BUSALOV, A.A.; GINZBURG, S.A.; KOGOY, T.F.; SHCHETININA, I.N.; YUDIN, I.Yu.

Clinicoroentgenological and roentgenomorphological comparisons in
nonspecific ulcerative colitis. Vest. rent. i rad. 39 no.1:3-7
Ja-F '64.   (MIRA 18:2)

1. Kafedry fakul'tetskoy khirurgii (zav. - prof. A.A. Busalov),
infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR.
prof. A.F. Bilibin), patologicheskoy anatomii (zav. - deyst-
vitel'nyy chlen AMN SSSR prof. I.V. Davydovskiy) i Moskovskogo
meditsinskogo instituta imeni Pirogova.

Dynamic consumption of a pulse counting receiver for radiometering. (in Russian) N. A. Ekkhheitee (No. 8) 71-3 (1946) In Russian.—A mathematical analysis of a generalized electro-magnetic counter, assuming that: (1) the charging pulse is replaced by a Heaviside-Dirac impulsive function of first order; (2) harmonics above the 2nd of idealized pulses are neglected; (3) the decay time is determined by a graphical method. A. L.

[621.318.572 + 621.385.832 + 621.383.4 + 621.396.932] : 621.317.2(43) see Abstr. 554

621.318.7 : 621.392.52 — 82

415

METALLURGICAL LITERATURE CLASSIFICATION

GINZBERG, S. A., All-Union Inst. Aviation Materials, c 1949.

"Modern Bridge Circuit with Automatic Balancing."

Electrichestvo, No 8, 1948.

GINZBERG, S. A.

"Review of F/ Ye. Temikov's and R. R. Kharchenko's Book, 'Electrical Measurements of Non-Electrical Quantities.*"

Electrichestvo, No 8, 1949.

GINSBURG, S-H.

1081. Thyrotronic automatic temperature regulator for laboratory electric heaters.—S. A. GINSBURG (*Zavod. Lab.*, **15**, 369, 1949). By means of electric and ionic lamps an automatic regulator was constructed for maintaining a constant temperature in electric heaters. The main characteristics were continuity of operation and the elimination of a galvanometer, relay or any other moving parts or contacts. In this apparatus the resistance thermometer, connected into the AC bridge circuit, is the sensitive element. The signal from the bridge is electronically amplified. The thyrotron is the functioning element, into the anodic circuit of which the heater is connected. The regulator is stated to be reliable and easily operated. A detailed description of the apparatus is given. (2 figs.)

AN ACCURATE TUBE ELECTROMETER. S. A. Ginzburg. (Zavod-skaya Laboratoriya, 1949, vol. 15, Nov., pp. 1384-1386). [no.11]
[In Russian]/. A description is given of an electronic elec-trometer for the accurate measurement of poterntial in circuits of high resistance, e.g., in the study of corrosion potential at grain boundaries.—S.K.

GINZBURG, S. A.

PA 167T47

USSR/Electricity - Four-Terminal
Networks
Nonlinear Networks

Sep 50

"Theorem of Nonlinear Four-Terminal Networks,"
S. A. Ginzburg, Cand Tech Sci, Moscow

"Elektrichestvo" No 9, pp 68-74

Proves subject theorem useful in calculating
nonlinear circuits. Gives relationship of dy-
namic conductance of this network to dynamic
conductances of its nonlinear elements. Pre-
sents general method, based on theorem, of
plotting volt-ampere curve of four-terminal

USSR/Electricity - Four-Terminal
Networks (Contd)

Sep 50

167T47

network with any number of nonlinear elements
with assigned characteristics, and special
methods for nonlinear four-terminal networks
with one or two nonlinear elements.

167T47

GINZBURG, S.A.; LEKHTMAN, I.Ya.; MALOV, V.S.

[Fundamentals of automatic and remote control] Osnovy avtomatiki i telemekha-
niki. Moskva, Gos.energ.izd-vo, 1953. 432 p.   (MLRA 6:12)
                                (Automatic control) (Remote control)

GINZBURG, S. A.

PA 248T56

248T56

USSR/Electronics - Circuit Theory   Feb 53

"Synthesis of Some Non-Linear Circuits," Cand Tech
Sci S. A. Ginzburg, Moscow Power Eng Inst imeni
Molotov

Elek-vo, No 2, pp 48-55

Examines methods for detg parameters of linear cir-
cuit elements and possible currents and voltages
satisfying given operating conditions and non-
linear element characteristics. Introduces con-
cepts of functional and energy conditions of cir-
cuit operations. Examines in general form

functional conditions of voltage indicator and re-
gulator, also of relay circuit (trigger). Demon-
strates feasibility of expressing characteristics
of synthesized non-linear circuit in relative units.
Cites numerical example of calcn of bridge regula-
tor with ballast resistors using dimensionless
formulas. This research was reported by author in
1949 to Sci and Tech Soc of Moscow Power Eng Inst
and at sci session devoted to Radio Day. Submitted
17 Oct 51.

(EEA 56 no.67-:4998 13)

GORYAINOV, O.A.; RAYNES, R.L.; GINZBURG, S.A., redaktor; FRIDKIN, A.M.,
        tekhnicheskiy redaktor.

[Remote control] Teleupravlenie. Moskva, Gos. energ. izd-vo,
1954. 511 p.   (MLRA 7:12)
            (Remote control)

GINSBURG, S. A.

"A Magnetic-Static Power Transformer" from the book <u>Remote</u> <u>Control</u> <u>of</u> <u>Power</u>
<u>Systems</u>, published by the AS USSR, 1954.

MALOV, Vladimir Sergeyevich; GINZBURG, S.A., redaktor; FRIDKIN, A.M.
tekhnicheskiy redaktor.

[Telemechanics in power systems] Telemekhanika v energeti-
cheskikh sistemakh. Izd.2-e, perer. Moskva, Gos.energet. izd-vo
1955. 328 p.   (MLRA 8:12)
      (Remote control)

GINZBURG, S.A.

112-2-3998

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957,
Nr 2, p.210 (USSR)

AUTHOR: Ginzburg, S.A.

TITLE: Electromechanical Systems Reproducing Functions of a
             Complex Variable(Applicable to the Computation of Auto-
             matic Control Systems) (Elektromekhanicheskiye ustroystva,
             vosproizvodyashchiye funktsii kompleksnogo peremennogo
             (primenitel'no k raschetu sistem avtomaticheskogo
             regulirovaniya)

PERIODICAL: Tr. 2-go Vses. soveshchaniya po teorii avtomat. reguli-
             rovaniya.Moscow-Leningrad, 1955, Nr 3, 130-139,
             addresses 140-143

ABSTRACT: The design principles of five devices proposed by the
             author and intended on the whole for the analysis of
             automatic control systems (ACS) are explained. The
             operating principle of these devices is a method of
Card 1/5   representing complex numbers by sinusoidal voltages.

112-2-3998
Electromechanical Systems Reproducing Functions of a Complex (Cont.)

