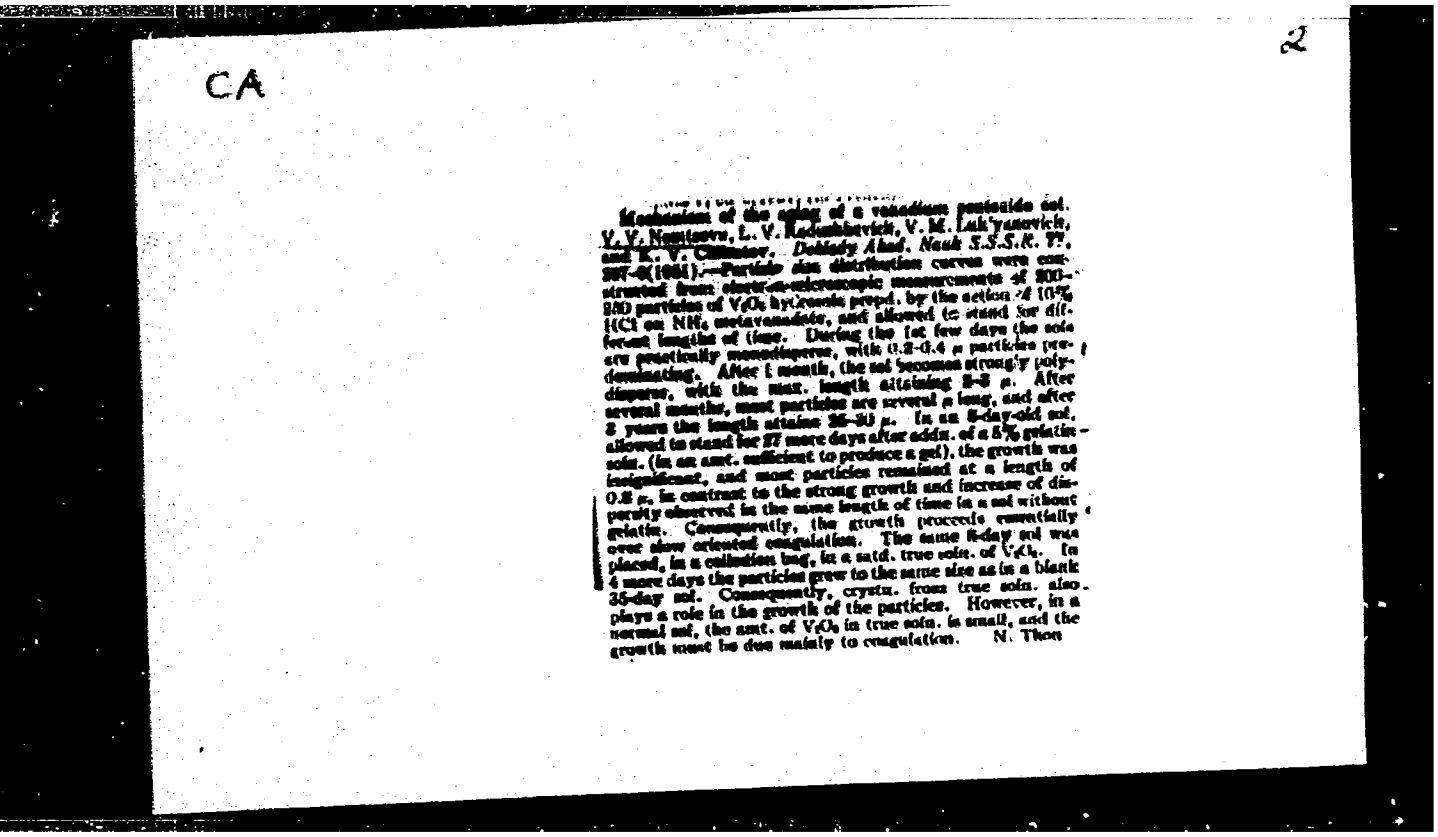

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Mechanism of the aging of a vanadium pentoxide sol. V. V. Nemilova, L. V. Radushkevich, V. M. Lukyanovich, and K. V. Chmutov. *Doklady Akad. Nauk S.S.S.R.* 77, 207–9(1951).—Particle size distribution curves were constructed from electron-microscopic measurements of 200–300 particles of V_2O_5 hydrosols prepd. by the action of 10% HCl on NH_4 metavanadate, and allowed to stand for different lengths of time. During the 1st few days the sols are practically monodisperse, with 0.2–0.4 μ particles predominating. After 1 month, the sol becomes strongly polydisperse, with the max. length attaining 2–3 μ. After several months, most particles are several μ long, and after 3 years the length attains 25–30 μ. In an 8-day-old sol, allowed to stand for 27 more days after addn. of a 5% gelatin soln. (in an amt. sufficient to produce a gel), the growth was insignificant, and most particles remained at a length of 0.8 μ, in contrast to the strong growth and increase of disparity observed in the same length of time in a sol without gelatin. Consequently, the growth proceeds essentially over slow oriented coagulation. The same 8-day sol was placed, in a collodion bag, in a satd. true soln. of V_2O_5. In 4 more days the particles grew to the same size as in a blank 35-day sol. Consequently, crystn. from true soln. also plays a role in the growth of the particles. However, in a normal sol, the amt. of V_2O_5 in true soln. is small, and the growth must be due mainly to coagulation. N. Thon

NEMTSOVA, V. V.

(5)

Electron-microscopic study of coagulation of vanadium oxide sols with electrolytes. A. V. Bronfbern, V. M. Lukyanovich, V. V. Nemtsova, L. V. Radushkevich, and K. V. Chmutov. *Doklady Akad. Nauk S.S.S.R.* 85, 269-72 (1952); cf. *C.A.* 47, 9717f.—Eight-months-old V_2O_5 sols (3.3 g./l.) were coagulated with KCl (final concn. 0.1*N*) and shaken vigorously in a large vol. of water. From the resultant suspension prepns. were made for electron-microscopic observations. Three photographs are given. Manual shaking results in partial peptization, and the threads of V_2O_5 coalesce into braids. More vigorous mech. or ultrasonic agitation produces complete peptization, and the braids break up into fine threads with only partial coalescence. Under certain conditions, especially with high electrolyte concns., surprising results are obtained—the braids break up and form "droplets." The concn. of electrolyte necessary to initiate "droplet" formation depends on the cation; in the order of increasing effectiveness: Li^+, Na^+, K^+, Cs^+; or Li^+, Ca^{++}, Ce^{+++}. Tentative assumptions are made to explain "droplet" formation. I. Bencowitz

Chemical Abst.
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BROMBERG, A.V.; LUKYANOVICH, V.M.; MEMTSOVA, V.V.; RADUSHKEVICH, L.V.; CAMUTOV, K.V.

Electron-microscopic study of vanadium pentoxide sols. Zhur. Fiz. Khim. 27, 379-88 '53. (MLRA 6:5)
(CA 47 no.19:9717 '53)

RAZUMNYY, N.; NEMTSOVA, Ye.

Repairing deformed, detachable propeller blades. Mor.flot 15 no.3: 29-30 Mr '55. (MLRA 8:5)
(Propellers)

DEMINA, N.V.; MAKHOVA, R.A.; PILENKOVA, V.M.; MOISEYEVA, P.A.; KOSTIN, B.V.; NEMTSOVICH, M.

Reviews and bibliography. Tekst. prom. 25 no.4:82-87 Ap '65. (MIRA 18:5)

1. Rukovoditel' gruppy fiziko-mekhanicheskikh ispytaniy laboratorii tekstil'nykh ispytaniy Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna (for Demina). 2. Rukovoditel' gruppy tekstil'noy tekhnologicheskoy laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna (for Makhova). 3. Starshiye inzhenery tsentral'noy nauchno-issledovatel'skoy laboratorii fabriki "Krasnoye znamya" (for Pilenkova, Moiseyeva). 4. Glavnyy inzh. Tashkentskogo tekstil'nogo kombinata (for Kostin). 5. Zaveduyushchiy nauchno-tekhnicheskoy bibliotekoy Tashkentskogo tekstil'nogo kombinata (for Nemtsovich).

