FAY, Gyula; TOROS, Robert; FOLDESI, Istvan, dr., adjunktus; RETI, Endre, dr.; SVEKUS, Oliver.

Nobel prize winners of 1963. Term tud kozl 8 no.1: 2-5 Ja-'64

1. Budapesti Muszaki Egyetem Atomfizikai Tanszek (for Fay and Toros).
2. Eotvos Lorand Tudomanyegyetem Altalanos es Szervetlen Kemiai Tanszek (for Foldesi).
3. Budapesti Orvostudomanyi Egyetem Konyvtaranak igazgatoja (for Reti).
4. Tudomanyos Ismeretterjeszto Tarsulat Orszagos Fizikai Valasztmanyanak titkara (for Svekus).

SVEL, Boris, inz. (Zagreb)

Draining the Kreka Lignite Mine. Gradevinar 16 no.10:341-353 O '64.

SVEL, Ivo, Dr.

Leptospirozni meningitis. Lijec.vjes. 76 no:9-10:488-494 1954.

1. Iz Klinike za djecje bolesti Medicinskog fakulteta u Zagrebu.
(LEPTOSPIROSIS,
meningeal, (Ser))
(MENINGITIS, bacteriol.
leptospiral(Ser))

SVEL, IVO

PANSINI, Karlo, Doc., dr; SVEL, Ivo, dr

Guillain-Barre syndrome and its therapy. Med.glasn. 9 no.1:21-23 Jan 55.

1. Klinika za djecje bolesti Medicinskog fakulteta u Zagrebu (predstojnik prof. dr N.Skrivaneli)
(GUILLAIN-BARRE SYNDROME, therapy)

SVEL, I.

SKRIVANELI, N.; PANSINI, K.; FISER-HERMAN, M.; TIEFENBACH, A.; LIBRENJAK, K.; PETROVACKI, M.; MAJNARIC, D.; SVEL, I.

Clinical and biochemical findings in rachitis. Acta med. iugosl. 10 no.3:337-356 1956.

1. Klinika za dječje bolesti Medicinskog fakulteta u Zagrebu i Zavod za kliničku kemiju Farmaceutskog fakulteta u Zagrebu.
(RICKETS, metabolism,
(Ser))

SVELHA, V.

Glass pipelines and their use in our industry. p.104. (Sklar a Meramik. Praha. Vol. 7, no.4, Apr. 1957)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

SVELICHNYY, V. I.

Moscow - Apartment Houses

Plans for standard units in many-storied residential buildings. Gor. khoz. Mosk. 26, no. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SVEN, G., prof.

Use of hypothermia and organic, regional, and general artificial blood circulation in surgery of the arteries. Khirurgiia 37 no.1:16-25 Ja '61. (MIRA 14:2)

1. Iz khirurgicheskogo otdeleniya meditsinskogo kolledzha Universiteta v Kolorado (SShA).
(ARTERIES—SURGERY) (HYPOTHERMIA)
(BLOOD—CIRCULATION, ARTIFICIAL)

SVENCHANSKIY, A. D.

"Electric Power Economy in Electrothermic Furnaces," Collection of Data of the Scientific and Technical Session on Electric Power Economy (Sbornik materialov nauchno-tekhnicheskoy sessii po ekonomii elektroenergii), No II, MONITOE, 1949, 139 pp.

All-Union Scientific and Technical Society of Power Engineers Moscow Division, Industrial Electrical Engineering Section.

W - 15368, 6 Dec 50

SVENCHANSKIY, A. D. Engr

USSR/Engineering - Electric Furnaces Apr 52

"Cast Heating Units Made of Modified Alloys for Electric Resistance Furnaces," N. S. Kreshchanovskiy, Cand Tech Sci, A. D. Svenchanskiy, Engr. Moscow Power Eng Inst

"Litey Proizvod" No 4, pp 6-11

Investigates possibility of fabricating heating units by casting them out of alloys of nichrome and cromal types and studies modifying effect of Ca, Mg, Ba, Ce and Li. Introduction of earth and earth alkali metals permitted developing satisfactory technology of cast heaters obtaining sufficiently high density of alloys with high ohmic resistance and good mech properties.

PA 213T64

SVENCHANSKIY, A.D.; MALYSHEV, S.A.

Design of heater elements for electric convection heaters. Elektrichestvo, '52, No.11, 53-5. (MLRA 5:11)
(EEA 56, no.666:2581 '53)

SVENCHANSKIY, A. D.

USSR/Electricity - Literature Nov 52

"Review of Yu. Ye. Efroymovich and V. I. Feygin's Book 'Automatic Control of Metallurgical Arc Furnaces'," Doc A. D. Svenchanskiy, Cand Tech Sci, and Cand Tech Sci A. M. Vaynberg

PA 240T72

"Elektrichestvo" No 11, pp 91, 92

Published 1951 by Metallurgizdat, contains 236 pp. The following topics are covered in the book: (1) elec characteristics of arc furnaces; (2) theoretical principles of arc furnace control; (3) description of existing controller systems and designs (including

240T72

amplidyne and relay-contact types); (4) comparative analysis of controllers and selection of most suitable types; (5) problems of adjusting and operating controllers.

240T72

SVENCHANSKIY A. D.

Svenchanskiy A. D., "Principles of Automatic Regulation of Electric Furnaces," Moscow, 1953, 22 pages, 15 figures (V. M. Molotov Energy Institute of Moscow).

SVENCHANSKIY, A. D.

2057. Calculation of the heater elements of hotplates and other heating appliances. A. D. SVENCHANSKII AND D. A. SHUR. *Elektrichestvo*, 1953, *No.* 11, 56–8. *In Russian.*

The design of nichrome spiral heater elements for electric heating appliances sets complex theoretical problems. These are due to the unknown percentages of radiation absorbed and reflected by the ceramic bedding of the elements, mutual screening of the individual turns of the spiral, etc. The wire gauge of the element is thus mostly chosen arbitrarily. The author's experiments dealt with the determination of the influence of the pitch of the heater spiral on mutual screening of the turns, the relation between heater temperature and specific surface output for constant ratio of spiral pitch and conductor diameter, and also with the effect of the material, colour and finish of vessels heated by hotplates on the efficiency of the latter. Relations between width and depth of the grooves of the ceramics and diameter of the heater spiral and their effect on heater output were investigated. Two numerical examples show the use of the graphs obtained.

B. F. KRAUS

Moscow Energetics Inst.

SVENCHANSKIY, Aleksandr Danilovich

Academic degree of Doctor of Technical Sciences, based on his defense, 30 June 1955, in the Council of the Moscow Order of Lenin Power Engineering Inst imeni Molotov, of hes dissertation entitled: "Activity of Heating Elements in Electrical Resistance Furances."

Academic degree and/or title: Doctor of Technical Sciences

SO: Decisions of VAK, List no. 25, 10 Dec 55, Byulleten' MVO SSSR, Uncl. JPRS/NY 548

SVENCHANSKIY, A.D.

AID P - 1484

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 35/36

Authors : Svenchanskiy, A. D., Kand. of Tech. Sci., Dotsent and Smelyanskiy, M. Ya., Dotsent

Title : Book review: G. A. Sisoyan. Electric Arc in Electric Arc-Furnaces. Published by the Academy of Sciences of the Armenian SSR. Yerevan, 1954. 266 pp.

Periodical : Elektrichestvo, 2, 87-88, F 1955

Abstract : The book is written for the workers of scientific research institutes and for the engineers of plants utilizing arc furnaces. It may also be used as a training manual by students of institutes of higher education and those training in the field of electric furnaces. The reviewers give a favorable opinion of the book.

SOV/112-57-6-12491

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 6, p 127 (USSR)

AUTHOR: Svenchanskiy, A. D., Malyshev, S. A.