The solutions are automatically registed on a complex plane (on paper or on a tube screen). The roots of the equation $f_n(z) + f_{n-1}(z) + \cdots + f_0(z) = 0$ are found with the first device. Here $z = \rho e^{j\phi}$. The variable z is represented as mechanical dissplacements proportional to ρ and ϕ. The variables ρ and ϕ are introduced in such a way that the point z traces the complex plane. The moment of root passage is set by the zero-adjuster by the equality to zero of the sum of the sets output sinusoidal voltages generating the terms of the equation $f_k(z)$ is equal to zero. The design is given of a device for solving a special case of this problem, finding the roots of the characteristic ACS equation:

$a_n z^n + a_{n-1} z^{n-1} + \cdots + a_0 = 0.$ The basic elements of

this device are phase inverters and taper-wound rheostats. The experimental model has shown that the approximate accuracy in finding roots is to $\pm$ 5 per cent. Diagrams

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112-2-3998

Electromechanical Systems Reproducing Functions of a Complex (Cont.)

obtained on this model for the solution of two equations with real and complex coefficients are given. The second device is designed for finding the roots of a characteristic ACS equation when the equation itself is not given, but only the characteristic polynomials of the ACS component units and when the ACS scheme is known. In the case of a one-circuit ACS, the device generates the sinusoidal voltages representing the complex numbers $\dfrac{D_1(z)}{k_1} = q_{1-e}^{j\alpha_1}$; $\dfrac{D_a(z)}{k_2} = q_2 \, e^{j\alpha_2}$;

Here $D(z)$ are the characteristic polynomials, and k is the amplification factor of the component units. Then the follow-up systems transform the electrical quantities $q_1, q_2 \ldots \ldots, \alpha_1 \, \alpha_2$ into mechanical ones, which are fed into the resolver which generates the voltage $W = \dfrac{q^1 \; q^2 \cdots}{k_1 \; k_2} e^{j(\alpha_1 + \alpha_2 + \ldots)} + 1.$

In course of the solution, the complex plane z is traced.

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Electromechanical Systems Reproducing Functions of a Complex (Cont.)

The values of z which correspond to $W = 0$ are the desired roots. The roots for a multicircuit ACS are determined in practically the same way. The third device makes it possible to find the roots of the characteristic equation $D(z) - M(z) e^{\tau z} = 0$ for a time-lag ACS. The device generates the voltages qe^{α} and $me^{j\beta}$ which represent the polynomials $D(z)$ and $M(z)$. By way of logarythmic operations the terms of the original equation can be reduced to the form: $\ln q + j\alpha = \ln m + j\beta - \tau z$. The real and imaginary terms in this equation are represented by voltages at a 90° phase angle to each other. The plane z is traced as above. The values of the independent variable z which satisfy this equation are its roots. The conformal mapping of the secondary axis of the plane z on the plane W for the function $W = D(z)/M(z)$, where $D(z) = q \cdot e^{j\alpha}$ and $M(z) = m \cdot e^{j\beta}$

are polynomials, is done in the fourth device on paper or on the screen of a tube. This device can be used for plotting Mikhaylov's curve, for grouping parameter regions ("D-raz-biyeniye"), etc. The quantities q, α, m and β obtained after the polynomials have been worked out, are fed to the computing machine giving the voltage $W = q/me^{j(\alpha - \beta)}$

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112-2-3998

Electromechanical Systems Reproducing Functions of a Complex (Cont.)

at the output. This quantity is plotted on the complex plane W.
Should plotting the Mikhaylov curve be required only, the
design of the device can be considerably simplified. The
fifth device is the most universal. Direct and reverse con-
formal mapping (from plane z to plane W and vice versa) of any
curves for a given function can be done with this device. In
direct conformal mapping the point z skirts the given curve,
the voltage W is generated and the follow-up systems generate
the modulus and the argument W. In reverse transformations the
plane z is repeatedly tracked and the values of z which correspond
to given values of the quantity W are registered. The point
designating these successive values slowly skirts the given curve
on the plane W.

V.A.B.

5/5

USSR/Engineering - Regulation   FD-1746

Card 1/1   : Pub. 10-5/12

Author   : Ginzburg, S. A. (Moscow)

Title   : Static power converters

Periodical   : Avtom. i telem., Vol. 16, 172-183, Mar-Apr 1955

Abstract   : The author analyzes the general theory and classification of static
                  power converters that are employed as primary meters for telemetering
                  and automatic regulation of power in electric power systems. He sur-
                  veys static converters of various types, and describes the principles
                  governing the theory and technical characteristics of magnetic power
                  converters. 19 references; eg. V. S. Malov, "Remote-Control Telemeter-
                  ing," Elektrichestvo, No 1, 1953; G. M. Zhdanov, Teleizmereniye [Tele-
                  metering], State Power Press, 1952; G. N. Balasanov, "Semiconductor
                  thermo-resistors," Sbornik rabot po avtomatike i telemekhanike [Sym-
                  posium on automatics and telemechanics], Acad. Sci. USSR Press, 1953;
                  A. M. Pshenichnikov, "Thermoelectric power transducer." Sbornik 'Tele-
                  mkhanizatsiya energosistem', Acad. Sci. USSR Press, 1954; K. B. Karan-
                  deyev, Poluprovodnikovyye vypryamiteli v izmeritel'noy tekhnike [Semi-
                  conductor rectifiers in metering], Acad. Sci. Ukr. SSR Press, 1954.

Institution : -

Submitted   : May 25, 1954

Ginzburg ; S. A.

2146.   DESIGN OF A NON-LINEAR QUADRIPOLE WITH A GIVEN
CHARACTERISTIC.   S. A. Ginzburg.
Elektrichestvo, 1956, No. 11, 61-4.   In Russian.
        The method is based on a combination of power series which,
if of the nth order, may each be represented by n + 1 "functional
converters" (non-linear circuits), the characteristics of which may
be represented by a nth order polynomial. These polynomials,
multiplied with as yet arbitrary coefficients, are added, the series
so obtained representing the given series if the problem of deter-
mining the coefficients appropriately can be solved. A method of
solving this problem is demonstrated. It is also shown that the
method applies to any desired form of transfer of the appropriate.
An example is given of a quadripole which transforms a given input
into the same output given any input.

coefficients of the expansion in a power series.   B. F. Kraus

GINZBURG, S. A.

"Methods of the Contruction of Static Power Transformers" (Metody postroyeniya staticheskikh preobrazovateley moshchnosti) from the book Telemechanization in the National Economy, pp. 264-276, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow 29 Nov to 4 Dec 54 by Inst. of Automatics and Telemechanics)

GINZBURG, S.A. (Moskva)

General theory of circuits with nonlinear magnetic members [with
English summary in insert]. Avtom.i telem. 17 no.9:799-810 S '56.
(MLRA 9:11)

(Electric circuits)

9(6)   SOV/112-59-3-5574

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 186 (USSR)

AUTHOR: Ginzburg, S. A., and Brik, V. A.

TITLE: Computer for Investigating the Indicial Equations of Automatic-Control
    Systems (Vychislitel'naya mashina dlya issledovaniya kharakteristicheskikh
    uravneniy sistem avtomaticheskogo regulirovaniya)

PERIODICAL: V sb.: Mezhvuz. konferentsiya po primeneniyu modelirovaniya v
    elektrotekhn. zadachakh i matem. modelirovaniya. M., 1957, p 184

ABSTRACT: An analog electromechanical computer permits analyzing polynomials
    of 10th power of the form $\omega = \sum_{0}^{10} a_n z_n$, where a_n are real or complex
    coefficients; the computer can automatically construct the Mikhaylov's
    hodograph for a closed automatic-control system, can determine a polynomial
    root locus on the complex plane z, multiple roots, and can also solve other

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SOV/112-59-3-5574

Computer for Investigating the Indicial Equations of Automatic-Control Systems

problems associated with investigations of an automatic-control system. By changing z arbitrarily, a corresponding curve on the plane w can be obtained, or vice versa. An electron-beam afterglow-type tube screen can be used as a plane z or w. In determining the roots of equations of an automatic-control system, modules and arguments can be approximately figured out from the tube screen and then can be accurately read from special scales. The computer error is 2% or less for the module and 2° for the argument. Most problems can be solved in a few minutes. The computer has been developed and tested by TsLEM, Mosenergo.

