"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

GEL'MAN, R.Ye.; KULESHOV, Ya.T.; SADKIN, P.I.[deceased]; SMIRNOV, A.D., inzh., red.; SEGAL, Ye.I., red.; BORUNOV, N.I., tekhn. red.

[Electrician's manual in two volumes] Spravochnik elektrotekhnika v dvukh tomakh. Pod obshchei red. A.D.Smirnova. Moskva, Gosenergoizdat. Vol.2. No.1. [High-voltage apparatus] Apparatura vysokogo napriazheniia. 1963. 104 p. (MIRA 16:11)

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

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

NIKOV, A.D., red.; BARSUKOV, F.I., red.

[Electronic devices for measuring nonelectrical quantities; contribution of radio amateurs to the national economy] Elektronnye pribory dlia izmereniia neelektricheskikh velichin; radioliubitelei - narodnomu khoziaistvu. Moskva, Izd-vo "Energiia," 1964. 85 p. (Massovaia radiobiblioteka, no.520). (MIRA 17:7)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

GEL'MAN, M.Ye., inzh.; [illegible], V.G., inzh.; MININ, F.B., inzh. red.

[Electricians manual on two volumes] Spravochnik elektrotekhnika v dvukh tomakh. Moskva, Izd-vo "Energiia." Vol.2. No.5. [Start regulating apparatus] Puskoreguliruiushchaia apparatura. 1964. 199 p. (MIRA 17:8)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ZHILIN, V.G., inzh.; Prinimali uchastiye: DUBROVSKIY, V.V.; KHETAGUROV, N.Ts.; OBOLENSKIY, P.A.; UCORTS, I.I., inzh., red.; SMIRNOV, A.D., red.

[Design of large thermal electric power plants; general problems] Proektirovanie teplovykh elektrostantsii bol'shoi moshchnosti; obshchie voprosy. Moskva, Energiia, 1964. 375 p. (MIRA 18:2)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

GEL'MAN, R.Ye.; KULESHOV, Ya.T.; SAVOST'YANOV, A.I.; SMIRNOV, A.D., inzh., red.

[Electrical engineering handbook in two volumes] Spravochnik elektrotekhnika v dvukh tomakh. Moskva, Energiia. Vol.2. No.3. 1965. 240 p. (MIRA 18:6)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

GINZBURG, Samuil Aleksandrovich; LEKHTMAN, Izrail' Yakovlevich; MALOV, Vladimir Sergeyevich; SMIRNOV, A.D., red.

[Principles of automatic and remote control] Osnovy avtomatiki i telemekhaniki. Moskva, Energiia, 1965. 511 p. (MIRA 18:3)

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L 3835-66 ARG/EWT(d)/FBD/FBO/EWT(m)/EWP(w)/EPF(c)/FA/EWP(c)/EWP(v)/T-2/EMP(k)/
LWP(h)/FCS(k)/EWA(h)/ETC(m) WW/EM/WE

AM5025577 BOOK EXPLOITATION

UR/ 104
355.9 100
A49 B+1

Aleshkov, M. N. (Candidate of Technical Sciences, Engineer-Colonel); Vyakubov, B. R. (Engineer-Colonel); Zhukov, I. I. (Professor, Doctor of Technical Sciences, General Major of the I.T.S.); Katkhanov, M. N. (Doctor of Technical Sciences, Docent Engineer-Colonel); Kukushkin, D. D. (Candidate of Technical Sciences, Colonel); Markov, O. P. (Docent, Candidate of Technical Sciences, Engineer-Lieutenant Colonel); Savin, N. V. (Engineer-Colonel); Smirnov, A. D. (Engineer-Colonel); Fomin, YU. G. (Candidate of Technical Sciences, Engineer-Colonel)

Physical principles of rocket weapons. (Fizicheskiye osnovy raketnogo orushiya) Moscow, Voyenizdat M-va obor. SSSR, 1965. 463 p. illus., biblio. 12,000 copies printed.

TOPIC TAGS: rocket, rocket flight, weapon, projected ammunition, jet engine, rocket propellant, combustion chamber, engine fuel system, rocket guidance, missile ground equipment, rocket engine test, jet propulsion

PURPOSE AND COVERAGE: The book presents the principles of the theory of flight, the physical principles of jet propulsion, describes rocket engines and fuels,

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and control and guidance systems of various types. It also describes the working principle of rockets of various types and their basic equipment, and the designs of ground equipment and the tests of rocket complexes. It also contains a classification of rocket equipment. The book is intended for officers connected with the manufacture of rocket equipment, and for students of military educational institutions. The contents of the book is based on materials of overt Soviet and foreign publications.

TABLE OF CONTENTS (abridged):

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Ch. IX. Ground equipment of various purpose rocket complexes — 385
Ch. X. Rocket and rocket complex tests — 407
Ch. XI. Rocket combat units — 427

Bibliography — 459

SUB CODE: GM, MA

SUBMITTED: 30Mar65

NO REF SOV: 035

OTHER: 042

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APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

POPOV, Viktor Stepanovich; NIKOLAYEV, Sergeyevich; ZAIRNOV, A.D., red.

[Electrical engineering] Elektrotekhnika. Moskva, Energiia, 1965. 597 p. (MIRA 18:12)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

L 01770-67 EWT(d)/EEC(k)-2/EWP(1) IJP(c) BB/GG

ACC NR: AR6031713 SOURCE CODE: UR/0372/66/000/006/V056/V056

AUTHOR: Smirnov, A. D.; Samkov, I. I.; Bushuyev, Yu. M.

59
B

TITLE: The use of the "Dnepr" computer in data processing 16C

SOURCE: Ref. zh. Kibernetika, Abs. 6V370

REF SOURCE: Sb. Upravlyayushchiye mashiny i sistemy. Vyp. 2. Kiyev, 1965, 14-23

TOPIC TAGS: data processing, electronic data processing, data processing equipment/Dnepr computer

ABSTRACT: A report is given on a case of successful use of data processing. Data to be processed is fed from several measuring instruments and printed out on the punched paper tape. The maximum input rate is 6 readings per second, the maximum quantity of information printed from one reading is 500 bits, a set of readings contains a maximum of 400 words and the time for processing the data is 10 minutes. The transfer from the printing tape to the "Dnepr" computer, as well as the feedback from the machine, is achieved by telephone communication channels at distances of 200—1000 m. The output from the computer is also transferred to

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L 41614-65 EWG(j)/EWT(m) GS
ACCESSION NR: AT5008042 S/0000/64/000/000/0162/0170

AUTHOR: Dzharak'yan, T. K.; Berlin, L. B.; Vladimirov, V. G.; Il'inskiy, D. A.; Smirnov, A. D. 20 B+1

TITLE: Some aspects of the mechanism of the protective action of aminothioles

SOURCE: Patogenez, eksperimental'naya profilaktika i terapiya luchevykh porazheniy (Pathogenesis, experimental prevention, and therapy of radiation injuries); sbornik statey. Moscow, Izd-vo Meditsina, 1964, 162-170

TOPIC TAGS: aminothiole, cystamine, radiation protection, radiation sickness 17

ABSTRACT: A study was made of the influence of one of the most effective radiation protectors from the aminothioles group--cystamine--on the mitotic activity of the epithelium of the cornea, the intestine, and tissue cultures of the spleen of white rats. The authors reject the concept that protective substances do not prevent damage to cells from radiation but only facilitate the more intensive course of restorative processes. The effect of cystamine on adrenalin action and the adrenolytic effect of cystamine were studied. The results demonstrated that the principal mechanism in the protective action of aminothioles and their disulfides is the

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ACCESSION NR: AT5008042

blocking of adrenoreactive systems. Nevertheless these facts show that in the mechanism of action of protective substances it is necessary to consider their effect not only on the primary radiation-chemical processes in the cells of radiation sensitive organs but also on the functional condition of the regulatory systems of the organism. Orig. art. has: 1 figure, 3 tables.

