MATYUKHIN, N. Ya., and ROSNITSKIY, O. V.

"Ferrite-Core Operation in Matrix Memory Devices," Computer Engineering, Moscow,
Izd-vo AN SSSR, 1958. 150 p. (Akademiya Nauk SSSR. Institut tochnoy mekhaniki
i vychislitel'noy tekhniki Vychislitel'naya tekhnika).

Abst.: The problem of selecting the proper operating conditions for the most
useful performance of a ferrite core is presented, and an analysis of
core operation is made in this article. The interferences existing in
matrix devices are covered and methods of eliminating them are briefly
discussed. It is stated that the methods of determining ferrite-core
quality discussed in this article were studied experimentally in the Lab-
oratory of Control Mechanisms and Systems of the USSR Academy of Sciences.
The cores used in the experiment were made of powders K-65 (ferrite A)
and K-28 (ferrite B), and designed by A. A. Kosarev. R. P. Shidlovskiy
is mentioned in connection with the experiment. There are 5 references,
all in English.

Matyukhin, N. Ya

BRUK, I.S.; MATYUKHIN, N.Ya., inzh.; BELYNSKIY, V.V., inzh.;
IOSIF'YAN, A.G., akademik; KAGAN, B.M., kand.tekhn.nauk;
DOLKART, V.M., inzh.; LOPATO, G.P., inzh.

M-3 small-sized universal electronic digital computer.
Elektrichestvo no.1:49-54 Ja '58.   (MIRA 11:2)
                (Electronic calculating machines)

AUTHOR: Matyukhin, N. Ya. (Moscow)   SOV/103-19-8-7/11

ABSTRACT: In the present paper a method is investigated which comprises more classes of codes and which is based upon the representation of the code symbols as vectors in a multidimensional space and upon the investigation of the linear transformation in this space. It is assumed that numbers are employed as coding objects. To each number M from a totality of numbers used in a given device a code symbol corresponds with m elements α_1 $\alpha_2, \ldots . \alpha_m$. Each element of the σ_i symbol can take only two values (zero or unity). The amount of different numbers written down with the help of the binary code with m elements will be equal to the amount of different code symbols: Formula (1): $N_{max} = C_m^0 + C_m^1 + \ldots ,$

$C_m^{m-1} + C_m^m = (1 + 1)^m = 2^m$, where C_m^i denotes the number of

Card 1/3

Linear Transformations of Binary Codes

combinations of m elements with respect to i. The number
of different types of codes, which show correspondence of
the 2^m numbers and of the 2^m code symbols with m elements,
equals the number of all possible transpositions of the
symbols $N_m = 2^m$! Even at m = 4 this amounts to 10^{13}. 2^m
numbers are chosen in such a way that they represent a sec-
tion of a series of natural numbers, starting from zero
(0, 1, 2, ... 2^r-1). M may be chosen in such a way that it
corresponds to the symbol (α_1, α_2, ... α_m),and M = $\sum_{i=1}^{m} \alpha_i 2^{i-1}$.

The code constructed in this manner is called the normal
code X_n. All other possible codes can be written down in
the form of tables, which permit to make the normal code
concordant with any arbitrary other one. Then the sub-groups
of linear transformations (of inserting) and their proper-
ties are investigated. Examples for coding systems from the
linear sub-group are given, and the realization of the matrices
of linear transformations are shown and written down, re-
spectively. It is shown that in none of the binary codes of
a linear sub-group an operation corresponding to arithmetic
addition in normal code can be performed as simple as in
the normal code. It is shown that in any other code it is

Card 2/3

Linear Transformations of Binary Codes   SOV/1o3-19-8-7/11

necessary to perform three additional transformations. There
are 7 figures and 5 references, 3 of which are Soviet.

SUBMITTED: September 17, 1957

1. Transformations (Mathematics)   2. Mathematical computers--Coding

Card 3/3

GITIS, E.I,. Prinimali uchastiye: GRISHIN, V.K,; MATYUKHIN, M.Ya,.
SHAMSHUR, V.I., red.; LARIONOV, G.Ye., tekhn.red.

[Automatic electric control of radio units; parts of automatic
and calculating systems of aircraft radio installations] Elektro-
radioavtomatika; elementy avtomaticheskikh i vychislitel'nykh
ustroistv aviatsionnykh radioustanovok. Moskva, Gos.energ.izd-vo,
1959.   422 p.   (MIRA 12:3)
       (Radio in aeronautics)   (Automatic control)
       (Electronic calculating machines)

9.3230

67543

AUTHOR: Matyukhin, N.Ya.   SOV/141-2-3-21/26

TITLE: Discrete Linear Filters 25

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika,
     1959, Vol 2, Nr 3, pp 494 - 505 (USSR)

ABSTRACT: An arbitrary linear integral-differential operator or an
     interpolation or extrapolation operator can be described
     by its Fourier transform (frequency characteristic).
     Thus, a function $F(\omega) = R(\omega) - jL(\omega)$ corresponds to an
     operator L of the above type. If the operator L
     transforms real functions into different real functions,
     $R(\omega)$ is an even function of ω while $L(\omega)$ is an odd
     function. In an interval $(-\Omega < \omega < \Omega)$, $R(\omega)$ and
     $L(\omega)$ can be represented by the Fourier series:

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Discrete Linear Filters   SOV/141-2-3-21/26

$$R(\omega) = \sum_{k=0}^{\infty} r_k \cos\left(k \frac{\pi}{\Omega} \omega\right) \; ;$$

(2)

$$L(\omega) = \sum_{k=0}^{\infty} l_k \sin\left(k \frac{\pi}{\Omega} \omega\right)$$

where r_k and l_k are the Fourier coefficients.

The function $F(\omega)$ is therefore given by Eq (3). If the number of terms is limited to p+1 and q+1 , this function is given by Eq (3a). In this case, the mean square error is defined by Eq (4). The inverse Fourier transformation of the approximate frequency characteristic $\tilde{F}(\omega)$ (Eq 3a) gives an approximate formula for the operator itself; the operator is expressed by Eq (5), where $\delta(t)$ is the delta function, s is the largest of

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Discrete Linear Filters   SOV/141-2-3-21/26

p and q , while the non-existent coefficients r_k and l_k are assumed to be equal to zero. Consequently, the application of an approximate operator k to a function f(t) is in the form of the convolution integral expressed by Eq (6a), where the coefficients a_k are defined by Eq (6б) and r_k and l_k are given by Eqs (6B). The average square error can also be expressed by Eq (7), where $H^2(\omega)$ is the energy spectrum of f(t). This expression gives the minimum error if the coefficients r_k and l_k are determined from two systems of linear equations obtained from the conditions $\partial\varepsilon/\partial r_k = 0$ and $\partial\varepsilon/\partial l_k = 0$. The resulting equations for r_k and l_k are given by Eqs (8a) and (8б). The coefficients a_k can therefore be determined from Eq (8B). The frequency characteristic of an interpolation operator is $F(\omega) = e^{j\omega\tau}$. Eq (8B) can now be written

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as Eq (9). By employing the coefficients a_k from

Eq (9), the interpolating function can be represented by Eq (10). This can also be expressed as the linear combination defined by Eq (11), where R is given by Eq (12) and A_k is defined by Eq (13). By dividing the

i-th equation of the system (Eq 9) by a normalising factor, the expression for a_k is transformed into

Eq (14). This can also be written as Eqs (16) or (18). The solution of Eq (18) is in the form of Lagrange interpolation coefficients which are defined by:

$$a_k = L_k^s(\tau) = \frac{M_s(\tau)}{k! \ (s-k)! \ (\tau + k\Delta t)} (-1)^k \qquad (19)$$

$$(k = 0, 1, 2, \ldots, s) \ ,$$

where $M_s(\tau)$ is given by Eq (20). The determination of

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Discrete Linear Filters   SOV/141-2-3-21/26

the coefficients for the case of an integrating or differentiating operator can be carried out by using Eq (8B) or by employing Eq (11). The application of an arbitrary linear integral-differential operator having a spectrum $F(\omega)$ to a function $f_{M}(\tau)$ can thus be expressed by the inverse Fourier transformation; the result is stated in Eq (25). The same result can be obtained directly from Eq (8B). The above method permits the construction of an algorithm for the modelling of a quadripole having an arbitrary frequency characteristic $F(\omega)$ by means of a digital computer. In general, the algorithm is required to have a short delay time τ. The author expresses his gratitude to Yu.A. Shreyder for his interest in this work and for valuable advice. There are 5 figures and 2 references, 1 of which is Soviet and 1 English; the Soviet reference is translated from English.