TITLE: Performance of Heaters in High-Temperature Electrical Resistance Furnaces (Rabota nagrevatel'nykh elementov v vysokotemperaturnykh elektricheskikh pechakh soprotivleniya)

PERIODICAL: Tr. Mosk. energ. in-ta, 1956, Nr 22, pp 155-173

ABSTRACT: Heater design methods were checked by a specially-constructed experimental installation. The temperature of heaters and the heated body was measured by chromel-alumel thermo-couples; various types of heaters having equal radiating areas were compared. On the basis of experiment, curves were constructed showing the dependence of temperature of a heated body on the power transmitted to the body from the heater for various placements of the heaters within the heating chamber. The experiments showed that the estimated temperatures of various construction heaters were close to the actual temperatures, and that the adopted design methods were accurate

Card 1/2

...ed 85-90 mm or more ...ure of heaters. The heater ribbon ... mm to avoid the shielding effect of the shelf ...inutual shielding between the turns, the minimum pitch of ...re heaters on shelves should be equal to twice the wire diameter, or should exceed 2-2.5 times the ribbon width. All experiments are tabulated.

B.S.B.

Card 2/2

ALEKSANDROV, A.G.---(continued) Card 2.

Vol.2. [Electric engineering] Elektrotekhnika. Avtorskii kollektiv toma: Aleksandrov i dr. 1957. 727 p. (MIRA 11:2)

1. Moscow. Moskovskiy energeticheskiy institut. 2. Chlen-korrespondent AN SSSR (for Larionov)
(Electric engineering)

SVENCHANSKIY, A.D.

CHILIKIN, M.G.; MESHKOV, V.V.; YEFREMOV, I.S.; GOLOVAN, A.T.; SVENCHANSKIY, A.D.

Professor D. K. Monov; on his 60th birthday and 35th anniversary in scientific, pedagogical, and engineering activity. Elektrichestvo no.3:95 Mr '57. (MLRA 10:4)
(Minov, Dmitrii Konstantinovich, 1896-)

18(5) PHASE I BOOK EXPLOITATION SOV/1276

Svenchanskiy, Aleksandr Danilovich

Elektricheskiye promyshlennyye pechi. Ch. 1: Pechi soprotivleniya (Industrial Electric Furnaces. Pt. 1: Resistance Furnaces) Moscow, Gosenergoizdat, 1958. 287 p. 16,000 copies printed.

Ed.: Zolotov, B.V.; Tech. Ed.: Larionov, G. Ye.

PURPOSE: The book has been approved by the USSR Ministry of Higher Education as a textbook for students of electrical engineering vuzes. It may also serve as a guide for engineers and technicians designing and operating industrial electric furnaces.

COVERAGE: In this first volume of the new revised edition the author describes electric resistance furnaces of all types, fundamentals of heat transfer theory, the construction of various types of electric furnaces, their feed mechanisms, and auxiliary mechanisms and equipment. The author discusses the thermal and electrical

Card 1/8

SVENCHANSKIY, A.D.

3-58-2-11/33

AUTHOR: Svenchanskiy, A.D., Professor, Doctor of Technical Sciences

TITLE: Leading the Students Into an Atmosphere of Scientific Work (Vvodit' studentov v atmosferu nauchnogo truda)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 2, pp 56-60 (USSR)

ABSTRACT: The article deals with experiences in student training-research work. For several years the Moscow Power Engineering Institute has conducted training-research work, which has been included in the teaching plan, and which is obligatory to all senior students. The work, connected with the student's speciality, is conducted under an instructor's supervision.

The object is to lead the student into the sphere of scientific interest, and to teach them to solve creatively and independently the problems put to them. The contents and volume of the training-research work are outlined. All training-research work is concluded by the student's defending it before a commission of 2 or more instructors.

A research which began at the 5th course is often completed while working in the graduating project. Training-

Card 1/2

TOLOKONNIKOV, Leonid Stepanovich; KATSEVICH, Leonid Savvich; NEKRASOVA, Nina Mikhaylovna; IVANOV, Yevgeniy Petrovich; CHILIKIN, M.G., glavnyy red.; SVENCHANSKIY, A.D., red.; SAPAROVA, A.L., red.; BORUNOV, N.I., tekhn.red.

[Atlas of electromechanical industrial installations] Atlas elektromekhanicheskikh promyshlennykh ustanovok. Moskva, Gos. energ.izd-vo. Part 2. [Electric furnaces] Elektricheskie pechi. Glav.red. M.G.Chilikin. Red. A.D.Svenchanskii i L.S. Tolokonnikov. 1959. 7 p., 107 diagrs. (MIRA 12:8)
(Electric furnaces)

MARMER, Eduard Nikitovich; SVENCHANSKIY, A.D., red.; SAPAROVA, A.L., red.; VORONIN, K.P., tekhn.red.

[Materials for the construction and operation of vacuum electric furnaces] Materialy vakuumnykh elektropechei. Moskva, Gos.energ. izd-vo, 1959. 63 p. (Biblioteka elektrotermista, no.1). (MIRA 13:5)

(Electric furnaces) (Heat-resistant alloys)
(Refractory materials)

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

Card 1/2

Professor G. A. Sisoyan. On His 60-th Birthday SOV/105-59-6-26/28

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.

Card 2/2

S/110/60/000/008/009/009/XX
E194/E484

AUTHOR: Svenchanskiy, A.D., Doctor of Technical Sciences, ~~Professor~~

TITLE: Selection of the Type of Power Regulator for a Steel Melting Arc Furnace

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.8, pp.23-26

TEXT: In the Soviet Union, existing large arc furnaces use automatic power controllers type АР (AR) or МРД (MRD) in which the primary signal is amplified by amplidynes with feedback according to the motor voltage and stabilizing transformers. In practice, these power controllers have been found to be unsatisfactory in several respects in particular because of the presence of three continuously rotating amplidynes requiring skilled maintenance, the high speed amplidynes are themselves unreliable, trouble has been experienced with the sliding brush contact of the auto-transformer, it is difficult to control the static characteristics and the zone of insensitivity of the regulator and the regulator operates unstably at low values of current. Therefore, improved power control systems for arc furnaces are required. In the first place the method of moving the electrodes is unsatisfactory. It depends on a reduction gear driving a winch which pulls a wire

Card 1/4

Selection of the Type of Power Regulator for a Steel Melting Arc Furnace

conditions because the presence of rotating masses such as the rotors of the motor and pump greatly reduces the advantages of the hydraulic drive. The electrode control system should be contactless and without rotating parts. A very reliable control system could be based on magnetic amplifiers but these have the disadvantage that when made in large sizes their time constant is very high and so high speed operation is practically impossible to secure. Of existing electrode control systems, the most rapid and reliable at present available is one with electromagnetic friction couplings. In this system the motor that drives the electrodes rotates continuously in one direction at constant speed and so a squirrel cage induction motor can be used. The motor is connected to the electrode driving mechanism by one or other of two friction couplings of standard type ЭМ (EM) capable of handling maximum torques up to 40 kg/m. The part of the coupling that is driven by the motor is small and light and if a reduction gear with a ratio of about $2\frac{1}{2}$ is used the inertia is negligible. The power required by the control windings of the electromagnetic coupling is only some

SVENCHANSKIY, A.D.

Concerning the efficient use of electric resistance furnaces.
Prom. energ. 15 no.7:10-13 Jl '60. (MIRA 15:1)
(Electric furnaces)

FEL'DMAN, Iosif Aleksandrovich; GUTMAN, Mark Borisovich; RUBIN, Georgiy Kusiyelevich; SVENCHANSKIY, A.D., red.; SAPAROVA, A.L., red.; VORONIN, K.P., tekhn. red.

[Calculation of heating elements for electric resistance furnaces] Raschet nagrevatelei elektropechei soprotivleniia. Moskva, Gos. energ. izd-vo, 1961. 26 p. (Biblioteka elektrotermista, no.5) (MIRA 14:8)

(Electric furnaces)

SVENCHANSKIY, Aleksandr Danilovich; KALASHNIKOV, S.I., red.; SHIROKOVA, M.M., tekhn. red.