ASSOCIATION: none

SUBMITTED: 19Aug64 ENCL: 00 SUB CODE: LS, OC

NO REF SOV: 003 OTHER: 014

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APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D.; TALALUYEVA, A.N. (Leningrad).

Growing crystals of substances insoluble in water by the diffusion method. Khim. v shkole 13 no.3:45-46 My-Je '58. (MIRA 11:5)
(Crystallization) (Lead chloride)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D.

"Silver water." Khim.v shkole 14 no.5:49-52 S-O '59.
(MIRA 12:12)

1. Pedagogicheskiy institut, Leningrad.
(Silver) (Chemistry--Experiments)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D., dotsent; SHATUNOVA, T.V.

Planned chemistry program requires a serious review. Khim.v shkole 15 no.1:51-54 Ja-F '60. (MIRA 13:5)

1. Zav. kafedroy metodiki prepodavaniya khimii Leningradskogo pedagogicheskogo instituta imeni Gertsena (for Smirnov). 2. Zav. kafedroy khimii Leningradskogo gorodskogo instituta usovershenstvovaniya uchiteley (for Shatunova).
(Chemistry--Study and teaching)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D.

Conference of chemists specializing in teaching methods. Khim. v shkole 15 no.4:93-96 Jl-Ag '60. (MIRA 13:9)

1. Zav. kafedroy metodiki khimii pedagogicheskogo instituta imeni Gertsena.
(Chemistry—Study and teaching)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D., dots.; KROTKOV, V.V., starshiy prepodavatel'; SHAYMARDANOVA, A.Sh., assistent

"Chemistry club" by G.A.Zdanchuk. Reviewed by A.D.Smirnov, V.V.Krotkov, A.Sh.Shaimardanova. Khim. v shkole 15 no.5:88-90 S-O '60. (MIRA 13:10)

1. Pedagogicheskiy institut im. Gertsena, Leningrad (for Smirnov).
2. Kafedra khimii Mariyskogo instituta (for Krotkov, Shaymardanova).
(Chemistry—Study and teaching)
(Zdanchuk, G.A.)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D.

Flame from a glass tube. Khim. v shkole 16 no.1:61 Ja-F '61.
(MIRA 14:1)

1. Pedagogicheskiy institut im. Gertsena, Leningrad.
(Flame)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SHAPOVALENKO, Sergey Grigor'yevich; LAPITSKIY, A.V., doktor khim. nauk, prof., retsenzent; SMIRNOV, A.D., kand. khim. nauk, dots., retsenzent; SYROYEZHKIN, I.T., retsenzent; BATULINA V.V., red.; MAKHOVA, N.N., tekhn. red.

[Methodology of teaching chemistry in eight-year and secondary schools; general problems] Metodika obucheniia khimii v vos'miletnei i srednei shkole; obshchie voprosy. Posobie dlia uchitelei. Moskva, Uchpedgiz, 1963. 667 p. (MIRA 17:3)

1. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR (for Shapovalenko). 2. Uchitel' khimii sredney shkoly No.13 Kuybyshevskoy oblasti (for Syroyezhkin).

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.D.

Experiments on the diffusion of substances in solutions. Khim. v shkole 18 no.4:64-67 Jl-Ag '63. (MIRA 17:1)

1. Pedagogicheskiy institut imeni A.I. Gertsena, Leningrad.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

VERESHCHAGIN, P.V.; SMIRNOV, A.D.

Methodological heritage of V.N. Verkhovskoi. Khim. v shkole 18 no.6: 9-13 N-D '63. (MIRA 17:1)

1. Pedagogicheskiy institut imeni A.I.Gertsena, Leningrad.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ACC NR: AP6033575 SOURCE CODE: UR/0181/66/008/010/3086/3088

AUTHOR: Bobrovnikov, Yu. A.; Zverev, G. M.; Makarenko, L. V.; Smirnov, A. I.

ORG: none

TITLE: Paramagnetic resonance of Nd^{3+} ions in single-crystal oxides of yttrium and scandium

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 3086-3088

TOPIC TAGS: yttrium, scandium, oxide, neodymium, paramagnetic resonance, crystal symmetry, forbidden transition, optic spectrum, microwave spectroscopy

ABSTRACT: This is a continuation of an earlier study of the optical spectra of Nd^{3+} ions in Y_2O_3 and Sc_2O_3 (Opt. i spektro., in press) where the results were interpreted under the assumption that only one type of rhombic-symmetry center exists. In view of the fact that other results suggest the existence of two types of symmetry centers (C_2 and S_6), the authors have carried out a radiospectroscopic study of the same crystals. Paramagnetic resonance of Nd^{3+} in Y_2O_3 and Sc_2O_3 was observed at 4.2K and 14.3 GHz. The samples were oriented in such a way that the constant field remained in the (110) plane during the crystal rotation, and the alternating field was perpendicular to the constant field. An analysis of the angular dependence of the paramagnetic resonance spectrum established the existence of centers in crystalline

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ACC NR: AP6033575

fields of rhombic and trigonal symmetry, with predominant directions parallel to [110] and [111] respectively. The components of the g-factors in the Nd^{3+} spectra are calculated for both oxides and both symmetry centers. The concentrations of the two centers differ by only a factor of 2. Since the earlier investigation of the optical spectrum disclosed the existence of only rhombic-symmetry centers, this confirms the assumption that forbidden transitions have a high probability in the case of centers that have no inversion symmetry. Orig. art. has: 1 figure, 3 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 28Mar66/ ORIG REF: 002/ OTH REF: 007

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ALESHKOV, M.N., st. nauchn. sotr., kand. tekhn. nauk, inzh.-polkovnik; ZHUKOV, I.I., prof., doktor tekhn. nauk, general-mayor; KATKHANOV , M.N., doktor tekhn. nauk, dots., inzh.-polkovnik; VYSKUBOV, B.R., inzh.-polkovnik; KUKUSHKIN, D.D., kand. tekhn. nauk, polkovnik; MARKOV, O.P., dots., kand. tekhn. nauk, inzh.-podpolkovnik; SAVIN, N.V., inzh.-polkovnik; SMIRNOV, A.D., inzh.-podpolkovnik; FOMIN, Yu.G., kand. tekhn. nauk, inzh.-polkovnik; KISELEV, S.P., inzh.-polkovnik, red.

[Physical principles of rocket weapons] Fizicheskie osnovy raketnogo oruzhiia. Moskva, Voenizdat, 1965. 463 p. (MIRA 18:7)

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SMIRNOV, A.F.

SMIRNOV, A.F.

Occurrence of sulfanilamide- and synthomycin-resistant strains of dysentery pathogens. Zhur.mikrobiol.epid. i immun., supplement for 1956:11-12 '57 (MIRA 11:3)
(BACTERIA, EFFECT OF DRUGS ON) (SHIGELLA)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F.

ANUCHKIN, N.N., inzhener; GARBUZOV, Z.Ye., inzhener; SMIRNOV, A.F., inzhener.

Prospective developments in high productivity earthmoving machines. Stroi. i dor.mashinostr. 1 no.2:15-17 F '56. (MLRA 10:1)
(Earthmoving machinery)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

S/138/59/000/012/006/006

AUTHORS: Vostroknutov, Ye. G., Smirnov, A. F., Kamenskiy, B. Z.