NEMTSOVICH, V.M.

Bulkinskaya gabbroic intrusion in the upper Amyl (Western Sayans). Inform.sbor.VSEGEI no.21:117-124 '59. (MIRA 14:12)
(Amyl Valley--Gabbro)

NEMTSOVICH, V.M.

Devonian basic intrusions of Tuva and their facies analysis.
Trudy VSEGEI 58:49-59 '61. (MIRA 15:5)
(Tuva A.S.S.R.—Geology)

NEMTSOVICH, V.M.; SHAPOSHNIKOV, G.N.

Basic characteristics of the titanium metallogeny in the Tuva Autonomous Republic. Trudy VSEGEI 60:107-120 '61. (MIRA 15:3)
(Tuva A.S.S.R.--Titanium)

NEMTSOVICH, V.M.

Cambrian basic intrusions in Tuva and their origin. Dokl. AN SSSR 166 no.1:182-185 Ja '66.

(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut. Submitted March 24, 1965.

1. NEMUDROV, A.

2. USSR (600)

4. Coal Mines and Mining

7. 24-hour work schedule in the longwall on the bed of a steep drop. Mast. ugl. 1 no. 7, 1952

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NEMUDROV, A.G.; BELOUSOV, V.D.; CHERNIKIN, V.I.

Regulating the operation of gas mains with gas engine compressor stations. Trudy MINKHiGP no.45:139-148 '63. (MIRA 16:7)

(Gas pipes) (Compressors)

MEMUDROV, V.

Further development of scientific and technical cooperation between the U.S.S.R. and Rumania. Vnesh.torg. 28 no.12:27-28 '58. (MIRA 12:1)

(Russia--Relations (General) with Rumania)
(Rumania--Relations (General) with Russia)

NEMUKHIN, V.P., kandidat tekhnicheskikh nauk; FEDOROV, V.V., inzhener.

Spark extinguishing devices for narrow gauge steam locomotives.
Torf.prom. 31 no.5:5-9 '54. (MLRA 7:8)

1. TsNII MPOS (for Nemukhin) 2. Shaturskoye transportnoye upravleniye (for Fedorov)
(Locomotive sparks)

NEMUKHIN, V.P., kandidat tekhnicheskikh nauk

Increasing the effectiveness of locomotives and cars in narrow-gage transportation systems. Torf.prom.32 no.5:4-6 '55. (MLRA 8:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut Ministerstva putey soobshcheniya
(Railroads, Narrow-gage) (Peat--Transportation)

NEMOKHIN, V.P.; PLATONOV, Ye.V.; KOZYREV, Yu.M.; GOLOVANOV, A.L., inzh.red.; BOBROVA, Ye.N., tekhn.red.

[Results of traction and heat engineering tests conducted on the TU2 narrow-gauge diesel locomotive] Rezul'taty tiagovo-teplotekhnicheskikh ispytanii uzkokolelnogo teplovoza TU2. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 83 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no. 153) (MIRA 11:7)
(Diesel locomotives--Testing)

NEMUKHIN, V.P., kand.tekhn.nauk; KOZYREV, Yu.M., insh.

TU3 diesel locomotive for use on a narrow-gauge railroads. Vest.TSNII 18 no.1:19-23 F '59. (MIRA 12:3)
(Diesel locomotives)

IZVOLENSKIY, L.V., kand.tekhn.nauk [deceased]; NEMUKHIN, V.P., kand.tekhn. nauk; KOZYREV, Yu.M., inzh.

Narrow-gauge diesel-contact locomotive. Vest.TSNII MPS 18 no.8: 29-33 D '59. (MIRA 13:9)

(Diesel locomotives)
(Electric locomotives)

SOROKIN, V.I., inzh.; OSIPOV, S.I., inzh.; NEMUKHIN, V.P., kand.tekhn.nauk; RUDNEV, V.N., inzh.

Replies to readers' questions. Elek.i tepl.tiaga 4 no.2:43-44 F '60. (MIRA 13:6)
(Railroad engineering)

PLATONOV, Ye.V., kand. tekhn. nauk; [illegible]UKHIN, V.P., kand. tekhn. nauk; GORBATYUK, V.A., inzh.; NIKUSHIN, A.I., inzh.

Analysis of the characteristics of the insulation of electric traction motors for diesel locomotives. Trudy TSNII MPS no.272: 5-49 '64. (MIRA 17.9)

NEMUKHIN, V.P., kand. tekhn. nauk; LAPUSHKIN, S.A., inzh.

Results of the testing of the TE3L diesel locomotive electric driving. Trudy TSNII MPS no.272:165-174 '64. (MIRA 17:9)

NEMURA, A. A. Cand Tech Sci -- (diss) "Study of a Photoelectron Amplifier During its Performance With a Vibratory Oscillograph." Kaunas, 1957. 16 pp 22 cm. (Min of Higher Education USSR, Kaunas Polytechnic Inst), 100 copies (KL, 25-57, 114)

SOV/119-58-1o-4/19

AUTHORS: Lashas, A. V., Engineer, Nemura, A. A., Candidate of Technical Sciences

TITLE: Enlarging the Operational Range of the Frequencies of Photomultipliers (FEU) (Rashireniye rabochego diapazona chastot fotoelektronnykh usiliteley (FEU))

PERIODICAL: Priborostroyeniye, 1958, Nr 1o, pp 11-15 (USSR)

ABSTRACT: The main disadvantage of the multiplier FEU consists in its great inertia. Moreover its operation range covers only from 0,1 to 10 cycles.
The transmission function of the whole multiplier is theoretically derived. To make this calculation easier the whole multiplier is divided into typical circuits, and then the functions are determined for the latter. By a superposition of these results the total transmission function is obtained. By improving the individual terms of the function in an empirical way the authors achieved:
1) The use of a gradual correction with an increase of the amplitude - frequency characteristics; by using a positive

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Enlarging the Operational Range of the Frequencies of Photomultipliers (FEU)

feedback the instability of the FEU can be removed and its operation range can at the same time be extended by the 50-fold.
2) Furthermore the self-excitation can be eliminated. The processes of the extension of the operation range mentioned, the use of the gradual correction, and the elimination of self-excitation may also be employed with other photoelectric and galvanometric a.c. amplifiers. There are 7 figures and 11 references, 7 of which are Soviet, 3 English and 1 German.

NEMURA, A.A., kand. tekhn. nauk; NENORTA, A.K., nauchnyy sotrudnik, inzh.

Continuous measurement of the weight and moisture content of a moving textile sliver by means of a capacitor transducer and computer system. Tekst. prom. 24 no.2:77-81 F '64.
(MIRA 17:3)

1. Zaveduyushchiy laboratoriyey Kaunasskogo instituta energetiki i elektrotekhniki (for Nemura). 2. Laboratoriya Kaunasskogo instituta energetiki i elektrotekhniki (for Nenorta).

NEMURA, A.A.

Transmission functions and structural patterns of the automatic-trimming systems of a length unit of extile band and rove. Pt.1. Liet ak darbai B no.3:189-199 '60. (EEAI 10:3)

1. Institut energetiki i elektrotekhniki Akademii nauk Litovskoy SSR.
(Weaving)

NEMIRA, A.

Transmitting functions and structural systems of automatic equalization of the mass of a length unit for textile band and rove. Part 2. Trudy AN Lit. SSR. Ser. B no.2:209-221 '62. (MIRA 18:3)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

NEMURA, A.A., kand.tekhn.nauk, nauchnyy sotrudnik

Automatic regulation of the mass per unit length of a textile sliver. Tekst.prom. 22 no.10:26-31 O '62. (MIRA 15:11)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

(Spinning machinery) (Automatic control)

NEMURA, A.A., kand.tekhn.nauk

Automatic control of the length unit of mass of the textile lap (continued). Tekst.prom. 22 no.11:28-32 N '62. (MIRA 15:11)

1. Zaveduyushchiy laboratoriyey avtomatiki i telemekhaniki Instituta energetiki i elektrotekhniki Akademii nauk Litovskoy SSR.