[Efficient use of electric resistance furnaces] Puti ratsional'noi ekspluatatsii elektricheskikh pechei soprotivleniia. Moskva, Gos. energ.izd-vo, 1961. 78 p. (Biblioteka elektrotermista, no.6) (MIRA 14:12)

(Electric furnaces)

LEYKAND, Mikhail Solomonovich; FEL'DMAN, I.A., red.; SVENCHANSKIY, A.D., red.; LARIONOV, G.Ye., tekhn.red.

[Design of vacuum-type resistance furnaces and their networks] Konstruktsii vakuumnykh elektropechei soprotivleniia i ikh uzlov. Moskva, Gos.energ.izd-vo, 1961. 111 p. (Biblioteka elektrotermista, no.8). (MIRA 15:4)
(Electric furnaces)

DOROFEYEV, A.L.; SVENCHANSKIY, A.D., doktor tekhn. nauk, prof., retsenzent; MAKOVSKIY, G.M., inzh., red.; AGEYCHEVA, N.S., red. izd-va; ORESHKINA, V.I., tekhn. red.

[Nondestructive testing by the eddy current method] Nerazrushaiushchie ispytaniia metodom vikhrevykh tokov. Moskva, Gos.nauchno-tekhn.izd-vo Oborongiz, 1961. 156 p. (MIRA 14:12)
(Nondestructive testing) (Electric currents, Eddy)

GUBENKO, T.P.; DEVYATKOV, N.D.; DOMANSKIY, B.I.; DONSKOY, A.V.; YEFREMOV, I.S.; ZHEZHERIN, R.P.; KAGANOV, I.L.; MANDRUS, D.B.; NETUSHIL, A.V.; PODGURSKIY, Ye.L.; ROZENFEL'D, V.Ye.; SVENCHANSKIY, A.D.; CHUKAYEV, D.S.; SHLYAPOSHNIKOV, B.M.

Professor G.I. Babat; obituary. Elektrichestvo no.1:94 Ja '61. (MIRA 14:4)

(Babat, Georgii Il'ich, 1911-1961)

SVENCHANSKIY, A.D.

"Rational use of electric power in operating open-arc furnaces."

Report submitted for the Symposium on National Electric Power Consumption, Warsaw, Poland 22-25 May 1962

ZARUDI, Moisey Yefimovich; SVENCHANSKIY, A.D., red.; YEVTYUKOVA, I.P., red.; BORUNOV, N.I., tekhn. red.

[Joint operation of inductor alternators with increased frequency] Sovmestnaia rabota induktornykh generatorov povyshennoi chastoty. Moskva, Gos.energ.izd-vo, 1962. 93 p. (Biblioteka elektrotermista, no.9) (MIRA 15:6)
(Electric generators) (Induction heating)

GREYSUKH, M.V.; YERMILOV, A.A.; ZALESSKIY, Yu.Ye.; KAZYMOV, A.A.; KATSEVICH, L.S.; KIRPA, I.I.; KIREYEV, M.I.; KNYAZEVSKIY, B.A.; KOFMAN, K.D.; KRZHAVANIK, L.V.; KUZNETSOV, P.V.; MOROZOV, K.S.; RAKOVICH, I.I.; RYABOV, M.S.; SVENCHANSKIY, A.D.; SOKOLOV, M.M.; SYCHEV, L.I.; TVERDIN, L.M.; KHEYFITS, M.E.; SHULIMOV, Ye.V.; EPSHTEYN, L.M.; SHCHEGOL'KOV, Ye.I.; TSAPENKO, Ye.F.; FEDOROV, A.A., glav. red.; SERBINOVSKIY, G.V., red.; BOL'SHAM, Ya.M., red.; BRANDENBURGSKAYA, E.Ya., red.; TVERDIN, L.M., red.; FRIDKIN, L.M., tekhn. red.

[Handbook for power engineers of industrial enterprises in four volumes] Spravochnik energetika promyshlennykh predpriiatii v chetyrekh tomakh. Moskva, Gosenergoizdat. Vol.2. [Electric-power supply (conclusion), use of electric power and electrical equipment in some branches of industry] Elektrosnabzhenie (okonchanie), priemniki elektroenergii i elektrooborudovanie nekotorykh otraslei promyshlennosti. Pod obshchei red. A.A.Fedorova (glav. red.), G.V.Serbinowskogo i I.M.Bol'shama. 1963. 880 p. (MIRA 16:7)
(Power engineering—Handbooks, manuals, etc.)
(Electric power distribution)

DONSKOY, A.V.; ZHERDEV, I.T.; ZOTOV, V.P.; MURATOV, S.M.; NOVIKOV, O.Ya.; OKOROKOV, N.V.; PATON, B.Ye.; SISOYAN, G.A.; SVENCHANSKIY, A.D.

Stepan Ivanovich Tel'nyi; obituary. Elektrichestvo no.1:93 Ja '63. (MIRA 16:2)

(Tel'nyi, Stepan Ivanovich, 1890-1962)

YEFREMOV, I.S.; MINOV, D.K.; PETROV, I.I.; ROZENFEL'D, V.Ye.; SVENCHANSKIY, A.D.; SOKOLOV, M.M.; FUFRYANSKIY, N.A.; CHILIKIN, M.G.

Aleksandr Dmitrievich Stepanov, 1904- ; on his 60th birthday. Elektrichestvo no.9:93 S '64.

(MIRA 17:10)

SVENCHANSKIY, Aleksandr Danilovich; MALYSHEV, Sergey Andreyevich; GUTTERMAN, K.D., red.

[Low-temperature heating elements; a manual] Nizkotemperaturnye nagrevatel'nye elementy; uchebnoe posobie. Moskva, Mosk. energ. in-t, 1964. 23 p. (MIRA 18:4)

L 2969-66 EWT(d)/EWP(t)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)
ACCESSION NR: AP5026356 UR/0105/64/000/009/0093/0093

AUTHOR: Yefremov, I. S.; Minov, D. K.; Petrov, I. I.; Rosenfel'd, V. Ye; Svenchanskiy, A. D.; Sokolov, M. M.; Fufryanskiy, N. A.; Chilikin, M. G.

TITLE: Aleksandr Dmitriyevich Stepanov on his 60th birthday

SOURCE: Elektrichestvo, no. 9, 1964, 93

TOPIC TAGS: electric engineering personnel

ABSTRACT: A. D. Stepanov, Professor in the Department of "Electrical Transportation" of the Moscow Power Engineering Institute and prominent specialist in the field of diesel and gas turbine transportation, had his sixtieth birthday this year. His interest for the past 35 years has been in the field of automation of transportation equipment. Among the great number of printed works by Professor Stepanov, his books "Diesel-electric Drive for Transportation Equipment" and "Ways for Increasing the Efficiency of Diesels and Gas Turbine Locomotives" deserve special attention along with a number of books on diesels written by him in co-authorship with workers in industry and transport. He has just published a new book, "Automatic Power Control of Diesel and Gas-Turbine Locomotives."

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L 2969-66
ACCESSION NR: AP5026356

He began his engineering activity at the "Dynamo" factory im. Kirov. A system which he developed is used in mass produced diesel locomotives. Other systems for the electric transmissions on diesel locomotives and gas turbine locomotives which were developed under his direction are being used in Soviet industry. He is the founder of a course "Diesel-electric Rolling Stock" at the Moscow Power Engineering Institute. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE

NR REF SOV: 000 OTHER: 000 JPRS

BVK
Card 2/2

SVENCHANSKIY, Aleksandr Danilovich; GUTTERMAN, Kirill Davydovich; IOFFE, Yu.S., red.

[Automatic control of electric furnaces] Avtomaticheskoe regulirovanie elektricheskikh pechei. Moskva, Energiia, 1965. 478 p. (MIRA 18:12)

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.; Kotiya, 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

SVENDOVA, J.

Planting in checkrows with SKG-4 and SKG-6 machines.

