IVANOV-SMOLENSKIY, A.V.

Widening the problems of physical modeling of electric machinery. Nauch.dokl.vys.shkoly; energ. no.4:223-235 '58. (MIRA 12:5)

1. Rekomendovana kafedroy elektricheskikh mashin Moskovskogo energeticheskogo instituta.
(Electric machinery--Models)

110-58-6-5/22

AUTHORS: Ivanov-Smolenskiy, A.V., Candidate of Technical Sciences, Gorskiy, Yu.M., Karpov, V.A. and Kovalenko, L.G., Engineers

TITLE: Determination of the Losses in Electrical Machines, Transformers and Reactors by the Retardation ("Run-down" Time) Method, Using a Phase-meter and Slip Recorder (Opredeleniya poter' v elektricheskikh mashinakh, transformatorakh i reaktorakh metodom samotormozheniya s primeneniyem fazometra i registratora skol'zheniya)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 6, pp 26 - 29 (USSR).

ABSTRACT: The article is based on work done in the physical model laboratory of the Moscow Power Institute under the guidance of Doctor of Technical Sciences Professor V.A. Venikov. Retardation testing is a very convenient method of determining the losses in machines and also in transformers and chokes associated with them where these have a low ratio of resistance to reactance. Difficulty is, however, experienced in recording the retardation curves: the usual methods are to use tachometer/time methods, or to use photo-tachometers, which are simpler and more accurate.

The Moscow Power Institute electronic phasemeter can be used in

Card 1/4

Determination of the Losses in Electrical Machines, Transformers and Reactors by the Retardation ("Run-down" Time) Method, Using a Phasemeter and Slip Recorder

making retardation tests. This instrument is based on measurement of the time interval between passages of the measured voltage through the zero value. The change in phase angle can be recorded on an oscillograph as a smooth curve or as a series of impulses, the amplitude of which is proportional to this angle. To make retardation tests, one pair of terminals of the instrument is supplied with voltage from the machine under test and the other from a source of standard frequency. The reading is practically independent of the value of the applied voltage. An oscillogram obtained during a retardation test is shown in Figure 1. The method of calculating the power loss is given. The usual tests are run, that is, without excitation, with excitation but open circuit and with excitation and short-circuited. Losses in transformers and reactors are similarly determined by making retardation tests on a generator which is used to supply the transformer. The accuracy of the results can be determined by making retardation tests when the generator is loaded with known ohmic resistances.

110-58-6-5/22

Determination of the Losses in Electrical Machines, Transformers and Reactors by the Retardation ("Run-down" Time) Method, Using a Phase-meter and Slip Recorder

The physical modelling laboratory of the Moscow Power Institute has developed a portable phasemeter based on semiconductors supplied by pocket batteries; it is illustrated in Figure 2. The instrument is intended for direct measurement of the phase angle between two voltages and to record such changes on an oscillograph. Retardation tests may be made by measuring directly the slip of the generator. Like the previously described method, this is based on comparison with a standard speed. In the laboratory, slip is determined by means of an automatic self-synchronising and re-synchronising device illustrated in Figure 3. An oscillogram of slip during a retardation test is given in Figure 4. The methods described in this article are faster and more accurate than

Card3/4 the usual methods.

110-58-6-5/22

Determination of the Losses in Electrical Machines, Transformers and Reactors by the Retardation ("Run-down" Time) Method, Using a Phasemeter and Slip Recorder

There are 4 figures.

ASSOCIATION: MEI

SUBMITTED: August 10, 1957

Card 4/4 1. Machines--Performance

AUTHORS: 1)Gorodskiy, D. A., Professor, Doctor of Technical Sciences, Volchkov, I. Ye., Engineer SOV/105-58-9-19/34
2)Ivanov-Smolenskiy, A. V., Docent, Candidate of Technical Sciences
3)Veretennikov, L. P., Docent, Candidate of Technical Sciences, Barinov, N. G., Docent, Candidate of Technical Sciences, Babushkin, M. N., Candidate of Technical Sciences Potapkin, A. I., Engineer
(Leningrad)

TITLE: Dynamic Models of Power Systems (O dinamicheskikh modelyakh energosistem)

PERIODICAL: Elektrichestvo, 1958, Nr 9, pp 80 - 82 (USSR)

ABSTRACT: Remarks concerning the paper by I.S.Bruk in Elektrichestvo, 1958, Nr 2. 1) According to the paper, the methods of using mathematical and physical models are contrary to each other. It is shown here that this is not correct and that a reasonable coordination of the two methods should rather be aimed at. 2) The author follows the opinion of M.P.Kostenko, V.A.Venikov and N.N.Shchedrin, and points out that for investigating transients in

Card 1/2

Dynamic Models of Power Systems

SOV/105-58-9-19/34

electric power systems one should combine the results gained with dynamic models with those obtained by the use of electronic digital computers. 3) The authors ask for a combined use of dynamic models and computers. They show that even in such fields where digital computers prevail, one cannot do without dynamic models. There are 3 Soviet references.

ASSOCIATION: 1)Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti (Scientific Research Institute of Electrical Industry)2) Moskovskiy energeticheskiy institut (Moscow Institute for Power Engineering)

Card 2/2

SOV/24-59-1-27/35

AUTHORS: Venikov, V.A., and Ivanov-Smolenskiy, A.V.

TITLE: Analogues to Hydraulic Turbines in Power System Analogues (Criticisms of a Paper in Izvestiya Akademii Nauk, SSSR, OTN, Nr 5, 1958 and a reply by the Author of the Original Paper) (Zamechaniya k stat'ye N.A.Kartvelishvili „O modelirovanii gidroturbinnykh blokov pri modelirovanii energeticheskikh sistem„)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Energetika i Avtomatika, 1959, Nr 1, pp 135-136(USSR)

ABSTRACT: Objection is taken to some remarks in the earlier paper about the lack of proper analogues to the purely hydraulic side of the generators in an analogue system in use at the Moscow Power Institute. It is pointed out that such analogue facilities do in fact exist and that the facilities do not extend to the purely hydraulic and mechanical aspects of the processes solely because the analogue is intended for use in studying the purely electrical aspects of the system. It is quite possible to design adequate physical analogues to the hydraulic shock (water-hammer) and other processes

Card 1/3

SOV/24-59-1-27/35

Analogues to Hydraulic Turbines in Power System Analogues (Criticisms of a Paper in Izvestiya Akademii Nauk, SSSR, OTN, 1958, Nr 5, and a reply by the Author of the Original Paper)

on the hydraulic side of the turbines and work on the theory and design of such analogues is in fact in progress though it has, as yet, not had any practical outcome (the principles of the analogues, however, are not even mentioned).

The reply by the author, N.A.Kartvelishvili, of the original paper is divided into two parts. First, a small point about the parameters of analogues is expanded and extended to the pipelines, valves and so forth of the hydraulic plant; second, the new remarks are applied to the formally complete initial equations in the original paper. It is pointed out that, though it is usual to assume that the terms relating to the purely hydraulic side have little effect on the stability, it is nowhere stated under precisely what conditions this assumption is justified. It is concluded that the continually extending use of automatic controls on all parts of power systems will soon force this issue because problems of the most economical use of water power are

Card 2/3

Analogues to Hydraulic Turbines in Power System Analogues (Criticisms of a Paper in Izvestiya Akademii Nauk, SSSR, OTN, 1958, Nr 5, and a reply by the Author of the Original Paper)

involved. It is claimed that there is no real divergence of view on the possibility of designing physical analogues to phenomena such as hydraulic shock. There is 1 Soviet Reference.

Card 3/3

S/144/60/000/01/019/019
E073/E135

AUTHORS: Ivanov-Smolenskiy, A.V., Chairman of the Section on Physical Modelling, Moscow Power Inst.
Tetel'baum, I.M., Chairman of the Section on Mathematical Modelling

TITLE: Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, Nr 1, pp 145-147 (USSR)

ABSTRACT: This conference was held at the Moscow Power Institute from October 26th to 30th, 1959. Six hundred representatives of teaching and research establishments, design organisations and industry participated, and also guests from Poland, Czechoslovakia and China. There were two sections, one relating to physical analogues and the other to mathematical analogues. In the section on physical analogues there were 52 papers and discussion contributions by representatives of 14 organisations. In the section on mathematical analogues there were 57 papers and contributions from personnel of 37 organisations. Compared to an earlier conference in

Card 1/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

1957, the range of the investigations was considerably wider. In the section on physical analogues the following problems were considered.

a) General problems of the theory of analogy and simulation as applied to problems of electrical and power engineering (papers by V.A. Venikov (MEI), I.M. Kirko (Acad.Sci. Latvian SSR), N.N. Tikhodeyev (NIIPT) and V.M. Breytman).

b) Application of physical simulation and the theory of analogy for investigating electromagnetic phenomena:

In electrical machinery - A.V. Ivanov-Smolenskiy (MEI), Ya.B. Danilevich (IEM Acad.Sci. USSR);

In magnetic hydrodynamics - I.M. Kirko, M.V. Filippov, O.A. Liyelausis, A.E. Mikel'son (Institute of Physics, Acad.Sci. Latvian SSR);

In Ferromagnetic cylinders, in magnetic fields and in electromagnets, I.M. Kirko, T.K. Kalnin', G.K. Grinberg (Institute of Physics, Acad.Sci. Latvian SSR);

Card 2/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

In magnetic amplifiers and steel-core induction coils, E.Ya. Yakubaytis and V.P. Glukhov (Institute of Power and Electrical Engineering, Acad. Sci. Latvian SSR);
In an arc and in corona, A.S. Maykopar (VNIIE) and G.N. Aleksandrov (LPI).

