min$. The author considers various types of nonlinear elements and tabulates k_0 and k_1 as functions of m_x and σ_x. Taking a very general type of nonlinear feedback control system, he shows how the variance of the output can be calculated and analyzes in detail two cases of practical interest.

L. A. Zadeh (New York, N.Y.)

86246

S/103/60/021/011/002/014
B019/B067

16.9500 (1031, 1132, 1222)

AUTHOR: Kazakov, I. Ye. (Moscow)

TITLE: Dynamics of Self-adjusting Systems With Continuous
             Extremum-seeking of Corrective Networks With Random
             Disturbances

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 11,
             pp. 1465 - 1474

TEXT: An analysis is presented of the accuracy of performance of ex-
tremum-seeking continuous control systems designed to operate in condi-
tions where the energy of command signals and values of the controlled
parameters are variable. Extremum-seeking is performed by determining
the gradient of the functional of the controlled parameters in the para-
meter space. To warrant the necessary accuracy in steady and transient
processes the control error of the self-seeking continuous control sys-
tem must be determined at different conditions of adjustment and the de-
mands which are made for the adjusting circuit must be estimated. The
author gives approximation equations for linear self-seeking systems with

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Dynamics of Self-adjusting Systems With   S/103/60/021/011/002/014
Continuous Extremum-seeking of Corrective   B019/B067
Networks With Random Disturbances

continuous extremum adjustment. The problem is solved by means of linear
transformations of the random functions. It is shown that in the general
case the integration of the system of equations

$$Y = \phi_R(y_1, \ldots, y_m, p)V$$

$$V = \phi_K(x_1, \ldots, x_n, p)[\Delta + X] \qquad (1)$$

$$\Delta = Z - Y$$

and of the system

$$Y_i = \phi_R(y_1, \ldots, y_m, p)V_i$$

$$V_i = \phi_K(x_{10}, \ldots, x_{no}, p)\Delta_i + c_i u_i$$

$$\Delta_i = -Y_i ;$$

$$U_i = \frac{\partial U}{\partial \Delta_i} \Delta ;$$

$$(Tp + 1)F_i = U_i$$

$$\Theta_i = F_0 w_i + \sum_{k=1}^{n} F_k w_i \qquad (6)$$

$$(\tau_i p + 1)z_i = -\varkappa_i \Theta_i$$

$$pu_i = z_i + pw_i - px_{io}$$

$$(i = 1, 2 \ldots n)$$

Card 2/3

86246

Dynamics of Self-adjusting Systems With
Continuous Extremum-seeking of Corrective
Networks With Random Disturbances

S/103/60/021/011/002/014
B019/B067

with subsequent calculation of the probability characteristics of the
control error Δ is necessary for studying the accuracy of control and of
the adjustment of the parameters of the correcting circuit . Equations
(1) characterize the processes in the control circuit, whereas equations
(6) are the corresponding components of these functions in approximations.
(6) is largely simplified for the most important cases in the practice.
As an example a circuit is studied which represents a self-seeking system
with continuous extremum adjustment of the amplification coefficient of
the correcting circuit. The analysis shows that the optimum parameters of
the adjusting circuit depend on the level of the spectral density of the
random disturbances and on the amplification coefficient of the object
and the correcting circuit. The adjusting error strongly depends on the
amplitude of the seeking-signal. There are 2 figures and 11 references:
10 Soviet and 1 US.

SUBMITTED: May 28, 1960

Card 3/3

16.6200 (1031, 1329)

13.2941

32585
S/569/61/003/000/003/011
D201/D305

AUTHOR: Kazakov, I.Ye. (USSR)

TITLE: Some problems of the theory and application of statistical linearization

SOURCE: International Federation of Automatic Control. 1st Congress, Moscow, 1960. Statisticheskiye metody iss-ledovaniya. Teoriya struktur, modelirovaniye, termi-nologiya, obrazovaniye. Moscow Izd-vo AN SSSR, 1961, 68 - 83

TEXT: The author develops the theory of statistical linearization of the general form of non-linear operators, based on the quadra-tic approximation of the transformed random function and applies this theory to the analysis of closed-loop non-linear automatic continuous and discontinuous control systems. Two criteria of li-near approximation may be considered in practice. The first con-sists in satisfying the equality of mathematical expectations and of correlation functions of the real and approximating random func-tion. The second criterion consists in satisfying the condition of

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32585
S/569/61/003/000/003/011
Some problems of the theory and ...   D201/D305

minimum of the r.m.s. value of the difference between the real and approximating function. In the approximation of non-linear operators, the second criterion is simpler to apply in practice, e.g. when the equivalent linear operator has to be determined from the input signal in the form of a stationary random white noise, experimental determination of the dynamic characteristic of a non-linear system is shown to consist in evaluating the mutual correlation function between output and input with a random white noise input. The normalized mutual correlation function in this case corresponds to the weighting function of the equivalent linear operator. It is stated, in conclusion, that further development of the statistical linearization theory of non-linear operators should proceed in two directions: 1) The analysis of accuracy of the method of statistical linearization of non-linear operators; 2) The investigation of the limits of method applicability to the linearization of open- and closed-loop dynamic systems; 3) The study of typical examples where the statistical approximation method could be applied and collecting material for equivalent characteristics (tables, graphs, algorithms and evaluation of equivalent charact-

Card 2/3

AM4016853   BOOK EXPLOITATION   S/

Kazakov, Igor' YEfimovich; Dostupov, Boris Grigor'yevich

Statistical dynamics of nonlinear automatic control systems (Sta-
   tisticheskaya dinamika nelineyny*kh avtomaticheskikh sistem)
   Moscow, Fizmatgiz, 62. 0332 p. illus., biblio., index. 10000
   copies printed.

