APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSIL J.

628.9.004.5

1235. PERIODS OF ATTENDANCE FOR AN ECONOMIC MAINTENANCE OF LIGHTING INSTALLATIONS. J.Netušil. Elektrotech. Obzor, Vol. 43, No. 9, 473-86 (1954). In Czech.

Measurements of the rate of deposition of dust on lighting fittings, windows, walls and ceilings of industrial premises are described and the costs of cleaning evaluated, to arrive at the most advantageous intervals between maintenance operations. Various types of maintenance service are enumerated, and hints for good lighting equipment design and illumination layout plans are given. Laboratory tests are based on comparative measurements of the distribution of dust deposits on lighting fittings, and the decrease of illumination values over a period of time is plotted to ascertain permissible limits.

J.C.Stark

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

B 68
a

SA

628.972.7 : 621.327.43

1184. Contribution to the problem of the best arrangement of linear sources of light. J. NETUSIL. *Elektrotech. Obz.*, 39, 298–308 (*July*, 1950) *In Czech.*

Considers the use of fluorescent lamps for lighting a large room. Isophotic curves are worked out for general and local illumination according to different systems of arrangement and different lighting fittings (dimensions of the elements of the system). A "quality factor" for the lighting is suggested to facilitate comparison between various solutions. A graph for the rapid selection of an optimum arrangement for a given area per single lighting fitting, or for a given average illumination is also provided.

B. F. KRAUS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

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L 08913-67

ACC NR: AP6023072

Table 1. Hot and 18-20C strength of bonded joints

Setting condition: Held under pressure at 80C, min.	Setting condition: Held with pressure released at 18-20C prior to testing, hr.	shear strength, kg/cm²	Setting condition: Held under pressure at 80C, min.	Setting condition: Held with pressure released at 18-20C prior to testing, hr.	shear strength, kg/cm²
Aluminum bonded with EPTs glue			Glass-reinforced polyester plastic bonded with PN-1 glue		
10	0	5 / 4—6	5	0	4 / 3—6
20	0	16 / 15—18	10	0	12 / 10—15
»	1,0	96 / 93—97	20	0	27 / 25—30
»	72,0	132 / 125—156	»	1,0	81 / 75—87
30	0	19 / 18—22	»	72,0	78 / 73—80
»	1,0	115 / 103—123	30	0	33 / 27—35
»	72,0	143 / 129—151			

Card 3/3

SUB CODE: 11/ SUBM DATE: none/ ORIG REF:005

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

L 08913-67

ACC NR: AP6023072

oak with urea-formaldehyde cold-setting glue MF. Optimum bonding conditions for the aluminum alloys are 40 min. at 130C (strength values decrease by 10-15% after 60 days), 50 min. at 100C (strength values decrease by 25-35%), or 60 min. at 80C (strength decreases by 40-45%). For the glass-reinforced polyester plastics these conditions are 10-30 min. at 60-100C. Test results are shown in Table 1. Orig. art. has: 6 fig. and 2 tables.

Card 2/3

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L 08913-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(j)/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/HM/EM/RM/JH (A)

ACC NR: AP6023072 SOURCE CODE: UR/0191/66/000/004/0065/0068

AUTHOR: Koval'chuk, L. M.; Netushil, N. Ye.; Chistyakov, A. M.

ORG: none

TITLE: Strength of glued joints

SOURCE: Plasticheskiye massy, no. 4, 1966, 65-68

TOPIC TAGS: metal bonding, aluminum alloy, glue, phenolic plastic, epoxy plastic, polyester plastic, glass

ABSTRACT: To attain 40-45 kg/cm^2 strength of joints in AMg, AM_{tg}, and AV aluminum alloys bonded at 120-160C with hot-setting glues such as phenolic epoxy glue FE-10, they must be held under pressure at these temperatures for 5-30 mins. The behavior of glues containing curing agents differs from the above in that the setting process continues at room temperature after the pressure has been released. Since the production rate depends on the conditions at which the bonded article can be taken from the press and heating discontinued, the latter is of practical importance. Bonded joints of AMg, AM_{ts}, and AV aluminum alloys and glass-reinforced polyester plastic were tested. The first were bonded with glue APTs and the latter with PN-1. Bonding of glass-reinforced polyester plastics to glass-reinforced polyester plastics and to various wood pulp materials was compared to bonding of paper-reinforced laminate plastics to pine and

Card 1/3 UDC: 668.395.6.01 : 539.412.1

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, N. Ye.
Min Higher Education USSR. Leningrad Technological Inst of the Food Industry
Leningrad, 1956

NETUSHIL, N. Ye.: "Investigation of certain structural-mechanical properties of macaroni parts in an effort to find the optimum drying system." Min Higher Education USSR. Leningrad Technological Inst of the Food Industry. Leningrad, 1956.
(Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, N. Ye.

"Investigation of the Elastic-Plactic Properties of Macaroni Products in the Process of Drying." Sub 10 Jun 51, Moscow Technological Inst of the Food Industry.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

092.4 1664

ACC NR: AP7008868 SOURCE CODE: UR/0105/66/000/008/0095/0095

AUTHOR: Abelishvili, L. G.; Al'tgauzen, A. P.; Baycher, M. Yu.; Gabashvili, N. V.; Dididze, M. S.; Yefroymovich, Yu. Ye.; Kotlya, A. K.; Kupradze, G. D.; Kurdiani, I. S.; Natushil, A. V.; Nikol'skiy, L. Ye.; Razmadze, Sh. M.; Svenchanskiy, A. D.; Smelyanskiy, M. Ya.; Tkeshelashvili, G. K.

ORG: none

TITLE: Professor Grigoriy Artemyevich Sisoyan (on his 70th birthday)

SOURCE: Elektrichestvo, no. 8, 1966, 95

TOPIC TAGS: electric engineering personnel, electric furnace, academic personnel

SUB CODE: 09

ABSTRACT: G. A. Sisoyan graduated from the Moscow Power Engineering Institute in 1931. In 1932 he went to work at the Georgian Polytechnical Institute in the theoretical and general electrical engineering department. Sisoyan has worked and published many works in the area of electric furnaces. He has also worked in the area of investigation of electric spark action. He has published over 50 scientific works. He has also been active in university level teaching. Orig. art. has: 1 figure. [JPRS: 38,330]

UDC: 621.36

Card 1/1

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

L 10526-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACC NR: AP6003465 SOURCE CODE: UR/0103/65/026/002/0359/0364

AUTHOR: Kolomeytseva, M. B.; Netushil, A. V.

ORG: none

49
B

TITLE: Transient processes in automatic control systems with an irrational transfer function

SOURCE: Avtomatika i telemekhanika, v. 26, no. 2, 1965, 359-364

TOPIC TAGS: automatic control system, automatic control theory, function theory, linear control system

14

ABSTRACT: Many objects of automatic control have distributed parameters and are described by Fourier equations. For closed automatic control systems with such objects, the investigation of the dynamics of the processes is complicated, since the transient process is usually described by a system of integrals of probability in a complex region. This article presents dependences and graphs necessary for calculation of transient processes in closed linear automatic control systems for controlled objects with irrational transfer functions. The authors thank G. P. Lychkinaya and N. V. Darinskiy for calculation of the curves as done in Figures 4 and 5 and for carrying out of the experiments. Orig. art. has: 7 figures and 20 formulas. [JPRS]

SUB CODE: 12, 13 / SUBM DATE: 20Jan64 / ORIG REF: 005

Card 1/1 UDC: 62-50

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

KOLOMEYTSEVA, M.B. (Moskva); NETUSHIL, A.V. (Moskva)

Transient processes in automatic control systems with irrational transfer functions. Avtom. i telem. 26 no.2:359-364 F '65. (MIRA 18:4)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

BERG, A.I., glav. red.; TRAPEZNIKOV, V.A., glav. red.; TSYPKIN, Ya.Z., doktor tekhn. nauk, prof., red.; VORONOV, A.A., prof., red.; AGEYKIN, D.I., doktor tekhn. nauk red.; GAVRILOV, M.A., red.; VENIKOV, V.A., doktor tekhn. nauk, prof., red.; SOTSKOV, B.S., red.; CHELYUSTKIN, A.B., doktor tekhn. nauk, red.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof., red.; IL'IN, V.A., doktor tekhn. nauk, prof., red.; KITOV, A.I., doktor tekhn. nauk, red.; KRIMITSKIY, N.A., kand. fiz. mat. nauk, red.; KOGAN, B.Ya., doktor tekhn. nauk, red.; USHAKOV, V.B., doktor tekhn. nauk, red.; LEKHER, A.Ya., doktor tekhn. nauk, prof., red.; FEL'DBAUM, A.A., doktor tekhn. nauk, prof., red.; SHREYDER, Yu.A., kand. fiz.-mat. nauk, red.; KHARKEVICH, A.A., akademik, red. [deceased]; TIMOFEYEV, P.V., red.; MASLOV, A.A., dots., red.; TRUTKO, A.F., inzh., red.; LEVIN, G.A., prof., red.; LOZINSKIY, M.G., doktor tekhn. nauk, red.; NETUSHIL, A.V., doktor tekhn. nauk, prof., red.; POPKOV, V.I., red.; ROZENBERG, L.D., doktor tekhn. nauk, prof., red.; LIFSHITS, A.L., kand. tekhn. nauk, red.; AVEN, O.I., kand. tekhn. nauk, red.; BLANN, O.M [Blunn, O.M.], red.; BROYDA, V., inzh., prof., red.; BREKKL', L [Brockl, L.] inzh., knad. nauk, red.; VAYKHARDT, Kh. [Weichardt, H.], inzh., red.; BOCHAROVA, M.D., kand. tekhn. nauk, st. nauchn. red.

