

MALKINA, M. G., Doc Med Sci -- (diss) "Cirrhosis of the liver
as an outcome of Botkin's disease." Mos, 1957. 15 pp (Min of
Health USSR, Central Inst for ^{the} Advanced Training of Physicians),
200 copies (KL, 2-58, 115)

-56-

T-3

USSR/Human and Animal Physiology. Thermoregulation

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65063

Author : Malkina M.G.

Inst : ~~Chair of Psychiatry~~, Saratov State Med. Inst.

Title : Pathological Thermoregulation in Schizophrenia

Orig Pub : V sb.: Aktual'n. probl. nevropatol. i psikhiiatrii, Kuybyshev,
1957, 250-258

Abstract : The development of fever at the height of catatonic excitation was observed in patients with schizophrenia. The body temperature of the patients fluctuated between 37 and 39°; that of the cerebrospinal fluid between 37.5 and 38.2°. Measuring the skin of the forearm after the hand had been in a 45° bath for 60 minutes revealed the pathological nature of the thermoregulatory reflex in the form of congestion, areflexia and distortion. Phenamine given with sulfozine increased the pyrogenic effect of the latter. The prescription of sulfozine in combination with phenamine is recommended - 0.01 gm for a period of 1-2 days.

Card : 1/1

MALKINA, M.G.

KUTANIN, M.P., professor; MALKINA, M.G.

Clinical aspects of atypical forms of delirium tremens. Sov.med.
21 no.5:132-134 My '57. (MLBA 10:7)

1. Iz kafedry psikiatrii Saratovskogo meditsinskogo instituta.
(DELIRIUM TREMENS
clin. aspects of various forms)

EXCERPTA MEDICA Sec 8 Vol 12/6 Neurology June 59

2957. THERMOREGULATORY REFLEX AS INDICATOR OF THE DISTURBANCE OF THERMOREGULATION IN SCHIZOPHRENIA (Russian text) - Malkina M. G. and Kuznetov A. I. Dept. of Psychiat., Med. Inst., Saratov - ZH. VYSSH. NERV. DEYAT. 1958, 8:1 (36-41) Graphs 5 Tables 1
A somewhat modified Scherbak thermoregulatory reflex was examined in 42 cases of schizophrenia (altogether 117 examinations). The maximum increase of the

*Chair Psychiatry Saratov State Med
Inst.*

2 1 7

skin temperature in one hand was attained immediately after the 20 min. with bath at 45° C.; the other hand showed a decrease of the temperature to the initial levels within 40 to 60 min. This reflex was observed in 10 out of 42 cases before the treatment; in another 32 cases the reflex was markedly altered. As to the type of reaction, the thermoregulatory reflex was classified as follows: (1) Stasis, characterized by a more or less normal reflex increase of the skin temperature not returning to the initial level during the examination period (14 cases). (2) Areflexia by a slight fluctuation of the temperature (up to $\pm 0.5^{\circ}$ C.) (6 cases). (3) Distortion of the reflex by a progressive decrease of the body temperature, during the period of examination (12 cases). The stasis type of the thermoregulatory reflex was mostly symptomatic for hallucinatory-paranoid, paranoid and hypochondriacal forms of schizophrenia, while the distortion of the reflex was characteristic for simple and paranoid forms. After the treatment (insulin and ECT), nearly constant normalization of the reflex was noted, but this did not necessarily coincide with clinical improvement. The data obtained confirm the predominance of the static nerve processes in the CNS in schizophrenia and reveal some deep perturbations in the thermoregulation. It seems that, in case of schizophrenia, some other pathological disturbances in thermoregulation are possible, particularly non-infectious fever reactions, changes in the temperature of the CSF, etc.

MALKINA, M.G., MARTYNOV, L.A.

Stimulation of pyrogenic effect of sulfozine. *Farm.* 1 toks. 21 no.3
47-49 My-Je '58 (MIRA 11:7)

1. Kafedra psikhiatrii (zav. - prof. M.P. Kutanin) i kafedra
farmakologii (zav. - dots. B.G. Volynskiy) Saratovskogo gosudarstvennogo
meditsinskogo instituta.