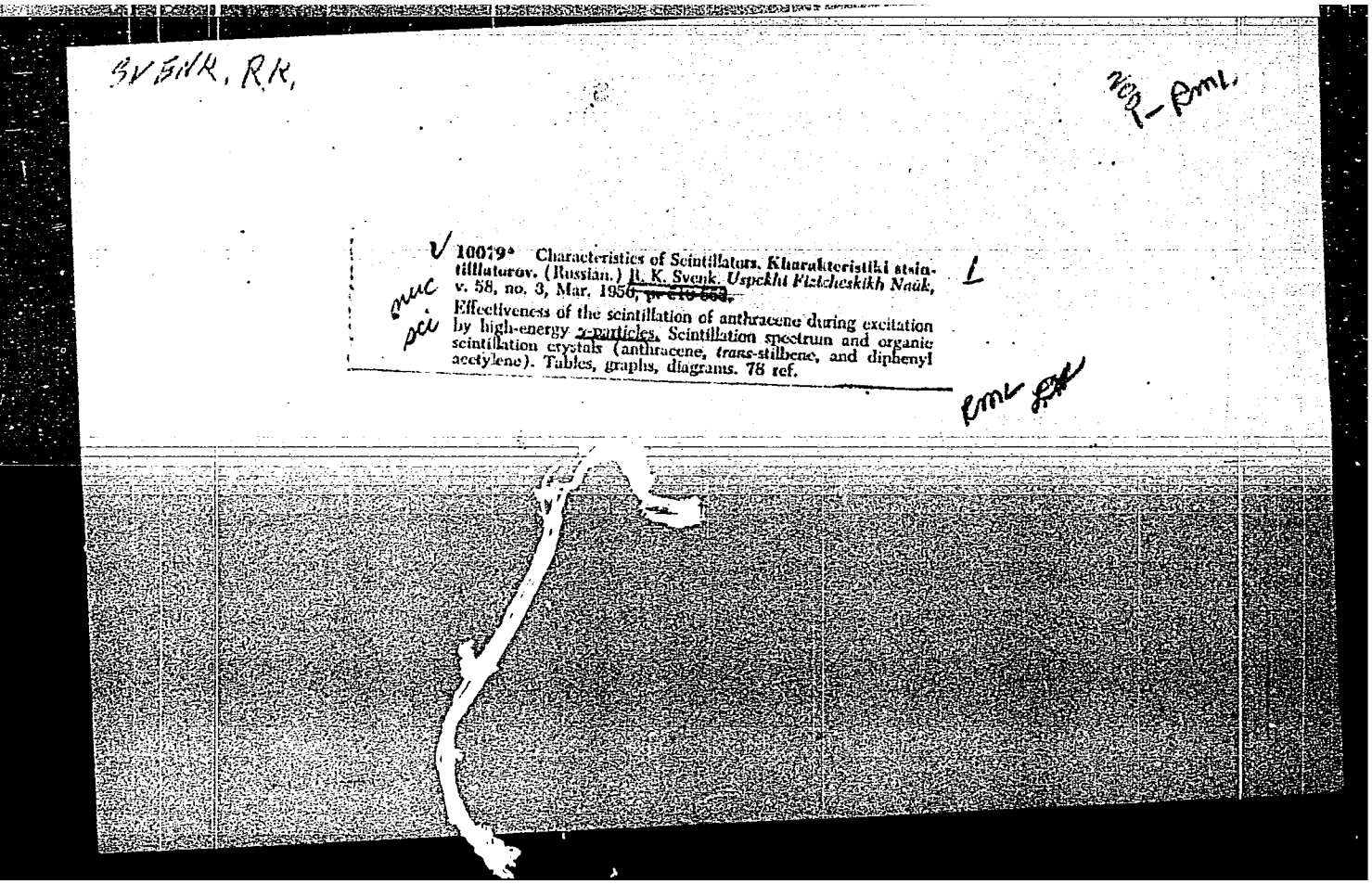
p. 90
Vol. 6, no. 5, Mar. 1956
MECHANISACE ZEMEDELSTVI
Praha

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 12
December 1956

SVENIGORODSKIY, G. S.

"Erholung der Wasserbestandigkeit vom Briketts durch Imprägnieren." paper presented at a Colloquium on Briquetting, Freiberg, 28-29 Nov 1957.

Bergakademie, No. 4, 1958.



SV SNR, RK,

VOR-PML.

V 10079* Characteristics of Scintillators. Kharakteristiki stsintillatorov. (Russian.) B. K. Svenk. *Uspekhi Fizicheskikh Nauk*, v. 58, no. 3, Mar. 1956, p. 419-503.

Effectiveness of the scintillation of anthracene during excitation by high-energy α-particles. Scintillation spectrum and organic scintillation crystals (anthracene, *trans*-stilbene, and diphenyl acetylene). Tables, graphs, diagrams. 78 ref.

1

PML

SVENSON, A.

"A receiver in the role of modulated signal generator."

So. Radio, Vol. 11, p. 63, 1952

SVENSON, A.N.

I-4

Category : USSR/Radiophysics - Generation and conversion of radio-frequency oscillations

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1831

Author : Belen'kiy, Ya.Ye., Svenson, A.N.
Title : Multiphase Multivibrator

Orig Pub : Radiotekhnika, 1956, 11, No 7, 39-45

Abstract : Analysis of a new multiphase multivibrator circuit, requiring half as many tubes and parts as existing circuits. The operation of the multivibrator is described and the fundamental elements for a quantitative design of circuits of this type are cited.

Card : 1/1

SVENSON, A.N.

USSR / Radiophysics. Application of Radiophysical Methods I-9

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12654

Author : Mikhaylovskiy, V.I., Svenson, A.N.

Inst : Not given

Title : Reduction of Signal Spectrum in Telemetering of Radioactive Radiation.

Orig Pub : Avtomatika i telemekhanika, 1956, 17, No 8, 722-727

Abstract : The authors propose and analyze a method for reducting the spectrum and apparatus used for the telemetering of radioactive radiation. The method consists of converting a sequence of pulses with random time intervals, obtained at the output of the indicator, into a sequence with discrete equal or multiples of an equal number intervals of time between pulses.

Card : 1/2

nel. The error of the proposed transformation method is analyzed.

By way of an example of a circuit solution of the converter [illegible], the authors consider in the article a version with two memory cells of the capacitive type. The authors state that they obtained with their breadboard a six-fold reduction of the spectrum.

Card : 2/2

SVEHSON, A.N. (L'vov); SIGORSKIY, V.P. (L'vov).

Directional-relay radioactive tracer [with English summary in insert].
Avtom.i telem. 17 no.9:828-835 S '56. (MLRA 9:11)
(Radioactive tracers--Industrial applications)

MIKHAYLOVSKIY, V.N.; SVENSON, A.N.

Errors of pulse-width and pulse-time telemetering systems. Avtom. kont. i izm. tekh. no.1:54-61 '57. (MIRA 11:6)
(Telemetering)

BRAGIN, A.A.; MIKHAYLOVSKIY, V.N.; SVENSON, A.N.

Cause of errors in one type of pulse telemetering systems. Avtom. kont. i izm. tekh. no.1:129-136 '57. (MIRA 11:6)
(Telemetering)
(Pulse techniques (Electronics))

SVENSON, A. N.

TELEPHONY

"Synchronization of Commutators of Multi-General Communication Systems Without a Marker Pulse" by Ya. Ye. Belen'kiy and A. N. Svenson. Elektrosvyaz', No 12, December 1957, pp 17-21.

A description of a method of synchronizing the switching of multi-channel communication systems with time-sharing of the communication channel, distinguished for a simpler technical execution and permitting a somewhat more effective utilization of the bandwidth allotted to the information transmission.

Card: 1/1

'ELEN'KIY, Ya.Ye.; SVENSON, A.N.

Design of nonsymmetrical polyphase multivibrators. Avtom.kont.i izm.tekh. no.2:92-98 '58. (MIRA 11:7)
(Vibrators) (Pulse techniques (Electronic))

SOV/120-58-2-27/37

AUTHOR: Svenson, A. N.