I. L. M.

Card 2/2

PHASE I BOOK EXPLOITATION   793

Ginzburg, Samuil Aleksandrovich

Nelineynyye tsepi i ikh funktsional'nyye kharakteristiki
(Nonlinear Circuits and Their Functional Characteristics)
Moscow, Gosenergoizdat, 1958. 151 p. 15,000 copies
printed.

Ed.: Negnevitskiy, I.B.; Tech. Ed.: Larionov, G. Ye.

PURPOSE: The monograph is intended for scientists, engineers,
and senior students specializing in automation and
telemechanics.

COVERAGE: General characteristics of nonlinear a-c and d-c
electric circuits are given and a graph-analytical
determination of voltage and current distribution in
nonlinear circuits is presented. Utilization of nonlinear

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Nonlinear Circuits (Cont.)   793

circuit characteristics in constructing mathematical functions and calculating parameters of circuits performing multiplication and division is discussed. Determination of conditions for stabilization and relay effects is covered and a method of constructing logarithmic and quadratic circuits is given. Two-terminal nonlinear elements such as semiconducting resistances, ferromagnetic elements, and nonlinear capacitors are discussed. Treatment of electronic-ionic two-terminal elements and multiterminal networks as well as transients in nonlinear a-c and d-c circuits is not included. Discussion of the behavior of a-c nonlinear circuits is limited to cases of a fixed frequency and sinusoidal voltages and currents. Examples of using nonlinear circuits in such devices as stabilizers, voltage indicators, contactless relays, and functional converters are given. The author thanks Professor A.V. Netushil, Doctor of Technical Sciences, for his valuable

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Nonlinear Circuits (Cont.)   793

comments while reviewing the manuscript, and Docent
I. B. Negnevitskiy, Candidate of Technical Sciences,
who edited the monograph. There are 124 references, of
which 113 are Soviet (including 4 translations), 10 English,
and 1 German.

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Nonlinear Circuits (Cont.)   793

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AVAILABLE: Library of Congress (QC607.C5)

JP/ksv
10-30-58

Card 5/5

AUTHORS: Brik, V. A., Ginzburg, S. A. (Moscow)   1o3-19-7-5/9

TITLE: A Computer Which Constructs the Conformal Mappings for N-Order
                Polynomials   (Vychislitel'naya mashina, vypolnyayushchaya
                postroyeniye konformnykh otobrazheniy dlya stepennogo polinoma)

ABSTRACT: The construction of the conformal mappings of a complex plane Z
                upon the plane W and vice versa for the equation

$$a_0 + a_1 Z + a_2 Z^2 + \dots + a_n Z^n = W \qquad (1)$$

                is of great practical importance in the investigation of automatic
                control systems. Here a machine which was worked out in the TsLEM
                Mosenergo (Central Laboratory and Experimental Workshops of the
                Power Supply System Moscow) is described. It permits to perform
                operations of the conformal transformation for polynomials in-
                cluding the 10th degree. This machine makes possible the con-
                struction of the mappings of any points and curves from the plane
                Z to the plane W (direct maps) and of some points (and sections)
Card 1/3   from W to Z (reversal maps). The complex numbers are represented

A Computer Which Constructs the Conformal Mappings   103-19-7-5/9
for N-Order Polynomials

by sinusoidal voltages of constant frequency (5o c). Before the
polynomial is introduced into the machine it must be transformed
mathematically. The form (4) is derived and in this form the
polynomial is introduced into the machine. The block scheme of
the machine is given. The most fundamental part of it is the
functional transformer which produces 2 voltages W and z. The
phase sensitive scheme 2 decomposes the sinusoidal voltage (which
represents a complex number) applied to it into 2 voltages which
are proportional to the real and imaginary component. These vol-
tages are applied to the deflecting plates of the cathode ray
tube the screen of which represents a complex plane. The electron
zero device 3 responds when its input voltage approaches zero.
Subsequently the electric diagram of the machine is described. It
is shown that the construction of the direct transformation in
the machine is performed by means of introduction of those z-values
the transformation of which is to take place. The construction
of the reversal transformations, however, is performed after the
method of scanning the plane. I.e. the variable z varies on the one
or the other way until the required quantity W appears at the

Card 2/3   output. The fundamental practical problems for the machine are the

A Computer Which Constructs the Conformal Mappings   1o3-19-7-5/9
For N-Order Polynomials

determination of the polynomial roots and the construction of the
hodograph by Mikhaylov. In the last case a direct map is construc-
ted. The solution of the problem for the determination of the
roots (under application of the automatic introduction of z) is
described in detail. For the illustration of the accuracy of the
solution by means of the machine, examples are given. The machine
described here was produced in the TsLEM Mosenergo in two speci-
mens and they are used in the Laboratory for Dynamic Models at the
MEI (Moscow Institute of Power Engineering) and in the VNIIE MES
for the solution of problems which are connected with the stabili-
ty of the operation in the energy systems. There are 6 figures,
1 table, and 1o references, 7 of which are Soviet.

SUBMITTED: July 4, 1957

1. Control systems—Analysis   2. Conformal mapping
3. Mathematical computers—Performance   4. Mathematical
computers—Equipment

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28(1)   PHASE I BOOK EXPLOITATION   SOV/3244

Ginzburg, Samuil Aleksandrovich, Izrail' Yakovlevich Lekhtman, and
Vladimir Sergeyevich Malov

Osnovy avtomatiki i telemekhaniki (Fundamentals of Automation and
    Telemechanics) 2d ed., rev. Moscow, Gosenergoizdat, 1959. 478 p.
35,000 copies printed.

Ed. (Title page): S. A. Ginzburg; Ed. (Inside book):
    Yu. P. Ustinova; Tech. Ed.: G. Ye. Larionov.

PURPOSE: The book is intended for engineers and technicians working
    in automation and remote control or interested in familiarizing
    themselves with this field. It may also be used as a textbook by
    students.

COVERAGE: The book contains basic information on automation and
    remote control facilities. It describes electronic, semiconductor
    and other components, such as data units, relays, amplifiers,
    distributors, voltage regulators, servomotors and others. The
    authors examine automatic regulation and control, servos, and
    measuring and computing systems. They describe the operation of
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Fundamentals of Automation (Cont.)   SOV/3244

telemetering and remote control systems and the function of
communication channels. The Introduction and Chapters 1, 2, 5
and 11 were written by S. A. Ginzburg, Chapters 3, 7, 8 and 9 by
I. Ya. Lekhtman, Chapters 12, 13, 14, 15 and 16 by V. S. Malov.
Chapter 4 was written jointly by S. A. Ginzburg and I. Ya. Lekhtman,
and Chapters 6 and 10 by S. A. Ginzburg and V. S. Malov. There
are 38 references, all Soviet.

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Fundamentals of Automation (Cont.)   SOV/3244

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Fundamentals of Automation (Cont.)   SOV/3244

Fundamentals of Automation (Cont.)   SOV/3244

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Fundamentals of Automation (Cont.)   SOV/3244

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Fundamentals of Automation.(Cont.)   SOV/3244

AVAILABLE: Library of Congress   JP/ec
Card 9/9   3-16-60

GINZBURG, S.A.

VITENBERG, I.M., kand.tekhn.nauk; GINZBURG, S.A., kand.tekhn.nauk;
Gornshteyn, V.M., kand.tekhn.nauk

Use of an electronic simulating device in calculating the efficiency
of operation of power systems with hydroelectric power stations.
Trudy VNIIE no.8:233-242 '59.   (MIRA 13:9)
          (Hydroelectric power stations)
          (Electric power)

GINZBURG, S.A., kand.tekhn.nauk

Power converter with thyrite resistances. Trudy VNIIE no.8:
251-263 '59.   (MIRA 13:9)
              (Electric current converters)

S/196/62/000/012/013/016
E194/E155

AUTHOR: Ainzburg, S.A.