(FEVER, experimental,
increase of pyretic eff. of sulfozine with amphetamine
(Rus))

(AMPHETAMINE, effects,
increase of pyretic eff. of sulfozine (Rus))

MALKINA, M.G., kand.med.nauk

Treatment of the epileptic state. Kaz.med.zhur. 41 no.1:88-89
Ja-F '60. (MIRA 13:6)

1. Iz kafedry psikiatrii (sav. - prof. M.P. Kutania) Saratov-
skogo meditsinskogo instituta.

(EPILEPTICS--CARE AND TREATMENT)

MALKINA, M.G., doktor med.nauk; KALUGINA, L.T., kand.med.nauk

Organizing postgraduate training for therapists in Moscow
Province. Zdrav.Ros.Feder. 6 no.9:22-25 S '62. (MIRA 15:10)

1. Iz 1-y terapevticheskoy kliniki (zav. - doktor med.nauk M.G.
Maikina) Moskovskogo oblastnogo nauchno-issledovatel'skogo kliniche-
skogo instituta imeni M.F.Wladimirskogo (dir. - zasluzhennyy vrach
RSFSR kand.med.nauk P.M.Leonenko).
(MOSCOW PROVINCE--THERAPEUTICS--STUDY AND TEACHING)

MALKINA, M. I.

0298

62

1960. Riding of Bunk by Louis Bruchmann, E. N.
 Peterson, C. V. Soren, and M. I. Malkina. Every Archer
 Magazine, N. Y., 5, 2, (February 1960), p. 20.
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)
 (See also: Every Archer Magazine, N. Y., 5, 2, (February 1960), p. 20.)

MALKINA, M. S.

28615

Ryentgenoterapiya Pri Niyontsiyevskoy Bol'yem Vmestel'nyy, 1943, No. 3,
STB. 793-94

CC: LITOPIS No. 38

- MALKINA, N.F.

G-3

USSR/Analysis of Organic Substances.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19740

Author : S.N. Kazarnovskiy, N.I. Malkina.

Inst : Gorki Polytechnical Institute.

Title : Separate Determination of Armeline, Amelide and Cyanurate of Melamine in Industrial Melamine.

Orig Pub : Tr. Gork'ovsk. politekh. in-ta, 1955, 11, No 3, 56-61

Abstract : 15 g of industrial melamine are extracted with 50 ml of 0.1 n. NaOH at 50 to 60°. The cooled solution is filtered through Buchner's funnel, the remainder is washed with water several times and discarded. The filtrate is neutralized with 0.5 n. HCl with phenolphthalein and an excess of acid of 0.5 ml is added. The separated precipitate of armeline (I), amelide (II) and cyanurate of melamine (III) are filtered off with a coarse filter No 4, melamine (IV) is washed out with water, the remainder is washed off into a glass with 40 ml of warm 0.1 n. NaOH,

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USSR/Analysis of Organic Substances.

G-3

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19740

heated to 50 to 60° and precipitated with 50 ml of 0.4 n. solution of Ba(OH)₂. This is filtered through a crucible No 4, washed with 5 to 10 ml of 0.1 m. NaOH and the precipitate is discarded. The filtrate is neutralized with 0.5 n. HCl using phenolphthalein and an excess of 0.5 ml of the acid is added. The separated precipitate (I + II) is washed of IV, dried and weighed. 50 ml of a solution of the cyanuric acid (1.5 g in 1 liter water) are added to the filtrate. The precipitated III is dried and weighed. The precipitate of I + II is dissolved in 25 ml of 0.1 NaOH. 50 ml. of the saturated solution of picric acid and 5 ml. of 60% CH₃COOH are added to an aliquote sample (about 20 mg of I or II). 24 hours later the precipitate of II and I picrate are filtered off with a filter No 4, washed 2 or 3 times with water, dissolved on the filter with 10 ml of 2% NaOH; the solution is diluted to 100 ml and photometered with a blue light filter. The

Card 2/3

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MALKINA, N.I.

PRIKHOT'KO, A.F.

24(7) p.3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy I Vsesoyuznogo sveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo Lvovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Ita: Fizichnyy sbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lardberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Millyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

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Gashkovskiy, V.F. Complex Structure and Nature of the Absorption Spectra and Fluorescence of Magnesium Phtaloocyanine and Chlorophyll	372
Gurinoviah, G.P., I.M. Yermolenko, A.M. Sevchenko, and K.M. Solov'yev. Electron Spectra of Chlorophyll and Pheophytine and Metal-derivatives	375
Cherkasov, A.S. Effect of Spacing of Substitutes on the Absorption Spectra and Fluorescence of Meso-derivatives of Anthracene	381
Finkel'shteyn, A.I., N.I. Malkina, and G.P. Machin. Absorption Spectra in the Ultraviolet Range and the Molecular Structure of Triazine Derivatives	385

Card 24/30

FINKEL'SHTEYN, A.I.; MALKINA, N.I.; MACHIN, G.P.