SUBMITTED: April 25, 1959
Card 5/5

ALEKSEYEV, V.S., gornyy inzh.; MATYUKHIN, P.T., gornyy inzh.

Rock pressure control in mining steep seams by means of complete
caving. Ugol' Ukr. 4 no.1:25-26 Ja '60.   (MIRA 13:5)
          (Coal mines and mining)

MATYUKHIN, P.T., gornyy inzh.

Complete caving for roof control in steeply-dipping coal seams.
Ugol' Ukr. 4 no.12:1-2 D '60.   (MIRA 13:12)
    (Donets Basin—Coal mines and mining)

MATYUKHIN, P.T., gornyy inzh.

Response to G.S.Khomylov's article "Problems of earth sliding in the mines of the central area of the Donets Basin." Ugol' 36 no.8:56-57 Ag '61.   (MIRA 14:9)

1. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut.
       (Donets Basin--Subsidences (Earth movements))

MATYUKHIN, S.

Mobile concrete placer. Prom. stroi. i inzh. soor. 4 no.3:52-53
My-Je '62.   (MIRA 15:7)
                        (Concrete construction)

MATYUKHIN, S.A.

USSR/Engineering - Hydraulics,   Dec 51
                    Structures
"Application of Metal Sheet Files in
Hydraulic Structures," P. N. Zayakin,
S. A. Matyukhin, Engineers

"Gidrotekh Stroi" No 12, pp 11-14

Discusses possibility of using sheet
piles for protection of hydraulic works,
instead of erection of protective dike.
Describes a case of application of such
a method, which brings concrete works to
a min.

200T94

MATYUKHIN, S.G.

Efficient use of diagram paper. Priborostronenie no.11:32 N '63.
                                                    (MIRA 16:12)

85341

9.7500

S/120/60/000/005/009/051
E192/E382

AUTHORS: Kuz'min, V.F. and Matyukhin, S.S.

TITLE: Fast Electronic Counter with a Printer Unit

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 5,
pp. 46 - 52

TEXT: A block diagram of the instrument is shown in
Fig. 1. The device consists of the following elements:
1 - frequency multiplier; 2 - frequency generator;
3 - printer unit; 4 - forming or shaping circuit;
5 - electronic switch; 6 - counting device; 7 - control
circuit; 8 - timer circuit; 9 - standardising circuit;
10 - another forming circuit; 11 - selection circuit and
12 - control circuit. If it is necessary to measure the
frequency f_x of a source, the measured waveform is applied
to the first shaping circuit which produces sharp pulses
at its output; the pulses are repeated at the frequency
f_x . The pulses are applied to the electronic switch which
is normally closed. The state of this switch is determined
by the control trigger circuit. During the measurements

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the trigger circuit is opened for the duration τ by the
timer circuit and this results in the opening of the electronic
key. After the time interval τ a second pulse is applied
to the trigger circuit and this results in the closing of the
electronic switch. During the interval τ the pulses from the
forming circuit are applied to the counter, where their number
is recorded. The unknown frequency $f_x = n/\tau$ where n is

the number of pulses registered by the counter. The instrument
can have four values, 0.01, 0.1, 1.0 and 10 sec. The error
in the frequency measurement depends on the frequency
instability of the standard crystal oscillator, the delays in
the operation of the interval timer and the time of arrival of
the input pulses with regard to commencement and termination
of the keying pulses. Assuming that the conditions are an
optimum the minimum relative error in the measurement of the
frequency of 10 Mc/s is $\pm 10^{-7}$. However, this accuracy can

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Fast Electronic Counter with a Printer Unit

only be obtained if the instability of the frequency standard is less than $\pm 10^{-7}$. The instrument uses a thermostatically controlled quartz oscillator of the Clapp type, operating at 1 Mc/s. The instability of this device is $\pm 10^{-7}$ per week. The 1 Mc/s frequency was chosen as the standard because the available 1 Mc/s crystal gave the best stability. A detailed circuit diagram of the oscillator is shown in Fig. 2. The output waveform of the oscillator is applied to a Schmitt trigger having a hysteresis of about 3 V. In the measurement of the time intervals between two input pulses, the standard frequency (multiplied by 10) is applied to the forming circuit, while the two pulses are applied to the control trigger. The pulses are suitably shaped by the standardising circuit (Fig. 1). The error in the measurement is again determined by the same factors as in the frequency measurements. If it is necessary to measure the period of a waveform this is applied to the second forming circuit, whose action is analogous to that of the first forming circuit. Now the selector circuit

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singles out two pulses from the resulting pulse train. The pulses are applied to the standardising circuit and then to the control trigger circuit. The interval timer circuit is based on a frequency divider consisting of 7 phantastrons, a time selector, an electronic switch and a switching trigger circuit. A detailed circuit diagram of a phantastron divider is shown in Fig. 3. The division ratio of the circuit is 10 and its delay time is 0.1 μs. The pulse-forming circuit is shown in Fig. 4, together with the electronic switch and the control trigger circuit. The electronic switch is based on a pentode, where the control signal is applied to the third grid, the magnitude of this signal being not less than 10 V. The control trigger is in the form of a symmetrical binary circuit. This is based on two pentodes having a very high slope. The transition time of the electronic switch is less than 50 mμs. The actual forming circuit consists of a wide-band amplifier (having a bandwidth from 10 cps to 12 Mc/s), a Schmitt trigger based on two pentodes and an amplifying
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Fast Electronic Counter with a Printer Unit

stage connected to the output of the electronic switch. The instrument is furnished with a counter consisting of 8 decades. Each decade is built from 4 binary fircuits based on pentodes. A detailed diagram of a binary is shown in Fig. 5. Four binaries are so arranged, by providing suitable feedback paths, that they are capable of recording 10 pulses before returning to their rest position. From Fig. 5 it is seen that the cathode of each tube in the decade is provided with a 150 ohm resistor. This is used in the oscillographic observation of the operation of the circuit and for driving the reading circuit. The indication of the state of a decade is effected by a reading circuit consisting of 10 junction transistors. These are connected as grounded-emitter circuits and they contain small lamps in their collectors. By using the lamps it is possible to read the count under normal daylight illumination conditions. Further, the voltage drop across the lamps is used for printing a suitable digit on the printer unit. The instrument consists of two separate units situated in the same cabinet, having

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dimensions of 600 x 500 x 400 mm^3. One of the units contains all the supplies, while the other houses all the remaining elements. The printer unit is based on the printer from the tabulating machine, type T-4M. The overall power consumption of the instrument is 430 W and its weight is 55 kg. The device has a resolving time of 0.07 µs and has the following measurement ranges: 1) 10 cps to 12 Mc/s for frequency; 2) 1 µs to 100 days for time and 3) 100 µs to 0.1 sec for measuring the periods of frequency waveforms. The authors express their gratitude to S.M. Rubchinskiy for valuable advice and his constant interest in this work and to R.K. Titov, Yu.D. Bol'shakov and E.A. Knorin for participation in the construction of the instrument. There are 7 figures and 4 references: 1 Soviet and 3 English.