TITLE: A computer for calculating economic conditions of
            a power system

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
            no.12, 1962, 14, abstract 12 E84. (V Sb. 'Primeneniye
            vychisl. tekhn. dlya avtomatiz. proiz-va' (In the
            Symposium 'Application of Computer Techniques to
            Automation of Production'). Moscow, Mashgiz, 1961,
            358-368).

TEXT: In 1959 development commenced of an analogue computer
for ODU YeES which is based on the equivalent circuit of the
European part of the unified power system of the USSR.   The
computer is intended to calculate distribution of the active load
between power systems and large hydroelectric stations, allowing
for losses in the system and assuming constant heads at the
hydro stations.   It can also determine the total relative
increments of fuel consumption of a group of stations and the

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A computer for calculating ...   S/196/62/000/012/013/016
                                        E194/E155

relative increments of power losses at various points in the
system. The relative increment characteristics are reproduced
by the 'triangle' method, which consists in the formation of
linear-segment relationships as the sum of triangular functions.
The computer is designed for sixteen objects (systems or
stations) and fifteen sections of transmission system. With
non-linear elements the power transmitted over the lines can be
limited. The relative increments of power loss in the system
are determined by the voltage drop in sections of the analogue.
The computer uses 130 d.c. amplifiers type УПТ-4 (UPT-4) with
semi-automatic zero control system.
3 references.

Abstractor's note: Complete translation.

Card 2/2

GINZBURG, S.A., kand.tekhn.nauk; GORNSHTEYN, V.M., kand.tekhn.nauk;
SOVALOV, S.A., kand.tekhn.nauk

Fundamental principles of designing a computer for operational
calculation of the load distribution efficiency of a consolidated
electric utility system. Elek. sta.32 no. 5:35-41 My '61.
(MIRA 14:5)
(Interconnected electric utility systems)

KORCHAGINA, V.I.; GINZBURG, S.A.; FIN'KO, A.A.; RUTMAN, L.I.;
    DAVYDOV, I.V.; LAVRINOVICH, D.A.

Electric method for measuring the water content in crude oil.
Neft. i gaz. prom. no.2:51-56 Ap-Je '62.   (MIRA 15:6)

1. Odesskiy neftepererabatyvayushchiy zavod.
                (Petroleum--Refining)

S/044/62/000/012/041/049
A060/A000

16.6800

AUTHOR: Ginzburg, S.A.

TITLE: A logical method of synthesizing function generators

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1962, 46, abstract 12V252
            (Tr. I Mezhdunar. kongressa Mezhdunar.federatsii po avtomat. upr.
            1960. /T. 4/. Tekhn. sredstva avtomatiki. Moscow, AN SSSR, 1961,
            267 - 281. Discussion 281 - 284)

TEXT: The author sets forth the elements of the algebra of the logic of
continuous quantities (taking all finite values), based on the operations of dis-
junction $(x \lor y = \max(x, y))$, conjunction $(x \land y = \min(x, y))$, and inversion
$(\bar{x} = -x)$. The author shows networks realizing these operations. These circuits
contain diodes, active resistances and voltage sources. He gives a method of us-
ing these circuits to synthesize networks realizing functions of one variable by
means of piecewise-linear approximation. A method is also proposed for realizing
functions of two variables specified by a finite number of points on the Z-axis
(the X and Y axes being taken by the input variables), where the interpolation

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A logical method of synthesizing function generators   S/044/62/000/012/041/049
A060/A000

between these points is carried out by surfaces of the second order.

A.D. Zakrevskiy

[Abstracter's note: Complete translation]

Card 2/2

BOROZINETS, B.V., inzh.; GINZBURG, S.A., doktor tekhn. nauk;
    SHLIMOVICH, V.D., inzh.

Network, construction, and operational indices of the RER
computer of the Administration of Power Production, Distri-
bution, and Control of the Consolidated Power System of the
European part of the U.S.S.R. Trudy VNIIE no.18:4-13 '64.
                                              (MIRA 18:6)

ACCESSION NR: AP4019325   S/0105/64/000/003/0008/0012

AUTHOR: Borozinets, B. V.; Ginzburg, S. A.; Gornshteyn, V. M.;
Shlimovich, V. D.; Sovalov, S. A.; L'vov, Yu. N.

TITLE: Computer for calculating power-system economy operation and the
operating experience gained at ODU YeES

SOURCE: Elektrichestvo, no. 3, 1964, 8-12

TOPIC TAGS: power system, Soviet united power system, power system
economics, power system economics computer, computer, interconnected
power systems, high economy power system operation

ABSTRACT: An analog computer intended for calculating the high-economy
operation of the Soviet United Power System (UPS) is described. The following
features were taken into account in designing the computer: (1) The UPS is
represented by an equivalent network in which all generating stations of a local
power system are replaced by an equivalent station having an equivalent incre-
mental economy rate characteristic; (2) Easy setting of any incremental
characteristic; (3) System loads are represented by equivalent loads that have

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ACCESSION NR: AP4019325

individual load curves; (4) Interconnection-line losses are evaluated by special methods. The computer comprises the following essential parts: 16 generating station equivalents, 16 loads, 15 tie lines, 8 nonlinear units representing incremental losses due to power exchanges and tie-line load restrictions, 14 elements for setting the resistances of transmission lines. The computer includes 128 UPT-4 amplifiers, 1,000 6D6A diodes, 800 SP-2-A potentiometers, 2,000 resistors, 7 power-supply packs, etc.; power consumption is 7 kw. Computation of a set of operating UPS conditions takes about 2 hrs. The computer has been in continuous use since Nov. '62. "L. B. Denisevich (ODU YeES) and N. S. Malishevskaya (VNIIE) took part in aligning and operating the computer." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: VNIIE (All-Union Scientific Research Institute of Electrical Power Engineering); ODU YeES (Joint Load-Dispatcher's Office, United Power System)

SUBMITTED: 10Jun63   DATE ACQ: 27Mar64   ENCL: 00

SUB CODE: PR, EE   NO REF SOV: 001   OTHER: 000

Card 2/2

GINZBURG, S.A., doktor tekhn. nauk

Logical method for the synthesis and analysis of electrical
networks in the representation of mathematical fur~t4~ns.
Trudy VNIIE no.18:14-34 '64.

Basic construction principles of the RFR-2 analog-digital
computer.Ibid.:88-98   (MIRA 18:6)

GINZBURG, S A., doktor tekhn. nauk; LYUBARSKIY, Yu.Ya., inzh.;
SHLIMOVICH, V.D., inzh.

Functional converter of the RER computer and its design. Trudy
VNIIE no.18:35-52 '64.   (MIRA 18:6)

L 44568-65   EEC-4/EED-2/EEO-2/EEC(k)-2/EWA(c)/EWT(d)/EEC(c)-2/FSS-2
Pg-4/Pk-4/Pl-4/Pn-4/Po-4/Pq-4/Pac-4/Pae-2   IJP(c)   BC

ACCESSION NR AM5012951   BOOK EXPLOITATION   , UR/

Ginzburg, Samuil Aleksandrovich; Lekhtman, Izrail' Yakovlevich; Malov, Vladimir
    Sergeyevich

Principles of automatic control and remote control (Osnovy avtomatiki i teleme-
    khaniki) 3d ed., rev. Moscow, Izd-vo "Energiya", 65   0511 p. illus.,
    biblio., index. 43,000 copies printed

TOPIC TAGS: telemetry equipment, automation, electronic signal, electronic equip-
ment, telemetry transmitter, automatic control, remote control, servosystem

PURPOSE AND COVERAGE: The book contains fundamental data on automation and re-
mote control facilities. Electronic, semiconductor and other units such as trans-
mitters, relays, amplifiers, distributors, regulators, slave motors etc. are des-
cribed. Automatic control, servo, measuring and computing systems are discussed.
Telemetry and remote control systems are described. The book is intended for
broad sections of engineers and technicians working in the field of automatic
control and telemechanics or desirous of becoming acquainted with this field and
may likewise serve as a student textbook.

