SMIRNOV, M.F.

Improving the utilization of Jacquard looms in the cotton industry. (MLRA 7:5)
Tekst.prom.14 no.2:8-10 F '54.
(Jacquard weaving)

SMIRNOV, M.F.

Potentialities for an increase in labor productivity. Tekst. prom. 18 no.11:43-44 N '58. (MIRA 11:12)

1.Glavnyy inzhener rodnikovskogo kombinata "Bol'shevik."
(Textile industry)

BOCHIN, V.A., laureat Stalinskoy premii, inzhener; SMIRNOV, M.F., inzhener.

First results of the work of specialized road machinery stations.
Avt.dor.19 no.2:5-7 F '56. (MLRA 9:6)
(Road machinery)

MATEYCHUK, S.P.; SMIRNOV, M.F.

Improve the work of demonstration-base road machinery stations and disseminate their experience. Avt.dor.19 no.5:4-6 My '56. (MLRA 9:8)

(Road machinery)

SMIRNOV, M.F., inzhener.

Technical norms for planning agricultural roads. Avt.dor.19 no.8:29 Ag '56. (Roads) (MLRA 9:10)

SMIRNOV, M., inzhener.

Combining skills in road machinery stations. Sots. trud no.4:125-126 Ap '57. (MIRA 10:6)
(Roads)

SMIRNOV, M.F., inzhener.

[illegible]t task of combining ope[illegible]es by Road Machinery Station workers. Avt. dor. 20 no.4:15 Ap '57. (MLRA 10:6)
(Kirov)

SMIRNOV, M., nauchnyy sotrudnik

Constructing and improving rural roads. Sel' stroi. 13 no.8: 29-30 Ag '58. (MIRA 11:9)

1. Institut kompleksnykh transportnykh problem AN SSSR.
(Road construction)

SMIRNOV, M.F., inzh.

Building roads on virgin lands. Avt. dor. 21 no.5:25 My '58.
(MIRA 11:6)

(Saratov Province--Road construction)

SMIRNOV, M.F., inzh.

Technical and economic factors in planning the development of the highway system. Avt. dor. 21 no. 7:4-6 Jl '58. (MIRA 11:8)

(Roads)

SMIRNOV, M., inzh.; YEKAYEV, D., inzh.

Collective farmers improve local roads. Sel'. stroi. 14 no.7:21 Jl '59. (MIRA 12:10)

(Khabarovsk Territory--Road construction)

YEKAYEV, A.D., inzh.; SMIRNOV, M.F., inzh.

Collective farms in Bikin District build and improve local roads.
Avt.dor. 22 no.3:25 Mr '59. (MIRA 12:4)
(Collective farms)

SMIRNOV, M.F., inzh.

Technical and economic basis of highway width. Avt. dor. 22 no.9: 26-27 S '59. (MIRA 12:12)
(Road) (Construction)

SMIRNOV, M.F., inzh.

Technical and economic factors in determining the capacity of highways. Avt.dor. 23 no.1:22-24 Ja '60.
(MIRA 13:5)
(Traffic engineering)

SMIRNOV, M.F., inzh.

Highway transportation in the Chinese People's Republic.
Avt.dor. 23 no.6:30-31 Je '60. (MIRA 13:6)
(China--Transportation, Automotive)
(China--Road construction)

SMIRNOV, M.F., inzh.

Classification of highways and calculating their parameters. Avt. dor. 23 no.10:28-29 O '60. (MIRA 13:10)
(Roads--Tables, calculations, etc.)

SMIRNOV, M.F.

The Soviet-Chinese transportation systems in the Amur Valley.
Geog. i khoz. no.9:41-44 '61. (MIRA 14:11)
(Amur Valley—Transportation)
(Russia—Foreign Economic Relations—China)
(China—Foreign Economic Relations—Russia)

PUSHKIN, P.I. [deceased]; SMIRNOV, M.F.

Road components of the automotive transportation costs at highway junctions. Avt. dor. 24 no. 1:29-31 Ja '61. (MIRA 14:2)
(Transportation, Automotive—Costs)

SMIRNOV, M.F., inzh.

Instructions for economic highway research. Avt.dor. 25 no.1:29-30 Ja '62. (MIRA 15:2)
(Highway research)

SMIRNOV, M.F.

Calculating the road component of transportation costs.
Avt.dor. 25 no.4:23-25 Ap '62. (MIRA 15:5)
(Transportation, Automotive—Rates)

SMIRNOV, M.F., inzh.

Indices of a road maintenance service. Avt.dor. 25 no.9:31 S '62.
(MIRA 15:9)

(Roads—Maintenance and repair)

SMIRNOV, M.F., inzh.

Evaluation of the productivity of road service by transportation criteria. Avt.dor. 25 no.12:7-8 D '62. (MIRA 16:2)
(Transportation, Automotive) (Roads)

MARKOVA, A.N.; SMIRNOV, M.F.

Proportional development of various types of petroleum-products transportation. Transp. i Khran. nefti i nefteprod. no. 2: 37-40 '64. (MIRA 17:5)

1. Institut kompleksnykh transportnykh problem.

MARKOVA, A.N.: [illegible], M.F.

Reloading petroleum products [illegible] to other types of transportation. Neft. khoz. [illegible] Je '52.
(MIRA 17:8)

SMIRNOV, M.F.; UZIN, S.V.; SHEYNIS, G.I.

Determining the density of passenger traffic on highways. Avt.dor. 27 no.6:13-14 Je '64. (MIRA 18:4)

SMIRNOV, M.F., inzh.

Proper determination of the economy of rough pavements.
Avt. dor. 27 no.8:29 Ag '64. (MIRA 17:12)

KORNYUKHOV, V.T.; SMIRNOV, M.F.

Determining traffic composition on highways. Avt. dor. 28 no.1:23,26 Ja '65. (MIRA 18:2)

1. M. G. SMIRNOV

2. USSR (600)

4. Bee Culture

7. My work in the apiary. Pchelovodstvo 30 no. 1. 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

SMIRNOV, M.G., inzh.

Jointers with electric heating used in veneering boxes and frames.
Der. prom. 7 no.1:19-20 Ja '58. (MIRA 11:1)

1. Moskovskaya mebel'naya fabrika No.3.
(Jointer (Woodworking machine))

A SMIRNOV, M.I.

11E

Effect of a protein-poor diet on the oxidation of pyruvic and dicarboxylic acids by rat liver slices. M. I. Smirnov (Second Moscow Med. Inst.). *Biokhimiya* 14, 481-6 (1949); cf. *C.A.* 42, 7849e.—The O absorbed decreased by 24% and the CO_2 evolved by 37% in liver slices of white rats that had been kept on a protein-poor diet. The addn. of pyruvic acid to such liver slices caused only an increase of 19% in the O absorbed and of 67% in the CO_2 evolved, compared to 40 and 158%, resp., in liver slices of normal rats. Oxalacetic, malic, and fumaric acids were also less easily oxidized by liver slices of rats kept on a protein-poor diet, although to a much lesser degree than pyruvic acid. The oxidation of succinic acid was actually greater than normal. This is because succinic acid dehydrogenase does not need any intermediate H donors, and can transfer H directly to the cytochrome system, which remains unaffected by a deficiency of proteins in the diet. A calorie-rich but protein-poor diet does not yield a high-energy level necessary for synthetic processes, such as the synthesis of liver proteins, because of the absence of that part of the energy normally derived by the organism through the oxidation of pyruvic, oxalacetic, malic, and fumaric acids.

H. Priestley

Soviet Biochemistry

YUDAYEV, N.A.; SMIRNOV, M.I.; RAZINA, P.G.; DOBBERT, N.N.

Biochemical modifications in muscles following denervation, tenectomy and regeneration of the nervous fibers. Biokhimiia 18 no.6:732-738 N-D '53. (MLRA 6:12)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moscow. (Muscle)

GOFMAN [illegible]ADOSHNIKOV, P.B.; KHOROSHCHO, Ye.V.; SMIRNOV, M.I.

Role of chemical factors in the migration of nematodes. Dokl.AN SSSR 103 no.6:1127-1130 Ag '55. (MLRA 9:1)

1.Smolenskiy gosudarstvennyy meditsinskiy institut. Predstavleno akademikom K.I.Skryabinym.
(Nematoda)

SMIRNOV, M. I., (Chief Veterinary Surgeon, Baku Poultry Breeding Farm) and SMIRNOV, F.B.