ASSOCIATION: Radiotekhnicheskiy institut AN SSSR (Radio-
                 engineering Institute of the AS USSR)

SUBMITTED: September 19, 1959
Card 6/6

MATYUKHIN, V., inzh.

Optical stand for checking and adjusting sheet alignment.
Avt. transp. 43 no.6:28-30 Je '65. (MIRA 18:6)

MATYUKHIN, V.A.

MATYUKHIN, V.A.; SHUV, Sh.I.

Improve working conditions in foundries of machinery manufacturing plants. Bezop. truda v prom. 2 no.1:8-10 Ja '58.   (MIRA 11:1)

1.Moskovskiy avtozavod im. Likhacheva.
          (Founding--Safety measures)

BREKHMAN, I.I., doktor med.nauk; MATYUKHIN, V.A., kand.med.nauk;
FRUYENTOV, N.K., kand.med.nauk (Vladivostok)

Results of a study of lead contamination of the hands of workers
with ethylated gasoline. Gig.i san. 25 no.7:97-98 Jl '60.
(MIRA 14:5)

(HAND—DISEASES)   (LEAD POISONING)

DARDYMOV, I.V., kapitan med.sluzhby; MATYUKHIN, V.A., kapitan med.sluzhby

Changes in basal metabolism of submarine personnel during the lst year of service. Voen.-med. zhur. no. 2:51-53 F '61.

(MIRA 14:2)

(METABOLISM)   (SUBMARINE MEDICINE)

MATYUKHIN, V.A.; MAYANSKIY, G.M.

Therapeutic effect of ginseng in chronic radiation sickness
in white rats. Mat. k izuch. zhen'. i drug. lek. rast. Dal'.
Vost. no.5:137-141 '63.   (MIRA 17:8)

1. Meditsinskaya sluzhba Tikhookeanskogo flota.

ACCESSION NR: AT4025319   S/0000/63/000/000/0274/0282

AUTHORS: Prokhorov, Yu. G.; Demichev, V. F.; Matyukhin, V. D.

TITLE: Measurement of time variation of plasma energy

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey.
Moscow, Gosatomizdat, 1963, 274-282

TOPIC TAGS: plasma research, plasmoid, plasma source, plasma tem-
perature, discharge plasma, plasma heating

ABSTRACT: A system, called "thermal probe," has been developed to
measure the time variation of plasma energy. It consists of a plati-
num foil 6 microns thick, heated electrically to 1,000--1500°, the
incandescence of which is registered by a photomultiplier with maxi-
mum sensitivity in the red part of the spectrum (near 7,000 Å). The
spectral sensitivity of the foil-plus-photomultiplier system, with
the foil electrically heated, is sufficient for the registration of

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ACCESSION NR: AT4025319

a slight change in the foil temperature such as is produced by the
heating of the plasma. The instrument is calibrated by discharging
a capacitor through the foil. The thermal probe was used to measure
the plasma energy in slow (millisecond) and fast (microsecond) pro-
cesses, as well as to estimate the efficiency of thermal insulation
of the plasma column in a toroidal system with longitudinal magnetic
field ("Tokamak"). It was also used to measure the energy of fast
plasmoids obtained with the aid of a coaxial plasma gun. In the
latter case such a measurement is preferable because the usual
calorimetric method determines only the integral energy of the
plasmoids occurring in one discharge, without giving the energy in
individual plasmoids. The use of the thermal probe in conjunction
with other methods (electric probe, millimeter waves transmitted
through the plasma, etc.) makes it possible to determine a large
number of parameters of plasmoids produced in a single discharge.
Another feature of the apparatus is that there is no direct electric
connection between the plasma and the recording apparatus, which can

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ACCESSION NR: AT4025319

be located away from the plasma. The thermal probe can also be
used in chambers with high initial vacuum. Orig. art. has: 6
figures, 3 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 19Oct63   DATE ACQ: 16Apr64   ENCL: 03

SUB CODE: ME   NR REF SOV: 000   OTHER: 000

Card 3/3

DEMICHEV, V.F.; MATYUKHIN, V.D.

Studying the properties of fast moving plasma clots. Dokl. AN SSSR
150 no.2:279-282 My '63.   (MIRA 16:5)

1. Predstavleno akademikom L.A.Artsimovichem.
               (Plasma (Ionized gases))

ACCESSION NR: AP3000511   S/0020/63/150/002/0279/0282

AUTHOR: Dimichev, V. F. Matyukhin, V. D.

TITLE: Investigation of properties of fast plasmoids

SOURCE: AN SSSR Doklady, v. 150, no. 2, 1963, 279-282

TOPIC TAGS: fast plasmoid, plasmoid property

ABSTRACT: In connection with the problem of filling magnetic traps with hot plasma, the properties of plasmoids obtained by means of a coaxial electrodynamic injector have been experimentally investigated. The injector's operational mode, which determines the speed, energy, momentum, and other properties of the plasmoid, was governed by the initial voltage across the capacitor bank U_b, the quantity of gas M, the kind of gas injected, and the delay time Δt between the injection and the gas discharge. The initial voltage was varied from 3 to 15 kv; Δt, from 150 to 250 microsec; and M, from 0.1 to 1.2 cm^3 at atmospheric pressure. Hydrogen, deuterium, and helium were used. By means of magnetic probes it was found that the first discharge of gas takes place in the region of the injector openings. The plasmoid generated leaves the injector with a velocity which depends on U_0 and M. In certain modes characterized by a small quantity of injected gas, the

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L 12918-63
ACCESSION NR: AP3000511

plasmoid splits into two or more separate plasmoids, each travelling with a
different velocity. The momentum, energy, and velocity of plasmoids were measured
simultaneously. The average masses, densities, and total number of particles
were calculated from these quantities and were found to be in good agreement
with data obtained by thermal probing techniques. Spectroscopic measurements
were made only at such modes where the plasmoids had comparatively small velocities
(10^7 cm/sec) and high plasma densities. No separation of plasmoids at such modes
was observed. This article was presented by Academician L. A. Artsimovich, 9
Nov 1962. "In conclusion the authors express their thanks to Academician L. A.
Artsimovich and to A. M. Andrianov for their unchanging interest in the work
and for discussion of the results." Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 30Oct62   DATE ACQ: 12Jan63   ENCL: 00

SUB CODE: PH   NO REF SOV: 002   OTHER: 004

Card 2/2

L 25965-66   EWT(1)/ETC(f)/EPF(n)-2/EWG(m)   IJP(c)   AT

ACC NR: AP5026436   SOURCE CODE: UR/0089/65/019/004/0329/0335

AUTHOR: Demichev, V. F.; Matyukhin, V. D.; Nikologorskiy, A. V.;
Strunnikov, V. M.