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ACCESSION NR AM5012951   BOOK EXPLOITATION   UR/ O

Card 2/2

L 44568-65
ACCESSION NR AM5012951   BOOK EXPLOITATION   UR/ ○

Bibliography   — 504
Subject index — 506

SUBMITTED: 21Jan65   'SUB CODE: EC , DC

NO REF SOV: 034   OTHER: 000

Card 3/3

GINZBURG, S.A., doktor tekhn. nauk; LYUBARSKIY, Yu.Ya., inzh.

Composite (analog-digital)functional converters of one and two variables. Trudy VNIIE no.18:53-62 '64.

(MIRA 18:6)

GINZBURG, S.A., doktor tekhn. nauk; LYUBARSKIY, Yu.Ya., inzh.;
MALISHEVSKAYA, N.S., inzh.

Functional analog memory device for a digital computer. Trudy
VNIIE no.18:63-68 '64.   (MIRA 18:6)

KRAVCHUK, V.F., inzh.; KORCHAGINA, V.I., inzh.; GINZBURG, S.A., inzh.; LONGRE,
      G.A., inzh.; RUTMAN, L.I., inzh.; FIN'KO, A.A., inzh.; DAVYDOV, I.V.,
      inzh.; LAVRINOVICH, D.A., inzh.

      Express method for determining water content in highly viscous mazuts
      using their dielectric constant. Elek. sta. 35 no.9:22-26 S '64.
                                                         (MIRA 18:1)

GINZBURG, Samuil Aleksandrovich; LEKHTMAN, Izrail' Yakovlevich;
MALOV, Vladimir Sergeyevich; SMIRNOV, A.D., red.

[Principles of automatic and remote control] Osnovy av-
tomatiki i telemekhaniki. Izd.3., perer. Moskva, Ener-
giia, 1965. 511 p.   (MIRA 18:6)

ACC NR: AP6029550   SOURCE CODE: UR/0103/66/000/008/0131/0138

AUTHORS: Ginzburg, S. A. (Moscow); Lyubarskiy, Yu. Ya. (Moscow)

ORG: none

TITLE: A hybrid function generator

SOURCE: Avtomatika i telemekhanika, no. 8, 1966, 131-138

TOPIC TAGS: analog digital convertor, digital analog convertor, generator, hybrid computor, analog digital computor, interpolation, polynomial / RER-2 analog digital computor, RER-1 analog digital computor

ABSTRACT: An analog-digital single-variable function generator is described. The device has fast response, accuracy, and simplicity. An extended interpolation polynomial is used to obtain fairly simple tuning of the circuit (see Fig. 1). An input converter (see Fig. 2) is used to separate the input value into digital and analog parts. The analog value required for interpolation x_a is formed in accordance with

$$x_a = \left[x - \frac{2X}{m} E\left(\frac{xm}{2X}\right) - \frac{X}{m} \right] \frac{m}{X},$$

where $E(xm/2X)$ is the integral part of $xm/2X$. Both digital and analog function

Card 1/3   UDC: 681.34'335.8
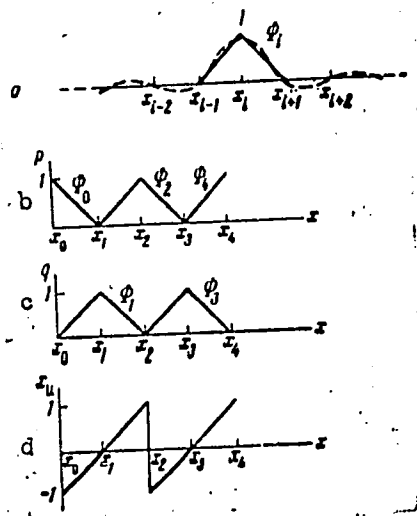
ACC NR: AP6029550

Fig. 1. Structure of hybrid
         function generator
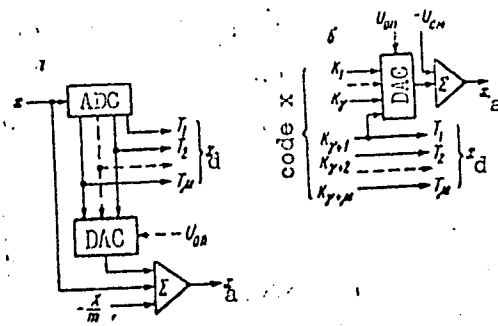
Fig. 2. Input converter of hybrid function
         generator: a—analog form of input
         value; b – digital form of input value

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ACC NR: AP6029550

setting are provided. Such a hybrid function generator was constructed for the RER-2 analog-digital computer, in which the rms instrument error in reproducing monotone functions is 0.5--0.6%. The generation time is not over 1 msec. Orig. art. has: 15 formulas, 2 graphs, and 5 diagrams.

SUB CODE: 09/ SUBM DATE: 20Jan66/ ORIG REF: 008/ OTH REF: 002

Card 3/3

PHASE I BOOK EXPLOITATION   SOV/3938

Akademiya nauk SSSR. Institut khimii.

Sbornik rabot laboratorii vysokomolekulyarnykh soyedineniy, No. 2 (Collected Papers of the Laboratory of High-molecular Compounds, No. 2) Sverdlovsk, 1959, 53 p. (Series: Its: Trudy, vyp. 3) Errata slip inserted. 1,000 copies printed.

Ed.: V.G. Plyusnin, Doctor of Chemistry, and V.I. Esafov, Doctor of Technical Sciences; Tech. Ed.: I.I. Savchenko.

PURPOSE: This collection of three articles is intended for chemists and technicians interested in the chemistry of high-molecular compounds and polymers.

COVERAGE: The first article of this collection discusses the expression of the activity factor in the living and Price equation by a constant which could be determined independently of equations

$$\frac{c_1}{c_2} = r_1 \frac{c_1}{c_2} , \quad r_1 = \frac{c_1}{c_2} , \quad \text{where } r_1 \text{ and }$$

r_2 are the copolymerization constants, c_1 and c_2 are the activity factors of the monomers, e_1 and e_2 are the polar factors of the monomers, and e is the base of the natural logarithm. The article explores the possibility of using for this end a value characterizing the dimensions (size) of the electron cloud formed by π -electrons of the reacting double and short bonds connected with it. The second article reports on a study made of the co-polymerization of polyethylene glycol fumarate and of polyvinyl, 1-butylene glycol fumarate with styrol, methacrylonitrile, acrylonitrile and vinyl acetate to speed up the production of the copolymerization reaction of unsaturated polyesters with vinyl monomers. The third article reports on a study of the behavior of nitrile rubbers and polyesters of various structure used as plasticizers. L.N. Gladkikh, A.B. Pakhi, and D.S. Medvedev are mentioned. References accompany each article.

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SPASSKIY, S.S.; OBOLONSKAYA, N.A.; YUGIN, V.I.; GINZBURG, S.B.; TAGIL'TSEVA, Ye.S.

Plasticizers for nitrile rubbers based on polymester resins. Trudy Inst. khim. UFAN SSSR no.3:33-42 '59.   (MIRA 14:3)
(Plasticizers)   (Rubber, Synthetic)

GINZBURG, S.G.;   TEUMIN, I.I., redaktor;   GROZNOVA, V.I., redaktor;   KORUZEV,
N.N., tekhnicheskiy redaktor.