(Spinning machinery) (Automatic control)

25(2) SOV/92-59-3-22/44

AUTHORS: Nemyatov, V.N., and L.A. Poplavskiy, Engineers

TITLE: Winch for Lifting a Detachable Core Barrel (Lebedka dlya pod"yema s"yemnoy gruntonoski)

PERIODICAL: Neftyanik, 1959, Nr 3, p 19 (USSR)

ABSTRACT: In 1958 the Kungur Machine Building Plant turned out a few experimental samples of the LGK winch used for lifting detachable core barrels. Before this new type winch was produced, core sampling was performed with the aid of the LPG2-3000 winch, which had numerous defects as pointed out by Yu. M. Shevchenko in Neftyanik, 1957, Nr 10. The recently developed LGK winch, the design and mechanical specifications of which are shown by the author in a diagram, proved to be far better than the previous type. With the aid of this winch it is possible to lift a core barrel from a well 3,000 m deep in 26 minutes. Due to its limited size, it is easy to transport the new winch by truck. It weighs 3,100 kg instead of 5,000 kg as did the LPG2-3000 type. The smaller amount of metal needed for its construction, efficient couplings and

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parts as well as inexpensive mechanism make it possible to sell the new winch at a low price. The newly developed winch has been successfully tested, and will soon be delivered to drilling offices for testing under field conditions.

ASSOCIATION: Kungurskiy mashinostroitel'nyy zavod(The Kungur Machine Building Plant)

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PHASE I BOOK EXPLOITATION SOV/3209

Nemykin, Nikolay Petrovich, and Aleksandr Yakovlevich Gembera

Otlivka krupnykh izlozhnits iz chuguna pervoy plavki (Casting of Large Ingot Molds from Hot Blast-furnace Metal), Khar'kov, Metallurgizdat, 1959. 88 p. 3,100 copies printed.

Resp. Ed.: B.A. Noskov; Ed. of Publishing House: Ye.K. Sinyavskaya; Tech. Ed.: S.P. Andreyev.

PURPOSE: This book is intended for technical personnel at foundries who are engaged in the casting of ingot molds.

COVERAGE: The book describes the methods employed by the "Krivorozhstal'" Metallurgical Plant (in Krivoy Rog) for the sand-mold casting of large ingot molds from hot blast-furnace metal. The authors also discuss the methods used by other Soviet plants. Attention is focussed on the preparation of molds and cores, use of hot metal as an ingot-mold material, shake-out of molds and cores and chipping and cleaning of ingot molds. In addition, ingot-mold defects and their causes are discussed, and measures for removing them are recommended. There are 31 references: 30 Soviet, 1 English.

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Casting of Large Ingot Molds (Cont.)

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Casting of Large Ingot Molds (Cont.) SOV/3209

AVAILABLE: Library of Congress (TS236.N4)

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Nemy K.N., V.P.

18.4000 77469
SOV/133-60-1-30/30

AUTHORS: Cherkasov, L. M. (Candidate of Technical Sciences), Kolesnik, L. A. (Engineer), Gamberg, A. Yo., Nemykin, N. P.

TITLE: Casting of Ingot Molds From Mixtures of Foundry and Conversion Cast Irons of First Melt

PERIODICAL: Stal', 1960, Nr 1 pp 93-95 (USSR)

ABSTRACT: A mixture of the first melt of foundry and conversion cast iron was proposed, for casting ingot molds. The mixture should contain minimum 0.8% Si and maximum 0.4% Mn. To achieve better mixing in ladle, pouring was done in the following order: (1) Hot foundry cast iron, at minimum tapping temperature 1,380°C and (2) conversion cast iron at temperature 1,300°C. Mixing of cast iron permits the use of cast iron within a wide range of chemical composition. As a result of such modification, the structure molds improves, and durability increases.

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Maximum deviations in silicon and manganese content in mixed cast iron (frequency curve).

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Casting of Ingot Molds From Mixtures of Foundry and Conversion Cast Irons of First Melt

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SOV/133-60-1-30/30

Durability for all types of the latter is 10-20% higher than that of molds from foundry cast iron; this is explained by the change in microstructure which in mixed cast iron has a higher content of pearlite and finer graphite inclusions (see Fig. 5). The metallographical investigations were done by Kryachina, Z. I. of Krivoy Rog Steel Plant ("Krivorozhstal'"). There is 1 table; 7 figures; and 2 Soviet references.

ASSOCIATION: Dnepropetrovsk Metallurgical Institute and Krivoy Rog Steel Plant (Dnepropetrovskiy metallurgicheskiy institut i Zavod "Krivorozhstal")

Casting of Ingot Molds From Mixtures of Foundry and Conversion Cast Irons of First Melt

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Fig. 5. Classification of molds according to size (length) of graphite inclusions in their structure (frequency curves):
(a) Mold of foundry cast iron; (b) mold of conversion cast iron; (c) mold of mixed cast iron.

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NEMYKIN, P.I., agronom

Sugar beets in the Chestnut Solonetz soils of Zaporozh'ye Province. Zhivotnovodstvo 23 no.2:19-20 F '61. (MIRA 15:11)

1. Kolkhoz "40 let Oktyabrya", Priazovskogo rayona, Zaporozhskoy obl.
(Zaporozh'ye Province--Sugar beets) (Solonetz soils)

NEMYKIN, P.I., agronom

Growing strong wheat in Chestnut Solonetz-type soils.
Zemledelie 26 no.2:75-77 F '64. (MIRA 17:6)

1. Kolkhoz "40 let Oktyabrya" Priazovskogo proizvodstvennogo upravleniya, Zaporozhskoy oblasti.

NEMYKIN, V.V., otv.red.; ABARBARCHUK, F.I., red.izd-va; SABITOV, A., tekhn.red.

[New machines and equipment for the mechanization of iron and manganese mines] Novye mashiny i oborudovanie dlia mekhanizatsii zheleznorudnykh i margantsevykh shakht. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960. 79 p. (MIRA 13:10)

1. Russia (1917- R.S.F.S.R.) Dnepropetrovskiy ekonomicheskiy administrativnyy rayon, Sovet narodnogo khozyaystva. (Mining machinery)

NEMYNAR, B.

TECHNOLOGY

Periodical: PALIVA. Vol. 38, no. 11, Nov. 1958

NEMYNAR, B. Scientific-technical cooperation with the USSR. p. 369.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

NEMYNAR, B.

Main problems in the development of coal industry. p. 293.

UHLI. (Ministerstvo paliv) Praha, Czechoslovakia. Vol. 1, no. 9, September 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

NEMYNAR, B.

Eliminating shortcomings in management, planning, and financing. p. 387.

UHLI (Ministerstvo paliv) Praha, Czechoslovakia. Vol. 1, no. 11, Nov. 1959

Monthly list of East European Accessions (EEAI), Vol. 9, no. 1, Jan. 1960

Uncl.

NEMYNAR, Blahomil, dr.

Economic research, a way for improving the economic management of the coal industry. Uhli 4 no.11:361-362, [illegible] N '62.

1. Ministerstvo paliv a energetiky.

NEMYNAR, Blahomil, dr.

Looking forward to the 12th Congress of the Communist Party of Czechoslovakia. Paliva 42 no.4:97 Ap '62.

NEMYNAR, Blahomil, dr.

We shall contribute with all our force to the performance of decisions of the 12th Congress of the Communist Party of Czechoslovakia. Paliva 43 no.1:1-2 Ja '62.

1. Ministerstvo paliv a energetiky.

NEMYRYA, A.M.