Ultraviolet absorption spectra and molecular structure of triazine derivatives. Fiz. sbor. no.3:385-388 '57. (MIRA 11:8)

1. Dzerzhinskiy filial Gosudarstvennogo nauchno-issledovatel'skogo i proyektynogo instituta azotnoy promyshlennosti, Gor'kovskiy politekhnicheskoy institut im. A.A. Zhdanova i Gor'kovskiy gosudarstvennyy institut im. N.I. Lobachevskogo.
(Triazine--Spectra)

MALREMA

✓ Mechanism of the reactions which take place during the reaction of cyanuric acid with ammonia. (S. N. Kazanovskii and N. I. Maikina, *Zhur. Priklad. Khim.* 30, 490-3 (1957).) A study of the kinetics for the reaction of NH_3 with cyanuric acid in the temp. range 250-350° showed that the reaction is accompanied by amination and depolymerization reactions and by the partial destruction of the triazine ring. The products of the amination are the oxamine derivatives of triazine and melamine, the product of the depolymerization is urea, and the products of the destruction of the triazine ring are carbonates. As the temp. is increased the rate of formation of the triazines is greater than the rate of depolymerization. I. Ravnicek

4-454g

MT

MAIKINA, N. I., Cand Tech Sci (diss) -- "A study of the mechanism of reactions occurring in the synthesis of derivatives of triazine from urea". *Tr. Khim. 1957.* pp. 111. (Kiev: Khim. Inst. Akad. Nauk Ukr. SSR, 1957). 100 copies (Z., Vol. 1, 1957, 1958).

MALKINA N.I.

KAZARNOVSKIY, S.N.; MALKINA, N.I.

Mechanism of the reactions taking place during thermal processing of urea under the pressure of generated gas.
Zhur.prikl.khim. 31 no.3:452-458 Mr '58.

(MIRA 11:4)

1 Gor'kovskiy politekhnicheskii institut im. A.A. Zhdanova.
(Urea)

AUTHORS: Malkina, N. I., Finkel'shteyn, A. I. 76-32-5-2/47

TITLE: Optical Investigation of the Molecular Structure of the Derivatives of Sym-Triazine (Opticheskoye issledovaniye molekulyarnogo stroyeniya proizvodnykh sim-triazina) II The Absorption Spectra in the Ultraviolet Range, the Molecular Structure and the Analysis of Ammeline and Ammelide (II Spektry pogloshcheniya v ul'trafioletovoy oblasti, molekulyarnoye stroyeniye i analiz ammelina i ammelida)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32 Nr 5, PP 981-985 (USSR)

ABSTRACT: In the present work investigations of the tautomeric transformations of the above mentioned compounds in acid and alkaline medium using the mentioned spectra for the analysis of mixtures of these compounds are carried out. Data are given with respect to the production of the two substances, as well as a graphical representation of the obtained absorption spectra obtained by means of a quartz-photoelectric spectrophotometer of the type CD-4. It was observed that a noticeable displacement of the absorption maximum as function of the acidity takes place, with both substances displaying opposite

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Optical Investigation of the Molecular Structure of the 76-32-5-2/47
Derivatives of Sym-Triazine II The Absorption Spectra in the Ultraviolet
Range, the Molecular Structure and the Analysis of Ammeline and Ammelide

phenomena, so that a separation analysis can be carried out on this basis. The change of the absorption spectra by the acidity is explained by the tautomeric conversions, taking place due to an increase or reduction of the number of interbindings. A quantitative determination of these substances was described by A. A. Korinfskiy (Ref 11), as well as by S. N. Kazarnovskiy and N. I. Malkina (Ref 10). The course of analysis is described from which follows that calibration curves are plotted with the help of the pure substances and that the calculation of the concentration is carried out according to the method of consecutive approximations, with determinations of the optical density being made. The duration of analysis is given to be from 20 - 25 minutes, with tabular comparisons of the results with determinations according to other methods being mentioned. There are 3 figures, 2 tables, and 12 references, 3 of which are Soviet.