ORG: None

TITLE: Plasma bent in curved magnetic field

SOURCE: Atomnaya energiya, v. 19, no. 4, 1965, 329-335

TOPIC TAGS: plasma electromagnetics, plasma dynamics, plasma density,
moving plasma, plasma magnetic field, plasma velocity

ABSTRACT: One of the useful techniques for purifying plasma bursts is
to use a curved magnetic field for removal of impurities. After a brief
discussion of methods employed, the authors describe their experiments
with a plasma moving around a 90° bend in a curved quadrupole field
formed by a system of four parallel conductors. This device was pro-
posed to the authors by L. A. Artsimovich. Its arrangement is schemati-
cally shown on Fig. 1 (card 2/3). Two 30 cm long guide fields are
interconnected by a bent field with a curvature radius R = 30 cm. The
magnetic system is fed from the capacitor bank of 1500 microfarads.
The plasma was produced by a coaxial electrodynamic gun. The greatest
field intensity in the slit between conductors was 6 kilooersted. The
maximum front velocity attained a rate of 10⁷ cm/sec while the velocity

Card 1/3   UDV: 533.9
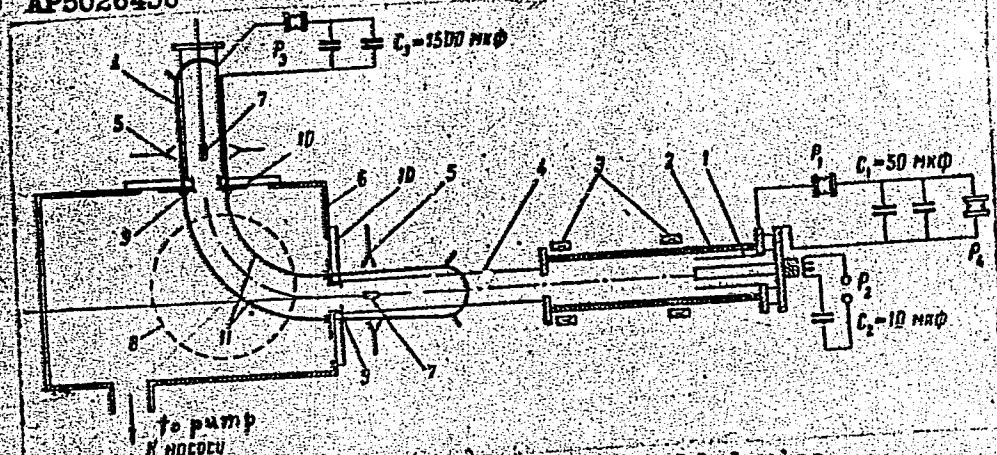
L 25965-66

ACC NR: AP5026436

Fig. 1. Curved magnetic field device

1-plasma gun; 2-porcelain cylinder (d = 120 mm); 3-magnetic field coils; 4-quartz cylinder (d = 90 mm); 5-SHF antenna; 6-vacuum chamber (50 x 50 x 90 cm); 7-probes; 8-viewing window; 9-diaphragms (0.1 mm stainless steel, d = 60 mm); 10-glass insulators; 11-conductors.

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L 25965-66

ACC NR: AP5026436   2

of central jet was 8×10^6 cm/sec at the maximum density of about 2×10^{15} cm^{-3}. The velocity of the most compressed part of the plasma at leaving the magnetic system, was 7×10^6 cm/sec. In spite of losses (through slits) the concentration of ions after the bend reached 2×10^{14} cm^{-3}. The total number of particles was about 10^{17}. The results of the experiments proved that the neutral gas was completely eliminated and a pure ionized plasma was practically obtained. An optimal value for the magnetic field intensity H of about 3 koe was reached. The variations of numbers of ions, of their concentration and distribution as well as of the plasma densities were illustrated in 7 graphs for various values of H. The authors express their gratitude to L. A. Artsimovich for his initial suggestion, continuous assistance and discussion of results. They thank also A. M. Andrianov for his continuous interest shown in their work. Orig. art. has: 2 diagrams, 7 graphs and 1 formula.

SUB CODE: 20 / SUBM DATE: 20Feb65 / ORIG REF: 008 / OTH REF: 004

Card 3/3 FW

MATYUKHIN, Valentin Mikahylovich; LIPSKAYA, V.F., red.; BODANOVA,
    A.P., tekhn. red.

    [Operation and maintenance of a stone-crushing unit] Tekh-
    nicheskaia ekspluatatsiia i obsluzhivanie kamnedrobil'noi
    ustanovki. Moskva, Avtotransizdat, 1963. 63 p.
                                  (MIRA 16:6)
       (Stone and ore breakers)

MATYUKHIN, V. M.

"A new equivalent system of synchronous machines with projecting poles",
by Candidate of Technical Sciences V. M. Matyukhin, at the Power Engr.
Inst. im KRZHIZHANOVSKIY of the Acad. Sce. USSR.

SO: Elektrichestvo, No 5, Moscow, May 1947 (U-5533)

MATYUKHIN, V. M.   PA 70T31

USSR/Electricity   Apr 1948
    Synchronous Machines
    Circuits, Equivalent

"New Equivalent Circuit for Salient Pole Synchronous
Machines," V. M. Matyukhin, Power Engr Inst imeni G.
M. Krzhizhanovskiy, Acad Sci USSR, 9 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 4

Describes circuit, which involves the Wheatstone
bridge, and is effective for both synchronous and
asynchronous operation. Includes diagrams and compu-
tation. Submitted Jan 1948.

70T31

MATYUKHIN, V. M.

USSR/Electricity - Electric Machines   Mar 50
                  Classifications

PA 171T13

"Basic Classification of Electric Machines,"
V. M. Matyukhin, Cand Tech Sci, Power Eng Inst
imeni Krzhizhanovskiy, Acad Sci USSR

"Elektrichestvo" No 3, pp 38-43

Proposes classifying machines according to struc-
ture of windings, characterized by magnetic
axes fixed in space. Starting point of class-
ification is concept of generator connection be-
tween axes of machine and exhaustion of possible
combinations of generator connections, which

171T13

USSR/Electricity - Electric Machines   Mar 50
                  (Contd)

determines columns of proposed table of circuits.
Distribution of machines according to rows of
table is determined by certain other features of
circuit construction. Submitted 11 Nov 49.

171T13

MATYUKHIN, V. M.

"Equivalent Circuit of Synchronous Generator and Electric Transmission Line," V. M. Matyukhin

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 9, pp 1284-1287

Describes bridge equiv circuit of synchronous generator with salient poles, which delivers current on bus bars of infinite power through long transmission line represented in general case of quadripole. Practical significance of circuit is possibility for precise calcn of salient pole system of generators during study of sym conditions in ac designing processes. Submitted 17 Nov 50.

205T4

1. MATYUKHIN, V. M.

2. USSR (600)

4. Dynamos

7. Equations and structural scheme of a synchronous generator with automatic exciter regulation. Izv. AN S SR. Otd. tekh. nauk no. 9, 1952.

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

USSR/Electricity - Generators, Automatic   Sep
    Regulation

"Equations and Structural Diagram of a Synchronous Generator with Automatic Regulation of Excitation,"
V. N. Matyukhin

Iz Ak Nauk SSSR, Otdel Tekh Nauk, No 9, pp 1322-1330

Demonstrates possibility of applying general theory of regulation to problem of regulating excitation of synchronous generator. Develops differential eqs for small deviations, law of regulation and characteristic eq of synchronous generator with automatic

regulation of excitation. Develops also formulas and coeffs required for calcg regulation stability of generator working through quadripole. Submitted by Acad A. V. Vinter 20 Dec 51.

PA 248T32

248T32

MATYUKHIN, V. M.

ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, glavnyy redaktor;
AVTSYFEROV, M.S., kandidat fiziko-matematicheskikh nauk; ASTAKHOV, K.V.,
professor; VUKALOVICH, M.P., professor, doktor tekhnicheskikh nauk;
KOBELIN, A.I., kandidat tekhnicheskikh nauk; KRIPST, B.S., inzhener;
LAZAREV, L.P., kandidat tekhnicheskikh nauk; MAZYRIN, I.V., inzhener;
MATYUKHIN, V.M., kandidat tekhnicheskikh nauk; NIKITIN, N.N., kandidat
fiziko-matematicheskikh nauk; PANICHKIN, I.A., kandidat tekhnicheskikh
nauk; PETUKHOV, B.S., kandidat tekhnicheskikh nauk; PODVIDZ, L.G.,
kandidat tekhnicheskikh nauk; SIMONOV, A.F., inzhener; SHIHYAGIN, A.P.,
kandidat tekhnicheskikh nauk; FAYNZIL'BER, B.M., professor, doktor
tekhnicheskikh nauk; KHALIZEV, G.P., kandidat tekhnicheskikh nauk;
YAN'SHIN, B.I., kandidat tekhnicheskikh nauk; MARKUS, M.Ye., inzhener,
redaktor; KARGANOV, V.G., redaktor graficheskikh materialov, inzhener;
SOKOLOVA, T.F., tekhnicheskiy redaktor.