Studying progressive practice in oncological services for the population. Sov.zdrav. 16 no.11:24-27 N '57. (MIRA 11:1)

1. Iz Onkologicheskogo instituta imeni P.A.Gertsena (dir. - prof. A.M.Novikov)

(NEOPLASMS, ther.
cancer clinic program in Russia (Rus))

NEMYRYA, A. N. Cand Med Sci -- (diss) "State of ~~the~~ oncological [redacted] patients [redacted] gastric cancer in the light of remote results. According to data of GOI /State Oncological Inst/ im P. A. Gertsen." Gor'kiy, 1959. 16 pp with diagrams (Gor'kiy Med Inst im S. M. Kirov), 200 copies (KL, 45-59, 150)

NEMYRYA, A.N. (Moskva)

Present status of oncological care of patients with cancer of the stomach. Sov. zdrav. 19 no.9:37-40 '60. (MIRA 13:11)

1. Iz Gosudarstvennogo onkologicheskogo instituta imeni P.A.Gertsena (dir. - prof. A.N.Novikov, nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.I.Savitskiy).
(STOMACH--CANCER)

LARIOSHCHENKO, T.G.; YANISHEVSKIY, V.I.; NEMYRYA, A.N.

Experience in the treatment of cancer of the breast from data of the Gertsen Oncological Institute. Khirurgiia 36 no.8:11-20 Ag '60. (MIRA 13:11)

1. Iz Gosudarstvennogo onkologicheskogo instituta imeni P.A. Gertsena (dir. - prof. A.N. Novikov; nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki prof. A.I. Savitskiy).
(BREAST--CANCER)

NEMYRIYA, A.N.

Late results of the treatment of gastric cancer and methods for their calculation. Vop.onk. 7 no.1:8-14 '61. (MIRA 14:2)
(STOMACH--CANCER)

NEMYRYA, A. N., starshiy nauchnyy sotrudnik (Moskva)

Results of radical treatment in cancer. Klin. med. no.11:119-124 '61. (MIRA 14:12)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo onkologicheskogo instituta imeni P. A. Gertsena (dir. - prof. A. N. Novikov)

(CANCER)

NEMYRYA, Aleksandra Nikolayevna; KUDRYAVTSEV, M.A., red.; MATVEYEVA, M.M., tekhn. red.

[Organization of oncological service for patients with stomach cancer]Organizatsiia onkologicheskoi pomoshchi bol'nym rakom zheludka. Moskva, Medgiz, 1962. 107 p. (MIRA 15:9)
(STOMACH—CANCER)

KOLYADYUK, I.V.; TALALAYEVA, A.V.; NEMYRYA, A.N.

Chemical and surgical treatment of gastric cancer. Khirurgiia 40 no.8:8-17 Ag '64. (MIRA 18:3)

1. 3-ye khirurgicheskoye otdeleniye (zav. - doktor med. nauk A.P. Bazhenova) patologoanatomicheskogo otdeleniya (zav. - kand. med. nauk Z.V. Gol'bert) Onkologicheskogo instituta imeni Gertsena (dir. - prof. A.N. Novikov), Moskva.

LARIOSHCHENKO, T.G.; CHAYKOV, I.M.; NEMYRYA, A.N.

Results of the treatment of breast cancer. Khirurgiia 41 no.4: 32-36 Ap '65. (MIRA 18:5)

1. Onkologicheskiy institut imeni Gertsena (dir. - prof. A.N. Novikov), Moskva.

[redacted], I., kand. voyennykh nauk polkovnik.

Training of command personnel in military schools. Voen. vest. 37 no.1:66-69 Ja '58. (MIRA 11:2)

(Military education)

PETROV, K.A., NEMYSHEVA, A.A., DOTSEV, G.V., BARICH, A.G.

Reactions of sulfene chlorides and N-chloromines with phosphorus trichloride, dichlorophosphines, and red phosphorus.

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARBUZOV, Ed. Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

NEMYTOV, Petr Alekseyevich; LEPESHKINA, N.I., redaktor; DZHATIYEV, S.G., tekhnicheskiy redaktor.

[Collection of geometry problems for proof in grades 6-7; a manual for teachers] Sbornik zadach na dokazatel'stvo po geometrii dlia 6-7 klassov; posobie dlia uchitelei. Moskva, Ges.uchebno-pedagog.izd-vo M-va prosv.RSFSR. 1956. 111 p. (MLRA 10:4)
(Geometry--Problems, Exercises, etc)

NEMYTSKIY, V.V.

O nekotorykh klassakh mnozhestv v svyazi s absolyutnoy skhodimost'yu trigonometricheskikh ryadov. Matem. sb., 33 (1926), 5-32.
Solutions des equations elliptiques pour les<<petits>>domanies. Matem. sb., 1 (43), (1936), 485-502.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

NEMYTSKIY, V.V. Continued

Theoremes d'existence et d'unicite des solutions integrales non - Lineaires. Matem. sb., 41 (1934), 421-452.
Ob odnom obshchem klasse nelineynykh integral'nykh uravneniy. Matem. sb., 41 (1934), 655-658.
I. Nelineynyye integral'nyye uravneniya, sravnimyye s lineyny mi Obshcheye nelineynoye integral'noye uravneniye. DAN, 15 (1937), 17-22.
Rezul'taty pervoy iz etikh rabot ("Teoremy Medera") voshli v izvestnyy kursanaliza V.V. Nemystkogo, M.I. Sludskoy, AN. Cherkasova (T. 11, str. 265).

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

NEMYTSKIY, V.V. Continued

Über vollstandig unstabile dywamische Systeme. Ann. di Math., 14 (1936), 275-286.
O semeystvakh krivykh, zapolnyayushchikh metricheskoye prostranstvo. DAN, 21 (1938), 99-102
Semeystva krivykh tipa Bendiksona. DAN, 21 (1938), 103-105.
Sur les systemes de courbes remplissant un espace metrique. Matem. sb., 6 (48), (1939), 283-292.
Priblizhennoye kachestvennoye integrirovaniye sistemy uravneniy $\frac{dx}{dt} = Q(X,Y)$; $\frac{dY}{dt} = P(X,Y)$. DAN, 38 (1943), 71-75.
Kachestvennoye integrirovaniye sistemy $\frac{dx}{dt} = Q(X,Y)$; $\frac{dY}{dt} = P(X,Y)$ v pervom priblizhenii. DAN, 38. (1943), 211-214.
Dinamicheskiye sistemy na predel'nam integral'nam mnogobrazii. DAN, 47 (1945), 555-558.
Obshchiye dinamicheskiye sistemy. DAN, 53 (1946), 495-498.
Kachestvennoye integrirovaniye sistemy $\frac{dx}{dt} = Q(X,Y)$; $\frac{dY}{dt} = P(X,Y)$ s pomoshch'yu universal'nykh setey Lomanykh. M., Uchen. zap. un-ta, 100 (1946), 34-52.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

1. NEMYTSKIY, V. V., STEPANOV, V. V.

2. USSR (600)

4. Physics and Mathematics

7. Qualitative Theory of Differential Equations, V. V. Nemytskiy and V. V. Stepanov. (Moscow-Leningrad, State Technical Press, 1947). Reviewed by A. G. Mayer, Sov. Kniga, No. 12, 1948.

9. [redacted] Report U-3081, 16 Jan. 1953. Unclassified

NEMYTSKIY, V. V.

PA 17/49T57

USSR/Mathematics - Dynamics, Theoretical Sep/Oct 48
Mathematics - Mechanics, Theoretical

"The Theory of Orbits of Dynamic Systems," V. V. Nemytskiy, 26 pp

"Matemat Sbor" Vol XXIII, No 2

Elaborates on G. D. Birkhoff's theory of dynamic systems (Amer Math Soc, NY, 1927). Discusses the analytic functions describing the motion of particles in a closed system.

17/49T57

Author: Nemytskii, Viktor Vladimirovich

Title: The qualitative theory pertaining to differential equations. The 2nd improved and enlarged edition. (Kachestvennaia teoriia differentsial'nykh uravnenii.) 550 p.

City: Moscow
Publisher: State Printing House of Technical and Theoretical Literature.

