BLOKH, A.G.

AID P - 2768

Subject : USSR/Engineering

Card 1/2 Pub. 110-a - 10/14

Authors : Blokh, A. G. and Kichkina, E. S., Kand. Tech. Sci.

Title : Average size of drops in pulverizing liquid fuel with centrifugal atomizers

Periodical : Teploenerg., 9, 51-54, S 1955

Abstract : Authors report on experiments made with the distillation of liquid fuel and the calculation of volatility, liquid-vapor mixture, viscosity, etc. The theory of using the centrifugal atomizer, as expounded by G. N. Abramovich and I. I. Novikov, and the formula for the dimension of drops are presented. The testing installation is discussed in detail and a curve presents the fractional distillation of the liquid fuel. A mathematical analysis of the unstable fluctuations and the viscocity of the flow is presented. Three diagrams. Five Russian references, 1931-1955, 1 German, 1931.

AID P - 2768

Teploenerg., 9, 51-54, S 1955

Card 2/2 Pub. 110-a - 10/14

Institution : Central Boiler and Turbine Institute

Submitted : No date

BLOKH, A. G.

AID P - 2565

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 4/16

Authors : Blokh, A. G. and Kosovitskiy, A. I., Kands. Tech. Sci.

Title : Absorption capacity of flow of pulverized coal particles floating in the air

Periodical : Teploenergetika, 8, 23-26, Ag 1955

Abstract : The article gives a theoretical analysis of experiments made on the absorption of heat radiations by particles of the dust cloud. Six diagrams. Two Russian references, 1951-1955, 2 English, 1926-1928, 1 French, 1934.

Institution : Central Institute of Turbines and Boilers

Submitted : No date

BLOKH, A.G.

BLOKH, A.G., kandidat tekhnicheskikh nauk; KICHKINA, Ye.S., kandidat tekhnicheskikh nauk

Average diameter of drops of liquid fuel atomized by a centrifugal jet nozzle. Teploenergetika 2 no.9:51-54 S '55. (MIRA 8:10)

1. TSentral'nyy kotloturbinnyy institut
(Nozzles) (Drops)

AID P - 1319

Subject : USSR/Engineering

Card 1/2 Pub. 110-a - 1/19

Authors : Gurvich, A. M., Doc. of Tech. Sci., Blokh, A. G., and Nosovitskiy, A. I., Kand. of Tech. Sci.

Title : Radiant heat transfer in a dust-containing gas medium

Periodical : Teploenergetika, 2, 3-10, F 1955

Abstract : Research tests are described concerning the heat emission characteristics of ash dust particles carried with the flow of combustible gases in boiler units. Those tests were conducted by the Central Scientific Research Institute for Boilers and Turbines (im. I. I. Polzunov) and by the Leningrad Polytechnical Institute. Formulae are presented for the calculation of coefficients of the radiant heat reduction and of the degree of blackness of dust-containing combustion products. Charts, tables.

GURVICH, A.M., doktor tekhnicheskikh nauk; BLOKH, A.G., kandidat tekhnicheskikh nauk.

Effect of incomplete loading on total heat exchange in steam boiler furnaces. Sudostroenie 22 no.9:5-8 S '56. (MLRA 10:1)
(Boilers, Marine) (Heat--Transmission)

BLOKH, A.G.

AUTHORS: Gurvich, A.M. (Prof. Dr.Tech.Sci.) and Blokh, A.G. (Cand. Tech. Sci.).

TITLE: A generalisation of recent American investigations into heat exchange in boiler furnaces. (Obobshcheniye novykh Amerikanskikh issledovaniy teploobmena v kotel'nykh topkakh).

PERIODICAL: "Teploenergetika" (Thermal Power), Vol.4, No.5, May,1957, pp.18 - 24 (U.S.S.R.)

ABSTRACT: In recent years in the U.S.A. the Bureau of Mines and the American Society of Mechanical Engineers (ASME) have carried out important investigations on heat exchange in the furnaces of modern steam boilers. The heat output has been evaluated both on the basis of the thermal balance of the boiler and on the heat absorption of the screens calculated from measurements of the temperature drop at the walls of the screen tubes. The value of the information consists in that a detailed investigation of temperature fields and gas composition was made at the outlet section of the furnaces. A defect of the work is that in most cases there is no data on the speed distribution in the sections examined. Therefore, the experimenters base their calculation on the assumption of a constant rate of gas flow over the entire section. In experiments with pulverised fuel and gas firing this assumption appears to be justified because of the satisfactory agreement between calculations of heat absorption based on the thermal balance and the

A generalisation of recent American investigations into heat exchange in boiler furnaces. (Cont.)

results of measurements of temperature drop at the walls of the screen tube. The agreement was much less satisfactory in the case of burner-bed furnaces, in which, presumably, the velocity distribution in the outlet section of the furnace chamber is far from uniform. The results obtained at the Tidd, Paddy's run, Willow Island, Sterlington and Whiting stations are briefly described. A committee of ASME compared the experimental data with the methods used in the U.S.A. to calculate heat exchange in boilers. However, the American authors do not develop their work in such a way that it is possible to tell the accuracy with which the method of calculating heat exchange in furnaces used in the U.S.S.R. reflects the experimental results obtained in the U.S.A. and most of the present article is devoted to elucidation of this question by working up the American data. An expression is first given for the contamination factor and values are tabulated for the following cases: operation without soot blowing of screened surfaces; operation with clean screens and six hours after blowing; and for operation without soot blowing. American data is also presented in the form of graphs, on which results obtained by the Soviet standard method are also plotted. It is concluded that the data

A generalisation of recent American investigations into heat exchange in boiler furnaces. (Cont.)

on heat exchange in furnaces obtained in the experiments at the Tidd, Paddy's run and Sterlington stations are in good agreement with calculations made in accordance with the recommendations of the Standard method of making thermal calculations on boiler sets. Data on heat exchange in the furnace of the Willow Island station were obtained under abnormal operating conditions with heavy slagging of the screens and cannot be considered characteristic for modern boiler sets. The data on the furnace of the Whiting station are insufficiently accurate and their deviation from the calculated values corresponds to an error associated with inaccuracies in the evaluation of the gas temperature at the outlet from the furnace and of the excess air. The experiments at the Tidd station are characteristic of clean heating surface of pulverised fuel furnaces immediately after careful soot blowing to which corresponds a contamination factor of 0.8. For calculation of heat exchange in furnaces in which the screens are effectively cleaned each shift, a mean contamination factor of 0.75 is recommended. The experiments confirm the numerical values for the coefficients used in the formula for the contamination factor given in the standard method.

A generalisation of recent American investigations into heat exchange in boiler furnaces. (Cont.)

The experiments at the Paddy's run station permit evaluation, for furnaces with frontal burners, of the influence of the temperature of gases leaving the furnace, the configuration of the torch and the introduction of an upper row of burners. In other words, there is no need to make special allowance for these special features of the furnace conditions in formulae for the calculation of heat exchange in furnaces. The experiments at the Sterlington station confirm the possibility of calculating the radiation of a natural gas flame from data for radiation of non-luminous flames. 13 figures, 11 literature references (10 U.S.A. 1 Russian).

Card 4/4

BLOKH, A. G.

AID P - 2577

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 16/16

Authors : Gukhman, A. A., Doct., Phys. Math. Sci., Prof.
Shumayev, A. I. and A. I. Veynik, Docs. Tech. Sci., Profs.
Temkin, A. G., Kand. Tech. Sci.
Blokh, A. G., Kand. Tech. Sci.