[A machinebuilder's manual in six volumes] Spravochnik mashinostroitelia
v shesti tomakh. Izd. 2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry. Vol. 2. 1954. 559 p.   (MIRA 8:1)
     (Machinery—Construction) (Mechanical engineering)

AUTHOR: Matyukhin, V. M. (Moscow).   24-7-1/28

TITLE: On the static stability of electric power transmission due to the presence of several alternators at the transmitting power station. (O staticheskoy ustoychivosti elektro-peredachi v svyazi s nalichiyem neskol'kikh generatorov na peredayushchey stantsii).

ABSTRACT: In investigating the stability of power systems the alternators of each station are usually substituted by a single equivalent alternator. However, it has never been proved that such a substitution is permissible from the point of view of the method of small swings. This problem has become more acute in view of the fact that continuous automatic excitation regulators are used for the individual alternators. In this paper the problem is considered of the correct calculation of groups of parallel symmetric alternators, i.e. alternators with equal parameters, equal settings (power output, rotor current, regulator setting etc.) and equal excitation and control circuits. It is assumed that several symmetrical generators

1/3

On the static stability of electric power transmission due
to the presence of several alternators at the transmitting
power station. (Cont.)   24-7-1/28
feed energy through a line into a large power system.
If there is a disturbance anywhere in the line obviously
all generators of the station will be substituted by a
single generator since it follows from the symmetry
considerations that their rotation will be synchronous and
synphase even in transient operation. However, small
disturbances may occur in one or several of the alternators
under consideration due, for instance, to the presence of a
flexible coupling on an alternator shaft which may lead to
relative oscillations between the individual machines. The
question arises whether in such a case it is justified to
substitute the alternators by a single one. The differen-
tial equations of small oscillations should be formulated
in a general way, i.e. in the case under consideration the
possible relative deviations of the coordinates of the
individual alternators should be taken into consideration.
Also,in practice there will always be some "scattering" of
the parameters in current type alternators and, therefore,
2/3   there will be relative oscillations of the alternators of a
power station during disturbances. It is shown in the paper

On the static stability of electric power transmission due
to the presence of several alternators at the transmitting
power station. (Cont.)   24-7-1/28

that a characteristic polynomial of a group of parallel
symmetrical alternators can be sub-divided into n factors
(n being the number of machines in the power station) of
which one represents the characteristic polynomial of the
equivalent alternator and the rest, (n-1), are equal and
express the relative movement of any two alternators. In
the general case it is necessary to investigate the
relative movement of the alternators in addition to
investigating the stability of the movement of the
"equivalent" alternator. On the basis of a theoretical
analysis, it is concluded that the number of symmetrical
alternators of a power station does not manifest itself in
the equations and, therefore, it can be assumed from the
point of view of stability studies that the station
possesses two alternators. The structural scheme for the
relative movement of the alternators is the same as for
the equivalent alternator except that differing parameters
3/3   correspond in the two cases to equal elements.
       There are three references, all of which are Slavic.

SUBMITTED: November 16, 1956.
AVAILABLE:

AUTHOR: Matyukhin, V.M.   105-58-5-7/2?

TITLE: The Influence Exercised by the Excitat .i Control Law Upon the
            Damping of the Oscillations of a Synchronous Machine (Vliyaniye
            zakona regulirovaniya vozbuzhdeniya na dempfirovaniye kolebaniy
            sinkhronnoy mashiny)

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 27-31 (USSR)

ABSTRACT: On the basis of the example of a system of the fourth order the
            influence exercised by various control-laws upon the damping and
            the frequency of machine oscillations is explained. Investigations
            gave the following results: 1.) Damping of rotor oscillations de-
            pends on the electromotive forces introduced into the regulator.
            The latter are proportional to the derivatives of amperage, volt-
            age, or those of the angle. 2.) In the case of control being car-
            ried out according to the second derivative of the angle in the
            system of fourth order, a high degree of damping can be warranted.
            Control carried out according to the first derivative of the
            angle reduces the decrement of the dying down of rotor oscillations.
            Control carried out according to the second derivative of the
Card 1/2   stator current also results in a high degree of damping during

The Influence Exercised by the Excitation Control Law
Upon the Damping of the Oscillations of a Synchronous
Machine

105-58-5-7/28

control of excitation as a function of the stator current. How-
ever, the amount of the second derivative of the stator current
is limited from above because of stability, which is of importance
as a voltage function in basic control. 3.) The improvement of
damping when control is carried out according to the second deriva-
tives of the angle and of the stator current is due to the increase
of the oscillation frequency of the rotor. 4.) When control is car-
ried out according to the derivatives of voltage, both derivatives
should be used. In principle, a high degree of damping cannot, how-
ever, be warranted in this case. Examples are given, which show
that in this case dying down is considerably less marked than if
control is carried out according to the second derivative of the
angle. There are 3 tables, and 4 references, 4 of which are Soviet.

ASSOCIATION: Energeticheskiy institut im. Krzhizhanovskogo Akademii nauk SSSR
(Institute for Power Engineering imeni Krzhizhanovskiy, AS USSR)

SUBMITTED: June 29, 1957

AVAILABLE: Library of Congress

Card 2/2   1. Generators--Control systems   2. Generators--Electrical properties

AUTHORS:

1) Matyukhin, V. M., Candidate of Technical Sciences $SOV/105-58-7-19/32$
2) Tsukernik, L. V., Candidate of Technical Sciences
3) Chesachenko, V. F., Candidate of Technical Sciences

TITLE:

On Dynamic Models of Energy Systems (O dinamicheskikh modelyakh energosistem)

ABSTRACT:

This work comments upon the article written by I. S. Bruk in Elektrichestvo, 1958, Nr 2. 1) The suitability of approximated molding on noncomplex models is not denied. However, in the modelling of complicated energy systems, the situation is different. All fineness of control and of corresponding transition processes in the equivalent generator disappear in this case. There are innumerable possibilities of improving computers. Electrodynamical models, however, are to certain extent "a chapter for themselves" and therefore the money spent for their improvement will hardly be worth .... Bruk does not mention the rôle played by theory. It is just by mathematical analysis that results may be ob-

Card 1/3

On Dynamic Models of Energy Systems   SOV/105-58-7-19/32

tained which cannot be obtained either on a dynamical model
or by means of a calculating machine. 2) Tsukernik is of the
opinion that both life and experience have already solved
the problem. The technique of calculating will increasingly
extend in the case of scientific- and projecting work, where-
as dynamic modelling with respect to its nature is similar to
experimenting in laboratories. Instead of comparing the two,
it would be better to use them together. The Institute of
Electro-Engineering AS Ukrainian SSR established an industrial
plant in collaboration with the Kiyevenergo which produces
an approximate model of the line of the Hydroelectric Generat-
ing Station Kuybyshev - Moscow - with 1750 kW. 3) When a
great number of calculating machines for the investigation
of complicated energy-systems will be available for operation
and projection, investigations will be carried out on
machines actually available and on electron-analyzers. As
long as this is not the case, dynamic models will have to
be used. There are 6 references, 5 of which are Soviet.

Card 2/3   .