[Automation of production processes and industrial electronics] Avtomatizatsiia proizvodstva i promyshlennaia elektronika; entsiklopediia sovremennoi tekhniki. Moskva, Sovetskaia entsiklopediia. Vol.4. 1965. 543 p. (MIRA 18:6)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

ZEVEKE, Georgiy Vasil'yevich, prof.; IONKIN, Petr Afanas'yevich, prof.; NETUSHIL, Anatoliy Vladimirovich, prof.; STRAKHOV, Sergey Vladimirovich, prof.; ZHUKHOVITSKIY, B.Ya., dots., red.

[Fundamentals of network theory] Osnovy teorii tsepei. [By] G.V.Zeveke i dr. Izd.3., ispr. Moskva, Energiia, 1965. 444 p. (MIRA 18:5)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

[illegible] may sometimes occur only for initial deviations within a [illegible] The analysis of the [illegible] carried out by one of [illegible] showed the possibility of existence of stable eigen oscilla- [illegible] multicycle (four-cycle) [illegible] and require a specified [illegible] An analysis of the [illegible] shows that it can maintain a [illegible] from the first level [illegible] the Van der Pol plane [illegible] sufficiently large [illegible] by experiment [illegible] One should expect [illegible] in other parametric systems. Orig. [illegible]

[illegible] (Department of the [illegible]

[illegible] SUB CODE: [illegible]

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[illegible]

[illegible]

[illegible] parameters of the object, classified with respect to their importance [illegible] the possibility of controlling or modifying the parameters, and [illegible] of the various processes employed. Various [illegible] are judged from the point of view of the adequacy of the in- [illegible] different parameters, the possibility of control in the [illegible] uncontrollable signals, and the learning ability of the [illegible] and cyclic control modes [illegible] discussed. Orig. [illegible]

[illegible]

[illegible] SUB CODE: DP, IE

[illegible]

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[illegible]

[illegible] S/0000/64/000/000/0035/0043

[illegible]

[illegible] Principles for construction of control machines with learning and self-[illegible]

[illegible] Moscow, 1964, 35-43

[illegible] self-adaptive control, learning machine, automatic control theory

[illegible] The control of complicated manufacturing processes or production objects [illegible] of the task of solving two problems, study of the object [illegible] and the development of a control that leads to optimal conditions. The [illegible] principles of combining the study of the object and ob- [illegible] automatic control. The object itself is regarded both as an [illegible] and as an information processing system. The informa- [illegible] of the object is analyzed by defining the boundaries of vector spaces

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BERG,A.I.,glav.red.; TRAPEZNIKOV,V.A.,glav.red.; TSYPKIN, Ya.Z., doktor tekhn.nauk,prof.,red.; VOROBOV,A.A., doktor tekhn.nauk,prof.,red.; SOTSKOV,B.S., doktor tekhn.nauk,red.; AGEYKIN,D.I., doktor tekhn. nauk, red.; GAVRILOV,M.A., red.; VENIKOV,V.A., doktor tekhn.nauk, prof.,red.; CHELYUSTKIN,A.B., doktor tekhn. nauk,red.; PROKOF'YEV, V.N., doktor tekhn.nauk,prof.,red.; IL'IN,V.A., doktor tekhn.nauk, prof.,red.; KITOV,A.I.,doktor tekhn.nauk,red.; KRINITSKIY, N.A., kand. fiz.-matem.nauk,red.; KOGAN,B.Ya., doktor tekhn.nauk, red.; USHAKOV,V.B., doktor tekhn.nauk,red.; LEMANEM,Yu.A., doktor tekhn. nauk,prof., red.; FEL'DBAUM, A.A.,prof., doktor tekhn.nauk,red.; SHREYDER,Yu.A., kand. fiz.-mat. nauk,dots.,red.; KREMKEVICH,A.A., akad., red.;TIMOFEYEV,P.V., red.; MASLOV,A.A.,dots.,red.; LEVIN, G.A., prof.,red.; LOZINSKIY,M.G., doktor tekhn.nauk,red.; NETUSHIL, A.V., doktor tekhn.nauk,prof.,red.; POPKOV,V.I.,red.; ROZENBERG, L.D.,doktor tekhn.nauk,prof.,red.; LIVSHITS,A.L.,kand.tekhn.nauk,red.

[Automation of production and industrial electronics] Avtomatizatsiia proizvodstva i promyshlennaia elektronika; entsiklopediia sovremennoi tekhniki. Moskva, Sovetskaia Entsiklopediia. Vol.3. Pogreshnost' resheniia - Teleizmeritel'naia sistema chastotnaia. 1964. 487 p. (MIRA 17:10)

1. Chlen-korrespondent AN SSSR (for Sotskov, Gavrilov, Timofeyev, Popkov).

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.; KUSHELEV, Yu.N.; USKOV, V.G.; BUDENNYY, A.P.; SVIRIDOV, A.P.

Automatic devices for checking current progress of students. Izv. vys. ucheb. zav.; radiotekh. 6 no.4:408-416 Jl-Ag '63. (MIRA 16:11)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

ACCESSION NR: AT4033628

SUMITTED: 03Dec63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: DP NO REF SOV: 000 OTHER: 000

Card 5/5

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ACCESSION NR: AT4033628

which this rate is established by the machine itself. Work is evaluated on the basis of a four-point scale ("excellent", "good", "satisfactory" and "poor") as a function of: 1) the number of errors made by the student in completing the exercises on a given subject theme; 2) the reaction time of the student; 3) the number of requests to the machine for "help" (this accomplished by depressing a special button marked "assistance" on the control panel of the machine, resulting in the supplying of either a leading question or of additional information). A block diagram of the "Repetitor" teaching machine is presented and the operation of the basic units of the device are analyzed, along with a discussion of the algorithm used. Noting that this machine is a partially self-adapting teaching device, the authors express the opinion that it would be expedient to construct a test model on the basis of the design described in the article, placing it into actual practice under academic conditions and then modifying and improving it. Orig. art. has: 13 figures.

ASSOCIATION: Moskovskiy Energeticheskiy institut (Moscow Power Institute)

Card 4/5

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ACCESSION NR: AT4033628

provide the correct answer to each question. The evaluation is made according to the relative number of correct answers by the student, with consideration of the time taken in replying. All the units of the machine are designed in two versions. The first type — telephone relays as logical elements; the second — semiconductors. Both types are described on the basis of block diagrams accompanying the text. Also described in the article is the "Repetitor" teaching machine, designed for foreign language instruction in the higher institutes of learning (the so-called "vuz") and in the lower-grade secondary schools. The answer is introduced into the machine by means of a keyboard arrangement. The authors discuss the difficulties created by this form of machine address in terms of the special features and peculiarities of foreign language teaching. Of the two types of programs (linear and ramified) which are commonly used for teaching machines, the "Repetitor" employs the ramified or "expanded" type. Sequential "blocks" of information are fed to the student, depending on the degree of accuracy with which he answers the questions contained in the preceding "blocks". Two operating conditions are possible: one in which the student sets for himself the rate or "tempo" of teaching; the other, in

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principal units or elements of a typical teaching machine are described and analyzed: 1) the information presentation unit (microfilm projector, tape-recorder, etc.); 2) the response introduction unit (device for collecting the answers of the student; for example, a typewriter-like arrangement on which the replies can be physically printed out); 3) the comparison unit (where the answer of the student is analyzed and compared with the answer programmed in the machine); 4) the timing unit (to measure and regulate the time intervals between the presentation of the question and a correct answer, as well as between two successive questions); 5) the memory unit (where information on possible answers by the student is stored); 6) the evaluation unit (by means of which the student is advised of the correctness or incorrectness of his answers); 7) the information selection unit (necessary when operating with a ramified program, in order to select the next step of the program as a function of the student's answer to the preceding question); 8) the program itself (the fundamental and essential part of any teaching machine). The automatic device called the "Ekzamenator", developed at the Institute, is described. By means of this machine, the student is given a series of questions on current material. Each of the questions is accompanied by several mutually-exclusive responses. The student must

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ACCESSION NR: AT4033628 S/0000/63/000/000/0119/0128

AUTHOR: Netushil, A. V.; Kushelev, Yu. N.; Uskov, V. G.; Budenny*y, A. [illegible]; Svirido, A. P.

TITLE: Automatic device for checking the current achievement of students

SOURCE: Programmirovannoye obucheniye i kiberneticheskiye obuchayushchiye mashiny" (Programmed instruction and cybernetic teaching machines): nauchno-tekhn. ob. statey Moscow, Izd-vo "Sovetskoye radio" 1963, 119-128

TOPIC TAGS: teaching machine, programmed instruction, relay teaching machine, electronic teaching machine, language teaching

ABSTRACT: The article describes the experience acquired in the development of teaching machines of the relay and electronic type in the Moskovskiy energeticheskiy institut (Moscow Power Institute). The authors distinguish between two functions in the teaching process: 1) the planning of the teaching schedule; and 2) the carrying out of what has already been planned. It is pointed out that the accomplishment of the second of these functions may be successfully entrusted to specialized teaching machines. The following

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ZEVEKE, Georgiy Vasil'yevich, prof.; IONKIN, Petr Afanas'yevich, prof.; NETUSHIL, Anatoliy Vladimirovich, prof.; STRAKHOV, Sergey Vladimirovich, prof.; LAVROV, V.M., dots., retsenzent; ZHUKHOVITSKIY, B.Ya., dots., red.; BORUNOV, N.I., tekhn. red.