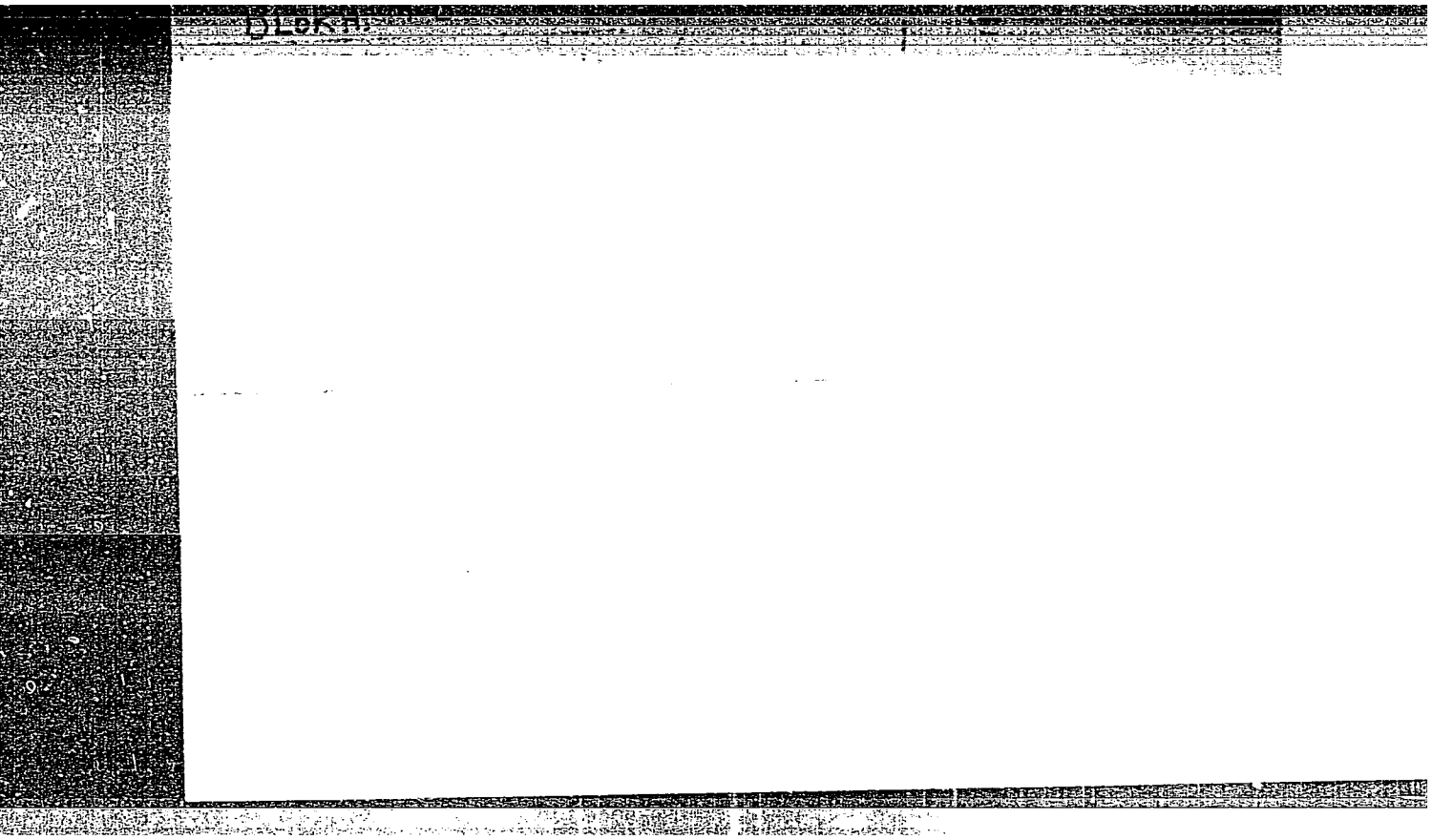
Title : A. F. Chudovskiy Teplo obmen v dispersnykh sredakh (Heat Exchange in Dispersion media) Gosenergoizdat, 1954. (Book Review)

Periodical : Teploenergetika, 8, 60-64, Ag 1955

Abstract : The book is an analysis of large-grain dispersion material. The reviewers consider the book as a timely contribution to Soviet science, although it is not devoid of some small errors.

Institution : None

Submitted : No date



BLOKH, A.G.

KENDYS', P.N., kandidat tekhnicheskikh nauk; BLOKH, A.G., kandidat tekhnicheskikh nauk.

Comparison of calculated and experimental data on heat exchange in furnaces of steam boilers. Teploenergetika 4 no.4:58-63 Ap '57. (MLRA 10:5)

1. TSentral'nyy kotloturbinnyy institut.
(Steam boilers) (Heat--Transmission)

BLOKH, A. G.

GURVICH, A.M., doktor tekhnicheskikh nauk, professor; BLOKH, A.G., kandidat tekhnicheskikh nauk.

Account of new American investigations on heat exchange in boiler furnaces. Teploenergetika 4 no.5:18-24 My '57. (MLRA 10:5)

1. TSentral'nyy kotloturbinnyy institut.
(United States--Boilers)

BLOKH, A.G.

BLOKH, A.G., kandidat tekhnicheskikh nauk; KICHKINA, Ye.S., kandidat tekhnicheskikh nauk.

Coefficients of consumption and the conical angle of the nozzle [with summary in English]. Teploenergetika 4 no.10:35-41 O '57. (MLRA 10:9)

1. TSentral'nyy kotloturbinnyy institut.
(Injectors)

PHASE I BOOK EXPLOITATION SOV/6084

Blokh, Arkadiy Grigor'yevich

Osnovy teploobmena izlucheniyem (Fundamentals of Heat Exchange by Radiation). Moscow, Gosenergoizdat, 1962. 330 p. 8000 copies printed.

Ed. (Title page): A. M. Gurvich, Doctor of Technical Sciences, Professor; Tech. Ed.: O. S. Zhitnikova.

PURPOSE: This book is intended for technical personnel occupied in the design, calculation, and operation of steam generators and heat-exchange apparatus. The book may also be useful to the operational personnel of electrical stations, other specialists working in the field of heat mechanics, and senior students and aspirants in courses on heat energy.

COVERAGE: The book deals briefly with laws of heat radiation and discusses some important practical problems of radiative heat exchange between bodies. Formulas, graphs, nomograms, and tables necessary for the practical calculations are

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given. Information on radiation of gas-dust mixtures and on heat exchange in combustion chambers were obtained from the Central Scientific Research Boiler and Turbine Design and Planning Institute imeni I. I. Polzunov, where Professor A. M. Gurvich, Candidate of Technical Sciences, supervises the work on this subject. The work of Professor K. S. Shifrin, Doctor of Physics and Mathematics, on the dispersion of light in turbid media, which appears to be the theoretical basis of the elaboration of problems of radiation of dusted gases in combustion chambers, had an important influence on these studies. The author thanks Professor I. I. Paleyev, Professor, Doctor of Technical Sciences, for reviewing the manuscript. There are 144 references: 80 Soviet, 35 English, and 29 German.

TABLE OF CONTENTS:

Ch. I. Radiation of an Absolutely Black Body 7
1. Basic concepts and determinations 7
2. Planck's radiation law 11

BLOKH, A.G., kand. tekhn. nauk; MODZALEVSKAYA, M.L., inzh.

Monochromatic attenuation factor of ash dust. Teploenergetika 10 no.9:41-44 S '63. (MIRA 16:10)

1. TSentral'nyy kotloturbinnyy institut.
(Furnaces)

ACCESSION NR: AP4000406 S/0294/63/001/001/0121/0127

AUTHOR: Blokh, A. G.

TITLE: Dispersion of heat radiation in a polydisperse turbid medium

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 1, 1963, 121-127

TOPIC TAGS: heat radiation, radiative heat transfer, combustion, combustion gas, radiation, flame, exhaust gas, rocket, polydisperse medium

ABSTRACT: A method is proposed for calculating the spectral attenuation coefficients of a polydisperse turbid medium containing particles of different sizes. The investigation is necessitated by the fact that the theoretical formulas for the spectral coefficients of turbid media usually pertain to monodispersed media with drops or

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ACCESSION NR: AP4000406

particles of equal size, whereas radiant heat exchange in boilers, turbines, and other devices occurs in a turbid medium containing suspended particles with a great variety of sizes. The influence of the distribution of the particle sizes on the dispersion of the scattering coefficient is demonstrated. A relation is established between the scattering and absorption in polydisperse media. This relation is of the form

$$\frac{k_{\lambda.scat}}{k_{\lambda}} = \frac{d^*}{d^{**}} \frac{K_{scat}(\rho^{**},m)}{K(\rho^*,m)} .$$

where k_{λ} is the total attenuation coefficient, $k_{\lambda.scat}$ is the coefficient of attenuation by scattering, d is the particle diameter, K is the total scattering coefficient, $\rho = \pi d/\lambda$, m is the complex refractive index, one asterisk pertains to a medium with particles of identical size, and two asterisks pertain to a polydispersed medium, and d* and d** are the effective diameters, which depend not only on

Card 2/3

ACCESSION NR: AP4000406

the fractional composition of the particles but also on the optical constants and the wavelength of the incident radiation. Orig. art. has: 26 formulas and 5 figures.