On Dynamic Models of Energy Systems

SOV/ 1o5-58-7-19/32

ASSOCIATION: 1) i 3) Energeticheskiy institut im. Krzhizhanovskogo
Akademii nauk SSSR (1) and 3) Institute of Power Engineer-
ing imeni Krzhizhanovskiy AS USSR)
2) Institut elektrotekhniki Akademii nauk USSR
(2) Institute of Electro-Engineering, AS UkrSSR)

1. Power plants--Design   2. Mathematical computers--Applications

Card 3/3

AUTHOR: Matyukhin, V. M. (Moscow)   SOV/24-58-11-15/42

TITLE: The Stability of Complex Power Systems (Ob ustoychivosti
         slozhnykh energosistem)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh
         Nauk, 1958, Nr 11, pp 65-69 (USSR)

ABSTRACT: The paper deals with the stability 'in the small', i.e.,
         within a single station containing identical generators
         connected via lines to other stations of the same type
         with generators of different size; the busbars to which
         the lines lead are assumed to be of infinite power.
         Equations are written for the increments in the torques
         and rotor e.m.f.s arising when generator i of station m
         deviates slightly from its proper position. The right
         half of Eq.(2) takes account of the exciter only. The
         equations are rewritten in terms of the absolute angles
         S and field currents I_f; certain symmetry arguments are
         applied, and the coefficients in the equations then put
         in matrix form. Some earlier results of the author
         (Ref 9) are then applied (the presentation is very
         condensed) to derive the determinant, Eq.(8). The
Card1/2 diagonal minors are derived and Laplace's theorem applied;

The Stability of Complex Power Systems   SOV/24-58-11-15/42

Eq.(12) is the product of factors, each of which is the characteristic determinant for the relative motion of two generators in station m. It is then shown that, if each station is represented by an equivalent generator, the system can only be stable if the relative motions of the generators within the station are themselves stable. There are 1 figure and 12 references, 11 of which are Soviet, 1 English.

ASSOCIATION: Energeticheskiy institut AN SSSR
(Power Institute, Ac. Sc. USSR)

SUBMITTED: January 29, 1958

Card 2/2

S/024/59/000/06/022/028
E194/E255

AUTHOR: Matyukhin, V. M.   (Moscow)

TITLE: The Influence of the Aperiodic Component of Current on the Stability of a Synchronous Machine With Slight Field Control

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1959, Nr 6, pp 182-183 (USSR)

ABSTRACT: In studying the static stability of synchronous machines it is usual, for simplicity to represent the stator circuit by steady-state equations. This short note gives a strict justification of this assumption for machines with automatic field control. A system of equations is written for a synchronous machine, assuming that it works through a line on to busbars of infinite capacity, the line being allowed for by including reactance and resistance. Functions are included that allow for field control. A determinant is formulated for the system of equations and the significance of the determinant is discussed. It is concluded that if the ohmic resistance of the stator and of the line are neglected, then the

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E194/E255

The Influence of the Aperiodic Component of Current on the Stability
of a Synchronous Machine With Slight Field Control

characteristic determinant for small oscillations of
synchronous machines may be resolved into two factors,
whether or not there is a field controller and whatever
the law of control. One of these factors is equivalent
to undamped oscillations at unit frequency, which in
practice are damped by dissipation of energy in the
resistance. The second factor corresponds to the ordinary
system of equations which is obtained if transient
processes in the stator circuit are neglected. Thus if
resistance is zero, the normal equations can be used. A
similar resolution was given by Gorev, in his book
published in 1950, for the case of an uncontrolled machine
with zero resistance. He derived it directly from the
characteristic equation, which is very difficult to obtain
in the case described in this note. If the stator
resistance is small, no great changes are required, since
the order of the characteristic equations is the same
and the roots are only slightly changed. The general
Card 2/3   problem with any value of resistance is very difficult

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E194/E255

The Influence of the Aperiodic Component of Current on the Stability
of a Synchronous Machine With Slight Field Control

of solution but Gorev has shown that if the resistance
is relatively great the influence of the aperiodic com-
ponent of current is negligible. There are 2 Soviet
references.

SUBMITTED: June 19, 1959

Card 3/3

MATYUKHIN, V.M. (Moskva)

Existence of a region of stable operation of a regulated
synchronous machine. Izv. AN SSSR. Otd. tekh. nauk. Energ.
i transp. no.3:305-308 My-Je '63.   (MIRA 16:8)

MATYUKHIN, V.M., kand. tekhn. nauk

Concerning M.V. Machinskii's article "Equivalent circuits of a multiple unit system as a means for studying its static stability." Izv. vys. ucheb. zav.; energ. 7 no.4:109-110 Ap '64.
(MIRA 17:5)

MATYUKHIN, V. V.

KUZNETSOV, N.A.; MATIUKHIN, V.V., starshiy doroshnyy master.

Track laid on combined ballast.   Put' i put.khoz. no.6:7-8
Je '57.   (MIRA 10:7)

1. Nachal'nik Krinichnenskoy distantsii puti Donetskoy dorogi
(for Kuznetsov).

(Railroads.—Track)

28(5)

05759

AUTHORS: Konovalov, E. Ye., Matyukhin, V. V.,   SOV/32-25-10-48/63
             Yemel'yanov, V. P., Karabash, A. G.

TITLE: A Conductometric Signaler for Oxygen in Gases

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 10, pp 1260-1262
             (USSR)

ABSTRACT: A device was constructed (E. Ye. Konovalov, Ye. A. Kochet-
             kova, V. M. Morozov, V. D. Kolesnikov, V. M. Andreyev,
             A. G. Karabash - Patent No 1113837), which is intended to be
             used for the continuous control of the oxygen content in noble
             gases. It makes it possible to determine the moment at which
             the oxygen absorber becomes saturated and prevents pollution
             of the system with oxygen-containing gas. The transmitter of
             the device (Fig 1) is a porcelain tube filled with coppered
             silica gel. A porcelain rod is introduced into the tube round
             which a chrome nickel coil with resistivity of 500 Ohm is
             wound. The tube itself is in a steel casing. The working
             piece of the transmitter is heated by means of an electric
             furnace to 300 to 350°. The gas to be controlled flows through
             the porcelain tube by way of the "coppered" silica gel. If the
             gas contains oxygen, the latter oxidizes the copper, thus

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A Conductometric Signaler for Oxygen in Gases

0575?

SOV/32-25-10-48/63

increasing the electric resistivity of the transmitter, which
is transmitted to a secondary signaling device (Fig 2, Scheme).
The latter was worked out by A. F. Popov and contains a polar-
ized relay of the type RP-4 as a regulating element, as well
as a corresponding signal lamp, which flashes up as soon as
a certain resistance of the transmitter is attained (owing to
the increase of the oxygen content in the gas, i.e. the ad-
vanced oxidation of the copper on the silica gel). Also a
second variety of the signaling device was worked out, in
which a burning lamp is extinguished at a certain resistance
of the transmitter (i.e. oxygen content in the gas). The
device may also be used for investigations for hydrogen in
gases, in which case copper oxide is on the silica gel instead
of copper, and the electric resistance of the transmitter is
reduced by hydrogen. In a similar manner it is possible also
to prove the existence of reducing hydrocarbons. There are
3 figures and 1 Soviet reference.

Card 2/2

LYSYUK, V.S., kand. tekhn. nauk; MATYUKHIN, V.V., inzh.

Failure of screw spikes. Vest. TSNII MPS 24 no.6:24-29 '65.
(MIRA 18:9)

137-58-6-13963

AUTHOR: Matyukhina, A.F.