Infectious conjunctivitis in chickens

Veterinariya vol. 38, no. 9, September 1961, pp. 44.

SHEKOV L. I. and KAIDIIOV N. K. (Veterinary Surgeons, Baku Poultry Incubator)

"Concerning Utilization of the virus-vaccine of fowl plague from strain P_1."

Veterinariya, Vol. 38, No. 12, December 1961, P. 36.

MERLIN, V.S., prof., red.; PSHENICHNOV, V.V., dots., zam. red.; SMIRNOV, M.I., dots., red.; PENSKAYA, A.V., kand. pednauk, red.

[Problems in the psychology of personality and the psychology of work] Problemy psikhologii lichnosti i psikhologii truda. Perm' 1960. 201 p. (MIRA 16:6)

1. Perm'. Gosudarstvennyy pedagogicheskiy institut. 2. Permskiy pedagogicheskiy institut (for Merlin).
(Personality) (Physchology, Applied)

8(5)
AUTHORS: Sovalov, S. A., Candidate of Technical Sciences, Leznov, S. I., Engineer, Smirnov, M. I., Engineer (Moscow)

SOV/105-58-11-1/28

TITLE: Experimental Investigation of Power System Performance Characteristics (Eksperimental'noye issledovaniye rezhimnykh kharakteristik energosistemy)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 1-7 (USSR)

ABSTRACT: This paper gives an account of the principal results of an experimental investigation carried out in summer 1957 (on 3 weekdays and on one Sunday) in the Ob"yedinennaya energosistema Tsentra (Combined Power System of the Center). It covers: 1) An investigation of the frequency fluctuations in a non-controlled power system. It appeared that the irregular frequency fluctuations in a large power system are relatively small (not exceeding 0,2%) and that with a relatively stable load in the power system (this implies only slow frequency variations) the usual requirements placed upon frequency maintenance on a certain level are

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satisfied even without automatic control. 2) An investigation of the frequency fluctuations with automatic frequency control, even with the help of a relatively powerful station, does practically not at all reduce the amplitude of irregular fluctuations. In some instances, in particular on Sundays and during night hours such fluctuations became apparent in a much higher degree in an automatically controlled system than in a system without control. 3) Examinations of the total load variations in a power system. This study showed that the load varies very irregularly. When the load showed a general tendency to rise, it suddenly dropped back and vice versa. 4) The resulting static behaviour of all units of the power system, except of those of the Volzhskaya GES (Volga Power Station) remained within the limits of 8-10%. 5) A determination of the slope of the static frequency versus load characteristic. It was found that the voltage in the 110 kV-grid of the Moskovskiy uzel (Moscow Power Center) on the average

SMIRNOV, M.I.

Scientific cooperation of socialist countries in the field of construction. Izv. ASiA no.1:122-123 '60. (MIRA 13:9)

1. Zamestitel' nachal'nika otdela vneshnikh snosheniy Akademii stroitel'stva i arkhitktury SSSR.
(Construction industry)

ZARUBIN, G.G.; RUBTSOVA, I.K.; SMIRNOV, M.I.; PERTSOV, L.D.; DOLGOV, F.F.; KOKOREV, V.V.; ZHILINA, R.D.

Using alkyl aryl phosphates for plasticizing polyvinyl chloride. Plast.massy no.5:7-10 '63. (MIRA 16:6)
(Vinyl compound polymers) (Phosphoric acid) (Plasticizers)

SHIRNOV, M. I.,

"Regulating Devices and Automatic Control," Technological Developments at the Leningrad Metal Works imeni Stalin, Moscow, Mashgiz, 1957. p. 166.

L 12965-63 EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3000394 S/0191/63/000/005/0007/0010

72
70

AUTHOR: Zarubin, G. G.; Rubtsova, I. K.; Smirnov, M. I.; Pertsov, L. D.; Dolgov, F. F.; Kokorev, V. V.; Zhilina, R. D.

TITLE: Use of alkylarylphosphates for plasticizing polyvinylchloride

15

SOURCE: Plasticheskiye massy*, no. 5, 1963, 7-10

TOPIC TAGS: alkylarylphosphates, polyvinylchloride, plasticizers, esters, calendar method, sodium salts

ABSTRACT: The plasticizing qualities of DAFF (mixed ester of phenylphosphoric acid and 2-ethylexyl alcohol), prepared by a technique developed at NIIPM from phenol, phosphoryl chloride, and 2-ethylhexyl alcohol, are compared to those of several other esters of phosphoric acid obtained in normal C sub 7 - C sub 9 alcohols and C sub 6 - C sub 8 isoalcohols and with the widely used plasticizers tricresylphosphate (TCP) and dibutylphthalate (DBP). The dialkylphenylphosphates are recommended as substitutes for the two latter plasticizers for obtaining soft fire- and frost-resistant polyvinylchloride plastics suitable for fabric base preparation by the calendar method. DAFF and the dialkylphosphates were superior in frost-resistance to DBP and TCP; they were more fire-resistant than DBP, but less so than TCP. The physico-mechanical properties of the individual dialkylphenylphosphates were

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SHIRINOV, F.B., aspirant; SMIRNOV, M.I.

Infectious conjunctivitis in chickens. Veterinariia 38 no.9:44-45 S '61. (MIRA 16:8)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy veterinarnyy institut (for Shirinov). 2. Glavnyy veterinarnyy vrach Bakinskoy ptitsefabriki (for Smirnov).

GADZHIYEV, K.Sh., starshiy nauchnyy sotrudnik; ADIGEZALOV, I.M., mladshiy nauchnyy sotrudnik; SMIRNOV, M.I.

Results of the use of furazolidone against pullorum disease in poultry. Veterinariia 40 no.8:53-54 Ag '63. (MIRA 17:10)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy veterinarnyy institut (for Gadzhiyev, Adigezalov). 2. Starshiy veterinarnyy vrach Bakinskoy ptitsefabriki (for Smirnov).

SMIRNOV, M.I.; PETROVA, Ye.V.; PUSHKINA, L.A.; YERMILOVA, L.I.

Effect of cortisone on the concentration of vitamins B_1, B_2 and C in the tissues of rats. Probl. endok. i gorm. 11 no.1: 78-81 Ja-F '65. (MIPA 18:5)

1. Laboratoriya biokhimii vitaminov Nauchno-issledovatel'skogo instituta vitaminologii Minsiterstva zdravookhraneniya SSSR, Moskva.

SMIRNOV, M.I.

Symposium on bioflavonoids (vitamin P). Vop. pit. 23 no.6:85-87 N-D '64. (MIRA 18:6)

SMIRNOV, M. I.

Symposium on the mechanism of vitamin action. Vop. pit. 24 no.2:91-93 Mr-Ap '65. (MIRA 18:8)

GARKAVI, Yu.Ye.; SMIRNOV, M.I.; PIVEN', V.D., laureat Stalinskoy premii, kandidat tekhnicheskikh nauk; VORONOV, A.A., kandidat tekhnicheskikh nauk, redaktor; POL'SKAYA, R.G., tekhnicheskiy redaktor.

[Regulation of hydraulic turbines] Regulirovanie gidroturbin. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 347 p. [Microfilm] (MLRA 8:1)

(Hydraulic turbines)

SHCHEGOLEV, Gleb Stepanovich; GARKAVI, Yudel' Yel'yevich; SMIRNOV, M.I., dotsent, retsenzent; ORGO, V.M., inzhener, retsenzent; GRANOVSKIY, SLA., kandidat tekhnicheskiy nauk, redaktor; VASIL'YEVA, V.P., redaktor izdatel'stva; GOFMAN, Ye.K., redaktor izdatel'stva; POL'SKAYA, R.G., tekhnicheskiy redaktor

[Hydroturbines and their adjustment] Gidroturbiny i ikh reguliro-vanie. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 349 p. (MIRA 10:10)
(Turbines)

SMIRNOV, M. I.

ANOSOV, F.V., inzh.; GAMUS, I.M., inzh.; GARKAVI, Yu.Ye., inzh.; GOL'SHMAN, G.S., inzh.; YEVDOKIMOV, A.A., inzh.; YEREMEYEV, A.S., inzh.; ZHMUD', A.Ye., inzh.; KELAREVA, N.N., inzh.; KLOCHKOV, A.P., inzh.; LANG, A.G., inzh.; MENGEL', E.Ya., inzh.; MOROZOV, A.A., prof., doktor tekhn.nauk [deceased]; SEREBRYAKOV, G.M., inzh.; SMIRNOV, I.N., dotsent, kand.tekhn.nauk; SMIRNOV, M.I., dotsent; SHCHAVELEV, D.S., prof., doktor tekhn.nauk; SHCHERBINSKAYA, N.N., inzh.; KOVALEV, N.N., red.; MOZHEVITINOV, A.L., red.; ZABRODINA, A.A., tekhn.red.