TITLE: An Instrument for the Control of Moisture in Automobile Tread Casings

PERIODICAL: Kauchuk i Rezina, 1959, No. 12, pp. 47-49

TEXT: The moisture of the tire casings, which impedes repair work, can be determined by the electrical resistance of the casing, which decreases with an increase in the moisture of the cord. The German patent No. 936480, 1955, the design of which is based on the above-mentioned principle is discussed. It has two steel needles attached to the handle, which act as the electrodes. These needles are introduced into the casing of the tread. The functioning principle is explained. The disadvantage of the instrument is the impossibility of a quantitative evaluation of the moisture content. The Kiyevskiy shinoremontnyy zavod (Kiyev Tire Repair Plant) developed a special method using the ordinary type megohmmeter (Ref. 3) for the quantitative determination of the relationship between the electrical resistance and the moisture of the casing. The tests showed that this method could be used for detecting tires in need of drying.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

S/138/59/000/C12/006/006

An Instrument for the Control of Moisture in Automobile Tread Casings

Casings with a moisture content of 5% or more after vulcanization were shown to undergo lamination on the sides. The moisture-meter and the megohm-meter were used to determine why the lamination took place on the sides rather than in the crown of the casing. It was found that more moisture accumulated at the sides due to less heating of these parts during performance of the tire. The application of the moisture-meter and the megohm-meter showed that these instruments had also various disadvantages. The handle of the megohmmeter had to be turned manually during the measurements. Further investigations resulted in the development of a moisture-indicator for determining the moisture of the casings under repair. The instrument proved satisfactory in every respect. The principle of its design is given as being based on the change in the switch-on voltage of the neon bulbs depending on the value of the shunting resistance. The new instrument is used both for the quantitative and qualitative determination of the moisture content. Fig. 1 is the circuit diagram of the instrument, where three neon bulbs are seen to be connected. Fig. 3 is a diagram of the instrument with all its component parts. MH-6 (MN-6) neon bulbs are used. The average degree of accuracy of the instrument is 15-20%. The experimental instrument was tested at the Moskovskiy vulkanizatsionny zavod

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S/138/59/000/012/006/006

An Instrument for the Control of Moisture in Automobile Tread Casings

(Moscow Vulcanization Plant) and at the Kiyev Tire Repair Plant. As many as 45 casings of various sizes were tested and the results are given in the table. The casings with a high moisture content after vulcanization were laminated. The authors state that the principle of this instrument can be applied to designing similar instruments for moisture determination in other articles of materials, such as the ingredients of rubber mixtures, organic solvents or textiles. The circuit diagram can be changed accordingly in each case. For example, by using alternating resistance for shunting an instrument can be made with a continuous moisture-indicating scale and with only one bulb-indicator. There are 1 table, 3 figures and 4 references: 3 Soviet and 1 Polish.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific-Research Institute of the Tire Industry)

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VOSTROKNUTOV, Ye.G.; BODAK, N.M.; SMIRNOV, A.F.

Determining the moisture content of automobile tire casings with an electrical moisture meter. Kauch. i rez. 18 no.1:43-45 Ja '59. (MIRA 12:1)

1.Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Automobiles--Tires)
(Electric instruments)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

VOSTROKNUTOV, Ye.G.; SMIRNOV, A.F.

Drying of tire casings in the restoration process. Kauch.i rez. 21 no.9:34-39 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Tires, Rubber)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

DROZDOV, V.I.; SMIRNOV, A.F.

Restoration of the electric strength of thyratrons. Zhur.tekh. fiz. 31 no.8:975-981 Ag '61. (MIRA 14:8)
(Thyratrons)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F.

USSR/Physics - Ionic instruments FD-2407

Card 1/2 Pub. 153-11/21

Author : Drozdov, V. I., and Smirnov, A. F.

Title : Establishment of the controllability of ionic instruments

Periodical : Zhur. tekh. fiz. 25, 85-96, Jan 1955

Abstract : The authors consider the problem of establishing the controllability of ionic instruments with course of time after discontinuance of the current, and discuss the concepts and definitions relating to this matter. They present a certain elementary theory of the process of establishment, and describe two methods for experimentally determining the principal law characterizing the controlling properties of ionic instruments, namely the establishment of the electric stability in time. Results of their investigations are presented. They conclude: establishment of controllability of ionic instruments is a continuous process in which electric stability increases in time; the controlling properties of ionic instruments with grids are characterized by a family of curves of establishment of electrical stability; this family of curves is the most important characteristic of ionic instruments; ionic instruments with controlling grids must also possess curves of establishment of electric stability

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(so-called establishment of controllability) among the number of principal characteristics; the terms "time of establishment" and "time of ignition" are unnecessary, as the term "time of deionization". The authors thank Professor V. L. Granovskiy. Sixteen references.

Institution: --

Submitted : June 23, 1954

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SOV/124-58-7-8083
Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 111 (USSR)

AUTHOR: Smirnov, A. F.

TITLE: The Stability of Frames Having Nonuniform Struts (Ustoychivost' ram so stoykami peremennogo secheniya)

PERIODICAL: Tr. Mosk. in-ta inzh. zh.-d. transp. 1957, Nr 91, pp 4-15

ABSTRACT: A study is made of the two-dimensional problem of the elastic stability of single-story frames having one, two, and three spans. The rigidity of the web members being constant and that of the struts variable, the inertia moment I is determined by the law (with respect to the length ℓ)

$$I_x = I_o \left[1 - \left(1 - \sqrt[m]{\frac{I_\ell}{I_o}}\right) \frac{x}{\ell} \right]^m$$

A solution is given for the differential equation for the longitudinal and transverse flexure of a rod having a broad range of variation of m. Included is a number of graphs and tables for the stability factor of Euler's well-known formula which are invaluable in practical work.
I. K. Snitko

Card 1/1

1. Structures--Stability 2. Structures--Theory

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14(10) PHASE I BOOK EXPLOITATION SOV/1166

Smirnov, Anatoliy Filippovich, Corresponding Member, USSR Academy of Construction and Architecture, Professor

Ustoychivost' i kolebaniya sooruzheniy (Stability and Vibrations of Structural Elements) Moscow, Transzheldorizdat, 1958. 570 p. 2,500 copies printed.

Ed.: Aleksandrov, A.V., Candidate of Technical Sciences; Tech. Ed.: Khitrov, P.A.

PURPOSE: This book is intended for structural engineers and scientific workers.

COVERAGE: This monograph deals with problems of stability and vibrations of elastic systems which are widely used in civil engineering, especially in bridge construction. The book discusses the fundamental aspects of the theory of matrix calculation which provides a basic method for the solution of problems of stability and vibrations of structural elements. Chapter III, in particular, discusses methods of solving the secular equation, which are important for the solution of practical engineering problems. Chapter 4 gives information on interpolation theory. Use of this theory permits the solution of a number of problems which could not otherwise be solved with the neces-

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sary degree of accuracy. Many numerical examples are presented throughout the book. The author expresses his gratitude to Academician K.S. Zavriyev, Academy of Sciences of the Georgian SSR, active member of the USSR Academy of Construction and Architecture; Professor A.A. Umanskiy, Doctor of Technical Sciences; A.V. Aleksandrov, Candidate of Technical Sciences; and Engineer N.V. Smirnova for help in preparing the book. There are 198 references, of which 190 are Soviet (including one translation), 7 German, and 1 Czech.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F.

Proceedings of the West Siberian Branch. Izv. ASiA no.1:126 '60.
(MIRA 13:9)

1. Chlen-korrespondent Akakemii stroitel'stva i arkhitektury SSSR.
(Building research)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., prof.

Using an integration matrix in studying vibrations of a circular arch. Trudy MIIT no.131:5-16 '61. (MIRA 14:5)
(Arches--Vibration)
(Matrices)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., prof.

Formulas for expanding in a series the functions encountered in problems of the stability and oscillations of elastic systems. Trudy MIIT no.134:115-119 '61. (MIRA 15:5)
(Functions)
(Elastic plates and shells)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ACCESSION NR: AT4026346 S/0000/62/000/000/0082/0090

AUTHOR: Smirnov, A. F.