c) Application of physical simulation and the theory of analogy to investigating certain non-electrical phenomena in power equipment:
Mechanical phenomena - I.D. Urusov, V.F. Fedorov (IEM Acad.Sci.USSR);
Thermal and hydraulic phenomena - V.P. Anempodistov and N.N. Anempodistov (IEM Acad.Sci. USSR);

d) Application of the theory of analogy to the solution of technical and economic problems:
(V.A. Venikov, Yu.N. Astakhov (MEI) and V.G. Kadeyshvili (Acad.Sci. Georgian SSR);

Card 3/9

e) Method of calculation and design of dynamic and static analogues of a.c. and d.c. electrical systems:

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

Synchronous generators - L.A. Sukhanov and E.G. Kosharskiy (IEM Acad.Sci. USSR);
Transformers - L.A. Sukhanov, V.K. Sirotko, G.M. Smolin (IEM Acad.Sci. USSR), M.S. Libkind, V.A. Tsvetkov (ENIN Acad.Sci. USSR);
Transmission lines - V.I. Ivanov, V.K. Sirotko. G.M. Smolin (IEM Acad.Sci. USSR);
Converter equipment - A.V. Stukachev, N.S. Lazarev (VEI);
Prime movers and synchronous generators - A.A. Aslamazyan (IEG Acad.Sci. Armenian SSR), D.V. Nikitin (MEI);
f) Investigation of regimes of operation for electrical systems:
Using dynamic analogues of electrical systems - V.V. Voskresenskiy, Kh.F. Barakayev, L.V. Travin (VEI) and I.D. Urusov, V.F. Fedorov (IEM Acad.Sci. USSR);
Using mathematical analogue computers - Yu.M. Gorskiy (MEI), V.S. Tarasov, A.I. Vazhnov, Yu.V. Rakitskiy, V.V. Popov and A.N. Semenova (LPI), Ya.N. Luginskiy, M.G. Portnov (VNII), G.V. Mikhnevich, G.F. Kozlovskiy (ENIN Acad.Sci. USSR).

Card 4/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

The following problems were discussed.
a) Simulation of fields in continuous media: development and use of methods and apparatus for simulation of fields by means of electrically conducting paper. On this problem the following contributed: P.F. Fil'chakov and V.I. Panchishchin (Institute of Mathematics, Acad.Sci. USSR), N.I. Druzhinin (VIGM), M.M. Litvinov (TsIAM), V.P. Buldey (Academy for Building and Architecture, Ukr.SSR), N.I. Burlakov (Ukrgiprovodkhoz), A.A. Glushchenko (KGU), G.A. Ryazanov (Leningrad Water Institute), A.F. Fikin (VITR), A.S. Rozenkrants (IEI).
New work in the field of plotting and using "trajectographs": G.A. Tyagunov, K.A. Gorozhankin, A.A. Zhigarev; G.P. Prudkovskiy, E.N. Tsyganov (MIFI), I.M. Bleyvas (NII MRTP), Ye.Ye. Bykhovskaya, A.M. Kharchenko (Institute of Radio Engineering and Electronics).
New applications of the method of continuous media: Yu.A. Birzvalk, L.V. Nitsetskiy (Acad.Sci. Latvian SSR),

Card 5/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

E.K. Yankon (Riga Polytechnical Institute), K.S. Demirchan, V.V. Pruss-Zhukovskiy (LPI), G.Ya. Murav'yeva and V.N. Rudakov (LETI), K.P. Tepilin (NII GKS), N.I. Druzhinin (VIGM), G.A. Ryazanov (Leningrad Water Institute).

b) Application of electrical networks, computer tables and equivalent circuits.

Development of new types of electrical circuits and equipment for such circuits - P.M. Belash and G.M. Zdorov (All-Union Oil-Gas Research Institute). K.N. Seleznev and A.I. Taranin (TsKTI im. Polzunov), M.D. Golovko (TsNIIS Mintransstro), A.I. Leushin (Kuybyshev Industrial Institute), G.Ye. Pukhov (Computing Centre, Acad.Sci.USSR). New applications of networks and circuits to problems of underground hydraulics - P.M. Belash, A.L. Goflin (All-Union Oil-Gas Research Institute).

Card 6/9

Heat transmission - A.T. Lavrova and A.Ye. Surminskiy (TsIAM).

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

Theory of elasticity - V.M. Samus' (Kiyev Institute GVF), N.V. Korol'skv (VTs Acad.Sci. USSR), L.V. Nitsetskiy (Acad.Sci. Latvian SSR), A.K. Kuznetsova (NIS Gidroprovekt), A.V. Amel'yanchik (TsIAM).

Investigation of Magnetic Circuits on computing tables - A.S. Rozenkrants (Ivanov Power Institute).

c) Development of continuous operation in iteration equipment, with subsequent processing of the information for solving equations with partial derivatives: G.Ye. Pukhov (Kiyev Institute GVF), L.A. Vulis, A.T. Luk'yanov, A.A. Kostritsa, N.U. Isayev (Kazakh State University, I.M. Tetel'baum (MEI).

d) Simulation of dynamic problems: I.K. Pchelin, A.S. Golovanov (TsNIIS), I.M. Tetel'baum, N.I. Chelnokov (MEI), A.M. Ashavskiy (TsKB Ministry of Geology USSR), A.A. Khachaturov, I.K. Pchelin (Moscow Road Institute), R.V. Roytenberg (VABTV), A.Ye. Ordinovich (Physics Faculty, Moscow State University), A.T. Lavrova (TsIAM),

Card 7/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

A.V. Dabag'yan (KhPI), V.A. Bebikhov (GIFTI), O.L. Shekhter (Institute for Foundations).

e) Development of new elements for analogues of non-linear dynamic systems: Yu.L. Kozlenko, P.N. Kupriyanchik.

The accuracy of the analogues, particularly in power systems, is determined not only by the analogue circuits, but also by the accuracy of the parameters of the objects to be investigated. Therefore the participants of the conference recommended that manufacturers of electrical machinery, transformers and inductance coils should include in their documentation a guaranteed accuracy with which the individual parameters have been determined and also the conditions under which these parameters will have the guaranteed values. The individual works should develop methods of calculation of the dependence of the individual parameters of their equipment on magnetic saturation and frequency. It was emphasized that it is desirable to give, in lectures on mathematics, physics and other engineering subjects, a more accurate treatment

Card 8/9

S/144/60/000/01/019/019
E073/E135

Inter-College Conference on Applying Physical and Mathematical Analogues in Electrical Problems

of various problems, and to include information on the fundamentals of computer engineering, mathematical and physical analogues. It was also recommended that physical and mathematical analogues should be used to a greater extent in laboratory work and lectures in teaching establishments. It was pointed out that the use of analogue techniques is hindered by the lack of materials, components and assemblies such as: amplifiers, electrically conducting paper, portable resistance boxes, inductances and capacitances, complete analogues, computers. The need to organise production of these elements on an industrial scale in the USSR was emphasized. More is to be published in literature on this subject, and particularly the journals Elektrichestvo and Izvestiya VUZ Elektromekhanika will be asked to include a special section on physical and mathematical analogues.
There are no figures, tables or references.

Card 9/9

S/105/60/000/08/20/023
B012/B058

AUTHORS: Ivanov-Smolenskiy, A. V., Docent, Candidate of Technical Sciences, Tetel'baum, I. M., Docent, Candidate of Technical Sciences

TITLE: Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

PERIODICAL: Elektrichestvo, 1960, No. 8, pp. 89 - 91

TEXT: The Conference of the schools of higher learning on the application of physical simulating for electrotechnical problems and on the electrotechnical methods of mathematical simulating was held at the Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering) from October 26 to 30, 1959. This Conference served for the exchange of experiences and information in the field mentioned. It was attended by 600 delegates from the USSR as well as 12 delegates from Poland, Czechoslovakia and the Chinese People's Republic. 52 lectures were held in the section for physical simulating and 57 in the section for mathematical simulating. M. P. Kostenko opened the Conference. V. A. Venikov reported

Card 1/10

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
B012/B058

on "Analysis and Experiment, Simulating and Cybernetics in Engineering Practice". I. M. Tetel'baum reported on "Main Trends for the Development of the Methods of Mathematical Simulating". Lectures were held by the following persons: I. M. Kirko, "On the Similarity Criteria of Dimensions". T. K. Kalnin and I. M. Kirko reported on the simulating of electromagnets, maintaining the similarity of the temperature gradient. A. E. Mikel'son showed the possibility of simulating a turbulent convection caused by electromagnetic volume forces in liquid metals in the exchange of one metal by the other. O. A. Livelausis gave the results of an evaluation by means of the similarity method of experimental investigations of a flat flow of mercury through a narrow slit in the magnetic field perpendicular to the flow. I. M. Kirko and M. V. Filippov reported on the influence of the longitudinal magnetic field on the suspended layer of ferromagnetic particles in a nonconductive liquid. G. K. Grinberg reported on the similarity criteria for solid and hollow ferromagnetic cylinders magnetized in a homogenous constant field. V. M. Breytman (Leningrad) reported on the possibility of determining a similarity of phenomena occurring under changing conditions.