ASSOCIATION: Tsentral'ny*y kotloturbinny*y institut (Central Boiler and Turbine Institute)

SUBMITTED: 06May63	DATE ACQ: 13Dec63	ENCL: 00
SUB CODE: AS	NO REF SOV: 005	OTHER: 003

Card 3/3

BLOKH, A.G.

Scattering of heat radiation in a polydisperse turbid medium.
Teplofiz. vys. temp. 1 no.1:121-127 Jl-Ag '63. (MIRA 16:10)

1. TSentral'nyy kotloturbinnyy institut.

BLOKH, A.G., kand. tekhn. nauk

Emission of carbon particles in a flame. Teploenergetika 11 no.7:16-19 Jl '64. (MIRA 17:8)

1. TSentral'nyy kotloturbinnyy institut.

ACCESSION NR: AP4025419 S/0096/64/000/004/0026/0030

AUTHOR: Blokh, A. G. (Candidate of technical sciences)

TITLE: Radiation from a luminous flame containing ashes

SOURCE: Teploenergetika, no. 4, 1964, 26-30

TOPIC TAGS: thermal radiation, ash flame radiation, flame emissivity, combustion product emissivity

ABSTRACT: The equations, proposed by A. G. Blokh, ("Teplofizika vysokikh temperatur" No. 1, 1963), governing the dispersion of electromagnetic waves were applied to the flame of liquid or gaseous fuels. These fuels contained ash particles causing $\rho = \pi d/\lambda \ll 1$, where d = diameter of ash particle, λ = wave length of radiation. For this case the coefficient of attenuation k is simplified to $k_\lambda = \frac{b}{\lambda \alpha} \rho$, where b = a coefficient for a given material. Using the equation for thermodynamic equilibrium $I_\lambda d\lambda = k_\lambda I_{\lambda,o} d\lambda$ ($I_{\lambda,o}$ = spectral black body radiation intensity) and integrating over all wavelengths, the radiation energy

Card 1/2

ACCESSION NR: AP4025419

was found as

$$E=\frac{1,04\pi bc_1 d}{c_2^{5+\alpha}}\Gamma(5+\alpha)T^{5+\alpha}.$$

This is a strong function of α, and depends, in turn, on the complex index of refraction of the particles. Using experimental data of several authors, the k_λ was expressed as an empirical relation. On the basis of this relation and the fact that the radiation comes from ash particles and from the tri-atomic gases H_2O and CO_2, the following relation for the emissivity of an ash flame (for liquid or gaseous fuels) was derived:

$$\varepsilon=1-e^{-\eta(1,56\cdot10^{-3}T-0,61)\frac{\mu}{\gamma}l}(1-\varepsilon_g).$$

(where μ = weight concentration of ash, γ = specific weight of ash, l = effective thickness of radiating layer, ε_g = emissivity of tri-atomic gases). Orig. art. has: 17 formulas and 4 figures.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut (Central Steam Turbine Institute)

SUBMITTED: 00 DATE ACQ: 20Apr64 ENCL: 00

SUB CODE: PR NO REF SOV: 007 OTHER: 012

Card 2/2

BLOKH, A. G.

"Thermal radiation of dispersed media."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Polzunov Boiler and Turbine Inst.

BLOKH, A.G., kand. tekhn. nauk

Scattering and absorption of radiant energy in a dusty flow. Energomashinostroenie 11 no.6:29-31 Je '65. (MIRA 18:7)

BLOKH, A.G., kand. tekhn. nauk; YEROFEYEV, P.A., inzh.

Effect of the coefficient of excess air on the radiation of a luminous torch. Teploenergetika 12 no.3:38-41 Mr '65.
(MIRA 18:6)

1. TSentral'nyy kotloturbinnyy institut.

USSR/Geology

Card 1/1 Pub. 22 - 44/56

Authors : Blokh, A. M.

Title : Discovery of galenite in the lower coal limestones of the Moscow region

Periodical : Dok. AN SSSR 99/5, 835-836, Dec 11, 1954

Abstract : Geological data regarding the discovery of galenite (PbS) among the lower coal limestones of the Moscow Coal Basin are presented. The probable origin of this mineral is explained. Four USSR references (1915-1954). Drawing.

Institution: ...

Presented by: Academician N. M. Strakhov, October 7, 1954

BLOKH, A.M.

Occurrence of middle Carboniferous deposits in the southeastern area of the Moscow Basin. Izv.AN SSSR.Ser.geol. 21 no.2:101-104 F '56. (MLRA 9:5)

1. Ministerstvo ugol'noy promyshlennosti SSSR, Trest "Mosbassugle-geologiya' i Skopinskaya geologo-razvedochnaya partiya, sel. Pobednoye.

(Moscow Basin--Geology, Stratigraphic)

Blokh, A.M.

AUTHOR: Blokh, A.M. 11-10-8/23

TITLE: The Nature of Some Elevations of Limestone Foundations of the South Eastern Part of the Podmoskovnyy Basin (O prirode nekotorykh podnyatiy izvestnyakovogo fundamenta na yugo-vostoke Podmoskovnogo basseyna)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 10, p 77-84 (USSR)

ABSTRACT: Factual data are being presented in this article permitting the assumption that limestone foundations of the Podmoskovnyy basin originated from hydration and the increased volume of sulfate deposits of the Kudeyarovskiy layer of the Upper Devonian. Layers of carbonate deposits which form the basement rocks of the Podmoskovnyy basin and which have been called limestone foundations, have been undergoing a gradual sinking process at their southern wing, whereby this movement was directed towards north-east, i.e. towards the central section of the Moskva syncline. All irregularities of the relief of limestone formations can be subdivided into 2 fundamental groups: unevenness of exagenous origin and elevations resulting from folding processes. At the present time it was possible to ascribe the folding process to other causes. This applies primarily to

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The Nature of Some Elevations of Limestone Foundations of the South Eastern Part of the Podmoskovnyy Basin

sedimentary layers which change their chemical composition readily under certain conditions, as for instance strata of calcium sulfate. The majority of these layers of calcium sulfates were precipitated during earlier geologic periods as anhydrites of $CaSO_4$. As a result of hydration, these layers were converted into gypsum $CaSO_4 \cdot 2\ H_2O$. By this process the volume was increased by 60 %, causing a raise of limestone foundations, in some instances to 40 - 45 m. Deposits of gypsum were discovered at the Petrushinskoye and Zhmurovskoye elevations, as well as on the territory of the Malinkovskiy coal district. Such hydration processes started during the Lower Carboniferous period. The raising of gypsum deposits affected not only the magnitude of sedimentation, but also the growth of turf peats, which reacted sensitively on slight changes of the earth's crust. In some instances these changes were not favorable for the forming of coal deposits, for example for those north-west of the Skopinskiy district. Results with opposite effects were also possible, for example at the Petrushinskoye elevation, where 8 coal-bearing strata were located, 4 of which were ex-

The Nature of Some Elevations of Limestone Foundations of the South Eastern Part of the Podmoskovnyy Basin

ploitable. Although great importance can be attached to the process of hydration of anhydrates for the forming of underground reliefs, the effects of depth movements of crystalline foundations can not be refuted.
There are 1 map, 1 figure, and 13 references, all Slavic (Russian

ASSOCIATION: Glavuglegeologiya of the Ministry of the Coal Industry USSR, Skopin Team of Geological Prospecting, village of Pobednoye, Ryazan' Oblast' (Glavuglegeologiya ministerstva ugol'noy promyshlennosti SSSR, Skopinskaya geologo-razvedochnoya partiya, poselok Pobednoye, Ryazanskoy oblasti)

SUBMITTED: 10 December 1956

AVAILABLE: Library of Congress

Card 3/3

BLOKH, A.M., Cand Geol-Min Sci -- (diss) "~~Formation~~ Structure and conditions of the accumulation of carboniferous deposits in the ~~Southeast of the Podmoskovnyy basin~~ southeastern Podmoskovnyy Basin." Mos,1958. 24 pp. (Acad Sci USSR. Geol Inst.) 130 copies.

(KL, 12-58, 97)

BLOKH, A.M.