TITLE: High-speed multiplication circuit using semiconductor elements

SOURCE: Konferentsiya po obrabotke informatsii, mashinnomu perevodu i avtomaticheskomu chteniyu teksta. Moscow, 1961. Vy*chislitel'naya i informatsionnaya tekhnika (Information processing and computer technology); sbornik materialov konferentsii. Moscow, 1962, 82-90

TOPIC TAGS: circuit design, logical design, semiconductor, arithmetic device, multiplication circuit

ABSTRACT: The high-speed multiplication circuit described in the article is a development of the familiar arithmetic unit design consisting of two registers and an adder. In recent times, the author points out, the adder is frequently designed as a combination of a conventional trigger register and an adder with logical elements. In the given case, all these registers are considered in accordance with their generally accepted purpose in the multiplication operation, namely as multiplicand, multiple and product registers. The shortcoming of an arithmetic unit of this composition with a logical adder for the multiplication operation is that the product register must simultaneously participate in

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51"

ACCESSION NR: AT4026346

the formation of the sum and carry signals, on the one hand, and in the acceptance of the new sum of partial products, on the other. The author notes that the use of delay lines for the purpose of effecting a temporary division of these two elementary operations - a technique which has been proposed by some writers - is unsatisfactory because of the unavailability of high-stability delay lines and the need for careful matching with the other elements. Another delay in the operation of multiplication arises from the fact that, as a result of the delay of the signal in the semiconductor triodes, in many arithmetic devices it is impossible, because of the finite time of the carry process in the adders, to begin the next pulse to the adder unless the carry has been entirely completed. In this article, therefore, an effort is made to construct a high-speed multiplication circuit which is free of these (and certain other) deficiencies and limitations. The circuitry incorporates the idea of multi-register arithmetic devices--an idea which provides the maximum in operating speed, while retaining the usual working frequencies of the elements and ensuring the most economical use of the equipment. Basic and explanatory diagrams of the circuitry are given, and the principle of operation of the unit is explained. The fundamental advantages of the system are summarized and the author gives the following estimate of the operational speed of the circuit arrangement:(data obtained using P16 triodes of Soviet manufacture): train rate of program pulses - 1 Mc; read-out

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ACCESSION NR: AT4026346

of operational element (triode in saturated mode) after its opening (from the moment the pulse is fed) - within 1 microsecond; decay of the leading edge of the operational element without forced quenching - 1.5 microseconds; duration of the expanded pulse of the element - about 2 microseconds. From the time sequence of multiplication given it follows that the actual multiplication of two 18-bit numbers is accomplished within twenty program pulses following at a frequency of 1 Mc; that is, twenty microseconds plus two microseconds for setting the product register - total: 22 microseconds. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: CP NO REF SOV: 002 OTHER: 001

Card 3/3

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., doktor tekhn. nauk, prof.

Applying virial in problems of structural mechanics. Trudy MIIT no.174:43-48 '63.

Calculation of definite integrals in the case when the function is given by a vector in the form of an implicit linear transformation. Ibid.:108-112 (MIRA 18:1)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

L 9021-65 EWT(d) Pa-4 IJP(c)/ASD(d)/RAEM(t)

ACCESSION NR: AR4043048 S/0044/64/000/006/B115/B115

SOURCE: Ref. zh. Matematika, Abs. 6B597

AUTHOR: Smirnov, A. F.

B

TITLE: Calculation of definite integrals in a case where the function is given by the vector of an implicit linear transformation

CITED SOURCE: Tr. Mosk. in-ta inzh. zh.-d. transp., vy*p. 174, 1963, 108-112

TOPIC TAGS: structural mechanics, definite integral, implicit linear transformation, vector, power series, integral matrix

TRANSLATION: In the numerical solution of problems of structural mechanics the following problem is encountered with definite integrals of the form

$$\int_a^b f(x)\,dx$$

whose subintegral function $f(x)$ is an unknown vector $y = (y_0, y_1, \ldots y_n)$, to be given by means of linear transformation

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ACCESSION NR: AR4043048

$$y=(A+\varepsilon B)^{-1}\eta.$$

where η is the given vector. In order to calculate such integrals, the author suggests the use of a squaring formula of the type

$$\int_a^b f(x)\,dx=\omega_n^c(A+\varepsilon B)^{-1}\eta. \qquad (1)$$

where ω_n^c is the last row of the integral matrix Ω of the order n+1 (Smirnov, A. Stability and vibration of structures. Transzheldorizdat., 1958). By expanding the right part of (1) in powers of the small parameter ε, the author obtains the expression

$$\int_a^b f(x)\,dx=\omega_n^c A\left[E-\varepsilon A^{-1}B+\varepsilon^2(A^{-1}B)^2-\ldots\right]\eta.$$

N. Lyashchenko.

SUB CODE: MA ENCL: 00

Card 2/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

BOLOTIN, Vladimir Vasil'yevich; GOL'DENBLAT, Iosif Izrailevich; SMIRNOV, Anatoliy Filippovich; GORYACHEVA, T.V., red.

[Present-day problems of structural mechanics] Sovremennye problemy stroitel'noi mekhaniki. Moskva, Stroiizdat, 1964. 130 p. (MIRA 17:12)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, Anatoliy Filippovich, doktor tekhn. nauk, prof.; ALEKSANDROV, Anatoliy Vasil'yevich; SHAPOSHNIKOV, Nikolay Nikolayevich; LASHCHENIKOV, Boris Yakovlevich; RABINOVICH, I.M., doktor tekhn. nauk, prof., retsenzent; OSIPOVA, E.M., red.; ZUBKOVA, M.S., red.

[Calculating structures by using computing machines; a manual for colleges] Raschet sooruzhenii s primeneniem vychislitel'nykh mashin; uchebnoe posobie dlia vuzov. [By] A.F.Smirnov i dr. Moskva, Stroiizdat, 1964. 379 p. (MIRA 18:2)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

KLEYN, Georgiy Konstantinovich, prof., doktor tekhn. nauk, prof.; REKACH, Vladimir Germanovich, doktor tekhn. nauk, prof.; ROZENBLAT, Genya Isaakovna, kand. tekhn. nauk, dots.; SMIRNOV, A.F., prof., doktor tekhn. nauk, retsenzent; KOSTROMIN, V.S., prof., retsenzent; L'VIN, Ya.B., dots., retsenzent; OSELED'KO, A.I., dots., retsenzent; BARCHENKOV, A.G., dots., retsenzent; BYCHKOV, D.V., prof., doktor tekhn. nauk, red.; KOROTKOVA, A.V., red.

[Manual for conducting lessons in a special course in structural mechanics] Rukovodstvo k provedeniiu zaniatii po spetsial'nomu kursu stroitel'noi mekhaniki. Moskva, Vysshaia shkola, 1964. 295 p. (MIRA 18:3)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F. (Moscow)

"The development of structural mechanics in connection with the application of computers"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb. 64.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ANTOKOL'SKAYA, Mir'yam Yakovlevna; BRONSHTEYN, Isaak Iosifovich; MARTYNOV, Mikhail Ivanovich; SMIRNOV, Anatoliy Fedorovich; SHKLOVSKAYA, Anna Yevgen'yevna; ZHURAVLEVA, Ye.I., retsenzent; SOLOMONOV, P.I., retsenzent; YERMOKHINA, N.V., red.;

[Manual on raw materials, intermediate products and finished products in confectionery; manufacture; physicochemical characteristics] Spravochnik po syr'iu, polufabrikatam i gotovym izdeliiam konditerskogo proizvodstva; fiziko-khimicheskie kharakteristiki. Moskva, Izd-vo "Pishchevaia promyshlennost'," 1964. 229 p. (MIRA 17:5)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

BOLOTIN, V.V., prof., red.; RABINOVICH, I.M., prof., red.; SMIRNOV, A.F., prof., red.; LUZHIN, O.V., kand. tekhn. nauk, nauchn. red.

[Problems of stability in structural mechanics] Problemy ustoichivosti v stroitel'noi mekhanike; trudy. Moskva, Stroiizdat, 1965. 474 p. (MIRA 18:5)

1. Vsesoyuznaya konferentsiya po problemam ustoychivosti v stroitel'noy mekhanike, Moskva, 1963.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

DEPNOV, L.F.