[Turbine equipment of hydroelectric power stations: handbook on designing] Turbinnoe oborudovanie gidroelektrostantsii; rukovodstvo dlia proektirovaniia. Izd. 2., perer. i dop. Pod obshchei red. A.A. Morozova. Moskva, Gos. energ. izd-vo, 1958. 519 p. (MIRA 12:1)

1. Vsesoyuznyy institut "Gidroenergoproyekt," Leningradskoye otdeleniye.

(Hydraulic turbines)

SMIRNOV, M.I., dotsent

Determination of the size of vacuum break valve for hydraulic turbines. Energomashinostroenie 11 no.3:39-41 Mr '65.
(MIRA 18:6)

SMIRNOV, [illegible] (Novosibirsk); BORISOV, A.I. (Novosibirsk)

Efficient utilization of electric trains. Zhel. dor. transp. 47 no.6:36-37 Je '65. (MIRA 18:6)

1. Nachal'nik passazhirskogo otdela Novosibirskogo otdeleniya Zapadno-Sibirskoy dorogi (for Smirnov). 2. Starshiy inzh. passazhirskogo otdela Novosibirskogo otdeleniya Zapadno-Sibirskoy dorogi (for Borisov).

KATTS, R.A., inzh.; SMIRNOV, M.I., dotsent

Testing of the vacuum break valves in the Knyazhaya Guba Hydroelectric Power Station. [Trudy] LMZ no.10:327-332 '64. (MIRA 18:12)

L 00740-66 EWT(m)/EPT(c)/T BW/DJ

ACCESSION NR: AP5021990 UR/0286/65/000/014/0065/0065
665.4/.5

AUTHOR: Garzanov, G. Ye.; Vinner, G. G.; Maloletkov, Ye. K.; Bogdanov, Sh. K.; Sergiyenko, V. G.; Petyakina, Ye. I.; Selivanchik, Ya. V.; Vertlib, Ya. Ye.; Gusman, M. Ye.; Shames, F. Ya.; Smirnov, M. I.; Granat, A. M.; Bulantseva, T. P.; Krylova, T. A.

TITLE: A method for producing hydraulic fluid. Class 23, No. 172947

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 65

TOPIC TAGS: hydraulic fluid, petroleum product

ABSTRACT: This Author's Certificate introduces a method for producing hydraulic fluid based on petroleum products. The efficiency of the fluid at low temperatures is improved by using a velosite distillate with a flash point of 115-120°C and a viscosity of less than 2200 centistokes at -40°C.

ASSOCIATION: Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi (Scientific Research Institute for Organization, Mechanization and Technical Assistance)

Card 1/2

SMIRNOV, M.K., podpolkovnik med. sluzhby

Treatment of certain diseases by ultrasonic oscillation. Voen. med. zhur. no.2:54-57 F '57 (MIRA 12:7)
(ULTRASONICS, therapeutiouse,
(Rus))

SMIRNOV, M.K., Cand Med Sci -- (diss) "Study of the effect of ultrasound waves on the function of the stomach under physiological and pathological conditions (Clinical experimental study)." Minsk, 1958, 22 pp (Minsk State Med Inst) (KL, 28-58, 111)

SMIRNOV, M.K. (Minsk)

Effect of ultrasound on the secretory and motor functions of the stomach. Vop.kur.fizioter. i lech.fiz. kul't. 23 no.6:512-519 N-D '58 (MIRA 11:12)
(STOMACH)
(ULTRASONIC WAVES--PHYSIOLOGICAL EFFECT)

ORLOVA, T.K., SMIRNOV, M.K., (Minsk)

The use of ozocerite in gynecology. Akush. i gin. 34 no.4:91-93 Jl-Ag '58 (MIRA 11:9)

(GYNECOLOGY,
coresin, local admin. (Rus))
(WAXES, ther. use
coresin in gyn. dis., local admin. (Rus))

SMIRNOV, M.K., kand.med.nauk

Influence of artificial radon baths on cardiovascular patients. Zdrav. Belor. 5 no.10:17-19 O '59. (MIRA 13:2)

1. Iz Okruzhnogo voyennogo gospitalya i kafedry fakul'tetskoy terapii (zaveduyushchiy - prof. B.I. Trusevich) Minskogo meditsinskogo instituta.

(RADON--THERAPEUTIC USE) (CARDIOVASCULAR SYSTEM--DISEASES)

KAGANOV, A.S., kand.med.nauk (Moskva); SMIRNOV, M.K., kand.med.nauk (Minsk); AVETISOV, S.A., vrach-fizioterapevt (Rostov-na-Donu)

"Practical manual for introducing physical therapy by K.A.Kaplun and others. Reviewed by A.S. Kaganov, M.K.Smirnov, S.A.Abetisov. Vop. kur., fizioter. i lech. fiz. kul't. 26 no.6:555-559 N-D '61. (MIRA 15:1)

(PHYSICAL THERAPY) (KAPLUN, N.A.)
(PLEMYANNIKOVA, N.N.) (SKURIKHINA, L.A.) (SYROYECHKOVSKAYA, M.N.)
(FEDOROVICH, N.V.)

SMIRNOV, M.K., kand.med.nauk

Therapeutic use of ozocerite. Zdrav.Bel. 9 no.1:77-79 J'63.
(MIRA 16:8)

(OZOCERITE—THERAPEUTIC USE)

CHUBIK, Ivan Aleksandrovich; MASLOV, Anatoliy Mikhaylovich; SMIRNOV, M.K., red.

[Manual on the thermophysical constants of food and semi-finished food products] Spravochnik po teplofizicheskim konstantam pishchevykh produktov i polufabrikatov. Moskva, Pishchevaia promyshlennost', 1965. 154 p.
(MIRA 18:8)

Smirnov, M.M.

Smirnov, M. M. Functional-invariant solutions of the wave equation. Doklady Akad. Nauk SSSR (N.S.) 67, 977–980 (1949). (Russian)

A function u is said to be a functional-invariant solution of an equation

$$\sum_{i,k=1}^{n} a_{ik}(x_1,\cdots,x_n)u_{x_ix_k}+\sum_{i=1}^{n} b_i(x_1,\cdots,x_n)u_{x_i}+c(x_1,\cdots,x_n)u=0,$$

provided $F(u)$ is a solution of the equation for arbitrary F. The functional-invariant solutions of the wave equation $u_{xx}+u_{yy}=a^{-2}u_{tt}$ are given by the formula [V. Smirnov and S. Sobolev, Acad. Sci. URSS. Publ. [Trudy] Inst. Séismolog. no. 20 (1932)]

$$x+f(u(x,y))y+a\{1+f^2(u(x,y))\}h+h(u(x,y))=0,$$

where f and h are arbitrary functions. S. Sobolev [Trudy Fiz.-Mat. Inst. Steklov., Otd. Mat., no. 5, 259–264 (1934)] showed that these are all the functional-invariant solutions for this wave equation. N. P. Erugin is said to have shown that for the wave equation $u_{xx}+u_{yy}+u_{zz}=a^{-2}u_{tt}$ the corresponding Smirnov-Sobolev formula

$$x+f(u)y+g(u)z+a\{1+f^2(u)+g^2(u)\}h+h(u)=0$$

does not exhaust all invariant solutions (although it gives all real-valued ones) and to have exhibited two new classes of complex-valued functional-invariant solutions. The author consider the wave equation

$$u_{x_1x_1}+u_{x_2x_2}+u_{x_3x_3}+u_{x_4x_4}=a^{-2}u_{tt},\tag{*}$$

and finds that the Smirnov-Sobolev formula

$$x_1+f(u)x_2+g(u)x_3+e(u)x_4+a\{1+f^2(u)+g^2(u)+e^2(u)\}h+h(u)=0,$$

which gives all real-valued functional-invariant solutions and part of the complex ones, has to be supplemented by nine new classes of complex-valued functional-invariant solutions. The problem of determining all functional-invariant solutions of (*) is readily seen to be equivalent to finding all solutions common to (*) and to the first order partial differential equation

$$u_{x_1}^2+u_{x_2}^2+u_{x_3}^2+u_{x_4}^2=a^{-2}u_t^2.$$

The procedure consists in obtaining a complete integral of this first order equation and then sifting out of it all solutions of (*).