TOPIC TAGS: automatic control, nonlinear automatic control, sta-
tistical dynamics, nonlinear equations, integral expansion, trigo-
nometric series, power law series, statistical linearization, ran-
dom signal, computer application, nonlinear automatic system syn-
thesis

PURPOSE AND COVERAGE: The book is aimed at systematizing some of
the existing methods for statistical analysis of controllable systems
and develops for the statistical dynamics of nonlinear systems
some exact and approximate methods that are conveniently realized

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AM4016853

with the aid of modern computers. It summarizes specifically vari-
ous nonlinear methods, scattered in the numerous periodicals, for
the transformation of random functions. The book is for many scien-
tific workers and engineers who are engaged in automatic control.
To understand the book it is sufficient to know the usual mathe-
matics given in higher technical schools and the principles of
probability theory and the theory of random functions. The authors
are grateful to L. D. Zhuleva for thorough editing of the manuscript.
The work is based on many earlier papers by the authors. Chapter I
(except Sec. 5), Chapters III, IV, VI, and Sec. 45 of Chapter V have
been written by I. Ye. Kazakov. The rest has been written by V. G.
Dostupov.

TABLE OF CONTENTS:

Card 2/4

AM4016853

SUB CODE: MM, CP   SUBMITTED: 23Oct62   NR REF SOV: 063

Card 3/4

AM4016853

OTHER: 024

DATE ACQ: 25Jan64

Card   4/4

KAZAKOV, I. Ye. (Moskva)

Contribution to the statistical theory of self-adaptive control
systems. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:
76-81 N-D '62.   (MIRA 16:1)

(Automatic control)

s/

ACCESSION NR AM4021936   BOOK EXPLOITATION

Pugachov, V. S.; Kazakov, I. YE.; Gladkov, D. I.; YEvlanov, L. G.;
   Mal'chikov, S. V.; Mishakov, A. F.; Sedov, V. D.; Sokolov, V. I.

Principles of automatic control (Osnovy* avtomaticheskogo upravleniya), Moscow,
   Fizmatgiz, 1963, 646 p. illus., biblio., index. 15,000 copies printed.

TOPIC TAGS: automation, automatic control, linear control system, nonlinear
control system

TABLE OF CONTENTS [abridged]:

Card 1/2

ACCESSION NR AM4021936

SUB CODE: CP   SUBMITTED: 26Jul63   NR REF SOV:061

OTHER: 011   DATE ACQ: 27Dec63

Card 2/2

L 52582-65   EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   Pf-4   JM

ACCESSION NR: AP5008319   S/0103/65/026/003/0463/0469

AUTHOR: Kazakov, I. Ye. (Moscow)

TITLE: Statistical analysis of systems with multivariable nonlinearities

SOURCE: Avtomatika i telemekhanika, v. 26, no. 3, 1965, 463-469

TOPIC TAGS: automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: A system containing multivariable nonlinearities may be described by this set of differential equations:

$$\dot{x}_i = \varphi_i(x_1, \ldots, x_n) + z_i \quad (i = 1, \ldots, n),$$

where φ_i are the single-valued nonlinear functions of their arguments and $z_i(t)$ are the perturbances (random functions of time). The nonlinear functions φ_i are replaced with their statistical linearized equivalents, and the method of statistical linearization is used to determine the probabilistic characteristics of the system. Allowing also for possible oscillatory terms (self-oscillations or an input harmonic), these sets of linked equations are presented:

$$m_x = \varphi_{i0}^*(m_{x_1}, \ldots, m_{x_n}; k_{x_1 x_1}, \ldots, k_{x_n x_n}; a_1, \ldots, a_n) + m_{z_i},$$

Card 1/2

L 52582-65

ACCESSION NR: AP5008319

$$[a_i \cos(\omega_0 t + \psi_i)]' = \sum_{h=1}^{n} \varkappa_h{}^i(m_{x_1}, \ldots, a_n) a_h \cos(\omega_0 t + \psi_{h}), \quad (6)$$

$$\dot{x}_i{}^0 = \sum_{h=1}^{n} \varkappa_{ih}{}^i(m_{x_1}, \ldots, a_n) x_h{}^0 + x_i{}^0 \quad (i = 1, 2, \ldots, n).$$

where m_{xi} are the mathematical expectations of the variables; φ_{i0} is the function φ_{i0} averaged over the period $T = 2\pi / \omega_0$; $\varkappa_k{}^i$ are the coefficients of harmonic linearization of φ_{i0}; $\varkappa_{ik}$ are the coefficients k_{ik} of statistical linearization averaged over period T. Application of the above method for solution of these two specific problems is considered: (1) An extremal relay automatic-control system and (2) Stochastic oscillations in an elastic nonlinear system. Orig. art. has: 2 figures and 41 formulas.