Card 2/10

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
B012/B058

N. N. Tikhodeyev (Nauchno-issledovatel'skiy institut postoyannogo toka (Direct Current Scientific Research Institute)) formulated the fundamental theses of physical simulating applied on problems from electronics. G. N. Aleksandrov (Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)) reported on the possibility of applying the similarity theory for the generalization of the characteristic of the total corona on split conductors of long-distance lines. A. S. Maykopar (Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenergetiki (All-Union Scientific Research Institute of Electric Power Engineering)) gave the results of the investigation of the electric arc with the aid of a physical simulator. A. V. Ivanov-Smolenskiy (Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering)) reported on the physical simulating of multipole machines, maintaining the similarity of electromagnetic fields. Ya. B. Danilevich (Institut elektromekhaniki AN SSSR (Institute of Electromechanics of the AS USSR)) reported on the use of synchronous generators of dynamic simulators for the experimental checkup of various calculation methods of the damping winding of large-sized machines with salient poles. E. A.

Card 3/10

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
B012/B058

Yakubaytis and V. P. Glukhov (Institut energetiki i elektrotekhniki AN Latviyskoy SSR (Institute of Power Engineering and Electrotechnics of the AS Latviyskaya SSR)) proved the possibility of simulating magnetic amplifiers and reactors with steel on a simulator geometrically dissimilar to the original with a core of another ferromagnetic material. I. D. Urusov and V. M. Podrez, as well as V. P. Anempodistov and N. N. Anempodistova reported on the simulating of nonelectric phenomena in electric machines. V. A. Venikov and Yu. N. Astakhov (Moscow Institute of Power Engineering), as well as V. G. Kadeyshvili (Institut energetiki AN Gruzinskoy SSR (Institute of Power Engineering of the AS Gruzinskaya SSR)) showed the possibility of applying the similarity theory for the designing of power engineering objects. E. G. Kosharskiy and L. A. Sukhanov (Institute of Electromechanics of the AS USSR) reported on the designing of dynamic simulators of high-power turbogenerators. V. K. Sirotko, G. M. Smolin, and L. A. Sukhanov gave a method for the approximate calculation of the parameters of simulation transformers, as well as the data of such types designed at the Institute of Electromechanics of the AS USSR. M. S. Libkind and V. A.

Card 4/10

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
B012/B058

Tsvetkov (Institute of Power Engineering of the AS USSR) reported on the experience in the design and operation of a long-distance line simulator for the investigation of overvoltages. A. V. Stukachev, V. V. Voskresenskiy, V. V. Khudyakov and others reported on problems from the theory of simulating and designing of d.c. long-distance line simulators and gave the results obtained on working simulators. D. V. Nikitin (Moscow Institute of Power Engineering), A. A. Aslamzyan and B. L. Buniatyan (Vodnoenergeticheskiy institut AN Armyanskoy SSR (Hydraulic Power Engineering Institute of the AS Armyanskaya SSR)) reported on the importance of the simulating of water turbines for the production of physical simulators of power networks. V. S. Tarasov, Yu. V. Rakitskiy, V. A. Mushnikov, A. I. Vazhnov, V. V. Popov, L. N. Semenova (Leningrad Polytechnic Institute), Yu. M. Gorskiy (Moscow Institute of Power Engineering), Ya. N. Luginskiy and M. G. Portnoy (All-Union Scientific Research Institute of Electric Power Engineering), G. V. Mikhnevich and G. F. Kozlovskiy (Institute of Power Engineering of the AS USSR) gave in their lectures the methods worked out by them for the use of domestic simulators, as well as the results of the investigations conducted on

Card 5/10

them. P. F. Fil'chikov and V. I. Panchishin reported on the apparatus for the simulating of fields with the aid of a conductive paper (Integrator EGDA-8/56 (EGDA-8/56) of the Institut matematiki AN USSR (Mathematical Institute of the AS UkrSSR)), M. M. Litvinov reported on the same subject (Electrointegrator ETA-2 (ETA-2) of the TsIAM). N. I. Druzhinin (VIGM), V. R. Buldey (Akademiya stroitel'stva i arkhitektury USSR (Academy of Civil Engineering and Architecture of the UkrSSR)), N. N. Burlakov (Ukrgiprovodkhoz), A. A. Glushchenko (Kiyevskiy gosudarstvennyy universitet (Kiyev State University)), G. A. Ryazanov (Leningradskiy institut vodnogo transporta (Leningrad Institute of Water Transportation)), A. S. Rozenkrants (Ivanovskiy energeticheskiy institut (Ivanovo Institute of Power Engineering)) and A. F. Fokin (VITR) reported on the use of conductive paper. G. Ya. Murav'yeva and V. N. Rudakov (Leningradskiy elektrotekhnicheskiy institut (Leningrad Electrotechnical Institute)) reported on the simulating of fields with the aid of plastic conductors. Yu. A. Birzvalk, L. V. Nitsetskiy (Institut fiziki AN Latviyskoy SSR (Institute of Physics of the AS Latviyskaya SSR)), E. K. Yankop (Rizhskiy politekhnicheskiy institut

Card 6/10

(Riga Polytechnic Institute)), K. S. Demirchyan and V. V. Pruss-Zhukovskiy (Leningrad Polytechnic Institute), N. I. Druzhinin (VIGM), G. A. Ryazanov (LIVT), K. P. Tenilin (NII GKS) reported on the use of the electrolytic bath for problems from electrodynamics, the subterranean hydraulics, etc. G. A. Tyagunov, K. A. Gorozhankin and A. A. Zhigarev (Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physics and Engineering Institute)) gave new types of "trajectographs". G. P. Prudkovskiy, G. A. Tyagunov, E. N. Tsyganov (Moscow Physics and Engineering Institute), Ye. Ye. Bykhovskaya, A. M. Kharchenko (Institut radiotekhniki i elektroniki (Institute of Radio Engineering and Electronics)) and I. M. Bleyvas (NII GKRE) reported on the automatic construction of trajectories of loaded particles. P. M. Belyash and G. M. Zdorov (Vsesoyuznyy nauchno-issledovatel'skiy neftegazovyy institut (All-Union Scientific Research Institute of Petroleum Gas)) reported on very large highly automatized networks with collection and interpretation of information. A. I. Leushin (Kuybyshevskiy industrial'nyy institut (Kuybyshev Industrial Institute)) showed the elementary ways for the setup of a network for the simulating of an arc furnace. M. D. Golovko (TsNIIS Mintransstroya), V. M. Samus' (Kiyevskiy institut GVF (Kiyev

Card 7/10

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
B012/B058

Institute GVF)), L. V. Nitsetskiy (AS Latviyskaya SSR), A. K. Kusnetsova (NIS Gidroproyekta) and A. V. Amel'yanchik (TsIAM) reported on the application of networks and chain circuits for problems of the elasticity theory. P. M. Belash, A. L. Goflin (All-Union Scientific Research Institute of Petroleum Gas) and N. V. Korol'kov (Vychislitel'nyy tsentr AN SSSR (Calculation Center of the AS USSR)) reported on problems of subterranean hydraulics. K. N. Seleznev and A. I. Taranik (TsKTI im. Polzunova (TsKTI imeni Polzunov)), A. T. Lavrova and A. Ye. Surminskiy (TsIAM) reported on problems of heat transmission. The Conference discussed the realization of new analogue installations with continuous interpretation of the information, for the solution of nonlinear boundary problems of mathematical physics in the first place. G. Ye. Pukhov (Vychislitel'nyy tsentr AN USSR (Calculation Center of the AS UkrSSR)), L. A. Vulis, A. T. Luk'yanov, A. A. Kostritsa, N. U. Isayev (Kazakhskiy gosudarstvennyy universitet (Kazakh State University)) and I. M. Tetel'baum (Moscow Institute of Power Engineering) reported on this subject. Yu. L. Kozlenko and P. N. Kupriyanchik gave the results of the development of new installations and elements of simulators of nonlinear

Card 8/10

dynamic systems. The reports by A. A. Khachaturov and I. K. Pchelin (Moskovskiy avtodorozhnyy institut (Moscow Automobile Highway Institute)), V. M. Kalekin (Khar'kovskiy institut zheleznodorozhnogo transporta (Khar'kov Institute of Railroad Transportation)), Yu. L. Favorov (KhIZhDT), A. T. Lavrova (TsIAM), A. V. Dabag'yan (Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute)), I. K. Pchelin and A. S. Golovachev (TsNIIS MPS) dealt with the solution of problems of dynamics on such installations. I. M. Tetel'baum, N. I. Chelnokov (Moscow Institute of Power Engineering), A. M. Ashavskiy (TsKB Ministerstva geologii SSSR (TsKB of the Ministry of Geology of the USSR), R. V. Roytenberg (VABTV), A. Ye. Ordanovich (Fizicheskiy fakul'tet Moskovskogo universiteta (Department of Physics of Moscow University)), V. A. Bebikhov (GIFTI) and O. L. Shekhter (Institut osnovaniy i fundamentov (Institute of Supports and Foundations)) reported on the use of setup-simulators (electronic simulators) for problems of dynamics. A. S. Rozenkrants (Ivanovo Institute of Power Engineering) reported on the simulating of magnetic circuits on a network analyzer. N. I. Chelnokov (Moscow Institute of Power Engineering) reported on the simulating of nonstabilized

Conference of the Schools of Higher Learning on Physical and Mathematical Simulating

S/105/60/000/08/20/023
BQ12/B058

internal fluid motion in open water currents.

Card 10/10

ALEKSANDROV, B.K., prof.; prinimali uchastiye: IVANOV-SMOLENSKIY, A.V., dots.; KORKHOVA, V.I., inzh.; OBOROTOVA, M.G., inzh.; KVYATKOVSKIY, V.S., prof.; ALEKSEYEV, A.Ye., prof.