Date: 1949

Available: Library of Congress

Source: Monthly List of Russian Accessions, v. 3, no. 8, p. 523

NEMYTSKII, V.V.

RT-1462 (Topological problems of the theory of dynamical systems) Topologicheskie voprosy teorii dinamicheskikh sistem.
SO: Uspekhi Matematicheskikh Nauk. 4(6): 91-153, 1949.

NEMYTSKIY, V. V. PA 163T23

USSR/Mathematics - Dynamical Systems May/Jun 50

"Generalizations in the Theory of Dynamical Systems," V. V. Nemytskiy

"Uspekh Matemat Nauk" Vol V, No 3 (37), pp 47-59

Synopsis of new theory of dynamical systems which contains extremely important concepts of dynamic limits sets, recurrence, and almost-periodicity, which were only implicit in very comprehensive earlier assumptions. This is an immediate extension of Nemytskiy's "Topological Problems in the Theory of Dynamical Systems" in "Uspekh Matemat Nauk" Vol IV, No 6.

163T23

NEMYTSKIY, V. V.

USSR/Mathematics - Nonlinear Operators 11 Sep 51

"Certain Problems of the Structure of the Spectrum of Nonlinear Completely Continuous Operators," V. V. Nemytskiy, Sci Res Inst of Math and Mech, Moscow State U imeni Lomonosov

"Dok Ak Nauk SSSR" Vol LXXX, No 2, pp 161-163

Establishes the operator eq $LF = A(F)$, where $A(F)$ is an operator operating in a Banach space and whose values also belong to the same Banach space; moreover, assumes $A(\theta) = \theta$. Demonstrates a number of theorems regarding this operator $A(F)$. Submitted by Acad A. N. Kolmogorov 4 Jul 51.

221T68

1. NEMYTSKIY, V. V.

2. USSR (600)

4. Differential Equations

7. Problems in the qualitative theory of differential equations. Vest.Mosk.un., 7, no. 8, 1952.

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

USSR/Mathematics - Nonlinear Integrals 11 Sep 53

"The Structure of a Certain Operator," M. M. Vaynberg

DAN SSSR, Vol 92, No 2, pp 213-216

Considers the problem of whether a given operator h generated by a real function f(u,x) depends upon the structural properties of f(u,x), where f(u,x) is defined for all real u and for all x in the measurable set B of Euclidean space s of dimensions by the equality hu=f(u(x),x). Notes that h was studied earlier by V. V. Nemytskiy (Matem Sbor. 41,

269T74

438 (1934)), by the author in 1949, and by M. A. Krasnosel'skiy (Ukrain Matem Zhurn. 2, No 3, 1951). Completes the investigation of the continuity of h for an extensive class of functional spaces, and shows that the necessary and sufficient criterion of continuity. Presented by Acad S. L. Sobolev 13 Jul 53.

NEMYTSKIY, V.V.
USSR/ Mathematics - Qualitative theory

FD-1161

Card 1/1 Pub. 118-2/30

Author : Nemytskiy, V. V.

Title : Some problems in the qualitative theory of differential equations

Periodical : Usp. mat. nauk, 9, No 3(61), 39-56, Jul-Sep 1954

Abstract : The author surveys the contemporary literature in an expanded version of his report delivered previously to the Moscow Mathematical Society in March 1953. He treats the problems of qualitative theory in the plane (i.e. the system $dx/dt=P(x, y)$, $dy/dt=Q(x, y)$) and the spatial problems of qualitative theory, and also linear systems with variable coefficients. In particular he discusses: vortices, nodes, singular points, limit cycle nonlinear oscillations, stability, isoclines, separatrix, rotated vector field, characteristic indices, asymptotic solution, boundedness, periodic solution. The survey covers approximately a five year period (1947-1953). Fifth-three references, including 37 USSR (e.g. N. B. Khaimov, G. Ye. Shilov, R. E. Vinograd, A. F. Filippov, A. V. Dragilev, M. I. Yel'shin, Ye. A. Barbashin, N. N. Krasovskiy, I. G. Malkin, B. A. Yershov, S. A. Stebakov, N. N. Bautin, Ye. A Leontovich, D. M. Grobman, A. A. Shestakov, A. I. Lur'ye, M. A. Ayzerman, I. M. Rapoport, B. P. Demidovich, N. I. Gavrilov, A. D. Gorbunov).

Institution :

FD-1027

USSR/Mathematics - Nonlinear operators

Card 1/1 Pub. 64 - 7/9

Author : Nemytskiy, V. V. (Moscow)

Title : Correction to the work 'Structure of the spectrum of nonlinear completely continuous operators' (ibid., 33(75), 545-558, 1953)

Periodical : Mat. sbor., 35(77), No 1, 174, Jul-Aug 1954

Abstract : The author acknowledges that M. A. Krasnosel'skiy called his attention to the necessity for correcting lemma 3 by adding the limitation of 'for strongly topological representations only'.

Institution : --

Submitted : 8 May 1954

NEMYTSKIY, V.V.

USSR/Mathematics

Card : 1/1

Authors : Vrublevskaya, I. N.

Title : On trajectories and bounded sets of dynamic systems

Periodical : Dokl. AN SSSR, 97, Ed. 1, 9 - 12, July 1954

Abstract : Definitions of certain terms, related to topological transformations in metric space, are given, and six associated theorems on trajectories and bounded sets of dynamic systems are presented. Of these, the basic theorem reads as follows: If, in any regular deformation, open semi-trajectories are geometrically equivalent, then their corresponding initial points are either simultaneously positive or simultaneously [illegible]. Reference is made to an article by V. V. Nemytsky, Dokl.

AN SSSR, Vol 4, Ed. 6 (34), 1949.

Institution : The V. A. Steklov Institute for Mathematics of the Academy of Sciences of USSR.

Presented by : Academician, P. S. Aleksandrov, April 1954

USSR/ Mathematics

Card : 1/1

Authors : Nemytsky, V. V.

Title : The method of Lyapunov's cyclic functions used for determining oscillation conditions.

Periodical : Dokl. AN SSSR, Vol. 97, Ed. 1, 33 - 36, July 1954

Abstract : Having first defined the meaning of oscillation with respect to a [illegible] obtained from a topological tore, as well as

Institution : The M. V. Lomonosov ...

Presented by : Academician, I. G. Petrovsky, April 1954

L 31294-65 EWT(d) Pg-4 IJP(c) S/0044/64/000/011/B038/B039

ACCESSION NR: AR5004794

16
B

SOURCE: Ref. zh. Matematika, Abs. 11B179

AUTHORS: Nemytskiy, V. V.; Potlov, V. V.

Card 1/2 : Pub. 129-25/25

Author : Nemytskiy, V. V., Professor

Title : Defense of Doctoral Dissertation. In the Mechanical-Mathematical Faculty

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 10, 188-190, Feb 1955

Abstract : In the doctoral dissertation of M. M. Vaynberg, "Potential Operators and the Variational Theory of Nonlinear Operator Equations", the following nonlinear operator equation is studied: $mx=Tx$, where T is a certain generally nonlinear operator acting in a certain Banach space and m is a real parameter. In analogy with linear operators the author of the dissertation calls the element x_0 an element with fixed direction m if $mx_0=Tx_0$; if moreover $T\theta=\theta$, then the element with the fixed direction is called an eigen-element of the operator. M. M. Vaynberg undertakes three problems: 1) the conditions for the existence of solutions of the equation $mx=Tx$; 2) the conditions for the existence of elements with fixed direction; 3) the structure of the set of elements with fixed direction; 3) the structure of the set of elements with fixed direction. Finally, he applies his results to the theory of systems of nonlinear integral equations. In recent years in the USSR four doctoral dissertations on nonlinear analysis have been defended, including M. M. Vaynberg's; these other dissertations were by

FD-1700

Card 2/2

A. I. Guseynov, M. A. Krasnosel'skiy and E. S. Tsitlanadze. In these dissertations were developed ideas suggested by the works of L. A. Lyusternik and V. V. Nemytskiy, professors at Moscow University. These four dissertations determine a new stage in the development of nonlinear functional analysis which is leading to the creation of the general theory of nonlinear functional equations.