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut im A. A. Zhdanova,
Dzerzhinskiy filial Instituta azotnoy promyshlennosti (Gor'kiy

Card 2/3

Optical Investigation of the Molecular Structure of the Derivatives of Sym-Triazine. II. The Absorption Spectra in the Ultraviolet Range, the Molecular Structure and the Analysis of Ammeline and Ammelide 76-52-5-2/47

Polytechnical Institute imeni A. A. Zhdanov, Dzerzhinskiy Department of the Institute of Nitrogen Industry)

SUBMITTED: November 19, 1956

1. Triazines--Molecular structure 2. Triazines--Spectrographic analysis 3. Spectrophotometer--Applications

Card 3/3

1966

3. 1966/61-1966, 3. 1966/61-1966
3. 1966/61-1966

53610

A. ... kina. N.I., and, S.N.

... .. the synthesis of cyanuric acid
(Report 1)

... .. Journal prikladnoy khimii, v. 34, no. 7, 1961,
1583 - 1587

... .. technical literature do not give the reaction me-
chanism of the thermal treatment of urea nitrate under atmospheric
pressure and the present work deals with these aspects. With an
accuracy of 0.01 gr., 3 gr. of urea nitrate in a glass test tube
was heated in an oil thermostat to the required temperature and
for the required time. After this the test tube was taken out,
cooled and the contents weighed. Ammonium cyanate was determined
from the portions of the product by potentiometric titration. The
principle of the separation method for determining ammeline and
amelline consisted of the alkaline extraction of samples of the

X

001 1/5

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D223/D305

The synthesis of cyanuric ...

product followed by the spectrophotometric analysis of ammeline and ammelide (ref. 27: N.I. Malkina, A.I. Finkel'shteyn, ZhFKh 32, 5, 981, 1958). For better clarification of the process, the separate products were expressed as the yield on the initial urea nitrate via carbon mass balance. To study the kinetics of formation, cyanuric acid was produced at temperature intervals of 132-150°C and for corresponding experimental times of 15, 30, 60, 120, 180 minutes. In order to increase the yield of cyanuric acid and also to free it from side products a series of experiments were carried out, the results of which are given in the following table:

Table. Cyanuric acid and oxyamino products (ammeline and ammelide) content in the melt.

Legend: 1 - content (% on initial urea nitrate); 2 - before HNO₃ treatment; 3 - after HNO₃ treatment; 4 - cyanuric acid; 5 - ammeline and ammelide; 6 - cyanuric acid; 7 - ammeline and ammelide.

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The synthesis of cyanuric ...

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D223/D305

Table (cont'd)

Содержание циануровой кислоты
и оксикамипроизводных (амме-
лина и аммелида) в плаве

① Содержание (% от исходной мочевины) ②			
③ до обработки азотной кислотой		④ после обработки азотной кислотой	
⑤ циануровой кислоты	⑥ аммелина и аммелида	⑦ циануровой кислоты	⑧ аммелина и аммелида
45.0	14.3	64.0	0
45.7	13.6	63.3	0
46.6	14.0	64.0	0
45.8	14.3	64.1	0
46.0	14.0	64.8	0
44.8	14.0	63.0	0
45.0	14.2	64.6	0
44.2	13.0	60.2	0

X

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D223/D305

The synthesis of cyanuric ...

The investigation of the kinetics of formation of intermediate products and cyanuric acid obtained when heating urea nitrate at atmospheric pressure and temperature intervals of 132-150°C showed that thermal treatment of urea nitrate is accompanied with its isomerization into ammonium cyanate and decomposition of the latter into cyanuric acid and ammonia (reversible reaction). The optimum conditions for obtaining ammonium cyanate (34 %) are a temperature of 190°C and synthesis time of 60 minutes. Cyanuric acid is produced by the polymerization of cyanic acid. The optimum conditions for the biurette (42 %) formation are temperature 170°C and synthesis time 180 minutes; cyanuric acid (63 % calculated on the carbon content of urea nitrate or 45 % of initial urea nitrate) at a temperature of 250°C and synthesis time 15 minutes. The ammonia-tion products of cyanuric acid were ammelide and ammeline (side products), their total quantity being 13-14 % of urea nitrate. The yield of cyanuric acid can be increased from a mean of 43 % to 63% by treating obtained melt with a 30 % nitric acid solution which frees the product from ammeline and ammelide. There are 5 figures,

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22436
S/080/61/034/007/011/016
D223/D305

The synthesis of cyanuric ...

1 table and 27 references: 8 Soviet-bloc and 19 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: H. Iida, J. Chem. Soc., Japan, Ind. Chem. Sect., 54, 775, 1951; Ch. A., 47, 1953; H. Iida, K. Vamakawa, J. Chem. Soc. Japan, Ind. Chem. Sect., 57, 587, 1954; Ch. A., 49, 6609, 1955; Z. Voshida, R. Oda, J. Chem. Soc. Japan, Ind. Chem. Sect., 56, 92, 1953; Ch. A. 49, 4679, 1955; H. Kinoshita, Rev. Phys. Chem. Japan, 25, 34, 1955; Ch. A., 50, 7114, 1956.