TITLE: An Apparatus for the Determination of Optimum Working Conditions for Photomultipliers (Ustanovka dlya opredeleniya optimal'nogo rezhima fotoumnozhiteley)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 103-104 (USSR)

ABSTRACT: The parameters of photomultipliers manufactured at the present time depend on the voltage applied to the dynodes. In order to obtain a useful sensitivity, linearity and resolving time, it is necessary to choose the values of the resistors forming the voltage divider supplying the voltages to the photomultiplier stages individually for each instrument. This very troublesome process is usually carried out using the apparatus shown in a block diagram in Fig.1. The photomultiplier 1 is illuminated by short light pulses the intensity of which depends on the brightness of the lamp 2. The length of the pulses is controlled by a Kerr cell controlled by the high voltage oscillator 4. The dyncde potentials are taken off the potential divider 5. The output

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An Apparatus for the Determination of Optimum Working Conditions for Photomultipliers.

pulses are displayed on an oscillograph with an analyser 6 and 7. The main disadvantage of this apparatus is connected with the Kerr cell which is rather difficult to prepare in laboratory conditions. Furthermore the Kerr cell requires a high voltage oscillator and this is often not available. Other methods available for the production of short light pulses are those employing cathode ray tubes with low persistence screens (Ref.1). However, in these cases the duration of the pulses cannot be less than a few microsecs and the tail of the pulses is long which means that the photomultiplier cannot be adjusted to have very small resolving time, i.e. of the order of 10ths of a microsecond. The use of gas filled lamps (Ref.2) as sources of light pulses is not convenient because of the length of the pulses thus produced. In order to obtain very short (fraction of a microsec) output pulses the modulation of light may be replaced by the modulation of the electron current in the photomultiplier by pulses applied to the first dynode. This essentially preserves the working conditions of the instrument except that the pulsed light source is now replaced by a continuous one and the whole apparatus is substantially simplified since it

An Apparatus for the Determination of Optimum Working Conditions for Photomultipliers.

can now be assembled from standard units. A schematic diagram of such an apparatus is shown in Fig.2. Here 1 is the continuous light source with a filter, 2 is the type 26I pulse generator, and 3 and 4 are the oscillograph and analyser. The potentials for the dynodes (except the first one) are tapped off the potential divider R_2. A small potential of about 10 v is applied off the resistor R_4 to the first dynode. The latter potential cuts off the tube. Except for the photocathode the whole photomultiplier works in a pulsed regime so that the data obtained corresponds to the normal working condition of the tube. There are 2 figures, 2 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN USSR (Institute of Mechanical Engineering and Automation of the Ac.Sciences USSR)

SUBMITTED: August 27, 1957.

Card 3/3 1. Photomultipliers---Performance 2. Electrical equipment---Testing equipment

SOV-120-58-3-11/33

AUTHORS: Bragin, A. A., Mikhaylovskiy, V. N., Svanson, A. N.

TITLE: A Multichannel System for Radioactive Telemetering (Mnogokanal'naya sistema dlya radioaktivnykh teleizmereniy)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 3, pp 53-57 (USSR)

ABSTRACT: A four-channel system employing a single-core cable is described. It is designed for use in the so-called "radioactive coring". The system differs from the existing devices in that (1) it gives not only the intensity of the particular radiation but also its spectrum (2) it has four channels, (3) it incorporates spectrum contracting devices, (4) provision is made for automatic teleregulation which corrects for the effect of the transmission channel on the teletransmission errors. The resolving time of the input circuits is 50 and 200 μsec for the two pairs of channels respectively. The pass band of the teletransmission line is 1-100 kc/s. A complete circuit diagram is given in Fig. 2 and includes the values of the components employed. The instrument may also be used for telemetering radioactive

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SOV-120-58-3-11/33

A [illegible]ol System for Radioactive Telemetering

emission in industrial conditions and in physical experiments. There are 4 figures and 2 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN USSR (Institute of Machine Construction and Automation, Academy of Sciences, Ukrainian SSR)

SUBMITTED: August 19, 1957.

1. Telemeter systems--Design 2. Telemeter systems--Performance 3. Telemetering circuits 4. Radioactive substances--Analysis 5. Radioactive substances--Spectra

Card 2/2

AUTHOR: Svenson, A.N. SOV/106-58-6-4/13

TITLE: Time-pulse Modulation with Variable Cycle and with Coded Sign (Vremya-impul'snaya modulyatsiya s peremennym taktom i kodovym priznakom)

PERIODICAL: Elektrosvyaz', 1958, Nr 6, pp 21 - 29 (USSR)

ABSTRACT: The article examines a time-pulse system in which the spectrum of the information signal is much narrower than in the usual systems. The remaining characteristics of the system are unaltered. The basic idea is illustrated in Figure 1; Figure 1a corresponds to an ideal system of the usual type and Figure 1b to a system of the variable cycle type.

The time of the cycle T_o (Figure 1a) is determined by the sum of the times allocated to each channel and they, in their turn, are equal to the maximum deviation of each information pulse, i.e:

$$T_o = \sum_{1}^{n} t_{k\ max} \qquad (1)$$

The information parameter t_k in this case is the time

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Time-pulse Modulation with Variable Cycle and with Coded Sign

between the instant $\frac{T}{n}k$ and the occurrence of the next pulse. The information parameter can, however, be taken as the distance between two adjacent pulses. The total cycle time is then determined by the sum, not of the maxima, but of the "flowing" values of the parameter t_k, i.e:

$$T' = \sum_{1}^{n} t_k \qquad (2)$$

and is a variable value.
With a large number of channels n and favourable statistical characteristics of the information sources, the maximum value of the statistical function $T' = f(t)$ can be considerably less than T_o and the ratio:

$$\eta = \frac{T_o}{T'_{max}} \qquad (3)$$

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is a measure of the reduction of the spectrum obtained. In actual systems, the cycle time includes the time for marker pulses and so on. Denoting this part of the cycle by t_g, then:

$$\eta_{\Im\Phi} = \frac{T_o + t_{go}}{T'_{max} + t'_g} \qquad (4) .$$

The initial data were obtained experimentally. The statistical characteristics of the primary sources of information were obtained in the form of an integral function of the distribution F(X) of the voice frequency voltage amplitudes. The experimental circuit is shown in Figure 2. The voltage waveforms at the output of the corresponding blocks are shown in Figure 3. The investigated information (music, speech, singing, etc.) was produced by a magnetic pick-up 1 and passed through the amplifier 2 to an amplitude discriminator 3. Only that part of the voice frequency voltage which exceeds the cut-off voltage is passed through the discriminator. This part of the voltage is shaped by an amplitude limited amplifier 4 into rectangular pulses

of constant amplitude and variable width. The integral (average) coefficient of "filling" of the pulses K during an integration time T is determined by the formula:

$$K = \frac{\sum_{1}^{m} t_k}{T} = \frac{T_k}{T} \qquad (5)$$

where m is the number of all the pulses in the given interval T .
Since only the positive half-cycles of the variable voltage are investigated, the relative time in which the investigated voltage exceeds the cut-off voltage U_{omc} is related to the coefficient K by:

$$\frac{T_{k\ abs}}{T} = 2K \qquad (6) .$$

Formula (6) assumes statistical equality of the positive

and negative half-cycles. The sum of the times of all the pulses t_k during the time T is found by using the integrating circuit 5 (Figure 2).
By investigating one and the same "message" with different cut-off voltages, the function:

$$2K = f(U_{omc}) \qquad (7)$$

can be obtained.
If the time T is sufficiently large, then the expression (7) is a statistical function of distribution of the form $F_1(x) = P(X > x)$ which is related to the integral distribution function $F(x) = P(X < x)$ by the relationship:

$$F(x) = 1 - F_1(x) \qquad (8) .$$

Thus, the integral function of the distribution of the amplitudes of the voice frequencies can be experimentally obtained. Experiments were conducted for a number of different forms of broadcast and telephonic communications.