[Tables of functions for the design and calculation of rod systems for stability and vibrations; textbook for students of the 4th and 5th courses] Tablitsy funktsii dlia rascheta sterzhnevykh sistem na ustoichivost' i kolebaniia; uchebnoe posobie dlia studentov [illegible] kursov. Moskva, Mosk. inst inzhenerov zhel.-dor. transporta, 1965. 116 p. (MIRA 18:11)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., inzh.

Mechanizing the sorting of large quantities of information. (MIRA 15:9)
Mekh.i avtom.proizv. 61 no.8:28-32 Ag '62.
(Electronic analog computers)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., inzh.

Size of the angles of fracture in ore deposits. Gor.zhur. no.3:61-65 Mr '65. (MIRA 18:5)

1. Krivorozhskiy opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo marksheyderskogo instituta.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., prof. (Moskva)

Natural vibrations of a compressed plate of variable thickness. Issl. po teor. sooruzh. no.13:39-50 '64. (MIRA 18:2)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.F., doktor tekhn. nauk, prof.

Numerical stability calculation of plates of variable thickness.
Trudy MIIT no.164:16-35 '63.

(MIRA 18:3)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SHIROV, A. F.

"Fish of Segozero and Methods of Increasing Their Productivity."
Cand Biol Sci, Karelo-Finnish State U, Petrozavodsk, 1953, (RZhBiol, No 7, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 June 55

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A. F.

POLYANSKIY, Yu.I., professor, otvetstvennyy redaktor; PRAVDIN, I.F., professor, zasluzhennyy deyatel' nauki Karelo-Finskoy SSR, redaktor; SMIRNOV, A.F., kandidat biologicheskikh nauk, redaktor; BASKAKOVA, Ye., redaktor; POD'YEL'SKAYA, K., tekhnicheskiy redaktor.

[Materials of the Conference called by the Karelian Branch of the U.S.S.R. Academy of Sciences and the Karelian section of the All-Union Scientific Research Institute of the Fish Industry of Lakes and Rivers, on the problem of increasing fish productivity in the Karelian lakes and rivers] Materialy soveshchaniia po probleme povysheniia rybnoi produktivnosti vnutrennikh vodoemov Karelo-Finskoi SSR, sozvannogo Karelo-Finskim filialom Akademii nauk SSSR i Karelo-Finskim otdeleniem VNIORKh 11-13 marta 1953 g. Petrozavodsk, Gos. izd-vo Karelo-Finskoi SSR, 1954. 194 p. [Microfilm] (MLRA 8:2)

1. Akademiya nauk SSSR. Karelo-Finskiy filial, Petrozavodsk. Institut biologii. 2. Direktor Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR (for Polyanskiy). 3. Zaveduyushchiy sektorom zoologii Instituta biologii Karelo-Finskogo filiala Akademii nauk SSSR (for Pravdin). 4. Direktor Karelo-Finskogo otdeleniya Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva (for Smirnov).
(Karelia--Fish culture)

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SMIRNOV, A.F.

Chars of Segozero. Trudy Kar.fil. AN SSSR no.5:119-130 '56.
(MLRA 10:7)

1. Karel'skoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva.
(Segozero, Lake--Trout)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ALEKSANDROV, B.M., nauchnyy sotrudnik; ALEKSANDROVA, T.N., nauchnyy sotrudnik; BELYAYEVA, K.I., nauchnyy sotrudnik; GORBUNOVA, Z.A., nauchnyy sotrudnik; GORDEYEVA-PEHTSEVA, L.I., nauchnyy sotrudnik; GORDEYEVA, L.N., nauchnyy sotrudnik; GULYAYEVA, A.M., nauchnyy sotrudnik; DMITRENKO, Yu.S., nauchnyy sotrudnik; ZABOLOTSKIY, A.A., nauchnyy sotrudnik; MAKAROVA, Ye.F., nauchnyy sotrudnik; NOVIKOV, P.I., nauchnyy sotrudnik; POKROVSKIY, V.V., nauchnyy sotrudnik; SMIRNOV, A.F., nauchnyy sotrudnik; STEFANOVSKAYA, A.F., nauchnyy sotrudnik; URBAN, V.V., nauchnyy sotrudnik. Prinimali uchastiye: BALAGUROVA, M.V., nauchnyy sotrudnik; VEBER, D.G., nauchnyy sotrudnik; POTAPOVA, O.I., nauchnyy sotrudnik; SOKOLOVA, V.A., nauchnyy sotrudnik; FILIMONOVA, Z.I., nauchnyy sotrudnik; POPENKO, L.K., nauchnyy sotrudnik; ZYTSAR', N.A., red.; PRAVDIN, I.F., red.; PANKRASHOV, A.P., red.; SHEVCHENKO, L.V., tekhn.red.

[Lakes of Karelia; natural features, fishes, and fisheries] Ozera Karelii; priroda, ryby i rybnoe khoziaistvo; spravochnik. Petrozavodsk, Gos.izd-vo Karel'skoi ASSR, 1959. 618 p. (MIRA 13:8)

(Continued on next card)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ALEKSANDROV, B.M. --- (continued) Card 2.
1. Russia (1917- R.S.F.S.R.) Karel'skiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva. 2. Karel'skoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva (for Aleksandrov, Aleksandrova, Belyayeva, Gorbunova, Gordeyeva-Pertseva, Gordeyeva, Gulyayeva, Dmitrenko, Zabolotskiy, Makarova, Novikov, Pokrovskiy, Smirnov, Stefanovskaya, Urban). 3. Karel'skiy filial AN SSSR (for Balagurova, Veber, Potapova, Sokolova, Filimonova, Popenko).
(Karelia--Lakes)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SHERKOV, A. G.

Mbr., Clinic Hosp. Therapy, Chkalov Med. Inst., -c1949-. "Apparatus for Measuring the Irregularities of an Electrocardiogram," Klin. Med., 27, No. 3, 1949.

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

CHUMAKOV, N.N.; SHIFRIN, A.R.; SMIRNOV, A.G.; KREPYSHEV, D.G.; VYSOTSKIY, A.I.; KUZ'MINA, N.M.; STEPANOVA, N.N.

Control of athlete's foot among workers of a plant producing rubber and industrial goods. Sov. med. 25 no.5:149-151 My '61. (MIRA 14:6)

1. Iz kafedry kozhnykh i venericheskikh bolezney Yaroslavskogo meditsinskogo instituta (zav. - prof. N.N.Chumakov) i Yaroslavskogo oblastnogo venerologicheskogo dispansera (glavnyy vrach D.G.Krepyshev).
(RINGWORM) (FOOT—DISEASES)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

CHUMAKOV, N. N., prof.; BABANOV, G. P., dotsent; SMIRNOV, A. G., assistent

Vitiligo-like dermatoses in workers in a phenol-formaldehyde resin works. Vest. derm. i ven. no.4:3-8 '62. (MIRA 15:4)

1. Iz kafedry kozhnykh i venericheskikh bolezney Yaroslavskogo meditsinskogo instituta (zav. - prof. N. N. Chumakov) i kafedry gigiyeny (zav. - prof. V. S. Chetverikov).

(SKIN--DISEASES) (PHENOLS--TOXICOLOGY)
(FORMALDEHYDE--TOXICOLOGY)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.G.

Phytocoenotic significance of the morphophysiological correlation of stems in a plant community. Biul. MOIP. Otd. biol. 68 no.2:134-136 Mr-Ap '63. (MIRA 17:2)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A. G., Cand of Phys-Math Sci -- (diss) "Experimental study of free heat convection of mercury in sealed tubes in a magnetic pole." Molotov, 1957, 13 pp (Molotov State University im A. M. Gor'kiy), 100 copies (KL, 30-57, 107)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7"

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A. G.

57-10-24/33

AUTHOR: Smirnov, A. G.

TITLE: Free Thermal Convection of Mercury in Closed Circular Tubes (Svobodnaya teplovaya konvektsiya rtuti v zamknutykh kruglykh trubakh).