ASSOCIATION: Gor'kovskiy politekhnicheskii institut imeni A.A. Zhdanova (Gor'ky Polytechnic Institute imeni A.A. Zhdanov) X

SUBMITTED: May 4, 1960

Card 5/5

22438

S/O80/61/034/007/015/016
D223/D305

53610

AUTHOR: Malkina, N.I.

TITLE: The synthesis of cyanuric acid from urea nitrate
(Report II)

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961,
1630 - 1632

TEXT: The present work deals with the investigation of the method of producing cyanuric acid without ammelide and ammeline impurities by the direct treatment of urea nitrate with sulphuric acid, aiming to reduce the time of synthesis and the study of the effects of various factors (H_2SO_4 concentration, quantity used, heating time, experimental temperature) on the yield and purity of obtained product. The resulting solution was neutralized with a 25 % ammonia solution using methylred as an indicator and analyzed for cyanuric acid content. The results showed that the concentration of sulphuric acid to a great extent affects the yield and purity of

Card 1/3

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J

The synthesis of cyanuric acid ...

cyanuric acid. The optimum concentration of sulphuric acid was 24%, while, below this concentration, the oxyamino product of triazine appeared in the melt, decreasing the purity of cyanuric acid. This is a result of insufficiency of H_2SO_4 to change ammelines and ammelides into cyanuric acid. The experiments show that the optimum quantity of 24 % H_2SO_4 is 4 gr. for 4.5 gr. of urea nitrate, while experiments 14-17 give the best time as 5 hours. The additional time, decreases the product to 48 % and increases the amount of ammelides and ammelines. The optimum temperature is 200°C while higher temperature increases the quantities of impurities. The melt, obtained under optimum conditions, contained 60-65 % of cyanuric acid (wt. % of melt): the rest being amm. sulphate undecomposed at the temperature of experiments. To separate the cyanuric acid from side products 1 gr. of melt was dissolved in 50 mls. of water at room temperature and filtered. The residue contained cyanuric acid of 97-99 % purity. There are 1 table and 19 references: 7 Soviet-bloc and 12 non-Soviet-bloc. The references to the English-language- publications read as follows: G.A. Loughran, E.O. Hook,

Card 2/3

22438

The synthesis of cyanuric ...

S/080/61/034/007/015/016
D223/D305

Am. pat. 2676151; Ch. A., 48, 13210, 1954; D.A.W. Adams, R.H.
Wilson, Am. pat. 2667458; Ch. A., 48, 5515, 1954; C.H. Hands, F.
Whitt, J. Soc. Chem. Ind., 67, 66, 1948.

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut imeni A.A.
Zhdanova (Gor'kiy Polytechnic Institute imeni A.A.
Zhdanov)

SUBMITTED: September 13, 1960

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Card 3/3

MALKINA, N.I.; KAZARNOVSKIY, S.N.

Synthesis of cyanuric acid from urea. Zhur.prikl.khim, 37
no. 5:1158-1160 My '64. (MIRA 17:7)

1. Gor'kovskiy politekhnicheskii institut imeni A.A.Zhdanovva.

SOV/115-50-6-16/33

9(2), 28(2)

AUTHOR: Malkina, O.G.

TITLE: Impedance Measurements at Audio Frequencies by the Method of Magnetically Connected Circuits

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 6, pp 39-42 (USSR)

ABSTRACT: The author explains a method of measuring separately by components R and X of the impedance Z . Such measurements are required for a number of production processes, for example, for the quality control of cable and capacitor paper, inductances for radio equipment, etc. The existing methods of measuring the impedance components are complicated and delay control and automation of production processes where such measurements are necessary. For obtaining separate measurements of R and X , circuits with different relative sensitivity to resistance and impedance changes are required which may be provided by induction-coupled circuits. Fig.1 shows circuits with induction-coupling of coils and with negative induction-coupling between them. The author presents sets of equations for the currents in these circuits. When measuring impedances by the method of induction-coupled circuits,

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S0V/117-59-9-16/33

Impedance Measurements at Audio Frequencies by the Method of Magnetically Connected Circuits

magnetic amplifiers may be used whose control windings function as induction-coupled circuits. Magnetic amplifiers are employed efficiently with differential circuits as shown in fig.3, whereby the distortion of alternating currents in the control circuits by pair harmonics and voltage-change errors are eliminated. There are 3 circuit diagrams and 1 graph.