TITLE: Some Data on Disease of the Oral Mucous Area Among Workers
            in the Aluminum Industry (Nekotoryye dannyye o porazhenii
            slizistoy polosti rta u rabochikh alyuminiyevoy promyshlen-
            nosti)

PERIODICAL: Sb. tr. Stalinsk. in-t usoversh. vrachey, 1957, Vol 27,
            pp 55-60

ABSTRACT: As a result of an analysis of statistical data of a clinical in-
            vestigation carried out among workers of electrolysis depart-
            ments of an aluminum plant it was found that the earliest and
            most distinct manifestation of changes in the mucous membrane
            of the oral cavity among workers in the aluminum industry is
            the bleeding of the gum tissue; capillary examination of the gum
            tissue of workers with pronounced tendency toward bleeding re-
            veals a series of changes; they concern the morphology of the
            capillaries as well as their functional performance, i.e., the
            atony of the capillary loops. No blood pathology was discovered.
            On the basis of capillaroscopic data it is assumed that capillary   Ye.L.
            toxemia is the cause of the bleeding. 1. Industrial plants--USSR   2. Employee

Card 1/1   relations   3. Public helath--Applications   4. Aluminum--Physiological effects

MATYUKHINA, A.P., assistent

Fibrous osteodystrophy (osteoblastoclastoma) of the jaws and its
treatment. Stomatologiia 41 no.4:68-71 Jl-Ag '62.   (MIRA 15:9)

1. Iz kafedry stomatologii (ispolnyayushchiy obyazannosti
zaveduyushchego R.P.Lazarev) Novokuznetskogo instituta uzovershen-
stvovaniya vrachey.
                    (JAWS--TUMORS)

RUMYANTSEV, Yu.; MATYUKHINA, L.

Improvement in management is an important potentiality for increasing
the efficiency of automotive transportation. Avt.transp. 41
no.11:38-39 N '63.   (MIRA 16:12)

MATYUKHINA, L.G.

495

AUTHORS: Ryabinin, A. A., and Matyukhina, L. G.

TITLE: Study of the Structure of Triterpene Alcohol of Zeorine
(Issledovaniye stroyeniya triterpenovogo spirta tseorina)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, No. 1, pp. 277-281 (U.S.S.R.)

ABSTRACT: The difficulty in determining the structure of zeorine is due to
lack in its molecule of the hydroxyl group in the second carbon
atom and double bond which usually exist in such triterpene com-
pounds. This fact hinders its conversion into one of the numerous
substances of the given group of known structure. The certain
hydrocarbon obtained from zeorine was found to be entirely new.
Striving to enlarge the available data about the structure of
zeorine, the authors investigated the products of its destructive
oxidation. The zeorine was derived from a different source and
certain differences in its properties required complex identifica-
tion by the derivation of numerous products. A comparison of
constants (Table 1) shows that such identification was achieved.
Oxidation of zeorine with chromic acid at room temperature or
at 40-60° revealed the cleavage of the acetone, disappearance of
the tertiary hydroxyl and the formation of an active ketone group.

Card 1/2

Study of the Structure of Triterpene Alcohol of Zeorine

495

This indicates that zeorine has an isopropyl group at which the tertiary hydroxyl is oriented.

One of the zeorine rings is therefore assumed to be five-membered. Another decomposition product separated in a small amount was identified as a hitherto unknown acid $C_{27}H_{42}O_4$ which has one active ketone group and forms monosemicarbazone with melting point of 226°.

Two tables. There are 5 non-Slavic references.

ASSOCIATION: Academy of Sciences USSR, Botanical Institute (Botanicheskiy Institut Akademii Nauk SSSR)

PRESENTED BY:

SUBMITTED: March 28, 1956

AVAILABLE:

Card 2/2

RYABININ, A.A.; MATYUKHINA, L.G.

Analysis of triterpenes. Part 2: Structure of zeorin. Zhur.ob.
khim. 28 no.9:2595-2598 S '58.   (MIRA 11:11)

1. Botanicheskiy institut AN SSSR.
                        (Zeorin)

5(3)

AUTHORS: Ryabinin, A. A., Matyukhina, L. G.   SOV/20-129-1-34/64

TITLE: Investigation of Triterpenes. Myricadiol From the Bark of
            Myrica gale L

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 125-127
            (USSR)

ABSTRACT: The authors isolated a new triterpene with an empiric formula
            $C_{30}H_{50}O_2$ and a melting point of 273-274° from the bark of
            Myrica gale L. (vicinity of Leningrad). They called it myricadiol.
            Its homogeneity was established by saponification of its diacetate
            whereby the initial substance with the same melting point was
            recovered. By oxidation with chromic anhydride in pyridine,
            myricadiol was transformed into the dioxo compound $C_{30}H_{46}O_2$ forming

            a disemicarbazone (called myriconal). Two absorption bands were
            found in the spectrum of the latter: at 1709 cm^{-1} (cyclohexanone)
            and at 1726 cm^{-1} (aldehyde). Thus myricadiol is a primary-
            secondary diol. A hydrocarbon $C_{30}H_{50}$, taraxerene (I), was prepared

            by reduction of myriconal. In order to identify the latter,
Card 1/2   taraxerene was prepared from taraxerone (II) which was separated

Investigation of Triterpenes. Myriacadiol From the   SOV/20-129-1-34/64
Bark of Myrica gale L

from the bark of the alder Alnus incana (L.) Moench. The taraxerene prepared in this way proved to be identical with that prepared from myricadiol. Finally, the latter taraxerene was completely isomerized to olean-12-en (according to reference 3). Thus it was proved that myricadiol is a taraxerene diol, i.e. a taraxer-14-en-3-β , 28-diol (V). Ye. A. Sokolova carried out the microanalyses, L. D. Shishkina the spectrum analyses. V. Tikhonov participated in the investigation. There are 5 references.

ASSOCIATION: Botanicheskiy institut im. V. L. Komarova Akademii nauk SSSR (Botanical Institute imeni V. L. Komarov of the Academy of Sciences, USSR)

PRESENTED: June 22, 1959, by B. A. Arbuzov, Academician

SUBMITTED: May 15, 1959

Card 2/2

MATYUKHINA, L. G., Cand Chem Sci -- (diss) "Research into the tri-
terpenes. Structure of myricadiol, myricolal, and alnincanone."
Leningrad, 1960. 13 pp; (Leningrad Order of Lenin State Univ im A. A.
Zhdanov); 175 copies; price not given; (KL, 50-60)/>/)

RYABININ, A.A.; MATYUKHINA, L.G.

Triterpenes of some plant forms. Zhur. ob. khim. 31 no.3:1033-
1036 Mr '61.   (MIRA 14:3)

1. Botanicheskiy institut AN SSSR i Leningradskiy gosudarstvennyy
universitet.   (Terpenes)

RYABININ, A.A.; MATYUKHINA, L.G.; DOMAREVA, T.V.

Study of the structure of alnincanone. Zhur.ob.khim. 32 no.6:2056-
2057 Je '62.   (MIRA 15:6)

1. Leningradskiy gosudarstvennyy universitet.
                         (Triterpenes)

MATYUKHINA, L.G.

Triterpenes of Alnus barbata C.A.M. bark. Zhur. ob. khim. 34
no.8:2796-2798   Ag '64.
(MIRA 17:9)

1. Botanicheskiy institut AN SSSR.

MATYUKHINA, L.G.; RYABININ, A.A.

Structure of spherophysine and its derivatives. Zhur. ob. khim.
34 no.11:3854-3855 N '64   (MIRA 18:1)

1. Leningradskiy gosudarstvennyy universitet.

MATYUKHINA, L.G.; SHMUKLER, V.S.; RYABININ, A.A.

Triterpenes of Alnus subcordata C. A. M. bark. Zhur. ob.
khim. 35 no.3:579-580 Mr '65.   (MIRA 18:4)

1. Botanicheskiy institut AN SSSR i Leningradskiy
gosudarstvennyy universitet.

MATYUKHINA, M. V.