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 10, pp. 2373-2380 (USSR).

ABSTRACT: The free thermal convection of Hg in closed circular glass tubes, which were in vertical position or up to 30° inclined from vertical, was investigated in the case of stabilized thermal course. The following was stated on this occasion: 1. In the case of inclinations of 1° and 30° three ranges can be obtained at the same time with some stabilized thermal courses: an overcritical (turbulent-convective), a critical (laminar-convective) and an undercritical (practical-molecular). The temperature distribution along the ranges with over- and undercritical course are exponential, and along the critical (laminar) range they are linear. 2. The magnitude of the characteristic temperature gradient for the laminar range, or the magnitude of Rayleigh's number completely determines the character of the convective motion of mercury in a tube with an inclination of 1° and 30°. 3. The ratio of the effective thermal conduction in the ranges with exponential temperature distribution is directly proportional to the ratio of the

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Free Thermal Convection of Mercury in Closed Circular Tubes. 57-10-24/33

squares of the corresponding subtangent length. In the case of mercury in a glass tube this ratio is 3,95 ± 0,14. 4. If the inclination of the tube is increased (to 30°) the constant preheating capacity being maintained and with three heat emission areas present, a decrease of the general heat flow is observed. a) the magnitude of the characteristic temperature gradient increases a little. b) the temperature in the range of the overcritical course increases while it decreases in the undercritical course. Within these ranges the temperature distribution remains exponential. c) The temperature within the furnace range increases.
There are 2 tables, 4 illustrations and 2 Slavic references.

SUBMITTED: January 7, 1957.

AVAILABLE: Library of Congress.

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.G.

20-2-24/62

AUTHOR: Smirnov, A. G.,

TITLE: Free Thermal Convection of Mercury Within a Closed Circular Tube in a Transverse Magnetic Field (Svobodnaya teplovaya konvektsiya rtuti v zamknutoy krugloy trube v poperechnom magnitnom pole)

PERIODICAL: Doklady Akad. nauk SSSR, 1957, Vol. 115, Nr 2, pp. 284-286, (USSR)

ABSTRACT: The present paper investigates the free thermal convection in closed circular (vertical or inclined toward the vertical by at most 30°) glass tubes when thermal conditions had become stationary. The investigation was made by the method of temperature recording. By numerous tests several commonnesses with the rules governing non-metallic liquids were determined. They are enumerated here just as the peculiarities of the conversion in mercury. Here the influence of a practically homogeneous magnetic field (from 7o to 7ooo gauss) on the laminar convection of mercury ina closed glass tube with 0,54 cm radius and 1o° inclination toward the vertical was investigated for 2 cases: I) The magnetic field is vertical to the division plane of the ascending and the descending convection current. II) The magnetic field is parallel to this division plane. Under the influence of a weak magnetic field the following was found: Theoretically a distribution of the density of the electric induced current on the cross section of the tube is obtained. In the center a core forms, for the ponderomotoric forces brake the motion. Along the wall of the tube (near the pole shoes of the

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Free Thermal Convection of Mercury Within a Closed Circular Tube 20-2-24/62
in a Transverse Magnetic Field.

electromagnet) symmetric boundery layers form where the ponderomotoric forces accelerate the motion. The total braking is stronger than the total acceleration. Reley's (Rayleigh's) critical number increases proportional to the quadrate of the induction. Under the influence of a strong magnetic field the following was found: The decrease in the total heat flow in the tube is similar to the decrease in the heat flow inclination of the tube without magnetic field. The quadratic dependence of the characteristic temperature gradient and Reley's number on the induction is replaced by a linear one. Further data are given. Thus the magnetic field has a stabilizing influence on the linear convection. With increasing strength of the magnetic field the braking action in the thermodynamic and in the hydrodynamic sense becomes stronger. There are 2 figures, 1 table and 3 references, 2 of which are Slavic.

ASSOCIATION: Molotov* State University imeni A.M.Gor'kiy (Molotovskiy gosudarstvennyy universitet im. A. M. Gor'kogo). (* now Perm')

PRESENTED: January 9, 1957 by Leontovich M.A., Academician

SUBMITTED: October 1, 1956

AVAILABLE: Library of Congress.

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24.5200

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 7, p 283 (USSR)

AUTHOR: Smirnov, A.G.

TITLE: The Experimental Investigation of Free Heat Convection of Mercury in a Sealed Pipe in a Magnetic Field

PERIODICAL: Uch. zap. Permsk. un-t, 1958, Vol 15, Nr 4, pp 5 - 58

ABSTRACT: The investigation was carried out in inclined pipes of round cross section heated in the lower part by an electric furnace and cooled in the upper part by water. The effect of a homogeneous magnetic field of 70 - 70,000 gauss on the heat convection of mercury was studied. Unter the action of a weak magnetic field on the laminar flow of mercury a core is formed in the axial region of the pipe, where the pondermotive forces inhibit the motion, but around the pipe walls (near the poles of the electromagnet) these forces accelerate the motion. In the case of an increase in the intensity of the magnetic field, the action of the inhibiting forces exceeds the action of the accelerating forces.

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V. Gertsovskiy

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SOV/57-28-7-27/35

AUTHOR: Smirnov, A. G.

TITLE: Free Thermal Convection of Mercury in a Closed Circular Tube in a Transverse Magnetic Field (Svobodnaya teplovaya konvektsiya rtuti v zamknutoy krugloy trube v poperechnom magnitnom pole)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol. 28, Nr 7, pp.1549-1555 (USSR)

ABSTRACT: The author investigated the influence of a homogeneous magnetic field (from 70 to 7000 Gauss) on the free convective mercury motion in a closed circular tube inclined by 10° to the vertical. Two cases are dealt with: A) The direction of the magnetic field is at right angles to the partial plane of the rising and falling current in the tube. B) The direction of the magnetic field is parallel to this plane. The following was observed on the action of the magnetic field within the range of the section of laminar convection in the tube ($R = 0{,}54$ cm; $\varphi = 10^{\circ}$): 1) The division of the magnetic fields into strong and weak ones (depending on the effect in the

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section). The critical values of induction for the first and the second convection case amount to about 110 and 300 Gauss. 2) The rise of the temperature gradient at an increase of the induction of the magnetic field has a quadratic dependence in weak magnetic fields and a linear dependence in strong fields. The rise of the temperature gradient according to the linear law is limited by a constant temperature gradient characteristic for any heating action. 3) On the occurrence of the constant temperature gradient the laminary-convective behavior is replaced by the pre-critical. The linear temperature distribution law in the section is replaced by an exponential law. The temperature cross difference practically disappears. In case A) the temperature cross difference vanishes in the case of smaller magnetic fields as compared to case B). 4) The total heat current in the tube is smaller as compared to the heat current without magnetic field. In the section with precritical behavior the temperature drops. In the section with supercritical behavior it rises analogously to what had been observed in an inclined tube without magnetic field. The temperature distribution character

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SOV/ 57-23-7-27/35

Free Thermal Convection of Mercury in a Closed Circular Tube in a Transverse Magnetic Field

figures and 3 references, 2 of which are Soviet.

ASSOCIATION: Permskiy gosudarstvennyy universitet im. A. M. Gor'kogo (Perm' State University imeni A. M. Gor'kiy)

SUBMITTED: September 27, 1956

1. Mercury--Magnetic factors 2. Magnetic fields--Applications

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A. G., Candidate Phys-Math Sci (diss) -- "Experimental investigation of free thermal convection of mercury in closed tubes in a magnetic field". Sverdlovsk, 1959. 13 pp (Min Higher Educ USSR, Ural State U im A. M. Gor'kiy), 150 copies (KL, No 24, 1959, 127)

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Smirnov, A. G.