J. B. Diaz (Providence, R. I.).

Source: Mathematical Reviews, 1950 Vol 11 No. 2

Penn. State U.

SMIRNOV, M.M.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 704 - I

BOOK Call No.: AF661493

Author: SMIRNOV, M. M.
Full Title: PROBLEMS ON EQUATIONS OF MATHEMATICAL PHYSICS. 2nd ed., suppl.
Transliterated Title: Zadachi po uravneniyam matematicheskoy fiziki. Izd. 2-oe. dop.

PUBLISHING DATA

Originating Agency: None
Publishing House: State Publishing House of Technical and Theoretical Literature
Date: 1951 No. pp.: 87 No. of copies: 25,000
Editorial Staff: None

PURPOSE: This book is a text for university students studying problems dealing with differential equations of mathematical physics.

TEXT DATA

Coverage: This book is divided into 3 chapters: Chapter I, Transformation of the Canonical Form of Partial Differential Equations in the Case of Two Independent Variables; Chapter II, Method of Characteristics; Chapter III, Method of Separation of Variables. Answers, guides to the problems and list of references complete the book.
No. of References: None
Facilities: None

1/1

SMIRNOV, M. M.

185T71

USSR/Mathematics - Boundary-Value Problems May/Jun 51

"Several Boundary-Value Nonhomogeneous Problems of the Equation of Heat Conduction," M. M. Smirnov, Minsk

"Prik Matemat i Mekh" Vol XV, No 3, pp 367-370

Considers eq $u_t = u_{xx}$ with boundary conditions $u_x = 0$ and $u_{x/x} = L = P$ $(t>0)$ and initial condition $u_{t=0} = 0$ $(0 < x > L)$. Also considers: boundary conditions

185T71

USSR/Mathematics - Boundary-Value Problems (Contd) May/Jun 51

$u_{x=0} = Q$ and $u_{x/x=L} = 0$ $(t>0)$, and initial condition $u_{t=0} = 0$ $(0 < x < L)$. Follows methods of N. P. Yerugin ("Closed Solution of the Parabolic Boundary Nonhomogeneous Problem," "Prik Matemat i Mekh" Vol XIV, No 2, 1950. Submitted 16 Jan 51.

185T71

SMIRNOV, M. M.

Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
Analysis

8-24-54
LL

*Smirnov, M. M. Zadači po uravneniyam matematičeskoĭ fiziki. [Problems in the equations of mathematical physics.] Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow, 1953. 72 pp. .90 rubles.

Problems: Reduction to canonical form of partial differential equations in the case of two independent variables; The method of characteristics; The method of separation of variables. Answers and hints.

SMIRNOV, M.M.

Functional invariant solutions for hyperbolic parabolic type equations. Trudy LIEI no.6:239-244 '53. (MLRA 9:8)
(Differential equations)

SMIRNOV, M. M.

Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
Analysis

8-24-54
LL

Smirnov, M. M. Functionally invariant solutions of equations of hyperbolic-parabolic type with three independent variables. Akad. Nauk SSSR. Prikl. Mat. Meh. 17, 509–512 (1953). (Russian)

A solution $f(x, y, t)$ of the equation

$$Lu \equiv a_{11}u_{xx}+2a_{12}u_{xy}+a_{22}u_{yy}-u_{tt}+b_1u_x+b_2u_y-\beta u_t=0$$

where the coefficients are functions of the independent variables is said to be functionally invariant if $G(f)$ is a solution for arbitrary (smooth) G. For the case where $a_{11}a_{22}-a^2_{12}=0$ the author gives conditions on the coefficients in order that Lu should possess functionally invariant solutions. The existence of such solutions is employed to solve the Cauchy problem for the case $b_1=b_2=\beta=0$, a_{11}, a_{12}, a_{22} constant.

M. H. Protter (Berkeley, Calif.)

U
Math
2

SMIRNOV, M. M.

1 3000

Math

52. Smirnov, M. M., Problems on differential equations of mathematical physics. [Zadachi po uravneniyam matematicheskoi fiziki], Moscow, Gos. Izdat. Tekh.-Teor. Lit., 1954, 87 pp. 1r. 35k.

This useful little book has been written with the purpose of completing by instructive examples the theoretical courses in differential equations of mathematical physics which now form a standard part of the program at physicomathematical faculties of the Russian universities. The collection contains 144 problems for solving, grouped into three separate sections.

The first part opens with a brief theoretical introduction and then gives 11 examples for reducing concrete differential equations to canonic form. The following section is devoted to solving the three fundamental problems in the theory of partial equations (i.e., the Cauchy, Goursat, and mixed problems) by the method of characteristics. It contains 45 partly physical and technical examples. Most important is the third part with a brief introduction and 88 problems from various branches of mathematical physics. The method to be applied in solving these examples is the well-known Bernoulli-Fourier separation of variables.

All problems are provided with solutions and, in more complicated cases, the way of solving is indicated. The collection is a valuable expedient not only for the students, but also for physicists and calculating engineers. V. Volička, Czechoslovakia

SMIRNOV, M. M.

1

Smirnov, M. M. On singular solutions of nonlinear integral equations. Vestnik Leningrad. Univ. 9 (1954), no. 11, 3–17. (Russian)

Consider the equation

(*) $$\varphi(x)=\lambda\int_0^1 K(x,t)f[t,\varphi(t)]\,dt,$$

where kernel $K(x,t)$ is definite, symmetric, and continuous, and $f(t,z)=\sum_{i=0}^{m}A_i(t)z^i$, and $A_i(t)$ is continuous for $0\leq t\leq 1$. The existence of singular solutions of (*) is investigated, i.e., solutions $\varphi(x,\lambda)$ of (*) in a neighborhood of $\lambda=0$ such that $\lim_{\lambda\to 0}\varphi(x,\lambda)=\infty$. The method consists of substituting a formal series

(**) $$\varphi(x)=(\lambda_0/\lambda)\varphi_{-1}(x)+\varphi_0(x)+\lambda\varphi_1(x)+\lambda^2\varphi_2(x)+\cdots$$

in (*), equating like powers of λ, and solving the resulting system of integral equations to determine λ_0 and $\varphi_n(x)$ $(n=-1, 0, 1, 2, \cdots)$. The study of the system of integral equations must be divided into a number of cases. For some cases, a singular solution of the form (**) is obtained. For others, negative fractional powers of λ must be introduced. The case $m=2$ is considered in detail, and the results for arbitrary m are indicated. *J. Cronin.*

USSR/Mathematics - Integration of heat equations FD-1446

Card 1/1 : Pub. 85 - 15/15

Author : Smirnov, M. M. (Leningrad)

Title : Integration of a certain system of differential equations

Periodical : Prikl. mat. i mekh. 19, No 1, 127-128, Jan-Feb 1955

Abstract : The author considers the system $\Theta_x = b(T-\Theta)$, $T_y = -a(T-\Theta)$ with the conditions $T(y=0)=1$, $\Theta(x=0)=0$, where $T(x,y)$ and $\Theta(x,y)$ are the dimensionless temperatures of the two currents of a fluid flowing respectively in the direction of the y and x axes, and a,b are constants depending upon the area of the streamlined surface of heating and upon the coefficients of heat conduction and heat capacity; x,y are dimensionless variables. This problem was solved by W. Nusselt in 1911. The author here gives a simpler method for the solution of this problem by the use of the work of N. P. Yerugin ("Functional-invariant solutions of second-order equations with two independent variables," Uchenyye zapiski LGU, seriya mat. nauk [Scientific Notes of Leningrad State University, series math.] No 16, 1949), in which the above system is reduced to $d^2u/dxdy=u$. 2 references

Institution : --

Submitted : May 19, 1954

Smirnov, M. M.