[Principles of the network theory] Osnovy teorii tsepei. [By] G.V.Zeveke i dr. Izd.2., perer. Moskva, Gosenergoizdat,1963. 440 p. (MIRA 17:1)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

KRUG, G. K.; NETUSHIL, A. V.

" To the Theory of Self-Adjusting Systems. "

Paper to be presented at the IFAC Congress to be held in Basel, Switzerland, 27 Aug to 4Sep 63

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NETUSHIL, A.V.

Self-oscillations in single-channel gradient-type optimalizers. Trudy MEI no.44:295-307 '62. (MIRA 16:5)

(Automatic control)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

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B. An object (single channel search) with asymmetrical characteristic. The analysis of various types of instability is carried out graphically and if the transients in the controlled objects have no time to disappear over the repetition period T of the pulse, the problem is stated to become much more complicated and the problem of extremum has to be considered in the phase-plane. For a two channel search system the problem becomes more complicated. Methods of graphical analysis of possible types of free-oscillation are given for such a case. The resulting graphs make it possible to determine the character of oscillation and show the way solving optimum controller parameters. The author acknowledges the help of A.A. Fel'dbaum in assessing this work. There are 11 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: October 2, 1961

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

S/103/62/023/003/003/016
D201/D301

16.3000 (1031,1132,1379)

AUTHOR: Netushil, A.V. (Moscow)

TITLE: Self-oscillations in extremal sampled-data systems

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 3, 1962, 302 - 311

TEXT: The author considers special features of a sampled-data control system with a fundamentally parabolic static characteristic of the controlled object, when this characteristic deviates from its parabolic shape and the system is a discrete system of sustaining the extremum value of the controlled quantity. It is assumed that the repetition period of pulses is large enough for the transients to end before the beginning of the next pulse. Two cases are considered: A. An object with symmetrical characteristic y(x). For this case the condition for no oscillations is

$$v(x)\ k(v) < 2x \qquad (17)$$

(damped oscillations), where $v = dy/dx = \varphi(x)$ for the object to be controlled and k is the feedback factor (a single channel search).

Card 1/2

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SIROTINSKIY, L.I.; POLIVANOV, K.M.; NETUSHIL, A.V.; BABIKOV, M.A.; SYROMYATNIKOV, I.A.; DROZDOV, I.G.; FEDOSEYEV, A.M.; CHILIKIN, M.G.; BESSONOV, L.A.; BUTKEVICH, G.V.; ZHEKULIN, L.A.; NEYMAN, L.R.; GORTINSKIY, S.M.; SMIRNOV, A.D.; MAMIKONYANTS, L.G.; PETROV, I.P.

Vsevolod IUr'evich Lomonosov; obituary. Elektrichestvo no.12:88 D '62. (MIRA 15:12)

(Lomonosov, Vsevolod IUr'evich, 1899-1962)

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Electromagnetic fields in ... S/144/62/000/005/001/005
D289/D308

the two-dimensional theory of anisotropic dielectrics".

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering)

SUBMITTED: October 25, 1961

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placed by complex magnitudes. Wave processes can also be dealt with by applying an isotropizing coordinate transformation. Two examples are given: 1) Permeability of a stack of insulated ferromagnetic planes where the equivalent permeability is found. 2) Magnetizing process of a stack of planes with rectangular characteristics of the steel: Wolman's and Kaden's relation between E_c and H can be used. The equation of current distribution is

$$\frac{E}{a} = \frac{i_m}{\sqrt{\alpha \int_0^t i_m \, dt}} \qquad (53)$$

where $i_m = \frac{i_1 - i}{2}$; $E_m = \frac{E}{2}$. Also time characteristics are obtained for unit step function of the magnetizing current. N.G. Katkov, K.M. Polivanov and V.F. Belyavskiy are mentioned for their contribution to the field. There are 7 figures. The English-language reference reads: W.D. Collins, Mathematika, 3, no. 5, 1956, 63-68; "Note on

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24.2000

S/144/62/000/005/001/005
D289/D308

AUTHOR: Netushil, A.V., Doctor of Technical Sciences, Professor

TITLE: Electromagnetic fields in anisotropic medium

PERIODICAL: Izvestia vysshikh uchebnykh zavedeniy. Elektromekhanika, no. 5, 1962, 475 - 489

TEXT: Examples are given of electric and magnetic fields in materials with orthogonal anisotropy for stationary, quasi-stationary, and wave-like fields. In stationary fields, the Laplace equation is expressed by $\nabla(\varepsilon_{ik}\nabla\varphi) = 0$ where ε_{ik} - permittivity tensor; φ - electric potential. The author gives 4 examples of solving the problems of stationary fields with the aid of "isotropizing transformation of coordinates": 1) Linear charges near an anisotropic plane. 2) Effective permeability of an anisotropic strip inside a solenoid. 3) Anisotropic cylinder in an electric field. 4) Anisotropic sphere. For quasi-stationary fields one can apply all conclusions made for stationary ones if the dielectric and magnetic permeability are re-

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The object of inductive or ... S/024/62/000/002/008/012
E140/E135

condition, transient analysis, etc).
There are 7 figures.

SUBMITTED: November 18, 1961.

Card 2/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

S/024/62/000/002/008/012
E140/E135

16.8000

AUTHOR: Netushil, A.V. (Moscow)

TITLE: The object of inductive or radiation heating as an element of an automatic control system

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.2, 1962, 130-135

TEXT: The equivalent circuit of an object with surface heat treatment by induction or radiation methods is treated as a linear system (neglecting the variation of object parameters with temperature). The equation is found relating the power supplied, to the temperature. It is found that the transfer functions of such systems are given by rational functions of $p^{1/2}$ rather than of p. This is also the case of long lines with distributed parameters, magnetic clutches and other elements described by the one-dimensional equation of heat flow. This leads to the concept of "half-lag" and "half-integrating" circuits. The equations may be handled by the usual methods (Nyquist stability

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NETUSHIL, A.V., doktor tekhn.nauk, prof.; KRUG, G.K., kand.tekhn.nauk, dotsent; LETSKIY, E.K., starshiy inzhener

Using "learning" systems in the automation of complicated production processes. Izv.vys.ucheb.zav.; mashinostr. no.12: 121-129 '61. (MIRA 15:2)

1. Moskovskiy energeticheskiy institut.
(Automation)

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NETUSHIL, Anatoliy Vladimirovich; ZHUKHOVITSKIY, Boris Yakovlevich; KUDIN, Vsevolod Nikolayevich; BABAT, G.I., prof., retsenzent; OVSYANNIKOVA, Z.G., red.; GARINA, T.D., tekhn. red.

[High-frequency heating in an electric field] Vysokochastotnyi nagrev v elektricheskom pole. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 145 p. (MIRA 14:10)

(Dielectric heating)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

82065
S/142/60/003/005/003/022
E192/E382

Design of Saturated Chokes for Modulator Circuits

current waveform in the winding of a core (Fig. 4) is known and if the frequency dependence of μ_s is determined, it is possible to calculate the losses due to eddy currents. The energy lost in eddy currents during an aperiodic change due to a pulse is expressed by Eq. (10), where $H(\omega)$ is the spectral density of the pulse. Eq. (10) is used to determine the eddy-current losses for the pulses of Fig. 4, which can be regarded as consisting of a combination of a sinusoidal and trapezoidal pulses. There are 10 figures and 10 references: 1 English and 9 Soviet.

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair of Electrical Engineering Theory of Moscow Power Institute)

SUBMITTED: June 9, 1959

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

82965

S/142/60/003/002/005/022
E192/E382

Design of Saturated Chokes for Modulator Circuits

system are fully discharged before the commencement of a new charging cycle. The voltage applied to the modulator is sinusoidal, i.e. $e = E \sin \omega_n t$. Expressions for the voltage across C_1 and the current and m flux of the first core are derived. Similar expressions are found for the voltage across the second condenser and the current and flux of the second core. The shape of these parameters as a function of time is illustrated in Fig. 3. The current for the k-th core can be represented in the form shown in Fig. 4, where T_k represents the duration of a current pulse. The operation of the system can be regarded as linear during each of the intervals illustrated in Fig. 4. It is, however, necessary to determine the frequency dependence of the equivalent complex permeability of the cores for a given constant value of the magnetic permeability. It is assumed for this purpose that the core consists of a set of steel laminations having a width $2a$, a thickness $2b_1$, a permeability μ and a conductivity σ; the laminations are insulated from each other by a layer of dielectric having a permittivity ε and a thickness $2b_2$ (Fig. 5). The evaluation of the complex

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S/142/60/003/002/005/022
E192/E382

6.4500

AUTHORS: Netushil, A.V., Burdak, N.M., Zhukhovitskiy, B.Ya. and Kudin, V.N.