Voprosy Magnitnoy Gidrodinamiki i Dinamiki Plazmy. Trudy Konferentsii Po Magnitnoy Gidrodinamike, Riga, 2-10 Iyulya 1958 g. (Problems of Magnetohydrodynamics and Plasma Dynamics. Works of the Conference On Magnetohydrodynamics, Riga, 2-10 July 1958), Riga, 1959, 339 pp

The majority of the texts of the 55 conference reports and discussions of reports are presented in the source in abridged form. Previously published reports are included there as brief abstracts only. The material published there for the first time (abridged and unabridged) are as follows:

"Similarity Methods and Physical Modeling in the Study of Electromagnetic Processes in Liquid Metals," by I. M. Kirko, Riga, pp 201-210 (Discussion on the Report by D. A. Frank-Kamenetskiy, Moscow, p 211; Discussion on the Report by I. M. Kirko, Riga, pp 211-213)

(Abstract of article, "Model of an Infinitely Long Channel With Liquid Metal Located In a Traveling Magnetic Field," by I. M. Kirko, Ya. Ya. Klyavin', I. A. Tyutin [deceased], and L. Ya. Ul'manis, Riga, already published in Nauchnyye Doklady Vysshey Shkoly, Energetika, 3, 1958, p 203, is supplemented by a discussion of the article by I. M. Kirko, Riga, pp 214-220)

"Principle of Modeling the Electrical Field of Electromagnetic Pumps in an Electrolytic Bath and on Electrically Conducting Paper," by L. V. Nitsetskiy, Riga, pp 221-225 (Discussion of Article by A. I. Vol'dek, Tallin, p 226)

(Abstract of article, "The Motion of a Sphere in a Viscous Conducting Liquid Within a Longitudinal Magnetic Field," by A. K. Gaylitis, Riga, p 227, is supplemented by discussion of the report by Ye. P. Velikhov, Moscow, pp 227-228.)

"Experimental Investigation of the Magnetohydrodynamic Phenomena During the Damping of the Oscillatory Motion of Mercury in a Tube," by A. G. Smirnov and N. S. Kozhanova, Perm', pp 233-235; discussion by A. E. Mikel'son, Riga, and O. A. Liyelausis, Riga, p 236

"On the Behavior of Colloidal Ferromagnetic Particles in a Nonhomogeneous Magnetic Field," by N. I. Yeremin, Moscow (abstract), p 237

"Study of Magnetic Fields and Electromagnetic Processes in Linear Induction Pumps," by A. I. Vol'dek, Tallin, pp 239-246

"Choice of Basic Parameters of Induction Pumps in the Calculation of Maximum Efficiency," by E. K. Yankop, Riga, pp 247-250; discussion of report by Yu. K. Krumin', Riga, p 251

"Optimum Utilization of Induction Pump Design," by L. G. Savin, Riga, pp 253-260

"Experience in the Devising of Electromagnetic Pumps at the Institute of Physics of the Academy of Sciences Latvian SSR," by P. G. Kirillov, Ya. Ya. Liyelpeteris, A. E. Mikel'son, and G. A. Okunev, Riga, pp 261-268; discussion of report by N. M. Turchin, Moscow, p 269

"On the Use of Induction Pumps in Foundary Practice and the Metallurgical Industry," by L. A. Verte, Moscow, (abstract) p 271

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A. G.

PHASE I BOOK EXPLOITATION SOV/3762

Konferentsiya po magnitnoy gidrodinamike. Riga, 1958.

Voprosy magnitnoy gidrodinamiki i dinamiki plazmy; trudy Konferentsii. (Problems in Magnetohydrodynamics and Plasma Dynamics; Transactions of a Conference) Riga, Izd-vo AN Latviyskoy SSR, 1959. 343 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Latviyskoy SSR. Institut fiziki.

Editorial Board: D.A. Frank-Kamenetskiy, Doctor of Physics and Mathematics, Professor; A.I. Vol'dek, Doctor of Technical Sciences, Professor; I.M. Kirko, Doctor of Physics and Mathematics; V.Ya. Veldre, Candidate of Physics and Mathematics; V.O. Vitol, Candidate of Physics and Mathematics; Yu.M. Kruzin'; and V.Ya. Kravchenko.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya

PURPOSE: This book is intended for physicists working in the field of magnetohydrodynamics and plasma dynamics.

COVERAGE: This volume contains the transactions of a conference held in Riga, June 1958, on problems in applied and theoretical magnetohydrodynamics. The objects of the conference were the investigation of the basic trends in theoretical and applied magnetohydrodynamics, establishing contact between the people doing research in different branches of magnetohydrodynamics, and promoting the participation of theoretical physicists in problems in applied magnetohydrodynamics. More than 160 persons from different parts of the Soviet Union took part in the conference, and 55 papers were read. Similar conferences are to be held regularly in the future; the next such conference is scheduled to be held in Riga in June 1960. In this present collection of the transactions of the conference, most of the papers and comments on papers are presented by the authors themselves in an abridged form. The book is divided into two parts: the first part deals with problems in theoretical magnetohydrodynamics and plasma dynamics, and consists of 35 articles on such aspects of the problem as the application of magnetohydrodynamics in astrophysics (D.A. Frank-Kamenetskiy), magnetohydrodynamics and the investigation of cosmic-ray variations (L.I. Dorman), acceleration of plasma in a magnetic field (G.V. Gordeyev and K.I. Gubanov), stability of shock waves and magnetohydrodynamics (A.I. Akhiyezer). The second part, consisting of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (I.M. Kirko) and the development of electromagnetic pumps (P.G. Kirillov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic crucibles, electromagnetic stirrers for molten metals, and their application in the metallurgical industry including schematic diagrams of their power-supply systems. References are given at the end of most of the articles.

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SOV/57-29-10-9/18

AUTHOR: Smirnov, A. G.

TITLE: A Theory of Some Magnetohydrodynamic Phenomena of Free Thermal Laminar Convection of an Electrically Conducting Liquid in a Vertical Circular Tube in a Weak Magnetic Field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1245-1251 (USSR)

ABSTRACT: This is a study of a weak transversal magnetic field as it affects a free thermal laminar convection of an electrically conducting liquid without substantially distorting the hydrodynamic flow. Two cases are considered in this theoretical study: when the direction of the magnetic field is perpendicular to the plane separating the upward and downward convection flows, and when it is parallel to it. It is shown that in both cases a nucleus is formed in the central part of the flow, due to the fact that the force which the field exerts on the current has a restraining effect on the central part of the flow. On the other hand, this force speeds up the flow along and close to the walls of the

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FARAFONOV, I.I., kand.tekhn.nauk; SMIRNOV, A.G., inzh.

Efficiency of drilling blast holes with a roller bit in open-pit workings. Nauch.zap.Ukrniiproekta no.5:151-156 '61. (MIRA 15:7)

(Boring)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

S/124/62/000/005/008/048
D251/D308

AUTHORS: Briskman, V.A., and Smirnov, A.G.

TITLE: Agitation of steel in an open-hearth furnace with a movable magnetic field

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 5, 1962, 13, abstract 5B64 (Uch. zap. Permsk. un-t, 1961, v. 19, no. 3, 59 - 61)

TEXT: The authors showed the possibility of linearization of the equations of magnetic hydrodynamics in the case of described processes which arise from the stirring of steel in a Marten furnace with the aid of a travelling magnetic field. By linearizing the system and averaging all the terms of the equations with respect to time, the authors found the solution for the case of a free surface of the melt. It was shown that with the assumptions made, the velocity of the metal depends only on the ratio of the depth of penetration of the magnetic field in the metal to the depth of the layer of the melt. The results of the calculation are presented in the form of graphs. [Abstractor's note : Complete translation].

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

LEONT'YEV, A.V., inzh.; SMIRNOV, A.G., inzh.

Stirring an electrolyte by a lateral magnetic field. Mashinostroenie no.3:69-70 My-Je '63. (MIRA 16:7)

1. Kazanskiy khimikotekhnologicheskiy institut.
(Electrolytes) (Magnetic fields)

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ACCESSION NR: AT4042313 S/0000/63/003/000/0357/0361

AUTHOR: Leont'yev, A.A., Smirnov, A.G.