Smirnov, M. M. On a boundary problem for an equation of mixed type. Dokl. Akad. Nauk SSSR (N.S.) 104 (1955), 699–701. (Russian)

1 - F/W

Math

Dans le plan (x, y), soit $A=(0,0)$, $B=(1,0)$, $C=(\frac{1}{2}, -\frac{1}{2})$; soit D un ouvert limité par AC, CB, et un arc de Jordan σ joignant A et B dans $y>0$. On cherche y dans D solution de

$$\frac{\partial^4}{\partial x^4}u+2\,\mathrm{sgn}\,y\frac{\partial^4}{\partial x^2\partial y^2}u+\frac{\partial^4}{\partial y^4}u=0,$$

avec les données de Dirichlet sur σ (u et $\partial u/\partial n$ donnés sur σ) et avec $\partial u/\partial n$ donné sur AC et BC (l'A. précise les conditions de régularité des données et requises pour u). Dans ces conditions u existe et est unique. Démonstration: on résout d'abord le problème dans $y<0$, où la solution fait intervenir deux fonctions arbitraires; les combinaisons

$$u_{xx}-u_{yy}|_{y=0} \text{ et } \frac{\partial}{\partial y}(u_{xx}-u_{yy})|_{y=0}$$

éliminent ces deux fonctions; on est alors ramené à chercher u dans $y>0$ avec les données de Dirichlet sur σ, $u_{xx}-u_{yy}$ et $\partial(u_{xx}-u_{yy})/\partial y$ sur AB; ce dernier problème admet une solution unique (l'A. utilise à cet effect la méthode de Vekua-Muskhelišvili [cf. N. P. Vekua, Systèmes d'équations intégrales singulières, Gostehizdat, Moscou-Leningrad, 1950; MR 13, 247]); on détermine alors u pour $y<0$ par les données de Cauchy sur $y=0$, d'où le résultat.

J. L. Lions (Nancy).

Semipalatinsk State U.

SMIRNOV, M.M.

Functional-invariant solutions for fourth order equations with two independent variables. Vest.Len.un. 11 no.7:122-125 '56. (MLRA 9:8)

(Equations, Quartic)

PHASE I BOOK EXPLOITATION 638

Smirnov, Modest Mikhaylovich

Zadachi po uravneniyam matematicheskoy fiziki (Problems on Equations in Mathematical Physics) 3rd ed., enl. Moscow, Gostekhizdat, 1957. 103 p. 25,000 copies printed.

Ed.: Akilov, G.P.; Tech. Ed.; Volchok, K.M.

PURPOSE: This book is a collection of 166 illustrative problems for a course in Differential Equations of Mathematical Physics and is designed for students of physics-mathematics faculties of Soviet universities.

COVERAGE: The problems are grouped into three chapters. The problems in the first chapter deal with the reduction of partial differential equations with two independent variables into canonical form. This chapter is of an introductory character and contains only 11 problems. In the second chapter are given 57 problems in finding the general solution of partial differential equations and the solution of Cauchy or Goursat or mixed problems using the methods of characteristics. The third chapter consists of 98 problems and is the most important. In this chapter are presented examples of the solution of the mixed boundary-value problem (for hyperbolic or

Card 1/3

Problems on Equations in Mathematical Physics 638

AVAILABLE: Library of Congress (QC20.S55,1957)

LK/mas
10-28-58

Card 3/3

Smirnov, M.M.

BASOV, V.P.; BOGDANOV, Yu.S.; SMIRNOV, M.M.

Nikolai Pavlovich Erugin; on the occasion of the 50th anniversary of his birth. Usp.mat.nauk 13 no.2:247-251 Mr-Ap '58. (MIRA 11:4)

(Erugin, Nikolai Pavlovich, 1907-)

16(1)
AUTHOR: Smirnov, M.M.

SOV/43-58-19-6/16

TITLE: First Boundary Value Problem for a Hyperbolic Equation of Fourth Order (Pervaya krayevaya zadacha dlya odnogo giperbolicheskogo uravneniya 4-go poryadka)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1958, Nr 19(4), pp 55 - 57 (USSR)

ABSTRACT: Let the domain D be bounded by the interval [0,1] of the x-axis and the curve $y = -\gamma(x)$, where $\gamma(x)$ is four times differentiable and satisfies the conditions

$\gamma(x) > 0$ for $0 < x < 1$; $\gamma(0) = \gamma(1) = 0$; $|\gamma'(x)| < 1$.

It is shown that the problem

$$\frac{\partial^4 u}{\partial x^4} - 2\frac{\partial^4 u}{\partial x^2 \partial y^2} + \frac{\partial^4 u}{\partial y^4} = 0$$

$$u\big|_{y=0} = \varphi_0(x) \qquad \frac{\partial u}{\partial y}\Big|_{y=0} = \varphi_1(x)$$

Card 1/2

First Boundary Value Problem for a Hyperbolic Equation of Fourth Order

SOV/43-58-19-6/16

$$u\big|_{y=-\gamma(x)} = \psi_0(x) \qquad \frac{\partial u}{\partial y}\Big|_{y=-\gamma(x)} = \psi_1(x) \ ,$$

where $\varphi_0(x)$, $\psi_0(x)$ is four times and $\varphi_1(x)$, $\psi_1(x)$ three times continuously differentiable, and where

$$\varphi_0(0) = \psi_0(0) \ , \quad \varphi_0(1) = \psi_0(1)$$

$$\varphi_1(0) = \psi_1(0) \ , \quad \varphi_1(1) = \psi_1(1)$$

possesses a continuum of solutions.

SUBMITTED: April 15, 1957

Card 2/2

The Dirichlet Problem for an Equation of Mixed Type SOV/43-59-1-13/17

sidered by B.V. Shabat (Doklady Akademii nauk SSSR, 1957, Vol 112, Nr 3).

SUBMITTED: May 15, 1957

Card 2/2

- SMIRNOV, M.M.

Uniqueness of the solution of a boundary problem for a mixed-type equation. Dokl.AN BSSR 4 no.4:140-143 Ap '60. (MIRA 13:10)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova. Predstavleno akademikom AN BSSR V.I.Krylovym.
(Differential equations)

81240
S/043/60/000/13/06/015
C111/C222

AUTHOR: Smirnov, M.M.

TITLE: Cauchy's Problem for Degenerating Hyperbolic Equations of Second Order

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1960, No. 13, pp. 50 - 58

TEXT: For $y>0$ the equation

(1) $y^m u_{yy} - u_{xx} + a(x,y)u_x + b(x,y)u_y + c(x,y)u + f(x,y) = 0 \quad (0<m<2)$

is of hyperbolic type. The characteristics are determined by

(2) $\frac{dy}{dx} = \mp y^{\frac{m}{2}} \quad (y \geqslant 0)$

The line of the parabolic degeneration is $y = 0$. Let D be the domain which is bounded by the interval $[a,b]$ of the x-axis and by the characteristics which begin in the points $(a,0)$ and $(b,0)$.

1/3

SMIRNOV, Modest Mikhaylovich; AKILOV, G.P., red.; VOLCHOK, K.M., tekhn. red.

[Problems in connection with equations of mathematical physics] Zadachi po uravneniiam matematicheskoi fiziki. Izd.4., dop. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 112 p. (MIRA 14:7)

(Mathematical physics)

24177
S/043/61/000/003/002/008
D201/D305

14,3500

AUTHOR: Smirnov, M.M.

TITLE: On a boundary-value problem of an elliptical equation which degenerates on part of the boundary

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 3, 1961, 73-78

TEXT: The equation

$$Lu = \frac{\partial^2 u}{\partial x^2} + y^m \frac{\partial^2 u}{\partial y^2} + \alpha y^{m-1} \frac{\partial u}{\partial y} = 0 \quad (1 \leqslant m < 2), \qquad (1)$$

is considered where $m-1 < \alpha < 1$ is a real constant. D is a simply connected domain bounded by $\Gamma = \sigma + AB$, where σ is a smooth curve with endpoints A(a,0), B(b,0) which lies in the halfplane $y > 0$; AB is a segment of the x-axis. The problem is to find a solution of Eq. (1) which is regular in D, continuous in the closed domain $\overline{D}$ and which satisfies the boundary conditions

$$u|_\sigma = \varphi, \quad \lim_{y \to 0} y^\alpha u_y = \nu(x) \quad (\alpha < x < b), \qquad (2)$$

Card 1/4

On a boundary-value problem...

is bounded by the segment of x-axis $[-1,1]$ and by the so-called normal curve σ_o. For D_o the problem can be solved explicitly; the solution is

$$u(x_o,y_o) = -\int_{-1}^{1} \nu(x) y^{m-\alpha} G_o(x,y;x_o,y_o)\Big|_{y=0} dx -$$

$$-\int_{-1}^{1} \varphi(x) A\left[G_o(x,y;x_o,y_o)\right]_{\sigma_o} dx, \qquad (20)$$

where

$$A[v] = y^m \frac{\partial v}{\partial y} - \frac{\partial v}{\partial x}\cdot\frac{dy}{dx} + (m-\alpha)y^{m-1}v. \qquad (21)$$

G_o is the Green function for D_o. It is proved that $u(x_o,y_o)$ defined by Eq. (20) is a solution of the problem. For $\alpha = m/2$, Eq. (1) passes (by a substitution for the variable z), into the Laplace equation

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial z^2} = 0, \qquad (29)$$

Card 3/4

Smirnov, M.M.