TITLE: Design of Saturated Chokes for Modulator Circuits

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1960, Vol. 3, No. 2, pp 191-201

TEXT: The analysis of the modulator circuits based on saturated cores is usually based on an idealized magnetization curve (Refs. 1 and 2), which does not take into account the magnetizing current. A different approach is thereforeadopted. It is assumed that the modulator considered is in the form shown in Fig. 2. The characteristic of the first saturated core in this system is represented by the curve shown in Fig. 1a, while that of the second core is approximated by the curve shown in Fig. 1b. The difference in the two characteristics is due to the fact that the characteristic of the first core is shifted towards the righthand side by an amount $I_n(W_n/W_1)$ due to the current I_n in the secondary winding W_n. In investigating the operation of the modulator of Fig. 2, it can be assumed that all the capacitances of the

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30512
S/194/61/000/008/066/092
D201/D304

Linear theory of a package...

compared with that for the short time rise pulses. The relationships obtained may be used for analyzing ferromagnetic film cores. 8 figures. 9 references. [Abstracter's note: Complete translation]

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30512
S/194/61/000/008/066/092
D201/D304

Linear theory of a package...

zation of a ferromagnetic core with a rectangular hysteresis loop taking into account the capacitance of the insulation layer between the laminations, but disregarding the magnetic viscosity of the steel. Analysis of processes occurring in the cores is carried out for two cases: in one of them the leading edge of the pulse is assumed to be "vertical" and in the other, it increases linearly. Comparison was made of magnetization time of a steel laminated core with and without the insulation. Formulae have been obtained for the minimum thickness of the insulation layer, the displacement current of which does not practically affect the magnetization process. In both cases the minimum thickness of insulation was found to be proportional to the square of the lamination width and directly to ε. It decreases with increasing thickness of laminae, conductivity of the steel and max. induction. This decrease is, however, much more noticeable with pulses having well-defined leading edges. Comparison of factors shows that the thickness of the insulation layer may be made smaller with linearly increasing leading edge pulses,

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30512
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D201/D304

9,2130 (also 1147,1482)

AUTHOR: Netushil, A.V.

TITLE: Linear theory of a package of ferromagnetic laminations in pulse regime

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 10-11, abstract 8 I78 (V sb. Vses. Mezhvuz. konferentsiya po teorii i metodam rascheta nelineyn. elektr. tsepey, no. 1. Tashkent, 1960, 66-87)

TEXT: With the increasing speed of operation of triggered magnetic devices in radio-engineering, automation and computing techniques, it becomes necessary to use cores made of thin packaged steel laminations, whose thickness decreases all the time. However, with the thickness of laminae of the order of microns, the effect of the inter-lamination insulation capacitance becomes apparent. The article deals with evaluation of the pulse response of magneti-

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NETUSHIL, A.V., kand. tekhn. nauk, dots.; KOMISSAROV, L.A., inzh.

Using induction heating in building operations. Stroi. prom. 27 no.5:7-11 My '59. (MIRA 13:2)

1.TSentral'naya nauchno-issledovatel'skaya laboratoriya po elektrifikatsii stroitel'noy promyshlennosti.
(Induction heating) (Construction industry)

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Professor G. A. Sisoyan. On His 60-th Birthday SOV/109-59-6-26/28

of an ore-annealing furnace. In 1954 he published a monograph on the burning of large arcs. At present he is engaged in studying the electromagnetic field distribution in ore annealing units, the theory of large-scale arcs and the control of arcs in furnaces. He also published a number of articles on problems of electrothermal processes in the periodicals "Stal'" and "Elektrichestvo". He has been awarded the "Medal of Distinction". There is 1 figure.

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8 (0)

AUTHORS: Gabashvili, N. V., Ter-Khachaturov, A. Ya., SOV/105-59-6-26/28
Kotiya, A. K., Svenchanskiy, A. D., Netushil, A. V.,
Filippov, K. M., Petnev, L. N. and Others

TITLE: Professor G. A. Sisoyan (Professor G. A. Sisoyan)
On His 60-th Birthday (K 60-letiyu so dnya rozhdeniya)

PERIODICAL: Elektrichestvo, 1959, Nr 6 p 94 (USSR)

ABSTRACT: Grigoriy Artem'yevich Sisoyan began his scientific career at the Vsesoyuznyy elektrotekhnicheskiy institut (All-Union Institute of Electrical Engineering). From 1932 he works as a scientist and as a teacher at the Chair of General and Theoretical Electrical Engineering at the Gruzinskiy politekhnicheskiy institut im. Kirova (Georgian Polytechnic Institute imeni Kirov). At the same time he works as an engineer at the Gruzenergo. From 1937 he devoted himself to electrothermal processes and theoretical electrical engineering. He solved a number of problems connected with the processes occurring in the electrical part of large ferro-alloy and carbide furnaces. In 1946 he was promoted Doctor of Technical Sciences. His Dissertation dealt with the electrical phenomena in the bath

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Netushil, A.V.

SOV/ie5-59-5-26/29

S(0)

AUTHORS: Ginzburg, S. G., Greyner, L. E., 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 15, 1959, Vladimir Borisovich Romanovskiy, Professor, Doctor of Technical Sciences, died at the age of 65. He started 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 Elektrotekhnicheskiy 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 doctoral thesis. He published more than 40 scientific papers.

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

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NETUSHIL A.V.

28(1)

AUTHOR: Vologdin, V.V. SOV/142-2-1-20/22

TITLE: A Conference on Electrical Food Processing Methods (Konferentsiya po elektricheskim metodam obrabotki pishchevykh produktov)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika, 1959, Vol 2, Nr 1, pp 120-121 (USSR)

ABSTRACT: A conference on electrical food processing methods was held in Kiyev from 7 to 13 October 1958. The conference was organized by the Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti USSR (Kiyev Institute of Technology of the Food Industry UkrSSR). The conference comprised a wide range of problems and the novelty of the subjects caused great interest of workers from scientific institutions and industrial installations. The 350 delegates came from 60 towns of the USSR; 119 participants were sent to the conference from vuzes and scientific research institutes. At the conference, more than 50 reports were delivered and discussed, dealing with problems of applying electrostatic fields, direct current, low frequency current, high frequency current, infrared and ultraviolet radiation, X-ray and gamma radiation for processing food products. Also statements were made concerning the application of ultrasound oscillations in the food industry. Considerable attention was devoted to the application of TVCh (tok vysokoy chastoty = high frequency current) for technological purposes, particularly for processing non-conductive materials in an electric high frequency field. More than 20 reports and statements were delivered on this subject, dealing with theoretical and technological problems. For example: "The Electrical Properties of Some Food Products in High Frequency Field" by S.N. Andreyev, V.N. Kudin, A. V. Netushil (Moscow); "Active Losses in Food Products" by I.S. Pavlov (Kiyev); "The Electrical Properties of Milk" by Yu.E. Nedzvetskiy (Leningrad); "A Continuous Automatic High Frequency Sterilizer for the Sterilization of Fruit Conserves on a Conveyer" by N.D. Chernyayev (Moscow); "The Defrosting of Spiced Sprats by High Frequency Currents" by V.N. Podsevalov (Astrakhan); "The High Frequency Boiling of Electrically Smoked Fish" by A.I. and M.I. Kalitina and I.S. Pavlov (Kiyev); "The Technological Peculiarities of Processing Sausage Products by High Frequency Currents" by N. N. Shishkina (Moscow). At the conference, the following reports were heard with great interest and were discussed in detail: "The Application of Infrared Heating for Drying of Confectionery Products" by N.B. Belostotskiy (RIGA); "The Technological Principles of the Hot Electrical Fish Smoking Process" by A.I. and M.I. Kalitina and Yu.P. Naumov (Kiyev); "A New Fish Processing Technology and the Processing of Sardines and Sprats With the Application of Infrared Light and Smoking Liquid" by I.I. Lapshin (Moscow); "The VNIIKOP Experimental Equipment for Ionization Processing of Food Products" by N.D. Chernyayev (Moscow); and "An Investigation of the Possible Application of Radioactive Radiation for Preserving the Albuminous Residue of Integumentary Whale Fat" by S.I. Tsypkin (Leningrad).

Card 1/5

Card 2/5

Card 3/5

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova (Lenina) (Leningrad Institute of Electrical Engineering imeni V.I. Ul'yanov (Lenin))

SUBMITTED: November 3, 1958

Card 5/5

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

SOV/161-59-1-3/25

Computing the Mean Dielectric Constant of Mixtures

mixtures. In this connection, the wrong conception by V. A. Odelevskiy (Ref 5) is pointed out with respect to the application of formula (2) to the computation of statistical mixtures at equal participation of the first and second components. The publication of this article was recommended by the institute mentioned under "Association". There are 8 references, 6 of which are Soviet.

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta
(Chair of Theoretical Principles of Electrical Engineering at the Moscow Institute of Power Engineering)

SUBMITTED: May 6, 1958

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

24(3) SOV/161-59-1-3/25

AUTHOR: Netushil, Anatoliy Vladimirovich, Doctor of Technical Sciences, Professor

TITLE: Computing the Mean Dielectric Constant of Mixtures

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1959, Nr 1, pp 23-26 (USSR)

ABSTRACT: The Lorentz-Lorenz equation suggested in 1880 is one of the basic formulas for the computation of mean parameters of mixtures. Formula (2) is derived here for computing the mean dielectric constant ε. It has the appearance of the known Lorentz-Lorenz equation. Formula (2) is sufficiently accurate for the computation of mixtures of spherical particles of equal size at relatively low concentrations. For more complicated mixtures, however, it leads to big errors. At low volume concentrations with $v \ll 1$, (2) takes the appearance of the Maxwell equation. The general proof for this Maxwell equation was given in the paper (Ref 6). It is shown here that formula (2) can be applied to mixtures with complicated particle-size distribution as well as to statistical mixtures (Ref 5). The components with ε_1 and ε_2 surround each other in statistical

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8(4); 9(4) PHASE I BOOK EXPLOITATION SOV/1995

Netushil, Anatoliy Vladimirovich, Boris Yakovlevich Zhukhovitskiy, Vsevolod Nikolayevich Kudin, and Yevgeniy Pavlovich Parini

Vysokochastotnyy nagrev dielektrikov i poluprovodnikov (High-frequency Heating of Dielectrics and Semiconductors) 2d ed., rev. Moscow, Gosenergoizdat, 1959. 479 p. Errata slip inserted. 11,000 copies printed.