Hydroelectric power stations with horizontal generating units. Gidr. stroi. 30 no.6:1-8 Je.'60. (MIRA 13:7)

1. Chlen-korrespondent AN SSSR (for Aledsandrov).
(Hydroelectric power stations)

VUL'MAN, Georgiy L'vovich; IVANOV-SMOLENSKIY, A.V., red.; BORUNOV, N.I., tekhn. red.

[Current trends in the manufacture of turbogenerators] Sovremennye tendentsii v turbogeneratorostroenii. Moskva, Gos. energ. izd-vo, 1961. 55 p. (MIRA 14:7)

(Turbogenerators)

TETEL'BAUM, I.M., red.; IVANOV-SMOLENSKIY, A.V., red.

[Papers delivered at the Inter-university Conference on the Use of Physical and Mathematical Modeling in Various Fields of Technology] Doklady Mezhvuzovskoy konferentsii po primeneniiu fizicheskogo i matematicheskogo modelirovaniia v razlichnykh otrasliakh tekhniki. 4th. Moskva, Mosk. energ. in-t. Vol.3.[Use of mathematical modeling methods in engineering studies] Primenenie metodov matematicheskogo modelirovaniia v inzhenernykh issledovaniiakh. 1962. 346 p. Vol.4.[Similarity theory and physical modeling methods as applied to electrotechnical problems] Teoriia podobiia i metody fizicheskogo modelirovaniia v primenenii k elektrotekhnicheskim zadacham. 1962. 482 p. (MIRA 16:3)

1. Mezhvuzovskaya konferentsiya po primeneniyu fizicheskogo i matematicheskogo modelirovaniya v razlichnykh otraslyakh tekhniki. 4th.
(Engineering--Mathematical models) (Dimensional analysis) (Electric engineering--Mathematical models)

BACHURIN, N.I., inzh.; VOLKOV, S.S., inzh.; GORODETSKIY, S.S., prof., doktor tekhn. nauk; GUSEV, S.A., dotsent, kand. tekhn. nauk; ZHUKHOVITSKIY, B.Ya., dots., kand. tekhn. nauk; IVANOV-SMOLENSKIY, A.V., dots., kand. tekhn. nauk; KIFER, I.I., dots., kand. tekhn.nauk; KORYTIN, A.A., starshiy prepodavatel'; KULIKOV, F.V., dots.; NIKULIN, N.V., dots., kand. tekhn. nauk; PODMAR'KOV, A.N., dots.; PRIVEZENTSEV, V.A., prof., doktor tekhn. nauk; RUMSHINSKIY, L.A., dots., kand. fiz.-mat. nauk; SOBOLEV, V.D., dots., kand. tekhn.nauk; UGLAPOVA, M.N., inzh.; TIKHOMIROV, P.M., dots., kand. tekhn. nauk; FEDOROV, A.A., dots., kand. tekhn. nauk; CHUNIKHIN, A.A., dots., kand. tekhn. nauk; CHILIKIN, M.G., prof., glav. red.; GOLOVAN, A.T., prof., red.; GRUDINSKIY, P.G., prof., red.; PETROV, G.N., prof., doktor tekhn. nauk, red.; FEDOSEYEV, A.M., prof., red.; ANTIK, I.V., inzh., red.; BORUNOV, N.I., tekhn. red.

[Electrical engineering handbook]Elektrotekhnicheskii spravochnik. 3., perer. i dop. izd. Pod obshchei red. A.T. Golovana i dr. Moskva, Gosenergoizdat. Vol.1. 1962. 732 p. (MIRA 15:10)

1. Moskovskiy energeticheskiy institut (for Golovan, Grudinskiy, Petrov, Fedoseyev, Chilikin, Antik).

(Electric engineering--Handbooks, manuals, etc.)

TELESHEV, Boris Arkad'yevich; ZHUKHOVITSKIY, B.Ya., kand. tekhn. nauk, dots., red.; IVANOV-SMOLENSKIY, A.V., kand. tekhn.nauk, dots., red.; BUL'DYAYEV, N.A., tekhn. red.

[Electrical engineering] Elektrotekhnika. Izd.2., perer. i dop. Moskva, Gosenergoizdat, 1963. 512 p. (MIRA 16:10)
(Electric engineering)

IVANOV-SMOLENSKIY, A.V., kand.tekhn.nauk

Universal mechanical characteristics of asynchronous machines taking into account the rate of change of slippage. Elektrichestvo no.1:7-12 Ja '63. (MIRA 16:2)

1. Moskovskiy energeticheskiy institut.
(Electric motors, Induction)

IVANOV-SMOLENSKIY, Aleksey Vladimirovich, kand. tekhn. nauk, dotsent;
DUL'KIN, Arkadiy Iosifovich, inzh.

Study of permeances and inductances of the windings of electrical machines and apparatus by modeling using electrically conductive paper. Izv. vys. ucheb. zav.; elektromekh. 6 no.10:1161-1171 '63.
(MIRA 17:1)

1. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta.

IVANOV-SMOLENSKIY, A.V., kand.tekhn.nauk

Simulation of the frequency characteristics of synchronous and asynchronous machines. Vest. elektroprom. 34 no.5:22-27 My '63. (MIRA 16:5)

(Electric machinery—Electromechanical analogies)

IVANOV-SMOLENSKIY, A.V. (Moskva); LAPCHENKO, P.I. (Moskva)

Determination of frequency and load characteristics of saturated asynchronous machines usir - a similitude method. Izv. AN SSSR. Energ. i transp no.2:169-181 Mr-Ap'64. (MIRA 17:5)

IVANOV-SMOLENSKIY, A.V., kand.tekhn.nauk, dotsent; DUL'KIN, A.I., inzh.

Calculation of steady-state currents in the damper winding of a synchronous machine. Elektrichestvo no.3:72-78 Mr '64. (MIRA 17:4)

1. Moskovskiy energeticheskiy institut.

ACCESSION NR: AP4044508 S/0281/64/000/004/0466/0473

AUTHOR: Ivanov-Smolenskiy, A. V.; Tamoyan, G. S.

TITLE: A basis for designing shielded asynchronous electric motors having a conducting fluid in the gap

SOURCE: AN SSSR. Izv. Energetika i transport, no. 4, 1964, 466-473

TOPIC TAGS: electric motor design, electric motor, shielded electric motor, asynchronous electric motor, gap fluid

ABSTRACT: Hermetically sealed asynchronous motors with conducting fluids in the gap are used for pumping liquid metals, electrolytes, etc. In this paper, such a motor is described and the layer of conducting fluid is treated as a finite number of hollow rotors with slip varying between 1 and s_p, the magnetic field developed being a combination of the fields due to stator, rotor and all the hollow rotors. Magnetohydronamic forces are not amenable to the usual methods of calculating electric motors but are described by the Maxwell equations for a moving medium, the Navier-Stokes equation and the equation of continuity, the system in general not being integrable. In the Kafedra elektricheskikh mashin MEI (Electric Motor Department, MEI) models were set up for studying the behavior of liquid sodium (at 150-200C) having Reynolds numbers of 10^3-10^5, and Hartmann numbers of 0-100, in

Card 1/2

ACCESSION NR: AP4044508

full and partially full gaps. The results for laminar flow and a rotating field showed that the characteristics depended on the Hartmann number and that the loss in the layer was approximately equal to the power absorbed from the stator field, in the synchronous unloaded condition. Using the method of dimensions and the principle of dynamic similarity, a universal relationship was obtained between loss in the conducting fluid and the Hartmann number. With reasonable assumptions as to flux leakage etc., a vector diagram, equivalent circuit and power-dissipation diagram were constructed and a system of equations derived. The solution of these equations yielded all the design parameters, such as flux in the gap, differential dissipation, friction due to liquid, resistance of shielding, etc. Twelve additional sources of power loss were listed and stated to contribute only 0.45% in a loaded operation. Orig. art. has: 6 figures and 18 formulas.

ASSOCIATION: none

SUBMITTED: 19Sep63

ENCL: 00

SUB CODE: EE

NO REF SOV: 007

OTHER: 000

Card 2/2

ACCESSION NR: AP4042739 S/0143/64/000/006/0032/0039

AUTHOR: Ivanov-Smolenskiy, A. V. (Docent); Tamoyan, G. S. (Engineer)

TITLE: Similitude criterion of magnetohydrodynamic phenomena and electromagnetic-power losses in a layer of conducting liquid between the rotor and stator in an induction motor

SOURCE: IVUZ. Energetika, no. 6, 1964, 32-39

TOPIC TAGS: pump, sealed pump, liquid metal pumping, conducting liquid pumping, sealed pump motor

ABSTRACT: This problem is confronted in simulating the driving motor of a completely sealed turbine-type pump handling a liquid metal or other conducting liquid. By adapting the classical Navier-Stokes fluid-motion equations to the specific conditions of the sealed-pump motor, these similitude criteria are developed:

$$s_p = \text{idem},$$

$$\Delta B \sqrt{\frac{\sigma}{\rho\nu}} = \text{idem}. \quad \text{(Hartmann's criterion, M)},$$

Card 1/2

ACCESSION NR: AP4042739

where s_ρ is the slip of the rotor boundary in the magnetic field, Δ is the gap thickness, B is the magnetic induction, σ is the electric conductivity, ρ is the liquid density, and ν is the kinematic viscosity. Scale factors for determining power losses in the motor are calculated. The above criteria were experimentally corroborated on a universal induction-motor model with a liquid metal in its airgap; tests were conducted in a wide range of M. Theoretical and experimental unit-electromagnetic-power-vs.-M curves are presented. Orig. art. has: 3 figures and 31 formulas.