Card 2/2

MALKINA, O.G. (Moskva)

Rectified voltage regulators. Avtom. i telem. 21 no.4:
542-547 Ap '60. (MIRA 13:6)
(Voltage regulators)

89180

S/103/61/022/002/011/015
BC19/BC60

9.2530

AUTHOR: Malkina, O. G. (Moscow)

TITLE: Use of magnetic amplifiers for measuring impedances with magnet-coupled circuits

PERIODICAL: Avtomatika i telemekhanika. v 22, no. 2, 1961, 243-249

TEXT: Magnet-coupled circuits permit the measurement of every component (R and X) of an impedance. This simplifies laboratory measurements and facilitates the construction of automatic control instruments for industrial processes. The design of pick-ups for control or automatic regulation presupposes that the signal be unequivocally dependent upon each of the two components. The latter are separated either with the aid of a bridge circuit with two phase-sensitive indicators or with the aid of a circuit, in which the voltage to be controlled is obtained through the use of balancing indicators. An additional phase shifter is then connected to the bridge, and the indicators are fed by two voltages taken off at different points of the bridge and of the phase shifter. The indicators used are either differential-amplitude- or differential phase indicators. The same

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89180

S/103/61/022/002/011/015
B019/B060

Use of magnetic amplifiers

measurements can be made with magnet-coupled circuits with the aid of a magnetic amplifier. Shock-proof and vibration-proof measuring instruments can thus be developed, which are also suited for measuring small resistances at high frequencies. The difference between rectified currents of two circuits is used in the study of the variants dealt with here. In one circuit there is the active resistance R , and in the other the impedance ΔZ is present in addition to the active resistance R . Fig. 2 shows such a measuring circuit. For $\Delta Z = C$ the following relation holds:

$$I_1 = I_2 = \dot{U} / R \quad (2)$$

Connecting a small resistance to be measured leads to a change of these currents, and the way of calculating such a change is shown. Provided that ΔR and ΔX be considerably smaller than R , the relation

$$\Delta I = | \dot{I}_1 | (\Delta R R + \Delta X^2 X) / (R^2 + 4X^2) \quad (6)$$

is obtained for the difference between the two currents. Likewise, the

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B019/B060

Use of magnetic amplifiers ...

difference between amperages in circuits with and without short-circuited coil may be used for the measurement. Five variants of such measuring setups are discussed more closely. Fig. 3 shows a single-cycle magnetic amplifier for the measurement of a complex resistance. This circuit features a feedback coil which ensures a larger amplification factor and permits distinguishing the polarity of the amplified current differences. Figs. 5 and 6 shows the diagrams of two contactless relays, and Fig. 7 shows the differential diagram of a push-pull magnetic amplifier used for measuring a complex resistance. There are 7 figures and 4 Soviet-bloc references.

SUBMITTED: August 1, 1960

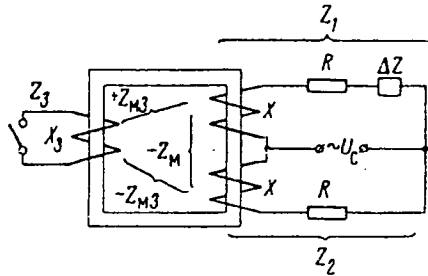


Рис. 2

Card 3/6

89180

S/103/61/022/002/011/015
B019/B060

Use of magnetic amplifiers ...

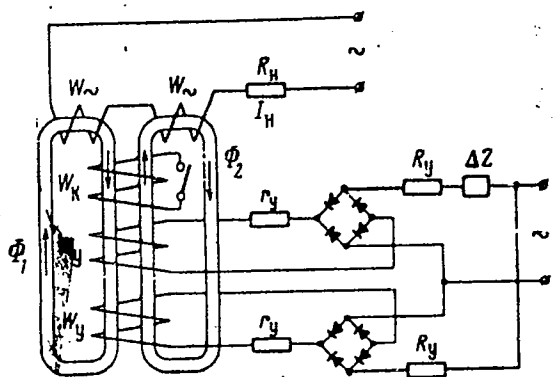


FIG. 3

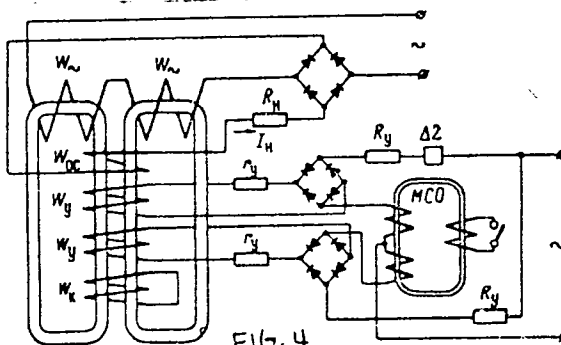


FIG. 4

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BY 160

S/103/61/022/002/011/015
B019/B060

Use of magnetic amplifiers ...