Pre-Visean relief in the southeastern part of the Moscow Basin and its connection with coal accumulation. Izv. vys. uchev. zav.; geol. i razv. no.3:36-45 Mr '58. (MIRA 11:10)

1. Skopinskaya geologicheskya partiya.
(Moscow Basin--Coal geology)

SOV-5-58-3-20/39

AUTHOR: Blokh, A.M.

TITLE: The Age and Conditions of Accumulation of Coal Bearing Deposits of the South-Eastern Section of the Podmoskovnyy Basin (Vozrast i usloviya nakopleniya uglenosnykh otlozheniy na yugo-vostoke Podmoskovnogo basseyna)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody, Otdel geologicheskiy, 1958, Nr 3, pp 148 - 149 (USSR)

ABSTRACT: This is a resume of a lecture given on Feb 28, 1958. The author destinguishes between the Tula and Stalinogorsk coal deposits, the layers of the latter being considerably thicker than those of the Tula district. The extent of the Tula deposits are limited by the width of the inter-river area, while the coal layers of the Tula district are sometines sapropelic. Sapropelites were not observed within the 5th layer of the Stalinogorsk deposits. The author explains the different magnitudes of coal layers by geologic conditions prevailing at the time of coal formation.

1. Geology--USSR 2. Coal--Properties

Card 1/1

BLOKH, A.M.; SIDORENKO, G.A.

Nefedievite of Transbaikalia. Dokl. AN SSSR 135 no.3:701-704 N '60. (MIRA 13:12)

1. Vsesoyuznyy institut mineral'nogo syr'ya. Predstavleno akad. D.S. Korzhinskim.

(Selenga Valley--Nefedievite)

BLOKH, A.M.; KOCHENOV, A.V.

Fluorine concentration in the bone remains of fossil fishes. Dokl. AN SSSR 135 no.6:1495-1497 D '60. (MIRA13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya. Predstavleno akademikom N.M.Strakhovym.
(Fishes, Fossil) (Fluorine)

BLOKH, A.M.

Rare earths in the remains of Paleozoic fishes of the Russian Platform. Geokhimiia no.5:390-400 '61. (MIRA 14:5)

1. All-Union Scientific Research Institute of Mineral Raw Material, Moscow.

(Russian Platform—Fishes, Fossil)
(Rare earths)

BLOKH, A.M.

Fluorine in the bones of recent and Quaternary fishes from continental burials. Lit.i pol.iskop. no.2:287-290 '63. (MIRA 17:10)

1. Vsesoyuznyy institut mineral'nogo syr'ya Gosudarstvennogo geologicheskogo komiteta SSR, Moskva.

BLOKH, A.M.

Processes of conversion to clay and the formation of siliceous concretions in the Upper Jurassic ash tuffs of the eastern Transbaikalia. Min.syr'e no.8:3-22 '63. (MIRA 17:9)

BLOKH, A.M.

Gypsums of the Moscow region; letter to the editor. Izv. AN SSSR. Ser.geol. 28 no.8:103-105 Ag '63. (MIRA 17:2)

GARBUZOVA, V.F.; BLOKH, A.M.

Solid bitumens in Mesozoic sedimentary rocks of the Birskaya trough in the Lesser Khigan Mountains. Dokl. AN SSSR 153 no.5:1160-1163 D '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya. Predstavleno akademikom D.S. Korzhinskim.

BLOKH, A.M.; KOCHENOV, A.V.; GINZBURG, A.I., glavnyy red.; APEL'TSIN, F.R., red. GRIGOR'YEV, V.M., red.; POLYAKOV, M.V., red.; RODIONOV, G.G., red.; STEPANOV, I.S., red.; TROKHACHEV, P.A., red.; FAGUTOV, V.P., red.; CHERNOSVITOV, Yu.L., red.; SHMANENKOV, I.V., red.; SHCHERBINA, V.V., red.; EYGELES, M.A., red.

[Impurity elements in bone phosphate of fossil fishes.] Elementy-primesi v kostnom fosfate iskopaemykh ryb. Moskva, Nedra, 1964. 106 p. (Geologiia mestorozhdenii redkikh elementov, no.24). (MIRA 19:1)

BLOKH, A. Sh.

BLOKH, A. Sh. - "Determination of the Differential Equation From Its Spectral Matrix Function." Sub 5 Mar 52, Sci Res Inst of Mechanics and Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

BLOKH, A.Sh. (Molodechno).

Practical application during lessons of mathematics. Mat.v shkole no.6:38-39 N-D '53. (MLRA 6:12)
(Mathematics--Study and teaching)

BLOKH, A. SH.

USSR/Mathematics - Spectral Matrix 11 Sep 53

"Determination of a Differential Equation in Terms of its Special Matrix Function," A. Sh. Blokh, Molodechno Teachers' Inst of the City of Molodechno, Beloruss SSR

DAN SSSR, Vol 92, No 2, pp 209-212

Considers the differential eq, given on the entire axis, $y''+(\lambda-q(x))y=0$, where $q(x)$ is assumed to be continuous in any finite interval and the solution $y=\varphi(x,\lambda)$ satisfies certain ordinary conditions. Solves the following problem: Given the spectral matrix $T(\lambda)+(t_{ik}(\lambda))^2$ of the differential eq,

269T73

determine whether there exists an eq of the type of this eq that possesses the given spectral matrix $T(\lambda)$. Employs the procedure developed by I. M. Gel'fand and B. M. Vevitan (Iz AN SSSR, Ser Matem. 15, No 4 (1951)). Presented by Acad S. N. Bernshteyn 15 Jul 53.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205520020-5"

BLOKH, A. SH.

20-4-17/52

AUTHOR: Blokh, A. Sh.

TITLE: The Synthesis of Relay-Contact-Circuits (Sintez releyno--kontaktnykh skhem)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 4, pp. 609-612 (USSR)

ABSTRACT: The present report defines some classes of relay-contact--circuits and discusses the method of their systhesis. Each of the contact-systems constructed here consists of two parts: The first part is an auxiliary scheme which controls the work of the additional relays and which, roughly speaking, prepares the scheme for the work on the following cycle. The second part is a contact-scheme which realizes the required change in the course of a cycle. The auxiliary scheme contains, besides the assumed contacts of the assumed relays and the auxiliary relays, also the auxiliary relays themselves. The contact scheme contains only the contacts of the assumed relays and of the auxiliary relays. The contact schemes with storage: The time t is considered here as a discreet value. First the term of the (p,q)-pole with the contacts belonging to the relays $x_1, x_2, x_3, \ldots . x_n$ is defined. Such (p,q)-poles are here called contact-(p,q)-poles with

Card 1/2

storage of the k^{th} order. The author investigates here the case with a storage constant with respect to time. A typical example of contact scheme with storage of first order is an electric bell. A term is written down here for the matrix of the conductivity of a contact (p,q)-pole. The required scheme can be realized by the union of the relay-scheme and the contact scheme. The second paragraph deals with systems with blocking and the third paragraph deals with the combiner-schemes and a receiving element of the button type. In this connection, the term of the combiner-multipole is defined too. There are 3 figures and 2 references, all of which are Slavic.

ASSOCIATION: Minsk High School for Radio Engineers (Minskoye vyssheye inzhenernoye radiotekhnicheskoye uchilishche)

PRESENTED: September 27, 1957, by A.N. Kolmogorov, Academician.

SUBMITTED: April 16, 1956

AVAILABLE: Library of Congress

BLOKH, A. Sh.
p. 2

PHASE I BOOK EXPLOITATION SOV/4073

Problemy kibernetiki, vyp. 3 (Problems in Cybernetics, No. 3) Moscow, Fizmatgiz, 1960. 282 p. 15,000 copies printed.

Ed.: Aleksey Andreyevich Lyapunov ; Comp. and eds.: O. S. Kulagina, O. B. Lupanov, B. Yu. Pil'chak, S. V. Yablonskiy, and Yu. I. Yanov.

PURPOSE: This book is intended for specialists in cybernetics, machine translation, and computers.

COVERAGE: This book contains articles on problems in cybernetics, programming, mathematical linguistics, machine translation, the theory of control systems, and the theory of digital computers. In particular, the book discusses questions dealing with the effective use of computers. The proceedings of the seminar on cybernetics held in 1958-1959 at Moscow University under the direction of A. A. Lyapunov and of the conference on mathematical linguistics held April 15-24, 1959, in Leningrad are described. The editors thank M. L. Tsetlin, I. B. Zadykhaylo, V. S. Shtarkman, and G. V. Vakulovskaya. References accompany each article.