Time-pulse Modulation with Variable Cycle and with Coded Sign

The results are produced in the graphs shown in Figure 4. The normal distribution integral curve is also shown and from comparison of these curves, it can be concluded that the law for the distribution of the amplitudes approximates to the normal distribution law. The basic difference is that the probability of zero deviation in the first case is zero but in the second case it has some value other than zero, since there is always a pause between separate elements of the signal.

The integral curve and probability density of the normal law of distribution are expressed by the following formulae (Ref 1):

$$F(x) = \frac{1}{\sqrt{2\pi}\sigma} \int_{-\infty}^{x} e^{-\frac{x^2}{2\sigma^2}} dx \qquad (9)$$

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Time-pulse Modulation with Variable Cycle and with Coded Sign

$$n(x) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{x^2}{2\sigma^2}} \qquad (10)$$

where σ is the mean square deviation. The statistical distribution of the variable information parameter t_k is obviously determined by the same formulae; however, since the value of t_k cannot be negative, so for transmission of the effective range of the change of x, equal approximately to $\pm 5\sigma$ (Ref 2), the centre of the normal distribution changes to a value $a = 5\sigma$ and the function $F(t_k, a)$ and $n(t_k, a)$ take the forms:

$$F = \frac{1}{\sqrt{2\pi}\sigma} \int_{-\infty}^{t} e^{-\frac{(t+5\sigma)^2}{2\sigma^2}} dt \qquad (11)$$

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Time-pulse Modulation with Variable Cycle and with Coded Sign

$$n = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(t+5\sigma)^2}{2\sigma^2}} \qquad (12)$$

The mathematical expectation of the total cycle time equals:

$$MT' = \sum_{1}^{n} Mt_k = n\,5\sigma = \frac{1}{2} T_o \qquad (13)$$

The mean square deviation of T is expressed by the formula:

$$\sigma_T = \sqrt{\sum_{1}^{n} \sigma^2 t_k} \qquad (14)$$

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and the bandwidth gain is given by:

$$\eta = \frac{T_o}{0.5T_o + 5\sigma_Y} < 2 \qquad (5)$$

Thus, in the described case, utilisation of TPMVC for multi-channel radio telephonic communication leads to insignificant bandwidth gain (of the order of 1.5). The bandwidth gain can be substantially improved if the initial value of the parameter t_k corresponding to zero input signal is made equal to zero. Then it is necessary to introduce coded modulation in such a way that the distance between two neighbouring pulses characterises the absolute value of the input signal and one of the two possible parameters of the first impulse - its sign.
Then the law of distribution of random values of t_k - identically equal to the law of distribution of the amplitudes of a rectified input signal - is determined by the

Time-pulse Modulation with Variable Cycle and with Coded Sign

formula for the so-called χ-distribution :

$$\chi = \sqrt{\frac{1}{\sigma^2} \sum_{k=1}^{n} x_k^2} \qquad (16) .$$

For the case examined, the parameter k equals unity and the density of probability of the χ-function is equal to double the normal probability density for values $x > 0$ and zero for $x < 0$ (Ref 3 and Figure 5) . The mathematical expectation Mt_k equals:

$$Mt_k = \int_a^b F(x)dx = \frac{2}{\sqrt{2\pi}\sigma} \int_0^\infty xe^{-\frac{x^2}{2\sigma^2}} dx \qquad (17) .$$

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Time-pulse Modulation with Variable Cycle and with Coded Sign

Substituting $y = x^2/2\sigma^2$ and integrating, we obtain:

$$Mt_k = \frac{2}{\sqrt{2\pi}}\sigma = 0.8\sigma \qquad (18).$$

The sum of a sufficiently large number of χ-functions gives a distribution approximating to the normal law (Ref 4). Thus, all the data for determination of the degree of narrowing of the spectrum when TPM is replaced by TPMVC with coded sign is available. Substituting in (3), we have:

$$\eta = \frac{T_o}{Mt_k + 5\sigma_T} = \frac{10\sigma n}{0.8\sigma n + 5\sqrt{n\sigma^2}} = \frac{10n}{0.8n + 5\sqrt{n}} \qquad (19)$$

For examples for $n = 10$, $\eta = 4.2$; $n = 20$, $\eta = 5.2$; $n = 100$, $\eta = 7.7$ and the limiting value $n = 12.5$. The extent of complication of the modulator and of the discriminator for TPMVC with coded sign is evaluated by

Time-pulse Modulating with Variable Cycle and with Coded Sign

an example. The block diagram is shown in Figure 6 and the block diagram of the TPMVC discriminator is shown in Figure 7. It is seen that the TPMVC modulator and discriminator are approximately twice as complicated as the usual time-pulse modulator and discriminator (Refs 5 and 6). The present article does not consider the question of noise on systems using TPMVC. The authors propose to examine this problem in a later paper. There are 7 figures and 6 Soviet references.

SUBMITTED: December 11, 1957

Card 12/12 1. Pulse modulation--Coding 2. Pulse modulation--Mathematical analysis

108-13-3-7/13

AUTHORS: Belen'kiy, Ya., Ye., Svenson, A. N.

TITLE: Pulse-Series Operation of a Multiphase-Multivibrator (Seriynyy rezhim mnogofaznogo mul'tivibratora)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 3, pp. 61 - 65 (USSR)

ABSTRACT: In the Laboratory for Remote Control IMA AS Ukrainian SSR the operation mode of a multivibrator was arranged and investigated where each relaxation element of the multivibrator did not generate one single pulse but a group (series) of pulses. Different from the usual mode of operation this was called a pulse-series operation. On certain conditions this operation can be obtained by means of a standard circuit, namely by gradually decreasing the resistance of cathode bias R_c. With a decrease of R_c the multivibrator changes over by steps from the usual operation to that of generating a series of 2 pulses, then 3, etc. This proceeds until the number of pulses in the series reaches the optimum possible value. A further decrease of R_c causes a transition by steps to a mode of operation analogous to that of a multiphase RC-generator (Ref 2), when the number

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Pulse-Series Operation of a Multiphase-Multivibrator

of cascades is odd, and to a mode of operation corresponding to that of an ordinary multivibrator when the number of cascades is even. The operation of the multivibrator is described and the basic computations and formulae for pulse--series operation are given. From the deduced formula (14) can be seen that the multivibrator valves must have great amplification, small resistance, small plate current and great trip voltage in order to obtain a great number of pulses in the series. These demands are contradictory to each other. Therefore it is better to take valves with medium parameters. There are 5 figures and 2 references, 2 of which are Soviet.

SUBMITTED: December 17, 1956

Card 2/2

MIKHAYLOVSKIY, V.N.; SVENSON, A.N.

Multiplex telemetering system for radiation logging. Izv. vys. ucheb. zav.; neft' i gaz 2 no.6:97-102 '59. (MIRA 12:10)

1.Institut mashinovedeniya AN USSR.
(Oil well logging, Radiation)

BELEN'KIY, Ya.Ye.; MIKHAYLOVSKIY, V.N.; SVENSON, A.N.

Multichannal telemetric device for complex geophysical investigations of wells. Geol.nefti i gaza 3 no.1:52-55 Ja '59. (MIRA 12:4)

(Prospecting--Geophysical methods)
(Remote control)

9(6), 14(5)

AUTHORS: Mikhaylovskiy, V. N., Svenson, A. N. SOV/152-59-3-23/25

TITLE: A Telemetering System for Complex Core Sampling by Electrical Means on a Single-core Cable (Teleizmeritel'naya sistema dlya kompleksnogo karotazha na odnozhil'nom kabele)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1959, Nr 3, pp 105-112 (USSR)

ABSTRACT: In the Institut mashinovedeniya i avtomatiki (Institute of Machine Construction and Automation) of the AS UkrSSR a telemeter was developed with 10 frequency-modulated measuring channels which can be synchronously connected and which serve for measuring 8-10 different quantities. The synchronization of transmitter and receiver is carried out over synchronously and synphasically operating electron commutators. The circuit diagram of the measuring and receiving device is given. An experimental model will be tested in practice. There are 5 figures and 2 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN Ukrainskoy SSR (Institute of Machinery and Automation of the AS UkrSSR)

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6.9000

67374

SOV/106-59-9-1/13

AUTHOR: Svenson, A.N.