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

SUBMITTED: 12Dec63

SUB CODE: EE NO REF SOV: 008 ENCL: 00 OTHER: 000

Card 2/2

L 1068-66 EWT(d)/EWT(l)/EPA(s)-2/EWT(m)/EWP(w)/EPF(n)-2/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(b)/EWA(h)/ETC(m) JD/WW/JG/EM

ACCESSION NR: AR5006808

S/0196/65/000/001/1014/1014
621.313.333.2.001.24

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 1I65

AUTHOR: Ivanov-Smolenskiy, A. V.; Tamoyan, G. S.

TITLE: Design of the induction shielded motor with a conducting liquid in its gap

CITED SOURCE: Tr. Mosk. energ. in-ta, vyp. 56, 1964, 207-220

TOPIC TAGS: induction motor, conducting liquid pump, sealed pump motor

TRANSLATION: A method of design of the shielded induction motor having a conducting liquid between its stator and rotor is substantiated. Such motors are used in the sealed pumps for liquid metals, electrolytes, or other conducting liquids. Such a motor can be regarded as a squirrel-cage type holding in its gap several hollow rotors with different velocities. The stator shield is stationary and has a slip $s = 1$. The rotor shield is stationary with respect to the rotor and has a slip $s = s_p$. The conducting-liquid layer in the gap can be regarded as an infinite number of hollow rotors whose slips continuously vary from $s = 1$ (at the stator) to $s = s_p$ (at the rotor). In such a motor, the mutual-induction field is formed as

Card 1/2

Card 2/2

IVANOV-SMOLENSKIY, Anatoliy Georgiyevich, PALEYEVA, V.K., red.

[Ways of interaction in experimental and clinical pathophysiology in the brain] Puti vzaimodeistviia eksperimental'noi i klinicheskoi patofiziologii golovnogo mozga. Moskva, Meditsina, 1965. 494 p. (MIRA 18:10)

L 6937-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/FCS(f) DJ

ACCESSION NR: AP5006239 S/0292/65/000/002/0005/0009

AUTHOR: Ivanov-Smolenskiy, A. V. (Candidate of technical sciences); Tamoyan, G. S. (Engineer)

TITLE: Experimental investigation of the phenomena transpiring in a layer of conducting liquid in an induction-motor gap

SOURCE: Elektrotekhnika, no. 2, 1965, 5-9

TOPIC TAGS: sealed rotor pump, liquid metal pump, induction motor, pump motor

ABSTRACT: An experimental outfit intended for simulating the operation of a sealed-rotor liquid-metal pump induction motor is described. The presence of the liquid metal in the stator-rotor gap greatly complicates determining the motor characteristics because the phenomena in that metal-filled gap obey the laws of magnetohydrodynamics, hardly describable by mathematical means. Hence, an experimental machine was developed which permitted a maximum liquid-sodium temperature in the gap of 200C, a working temperature of 150C, and a Reynolds number of 7000 or much higher; power-supply frequency, 20—200 cps; slip

Card 1/2

L 6937-66

ACCESSION NR: AP5006239

range, 1—0; motor speed, 500—3000 rpm; gap, 0.4—1.4 mm; flux density, 1000—7000 gauss. Four replaceable stators with different active lengths, diameters, and pole numbers were used; two of the stators had a four-speed winding, one — two-speed, and one — single-speed. Twelve rotors permitted setting any of three gaps, 0.4, 0.9, or 1.4 mm. The effect of the mutual-induction emf of the machine upon the power consumed by the liquid-sodium-gap layer was determined under synchronous no-load conditions. The emic power received by the layer was approximately proportional to the effective value of the gap flux density. It was also found that the emic-power loss in the gap depends only slightly on the working slip and on the gap thickness. Orig. art. has: 8 figures and 8 formulas.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power-Engineering Institute) 44 55

SUBMITTED: 00 ENCL: 00 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

Card 2/2

IVANOV-SMOLENSKIY, A.V. (Moskva)

Conditions of physical similitude of quasi-stationary electromagnetic fields in ferromagnetic media. Izv.AN SSSR.Energ.itransp. no.4:35-44 Jl-Ag '65.
(MIRA 18:10)

L 8898-66 EWT(1) IJP(c) GG

ACC NR: AP5026570 SOURCE CODE: UR/0208/65/005/005/0869/0876

AUTHOR: Ivanov-Smolenskiy, A. V. (Moscow); Mayyr, I. (Moscow)

ORG: none

TITLE: Physical simulation of electromagnetic fields in ferromagnetic media

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 5, 1965, 69-76

TOPIC TAGS: electromagnetic field, simulation

ABSTRACT: Similitude of magnetic phenomena in solid ferromagnetic (steel St-20) toroids at flux densities up to 20000 gausses was experimentally investigated at 50, 75, 100 cps (original) and 200, 300, 400 cps (model). The experimental data corroborated the assumption that, in simulating quasi-stationary electromagnetic fields in ferromagnetic media, the magnetic viscosity can be neglected at frequencies up to 100 kc. The similitude criteria for quasi-stationary electromagnetic fields in linear media can be extended over the case of nonlinear media if certain conditions (formulated in the article) are met. Orig. art. has: 5 figures and 7 formulas.

SUB CODE:09, 20 / SUBM DATE: 19Mar65 / ORIG REF: 008 / OTH REF: 000

Card 1/1

UDC: 538.3.001.57

DUL'KIN, A.I., inzh.; IVANOV-SMOLENSKIY, A.V., kand. tekhn. nauk, dotsent

Calculation of currents in the damper winding of a synchronous generator taking into account changes in the self-inductance of its stages due to toothed sectors of the armature. Elektrichestvo no.12:38-43 D '64. (MIRA 18:12)

1. Moskovskiy energeticheskiy institut.

DUL'KIN, A.I., inzh.; IVANOV-SHOLPENYEV, A.V., kand.tekhn.nauk

Calculation of currents in the damping winding of a synchronous machine with consideration of curvated pulsations of the synchronous field. Elektrotekhnika 36 no.11:54-57 N '65. (MIRA 18:11)

ACC NR: AP7003343 SOURCE CODE: UR/0281/66/000/006/0071/0079

AUTHOR: Ivanov-Smolenskiy, A. V. (Moscow); Tamoyan, G. S. (Moscow)

ORG: none

TITLE: Turbulent flow of a conducting fluid in an annular duct under a circular rotating magnetic field

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 6, 1966, 71-79

TOPIC TAGS: turbulent flow, conducting fluid, magnetic field, rotating magnetic field, liquid metal, magnetohydrodynamics, electromagnetic pump, nuclear reactor

ABSTRACT: Equations were derived earlier by one of the authors (see: G. S. Tamoyan. Magnetohydrodynamic phenomena in the layer of a conducting fluid between the rotor and stator of an asynchronous electric motor. Izv. AN SSSR, Energetika i Transport, 1964, No. 3) which describe the laminar flow of a conducting fluid in an annular duct with a moving boundary (in the space between the asynchronous electric motor and the rotating rotor) in a circular magnetic field. In the present article, the authors present a quantitative analysis of turbulent flow in such a duct. Similitude criteria are obtained for the loss of

 UDC: 532.517.4:621.3.013.33

IVANOV-Smolenskii, V.

Elektrifikatsiia zheleznykh dorog SSSR. [Electrification of railroads of the U. S. S. R.] (Sots. transport, 1931, no. 1-2, p. 31-43).
DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

IVANOV,-SMOLENSKIY,V.G.

Method of determining the number of railroad cars for electric haulage in strip mining. Gor. zhur. 122 no.2:27-30 F '48.
(Mine railroads) (MLRA 8:9)

IVANOV- SMOLENSKIY, V. G.

Subject : USSR/Electricity AID P - 1287

Card 1/1 Pub. 27 - 11/30

Author : Ivanov-Smolenskiy, V. G., Eng., Solikamsk

Title : Regenerative braking and weight of train

Periodical : Elektrichestvo, 1, 53-57, Ja 1955

Abstract : The author analyses the relationship between the weight of the train and the slope of the track on the energy regeneration. He studies the relation of power generation to power consumption of a given train on a certain slope when moving up and down grade, and establishes some characteristic factors and curves. Three diagrams.

Institution : None

Submitted : Ap 26, 1954

IVANOVA, A. (Sofia)

From some experiments in physics. Mat i fiz Bulg 8 no.1:18-19 Ja-F '65.

BELOTSERKOVSKIY, Grigoriy Bentsionovich; BABKIN, N.I., inzhener, retsenzent; IVANOV-TSYGANOV, A.I., kandidat tekhnicheskikh nauk, redaktor; PETROVA, I.A., izdatel'skiy redaktor; SHCHERBAKOV, P.V., tekhnicheskiy redaktor

[Antennas] Antenny. Moskva, Gos. izd-vo obor. promyshl., 1956. 495 p. (Radio--Antennas)
(MLRA 10:1)

IVANOV-TSYGANOV, A.I.

GONOROVSKIY, Iosif Semenovich; IVANOV-TSYGANOV, A.I., redaktor; LEDNEVA, N.V., tekhnicheskiy redaktor

[Fundamentals of radio engineering] Osnovy radiotekhniki. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1957. 726 p. (Radio)

(MLRA 10:4)

IVANOV-TSYGANOV, K.I

KHUKHRIKOV, Sergey Sergeyevich, kandidat tekhnicheskikh nauk; IVANOV-TSYGANOV, A.I., kandidat tekhnicheskikh nauk, redaktor; SUVOROVA, I.A., redaktor; LEBEDEVA, L.A., tekhnicheskiy redaktor.