Institution : -

Submitted -

KOLMOGOROV, A.N., akad.; NEMYTSKIY, V.V., prof., otv.red.

[Program in the theory of probability; for the Mechanics-Mathematics Faculty. Major: mathematics] Programma po teorii veroiatnosti dlia mekhaniko-matematicheskogo fakul'teta. Spetsial'nost' - matematika. 1956. 1 p. (MIRA 11:3)

1. Moscow. Universitet.
(Probabilities)

Nemytskiy, Viktor Vladimirovich

ALEKSANDROV, Pavel Sergeyevich; NEMYTSKIY, Viktor Vladimirovich; VOVCHENKO, G.D., professor, redaktor; GUKOVSKAYA, V.A., redaktor; KOVNATOR, R.A., redaktor; MULIN, Ye.V., tekhnicheskiy redaktor.

Viacheslav Vasil'evich Stepanov. Moskva, Izdvo Moskovskogo universiteta, 1956. 58 p. (MLRA 9:5)
(Stepanov, Viacheslav Vasil'evich, 1889-1950)

NEMYTSKIY, V. V.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress, Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Nemytskiy, V. V. (Moscow). On the Nature of Stabilized Conditions in Multidimensional Dynamic Systems. 208

NEMYTSKIY, V.V.

Certain methods of qualitative study "in the large" of multivariate autonomous systems. Trudy Mosk.mat.ob-va 5:455-482 '56.(MLRA 9:9)
(Differential equations) (Oscillations)

NEMYTSKIY, V.V.

BUNDEL', A.A., red.; GIPPENREYTER, B.Ye., red.; GVOZDETSKIY, N.A., red.; GREKOV, L.I., red.; KUZ'MIN, K.K., red.; LETAVET, A.A., red.; NEMYTSKIY, V.V., red.; ROTOTAYEV, P.S., red.; SIMONOV, Ye.D., red.; TUSHINSKIY, G.K., red.; YUKHIN, I.V., red.; DOBRONRAVOVA, K.O., red.; GLEIKH, D.A., tekhn.red.; MAL'CHEVSKIY, G.N., red. kart.

[Conquered peaks of 1954; a yearbook of Soviet mountaineering] Pobezhdennye vershiny god 1954; ezhegodnik sovetskogo al'pinizma. [Moskva] Gos.izd-vo geogr.lit-ry, 1957. 431 p. (MIRA 11:1)
(Mountaineering--Yearbooks)

PHASE I BOOK EXPLOITATION 8

NEMYTSKIY, VIKTOR VLADIMIROVICH.

Nemytskiy, Viktor Vladimirovich, Professor; Sludskaya, Maria Ivanovna; and Cherkasov, Andrey Nikolayevich

Kurs matematicheskogo analiza, t. I (Course in Mathematical Analysis, v. 1) 3d ed., enl. Moscow, Gostekhizdat, 1957. 486 p. 25,000 copies printed.

Gen. Ed.: Nemytskiy, Viktor Vladimirovich, Professor; Ed.: Lapko, A..F.; Tech. Ed.: Gavrilov, S. S.

PURPOSE: The book is intended for university students, although the content of the book exceeds the requirements of the teaching program.

COVERAGE: The basic concepts of mathematical analysis, such as sequence, limit of a sequence, function, limit of a function and continuity of a function, are introduced, and the theory of

Card 1/8

differential calculus developed. The application of differential calculus to the study of functions is presented and some mechanical problems are given. The general theory of series, the expansion of functions in power series, and the calculation of values of certain transcendental functions are presented. The basic theory of integral calculus is developed and its applications to geometry and to mechanics are given. There are no references.

TABLE OF CONTENTS:

NEMYTSKIY, V.

Call Nr: QA 303. N43428

AUTHORS: Nemytskiy, V., Sludskaya, M., Cherkasov, A.

TITLE: A Course in Mathematical Analysis. Vol. II. (Kurs matematicheskogo analiza. Tom II)

PUB. DATA: Gosudarstvennoye izdatel'stvo tekhniko-teoreticheskoy literatury, Moscow, 1957, 498 pp., 25,000 copies.

ORGN. AGENCY: None

EDITOR: Editorial Supervision: Nemytskiy, V., Professor; Editor: Lanko, A.F.; Tech. Editor, Yermakova, Ye. A.

PURPOSE: The book was written as a textbook for the course of mathematical analysis at state universities and was approved as such by the Ministry of Higher Education of the USSR.

COVERAGE: The present volume covers the expression of functions by infinite sequences and series of functions, differential calculus of functions with many variables, and integral calculus of functions

Card 1/32

A Course in Mathematical Analysis. (Cont.)

with several variables. There are no personalities and no references.

TABLE OF CONTENTS

Card 2/32

SOV/124-58-5-4975

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 5 (USSR)

AUTHOR: Nemytskiy, V.V.

TITLE: On Steady-state Conditions in Three-dimensional Autonomous Dynamic Systems (Ob ustanovivshikhsya rezhimakh v trekhmernykh avtonomnykh dinamicheskikh sistemakh)

PERIODICAL: Vestn. Mosk. un-ta. Ser. matem. mekhan. astron., fiz., khimii, 1957, Nr 1, pp 3-7

ABSTRACT: The concept of a steady-state condition is examined. The author proposes to compare with the steady state that limiting minimum multiplicity of quasi-periodic trajectories which ought to possess the property of asymptotic stability. He demonstrates that, in a three-dimensional space corresponding to the steady state, there is either a topological two-dimensional tore filled with nearly periodic trajectories or a single periodic solution. In the first case, the frequency base of the trajectories filling the tore has only two independent frequencies.