Ed. (inside book): S. A. Avayev; Tech Ed.: G. I. Matveyev; Ed. (Title page): Anatoliy Vladimirovich Netushil.

PURPOSE: The book is intended for engineers and scientific workers dealing with electrothermics. It may also be used by senior students of vtuzes.

COVERAGE: The authors discuss problems of heating of various industrial materials in a high-frequency electric field. They describe the fields of application of dielectric heating and present fundamental physical laws which serve as the basis of calculation and design of equipment for heating materials in the electric field of a capacitor. Attention is given to measuring the parameters of

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NE Tushilov, A.V.

25(1) PHASE I BOOK EXPLOITATION SOV/2775

Akademiya nauk Ukrayins'koyi RSR. Instytut matematyky

Zastosuvannya metodu elektrohidrodynamichnykh anolohiy do rozv"yazannya deyakykh tekhnichnykh zadach (Application of the Method of Electrohydrodynamic Analogy to the Solution of Various Engineering Problems) Kyyiv, Vyd-vo AN URSR, 1959. 160 p. 1,000 copies printed.

Ed. of Publishing House: T.K. Remennik; Tech. Ed.: O.O. Matviychuk; Editorial Board: P.F. Fil'chakov (Resp. Ed.), V.M. Ostapenko (Resp. Secretary), Yu.V. Blahoveshchens'kyy, Y.B. Pohrebys'kyy, and V.R. Shamans'kyy.

PURPOSE: This book is intended for scientific workers, engineers, Aspirants and students.

COVERAGE: This book is a collection of articles on the application of the electrohydrodynamic analogy method to the solution of various engineering problems. Among the topics discussed is the modelling of certain technical problems on resistance paper by the electrohydrodynamic analogy method. Special attention is given to the study of various problems of filtration, in both homogeneous and nonhomogeneous ground, problems of plane bending, heat engineering problems, modelling electro-osmotic waterlevel fall, and the conformal mapping problem. Problems of the physical and technical properties of resistance paper and the accuracy of the electrohydrodynamic analogy method are studied and the new, more universal model of the EGDA integrator is described. All the articles end with summaries in Russian and English.

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V., doktor tekhn. nauk, prof.

Effect of the thickness of insulation on magnetic properties of laminated cores. Trudy MEI no.30:142-154 '58. (MIRA 12:5)

1.Moskovskiy ordena Lenina energeticheskiy institut, Kafedra teoreticheskikh osnov elektrotekhniki.
(Ferromagnetism)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

SOV/112-59-3-4676

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 54 (USSR)

AUTHOR: Burdak, N. M., Mukhin, A. A., and Netushil, A. V.

TITLE: Simulation and Calculation of Electroosmotic Lowering of the Water Table (Modelirovaniye i raschet elektroosmoticheskogo vodoponizheniya)

PERIODICAL: Tr. Mosk. energ. in-ta., 1958, Nr 27, pp 67-87

ABSTRACT: Bibliographic entry.

Card 1/1

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

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On Some Faults in the Book on Drying Processes SOV/105-58-7-20/32

Mikhaylov in a manual for students is criticised because this theory has hitherto not been published at all. Moreover, the description of the theory developed by Lykov is hardly comprehensible. There is 1 Soviet reference.

1. Materials--Dielectric properties 2. Heat transfer--Theory
3. High frequency currents--Applications

Card 2/2

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

AUTHOR: Netushil, A. V., Professor, Doctor of Technical Sciences SOV/105-58-7-20/32

TITLE: On Some Faults in the Book on Drying Processes (O nekotorykh nedostatkakh v knige o protsessakh sushki)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 77 - 77 (USSR)

ABSTRACT: The book "Heat- and Mass Exchange During the Drying Process" by A. V. Lykov, Professor, Member, AS Belorussian SSR, published by Gosenergoizdat, in 1956, is concerned. Lykov is one of the greatest scientists in this field and chapter 8 in his book is devoted above all to the drying by means of high-frequency currents. More than half of the chapter deals with the investigation of the molecular mechanism in high frequency heating of dielectrics. The classical theory of dielectric losses is explained and a new elektrokinetic theory developed by P. Ye. Mikhaylov is mentioned in this connection. As regards the new theory, the author is of the opinion (Lykov) that it requires some improvements and accurate definitions. Some inaccuracies occured in the description of the classical theory. They are dealt with in detail . Also the inclusion of the new theory developed by

Card 1/2

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NETUSHIL, A.V.

Measurements of nonelectric magnitudes in electromagnetic fields. Izv.vys.ucheb.zav.; radiotekh. no.6:690-693 N-D '58. (MIRA 12:4)

1. Rekomendovana kafedroy teoreticheskikh osnov elektrotekhniki Moskovskogo ordena Lenina energeticheskogo instituta.
(Magnetohydrodynamics)

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SOV/161-58-3-2/27

Calculation of the Non-steady Processes of Electro-osmotic Water-level Reduction

(Chair for Theoretical Fundamentals of Electrical Engineering of the Institute for Power Engineering, Moscow). The density of the filtration current of the liquid is given by equation(3). Next, the equations (9) and (10) are derived, the general one-dimensional solution is written down, the coefficients are determined, and equation (16) is written down as the solution. For the drained-off water formula (17) is then given, and the results obtained are specialized for three different arrangements of the electrons in the ground (Figs 3, 4, 5, 6). There are 6 figures and 6 references, 5 of which are Soviet.

This article was recommended for publication by the Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair for the Theoretical Fundamentals of Electrical Engineering at the Moscow Institute of Power Engineering)

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair for the Theoretical Fundamentals of Electrical Engineering at the Moscow Institute of Power Engineering)

SUBMITTED: September 20, 1958

Card 2/2

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

5(4) SOV/161-58-3-2/27

AUTHOR: Netushil, A. V., Doctor of Technical Sciences, Professor (Moscow)

TITLE: Calculation of the Non-steady Processes of Electro-osmotic Water-level Reduction (Raschet neustanovivshikhsya protsessov elektroosmoticheskogo vodoponizhniya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 3, pp 18-25 (USSR)

ABSTRACT: During investigations of electroosmotic influence in the soil the problem is usually schematized, and processes are investigated in three- and two-phase media. In the present paper a composition consisting of humus is first investigated, in which the space between individual particles is partly filled, and partly contains air or moist steam. In this composition the electric current causes a strong diffusion process, which counteracts a movement of moisture in the direction of the positive charge. Mathematical investigation is carried out on the basis of the differential equation of thermal conductivity. Further, a two-phase composition is investigated, in which the space between the humus particles is completely filled (Fig 1). The differential equation used as a basis is given. The solutions of the afore-mentioned equations were worked out by the Kafedra teoreticheskikh osnov elektrotekhniki MEI

Card 1/2

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V., prof. doktor tekhn.nauk; NITSETSKIY, V.V., inzh.

Investigating the ground-connection resistance of a system of cylindrical electrodes by means of models. Izv. vys. ucheb. zav.; elektromekh. no.1:99-106 '58. (MIRA 11:6)

1.Moskovskiy energeticheskiy institut.
(Electric currents--Grounding)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

SOV/112-59-3-5206

Some Problems of High-Frequency Electrothermics

minimum radio noise. Undesirable phenomena can sometimes be used to obtain the desirable heating characteristics. An example of an unfortunate solution of the processing problem is cited; some peculiarities of high-frequency oscillators are listed, as well as measuring methods used for high-frequency fields. Bibliography: 20 items.

L.A.G.

Card 2/2

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

8(4) SOV/112-59-3-5206

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 128 (USSR)

AUTHOR: Netushil, A. V.

TITLE: Some Problems of High-Frequency Electrothermics
(O nekotorykh zadachakh vysokochastotnoy elektrotermii)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Radiotekhnika, 1958, Nr 1, pp 25-34

ABSTRACT: Practical application of high-frequency heating should be preceded by studying the electric parameters of the material in question in an electromagnetic field. There is a criterion that permits conducting such experiments and accurately determining and forecasting the behavior of the material under heating conditions. The heating process has been developed; it involves selecting the frequency band and ensuring the power distribution necessary for the highest efficiency of the installation. If the material to be heated is nonhomogeneous, it is necessary to ensure proper distribution of heat intensity among various portions of the material. The installation should create

Card 1/2

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electro-osmotic dewatering in field operations. A. A. Mukhin, N. M. Burdak, Ye. P. Kudryavtsev, R. S. Ziangirov, S. N. Andreyev, I. A. Shekhtman, I. Logov, S. A. Levitan, and others took part in this phase of the work. The MEI investigations of the effect of direct current on the soil and on the water in it have been continued beyond the publication date, and, according to the Foreword, brought to light new data on the electrical stabilization of the soil, the effect of direct current on filtration and other soil properties, and the possibility of using the direct current effect on the statics of ground masses. Rather than delay publication of the first reports on this subject, the authors decided to include the developments, corrections, and new information on electro-osmosis and its applications in the next issue of MEI proceedings. The authors thank G. M. Mariupol'skiy, Candidate of Technical Sciences, for his assistance. There are 62 references: 53 Soviet, 4 English, 3 German, 1 Italian, and 1 Polish.