PHASE I BOOK EXPLOITATION SOV/5992

Koshlyakov, Nikolay Sergeyevich [Deceased], Erast Borisovich Gliner, and Modest Mikhaylovich Smirnov

Differential'nyye uravneniya matematicheskoy fiziki (Differential Equations in Mathematical Physics) Moscow, Fizmatgiz, 1962. 767 p. 25,000 copies printed.

Ed. (Title page): N. S. Koshlyakov, Corresponding Member, Academy of Sciences USSR.
Ed.: G. P. Akilov; Tech. Ed.: A. A. Luk'yanov.

PURPOSE: This book is intended for physicists and engineers and may prove useful to students at schools of higher technical education.

COVERAGE: The book is concerned with physical and technical problems which lead to partial differential equations of the second order. The three main sections of the book deal with differential equations of hyperbolic, elliptical, and parabolic types. The theory of

Card 1/

SMIRNOV, M.M.

Mixed boundary value problem for the equation $y^m \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$.

Sib. mat. zhur. 4 no.5:1150-1161 S-O '63. (MIRA 16:12)

BABICH, V.M.; KAPILEVICH, M.B.; MIKHLIN, S.G.; NATANSON, G.I.; RIZ, P.M.; SLOBODETSKIY, L.N.; SMIRNOV, M.M.; LYUSTERNIK, L.A., red.; YANPOL'SKIY, A.R., red. MIKHAYLOVA, T.N., red.

[Linear equations in mathematical physics] Lineinye uravneniia matematicheskoi fiziki. [By] V.M.Babich i dr. Moskva, Izd-vo "Nauka," 1964. 368 p. (MIRA 17:7)

SMIRNOV, Modest Mikhaylovich; AKILOV, G.P., red.

[Partial differential equations of the second order] Differentsial'nye uravneniia v chastnykh proizvodnykh vtorogo poriadka. Moskva, Nauka, 1964. 205 p. (MIRA 17:11)

SMIRNOV, M.M.

Vibration of a system of masses connected with a cylindrical shell. Issl. po uprug. i plast. no.3:114-123 '64. (MIRA 18:4)

L 16659-65 EWT(d) Pg-4 IJP(c)/ESD(dp)/AFWL

ACCESSION NR: AP4043210 S/0199/64/005/004/0923/0928

AUTHOR: Smirnov, M. M. B

TITLE: Certain boundary value problems for one equation of mixed component type

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 5, no. 4, 1964, 923-928

TOPIC TAGS: partial differential equation, boundary value problem, mixed component type equation

ABSTRACT: Consider the equation

$$L(u)=\frac{\partial}{\partial x}\left(\frac{\partial^2 u}{\partial x^2}+y\frac{\partial^2 u}{\partial y^2}+\alpha\frac{\partial u}{\partial y}\right)=0, \qquad (1)$$

where $\alpha<1$ is constant. Let D be the region bounded by the segment /-1, 1/ of the x axis and a curve Γ with end points A(-1, 0) and B(1, 0) in the upper half-plane $y>0$. For the parametric equations of the curve Γ, take $x=x(s)$, $y=y(s)$, where s is the length of the arc measured from B. It is assumed that: 1) the functions x(s) and y(s) have continuous derivatives x'(s) and y'(s) on the segment 0, 1, do not

Card 1/3

vanish simultaneously, and that the derivatives x''(s) and y''(s) satisfy the Holder condition on /0, 1/, where 1 is the length of the curve Γ. 2) Each line y=c, 0<c< h, intersects Γ at two points, while the line y=h has only one point N(0, h) in common with the curve Γ. Problem I. Find a solution for equation (1) that is regular in the domain D, continuous in the closure of D, and satisfies the conditions

$$u|_\Gamma = f(x), \quad u|_{AB} = \tau(x), \quad -1 \leqslant x \leqslant 1, \quad u|_{ON} = \varphi(y), \qquad (2)$$

where f, ν and φ are given functions

$$f(-1) = \tau(-1), \; f(1) = \tau(1), \; \tau(0) = \varphi(0)$$

and $\varphi(h)=f(0)$; f and τ are assumed to be continuous, while $\varphi(y)$ is a twice continuously differentiable function. The author proves uniqueness for the solution to this problem, and existence of such a solution for the normal curve Γ_0: $x^2 + 4y=1$, $y \geq 0$. It is also assumed that x f(x) satisfies the Lipshitz condition. Problem II. Find a solution for equation (1) that is regular in the domain D, continuous in the closure of D, and satisfies the conditions

L 16659-65
ACCESSION NR: AP4043210

$$u\Big|_{\Gamma} = f(x),\ -1 \leqslant k \leqslant 1,\ \lim_{y\to 0} y^{\alpha}\frac{\partial u}{\partial y} = \nu(x),\ -1 < x < 1,\ u\Big|_{\sigma N} = \varphi(y), \quad (3)$$

where f, ν, and φ are given continuous functions and $\varphi(y)$ is a twice continuously differentiable function on $0<y\leqslant h$ and $\varphi(h)= f(10)$. The author proves uniqueness for the solution to this problem, and proves the existence of such a solution for the normal curve Γ_0: $x^2 + 4y = 1$, $y \geq 0$. It is also assumed that f(x) satifies the Lipshitz condition. Orig. art. has: 26 equations.

ASSOCIATION: None

SUBMITTED: 13Apr63 ENCL: 00

SUB CODE: MA NO REF SOV: 004 OTHER: 000

Card 3/3

SMIRNOV, M.M.

Vibration of a system of masses linked with a cylindrical shell. Issl. po uprug. i plast. no.3:114-123 '64.
(MIRA 17:6)

GEORGIYEV, G.P.; SAMARINA, O.P.; SMIRNOV, M.N.

Characteristics of D-RNA and R-RNA of the nucleochromosomal apparatus of the animal cell. Dokl. AN SSSR 155 no. 3:688-690 Mr '64. (MIRA 17:5)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR i Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Predstavleno akademikom V.A.Engel'gardtom.

ZHURAVLEV, A.A., kand.sel'skokhozyaystvennykh nauk; SMIRNOV, M.N., kand. sel'skokhozyaystvennykh nauk

Effect of gibberellin on the growth and development of corn. Agrobiologiia nb. 3:390-396 My-Je '61. (MIRA 14:5)