[Methods of solving problems on transition transients in electric
circuits] Metody resheniia zadach po perekhodnym protsessam v electri-
cheskikh tsepiakh. Pod red. I.I.Teumina. Moskva, Izd-vo "Sovetskoe
radio," 1954. 251 p.   (MIRA 8:4)
        (Transients (Electricity)) (Electric circuits)

GINZBURG, S.G.. Prinimal uchastiye RIZKIN, A.A., dotsent; IVANUSHKO,
    N.D., red.; SVESHNIKOV, A.A., tekhn.red.

[Methods of solving problems of transients in electric
networks] Metody resheniia zadach po perekhodnym protsessam
v elektricheskikh tsepiakh. Izd.2., dop. i perer. Moskva,
Sovetskoe radio, 1959. 403 p.   (MIRA 13:2)
              (Electronic circuits)

8(0)   SOV/105-59-5-26/29
AUTHORS: Ginzburg, S. G.,   Greyner, L. K.,   Zakharov, S. N.,
                Kaplyanskiy, A. Ye.,   Neyman, L. R.,   Netushil, A. V.,   Petrov,
                L. S.,   Pines, G. Ya.,   Polivanov, K. M.,   Savenko, V. G., et al

TITLE: Vladimir Borisovich Romanovskiy

PERIODICAL: Elektrichestvo, 1959, Nr 5, p 93 (USSR)

ABSTRACT: On January 13, 1959, Vladimir Borisovich Romanovskiy, Professor,
                Doctor of Technical Sciences, died at the age of 63. He start-
                ed his activity as an engineer in the design office of the
                "Elektroapparat" Works in 1926. Soon he became head of the
                works laboratory. Since 1937, he was head of the Chair of
                Theoretical Electrotechnics at the Leningradskiy elektro-
                tekhnicheskiy institut svyazi im. M. A. Bonch-Bruyevicha
                (Leningrad Communications Electrical Engineering Institute
                imeni M. A. Bonch-Bruyevich). At the same time, he maintained
                his relations to the works where he was a counsel, chief
                electrical engineer and a permanent member of the technical
                council. He is one of the founders of the theoretical principles
                for the building of high-voltage apparatus. At the chair
                he was occupied with calculations of transition processes in
                electric current circuits which were also the subject of his
Card 1/2   doctoral thesis. He published more than 40 scientific papers.

Vladimir Borisovich Romanovskiy   SOV/1o5-59-5-26/29

        He bore the Badge of Honor and various medals. There is 1
        figure.

Card 2/2

KAPLYANSKIY, A.Ye., doktor tekhn.nauk, prof. (Leningrad); GINZBURG, S.G.,
        kand.tekhn.nauk (Leningrad)

Concerning the order of the differential equation of a transient
process in a complex electrical network. Elektrichestvo no.10:
57-59 O '62.   (MIRA 15:12)
            (Electric networks)   (Differential equations)

GINZBURG, Sh. G.

23632.

OPYT LEChENNYa BATaILLYaRNOY DIZENTERII MALYMI DOZAMI SUL'FIDINA. TRUDY SARAT.
GOS. MED. IN-TA, T. VIII, 1949, c. 251-55.

SO: LETOPIS' NO. 31, 1949

GINZBURG, S. I.   Cand. Chem. Sci.

Dissertation: "The Hydrolysis of the Complex Chlorides of Platinum Metals and its Utilization in Analysis." Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR, 19 Nov 47.

SO: Vechernyaya Moskva, Nov, 1947 (Project #17836)

GINZBURG, S.I.

CA

Use of acetylene for determination of palladium and platinum in copper-nickel slimes. S. I. Ginzburg, S. I. Ginzburg, and I. C. Sadikov. *Trudy Sektora Platiny i Drugikh Blagorod. Metal., Inst. Obshchel i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 22, 61-75 (1951). In the presence of Cu, Pd and Pt are pptd. together in a relatively pure state after the soln. has been boiled with tartaric acid to reduce part of the Pt to metal, by passing C_2H_2 for 1 hr., and filtering and washing the ppt., passing C_2H_2 through the filtrate for approx. 5 min., boiling the soln., satg. again with C_2H_2, and boiling again to ppt. Pt and Pd, not pptd. in the first operation. The ppts. are ignited, reduced, and weighed. In analyzing Cu-Ni slimes and concentrates the method is accurate to within 1.5%. M. Hooch

CA

7

Review of hydrolytic methods for separation of platinum metals. N. K. Pshenitsyn and S. I. Ginzburg. *Izvest. Sektora Platiny i Drugikh Blagorod. Metal. Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 22, 136-44 (1948).
M. Hoch

Hydrolysis of complex chlorides of platinum metals and the pH at which their hydroxides begin to separate. N. K. Pshenitsyn and S. I. Ginzburg. Izvest. Sektora Platiny i Drugikh Blagorod. Metallov, Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R. No. 24, 100-11(1949). The salts studied were Na_3RhCl_6, Na_2PtCl_6, K_2PtCl_4, Na_3IrCl_6, Na_2IrCl_6, Na_2PdCl_4, and $Na_2RuCl_5H_2O$. The pH of solns. of these salts at concns. of 1 mol. per 500 l. was measured at definite time intervals. The pH of the solns. decreased with time, except that of the Rh salt, which did not change during the 72 hrs. of the expt., and that of Na_3IrCl_6, which rose slightly. Possibly, the latter is an exptl. error and needs further study. The rate of reaction with hydroxide was studied by measuring the pH of the salt solns. upon addn. of similar vols. of NaOH. Pd and Ru salts attained equil. after 30-40 min. The Rh salt after 4-5 hrs. had practically reached equil. Changes in the pH of the Ir^{+++} salt could be observed even after 48 hrs. The pH of the Pt^{++++} salt changed only 1.00 units during 72 hrs. To 50 ml. of salt solns. various quantities of NaOH were added and the pH of all solns. was measured (glass electrode) over a period of time. At room temp. the hydroxides formed at the following pH values. Rh^{+++}, 6.6-6.7; Ir^{+++}, 7.4-7.6; Pt^{++}, 5.9-7.4; Pd^{++}, 3.3, and Ru^{+++}, 3.2-3.5. Analogous detns. made at boiling temp. showed that hydrolysis results in greater drop of the pH and that the hydroxides appear at: Rh^{+++}, 3.3-3.4; Ir^{+++}, 5.0-4.9; Pd^{++}, 3.0; Pt^{++}, 3.8; and Ir^{+++}, 3.9-4. Excess Cl^- inhibited the formation of $Pd(OH)_2$, which proceeds according to: $[PdCl_4]^{--} \rightleftharpoons Pd^{++} + 4Cl^-$, $Pd^{++} + 2OH^- \rightarrow Pd(OH)_2$.   M. Hirsch

C.A.   GINSBURG, S. I.

Hydrolytic method for separation of platinum metals with the aid of zinc oxide. N. K. Pshenitsyn and S. I. Ginzburg. *Izvest. Sektora Platiny i Drugikh Blagorod. Metal, Inst. Obshchei i Neorg. Khim., Akad. Nauk S S S R* No. 24, 115-20(1949). To sep. Rh from Pt acidify the soln. with 1-2 drops of HCl, bring to a boil, add the necessary ZnO, boil 2-3 min., filter, and wash the ppt. until free of chloride. The filtrate is free of Rh; the ppt. is likely to be contaminated with Pt. Dissolve the ppt. in HCl, neutralize to a weakly acid reaction with Na₂CO₃, and reppt. once or twice if necessary. Pt is apparently adsorbed on ZnO and therefore excess ZnO should be avoided. Ir was sepd. from Pt similarly except that Cl₂ was passed through the hot soln. to reoxidize Ir⁺⁺⁺ to Ir⁺⁺⁺⁺ which was reduced by the added ZnO. Similarly, Pd was sepd. from Pt. In this last sepn. care must be taken to avoid excess chloride. To this end the amt. of HCl used should be small and chloride washed out before repptn.   M. Hosch

GINZBURG, S.I.