Card 1/4

Problems in Cybernetics (Cont.) SOV/4073

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AVAILABLE: Library of Congress

Card 4/4

AC/dwm/fal
8-18-60

16.6800

35639
S/582/60/000/003/004/009
D234/D305

AUTHOR: Blokh, A.Sh. (Minsk)

TITLE: On problems solved by sequence machines

SOURCE: Problemy kibernetiki, no. 3, Moscow, 1960, 81 - 88

TEXT: The author gives a definition of sequence operators of A type and defines the sequence machine as a set of sequence operators determined by the system of functions

$$\left.\begin{aligned} s_n &= f_1(x_n, q_n), \\ q_{n+1} &= f_2(x_n, q_n), \quad 1 \leqslant q_n \leqslant m_q \quad (n = 0, 1, \ldots). \end{aligned}\right\} \qquad (1)$$

The following theorems are proved: 1) for a sequence machine given by Eq. (1) there is another one including it, such that

$$\left.\begin{aligned} S &= \varphi_1(Q), \\ Q' &= \varphi_2(X, Q) \end{aligned}\right\} \qquad (2)$$

2) For a scheme of A_K type (i.e. a sequence operator defined by

Card 1/2

On problems solved by sequence machines

$$S_{n+k} = f(x_{n+k}, \ldots, x_n; s_{n+k-1}, \ldots, s_n) \qquad (4)$$

and an initial condition) there is a sequence machine including it; 3) There is a sequence machine including a given scheme of B_2 type (the latter is defined by dependence of s_1 on certain parameters); 4) If a sequence machine $s = f_1(q)$, $q' = f_2(x, q)$ is given and for every value of s, there are not more than two values q_1 and q_2 such that $f_1(q_1) = f_2(q_2)$, then there exists a scheme of B_2 type which includes this machine. An example is given. There are 3 tables, 1 figure and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: December 3, 1957

Card 2/2

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205520020-5"

BLOKH, A.Sh.

Synthesis with a minmum number of contacts. Dokl. AN BSSR 4 no. 11:447-449 N '60. (MIRA 13:12)

1. Institut mashinovedeniya AN BSSR. Predstavleno akademikom AN BSSR N.P. Yeruginym.
(Telephone)

28.2000 1013, 1031, 1024

86249
S/103/60/021/011/005/014
B019/B067

AUTHOR: Blokh, A. Sh. (Minsk)

TITLE: Equivalent Transformations of Series Machines

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 11, pp. 1490 - 1496

TEXT: The author defines two series machines A and B as being equivalent, if, instead of machine A also machine B and vice versa can be used in any experiment. The passage from A to B is called transformation; in the relation $A = \alpha B$, α is the transformation operator. Hence the problem is to find that series machine which, with the minimum number of states q, which may be renumerated by means of the operator α, satisfies the necessary conditions. Some elementary transformations are discussed. They can, however, not be generally applied. This is dealt with in another paper. If the experiments $q_1\mathcal{L}$ and $q_2\mathcal{L}$ are equal, q_1 and q_2 are called equivalent states with respect to the experiment $\mathcal{L}$. If q_1 and q_2 are equivalent for any experiment $\mathcal{L}$, q_1 and q_2 are equivalent states and are designated

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Equivalent Transformations of Series Machines S/103/60/021/011/005/014
B019/B067

by $q_1 \sim q_2$. These states may be well distinguished in the experiments. The number of states may be divided into classes of equivalent states; it is briefly demonstrated that the function $s = f_1(q)$ of a class is periodic. s are the initial values, q the states. It is shown that the annihilation of a state causes the annihilation of all preceding states. In a more exact formulation the subnumber R of the states of the series machine is called regular, if with $q \in R$ all preceding q also belong to R. Thus, the series machine is transformed into an equivalent machine by the annihilation of a regular subnumber. The states $q_1, q_2, .., q_r$ are called similar, if the existence of r equivalent experiments follows from the existence of an experiment $\mathfrak{L} q_i$ $\mathfrak{L} q_\nu$ ($\nu = 1, 2, \ldots, r$). The theorem is proved that if $q_1, q_2, .., q_r$ are similar states, A is transformed into an equivalent B by any permutation of these states. For B $q_1, q_2, \ldots, q_r$ remain similar. That machine is then designated as being the most simple one, which has an experiment for each initial state differing from that

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Equivalent Transformations of Series Machines S/103/60/021/011/005/014
B019/B067

of other initial states. The determination of equivalent transformations is dealt with in the last chapter. Some structural properties of series machines are determined, and the annihilation of regular subnumbers and renumeration are dealt with. There are 5 figures, 1 table, and 3 Soviet references.

SUBMITTED: May 7, 1960

Card 3/3

35331
S/194/62/000/001/003/066
D201/D305

16.6800 (1250, 1327, 1329)

AUTHOR: Blokh, A. Sh.

TITLE: The canonical method of electronic circuit synthesis

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-1-10 1 (Sb. tr. In-t mashinoved. i avtomatiz AN BSSR, 1961, no1, 133-137)

TEXT: The large memory volume and fast operation of computers make it possible to synthesize circuits with a large number of receiving elements and to sort them out so as to obtain an optimum circuit. The use of computers for the purpose of synthesis offers reasonable prospects and does not necessitate the design of any special machines. A new method of synthesis, called the canonical method, is given. A logic program, applicable to analysis of circuits with any number of receiving elements, is given. It is shown how an operating program has been designed from a logic one at the Computer Center of the AS BSSR. A solution for a switching circuit with eight receiving elements has been obtained on a 'Ural' computer. The com-

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The canonical method ...

puter 'Ural' chose a minimum circuit with seven elements. Application of the canonical method to the synthesis of electronic circuits is given. The mathematical problem is set in the following manner. A Boolean function of n variables $y = f(x_1,\ldots,x_n)$ is set. It is required to design a functional circuit in which the output voltage is the function $f(x_1,\ldots x_n)$ of input voltages $x_1,\ldots,x_n$. The circuit is designed in the shape of series connection of n blocs. The voltage x_ν and output voltages of the $(\nu - 1)$-th bloc are applied to the input of the ν-th bloc. The output voltages of the ν-th bloc are applied to the $(\nu + 1)$-th bloc. The mathematical description of such a design reduces to introducing such n subsidary single-valued functions $\varphi_\nu(x_\nu, r_{\nu-1})$ that $r_{n-1} = \varphi_{n-1}(x_{n-1}, r_{n-2})$, $y = \varphi_n(x_n, r_{n-1})$, where r_ν are whole-number variables. The method for the case is given when as the basic operators are represented by the operator $P_2(a, b) = a + b$, realized by a pentode and the operator $P_0(a, b) = ab$, realized at a common anode resistance.

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The canonical method ...

The method of graphical determination of the system function from the given Boolean function $y = f(x_1,...,x_n)$ is given. The following example is considered. The input voltages x_1, x_2, x_3, x_4 represent a binary number $\rho = x_4,x_3,x_2,x_1$. The design of a circuit is required, in which a low output voltage would be at ρ equal to 0, 1, 2, 3 or 4 and a high output voltage would exist at ρ equal 5, 6, 7, 8 or 9. A canonical table is reproduced. It is shown that the same synthesis applies in the case of k Boolean functions. 3 figures. 1 reference. [Abstracter's note: Complete translation.]

Card 3/3

35330
S/194/62/000/001/002/066
D201/D305

16,6800 (1250, 1327, 1329)

AUTHORS: Blokh, A. Sh. and Peshes, L. Ya.