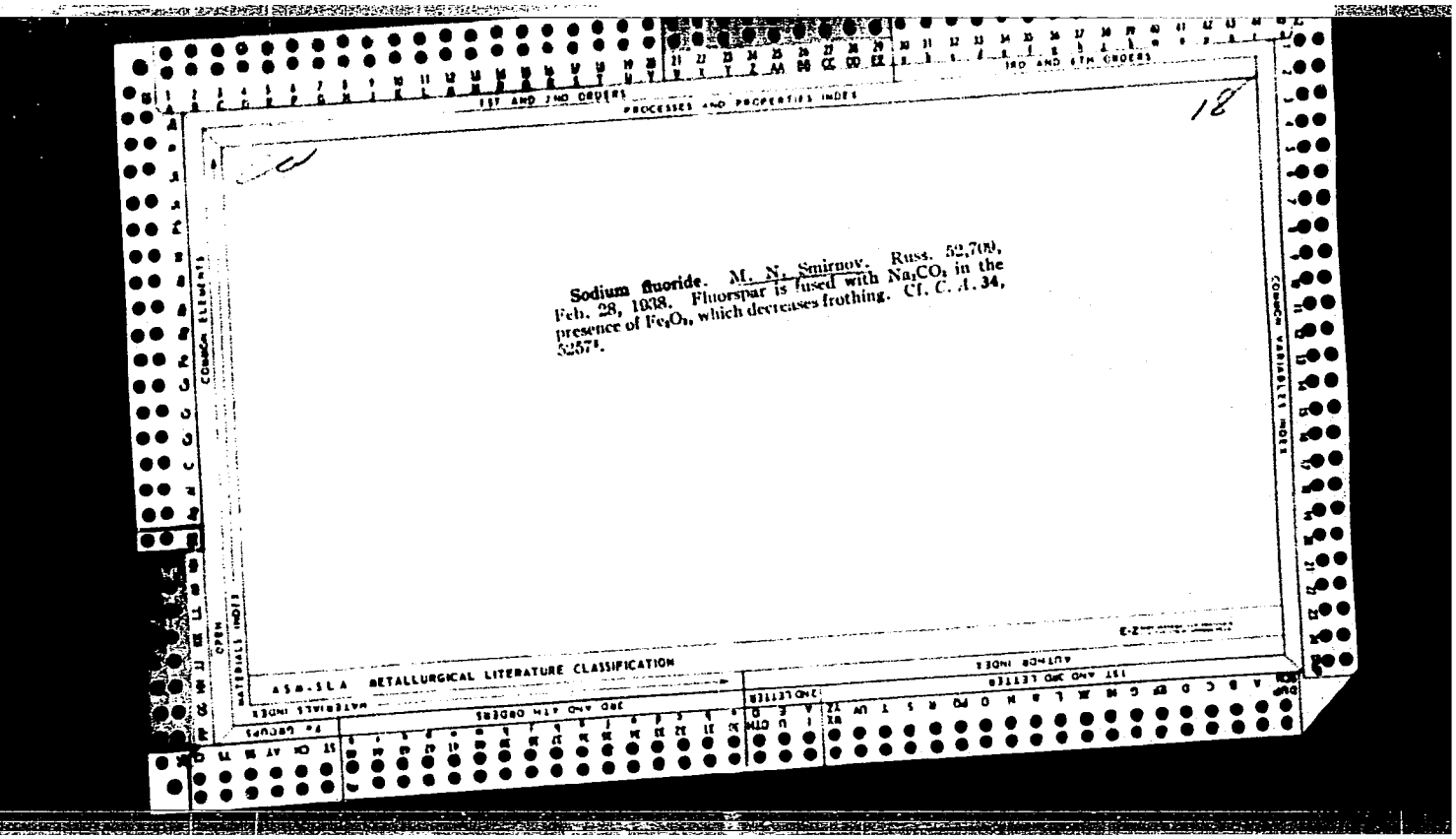
1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov imeni V.R. Vil'yamsa, st. Lugovaya, Moskovskaya oblast'.
(Corn (Maize)) (Gibberellin)

SMIRNOV, M.N.

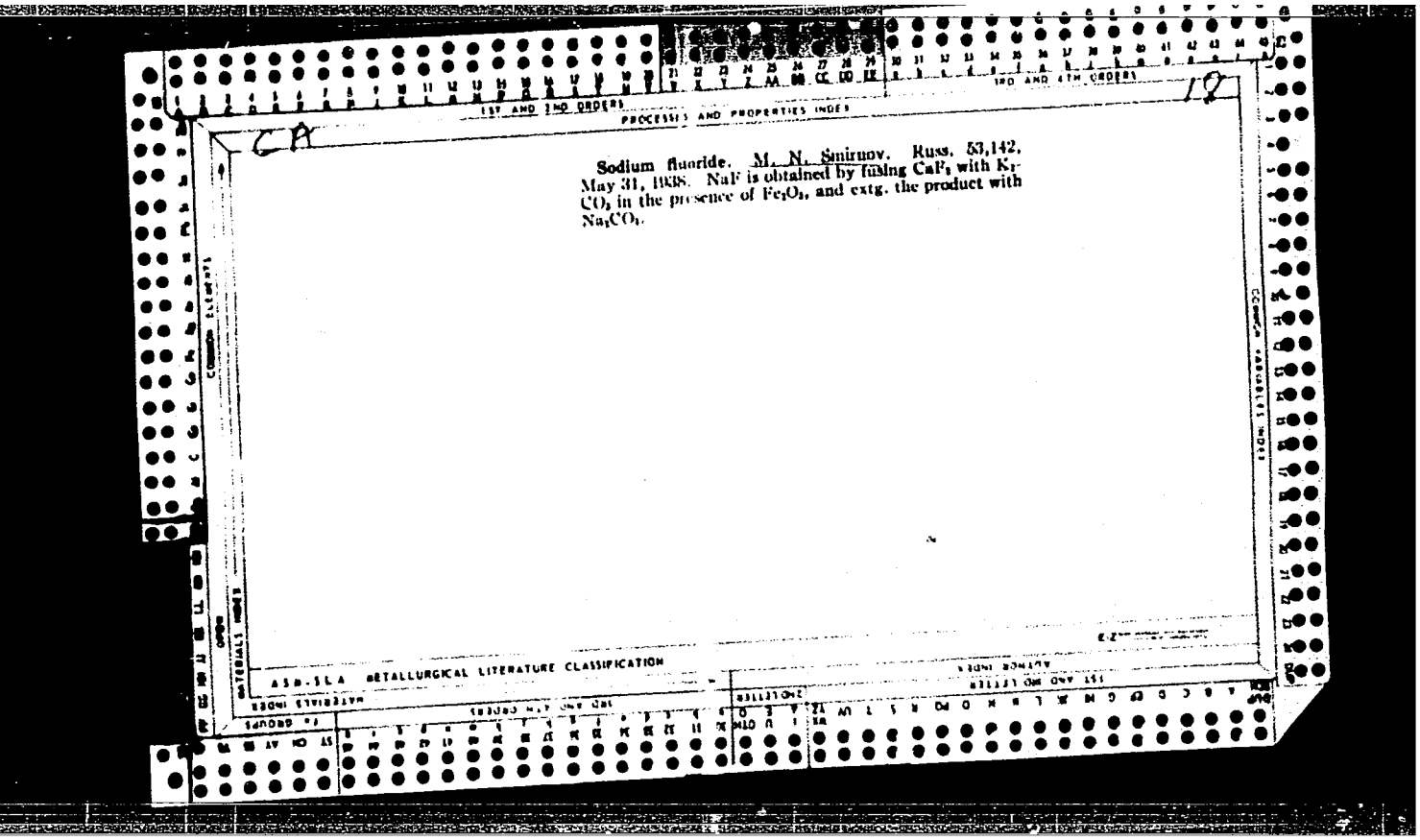
Graduate studies at the All-Union Geological Institute. Inform. sbor. VSEGEI no.4:166-168 '56. (MLRA 10:4)
(Geology--Study and teaching)

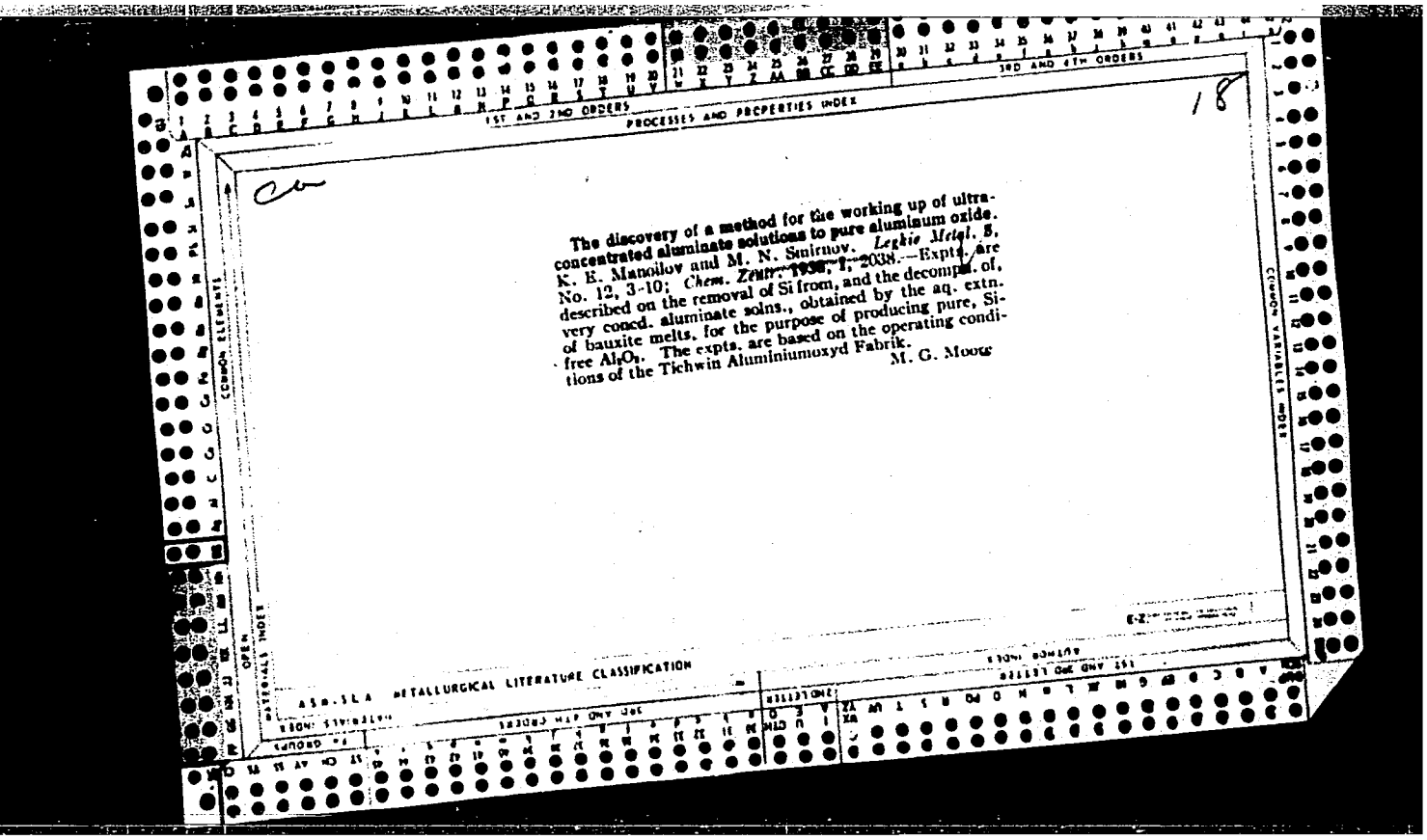
SMIRNOV, M.N.