ASSOCIATION: none

SUBMITTED: 02Mar64   ENCL: 00   SUB CODE: IE

NO REF SOV: 005   OTHER: 002

Card 2/2

WRIGHT, D.N. K.Kh.

Dynamization as a method for statistical linearization in multi-
dimensional systems. Avtom. i telem. 26 no.7:1206-1215 Jl '65.
(MIRA 18:8)

EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   IJP(C)

L 7801-66

ACC NR: AP5027885   SOURCE CODE: UR/0103/65/026/011/1926/1937

AUTHOR: Kazakov, I.Ye. (Moscow)

ORG: None

TITLE: The determination of the law of distribution of variables of a nonlinear stochastic system

SOURCE: Avtomatika i telemekhanika, v. 26, no. 11, 1965, 1926-1937

TOPIC TAGS: dynamic system, partial differential equation, stochastic process, automatic control theory

ABSTRACT: During the investigation of nonlinear dynamical systems subjected to random signals and interferences, the knowledge of the complete characteristics of their behavior at each instant of time is sometimes necessary. The laws of distribution of such variables at any instant of time represent precisely the needed characteristics. There are several methods for the determination of such distributions. Two of the best known are the method of static investigations and the method of integrating the Fokker-Plank-Kolmogorov probability density equation. However, the algorithms of these methods are cumbersome and not always applicable. Consequently, the present authors propose a new approximate method for the determination of the distribution of the variables of a nonlinear stochastic system by starting from a system of stochastic ordinary nonlinear differential equations and then integrating the resulting approximate linear inhomogeneous multidimensional first order partial differential

Card 1/2   UDC: 62-501

L 7801-66

ACC NR: AP5027885

16,44,55

equation for the first characteristic function. After describing the procedures for the determination from this first characteristic of the distribution function for each of the variables at a given instant of time, the author applies the procedure to the case of 1) a second order stationary system with a single nonlinearity within the feedback circuit; the system is subjected to a normal white noise of intensity G; and 2) a first order system with a single nonlinearity within the feedback circuit; the intensity is $G = 2L/\sqrt{\pi}$. Orig. art. has: 71 formulas and 3 figures.

SUB CODE: MA, IE / SUBM DATE: 11Jun65 / ORIG REF: 005 / OTH REF: 003

Card 2/2

L 06272-67   EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6028547   SOURCE CODE: UR/0280/66/000/003/0164/0171

AUTHOR: Kazakov, I. Ye. (Moscow)

ORG: none

TITLE: Statistical analysis of systems with ambiguous nonlinearities

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 3, 1966, 164-171

TOPIC TAGS: automatic control parameter, nonlinear automatic control system,
hysteresis loop, feedback system

ABSTRACT: The article deals with the problem of the analysis of those real elements
frequently found in automatic control systems which possess ambiguous nonlinear
characteristics of the hysteresis type. The author outlines a systematic approach
to this problem, using a method of statistical linearization for the ana·ʸ-·ʸ of this
kind of nonlinear element and based on the representation of the ambiguous function
of the input variable as a multidimensional function; i.e., a function dependent not
only on the input variable itself, but also on its derivative. Such a representation
of a nonlinear ambiguous noninertial function of the hysteresis type is shown to be in
accord with the physical reality of the process in the nonlinear element. The appli-
cation of the general postulates of the statistical linearization of multidimensional
nonlinear elements to such ambiguous nonlinearities is discussed in the paper, with

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L 06272-67

ACC NR: AP6028547

illustrative examples showing how the method may be used in the analysis of closed-
loop systems.   Orig. art. has: 54 formulas and 2 figures.

SUB CODE: 12,09/ SUBM DATE: 18Sep65/ ORIG REF: 005

Card   2/2 egh

KAZAKOV, K., marshal artillerii, komanduyushchiy raketnymi voyskami
i artilleriyey

With guns and rockets. Voen.znan. 41 no.11:4-5 N '65.
(MIRA 18:12)

KAZAKOV, K.; RANGELOV, R.

On some studies of mica in Bulgaria.   Mashinostroene 11 no.2:34-38
F '62

KAZAKOV, K.