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

Electro-Osmotic Depression (Cont.) SOV/5203

G. M. Lomize, Professor, and Ch. III and Pars. 3, 4, and 5 of Ch. IV by A. V. Netushil, Professor. Ch. II is based on the research work carried out by the Department of Foundations, Earthworks, and Constructions of the Moskovskiy energeticheskiy institut (MEI) (Moscow Power Engineering Institute) under the supervision and with the participation of G. M. Lomize. The following investigations are of special interest: on electrostabilization of the soil, by Ye. P. Kudryavtsev, Engineer; on the electro-osmotic factor, by R. S. Ziangirov, Engineer; and on the effect of direct current on the filtration properties of clay soils, by A. A. Mukhin, Candidate of Technical Sciences, and R. S. Ziangirov. Ch. III contains the results of theoretical and experimental investigations made at the Department of Theoretical Principles of Electrical Engineering of the MEI under the supervision and with the participation of K. M. Polivanov, Professor, and A. V. Netushil. K. A. Krug, Professor, Corresponding Member, AS USSR, helped supervise the work, much of which was carried out by N. M. Burdak and A. A. Mukhin, Candidates of Technical Sciences. Ch. IV contains a generalization of practical work in the application of

Card ~~2/6~~

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NETUSHIL, A.V

PHASE I BOOK EXPLOITATION SOV/5203

Lomize, Grigoriy Mikhaylovich, and Anatoliy Vladimirovich Netushil

Elektroosmoticheskoye vodoponizheniye (Electro-Osmotic Depression of Water Level [Dewatering]) Moscow, Gosenergoizdat, 1958. 175 p. 2,700 copies printed.

Ed.: G. M. Mariupol'skiy; Tech. Ed.: A. M. Fridkin.

PURPOSE: This book is intended for technical personnel in planning, construction, and scientific research organizations.

COVERAGE: The authors describe the results of theoretical and experimental investigations of electro-osmosis phenomena in the soil and of electro-osmotic depression of the water level and its practical application in the USSR and abroad. According to the Foreword, this is the first attempt to present a generalization of the experience gained in this field and to develop practical methods of designing the assemblies in question. Chs. I and II and Pars. 1 and 2 of Ch. IV were developed and written by

Card ~~1/6~~

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NETUSHIL, A.V., doktor tekhnicheskikh nauk, professor; FABRIKANT, V.A., doktor fizicheskikh-matematicheskikh nauk, professor.

G.R. Kirchhoff. Elektrichestvo no.10:71-73 O '57. (MLRA 10:9)

1. Moskovskiy energeticheskiy institut.
(Kirchhoff, Gustav Robert, 1824-1887)

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[illegible], [illegible], [illegible], [illegible], [illegible] [illegible]
and [illegible], [illegible], [illegible], [illegible]
[illegible]

"Electro-osmotic [illegible] Excavations," a paper [illegible] International Society of Soil Mechanics [illegible]
12-2[illegible] Aug [illegible].

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.; BURDAK, N.M.

Modeling electroosmotic water level drop. Zhur.tekh.fiz.26 no.7: 1595-1598 Jl '56. (MLRA 9:9)
(Electroosmosis)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

LOMIZE, G.M., dokter tekhnicheskikh nauk, professor; NETUSHIL, A.V., dokter tekhnicheskikh nauk, professor.

Using electroosmosis in lowering ground water level. Gidr.strei.25 no.3:26-31 Ap '56. (MLRA 9:9)
(Electroosmosis) (Water, Underground)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

SOV/124-58-1-911

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 122 (USSR)

AUTHORS: Burdak, N. M., Netushil, ~~A. V.,~~ Sorokin, P. P.

TITLE: Electrolytical Bath for the Analog Simulation of Plane-parallel Potential Fields With Arbitrary Boundary Conditions (Elektroliticheskaya vanna dlya modelirovaniya ploskoparallel'nykh potentsial'nykh poley s proizvol'nymi granichnymi usloviyami)

PERIODICAL: Tr. Mosk. energ. in-ta, 1956, Nr 18, pp 229-240

ABSTRACT: An electrolytical bath was constructed to serve as an analog computer for a number of hydrodynamic, thermotechnical and electrotechnical processes that can be described by a Laplace equation; the bath permits the establishment at the boundary of a desired potential, normal component of the current density, and functional relationship between these two quantities. The paper describes the bath and the measuring devices; it also examines examples of the application of the electrolytic bath for the analog simulation of the process of a lowering of ground-water levels due to the effect of a horizontal pipe drain and of a stationary temperature field due to electric heating.

V. M. Akimov

Card 1/1

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

KAZANTSEVA, I.A., inzhener; NETUSHIL, A.V., doktor tekhnicheskikh nauk, professor.

Method for measuring the electric parameters of anisotropic materials. Trudy MEI no.18:158-164 '56. (MLRA 10:1)

1. Kafedra teoreticheskikh osnov elektrotekhniki.
(Electric measurements) (Fibers--Electrical properties)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

LAPSHIN, M.S., inzhener.; NETUSHIL, A.V., doktor tekhnicheskikh nauk, professor; FRADKIN, B.M., kandidat tekhnicheskikh nauk.

Selective heating in a high-frequency electric field. Trudy MEI no.18:46-56 '56. (MLRA 10:1)

1. Kafedra teoreticheskikh osnov elektrotekhniki.
(Induction heating)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

AYZENSHTEYN, A.I., inzh. (g. Sofiya). NETUSHIL, A.V., doktor tekhn. nauk, prof.

Using a Q-meter circuit to measure low values of Q. Elektrichestvo no.12:69-71 D '56. (MIRA 11:3)

(Electric measurements)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, Anatoliy Vladimirovich; POLIVANOV, Konstantin Mikhaylovich; ZHUKHOVITSKIY, B.Ya., redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Principles of electric engineering] Osnovy elektrotekhniki; v trekh chastiakh. Moskva, Gos. ener. izd-vo. Pt.3. [The theory of the electromagnetic field] Teoriia elektromagnitnogo polia. 1956. 190 p. (MLRA 10:2)
(Electromagnetic theory)

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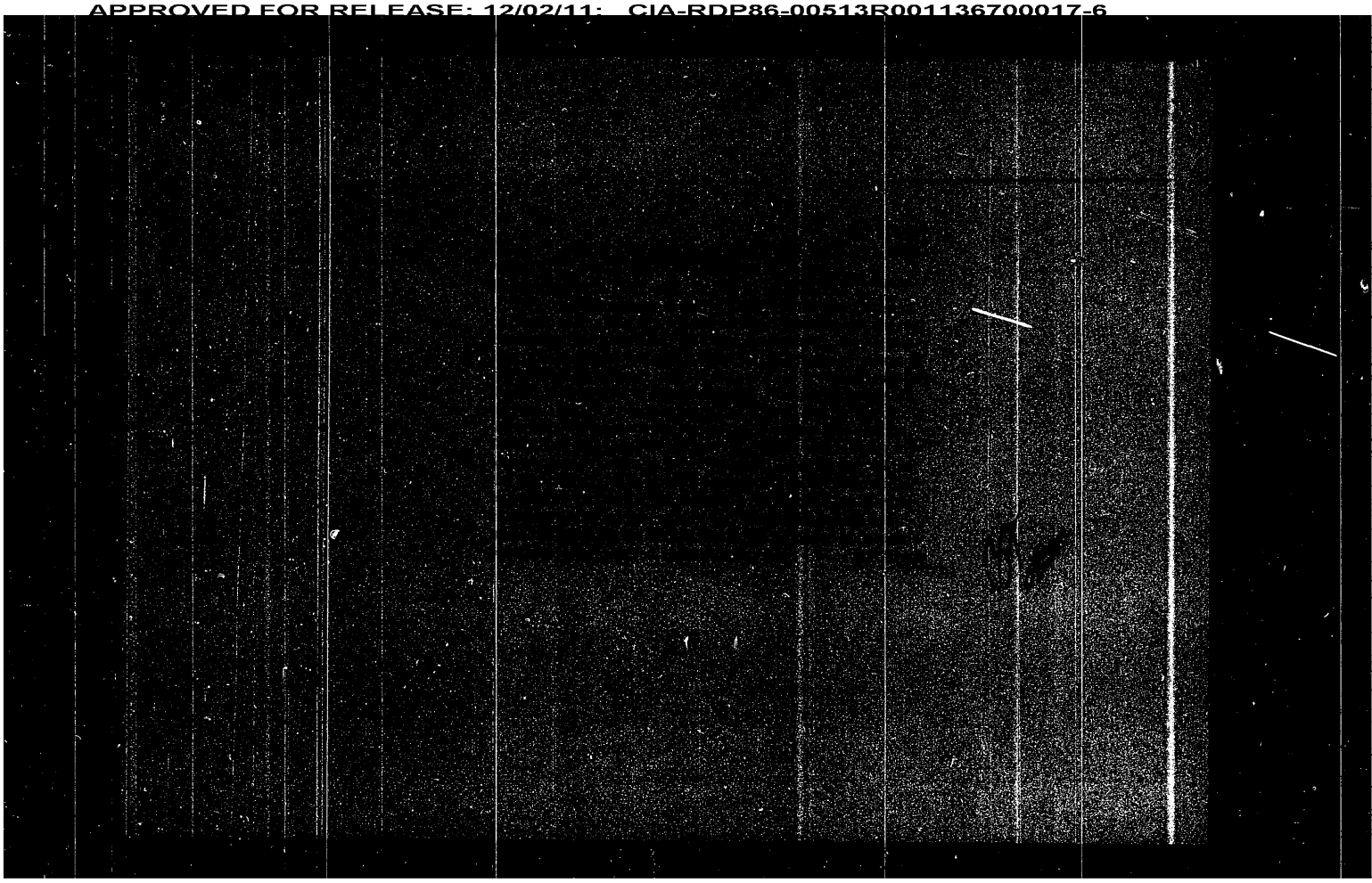