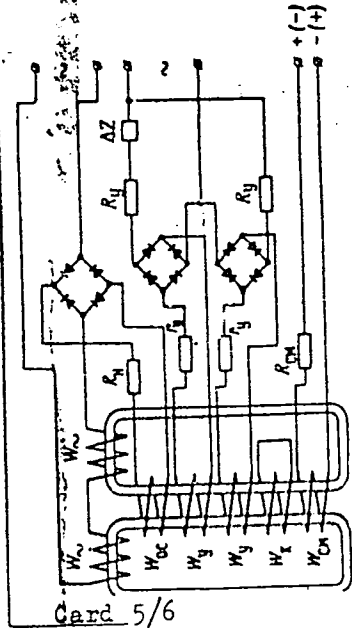


FIG. 5

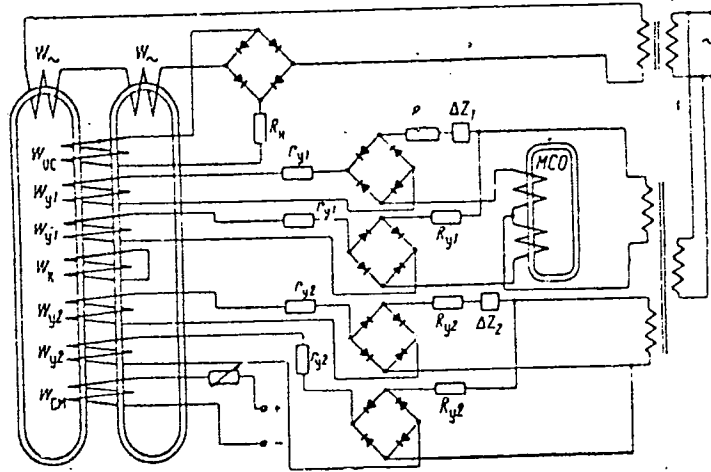
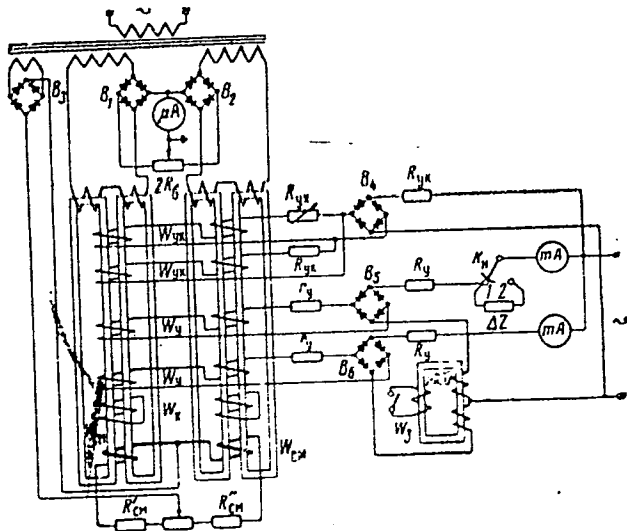


FIG. 6

69180

Use of magnetic amplifiers ...

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BC19/B050



Pnc. 7.

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MALKINA, R.G.

Copper corrosion in ozonized air. Trudy MIKHM 22:51-62 '60.
(MIRA 14:1)

(Copper--Corrosion)

(Ozone)

S/153/62/005/006/013/015
E075/E336

AUTHOR: Malkina, R.G.

TITLE: The influence of nitrogen and carbon dioxide on the corrosion of copper by ozonized air

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, v. 5, no. 6, 1962, 995 - 998

TEXT: The author studied the effect of the air constituents N_2 and CO_2 on the corrosion of 99.90% pure Cu. The corrosion of Cu with ozonized oxygen proceeds with greater intensity in the first 2-3 hours than corrosion with ozonized air. Subsequently, however, the air gives more corrosion than the ozonized O_2 , indicating a possible effect of N_2 on the corrosion caused by air. On the other hand, ozonized O_2 forms a protective film which prevents, to a large degree, further corrosion. The corrosion products did not have any N-containing compounds. This means that N_2 does not take a direct part in the corrosion process. A similar finding was obtained for the corrosion caused by ozonized
Card 1/2

S/153/62/005/006/013/015
E075/E336

The influence of

air containing CO₂. The corrosion rates were substantially the same for wet ozonized air in the presence or absence of CO₂. This indicates that moisture does not promote the formation of carbonates. There are 2 figures and 1 table.