TITLE: Reduction of the Bandwidth of a Multi-Channel Signal in Communication Systems Using Frequency-Separation of Channels

PERIODICAL: Elektrosvyaz', 1959, Nr 9, pp 3-11 (USSR)

ABSTRACT: A possible way of reducing the overall bandwidth required for transmission of a multi-channel signal is to vary the individual-signal channel bandwidths as the individual-signal spectra vary. Fig 3 illustrates the principle of the system. Fig 3a shows a typical frequency-time spectra, $\Delta f(t)$ of three signals, having maximum values of Δf_{1max}, Δf_{2max} and Δf_{3max}. Normally, for distortionless transmission, the total channel bandwidth F_1 required would be the sum of the maximum frequencies (Eq (2), p 4). For a system with a variable width of the passband, the instantaneous width of the frequency spectrum of a multi-channel signal will equal the sum of the instantaneous widths of the spectra of each individual channel (Fig 3b). If the number of channels is sufficiently high, then the sum of the statistical values of $\Delta f_K(t)$ is given by the normal

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Reduction of the Bandwidth of a Multi-Channel Signal in Communication Systems Using Frequency-Separation of Channels

distribution law (Ref 9) and the maximum value of the statistical function equals ΔF_{2max}

$$F_{2max} = \sum_{K=1}^{K=n} f_{K\,cp} + C \sqrt{\sum_{K=1}^{K=n} \sigma_K^2} \qquad (4)$$

where the first term on the right hand side gives the time-average of the function $\Delta F_2(t)$ and the second term is the mean square deviation from the average value. C is a coefficient which determines the statistical probability of the result (normally $C = 3 - 5$). The relative reduction (gain) in the bandwidth is $\eta = (\Delta F_1)/(\Delta F_{2max})$ and as the number of channels n increases $\eta \rightarrow (\Delta f_{max})/(\Delta f_{cp})$ where Δf_{cp} is the average individual-signal frequency. To obtain the initial experimental data, the layout shown in Fig 4 was used. Block 1 is the source of the information signal. A tape recorder played back (for t_3 = 2 minutes each) different radio-telephony signals: a piano playing,

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Reduction of the Bandwidth of a Multi-Channel Signal in Communication Systems Using Frequency-Separation of Channels

symphony music, speech, etc. Block 2 is an amplifier. Block 3 is a high-frequency pass-filter, the bottom limit frequency of which could be varied from 400 to 6000 c/s in 300 c/s steps. Block 4 is an amplifier with an amplitude limiter. Block 5 is an electronic switch and block 6 is a d.c. differential valve voltmeter. At the instant when the frequency of the signal exceeds the lower limit frequency of the filter, a voltage is produced at the filter output. Amplifier 4 converts this voltage into a voltage pulse of constant amplitude which operates the electronic switch 5. When switch 5 closes, the capacitor C discharges through the resistance R and the internal resistance of the switch. At the end of the signal time t_3, the valve voltmeter records the difference between the initial and final voltages across C, a value which characterises the absolute value of the time t_c during which the signal frequency has exceeded the bottom cut-off frequency of the filter. Thus, $P(\Delta f > f_{omc})$ is given by t_c/t_3 (f_{omc} is the bottom cut-off frequency).

4

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The results are plotted in Fig 5 and it is concluded that η will vary from 5 - 10 depending on the type of signal (speech, music, etc) and on the maximum individual-signal channel frequency. (This is for continuous transmission; for discontinuous information the results will be better). The block schematic and operation of a possible variable-bandwidth system of n-channels are next described. Each individual-signal channel has a bandwidth ΔF_o allocated to it, but ΔF_o is small compared with the maximum individual-signal frequency Δf_{max}. At instants when the individual-signal frequency exceeds ΔF_o, rapid-acting switches at the transmitter and at the receiver switch in an extra channel with a bandwidth ΔF_a. The number of these auxiliary channels (group a) is naturally smaller than the number of basic channels n. If the instantaneous bandwidth of any individual-signal frequency exceeds $\Delta F_o + \Delta F_a$, then a further auxiliary channel of bandwidth ΔF_b is switched-in, and in the limit

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Reduction of the Bandwidth of a Multi-Channel Signal in Communication Systems Using Frequency-Separation of Channels

$$\Delta F_o + \Delta F_a + \Delta F_b + \Delta F_c + \ldots = \Delta f_{max}. \qquad (7)$$

The bandwidth gain in such a system is given by

$$\eta_1 = \frac{n \Delta f_{max}}{n \Delta F_o + m \Delta F_a + k \Delta F_b + \ell \Delta F_c + \ldots}, \qquad (8)$$

where m, k, ℓ .. are the numbers of channels in the a, b, c, ... The numbers m, k, ℓ will depend on the statistical properties of the signal information and a method for determining their values is given. Finally, the block diagram and operation of a transmitter and receiver for such a system is described. There are 7 figures and 9 references, of which 5 are Soviet and 4 English (one a translation from French).

Card 5/5

SUBMITTED: March 2, 1959

S/194/61/000/007/009/079
D201/D305

AUTHORS: Bragin, A.A., Mikhaylovskiy, V.N. and Svenson, A.N.

TITLE: Non-linear parameter RC-integrators

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 7, abstract 7 B42 (V sb. Vses. Mezhvuz. konferentsiya po teori i metodam rascheta nelineyn. elektr. tsepey, no. 2-1, Tashkent, 1960, 46-53)

TEXT: The principles are described and mathematical relationships given for integrating circuits with a controlled time constant for operation with the radioactive particle counters. In the first of the described circuits, the non-linear component of the integrating circuit, to which the dosimeter applies a fixed charge for every pulse, consists of a diode-connected triode, biased near the cut-off. In the second circuit the non-linear resistance is constituted from linear passive resistors and diodes with resistive loads. 3 figures. 5 references. [Abstracter's note: Complete translation]

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30114
S/194/61/000/007/028/079
D201/D305

9.8000 (4002, 3902)

AUTHORS: Bodunov, V.P. and Svenson, A.N.

TITLE: Non-linear telemetering system signal transformations

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 54, abstract 7 V401 (V sb. Vses. Mezhvuz. konferentsiya po teorii i metodam rascheta nelineyn. elektr. tsepey, no. 2, Tashkent, 1960, 177-196)

TEXT: Possibilities are described of increasing the dynamic range and of decreasing the relative errors of telemetering by means of non-linear transformation of the input measured quantity. The dynamic range increases considerably because of the redistribution of the relative error of measurement. The greatest increase of the dynamic range is produced by the transformation $y = \ln x$; $z = e^y$. Its disadvantage is the impossibility of transmitting small values

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S/194/61/000/007/028/079
D201/D305

Non-linear telemetering system...

of the input parameter. Then the non-linear transformation may be replaced by a staircase function. When transmitting along a communication channel the information as given by varying d.c. voltage or current, the non-linear transformations do not result in widening of the spectrum of the transmitted signal. For a sinusoidal signal after a linear broken-line transformation, the pass band of the communication channel must be increased 5-7 times in order that it be transmitted with a small error. [Abstracter's note: Complete translation]

Card 2/2

21377
S/194/61/000/009/019/053
D209/D302

21.6000

AUTHORS: Bragin, A.A., Lisitskaya, I.N., Mikhaylovskiy, V.N. and Svenson, A.N.