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AID P - 2355

Elektrichestvo, 5, 69-73, My 1955

Card 2/2 Pub. 27 - 19/30

the courses of mathematics and physics in order to avoid duplication. As a result of the discussion, a plan for future textbooks was outlined on the basis of two such books, one written by a collective of authors from the Moscow Institute of Power Engineering, the other by L. R. Neyman and P. L. Kalantarov of the Leningrad Polytechnical Institute. The conclusions of the discussion will be included in the new program of the Ministry of Higher Education.

Institution: None

Submitted : No date

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

AID P - 2355

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 19/30

Authors : Zeveke, G. V., Kand. of Tech. Sci., Dotsent
Ionkin, P. A., Kand. of Tech. Sci., Dotsent
Netushil, A. V., Doc. of Tech. Sci., Prof.
Strakhov, S. V., Kand. of Tech. Sci., Dotsent, Moscow Power Engineering Institute im Molotov; Darevskiy, A.I., Kand. of Tech. Sci., Dotsent, All-Union Correspondence Polytechnical Institute; Lomonosov, V. Yu., Doc. of Tech. Sci., Prof. Central Scientific Research Institute of the Ministry of Electric Power Stations; Neyman, L. R., Prof. Corr. Mem. of Academy of Sciences, USSR Leningrad Polytechnical Institute im. Kalinin

Title : Concerning a textbook on the theory of electrical engineering for a university course (Discussion) (Same journal, Nos. 6, 7, 12, 1953; Nos. 3, 4, 1954)

Periodical : Elektrichestvo, 5, 69-73, My 1955

Abstract : The discussion concerned the coordination of the course in the theoretical bases of electrical engineering with

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AID P - 2007

Elektrichestvo, 4, 50-52, Ap 1955

Card 2/2 Pub. 27 - 11/31

between theoretical and experimental findings.
Four diagrams, 9 references (1932-1954) (7 Russian).

Institution: Moscow Power Engineering Institute

Submitted : Ja 14, 1955

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

AID P - 2007

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 11/31

Author : Netushil, A. V., Doc. of Tech. Sci., Prof., Moscow

Title : Dimensions of contact gratings used in an electrolytic tank to analyze potential field analogies

Periodical: Elektrichestvo, 4, 50-52, Ap 1955

Abstract : The author places in an electrolytic tank a series of plane conducting plates or wires forming a system of electrodes and fixes them in a non-conducting partition. This partition creates a plane contact grating which provides the indispensable contact between two different electrolytes. Employing the method of conformal transformations, the author analyzes the errors resulting from the introduction of the contact barrier. He establishes optimal relationships for the dimensions of plane and cylindrical electrodes. An experimental check proves that a close conformity exits

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NETUSHIL, Anatoliy Vladimirovich; STRAKHOV, Sergey Vladimirovich; ZHUKHOVITSKIY, B.Ya., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor.

[Principles of electrical engineering] Osnovy elektrotekhniki. v trekh chastiakh. Moskva, Gos.energ.izd-vo Pt.2 [Circuits with lumped and distributed parameters] Tsepi s sosredotochennymi i raspredelennymi parametrami. 1955. 213 p. (MLRA 8:11)
(Electric circuits)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

AVAYEV, Sergey Aleksandrovich; GARTUNG, Sergey Vasil'yevich; SHMELEV, Aleksandr Nikolayevich; PLEMYANNIKOV, M.N., redaktor; NETUSHIL, A.V. professor, doktor tekhnicheskikh nauk, retsenzent; TULYUSIN, M.V., inzhener, retsenzent; EL'KINA, Ye.M., tekhnicheskiy redaktor

[Electrical equipment for light industry] Elektrooborudovanie predpriiatii legkoi promyshlennosti. Moskva, Gos.nauchno-tekhn. izd-vo Ministerstva tekstil'noi promysh.SSSR, 1955. 308 p.
(Electric engineering) (MLRA 9:1)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

Heating non-uniform dielectrics in a high-frequency electric field. [Izd.] LONITOMASH no.33:187-216 '54. (MLRA 8:2)
(Dielectric heating)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

FD-1006

USSR/Physics - High-frequency heating

Card 1/1 : Pub. 153 - 10/24

Author : Netushil, A. V.

Title : Calculation of temperature distribution in high-frequency heating of laminar materials

Periodical : Zhur. tekh. fiz., 24, 1035-1040, Jun 1954

Abstract : Calculates the maximum temperature difference between the flat layers of the first and second materials and its dependence upon time under the assumption that the parameters of the materials and specific heat sources are constant. Six references, 3 USSR (A. V. Donskoy, A. V. Lykov, and A. A. Lisenkov)

Institution : -

Submitted : February 24, 1953

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A. V.

AID P - 467

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 30/34

Authors : Netushil, A. V., Dr. of Tech. Sci., Avayev, S. A., Kand. of Tech. Sci., Members of MONITOE (Moscow Scientific and Technical Society of Power Engineers and Technicians)

Title : Conference on the Problems of Combined High Frequency Heating and Drying of Wood Pulp. (Current News)

Periodical : Elektrichestvo, 7, 92, Jl 1954

Abstract : On the 14th and 15th of April 1954, the Electro-Thermic Section of MONITOE organized a conference in Moscow on problems of combined high frequency heating and drying of wood pulp.

Institution : MONITOE (Moscow Scientific and Technical Society of Power Engineers and Technicians).

Submitted : No date

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V.

LEBEDEV, V.N., dotsent; NETUSHIL, A.V., doktor tekhnicheskikh nauk.

On a textbook of theoretical electrical engineering for schools of higher learning. Elektrichestvo no.4:71-72 Ap '54. (MLRA 7:5)

1. Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta im. Kaganovicha (for Lebedev). 2. Moskovskiy energeticheskiy institut im. Molotova (for Netushil). (Electric engineering)

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APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A. V. and Polivanov, K. M.

"Influence of Moisture Conduction During Electroosmosis," DAN SSSR, Vol 89, No 5, pp 845-48, 1953.

Derivation of the eqs describing moisture distribution and drainage velocity in moist ground under electroosmotic conditions, taking into account the influence of moisture conduction and heat-moisture conduction on electroosmotic drainage, as was omitted in "Iskusstvennoye Zakrepleniye Gruntov" (Artificial Strengethening of Foundations) Sbornik No 17, 1952. State that L. Casagrande (J Boston Soc Civil Eng. 39, No 1, 51 (1952) did not correctly explain the phenomenon noted by him of drainage near cathodes. Presented by Acad P.A.Rebinder 12 Feb 53.

259T91

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V., dotsent, kandidat tekhnicheskikh nauk

Calculation and modeling of electric filtration in anisotropic media. Trudy MEI no.14:211-216 '53. (MLRA 8:7)
(Soils--Electrical properties) (Soil percolation)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

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NETUSHIL, A.V., dotsent, kandidat tekhnicheskikh nauk; POLIVANOV, K.M., professor, doktor tekhnicheskikh nauk.

Effect of the force of moisture conductivity on the movement of moisture in soils under the action of electroosmosis. Trudy MEI no.14:198-210 '53. (MLRA 8:7)
(Soil moisture) (Soil stabilization) (Electroosmosis)

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NETUSHIL, A.V., dotsent, kandidat tekhnicheskikh nauk

Electrothermal fields in nonlinear media. Trudy MEI no.14:122-132 '53. (MLRA 8:7)

(Electric fields) (Thermodynamics)

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TAREYEV, B.M., redaktor; NETUSHIL, A.V., kandidat tekhnicheskikh nauk [reviewer].

"Scientific literature on dielectrics." B.M.Tareev, ed. Reviewed by A.V. Netushil. Elektrichestvo no.10:96 O '53. (MLRA 6:10)
(Dielectrics)

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700017-6

NETUSHIL, A.V., kandidat tekhnicheskikh nauk.

New application of dielectric heating. Elektrichestvo no.8:80-82 Ag '53. (MLRA 6:8)

(Electric heating)

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NETUSHIL, A. V.

PA 248T23

USSR/Electricity - High-Frequency Heating Feb 53

"Measuring Temperatures of Dielectrics and Semiconductors in High-Frequency Fields," Docent A. V. Netushil, Cand Tech Sci; Engr A. A. Lisenkov; Moscow Power Eng Inst imeni Molotov

Elek-vo, No 2, pp [illegible]

Examines special conditions encountered when measuring temps in hf fields. On basis of theoretical and exptl data, gives practical recommendations for using thermoelectric methods of measurement. Submitted 5 Sep 52.