Some aspects of the paleogeography of the Maikop series in the Chernyye Gory. Trudy GNI no.21:3-16 '59. (MIRA 14:5)
(Chernyye Gory--Paleogeography)



Sodium fluoride. M. N. Smirnov. Russ. 52,709, Feb. 28, 1938. Fluorspar is fused with Na_2CO_3 in the presence of Fe_2O_3, which decreases frothing. Cf. C. A. 34, 52571.





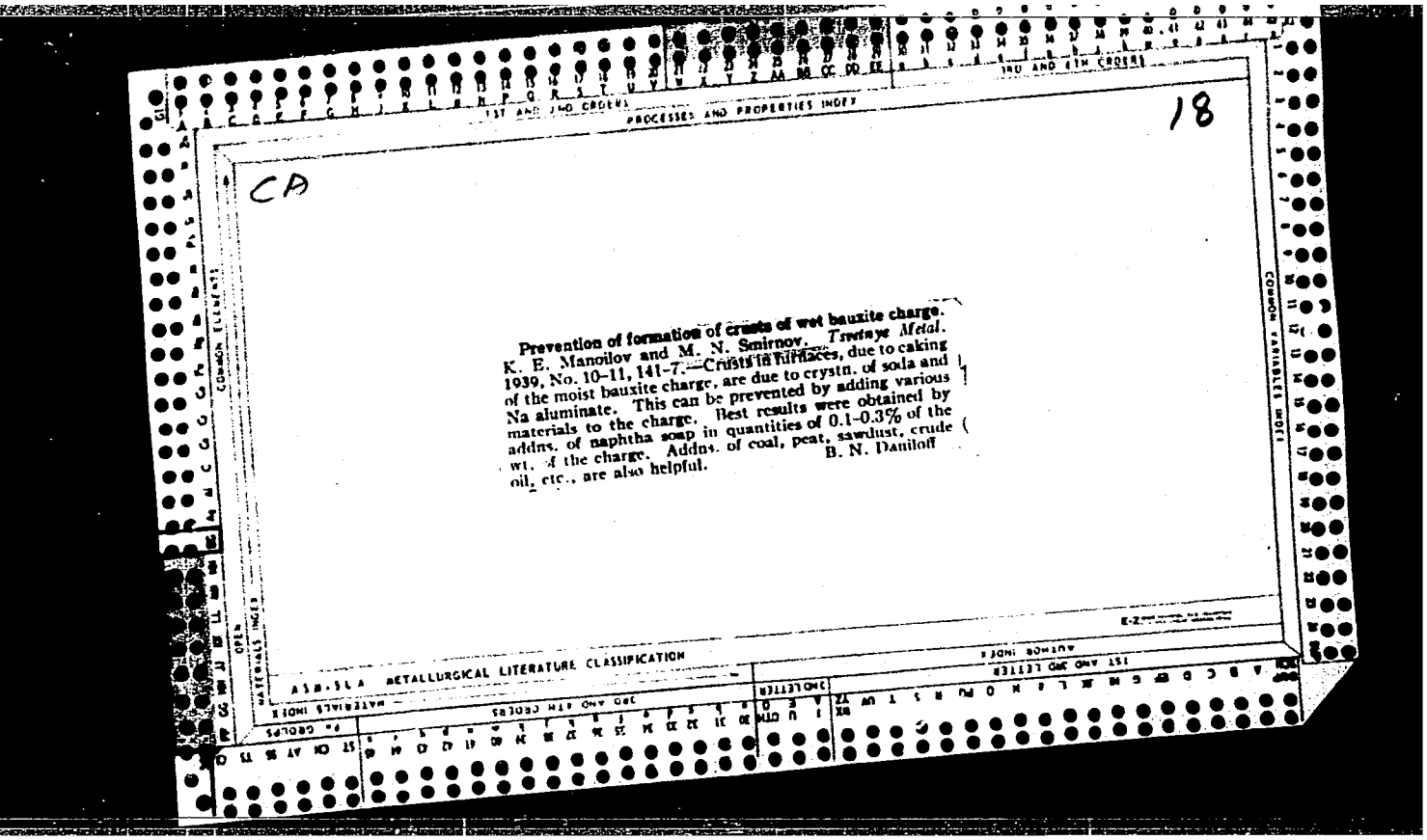
PROCESSES AND PROPERTIES INDEX

18

The discovery of a method for the working up of ultra-concentrated aluminate solutions to pure aluminum oxide. K. E. Manoilov and M. N. Smirnov. *Legkie Metal.* 8, No. 12, 3-10; *Chem. Zentr.* 1938, I, 2038.—Expts. are described on the removal of Si from, and the decompn. of, very concd. aluminate solns., obtained by the aq. extn. of bauxite melts, for the purpose of producing pure, Si-free Al_2O_3. The expts. are based on the operating conditions of the Tichwin Aluminiumoxyd Fabrik.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

18

Prevention of formation of crusts of wet bauxite charge. K. E. Manoilov and M. N. Smirnov. *Tsvetnye Metal.* 1939, No. 10–11, 141–7.—Crusts in furnaces, due to caking of the moist bauxite charge, are due to crystn. of soda and Na aluminate. This can be prevented by adding various materials to the charge. Best results were obtained by addns. of naphtha soap in quantities of 0.1–0.3% of the wt. of the charge. Addns. of coal, peat, sawdust, crude oil, etc., are also helpful.

B. N. Daniloff

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Cd

15

Reactions in the production of sodium fluoride and cryo-
lite. K. E. Manoilov and M. N. Smirnov. *Trudy*
Vsesoyuz. Nauch.-Issledovatel. Inst. Issledovaniya i
Proektirovaniya Alyuminievoi i Elektrodnoi Prom. 1940,
No. 20, 100-20; *Khim. Referat. Zhur.* 1940, No. 8, 90-1.
—The following reactions were investigated: (*a*) Na_2-
$CO_3 + SiO_2 \rightarrow Na_2O.SiO_2 + CO_2$; (*b*) $Na_2O.SiO_2$ + Ca-
$F_2 \rightarrow CaO.SiO_2 + 2NaF$; (*c*) $Na_2CO_3 + Fe_2O_3 \rightarrow Na_2O.$-
$Fe_2O_3 + CO_2$; and (*d*) $Na_2O.Fe_2O_3 + CaF_2 \rightarrow CaO.$-
$Fe_2O_3 + 2NaF$. Reaction (*b*) is most complete at 825-
75°, the yield of NaF being up to 85%. In (*d*) the yield
of NaF increases with the increase in the temp.; at 1000-
1100° it is greater than 86%. For production of NaF, re-
actions (*a*) and (*b*) are preferred; for simultaneous pro-
duction of NaF and $NaAlO_2$ with the sepn. of cryolite
and production of cryolitized alumina (contg. F from 1.8
to 50% and more) (*c*) and (*d*) are better as the starting
point.

W. R. Henn

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