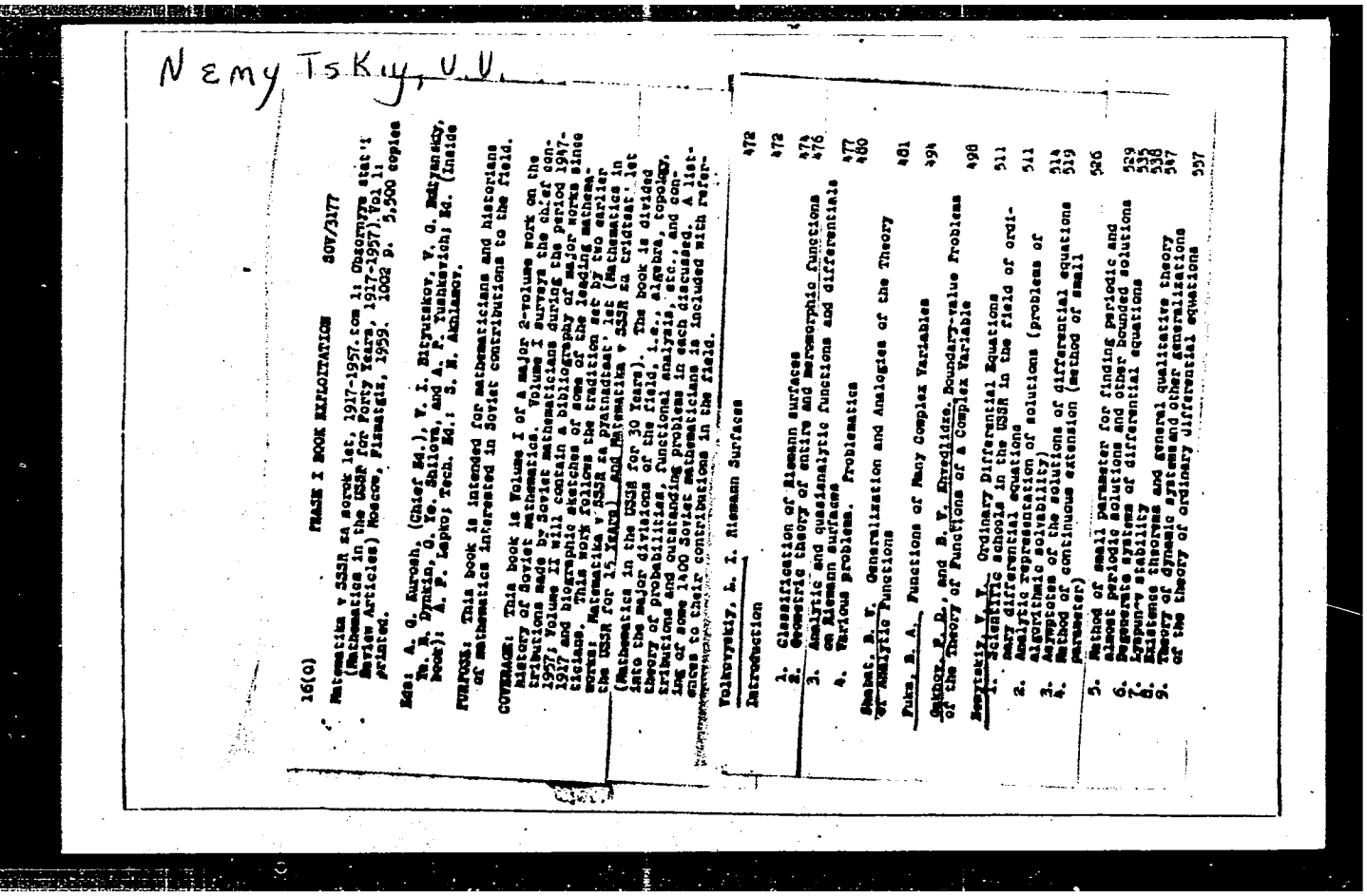
Ye.A. Barbashin

1. Dynamics--Theory 2. Topology

Card 1/1

NEMYTSKII, V.V.

Seminar on the qualitative theory of differential equations at the Moscow University. Usp.mat.nauk 12 no.4:235-239 Jl-Ag '57.
(MIRA 10:10)
(Moscow University--Differential equations)



Nemytskiy, V.V.

16(0) PHASE I BOOK EXPLOITATION SOV/3177

Matematika v SSSR za sorok let, 1917-1957. Tom 1: Obshchiye stat'i (Mathematics in the USSR for Forty Years, 1917-1957). Vol 1: Survey Articles) Moscow, Fizmatgiz, 1959. 1002 p. 5,500 copies printed.

Eds: A. G. Kurosh, (Chief Ed.), V. I. Bityutskov, V. G. Boltyanskiy, Yu. A. Dymin, O. Ye. Shilov, and A. P. Yushkevich; Ed. (inside book): A. P. Lapko; Tech. Ed.: S. N. Akhlamov.

PURPOSE: This book is intended for mathematicians and historians of mathematics interested in Soviet contributions to the field.

COVERAGE: This book is Volume I of a major 2-volume work on the history of Soviet mathematics. Volume I surveys the chief contributions made by Soviet mathematicians during the period 1917-1957; Volume II will contain a bibliography of major works since 1917 and biographic sketches of some of the leading mathematicians. This work follows the tradition set by the earlier work: Matematika v SSSR za pyatnadtsat' let (Mathematics in the USSR for 15 Years) and Matematika v SSSR za chetvert' let (Mathematics in the USSR for 25 Years). The book is divided into the major divisions of the field, i.e., algebra, topology, theory of probabilities, functional analysis, etc., and consists of some 1400 Soviet mathematicians in each discussed. A listing of their contributions in the field is included with reference to their contributions in the field.

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136610

16(1)

AUTHOR: Nemytskiy, V.V. SOV/42-14-2-15/19

TITLE: Ordinary Differential Equations at the International Congress in Edinburgh

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 2, pp 251-252 (USSR)

ABSTRACT: This is a short report on the Edinburgh lectures on ordinary differential equations and some informations obtained by word of mouth. The following Soviet scientists are mentioned: Ye.F. Mishchenko, L.S.Pontryagin, Ye.M.Landis, I.G.Petrovskiy, O.A. Oleynik, Yu.A.Mitropol'skiy, Andronov, Volosov, Ye.A.Barbashin. The lectures of I.G.Petrovskiy and Ye.M.Landis are said to be the most profound ones. The author regrets that no synoptic addresses were given in the considered domain.

Card 1/1

NEMYTSKIY, V. V.

report to be presented at the 1st Intl Congress of the Intl Federation of Automatic Control, 25 Jun-5 Jul 1960, Moscow, USSR.

LERNER, A. Ya., - "The application of a self-adjusting system of automatic control"
MALOV, V. S., PEREGUDCHIKOV, A. M., and [illegible] A. - "Industrial telemeasurement systems and digital technique"
MEYEROV, M. V. - "Some peculiarities of the structure of multi-communications regulation systems"
MIKHAYLOVSKIY, V. N. - "Evaluation indexes and the possibility of increasing the quality of telemeasurement systems"
NEMYTSKIY, V. V. - "Concerning the problem of established routines in automatic regulation systems"
NESTERENKO, E. A. "Principals of construction of digital double code automatic compensators"
NEYMARK, Yu. I. - "Concerning the relation of systems of automatic regulation with the parameters of periodic movements"
NIKOLAYEV, N. S., and EPSHTEYN, V. L. - "System of automatic control of cutting of rolled metal on a continuous bar mill with the use of digital calculating machines"
ORDYNTSEV, V. M. - "Some principles of organizing systems of complex automation of large scale chemical production and optimization of these systems"
OSTROVSKIY, G. M. - "Systems of automatic regulation with intermittent change of parameters"
PEROV, V. P. - "Statistical synthesis of impulse systems"
PETROV, B. N. - "The invariant principle and its application in the calculation of linear and nonlinear systems"
PIVEN, V. D. - "The problem of autonomy in the technique of automatic control"
POPOV, E. P. - "Some problems of synthesis of automatic control non-linear systems"
PUGACHEV, V. S. - "Method of determining the optimum system with non-linear relation of the observed function with the parameters of the signal"
PUTSILLO, V. P., PETROV, V. V., KONDIKOV, R. V., and VOLODIN, B. B. - "Principles of construction of a single class of extra control systems for automating production processes"
ROGINSKIY, V. N. - "The development of the theory of relay devices in the USSR"
ROZENBLAT, M.A. - "Dynamic characteristics of cores with right angle hysteresis winding and their influence on magnetic boosters"
ROZONER, L.I. - "Varied methods of investigating the quality of automatic control systems"
[illegible], V. M. - "Dynamics of automatic regulation of boiler-turbine units"
SHUMILOVSKIY, N. N., MEL'TTSER, L. V., NAUMOV, A. A., MEN-CHZHI-CHZHUN, and PIVOVAROV, L. A. - "Automatic control of composition of multi-ingredient mixtures"
SHAGOVSKIY, E. S., and [illegible], V. G. - "Some results of work for the utilization of radioactive radiation for automatic control of mining machinery"
SOLODOVNIKOV, V. V., BATKOV, A. M., BABUSKIN, V. M., VAL'DENBERG, Yu. S., MATVEYEV, P. S., and POKROVSKIY, A. K. - "Analyses and synthesis of automatic control systems with the aid of calculating machine facilities"
STAKHOVSKIY, R. I., FITSNER, L. N., [illegible] - "Automatic optimizers and their use for solution of variation problems in automatic synthesis"
STRAKHOV, S. V. - "A system of alternating current electric drives with autonomous power supply"
TAKSAR, I. M., and YANUSHKOVSKIY, V. A. - "Apparatus for technical control of production with the use of nuclear radiation"
TEODORCHIK, K. F., and BENDRIKOV, G. A. - "Methods of organizing the trajectory of roots of linear systems and qualitative determination of type of trajectory"
TSYPKIN, Ya. Z. - "Elements of the theory of digital automatic systems"
VENCHKOVSKIY, D. B., MASHLYKIN, V. A., CHUDIN, Yu. I., and SHASTOVA, G. A. - "Static stability of telemeasurement"
VENIKOV, V. A. - "Interactions of a mathematical modeling and calculating technology experiment in calculating loads in electrical systems"

NEMYTSKIY, V.V. (Moskva)

International mathematical congress in Edinburgh; impressions of a participant. Mat. pros. no.5:223-227 '60. (MIRA 13:12)
(Mathematics—Congresses)

88419

S/055/60/000/006/001/008
C111/C222

AUTHOR: Nemytzkiy, V.V.