Potentiometric determination of the platinum metals. N. K. Pshenitsyn and S. I. Ginzburg. Invest. Sektora Platiny i Drug. Blagorod. Metal. 25, 193-9(1950).—Exptl. results show that Pd can be detd. by potentiometric titration with KI either in pure solns. or in the presence of Pt(IV), Rh(III), and Ir(IV), when the latter are 1st reduced with hydroquinone. This method can also be used to det. small quantities of Ir(IV) (0.08-0.0002 g.) in pure solns. and in the presence of Rh. However, Pd interferes with this detn.   J. Rovtar Leach

GINZBURG S.I.

PSHENITSYN, N.K.; GINZBURG, S.I.

Study of the effect of composition of certain platinum-group complex
compounds upon their resistance to hydrolysis. Izv.Sekt.plat.i blag.
met. no.28:213-228 '54.   (MLRA 7:9)
     (Platinum group) (Compounds, Complex) (Hydrolysis)

Ginsburg, S.I.

3278 The determination of metric titration with

2

27

Determination of ruthenium by potentiometric titration with titanous chloride

In the titration of soln. of $RuCl_4$ (I) or K_2RuO_4 (II) in 0·3 to 1 N HCl by a 0·01 to 0·02 N soln. of $TiCl_3$ (III) in 10% HCl, the reduction of Ru^{4+} to Ru^{3+} passes through an intermediate complex, the formation of which requires 0·5 equiv. of III. With the formation of the complex (which, it is suggested, contains Ru^{IV} and Ru^{III}), there is a considerable change of potential on the potentiometric titration curve. If the reduction is carried out not at 18° to 20° but at 70° to 80°, after the first sudden change of potential there is a further reduction, and when the reduction of Ru^{IV} to Ru^{III} is complete there is a second sharp change of potential. From spectrophotometric data at 380 mμ, equilibrium at room temp. before the first change of potential is established within a few min., and after the first change of potential within 2 to 3 hr. Therefore in the proposed method of determining Ru, the titration is carried out at room temp. to the first change of potential. Before titrating, the Ru in 1·5 to 2 N HCl is oxidised to the stable I by boiling with a small excess of chlorine water for 10 min. In determining Ru in

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... ... conc. HCl and then oxidised by boiling with chlorine water. After removal of excess of Cl, the cooled soln. is diluted to 0·7 to 0·8 N in HCl, and titrated in CO_2 by a soln. of III, with an indicating platinum electrode. To obtain sharp changes of potential, the soln. must contain 3-20 mg of Ru in 100 ml. The error is then 3-4-8%. By titrating at 60° to 80° it is possible to determine Ru by the second change of potential, although the accuracy is then less.   C. D. KOPKIN

USSR/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61847

Author: Pshenitsyn, N. K., Ginzburg, S. I.

Institution: None

Title: Determination of Palladium by the Method of Potentiometric Titra-
tion in the Presence of Platinum

Original
Periodical: Izv. Sektora platiny IONKh AN SSSR, 1955, No 32, 31-37

Abstract: Potentiometric titration (PT) of a solution of complex palladium
chloride (I) in 0.15-0.3 N H_2SO_4 with a solution of KJ is conducted
at room temperature in CO_2 atmosphere, using a palladium electrode
as indicator electrode. Beginning with a certain definite concen-
tration of $[PtCl_6]^{2-}$ admixture in I there appears on the PT curves
a minimum from the position of which is determined the end point of
titration of I. However as the content of Pt in the solution in-
creases the minimum becomes less pronounced and error in titration
of I increases. If the Pt content exceeds by several times that

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USSR/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61847

Abstract: of Pd a determination of the latter is no longer possible. In such cases the influence of any amount of Pt is eliminated by precipitating it as $K_2[PtCl_6]$ by addition of K_2SO_4. The precipitate that separates does not interfere with the titration. Error of determination of 20-72 mg Pd by this method as a rule does not exceed 2%. With the same degree of accuracy Pd is determined in the presence of Pt by the method of "rapid" titration which is based on the difference in rate of interaction of complex chlorides of Pd and Pt with KJ. With $[PtCl_6]^{2-}$ KJ reacts much more slowly than with I. In this method titration is carried out as rapidly as possible without waiting for a constant value of the potential.

Card 2/2

PSHENITSYN, N.K.; GINZBURG, S.I.

Study of the reduction reactions of the hydroxopentachloride of tetravalent ruthenium -- $K_2[RuOHCl_5]$. Zhur. neorg. khim. 2 no.1: 112-120 Ja '57.   (MLRA 10:4)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.

(Ruthenium compounds)   (Complex compounds)

GINZBURG, S. I.

18(6)   P. 2-3   PHASE I BOOK EXPLOITATION   SOV/3199

Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii
    im. N. S. Kurnakova

Analiz blagorodnykh metallov (Analysis of Noble Metals) Moscow,
    1959. 193 p. Errata slip inserted. 2,700 copies printed.

Resp. Ed.: N. K. Pshenitsyn, USSR Academy of Sciences, Corre-
    sponding Member; and O. Ye. Zvyagintsev, Doctor of Chemical
    Sciences; Eds. of Publishing Houses: T. G . Levi, and D. N.
    Trifonov; Tech. Ed.: I. N. Guseva.

PURPOSE: This collection of articles is for scientists engaged
    in the study and analysis of the noble metals.

COVERAGE: This is a collection of articles on the analysis of the
    noble metals. It includes studies carried out by the Institute
    of General and Inorganic Chemistry im. N. S. Kurnakov (AN SSSR),
    as well as reports presented by scientific research organizations
    and by industrial enterprises at the Third and Fourth Conference
    on Noble Metals held in 1954 and 1957, respectively. The

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Analysis of Noble Metals (Cont.)   SOV/3199

studies and reports describe new organic reagents for gravimetric determination of platinum metals, and physicochemical methods of analysis (spectrophotometric, polarographic and potentiometric). Special attention is given to spectral analysis for the determination of admixtures in alloys of platinum metals, silver, and gold, as well as in refined noble metals. The collection also includes analytical methods, tables and charts for materials containing metals of the platinum group, as well as a review of the literature on the analysis of platinum metals published in the last five years. No personalities are mentioned. References follow each chapter.

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Analysis of Noble Metals (Cont.)   SPV/3199

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Analysis of Noble Metals (Cont.)   SOV/3199

Chentsova, M. A., T. P. Yufa and V. G. Levian. New
Method for the Analysis of Palladium-silver Alloys   181

Ruzhnikov, M. S. and K. S. Sheina. Methods of Testing
Palladium Alloys and Their Products on a Touchstone
and by Chemical Means
                                                               184

AVAILABLE: Library of Congress

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5(4)

SOV/78-4-2-10/40

AUTHORS: Pshenitsyn, N. K., Ginzburg, S. I., Sal'skaya, L. G.