TITLE: A logic program for the synthesis of switching circuits

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-1- 9 ch (Sb. tr. In-t mashinoved. i avtomatiz. AN BSSR, 1961, no. 1, 141-146)

TEXT: A logic program for the canonical method of synthesis of switching systems having a minimum number of contacts, is given. The Boolean function of n variables is given in the form of an empty set of values $(\alpha_0, \alpha_1, \ldots\ldots, \alpha_{2^n-1})$, where $\alpha_i = 0, 1$; $i = 0, 1 \ldots, 2^n-1$ and a null transposition $(\beta_1\ \beta_2, \ldots\ldots, \beta_n)$; $(\beta_i = 1,2,\ldots n$; $\beta_i \neq \beta_j$ for $i \neq j$; $i,j = 1,2,\ldots\ldots,n)$, determining the order of sequence of variables $x_1, x_2, \ldots\ldots, x_n$. The operator of synthesis A is considered. The i-th set $(\alpha_0, \alpha_1, \ldots\ldots, \alpha_{2^n-1})$ is

Card 1/3

A logic program for ...

split from left to right into pairs. To every pair a number λ_1 is made to correspond such that $\lambda_1 = \begin{cases} 0, & \text{if the pair is } (0,0) \\ 1, & \text{if the pair is } (1,1) \end{cases}$. All λ_1 constitute an orderly set in accordance with the order of pair sequence. Depending on the existence of pairs, numbers δ_1 are determined. The set λ_1 is again split into pairs, with the corresponding number λ_2 and numbers δ_2, for the unregistered pairs are found again (the λ_2 set is processed analogously and numbers λ_3 and δ_3 determined, and so on). Having found λ_n and δ_n the sum $\sum_{i=1}^{n} \delta_1 = m_i$ is determined. The minimum contact system is chosen by using the operationsal transpositions. By applying the operators consecutively to the original transposition $(\beta_1, \beta_2, \ldots \beta_n)$ all

Card 2/3

A logic program for ...

S/194/62/000/001/002/066
D201/D305

n! transpositions are obtained. For finding the set, the operators of set transpositions are applied. In order to obtain all possible transpositions and sets the operators are applied consecutively to the original set and transposition. The comparison operator is used for choosing a set and the corresponding transposition (with a minimum number of elements). By applying the operators consecutively to the original set and transposition, the minimum circuit may be choosen for all possible element transpositions. It is shown that a full scale calculation for a large number of variables takes considerable operating machine time. This was the reason for setting up the program for partial excess only. The logic program of the above partial excess satisfying the condition $1 < \log_2 n < 4$, is given. 1 reference. [Abstracter's note: Complete translation.]

Card 3/3

37346
S/194/62/000/002/021/066
D230/D301

16.8000

AUTHOR: Blokh, A. Sh.

TITLE: Synthesis of multiswitching circuits

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 3, 1962, abstract 3-2-141n (Sb. tr. In-t mashinoved. i avtomatiz. AN BSSR, 1961, no. 1, 147-151)

TEXT: Describes a method of synthesis of multiswitching circuits based on"experiments": a set of sequential values of input $\vec{X}$ and output Y-vectors. Circuit synthesis is performed in two stages: 1) The experiments are represented as a tree of k-loops (k - max. length of experiments) with terms $\vec{Y}$ and $\vec{Z}$ ascribed to junction points. Values $\vec{Z}$ are determined sequentially, starting from k-th loop with post-inversion of Z-groups so that the initial condition becomes zero. 2) All unequal groups are isolated from the tree (junction M with outgoing α-branches to α-junctions with ascribed

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Synthesis of multiswitching ...

terms $\vec{Z}$ and $\vec{Y}$). For each junction of groups there are two numbers:

$$N = X + 2^{n}Y + 2^{n+m}Z; \quad K = Y^{1} + 2^{m}Z'$$

where Z, Y and Z', Y' - terms written in the vertex M of the group and in the following junction M'; the input X - term corresponding to junction M'. The design of the circuit is according to the method described by A. Sh. Blokh (see "Sb. tr. In-ta mashinoved. i avtomatiz. AN BSSR", 1961, no. 1, 132) as a contact type (1, m + p) = poles according to output number $Y_1, \ldots Y_m$, $Z_1, \ldots Z_p$. 4 references. [Abstracter's note: Complete translation.]

Card 2/2

26773
S/103[illegible]61/022/006/008/014
D229/D304

16.8000 (1132, 1068)

AUTHOR: Blokh, A.Sh. (Minsk)

TITLE: A canonical method of synthesis of switching circuits

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 6, 1961, 756 - 764

TEXT: The canonical method for electron-tube circuits is described by the author in his previous article (Ref. 1: Kanonicheskiy metod sinteza elektronnykh skhem. Sb. Trudov instituta mashinovedeniya i avtomatizatzii AN BSSR. No. 1, 1960). The basic concept is that of the canonical table of a Boolean function; it permits the method of universal networks, that of cascades, V.N. Roginskiy's graphical method (Ref. 3: Elementy strukturnogo sinteza releynykh skhem upravleniya (Elements of Structural Synthesis of Relay Control Circuits), Izd-vo AN SSSR, 1959) and O.B. Lupanov's method of design of a two-terminal network (Ref. 4: Ob odnom metode sinteza skhem, Radiofizika, vol. 1, 1958) are to be treated in the same

Card 1/4

A canonical method of ...

way. The canonical table for a Boolean function $y = f(x_1, x_2, \ldots x_n)$ is triangular and consists of $(n + 1)$ rows. The first row contains 2^n numbers, the last 1 number. The first row is determined as follows: Each point of the row is given an ordinal number expressed in the binary system, from 0 to 2^{n-1}; at the point with the number $N = \alpha_n + 2\alpha_{n-1} + \ldots + 2^{n-1}\alpha_n$, the value of y for $x_i = \alpha_i$ is written. [Abstractor's note: The numbers of the points are not written]. If a row is already constructed it is divided into pairs and a number c is written below each pair in the next row, different and equal numbers c corresponding to different and equal pairs (a, b) respectively. If a pair consists of two equal numbers a, then c = a. The two-terminal network which corresponds to a canonical table with n + 1 rows consists of n units r_k connected in series, each unit containing the terminals of only one relay X_k. The numbers of the row no. $(k - 1)$ are realized as inputs of

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A canonical method of ...

r_k; those of the row No. k as outputs of $\bar{r}_k$. [Abstractor's note: Rows are counted from below]. To obtain r_k the number c corresponding to the pair (a, b) must be connected with the number (terminal) a by a contact x_k and with b by $\bar{x}_k$. If a = b (i.e. c = a) the number is connected with the numbers a in a short circuit. If a (or b) = 0 the number a (or b) is not connected with c. To obtain the outputs of r_k equal numbers must be joined together into one output. If any states are not used in the table the function y should be additionally determined in such a way that the number of different numbers in the table is as small as possible. The author gives one of the possible methods of doing this. Interchanges of the arguments x_i are considered. The synthesis of (p, 1) - terminal networks is described (the table has in this case $p2^n$ numbers in the first row and p numbers in the last, the values of p Boolean functions being written in the first row). The method of establishing the canonical table for the case of an auxiliary argument is

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A canonical method of ...

described. Extension of the table (it being represented by several tables such that the Boolean sum of their top rows is equal to the top row of the former) of a special type (leading to the method of design proposed by Lupanov) is discussed. 4 examples for different sections are given. An appendix contains mathematical justification of the canonical method, and the deduction of formulae of the minimum number of contacts for n arguments, where $n \to \infty$ (for a network with (p, 1) terminals it is

$$L_{\sigma}(p, n) < \frac{p2^{n+2}}{n + \log_2 p} (1 + \varepsilon) \quad (\varepsilon \to 0).$$

There are 5 figures and 4 Soviet-bloc references.

SUBMITTED: November 17, 1960

Card 4/4

HLOKH, A. Sh.

"Canonical method for design of switching circuits"

report submitted for the Intl. Symposium on Relay Systems and Finite Automata Theory (IFAC), Moscow, 24 Sep-2 Oct 1962.

BLOKH, Abram Shlemovich; NEVEROV, Georgiy Stepanovich; VEREVKINA, N.M., red.; MORGUNOVA, G.M., tekhn. red.

[Solution of inequalities] Reshenie neravenstv. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1962. 41 p. (MIRA 15:5)
(Inequalities (Mathematics))

BLOKH, A.Sh. (Minsk)

Concerning a canonical method for the synthesis of switching circuits. Avtom.i telem. 23 no.4:503-508 Ap '62. (MIRA 15:4)
(Electric relays) (Switching theory)

13,2900

43182
S/103/62/023/012/008/013
D201/D308

AUTHOR: Blokh, A. Sh. (Minsk)

TITLE: The reliability of switching circuits

PERIODICAL: Avtomatika i telemekhanika, v.23, no. 12, 1962, 1662 - 1668

TEXT: The author shows that the expression determining the reliability of a complex system as the product of the respective probabilities of its component parts cannot be applied to switching systems. The analysis of the dynamic characteristics of switching circuits carried out by the author shows that the use of the canonical method of synthesis allows a much easier evaluation of reliability from the canonical table. This is because it is not necessary, for a given state of the relay, to calculate the probabilities of all possible 2^M contact positions. It is sufficient to calculate the probabilities of formation of closed circuits corresponding to a complete system of non-compatible operations. There are 2 figures and 2 tables.