[Approximate numerical method for calculating transition processes in linear and nonlinear systems (method of recurrent formulas)]. Priblizhennyi chislennyi metod rascheta perekhodnykh protsessov v lineinykh i nelineinykh sistemakh (metod rekurentnykh formul). Moskva, Gos. izd-vo obor. promyshl., 1957. 57 p. (Moscow. Aviatsionnyi institut. Trudy, no.78). (MLRA 10:6)
(Differential equations) (Approximate computation)

FROLKIN, Viktor Tikhonovich; IVANOV-TSYGANOV, A.I., kand.tekhn.nauk, red.; ANIKINA, M.S., izdat.red.; ROZHIN, V.P., tekhn.red.

[Indicator devices; abstracts of lectures] Indikatornye ustroistva; konspekt lektsii. Moskva, Gos.izd-vo obor.promyshl. Pt.2. [Generation of pulses; principle types of two-dimensional indicators] Generirovanie impul'sov; Osnovnye tipy dvumernykh indikatorov. 1959. 203 p. (MIRA 12:5)
(Pulse techniques (Electronics)) (Oscillators, Electric)

BELOUSOV, Anatoliy Prokof'yevich; IVANOV-TSYGANOV, A.I., kand.tekhn.nauk, red.; ANIKINA, M.S., izdat.red.; ORESHKINA, V.I., tekhn.red.

[Calculation of the noise coefficient of radio receivers] Raschet koeffitsienta shuma radiopriemnikov. Moskva, Gos.izd-vo obor. promyshl., 1959. 135 p. (MIRA 12:12)
(Noise) (Radio--Receivers and reception)

LEYBMAN, Moisey Yefimovich; FROLKIN, V.G., kand.tekhn.nauk, retsenzent; KHRISANOV, Ye.L., inzh., retsenzent; IVANOV-TSYGANOV, A.I., kand. tekhn.nauk, red.; MOROZOVA, P.B., izdat.red.; PUKHLIKOVA, N.A., tekhn.red.

[Pulse techniques] Impul'snaia tekhnika. Moskva, Gos.nauchno-tekhn.izd-vo Oborongiz, 1960. 206 p. (MIRA 13:10)
(Pulse techniques (Electronics))

STRAUSOV, Boris Georgiyevich; IKONNIKOV, S.N., kand. tekhn. nauk, retsenzent; MILYAYEV, N.A., inzh., retsenzent; IVANOV-TSYGANOV, A.I., red.; MARTEM'YANOVA, V.A., red.; BARANOVSKAYA, K.P., tekhn. red.

[Measurements in electrical and radio engineering] Elektricheskie i radiotekhnicheskie izmereniia. Moskva, Mosk. aviatsionnyi in-t, No.1. 1962. 69 p. (MIRA 16:10)
(Electric measurements) (Radio measurements)

BELOTSERKOVSKIY, Grigoriy Bentsionovich; BABKIN, N.I., inzh., retsenzent; ZHDANOV, V.K., inzh., retsenzent; KALANTAROV, M.N., inzh., retsenzent; TELEZHKO, M.I., inzh., retsenzent; FAKTOROVICH, M.D., inzh., retsenzent; FEDOTOV, M.D., inzh., retsenzent; SAMOYLOV, G.V., inzh., red.; IVANOV-TSYGANOV, A.I., kand. tekhn. nauk, red.; BOGOMOLOVA, M.F., red. izd-va; ROZHIN, V.P., tekhn. red.

[Antennas]Antenny. Izd.2., perer. i dop. Moskva, Oborongiz, 1962. 491 p. (MIRA 16:2)
(Antennas (Electronics))

KAGANOVICH, Naum Aronovich; KUZNETSOV, V.A., dotsent, kand. tekhn. nauk, retsenzent; IVANOV-TSYGANOV, A.I., kand. tekhn.nauk, red.; BOGOMOLOVA, M.F., red. izd-va; PUKHLIKOVA, N.A., tekhn. red.

[Radio equipment of airplanes]Radiooborudovanie samoletov. Moskva, Oborongiz, 1962. 199 p. (MIRA 15:9)
(Airplanes--Radio equipment)

ACC NR: AM6008485 MONOGRAPH UR/

Ivanov-YEsipovich, Nikita Konstantinovich

Physicochemical principles of the manufacture of radio electronic equipment. (Fiziko-khimicheskiye osnovy proizvodstva radioelektronnoy apparatury) Moscow, Izd-vo "Vysshaya shkola", 1965. 194 p. illus., biblio. Textbook for students at radio engineering institutes and faculties. 11,000 copies printed.

TOPIC TAGS: printed circuit, microminiaturization, integrated circuit, semiconducting material, semiconducting polymer, miniature electric equipment, radio equipment, thin film circuit

PURPOSE AND COVERAGE: This textbook has been approved by the Ministry of Higher and Secondary Special Education, USSR, for radioengineering students in schools of higher learning. It may also be useful to specialists in this field. The book is based on the course titled "Radio equipment technology" which is included in the required curriculum of these schools. The book was methodically planned by the author in the course of his work in institutions of higher learning and in industry. Considerable attention is given to integrated microcircuitry as the most promising prospect in radioelectronic development. Ch. IV. was written jointely by the author and L. V. Al'tman. The participation of the following is acknowledged: F. Y. Yevteyev, A. A. Drugov, M.G. Kanazeyeva, and N. T. Volokobinskaya. There are 81 references: 51 Soviet and 31 non-Soviet.

Card 1/3

ACC NR: AM6008485

TABLE OF CONTENTS [Abridged]:

Card 2/3

ACC NR: AM6008485

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619210019-2"

SUB CODE: 09, 11 / SUBM DATE: 29May65 / ORIG REF: 051 / OTH REF: 030

Card 3/3

INOZEMTSEV, D.; VLASOVA, A., starshiy inzh.; SIDORENKO, I.; IVANOVA, A., oblitsovshchitsa

School of progressive practices. Stroitel' no.1:27-28 Ja '61. (MIRA 14:2)

1. Nachal'nik uchastka SSMU-29 tresta Sochispetsstroy (for Inozemtsev). 2. Proizvodstvenno-tekhnicheskiy otdel tresta Sukhstroy (Arzamas) (for Vlasova). 3. Brigadir shtukaturov SMU-35 tresta BelGESstroy (for Sidorenko). 4. SSMU-3 tresta Krasnodarstroy (for Ivanova).
(Building—Technological innovations)

IVANOVA, A.

SURNAME, Given Names

Country: Bulgaria

Academic Degrees: not given

Affiliation: not given

Source: Sofia, Matematika i Fizika, Vol IV, No 5, Sep/Oct 1961, pp 52-54

Data: "Annual Review of the Material in Physics in the Ninth Grade."

GPO 901643

IVANOVA, A. (Sofiia)

Repetition of the theme "Magnetic Field and Electromagnetic Induction" in the 10th class. Mat i fiz Bulg 5 no.4:41-42 Jl-Ag '62.

ALEKSEYEV, P.; IVANOVA, A., red.; PYLAYEVA, A., red.; TIKHONOVA, Ye., red.; BALLOD, A., tekhn. red.; FEDOTOVA, A., tekhn. red.

[Land and men] Zemlia i liudi. Moskva, Izd-vo sel'khoz. litry, zhurnalov i plakatov, 1962. 195 p. (MIRA 15:3)
(Agriculture)

DOBREV, St.; DRAGANOVA, R.; IVANOVA, A.

Tars obtained through the pyrolysis of Ailantus glandulosa. Khim i industriia 34 no.4:140-143 '62.

1. Chlen na Redaktsionnata kolegiia, "Khimiia i industriia" (for Dobrev).

IVANOVA, A.

Active immunization against infectious hepatitis. J.Csapo and others (from "Orvosi Hetilap," 30, 1960). Zdrav. Bel. 7 no.5: 63 My '61. (MIRA 14:6)

(HEPATITIS, INFECTIOUS) (CSAPO, J.)

IVANOV, T.; DIMITROV, D.; IVANOVA, A., [illegible]

Estrogens and the hemogram. Akush. ginek. (Sofiia) 3 no.4: 61-65 '64

BABIY, L.T., kand. sel'khoz. nauk; KRYLOV, V.S., kand. sel'khoz. nauk; KRIKUN, A.A., Geroy Sotsialisticheskogo Truda, kand. sel'khoz. nauk; STOLIYAR, T.A., kand. sel'khoz. nauk; KAMYUKINA, K.I., kand. sel'khoz. nauk; PLAUNOV, P.A., kand. ekon. nauk; IVANOVA, A., red.; SERGEYEVA, V., red.

[The economics and organization of poultry raising] Ekonomika i organizatsiia ptitsevodstva. Moskva, Izd-vo "Kolos," 1964. 357 p. (MIRA 18:2)

USSR/Human and Animal Morphology. Nervous System. S

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69606.

Author : Ivanova, A.A.
Inst : Molotov Medical Institute
Title : Nerves of the Skin in the Early Stages of Syphilis.

Orig Pub: Tr. Molotovsk. med. in-ta., 1957, No 27, 242-244.

Abstract: No abstract.

Card : 1/1

STRAYKHER, A.P., IVANOVA, A.A. (Ufa)

Interruption of a case of auricular flutter following surgery for gastric cancer. Klin.med. 36 no.5:120-121 My '58 (MIRA 11:7)
(AURICULAR FLUTTER, case reports,
interruption after surg. of gastric cancer (Rus))
(STOMACH NEOPLASMS, surgery
postop. interruption of auric. flutter (Rus))

SOLOMATINA, O.G., kand.med.nauk; KLAYSHEVICH, G.I., kand.med.nauk; LEVINA, S.M.; IVANOVA, A.A.