Delat' ... dlya. Mest.prom. i Mest.prom. ? ... Fil2 S 101.
(... 14:11)

1. ... dsedatel' ... lastnogo komiteta profsoyuza rabochikh
mestnoy promyshlennosti i kommunal'nogo khozyaystva, Kaluga.
        (Kaluga Agricultural workers)
        (Trade unions)

L 19049-65   AFWL   JKT

ACCESSION NR: AP5001167

S/0018/64/000/011/0007/0010

AUTHOR: Kazakov, K. (Artillery marshal, Commander of rocket forces and artillery)

TITLE: Fundamental fire power of armies

SOURCE: Voyennyy vestnik, no. 11, 1964, 7-10

TOPIC TAGS: fire power, artillery, artillery fire, industrial production, artillery rocket, personnel training

ABSTRACT: Because of American provocations demonstrated in the Tonkin Gulf, the Congo, and other places, the Soviet military must maintain its strength. This means the continuous development of the artillery, for which the Soviets are famous and which supplies the fundamental fire power of the army. The author reviews the use of artillery during World War II in battles from Moscow to Berlin. He cites the contributions of individuals and units and gives examples of artillery concentrations (6000 guns and mortars in the counteroffensive before Moscow, 13 500 in the battle on the Volga, 28 000 in the Kursk Bulge defense, and upwards of 41 000 in the Berlin operation). The effectiveness of the artillery is attributed not only to its technical excellence and a high level of training but also to the type of artillery formations. These permitted massive concentrations

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ACCESSION NR: AP5001167

for rupturing defense lines (at times numbering 200-300 guns and mortars per kilometer of front). The artillery was supported by an industrial base which in the last year of the war delivered 120 000 guns and 100 000 mortars to the front. The value of the artillery was appreciated by the Soviet government and the Communist Party. Intensive development of all elements of rocket delivery systems was encouraged immediately after the war and continues at this time. All branches of the armed forces are being equipped with rockets for use in all aspects of warfare. Recognizing that final victory depends on men, the Soviets perfected an intense training course. The main part of this course consists of field problems, because it is believed that only through experience will the officers master artillery command. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MS,WA   NO REF SOV: 000

ENCL: 00

OTHER: 000

Card 2/2

KAZAKOV, K.P., marshal artillerii; RUDENKO, S.I., marshal aviatsii; MIKHAYLIN,
V.V., kontr-admiral; LEONOV, A.I., marshal voysk svyazi

Soviet military leaders on the revolution in military affairs. Voen.znan.
40 no.11:36 N '64.   (MIRA 18:1)

1. Komanduyushchiy raketnymi voyskami i artilleriyey (for Kazakov). 2.
Pervyy zamestitel' Glavnokomanduyushchego Voyenno-Vozdushnymi Silami
(for Rudenko). 3. Pervyy zamestitel' komanduyushchego Krasnoznamennym
Baltiyskim flotom (for Mikhavlin). 4. Nachal'nik voysk svyazi (for
Leonov).

L 57520-65   EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c)
Pf-4   IJP(c)   JD/HW

ACCESSION NR: AR5013010

UR/0137/65/000/004/D011/D011
621.771.001

SOURCE: Ref. zh. Metallurgiya, Abs. 4D74

AUTHOR: Skryabin, N. P.; Bazhanov, Yu. M.; Kazakov, K. A.; Godin, N. I.;
Kochetov, I. M.

TITLE: Testing of sizing rolls for rolling light section stock from titanium alloys

CITED SOURCE: Tr. Ural'skogo n.-i. in-ta chern. met., v. 3, 1964, 143-148

TOPIC TAGS: titanium alloy, rolling mill, metal rolling

TRANSLATION: Investigations were conducted to determine the optimum conditions for
rolling titanium alloys on the 280 light section mill. It was found that the grooves
in rolls for rolling titanium alloys should be designed in such a way that the
gripping angle does not exceed 0.30-0.32 radians (17-18°). Under these conditions
stable gripping of the rolled stock by the rolls is ensured. During rolling it is
necessary to check the setting of the mill carefully. Rolling should be done on
the oval-oval system to improve the quality of the surface during sizing. It is

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L 57520-65

ACCESSION NR: AR5013010

necessary to have feeding and extracting equipment to improve the operation of the roll system, provide satisfactory conditions for feeding the strip into the rolls, and also to prevent jamming of the strip in the guides. N. Yudina.

SUB CODE: IE   ENCL: 00

Card 2/2

KACHIN A., ... , ...

Urgent tasks of missilemen and artillery ... ...
... 5 ... ...

KAZAKOV, K. S. (USSR)

"Changes in the Colloidochemical Properties of Proteins of the
Serum and Liver of Rabbits Poisoned with Carbon Tetrachloride."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

LYUBETSKIY, Kh.Z.; SHRAYBER, L.B.; KAZAKOV, K.S.; ADAMYAN, R.I.;
ABRAMOVA, L.I. (Tashkent)

Effect of ethylenediaminetetraacetic acid and vitamins B1 and
B12 on the course of lead poisoning; experimental studies.
Gig.truda i prof.zab. 6 no.12:45-46 D'62.   (MIRA 16:7)

1. Uzbekskiy nauchno-issledovatel'skiy institut sanitarii,.,
gigiyeny i professional'nykh zabolevaniy.
(LEAD POISONING) (ACETIC ACID) (VITAMINS—B)

KAZAKOV, Khatib Shakirovich.