Card 1/2

S/103/62/023/012/008/013
D201/D308

The reliability ...

SUBMITTED: March 19, 1962

Card 2/2

GORANSKIY, Georgiy Konstantinovich; BLOKH, A.Sh., kand. fiziko-matem. nauk, red.; BEL'ZATSKAYA, L., red. izd-va; SIDERKO, N., tekhn. red.

[Theory of the automation of engineering work; using algorithms in designing machine tools]K teorii avtomatizatsii inzhenernogo truda; algoritmizatsiia proektirovaniia metallorezhushchikh stankov. Minsk, Izd-vo Akad. nauk BSSR, 1962. 214 p. (MIRA 16:3)
(Machine tools--Design and construction) (Algorism)

BLOKH, A.Sh.

Canonical method of the synthesis of electronic circuits. Sbor. trud.Inst.mash.i avtom.AN BSSR no.1:133-137 '61. (MIRA 16:5)
(Electronic circuits)

BLOKH, A.Sh.; PESHES, L.Ya.

Logical program for the synthesis of commutation circuits. Sbor. trud.Inst.mash.i avtom.AN BSSR no.1:141-146 '61. (MIRA 16:5)
(Electronic circuits)

BLOKH, A.Sh.

Synthesis of multiple-cadence circuits. Sbor.trud.Inst.mash.i avtom.AN BSSR no.1:147-151 '61. (MIRA 16:5)
(Electronic circuits)

BLOKH, A.Sh. (Minsk)

Switching circuit reliability. Avtom.i telem. 23 no.12:1662-1668 D '62. (MIRA 15:12)
(Electric networks) (Switching theory) (Electric relays)

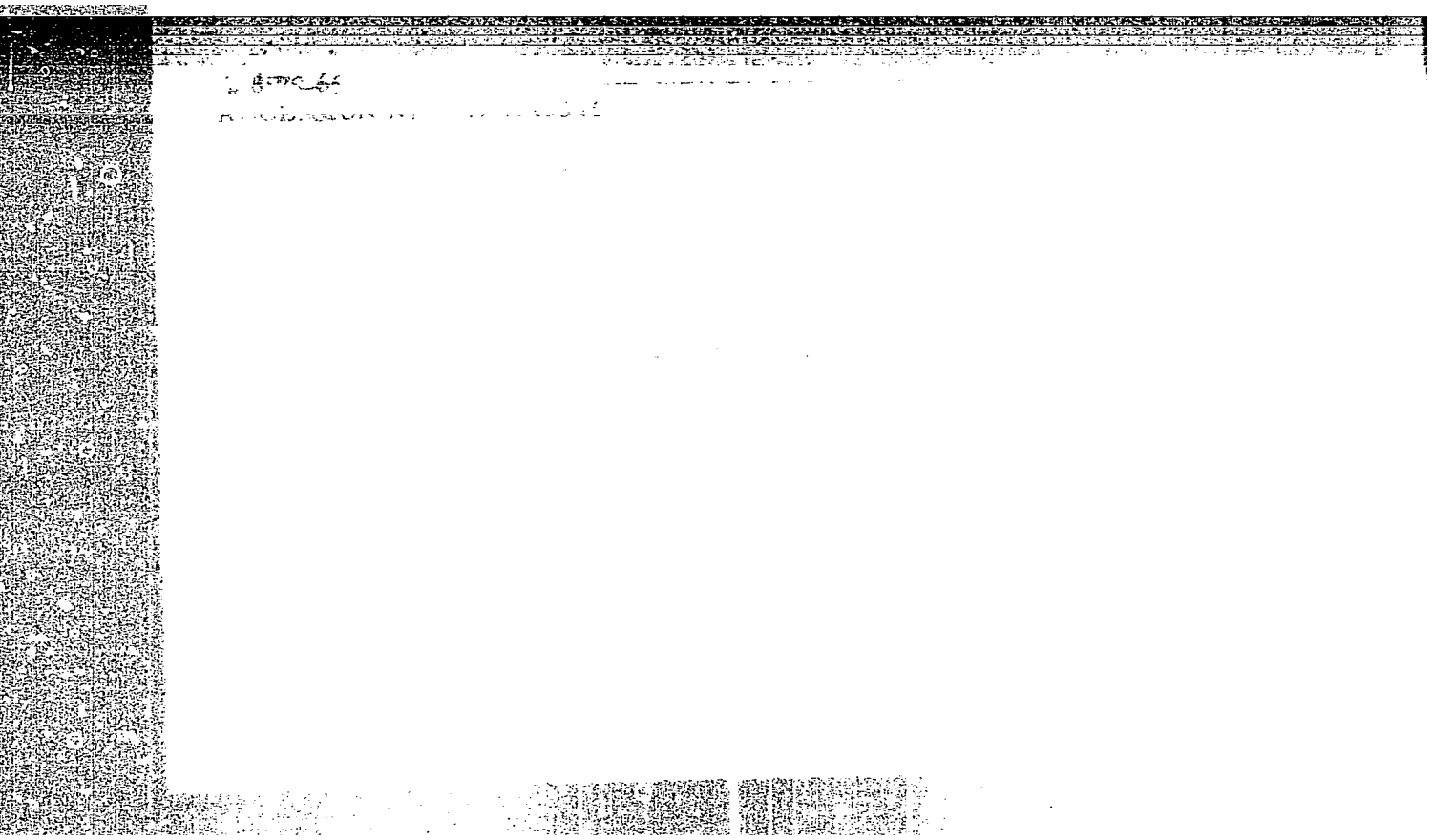
L 8579-65 EWT(d)/EED-2 Pc-4/Pq-4/Pg-4/Pk-4 IJP(c)/ASD(a)-5/RAEM(d)/
EWD(gp) BB/GG

AUTHOR: Blokh, A. Sh. (Minsk)

TITLE:

SOURCE: Avtomatika i telemekhanika, v. 25, no. 9, [illegible]

ABSTRACT: The A perceptron is defined as this [illegible]



L 13269-65 EWT(d)/T Pn-4 IJP(c)/APHD(p)/ASD(a)-5/AFTC(p)/ESD(dp)
ACCESSION NR: AP4047005 S/0250/64/008/009/0568/0571

AUTHOR: Blokh, A. Sh.; Neverov, G. S.; Kry*lov, V. I. (Academician, AN BSSR)

[illegible] method of synthesizing graphic diagrams of algorithms

SOURCE: AN BSSR, Doklady*, v. 8, no. 9, 1964, 568-571

TOPIC TAGS: algorithm, programming, decision table, decision function, logistics

ABSTRACT: The paper describes a technique for synthesizing the graphic diagrams of a [illegible] and logical operators [illegible] using numbers [illegible] the graphic diagram, which [illegible]

Card 1/2

L 13269-65

ACCESSION NR: AP4047005

ASSOCIATION: Institut matematiki i vy*chislitel'noy tekhniki AN BSSR (Institute of Mathematics and Computer Technology, AN BSSR)

SUBMITTED: 30Nov63 ENCL: 00 SUB CODE: DP, MA

NO REF SOV: 002 OTHER: 000

Card 2/2

BLOKH, A.Sh. (Minsk)

Linear perceptrons. Avtom. i telem. 25 no.9:1324-1327 S '64.
(MIRA 17:10)

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205520020-5"

BLOKH, A.Sh.; MATYUSHKOV, L.P.

Reliability of a finite automaton. Vestsi AN BSSR. Ser.fiz.-mat.nav. no.2:25-30 '65. (MIRA 19:1)

L 57491-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) Pf-4

AUTHOR: Blokh, A. Sh.

TITLE: Control machines

SOURCE: AN BSSR. Doklady, v. 9, no. 5, 1965, 292-294

TOPIC TAGS: finite automaton, control machine program, control system

ABSTRACT: Finite automata are defined by a system of equations

$$y' = f_1(x, \ldots)$$
$$z' = f_2(x, \ldots)$$

where x are input quantities, y are output quantities, and z ... only at discrete instants of time. The prime indicates the ... determined using a complete set of logical ...