"The Formation of Conditioned Photochemical Reflexes in Humans by Complex-Direct and Verbal Stimuli." Cand Ped Sci, All-Union Inst of Psychology, Acad Ped Sci, RSFSR, Moscow, 1954. (RZhBiol, No 6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

MATYUKHINA, M.V. (Volgograd); PATRINA, K.T. (Volgograd); SHNEYDER, D.M.
        (Volgograd)

     Some ways of training students in the senior classes in technical
     thinking. Vop. psikhol. 8 no.1:11-18 Ja-F '62.   (MIRA 15:4)
                        (TECHNICAL EDUCATION)

ORLOV, D.S.; ROZANOVA, O.N.; MATYUKHINA, S.G.

    Infrared absorption spectra of humic acids. Pochvovedenie
no.1:17-25 Ja '62.   (MIRA 17:1)

1. Gosudarstvennyy universitet imeni Lomonosova.

BYKOV, V. T.; MATYUKHINA, V. K.

Effect of temperature and chemical factors on structural changes in natural sorbents. Trudy DPAN SSSR. Ser. khim. no.4:88-96 '60.

(MIRA 14:10)

(Sorbents)

AUTHOR: Matyukhina, Ye. A.,Engineer   SOV/100-58-8-11/13

TITLE: Air-Heater for Drying of Buildings Under Construction.
              (Vozdukhonagrevatel' dlya sushki stroyashchikhsya
              zdaniy).

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1958, Nr.8. p. 26. (USSR).

ABSTRACT: The Kiyevorgtekhstroy of Glavkiyevstroy designed a new
              efficient small air-heater (see illustration). The fuel
              is mixed with air by the help of ventilator 3 TsAGI No.6
              driven by an electromotor. The heating chamber is made
              from steel. This heater was tested in Kiyev on five-storey
              blocks of flats by laboratories   of the Sanitary Section
              (laboratorii sanitarno-epidemicheskoy stantsii) and by
              the Engineering and Building Institute of Kiyev (in-
              zhenerno-stroitel'nyy institut Kiyeva).The tests showed
              that the mean velocity of the air was 3.38 m/sec, output
              6,425 m³ of heated air/hr, leaving at the temperature of
              77ºC. The heat output amounted to 140,500 kcal/hr.
              The VTI tested the heater with a view to ascertaining
              the presence of CO; the finding was negative. Later
              investigations showed the presence of CO in a very small
Card 1/2   amount of 0.0028 - 0.0114 mg/litre.

Air-Heater for Drying of Buildings Under Construction.   SOV/100-58-8-11/13

Table shows that by increase in the temperature of the air the latter became drier, which caused rapid drying-out of the building fabric. There is 1 Illustration and 1 Table.

1. Construction--USSR   2. Heaters--Design   3. Heaters--Performance
4. Structures--Dehydration

Card 2/2

BLIZNYUK, N.K.; LEVSKAYA, G.S.; MATYUKHINA, Ye.N.

New synthesis of secondary haloarsines. Zhur. ob. khim. 35
no.7:1247-1250 Jl '65.   (MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii.

MATYUKHOV, O. F.

Tractors

Increasing the length of service of the terminal transmission of the KD-35 tractor.
Avt. trakt. prom. no. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

MATYUKHOV, G., GRECHKIVSKIY, V., Engs.

Tractors - Repairing

Replacement of parts and units on the KD-35 tractor chassis during repair. MTS 13,
No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

1. MATYUKOV, G. F.

2. USSR (600)

4. Tractors

7. Longitudinal, angular movement of the caterpillar tractor working with mounted implements, Avt. trakt. prom., No. 4, 1953.

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

MATYUKHOV,G.P.

KDP-35-2 caterpillar tractor for cultivation. Avt.trakt.prom. no.9:
10-13 S '55.
(MIRA 8:12)

1. Lipetskiy traktornyy zavod
(Tractors)

MATYUKHOV, G.F.

Torsional suspension of caterpillar tractors. Avt. i trakt. prom.
no.12:27-31 D '57.
(MIRA 11:1)

1. Lipetskiy traktornyy zavod.
(Caterpillar tractors--Shock absorbers)

MATYUKHOV, G.F., inzh.

LTZ universal wheeled tractor.   Trakt. i sel'khozmash. 30 no.11:
3-5 N '60.
                                          (MIRA 13:12)

1. Lipetskiy traktornyy zavod.
                    (Tractors)

MATYUKHOV, R.F.

USSR/ Miscellaneous - Tractors

Card   1/1   :   Pub. 12 - 4/14

Authors   :   Matyukhov, R. F.

Title   :   Modernization of the KDP-35 plowing tractor

Periodical   :   Avt. trakt. prom, 3, 6-10, March 1954

Abstract   :   The modernization of the caterpillar-type KDP-35 plowing tractor is
described. Modifications were made only to the body and chassis of
the tractor, the engine, radiator, transmission system, control sys-
tems remained unchanged. Drawings; illustrations.

Institution   :   The Tractor Plant, Lipetsk

Submitted   :   ...

MATYUKOV, N.

Close to production. Avt.transp. 40 no.4:49 Ap '62.

(Technical education)

(MIRA 15:4)

MATYUKOV, N.

Suggestions of young specialists. Avt.transp. 40 no.12:39
D '62.
(MIRA 15:12)

1. Gosudarstvennyy trest po rukovodstvu zavodami po
proizvodstvu garazhnogo oborudovaniya Ministerstva avtomobil'nogo
transporta i shosseynykh dorog RSFSR.
(Technical education)

KARTSEV, P.K., kand.tekhn.nauk; MATYUKOV, V.Ye., inzh.

Asynchronous motors with aluminum windings of the A and AK series having power ratings of 100 to 1000 kw. Vest.elektroprom. 33 no.4:19-21 Ap '62.

(Electric motors, Induction)

(MIRA 15:4)

BIZNYA, V.M., inzh.; KOLPENSKIY, N.S., inzh.; PAVLUKHIN, O.I., inzh.;
MATYUKOV, V.Ye., inzh.; RODIN, I.M., inzh.

Counterflow ventilation system of salient pole synchronous
machines. Vest. elektroprom. 33 no.11:23-29 N '62.

(MIRA 15:11)

(Electric machinery, Synchronous—Cooling)

MATYUKOVA, T. G.

14-57-6-12730

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,
pp 134-135 (USSR)

AUTHOR: Matyukova, T. G.

TITLE: Preliminary Study of Aquatic and Shore Vegetation in
             the Tyup Gulf of Lake Issyk-Kul' (Predvaritel'nyye
             itogi izucheniya vodno-pribrezhnoy rastitel'nosti
             Tyupskogo zaliva ozera Issyk-Kul')

PERIODICAL: Uch. zap. Biol-pochv. fak. Kirg. Un-t, 1955, Nr 5,
             pp 50-69

ABSTRACT: Aquatic and shore vegetation was studied to discover
             how much vegetable food plants could supply to increase
             the number of fish and to develop the hunting industry.
             Vegetation is nonuniformly distributed around the gulf
             and depends upon ecological factors. Richest growth
             is found in little backwaters along the bank; the
             remainder of the bank is poor both in vegetation type

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14-57-6-12730

Preliminary Study of Aquatic and Shore Vegetation (Cont.)

and amount. The most important submerged phanerogamous plant is the pectine weed; the most important surface plant, the bullrush. Spore plant groups are much more important in the area in question. Among these, aquatic characeae are very valuable for feeding commercial fish in Lake Issyk-Kul'. The author describes most characteristic associations in great detail. She gives information on growth rate of leading plants (bullrush, reed, tuberous reed, pond weed, yarrow, ruppia-weed, and chard). Plant growth rate was calculated for each 1 sq m of area in August, when every plant was flowering and seeds were maturing. Preliminary data indicate that the gulf's growing area is about 17.35 sq m, or 16.7 percent of its tidal area. Plants supply approximately 40 tons of raw matter per hectare, or 69 400 tons over the entire area.

Card 2/2

Kutova