TITLE: Multichannel gamma-spectrometer with a time analyzer

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 20, abstract 9 V171 (V sb. Avtomat. kontrol' i izmerit. tekhn., no. 4, Kiyev, AN USSR, 1960, 124-132)

TEXT: A measuring apparatus in the form of a multi-channel amplitude analyzer with a time selector is described. It measures the intensity, energy and time of the radioactive radiation, and is utilized in radioactive sampling. The underground instrument consists of an impulse neutron tube; a radioactive radiation indicator; an electronic control switch operated by synchro-impulses from the neutron tube; a frequency modulator. On the surface a frequency discriminator, a multi-channel amplitude analyzer and a conversion

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Multichannel gamma-spectrometer...

block are placed. The communication between the bottom and the surface instruments is achieved by means of a single channel telecommunication system. The block diagram of the instrument is given. The main circuits of most characteristic units and blocks are analyzed. 1) An electronic switch consisting of three cathode repeaters passes through an impulse which appears during a given time interval and stops all remaining impulses, including those that appear during the given interval, but arrive after the first impulse. A protection against the effect of splitting an impulse is provided. Instability of the transfer characteristic of the switch is 1 - 1.5%, nonlinearity 3 - 5%. 2) A multichannel amplitude analyzer consisting of shaping blocks, a pre-discrimination and an impulse sorter with several channel outputs which have a recording counting system connected to them. The operation of the impulse sorter is described in detail. The circuit of the counting block of the recording system is provided. The counter consists of a solid state binary counting circuit with a mechanical counter at the output. The position of

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21377
S/194/61/000/009/019/053
D209/D302

Multichannel gamma-spectrometer...

the trigger units is fixed by means of indicating lamps connected via polarized relays. 4 figures. 8 references. [Abstracter's note: Complete translation]

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MIKHAYLOVSKIY, Vladimir Nikolayevich; SVENSON, Aleksey Nikolayevich; POLYANSKAYA, L.O., red.; MATUSEVICH, S.M., tekhn. red.

[Electronic commutators] Elektronnye kommutatory. Kiev, Gos. izd-vo tekhn. lit-ry, 1961. 138 p. (MIRA 14:10)
(Commutation (Electricity)) (Switching theory)

S/169/62/000/009/069/120
D228/D307

AUTHORS: Svenson, A. N. and Bragin, A. A.

TITLE: New method of increasing the radioactivity logging rate

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 48, abstract 9A319 (In collection: Avtomat. kontrol' i izmerit tekhn., no. 5, Kiyv, AN USSR, 1961, 64-70)

TEXT: A method of increasing the radioactivity logging rate is considered. It is based on the use of a device for automatically controlling the integration time constant τ and the logging tool's movement rate v as a function of the magnitude of the radiation being measured. The equipment described contains: 1) a receiver for the logging station's telemetering system; 2) a device for automatically controlling the time constant; 3) a misalignment voltage amplifier or differential amplifier; 4) a data unit of comparable voltage (tachometer generator); and 5) an executive mechanism (servomotor). An account is given of the parameters of the device that

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automatically controls the time constant, and the equipment's performance is described. It was established on the grounds of the analysis of gamma-logging diagrams of various wells in the Tuymazinskoye Field (Bashkiriya) that when using the proposed equipment the effective logging rate can be increased by 1.8 - 2 times. [Abstracter's note: Complete translation.]

S/651/61/000/005/006/009
D209/D303

AUTHORS: A.A. Bragin, and A.N. Svenson

TITLE: A method of increasing photo-multiplier stability

SOURCE: Akademiya nauk Urayins'koyi RSR. Instytut mashynoznavstva i avtomatyky, L'viv. Avtomaticheskiy kontrol' i izmeritel'naya tekhnika. No. 5, Kiev, 1961, 106 - 109

TEXT: This paper describes two simple stable photo-multiplier circuits utilizing a constant intensity light source. Usually intermittent light sources are used for this purpose. On stabilizing the photomultiplier output current using stationary light sources illumination, a corresponding constancy of sensitivity with respect to scintillations of radioactive radiation being measured can be obtained. The first circuit which utilizes a photomultiplier type ФЕУ - 19М (FEU - 19M) is depicted in Fig. 1. An expression for the change of current i flowing through the resistance R is derived. In this derivation the effects of both the destabilizing factor and automatic regulation are included. In order to eliminate the effects of the dark current and the scintillation current

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on the operation of the regulating system, the cathode illumination is so chosen that the resulting constant current is 100 - 200 times larger than the magnitude of the interfering currents. The other circuit is depicted in Fig. 3. The addition of another regulating loop with d.c. amplifier, controlling the supply voltage, increases the degree and range of automatic regulation. It can be seen that a considerably higher degree of stability is obtained here. There are 3 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: V. Seliger, 'Electronics', 26, 8, 164, 1953

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S/651/61/000/005/007/009
D209/D303

AUTHORS: I.N. Lisitskaya, and A.N. Svenson

TITLE: Commutator with saturated ferrite elements

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut mashynoznavstva i avtomatyky, L'viv. Avtomaticheskiy kontrol' i izmeritel'naya tekhnika. No. 5, Kiev, 1961, 119-123

TEXT: This commutator forms one of the basic parts in multichannel telecommunication and telemechanics systems. It connects cyclically one network to various directions. The circuit, described in this paper, is based on application of transformers with saturated cores. The circuit is applicable to systems with a comparatively low number of channels. For an even number of channels the circuit requires few ferrite elements and, as a rule, no diodes. The circuit (Fig. 1) consists of a series of parallel networks utilizing transformers with saturated cores and phase shifting elements all connected to an a.c. source. The secondary windings are star-connected so that a 2-, 4-, 6- or 8-phase voltage

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system is obtained. By using diodes impulses of required polarity are obtained. These impulses are applied to circuits operating transistorized switches. The expression for phase shifting elements for the cases n = 2, 4, 6 are worked out (n/2 is the number of parallel networks in the commutator). In the expressions the non-linearity of inductances L_i of transformer windings is ignored. The resulting discrepancy between the calculated and actual values of R's and C's does not exceed 1o - 2o %. There are 3 figures and 6 Soviet-bloc references.

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SHUMILOVSKIY, N.N., akademik, otv. red.; MIKHAYLOVSKIY, V.N., zam. otv. red.; GLAUBERMAN, A.Ye., doktor fiz.-mat. nauk, red.; SVENSON, A.N., kand. tekhn. nauk, red.; BEREZINSKIY, V.P., inzh., red.; SABANEYEV, R.D., nauchnyy red.; LIBERMAN, T.R., tekhn. red.

[Instruments for geophysical studies of wells by radioactive methods; transactions] Pribory dlia geofizicheskikh issledovanii skvazhin radioaktivnymi metodami; trudy. Kiev, Izd-vo Akad. nauk USSR, 1962. 190 p. (MIRA 15:9)

1. Vsesoyuznyy seminar po primeneniyu radioaktivnykh izotopov v izmeritel'noy tekhnike, L'vov, 1960. 2. Akademiya nauk Kirgizskoy SSR (for Shumilovskiy). 3. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Mikhaylovskiy)
(Radioactive prospecting--Equipment and supplies)

BODUNOV, V.P.; SVENSON, A.N.

Increase in the efficiency of telemetry systems using a nonlinear signal conversion technique. Vop. pered. inform. 1:35-46 '62. (MIRA 16:6)

(Telemetering) (Information theory)

SVENSON, A.N.; SMERDOV, A.A.

Communication systems having a channel with variable passband.
Vop. pered. inform. 1:68-76 '62. (MIRA 16:6)
(Automatic control) (Information theory)

SVENSON, A.N.; SMERDOV, A.A.

Experimental study of a channel with variable passband for transmission of radiotelephone communications. Vop. pered. inform. 1: 78-93 '62. (MIRA 16:6)

(Radiotelephone) (Information theory)

SVENSON, A.N.; FEDORCHENKO-TIKHIY, G.D.

Time-varying pulse-amplitude modulation. Vop. pered. inform. 1:94-104 '62. (MIRA 16:6)
(Information theory) (Modulation (Electronics))

BODUNOV, V.P.; SVENSON, A.N.

Proportional white noise and its effect on the quality of radiotelephone communications. Vop. pered. inform. 1:105-116 '62. (MIRA 16:6)

(Radiotelephone)