L 57491-65

ACCESSION NR: AP5015776

methodology of programming is extensively discussed. Orig. art. has: 3 formulas, 2 figures and 1 table.

[illegible] Tekhnicheskoy kibernetiki AN USSR [illegible]

[illegible] ENCL: 00 [illegible]

[illegible] OTHER: 006

Card 2/2

ACC NR: AP6027308 (A) SOURCE CODE: UR/0428/66/000/002/0005/0011

34

AUTHOR: Blokh, A. Sh.; Tanayev, V. S.

ORG: none

TITLE: Multioperator processes

SOURCE: AN BSSR. Vesti. Seryya fizika-matematychnykh navuk, no. 2, 1966, 5-11

TOPIC TAGS: mathematic analysis, industrial program, machine industry, operations research

14 14

ABSTRACT: The authors examine the problem of compiling an optimum procedure schedule for processing n articles of the same type on m machines. The processing time of each article on the i^{th} machine is t_i; s identical transfer operators are used for the interoperational transfer of articles. Each of these operators simultaneously transports only one article. The time taken by an operator in moving the article being processed from the i^{th} to the $(i+1)^{th}$ machine is σ_i; and the time taken for the unloaded operator to move from the $(i+1)^{th}$ machine to the j^{th} is $_ij$. The assumption is made that no less than $\theta_i \geq 0$ of time must lapse between termination of processing a certain article by one machine until the start of processing of the next article by this machine. The processing sequence on all machines is identical and the processing of each article is continuous from instant ν to instant $\nu+t_i$; then in σ_i time units

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one operator delivers this article to the second machine, which begin to process it at time $\nu+t_i+\sigma_i$, until processing of this article is complete at time $\nu+z_m$, where $z_u = \sum_{i=1}^{u} t_i + \sum_{i=1}^{u-1} \sigma_i$.

Under these conditions calendar periods of processing are unambiguously determined by giving times $\nu_1, \nu_2, \ldots, \nu_n$ at which article processing begins (ν_j is instant of start of processing of article with ordinal number j). The theorems developed are: (1) among the periodic integral schedules of the s-operator procedure of processing articles in a system with integral parameters there is an optimum schedule, and (2) among these optimum finite schedules there is an integral periodic schedule. Orig. art. has: 9 formulas.

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ACC NR: AP7003083 SOURCE CODE: UR/0201/66/000/003/0093/0099

AUTHOR: Blokh, A. Sh.; Lades, V. I. 37

ORG: Institute of Technical Cybernetics, AN BSSR (Institut tekhnicheskoy kibernetiki AN BSSR)

TITLE: Synthesis of single-cycle systems whose behavior is described by linear inequalities

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichesknykh navuk, no. 3, 1966, 93-99

TOPIC TAGS: switching circuit, digital computer 14

ABSTRACT: The control of production processes does not always require absolute knowledge of the value of a determinant function U of parameters X, Y, ..., Z. In many cases it is sufficient to establish the membership of values of U in a certain given interval along the number axis. The usage of digital computers is sometimes limited in such cases by their insufficient speed. A method is presented in this article for synthesis of circuits which allow us to determine the membership of the values of the function U (X, Y, ..., Z) in a certain given interval of the number axis in one cycle for the case when the function is linear:

$$u = A_1X + A_2Y + \ldots + A_nZ,$$

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The method is based on the canonical method of synthesis of switching circuits. The synthesis is performed in three stages. 1) on the basis of the conditions of the problem, a canonical table is constructed for intermediate arguments; 2) the canonical table is used to find the structural circuit of the device; 3) each sector of the structural circuit is replaced by the corresponding electrical circuit. Orig. art. has: 3 figures and 23 formulas.

[JPRS: 38,836]

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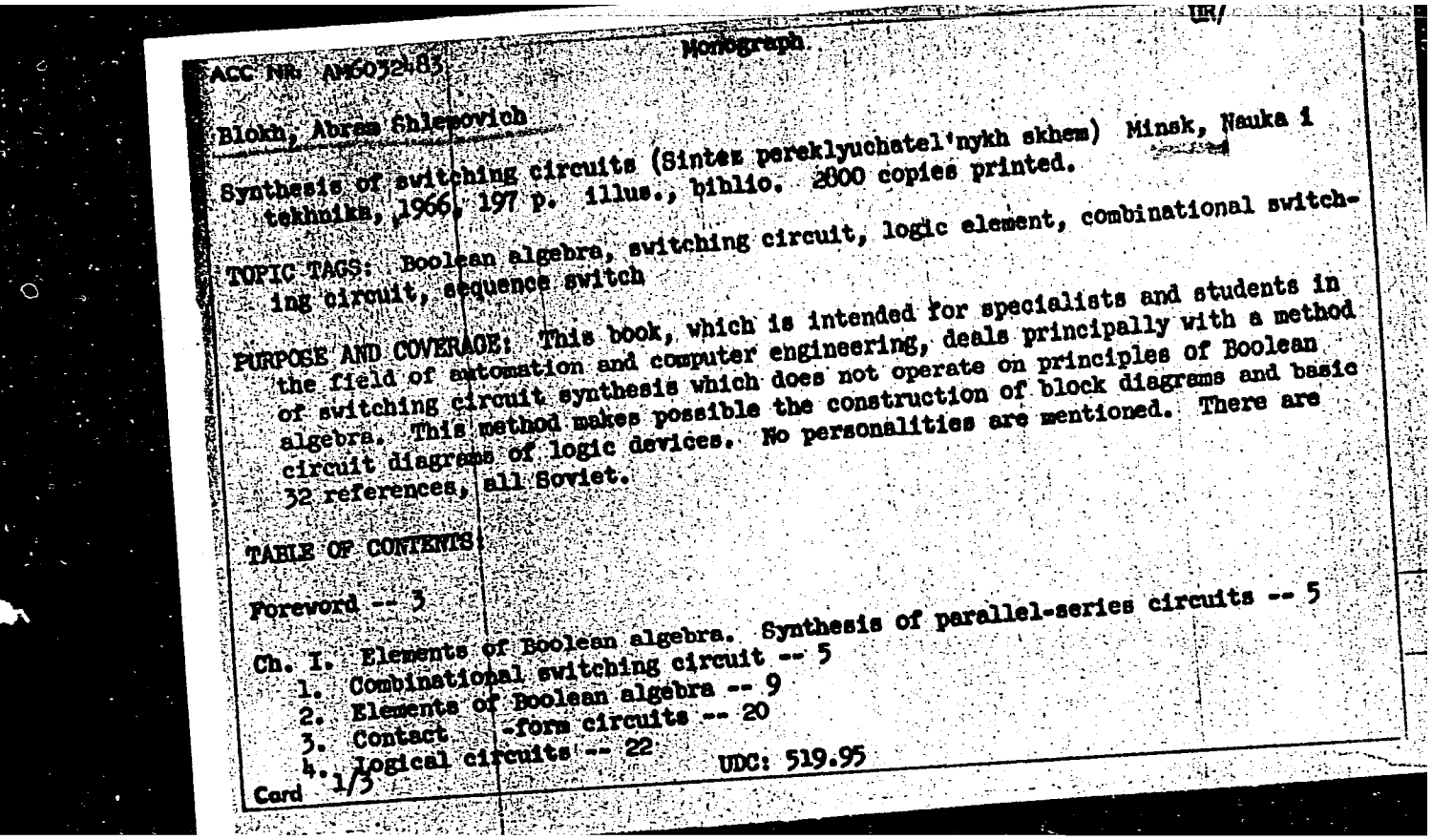

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Blokh, Abram Shlepovich

Synthesis of switching circuits (Sintez pereklyuchatel'nykh skhem) Minsk, Nauka i tekhnika, 1966, 197 p. illus., biblio. 2000 copies printed.

TOPIC TAGS: Boolean algebra, switching circuit, logic element, combinational switching circuit, sequence switch

PURPOSE AND COVERAGE: This book, which is intended for specialists and students in the field of automation and computer engineering, deals principally with a method of switching circuit synthesis which does not operate on principles of Boolean algebra. This method makes possible the construction of block diagrams and basic circuit diagrams of logic devices. No personalities are mentioned. There are 32 references, all Soviet.

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