TITLE: Some General Theorems on the Position of Integral Curves in the Plane

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I. Matematika, mekhanika, 1960, No. 6, pp. 3 - 10

TEXT: The paper deals with a family of characteristics occupying the whole plane; some theorems supplementing the Bendixon's theory are stated. Let $\overrightarrow{ab}$ be a simple arc or a simple closed curve C. If $\overrightarrow{ab}$ is an open arc then it is completed to a closed curve C. Let Γ_1 be the region inside C and Γ_2 be the region outside C. The arc $\overrightarrow{ab}$ is called "one-sided conducting" if :
1. For every point $p \in \overrightarrow{ab}$ there exists a T_p so that the arcs of the characteristic $f(p;-T_p 0)$ and $f(p;0T_p)$ lie in different Γ_i $(i = 1,2)$. $p \in \overrightarrow{ab}$ is called inlet point if $f(p;-T_p 0) \subset \Gamma_2$ and it is called

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C111/C222

Some Gemeral Theorems on the Position of Integral Curves in the Plane

outlet point if $f(p; -T_p 0) \subset \Gamma_1$.

2. All inner points of $\overrightarrow{ab}$ are either inlet points or outlet points.

The author considers systems of characteristics having only one singular point (in 0) in the given region. Then the following classification of characteristics is valid :

A. Elliptic characteristics α and ω ; their boundary sets consist of singular points.

B. Parabolic characteristics α (resp. ω); the boundary set is empty, while ω (resp. α) is a boundary set consisting of one singular point.

C. Hyperbolic characteristics α and ω ; the boundary sets are empty.

D. Positive (resp. negative) asymptotic characteristics α (resp. ω); the boundary set consists of more than of one point and does not belong to the characteristic.

E. Periodic characteristics α and ω ; the boundary sets are identical with the characteristic which is a simple closed curve.

F. Singular points.

Theorem 1 : Every simple arc or simple closed curve going through no singular point can have common points only with a finite number of

Card 2/ 3

88410

S/055/60/000/006/001/008
C111/C222

Some General Theorems on the Position of Integral Curves in the Plane

"vnepolozhnyye" elliptic or hyperbolic regions.
Theorem 2 : Given an angle space bounded by two curves starting from 0 and running to infinity. Let the curves be one-sided conducting in the generalized sense, i.e. the characteristics can enter the angle space only through these curves. Then: Either the angle space contains parabolic characteristics or one of the boundaries of the region itself is a parabolic curve or both boundaries are parabolic curves with an opposite direction.
Theorem : The whole plane cannot be filled up only by elliptic and parabolic curves.
There are 6 figures and 2 Soviet references.
[Abstracter's note : The word "vnepolozhnyye" in theorem 1 could not be translated.]
ASSOCIATION: Kafedra differentsial'nyy uravneniy (CHair of Differential Equations)

SUBMITTED: August 28, 1959

Card 3/3

69494

16.4600 S/020/60/131/04/08/073

AUTHOR: Nemytskiy, V.V.

TITLE: A Method for Finding All of the Solutions to Non-linear Operator Equations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol.131, No.4, pp.746-747.

TEXT: The author considers the operator equation $y = F(y)$, where $F(y)$ is a completely continuous operator of the Banach space B into B. The uniqueness of the solution is not assumed. The author proposes a constructive approximate method with the aid of which all solutions of the considered equation can be obtained in finitely many steps. The method is similar to the separation of the roots of an algebraic equation and it consists in the construction of certain sequences of nets. The question on the least number of necessary operations and on optimal construction methods shall be discussed in a next paper.

PRESENTED: December 1, 1959, by S.L.Sobolev, Academician

SUBMITTED: November 23, 1959

Card 1/1

NEMYTSKIY, V. V.

"Les regimes oscillateurs des systemes autonomes dans l'espace a n-dimensions."

Paper presented at the Intl. Symposium on Nonlinear Vibrations, Kiev, USSR, 9-19 Sep 61

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TITLE: On steady-state conditions in automatic control systems

SOURCE: International Federation of Automatic Control. 1st Congress, Moscow, 1960. Teoriya neprerynykh sistem. Spetsial'nyye matematicheskiye problemy. Moscow, Izd-vo AN SSSR, 1961. Trudy, v. 1, 597-602

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TEXT: The solutions are analyzed of systems of differential equations which describe multi-dimensional control systems; these solutions are related to steady-state conditions. A simplified system is described by the vector equation

$$\frac{dx}{dt} = f_1(x) + e = F(x) \quad , \qquad (2)$$

where e is a constant vector (i.e., the external disturbance is time

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independent). This system is considered in phase space, and it is assumed that the region of phase states is bounded. First a linear system is considered, viz.

$$\frac{dx}{dt} = Ax + e \qquad (3)$$

where A is a constant matrix. The general solution of this system is

$$x = C_1 e^{\lambda_1 t} + C_2 e^{\lambda_2 t} + \ldots + C_n e^{\lambda_n t} + e_1 .$$

The case is noted when one pair of the roots is purely imaginary and the others are negative. In this case, the general solution is

$$x_0 = A \sin(\beta t + \varphi) + e_1 + C_3 e^{\lambda_3 t} + \ldots + C_n e^{\lambda_n t} .$$

For $t \to \infty$, all the solutions tend to the periodic solutions

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$$x_0 = A \sin(\beta t + \varphi) + e_1 \quad .$$

However, the smallest change in the initial conditions changes this periodic state and, therefore, no steady-state process will be observed in practice. Hence, it follows that for steady-state conditions of $x_0(t)$ it is necessary that an open set of solutions exist, so that the phase-trajectories should tend to $x = x_0(t)$ for any initial condition which belongs to the domain of the periodic solutions. Such a criterion has been also found for nonlinear systems. In the case of multi-dimensional nonlinear systems, various authors have established criteria for the existence of periodic solutions, for example, for systems of a very general type:

$$\frac{dx_i}{dt} = f_{1i}(x_1) + f_{2i}(x_2) + f_{3i}(x_3) \quad .$$

The periodic solutions for systems

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$$\frac{dx_i}{dt} = A(x_i) + f(x_k), \quad (i = 1,2,\ldots,n) \quad (1<k<n)$$

can also be found, but the question whether these solutions correspond to steady-state conditions remains open. Further, the existence of non-periodic steady-state conditions is discussed. In this connection, the definition of internal stability, as given by P. Franklin, is stated. It is noted that systems with internal stability yield information on all their phase states, provided they are sufficiently long observed. Internally-stable conditions can be described analytically by means of almost-periodic Bohr functions. Hence, the study of almost-periodic states is useful for determining steady-state conditions, though not all the almost-periodic states of a given nonlinear system correspond to steady-state conditions. For a three-dimensional phase-space, the necessary requirements for the existence of steady-state conditions are known. These requirements have yet to be formulated for the general case. In this connection, stationary and periodic states, on the one hand, and almost-periodic, on the

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other, differ (the former containing only one trajectory of steady-state conditions and the latter—an infinite number of trajectories). It is noted that the foregoing analysis involved autonomous systems only. A discussion followed. There are 17 references: 14 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: O. Fridrichs, On nonlinear vibrations of third order, Studies in nonlinear vibrations theory, N.Y., 1946; L. L. Rauch, Oscillation of a third order nonlinear autonomous system, Contributions to the theory of oscillations, Annals of mathem. studies, no. 20, 1950; P. Franklin, Almost periodic recurrent motion, Math. Zeitschr., B. 30, 1929.

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