Kazan' State Veterinary-Zootechnical Inst imeni Bauman. Academic
degree of Doctor of Biological Sciences, based on his defense,
21 January 1955 in the Council of Moscow Veterinary Academy, of
his dissertation entitled: "Chemical and Physico-Chemical Nature
of Vitellin and its Changes in the Process of the Embryonic
Development of an Egg." (Experimental Research)

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 12, 28 May 55, Pyulleten' MVO SSSR,
     No. 15, Aug 56, Moscow, pp. 5-24, Uncl. JPRS/NY-537

KAZAKCV, Kh. Sh.

USSR/General Biology - Physical and Chemical Biology.

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 28417

Author   : Kazakov, Kh. Sh.
Inst   : —
Title   : O fosforbiochimicheskikh soedineniyakh voobshche i em-
              briodinamicheskom raspredelenii fosfora v fosfovitelline
              v chastnosti. (biokhimii prirodnykh organich. soedineniy
              fosfora).
              On Biochemical Phosphorus Compounds in General and on
              Embryodynamic Distribution of Phosphorus in Phosphovitelli-
              ne in Particular. (Biochemistry of Natural Organic Phospho-
              rus Compounds).

Orig Pub   : Uch. zap. Kazansk. gos. vet. in-ta, 1956, 64, No 1, 199-
              218

Abstract   : A biochemical review of natural organic phosphorus com-
              pounds. Published data are given on the content and dis-
              tribution of phosphorus in nucleoprotein viruses,

Card 1/2

COUNTRY   : USSR
CATEGORY   :

ABS. JOUR. : RZBiol., No. 1,   1959, No. 257

AUTHOR   : Kazakov, Kh. Sh..
INST.   : Moscow Academy of Veterinary Medicine
TITLE   : Distribution of the Different Forms of
              Nitrogen in Phosphovitellin of Chicken
              Egg Yolk During Embryogenesis.
ORIG. PUB. : Tr. Mosk. vet. akad., 1957, 21, 130-146

ABSTRACT   : On incubation of chicken eggs for 98, 161,
240 and 408 hours, there is observed a regular change in
distribution of different forms of nitrogen (I) in yolk
vitellin. Content of total I drops unevenly, while that
of diamine-I decreases uniformly; content of mono-amino
acids drops more or less uniformly starting from the early
stage of development, and after 161-240 hours, but after
408 hours it increases, reverting practically to the level
that characterizes an unincubated egg. Content of amine-I
drops considerably, while that of non-amine nitrogen
increases unevenly. Content of ammonia-I decreases con-
siderably, as well as that of the I of humic compounds.
  CARD: 1/2

EVRANOVA. V.G., dotsent, kand. veterin. nauk; PAVLOVSKIY, Ye.N., prof.
otv.red.; VASNETSOV, N.V., prof., red.; VKRESHCHAGIN, M.N.,
prof.,red.; ZAYTSEV, V.G., prof.,red.; KAZAKOV, Kh.Sh., prof.,
red.; MOSIN, V.V., prof., red.; STUDENTSOV, A.P., prof., red.;
GALEYEV, V.V., dotsent, red.; LYSOV, V.F., dotsent, red.;
RABINOVICH, M.P., dotsent, red.; SABIN, I.M., dotsent, red.

[Methods for the laboratory diagnosis of the principal helmin-
thiases of farm and commercial animals and a comparative analysis
of their efficiency]. Metody laboratornoi diagnostiki glavneishikh
gel'mintozov sel'skokhoziaistvennykh promyslovykh zhivotnykh i
sravnitel'nyi analiz ikh effektivnosti. Kazan', 1960. 417.p.
(Kazan. Veterinarnyi institut. Uchenye zapiski, vol. 72).

(MIRA 17:7)

KAZAKOV, L.

Determining the amount of stretch in cattle carcasses during the removal of hides. Mias.ind.SSSR 26 no.5:55 '55.   (MLRA 9:2)
(Slaughtering and slaughterhouses) (Hides and skins)

KAZAROV

Sofia, Zhivotnovudstvo, Vol 16, No 4, April 1952

1. "An Improved Type of Tent for Drying Alfalfa," Ivanka ZAFIROVA, Junior Scientific Collaborator at the Central Livestock Scientific-Research Institute in Sofia (Sofia); pp 2-4.

2. "Our Experience with Preserving Green Alfalfa with Sodium Metabisulfite," Ivan ZIKOV, Chairman of the Road to Communism Cooperative Farm in Isperiah; pp 5-8.

3. For the Correct Distribution and Consolidation of Fodder Production in the Cooperative Farms," Zhivko STRASHILOV, Junior Scientific Collaborator (Central Agricultural ...); pp 9-14.

4. "The Influence of the Age of Hogs for Breeding ... ... (Senior Assistant), S. ... Ivan ... (Senior Assistant) and Vladimir ... Agricultural Institute G. Dimitrov, State Farm); pp 15-17.