Clinical aspects of rheumatic fever in children. Sov.med. 24 no.11: 3-8 N '60. (MIRA 14:3)

1. Iz revmatologicheskoy kliniki kafedry pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. G.N.Speranskiy, nauchnyy rukovoditel' kliniki - doktor meditsinskikh nauk R.L.Gamburg) TSentral'nogo instituta usovershenstvovaniya vrachey na baze klinicheskoy detskoy bol'nitsy imeni Dzerzhinskogo (glavnyy vrach A.N.Kudryasheva).
(RHEUMATIC FEVER)

IVANOVA, A.A.

Species of ixbdid ticks along the Orenburg Railroad. A.A. Ivanova. Med. paraz. i paraz. bol. 27 no.2:222 Mr-Ap '58 (MIRA 11:5)

1. Iz sanitarno-epidemiologicheskoy stantsii Orenburgskoy zheleznoy dorogi.

(ORENBURG PROVINCE--TICKS)

IVANOVA, Alla Anatol'evna, comp.

Experience and achievements of innovators in animal husbandry. Sheep breeding; bibliographical index. Moskva, Gos. izd-vo kul'turno-prosvetitel'noi lit-ry, 1954. 63 p.

IVANOVA, Alla Anatol'eva, comp.

Experience and achievements of progressive livestock breeders. Horse breeding; bibliography. Moskva, Gos. izd-vo kul'turno-prosvetitel'noi lit-ry, 1954. 90 p.

ROGOZIN, G.M.; TSYNKOV, M.Yu., kand. sel'skokhozyaystvennykh nauk; LOBANOVA, A.A., kand. sel'skokhozyaystvennykh nauk; RUMYANTSEVA, T.V.; TRUDOLYUBOV, B.A., kand. sel'skokhozyaystvennykh nauk; KUDRYAVTSEV, P.N., doktor sel'skokhozyaystvennykh nauk; LITOVCHENKO, G.R., kand. sel'skokhozyaystvennykh nauk; KOLOBOV, G.M.; IOFE, M.Sh.; KHITRINKOV, G.G., doktor sel'skokhozyaystvennykh nauk; BADIR'YAN, G.G., doktor sel'skokhozyaystvennykh nauk; IVANOVA, A.A.; MAKAROV, A.P.; ALTAYSKIY, I.P.; SPIRIDONOV, A.L., kand. sel'skokhozyaystvennykh nauk; ZHUYKOV, G.G.; BANNIKOV, N.A., red.; IVANOVA, A.N., red.; ZUBRILINA, Z.P., tekhn. red.

[Economics and organization of stockbreeding on collective farms] Ekonomika i organizatsiia zhivotnovodstva v kolkhozakh. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 550 p. (MIRA 11:7)
(Stock and stockbreeding)

COUNTRY : Bulgaria
CATEGORY :

ABS. JOUR. : RZKhim., No.22 1959 No. 80075

AUTHOR : Ivanov, T., Gerov, S., and Ivanova, A.
[illegible] : Plovdiv Institute of the Food and Flavors Industry
[illegible] : Mavrud Grapes

ORIG. PUB. : Nauchni Trudi Vissh Inst Khranit i Vkus Promishlenost-Plovdiv, 4, 99-129 (1958)

ABSTRACT : The authors present data on the mechanical composition of the grapes, the chemical composition of the wort, changes in the composition during ripening, and the effect of external factors on the quality of the grapes.

CARD: 1/1

IVANOVA, A.A.

IVANOVA, A.A.

Effect of sod plowing depth on microbiological processes in light Sierozems of the Vakhsh Valley. Dokl.AN Tadzh.SSR 2 no.4:31-38 '59. (MIRA 13:4)

1. Vakhshskaya pochvenno-meliorativnaya stantsiya Instituta pochvovedeniya AN Tadshikskoy SSR. Predstavleno akademikom AN Tadshikskoy SSR I.N.Antipovym-Karatayevym.
(Vakhsh Valley--Sierozems)

SAPGIR, I.N., doktor tekhn. nauk; IVANOVA, A.A.; GOL'DBERG, M.M.; SAKHARNOV, A.V.; LUBMAN, A.I.; SVERDLIN, M.S.; TYURIN, B.F. Prinimali uchastiye: PLIPLINA, A.I.; IOFFE, M.Ya.; LIVSHITS, M.L., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Paint materials; raw materials and intermediate products; handbook] Lakokrasochnye materialy; syr'e i poluprodukty; spravochnik. Pod red. I.N.Sapgira. Moskva, Gos.nauchno-tekhn.izd-vo khim. lit-ry, 1961. 506 p. (MIRA 14:12)
(Paint materials)

1. LYASKOVSKAYA, Yu.: IVANOVA, A.

2. USSR (600)

4. Vitamins

7. Vitamins in meat. Mias. ind. SSSR 23 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

IVANOVA, A.

Chem Abs 947
1-25-54
Foods

(3)

Protective coating for smoked products of pork; L. Lavrova, Yu. Lyaskovskaya, and A. Ivanova. *Myasnaya Ind. S.S.S.R.* 24, No. 4, 29-34(1953).—Test data are tabulated (bacteria and mold count and peroxide and acid nos. of the fat) to indicate the efficiency of various coatings for protection of smoked meats. The coatings tested were gelatin and several synthetic materials (polamide, polyvinyl acetate, polyvinyl chloride, and some cellulose deriv.). In general coated products (bacon) were more stable than controls. The gelatin coating was made from a sola. comprising gelatin 10, glycerol 3.5, benzoic acid 1, water 70.5%.

LAVROVA, L.P., kandidat tekhnicheskikh nauk; LYASKOVSKAYA, Yu.N., kandidat tekhnicheskikh nauk; SHISHKINA, N.N., kandidat tekhnicheskikh nauk; DYKLOP, V.K., kandidat biologicheskikh nauk; IVANOVA, A.A., mladshiy nauchnyy sotrudnik; KALENOVA, M.S.; DUBROVINA, L.I.; POLETAYEV, T.N.

Protective coating for sausages. Trudy VNIIMP no.7:48-67 '55. (MLRA 9:8)

(Sausages) (Protective coatings)

LYASKOVSKAYA, Yu.N., kandidat tekhnicheskikh nauk; IVANOVA, A.A., mladshiy nauchnyy sotrudnik; GRISHINA, V.I., zaveduyushchiy laboratoriyey; PUKLIN, Ya.S.

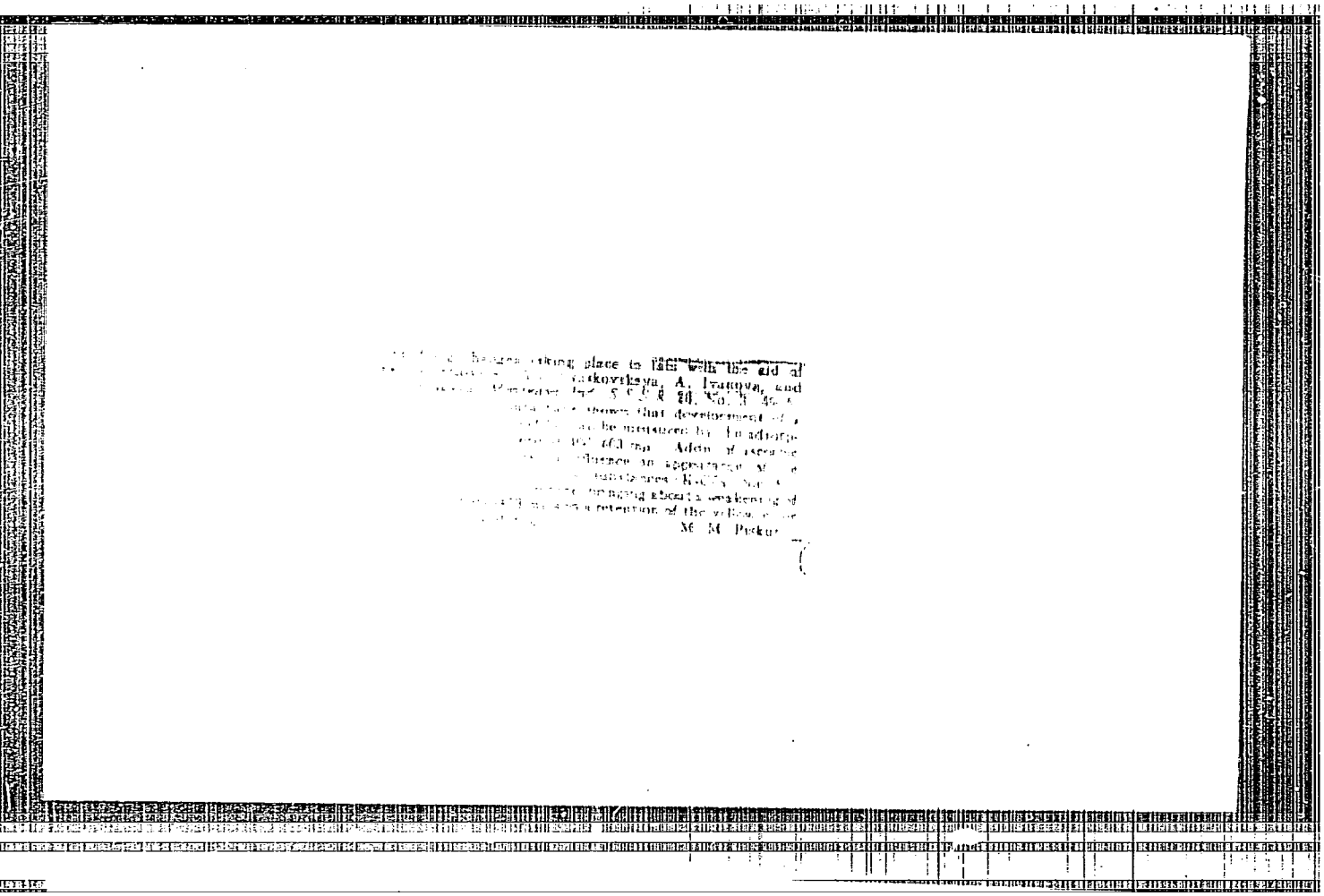
Studying changes in fats during storage. Trudy VNIIMP no.7:78-95 '55. (MLRA 9:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Lyaskovskaya, Ivanova); 2. Nachal'nik OPVK (for Puklin); 3. Kholodil'nik No. 10 (for Grishina, Puklin)

(Oils and fats, Edible)

USSR

Polyvinyl alcohol and its possible uses in the meat industry. V. I. [illegible], A. I. Ivaneva, and T. Polotskaya. *Myasnaya Ind. S.S.S.R.* 26, No. 1, 52-3 (1955).—The treating of meat products with a plastic material is discussed. Plastic materials based on polyvinyl alc., gelatin, methylcellulose, and resin glycerides are discussed. M. M. P.