TITLE: Investigation of the Oxidation Reaction of Iridium (III) in Solutions of Sulfuric, Phosphoric, and Perchloric Acid (Izucheniye reaktsii okisleniya iridiya (III) v rastvorakh sernoy, fosfornoy i khlornoy kislot)

ABSTRACT: The oxidation of iridium (III) with cerium (IV) sulfate, sodium bismuthate, perchloric acid, and potassium bichromate in concentrated solutions of sulfuric acid, diluted sulfuric acid, and concentrated phosphoric acid was investigated. The following compounds were used as initial reagents: standard solutions $H_2[IrCl_6]$ of various concentrations; standard solutions $Ce(SO_4)_2$ (0.1-0.04 N), $K_2Cr_2O_7$ (0.1-0.04 N); $NaBiO_3$, chemically pure; $HClO_5$, 50%; H_3PO_4, 60%; H_2SO_4 (specific gravity 1.84). The investigation of the oxidation reaction was carried out by means of the absorption spectra and the

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Investigation of the Oxidation Reaction of Iridium (III) in Solutions of
Sulfuric, Phosphoric, and Perchloric Acid

SOV/78-4-2-10/40

potentiometric titration of the solutions by Mohr's salt. It
was found that the oxidation reaction of iridium (III) mainly
depends on the concentrations of sulfuric acid and phosphoric
acid, respectively. In concentrated solutions of these acids
blue solutions are formed, independent of the oxidizer, with
characteristic absorption spectra with an absorption maximum
at 570 mμ. These solutions contain iridium (IV) in the form
of a complex anion with the addenda SO_4^{2-} or PO_4^{3-}. The same
characteristics of phosphoric acid and sulfuric acid   show
that these complex compounds contain the same chromophoric
group. On the oxidation of iridium (III) red solutions are
formed in weak solutions of sulfuric and phosphoric acid and
in perchloric acid, which have characteristic spectra with
an absorption maximum at 500 mμ. The separation of the
products formed did not prove successful. It may be presumed
that these compounds contain iridium (IV) as a hydrated
cation. The hydrated complex is stable in acid media only
and with an increase of pH in the solution it becomes a
hydroxo compound which is separated as iridium hydroxide,

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Investigation of the Oxidation Reaction of Iridium (III) in Solutions of
Sulfuric, Phosphoric, and Perchloric Acid

It was found by the potentiometric titration of the red and
the blue iridium complex solutions that iridium is tetra-
valent in these solutions. In oxidation processes of iridium
(III) a catalytic decomposition of the excess oxidizer takes
place. The decomposition is probably caused by the formation
of intermediate products of iridium (IV) with the oxidizer.
The synthesis of the compounds of Ir(IV) with sulfuric and
phosphoric acid was carried out with alkaline earths and
alkali salts. The following salts were produced:

$Ba_2H[Ir(PO_4)_3H_2O]$ or $Ba_2[Ir(PO_4)_2(HPO_4)H_2O]$,

$K_2[Ir(SO_4)_2(OH)_2]K_2SO_4$, $Ba[Ir(SO_4)_2(OH)_2]BaSO_4$,

$K_2[Ir(H_2O)(OH)(SO_4)_2]\cdot H_2O$, $Ba[Ir(H_2O)(OH)(SO_4)_2]$. The com-
position of the last four compounds is not certain because
they may contain Ir(III). An analytic method of determining
iridium in H_2SO_4 and H_3PO_4 solutions has been worked out by

means of perchloric acid as oxidizer. The method is based on

Card 3/4   the potentiometric titration of the blue complex of iridium (IV)

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Investigation of the Oxidation Reaction of Iridium (III) in Solutions of
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                which is formed in a mixture with sulfuric or phosphoric
                acid. It is possible to determine amounts of iridium from
                0.1-5 mg by potentiometric titration.There are 13 figures,
                2 tables, and 7 references, 1 of which is Soviet.

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TITLE: Complex Compounds of Iridium(IV) With Phosphoric Acid

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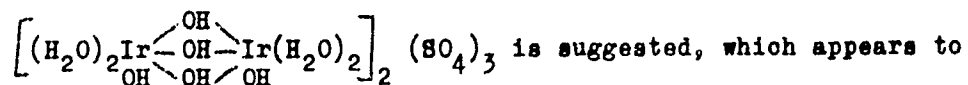   (USSR)

ABSTRACT: The authors already previously (Ref 1) investigated the oxidation
             of Ir(III) and gave vent to some suppositions concerning the red-
             violet intermediates and blue complex compounds formed on this
             occasion. The present paper deals with the explanation of the
             composition of these compounds. By evaporation of $H_2[IrCl_6]$, at
             first in $HClO_4$, and then in H_2SO_4, a highly hygroscopic sub-
             stance was obtained, the light absorption curves of which at dif-
             ferent water contents are shown in figure 1. The analysis of this
             compound is given. The potentiometric titration with Mohr's salt
             (Fig 2) confirms the quadrivalence of iridium. The determination
             of magnetic susceptibility carried out by V. I. Belova indicates
             a complex structure. From the solutions of this compound in
             $HClO_4$, H_3PO_4, and HCl, $BaSO_4$ is immediately precipitated with $BaCl_2$.
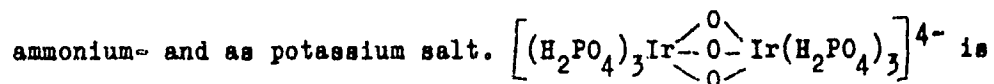Card 1/3

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Herefrom the conclusion is drawn that the SO_4^{2-}-ions are located in the outer region. In water, hydrolysis with the separation of insoluble products occurs. In concentrated KCl-solution, on the other hand, the color changes from red to blue accompanied by an increase in pH (Fig 3). For the red complex cation of the bi- or multicomponent aquo-hydroxo-compound of Ir(IV) the formula

$$\left[(H_2O)_2Ir\underset{OH\diagdown OH\diagup OH}{\overset{OH\diagdown}{\underset{}{\diagup}} OH\overset{}{-}Ir(H_2O)_2}\right]_2 (SO_4)_3$$ is suggested, which appears to

be confirmed by the thermogram (Fig 4) plotted by L.M. Zaytsev and by the analyses of the intermediates of thermal decomposition (Table 1). The blue complex phosphate of Ir(IV) was produced as

ammonium- and as potassium salt. $\left[(H_2PO_4)_3Ir\underset{\diagdown O\diagup}{\overset{O\diagdown}{\diagup}} O \overset{}{-}Ir(H_2PO_4)_3\right]^{4-}$ is

suggested as structural formula of the complex anion. The analysis for H_2O carried out according to A. B. Yelitsur (Ref 4)

Card 2/3   confirmed that the complex anion contains no H_2O-molecules.

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Figure 5 shows the thermogram of potassium salt, figure 6 the dependence of the pH on the concentration of the solution, and figure 7 the curve of potentiometric titration. The experimental results and the analyses permit the conclusion to be drawn that the composition of the complex ion depends on the pH of the medium, and that rearrangements easily occur in its inner sphere, which contains acid and basic groups. The compounds obtained are acid salts of polybasic acids. From the aqueous solution of the K- and NH_4-salt of the phosphate complex the insoluble Ba-, Ag-, and quinolonium salts were produced and analyzed. In all compounds obtained and investigated, the quadrivalence of iridium could repeatedly be proved by potentiometric titration (Table 2). There are 7 figures, 2 tables, and 4 references, 3 of which are Soviet.

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GINZBURG, S. I.

"New Methods of Determining Nobel Metals in Copper and in Nickel Tailings and in Platinum Concentrates."

paper submitted to the Fifth Conference on the Analysis of Nobel Metals, Novosibirsk, 20-23 September 1960

So: Zhurnal analiticheskoy khimii, Vol XVI, No. 1, 1961, page 119

GINZBURG, S.I.; SAL'SKAYA, L.G.

Photometric determination of platinum as bromide complexes.
Zhur.anal.khim. 17 no.4:492-494 Jl '62.   (MIRA 15:8)

1. N.S.Kurnakov Institute of General and Inorganic Chemistry,
Academy of Sciences, U.S.S.R., Moscow.
          (Platinum--Analysis) (Bromoplatinates)

GINZBURG, S.L.

Resonance scattering of gamma quanta in crystals. Fiz.tver.tela
5 no.5:1386-1393 My '63.   (MIRA 16:6)

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