ASSOCIATION: Kafedra obshchey i organicheskoy khimii,
Moskovskiy institut khimicheskogo mashinostroyeniya
(Department of General and Organic Chemistry,
Moscow Institute of Chemical Machinery)

SUBMITTED: October 2, 1961

Card 2/2

MAKINA, R. I.

See Also: RAYEV, Z. A., BREZNER, G. M., and LAZILEVICH, K. K.

Authors: Z.A. Rayev, G. M. Brezner, R. I. Makina and K. K. Lazilevich. --
"Use of millet flour for starting mixes in alcohol production," *Trudy
prom-st' SSSR*, Issue 12, 1964, p. 12-13.

SO: U-3570, 15 March 63, Detroit 12 and New York 12, 1963.

L 04777-67 EWT(m)/EWP(w)/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/JG/WB
ACC NR: AP6025725 SOURCE CODE: UR/0365/66/002/004/0490/0492

AUTHOR: Gil'man, V. A.; Kolotyrkin, Ya. M.; Malkina, R. I.

ORG: Scientific Research Physicochemical Institute im. L. Ya. Karpov
(Nauchno-issledovatel'skiy fiziko-khimicheskiy institut)

TITLE: Solution of zirconium in concentrated hydrochloric acid

SOURCE: Zashchita metallov, v. 2, no. 4, 1966, 490-492

TOPIC TAGS: zirconium, corrosion, corrosion rate, electrochemistry,
solution kinetics, chloride, induction melting, metal melting

ABSTRACT: Studies of the corrosion and electrochemical behavior of zirconium under anodic polarization conditions were continued using concentrated HCl, 11.5 N. In the passive region, at potentials more negative than +0.17 v, the rate of Zr solution to Zr^{+4} is independent of potential and amounts to $0.2-1 \cdot 10^{-4}$ amp/cm². The rate of solution of Zr pre-etched in HF corresponds to the stationary anodic current density at the given potential. In the case of Zr with atmospheric oxide films, the initial average rate of solution is an order higher than the anodic current through the system, but becomes somewhat lower and almost constant with time. The proposed mechanism for the solution of passive

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UDC: 620.193.41:669.296

L 04777-67

ACC NR: AP6025725

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Zr comprises the electrochemical formation of an oxide on the metal surface with subsequent solution of the oxide. At potentials above 0.17 v the rate of solution and anodic current increase rapidly resulting in embrittlement and eventual disintegration of Zr electrodes produced by induction melting. Action on arc melted Zr containing 0.02% C is ten times slower. Tests under potentiostatic conditions were found to be more severe than the corrosion tests run at 100°C. The rate of solution of Zr in concentrated HCl is 2 orders higher than in dilute acid. Orig. art. has: 2 figures.

SUB CODE: 07, 13/ SUBM DATE: 03Apr66/ ORIG REF: 003/ OTH REF: 004

Card 2/2 *pla*

MALKINA, R. L.

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On the theory of thin-walled curvilinear bars. *Dokl. Akad. Nauk SSSR* (English transl. in *Soviet Math. Dokl.*) 1961, 13, No. 9, 2552-2554.

The theory of thin-walled curvilinear bars given by V. Z. Vlasov [in a chapter added to the Russian edition of S. P. Timoshenko, *The Stability of Elastic Systems*, Gosstizdat, 1946] is an extension of Vlasov's theory of straight bars [Thin-walled Elastic Bars, Gosstizdat, 1949]. Vlasov assumed that the equilibrium equations (the six Kirchhoff equations) and the relations between the generalized forces and the displacements for straight bars are also valid for curvilinear bars with some small corrective terms. He did

not justify his assumption. G. Yu. Dzanelidze [*Akad. Nauk SSSR Dokl. Mat. Mekh.* 6, 25-31 (1944); *ibid.* Rev. 6, 252] also extended the theory of straight bars to curvilinear bars. His method differs somewhat from that of Vlasov. The author of this paper in developing the theory of curvilinear bars follows Dzanelidze rather than Vlasov. She finds also the conditions for which the Kirchhoff equilibrium equations are applicable to thin-walled bars. The author's results agree with those of Dzanelidze, and differ a little from those of Vlasov.

T. Leser (Lexington, Ky.)

SMW *RLM*

Source: *Mathematical Reviews*,

Vol. 13 No. 9