USSR / Farm Animals. Cattle. Q-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54771.

Author : Mozgovaya, R.P., Solov'yev, V.I., Sadovnikova, N.V., Ivanova, A.A.

Inst : Not given.

Title : The Use of Diethylstilbestrol in the Fattening of Cattle and the Method for the Determination of Its Content in the Meat.

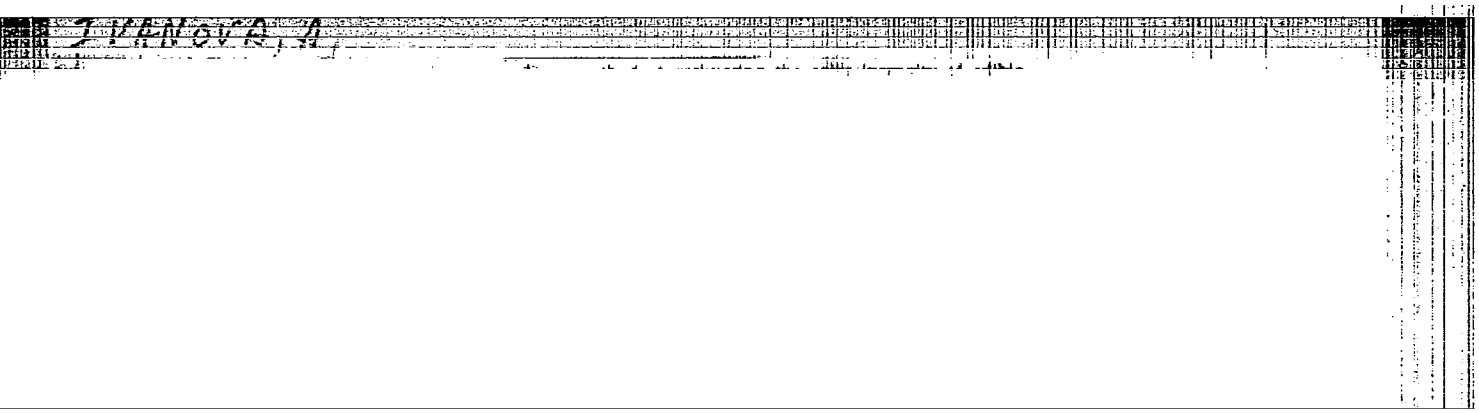
Orig Pub: Doklady VASKhNIL, 1957, 22 No 8, 8-12.

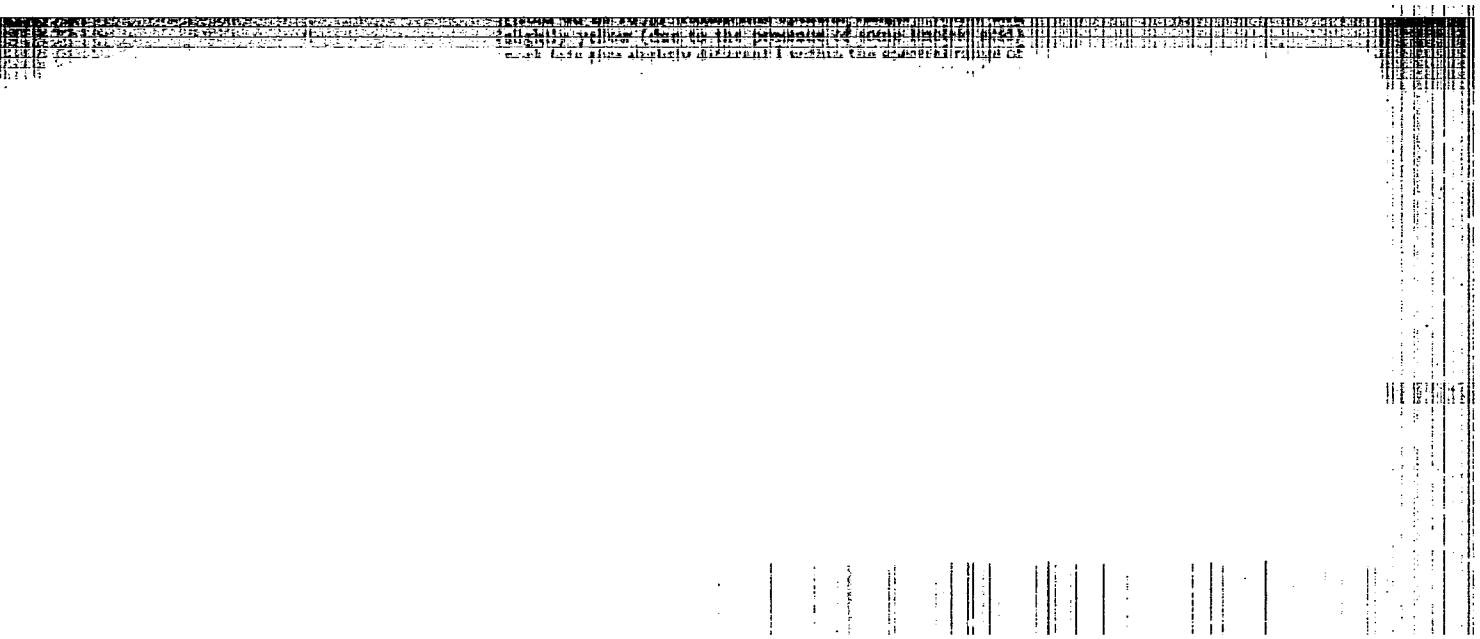
Abstract: The fattening of cattle on distillers' solubles and beet pulp, with the addition of 7-10 mg. of diethylstilbestrol daily, per head, showed that the weight gain increases by 12-16% and feed expense decreases by 11-14%; the slaughter output of meat and raw fat augments by 5%. A modified technique for the determination of the content of diethylstilbesterol in the meat is described.

Card 1/1

33

A-U Inst Meat Industry -





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KORMILITSYN, V.S.; IVANOVA, A.A.

Genetic characteristics of the Kalanguy sulfide-fluorite deposit (eastern Transbaikalia). Zap.Vses.min.ob-va 88 no.4:377-394 '59.
(MIRA 12:11)

1. Deystvitel'nyy chlen Vsesoyuznogo mineralogicheskogo obshchestva (for Kormilitsyn).

(Kalanguy region (Transbaikalia)---Fluorite)
(Kalanguy region (Transbaikalia---Sulfides)

KONOVALOV, G.S.; IVANOVA, A.A.; KOLESNIKOVA, T.Kh.; KUTSEVA, P.P.

Formation of some mineral waters in the region of the central Caucasus. Gidrokhim.mat. 34:107-113 '61. (MIRA 15:2)

1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.
(Dauti Valley--Mineral waters)
(Makhar Valley--Mineral waters)

IVANOVA, A. A.

Black gypsum of the Darasun deposit (eastern Transbaikalia). Zap. Vses. min. ob-va 91 no.4:487-489 '62. (MIRA 15:10)

(Chita Province—Gypsum)

KORMILITSYN, V. S.; IVANOVA, A. A.

Age and distribution of fluorite deposits; some critical remarks on A. T. Solov'ev's articles. Zap. Vses. min. ob-va 91 no.4: 502-506 '62. (MIRA 15:10)

(Fluorite)

IVANOVA, A.A.; ZAKHARCHENKO, A.I.

Conference on geological thermometry and barometry. Zap. Vses. min. ob-va 92 no.5:629-630 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut, Leningrad.

UNKSOV, V.A.; BOROVIKOV, P.P.; RUNDKVIST, D.V.; PAVLOVA, I.G.; ALYAVDIN, V.F.; VOLOSTNYKH, G.T.; ROZINOV, M.I.; SHCHEGLOV, A.D.; IVANOVA, A.A.; KORMILITSYN, V.S.; SHCHEGLOV, A.D.; ARTEMOV, V.R.; RYTSK, Yu.Ye.; GINZBURG, A.I.; DORTMAN, N.B.; TOPORETS, S.A.; TRUNINA, V.Ya.; YAKOVLEV, I.K.; BOGDANOVA, L.A.; SARBEYEVA, L.M.

Problems of the geology and characteristics of the distribution of mineral deposits. [Trudy] VSEGEI 92:53-89 '63. (MIRA 17:4)