5. "Combined Mechanization of the Poultry Pen in the Village of Kaloyarovo, Yambol Okrug," Stefan KULAKOV, Chief Zoologist at the V.I. Lenin Cooperative Farm; pp 18-22.

6. "Many Paths Lead to Cheap Production," Stelza PETEVA, Poultry Keeper at the cooperative farm in the village of Oreshak (Tolbuhin Okrug), holder of the Order of People's ... Banner of Labor, and people's representative, as told to G. DERGIEV; pp 23-25.

7. "The Daily Productivity of Bulgarian and Draft Horses in the Cultivation of Agricultural Crops," Ivan YORDANOV, Junior Scientific Collaborator, Livestock Scientific Research Institute, Kostinbrod Kray; pp 26-29.

8. "Feeding as a Factor in Breeding," Professor Petko IVANOV; pp 30-34.

9. "Our Experience with Breed Improvement," Petur ... Director of the Breed Improvement Station in State Kladina; pp 35-39.

10. "The Artificial Insemination of Cows with Sperm Diluted in a Carbonate-phosphate Diluting Agent," Marian TODOROV and ... Director and zoologist (respectively) ... Breed Improvement Station in Pazardzhik; pp 40-42.

18

KAZAKOV, L.

Paying bonuses for new machinery in the coal industry. Sots.trud
7 no.7:57-58 Jl '62.   (MIRA 15:8)

1. Nachal'nik Tekhnicheskogo upravleniya Tul'skogo kombinata
ugol'noy promyshlennosti Podmoskovskogo basseyna Ministerstva
ugol'noy promyshlennosti SSSR.
        (Coal mines and mining—Technological innovations)
                        (Bonus system)

KAZAKOV, L.

Achievements of the miners in the Tulaugol' Combine. Ugol'
39 no.7:72   Jl '64.   (MIRA 17:10)

1. Tul'skiy kombinat ugol'noy promyshlennosti Podmoskovnogo
basseyna Ministerstva ugol'noy promyshlennosti SSSR.

KAZAKOV, L. A. and VORONTSOV, P. A.

"Peculiarities in the Wind Cycle Over a Cotton Field and a Semidesert,"
Tr. Gl. geofiz. observ., No 39, 1953, pp 133-142

Results of expeditional studies of aerial currents in the lower atmos-
phere cver a cotton field and a semidesert, around 20-25 km apart, are
described. Direction and velocity of wind were measured either by a pilot
balloor or by an aerostatic meteorograph.

RZhFiz, No 3, 1955

KAZAKOV, L.A. (Moskva); KONCHALOVSKIY, V.Yu. (Moskva)

Optimum dimensional relationships of the magnetic circuits of
d.c. power magnets. Elektrichestvo no.10:23-26 O '64.

(MIRA 17:12)

VAYNBERG, N.L.; KAZAKOV, L.G.

Work practices of the Kagul Regional Agrochemical Laboratory.
Zemledelie 25 no.4:75-76 Ap '63.   (MIRA 16:5)
                    (Kagul District--Soils--Analysis)

KAZAKOV, L.I., inzh.-ekonomist; STEPANCHENKO, N.I., vedushchiy red.;
POLOSINA, A.S., tekhn.red.

[Reference book on labor and wages for petroleum workers] Spra-
vochnik po trudu i zarabotnoi plate dlia rabotnikov neftebaz.
Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,
1958.   222 p.   (MIRA 13:4)

1. Rosglavneftesnabsbyt pri Gosplane RSFSR.
      (Petroleum workers)   (Wages)

ARAKELOV, Arkadiy Avakovich; ARTAMONOVA, Rufina Grigor'yevna;
      KAZAKOV, Leonid Iosifovich; FEYGIN, Aleksandr
      Borisovich; KOTIKOVA, V.G., ved. red.

[Vykhino tank farm is an enterprise of communist labor]
Vykhinskaia neftebaza -- predpriiatie kommunisticheskogo
truda. Moskva, Nedra, 1965. 77 p.   (MIRA 18:7)

KAZAKOV, I.I.; LAPSHIN, N.T.

Supplying the national economy with petroleum products on a higher
level. Transp. i khran. nefti no.8:37-38 '63.   (MIRA 17:3)

1. Glavnoye upravleniye po transportu i snabzheniyu neft'yu i nefte-
produktami RSFSR.

SIDOROV, A.I., inzh.; KAZAKOV, L.I., inzh.; PEREL'MAN, I.I., inzh.

Modernization of the PSh-5 semiautomatic welder for welding in carbon dioxide. Svar. proizv. no.2:40 F '65.
(MIRA 18:3)

KAZAKOV, L.I.

Use all reserves for increasing the productivity and economic efficiency of enterprises. Transp. i Khran.nefti i nefteprod. no. 2:41-42 '64.   (MIRA 17:5)

1. Glavnoye upravleniye po transportu i snabzheniyu neft'yu i nefteproduktami RSFSR.

KUSHUL', Veniamin Moiseyevich; NAYDENKO, O.K., kand. tekin. nauk;
retsenzent; KAZAKOV, L.M., inzh., retsenzent; ZAKHARENKO,
B.A., nauchn. red.; VARKOVETSKAYA, A.I., red.