TITLE: Mixing of an electrolyte by means of a transverse magnetic field in electrolytic processes

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 357-361

TOPIC TAGS: electromagnetic mixing, electromagnetic stirrer, electrolysis, electroplating, hydromagnetics, ponderomotor force

ABSTRACT: The authors point out that electrolyte mixing by means of an external magnetic field constitutes an area in which there is a total lack of published research, despite the fact that this form of forced hydrodynamics may well be of practical as well as theoretical interest from the point of view of electrochemical technology. In the present article, the authors demonstrate the satisfactory mixing of an electrolyte by means of a transverse magnetic field during the electrolytic precipitation of metals (plating). The general applicability of the system of equations employed in hydrodynamics and electrodynamics to the specific problem of the electrolyte is demonstrated, with

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ACCESSION NR: AT4042313

particular attention to the lower conductivity of electrolytes as opposed to liquid metals. The relation of the ponderomotor forces of conductive origin to dynamic pressure is shown. Experiments were performed with an electrolytic cell, first outside the field and then with the cell located within a permanent and uniform transverse magnetic field (B = 6500 gauss). The cathode consisted of an electrolytic copper plate with three thermocouples impressed in it, the anode was a plate of transformer steel, and the electrolyte was an aqueous solution of ferrous chloride and calcium chloride ($FeCl_2$ - 270 g/l, $CaCl_2$ - 145 g/l). Further design details are given in the text of the article. The potential difference, which was proportional to the temperature difference between the three thermocouples on the cathode and separate thermocouples on the rod, was recorded by a galvanometer with a type M-95 light indicator (accuracy 1.0%) with steady-state hydrodynamic and thermal conditions in the bath. Some curves are given illustrating the dependence of this potential difference on the distance along the bath. It was found that with an electric current density of 0.054 a/cm^2, the temperature of the electrolyte near the cathode increases in the direction of the anode within a layer of approximately 9 mm and then remains practically constant. After imposition of the transverse magnetic field (6500 gauss) the electrolyte temperature in this layer and throughout the entire bath becomes

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SMIRNOV, A. G. Cand. Biolog. Sci.

Dissertation: "Amur-River Salmon, its Biology and the Periodic Variations in Catches." Moscow Technical Inst of Fish Industry and Economy imeni A. I. Mikoyan, 14 Feb 47.

SO: Vechernyaya Moskva, Feb, 1947 (Project #17836)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.G. (Chkalov).

Alkaline storage batteries; cadmium-nickel. Fiz.v shkole 7 no.2:49-55 '47. (MLRA 6:11)

(Storage batteries)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

ZAKHARCHENKO, Andrey Luk'yanovich; SMIRNOV, A.G., red.; PERESYPKINA, Z.D., tekhn.red.

[Combined threshing machines] Slozhnye molotilki. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1955. 127 p. (MIRA 13:10)

(Threshing machines)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.G., vetvrach (Molvotitskiy rayon, Novgorodskoy oblasti)

Effect of trace elements on the increase in live weight and fertility of swine. Svinovodstvo 13 no.11:29-30 N '59. (MIRA 13:2)

(Swine--Feeding and feeds) (Minerals in food)

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"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651510014-7

SMIRNOV, A.G.

Twentieth anniversary of the Syava Wood Chemistry Combine.
Gidroliz. i lesokhim. prom. 10 no.7:15-16 '57. (MIRA 10:12)

1.Syavskiy lesokhimicheskiy kombinat.
(Wood-using industries)

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3 (7)

AUTHOR: Smirnov, A. G.

SOV/50-59-9-16/16

TITLE: At the Hydrometeorological Service Administration of Estonskaya SSR

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 9, pp 58 - 59 (USSR)

ABSTRACT: On May 12-13, 1959, a conference on the problem of organizing the Gidrometeofond (Hydrometeorological Fund) and on the state of hydrometeorological investigation of the area of Estonskaya SSR, and the water area of the sea, took place at the Upravleniye gidrometeosluzhby Estonskoy SSR (Hydrometeorological Service Administration of the Estonskaya SSR). Collaborators of the UGMS (Hydrometeorological Service Administration), representatives of production-, planning- and scientific institutions, as well as of the Estonian universities and the Glavnaya geofizicheskaya observatoriya im. A. I. Voyeykova (Geophysical Main Observatory imeni A. I. Voyeykov) were taking part. The following reports were delivered: A. G. Smirnov, Head of the UMGS of the Estonskaya SSR, "On the Activity and Tasks of the Gidrometeofond UGMS Estonskoy SSR (Hydrometeorological Fund of the Hydrometeorological Service Administration of the Estonskaya SSR)"; E. P. Maanvere, Director of the

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At the Hydrometeorological Service Administration of the Estonskaya SSR

Tallinskaya gidrometeorologicheskaya observatoriya (Tallin Hydrometeorological Observatory), "On the State of Hydrometeorological Investigation of the Area of the Estonskaya SSR and the Adjoining Sea"; Professor Ye. S. Rubinshteyn (Geophysical Main Observatory), "Principal Tasks of Climatology in Connection With the Development of National Economy of the USSR in 1959-1965". Short reports on the state of scientific research work concerning hydrometeorological subjects at the institutions represented by the lecturers were given by the representatives: of the Tartusskiy gosudarstvennyy universitet (TGU) (Tartu State University); of the Institut fiziki i astronomii (IFA) (Institute of Physics and Astronomy); of the Institut stroitel'stva i stroymaterialov (ISiSM) (Institute of Building and Building Materials) of the AN Est.SSR (Academy of Sciences of the Estonskaya SSR); of the Estonskiy nauchno-issledovatel'skiy institut zemledeliya i melioratsii (ENIIZiM) MSKh Est. SSR (Estonia Scientific Research Institute of Agriculture and Melioration of the Ministry of Agriculture of the Estonskaya SSR); and of the Tallinskiy politekhnicheskiy institut (TPI)

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BESOVTSEVA, A.G.; SMIRNOV, A.G.; MAANVERE, E.; LILLEMAA,A., kand. sel'khoz. nauk; PIKHLASTE, L.K.[Pihlaste, L.]; PROKHOROVA, Z.P.; MARTIN, I.; KUL'BIN, V.P.; ISAYEVA, Z.I.; EYPRE, T.F.[Eipre, T.]; RODINA, N.V.; SUBBOTINA, V.M.; ZHDANOVA, L.P., red ; BRAYNINA, M.I., tekhn. red.

[Agriclimatological manual for the Estonian S.S.R.] Agroklimaticheskii spravochnik po Estonskoi SSR. Leningrad, Gidrometeoizdat, 1960. 197 p. (MIRA 17:1)

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SMIRNOV, A.G.

Experimental study of three-wire streetcar power supply with transverse sectionalization. Sbor. nauch. rab. AKKH no.2:16-25 '60. (MIRA 15:5)
(Electric railroads--Current supply)

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AUTHORS: Klyachkin, A.L. and Smirnov, A.G.

TITLE: Peculiarities of the part load characteristics of single shaft turbo-fan engines subject to different regulating laws

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, no.2, 1962, 138-151

TEXT: The part load characteristics of a single-shaft turbo-fan engine are considered for different regulating laws and a comparative analysis is carried out in relation to single flow turbo-jet engines. Test bed conditions and those of flight at an altitude of 5000 m and a Mach Number of 0.8 were chosen as representing take-off and cruising conditions. The purpose of the analysis was the study of operating behaviour under the chosen conditions, the discovery of any limitations in operation, and the search for improvements in the efficiency of the engine under part load conditions. The basic single cycle engine and a derived turbo-fan engine with a high pressure compressor in the main cycle were selected. Under nominal conditions, the reference turbo-jet engine has a turbine inlet temperature of 1200°K and a pressure

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