248T23

(PA 56no. 672:8378 '53)

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NETUSHIL, A. V.

USSR/Geophysics - Filtration

Jan 52

"Calculating the Filtration Processes For the Case Where Electroosmotic Activity Is Present," A. V. Netushil, K. M. Polivanov

"Zhur Tekh Fiz" Vol XXII, No 1, pp 21-32

Sets up and solves the eqs describing the flow and potential lines in the case of filtration of water from an elevated channel to a river when there is an elec field interposed between channel and river in the medium, due to cables lying in the ground. Submitted 28 Mar 51.

206T63

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USSR/Electricity - High-Frequency Heating Aug 52
Dielectric Heating

"Some Problems Concerning the Theory of High-Frequency Heating," A. V. Netushil, Cand Tech Sci, Moscow Power Eng Inst imeni Molotov

"Elektrichestvo" No 8, pp 50-59

235T44

With aim of working out technological conditions for high-frequency heating of dielectrics and semiconductors, author approaches general problem of detg elec, heat, and moisture fields and their interaction during process. Simplified concept of moist materials as forming 2 phases, based on

235T44

known properties of water, aids selection of appropriate frequency range. Author introduces vector $\psi \hat{j}$, which has same role in integral eqs of potential fields as Poynting's vector, and solves a series of concrete examples on basis of examn of system of differential eqs. Submitted 18 Feb 52.

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NETUSHIL, A. V.

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621.365 621.315.59

4268. Conditions of the co-existence of steady thermal and electric fields in the electric heating of concrete. A. V. Netushil. *J. Tech. Phys., USSR*, 21, 405-9 (*April*, 1951) *In Russian.*

The determination of simultaneous thermal and electric fields in semiconducting materials is of great interest in electric heating applied to concrete structures in winter, because an unsuitable location of the electrodes may give rise to local overheating and failure of the concrete. The problem is considered here for some of the customary electrode arrangements. The general solution of the differential equation of the problem, involving $(\nabla\phi)^2$ and the Laplace operator, had been given before by the author [Abstr. 2495 (1949)] and is now matched to the boundary conditions of the special problem. The results for a number of cylindrical electrodes arranged in parallel grids of alternating sign represent the temperature field with an accuracy of 1%, and under certain conditions are equal to the effect of only two grids plus a constant homogeneous field. The results may be used for determining the thermal resistance of the concrete and the spacing and location of the heating grids to avoid overheating.

B. J. KRAUS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PA 196T23

USSR/Electricity - Hydraulics
Drainage

Aug 51

"The Application of Electroosmotic Effects in Hydraulic Engineering Structures," Prof K. M. Polivanov, Dr Tech Sci, Docent A. V. Netushil, Cand Tech Sci, N M. Burdak, Engr, all of the Moscow Power Eng Inst imeni Molotov; L. V. Kus'menko, Cand Tech Sci, "Gidroproyekt"

"Elektrichestvo" No 8, pp 3-19

Electroosmotic water reduction and elec drainage are of practical interest for hydraulic engineering structures. Describes the use of

196T23

USSR/Electricity - Hydraulics (Contd) Aug 51

electroosmotic effects on the process of filtration of ground waters. Analysis of the general differential eq of filtration yields a method for measuring the electroosmotic consts of soils. Submitted 11 Apr 51.

196T23

NETUSHIL, A. V., Docent

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USSR/Electricity - Measurements Jul 51
Transmission Lines

"The Electromagnetic Effect of a Multiconductor Line With Consideration for Twisting of the Conductors," Prof K. M. Polivanov, Dr Tech Sci, Docent A. V. Netushil, Cand Tech Sci, B. Ya. Zhukovitskiy, Engr, Moscow Power Eng Inst imeni Molotov

"Elektrichestvo" No 7, pp 28-33

Determines the amt by which the electromagnetic effect of high-current conductors upon surrounding elec circuits is decreased when the

199T18

USSR/Electricity - Measurements Jul 51
(Contd)

conductors are twisted. Found that twisting the conductors of a 3-phase line reduced considerably the interference caused by the direct- and inverse-sequence currents but had little effect upon interference due to zero-sequence currents. Submitted 9 Mar 51.

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USSR/Electricity - Electrostatics Mar 51
Potential Fields

"A Basic Relationship in Some Symmetrical Potential Fields," A. V. Netushil, Cand Tech Sci, Moscow Power Eng Inst imeni Molotov

"Elektrichestvo" No 3, pp 58-62

From considerations of symmetry, derives an expression which permits one to det the resistance or capacitance of sections of plane-parallel potential fields having symmetry of the potential function and of the flux function at the boundary surface. Gives number

201T30

USSR/Electricity - Electrostatics Mar 51
(Contd)

of examples of calcg the resistances without the use of field graphs. The examples hold for elec, magnetic, thermal hydrodynamic and other potential fields. Submitted 10 Jul 50.

201T30

NETUSHIL, A. V.

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NETUSHIL, A. V.

PA 167T27

USSR/Electricity - Amplifiers
Circuits, Nonlinear

Aug 50

"Application of the Principle of Superposition to Calculations of Nonlinear Circuits," A. V. Netushil, Cand Tech Sci, Moscow Power Eng Inst imeni Molotov

"Elektrichestvo" No 8, pp 53-57

States theory of complicated dc circuits with nonlinear resistances on basis of principle of superposition. Gives examples of designing resistance-coupled amplifiers and of calculating a loaded, nonlinear, symmetrical bridge.

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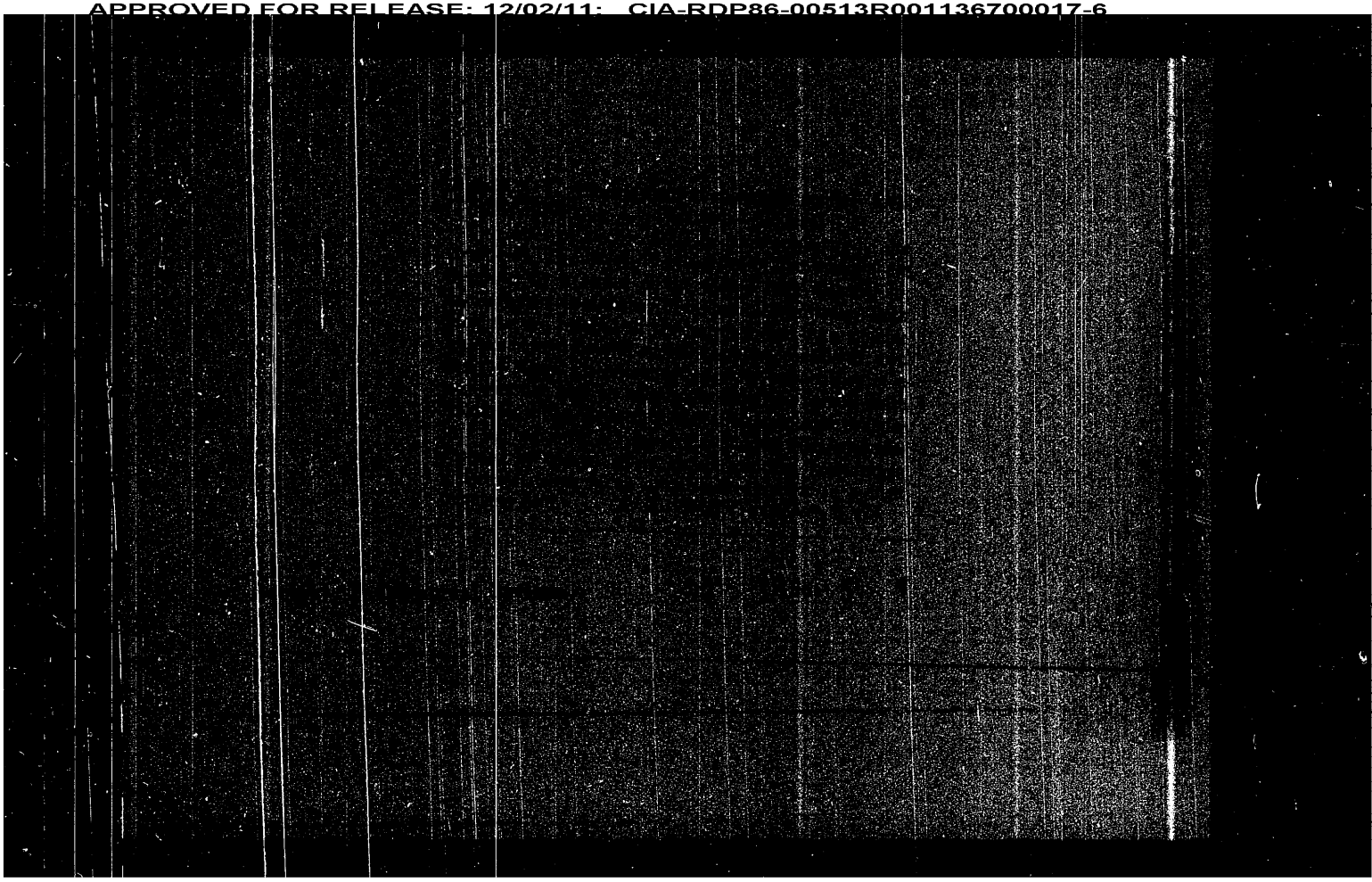

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