[New type of internal combustion engine] Novyi tip dviga-
telia vnutrennego sgoraniia. Leningrad, Sudostroenie,
1965. 211 p.   (MIRA 18:4)

L 45136-66   EWP(f)/T-2   WW

ACC NR: AP6020378 (N)   SOURCE CODE: UR/0114/66/000/006/0022/0026

AUTHOR: Kazakov, L. M. (Engineer)

ORG: none

TITLE: Theoretical and experimental study of an impulse system for the gas turbine pressure charging of high power low rpm diesel engines

SOURCE: Energomashinostroyeniye, no. 6, 1966, 22-26

TOPIC TAGS: gas turbine, diesel engine, impulse turbine

ABSTRACT: The article starts with a mathematical development of calculating equations taking into consideration the following parameters which affect the energy of the impulse and, consequently, the power of a gas turbine: the volume of the gas exhaust header, V_T; the straight through cross section of the turbine nozzles, f_c; the transverse cross section of the header, F; the number of cylinders attached to one header; the gas phase distribution; the size of the exhaust valves and the laws governing the change in their straight through cross section; the straight through vents; the number of rpm of the diesel, n_0; and, the type of turbine. In the calculations the following parameters were varied: $f_c = 0.04$, 0.06, and 0.07 meters^2; $V_T = 0.3$, 0.4, and 0.55 meters^3. The

UDC: 621.515.621.436.001.5

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L 45136-66

ACC NR: AP6020378

other initial conditions were: p_s (pressure of air blown through) = 1.6 kg/cm^2; n_0 = 115 rpm; p_e (gas pressure at the moment when the exhaust valve is opened) = 8.4 kg/cm^2; T_e (gas temperature at the moment when the exhaust valve is opened) = 1160°C. The calculations showed that the greatest effect on the magnitude of the impulse was exerted by a change in the value of f_c. Detailed experimental results are exhibited in a series of curves and tables. The proposed calculating equations are designed for solution using electronic computers. Orig. art. has: 7 formulas, 5 figures and 2 tables.

SUB CODE: 21/   SUBM DATE: none/   ORIG REF: 002/   OTH REF: 001

Card 2/2 UCR

GUBIN, N.I.; ZAGAYEVSKIY, Yu.L.; KAZAKOV, L.M.; LEVKON. A.I.; LEVCHENKO, A.I.;
MAL'CHENKO, E.Ya.; KAZAKOV, L.M.; POTAPENKO, G.B.

Overall mechanization and automation of mines in the Tula-ugol'
Combine. Ugol' 40 no.2:1-5 F '65.   (MIRA 18:4)

1. Shakhta No.38 (tresta Novomoskovskugo' ' for Gubin). 2. Trest
Krasnoarmeyskugol' (for Zagayevskiy). 3. Kombinat Tulaugol' (for
Kazakov). 4. Shakhta No.2 "Bibikovskaya" tresta Uzlovskugol' (for Levkov)
5. Shakhta No.13 tresta Shchekinugol' (for Levchenko). 6. Shakhta No.2
"Zubovskaya" tresta Krasnoarmeyskugol' (for Mal'chenko). 7. Trest Novo-
moskovskugol' (for Potapenko).

GUBIN, N.I.; ZAGAYEVSKIY, Yu.L.; KAZAKOV, L.M.; LEVKOV, A.I.; LEVCHENKO, A.I.;
MAL'CHENKO, E.Ya.; KAZAKOV, L.M.; POTAPENKO, G.D.

Overall mechanization and automation of mines in the Tula-ugol'
Combine. Ugol' 40 no.2:1-5 F '65.   (MIRA 18:4)

1. Shakhta No.38 (tresta Novomoskovskugo' ' for Gubin). 2. Trest
Krasnoarmeyskugol' (for Zagayevskiy). 3. Kombinat Tulaugol' (for
Kazakov). 4. Shakhta No.2 "Bibikovskaya" tresta Uzlovskugol' (for Levkov)
5. Shakhta No.13 tresta Shcheklnugol' (for Levchenko). 6. Shakhta No.2
"Zubovskaya" tresta Krasnoarmeyskugol' (for Mal'chenko). 7. Trest Novo-
moskovskugol' (for Potapenko).

KAZAKOV, L.M.

Manually guided electric cart for the mechanization of loading,
unloading, and transportation in food industry enterprises.
Kons.i ov.prom. 15 no.7:37-38 Jl '60.   (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo
rybnogo khozyaystva i okeanografii.
           (Food industry—Equipment and supplies)
              (Loading and unloading)

STRYGIN, A.I.; KOBZAR', V.N.; KAZAKOV, L.R.

Boulder-pebble material in the gneisses of the Teterev Valley (Ukrainian
Shield). Dokl. AN SSSR 158 no.3:609-612 S '64.

(MIRA 17:10)

1. Predstavleno akademikom V.S.Sobolevym.

KAZAKOV, L.R., inzh.-geolog

Aerial prospecting for minerals. Nauka i zhyttia 10 no. 12:22-25
D '60.
(MIRA 14:4)
(Prospecting) (Aeronautics in geology)

KAZAKOV, L.R.

New graphite-bea. ing region in the Soviet Carpathians.   Geol.zhur.
21 no.5:97-101 '61.   (MIRA 14:10)

1. Institut geologicheskikh nauk AN USSR.
                        (Carpathian Mountains--Graphite)

KAZAKOV, L.R.

Granitization of rocks in the Orekhov-Pavlograd region of magnetic.
anomalies, Geol.zhur. 21 no.6:89-97 '61.   (MIRA 15:2)

1, Institut geologicheskikh nauk AN USSR.
                    (Ukraine—Granitization)

KAZAKOV, L.R.

Petrographic characteristics of plagiogranites in the Chiv-chinskiye Mountains in the Carpathians. Geol. zhur. 23 no.4:
74-78 '63   (MIRA 17:7)

1. Institut geo. gicheskikh nauk AN UkrSSR.

PRUS, A.K.; KAZAKOV, L.R.

Conference on the prospects of metal potential of the crystalline
massif of the White Russian S.S.R. Geol. zhur. 23 no.5:111-
112 '63.   (MIRA 16:12)

KAZAKOV, L.R.; GORLITSKIY, B.A. [Horlyts'kyi, B.O.]

Sulfide mineralization in the rocks of the Orekhovo-Pavlograd
zone of magnetic anomalies. Trudy Inst. geol. nauk AN URSR.
Ser. petr., min. i geokhim. no.20:56-69 '63.

(MIRA 16:8)

AYZEN/ERG, D.Ye.; BELENTSEV, Ya.N.; BORDULO\, I.N.; BORISENKO, S.T.;
BULKIN, G.A.; GORLITSKIY, B.A.; DOVGAN', M.N.; ZAGORUYKO,
L.G.; KAZAKOV, L.R.; KALYAYEV, G.I.; KARASIK, M.A.; KACHAN,
V.G.; KISELEV, A.S.; LAGUTIN, P.K.; LAZARENKO, Ye.K.;
LAZARENKO, E.A.; LAPITSKIY, E.M.; LAPCHIK, F.Ye.; LAS'KOV,
V.A.; LEVENSHTEYN, M.L.; MALAKHOVSKIY, V.F.; MITKEYEV, M.V.;
PRUSS, A.K.; SKARZHINSKIY, V.I.; SKURIDIN, S.A.; SOLOV'YEV,
F.I.; STRYGIN, A.I.; SUSHCHUK, Ye.G.; TEPLITSKAYA, N.V.;
FEDYUSHIN, S.Ye.; FOMENKO, V.Yu.; SHKOLA, T.N.; SHTERNOV,
A.G.; YAROSHCHUK, M.A.; ZAVIRYUKHINA, V.N., red.

[Problems of metallogeny in the Ukraine] Problemy metallo-
genii Ukrainy. Kiev, Naukova dumka, 1964. 254 p.
(MIRA 18:1)

1. Akademiya nauk URSR, Kiev. Instytut geologichnykh nauk.

ACC NR: AM5027749   Monograph   UR/ 20

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Frosin, A.V.; Ryakin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shirey, R. A.; Shifrin, YA. S.; Shur, A. A.;;YAkovlev, O. I.; Kolosov, M. A.; Levshin, I. P.; Lomakin, A. N.

Upper tropospheric propagation of ultrashort radio waves (Dal'neye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

UDC: $621.371.24$

Card 1/10

ACC NR: AM5027749

Problems of investigating the troposphere by means of refracto-meters, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical character-istics of the signals at diversity reception in time, space, fre-quency and angle as well as the distortion of signals in the commun-ication systems are also investigated. The long-distance propagat-theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagat-ion which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geograph-ical conditions of the territory involved should be taken into con-sideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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ACC NR: AM5027749

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2. Signal attenuation function in LTP USW -- 54
3. Relationship between mean signal level and the distance -- 57
4. Relationship between mean signal level and the wavelength -- 63
5. Relationship of mean signal level and the shadow angles of both transmitting and receiving antennas --1:65
6. Diurnal and seasonal variations of mean signal level -- 72

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1. Correlation of the mean field level with the air refraction index at the Earth Surface. -- 77
2. Possibility of predicting field intensity variations -- 81

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Ch. V. Fluctuation of Radiowave Arrival Angles and Instantaneous Patterns of Antennas Directivities -- 88
1. Methods of measuring radiowave arrival angles and recording of instantaneous antenna directional patterns -- 89

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AUTHORS: Kazakov, L.Ya., Lomakin, A.N.

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TEXT: The authors consider the methods of measuring non-uniformities of the air dielectric constant. The operational principle of the refractometer is explained and its technical characteristics are described. The results of preliminary tests of a refractometer are presented.

Authors' summary

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