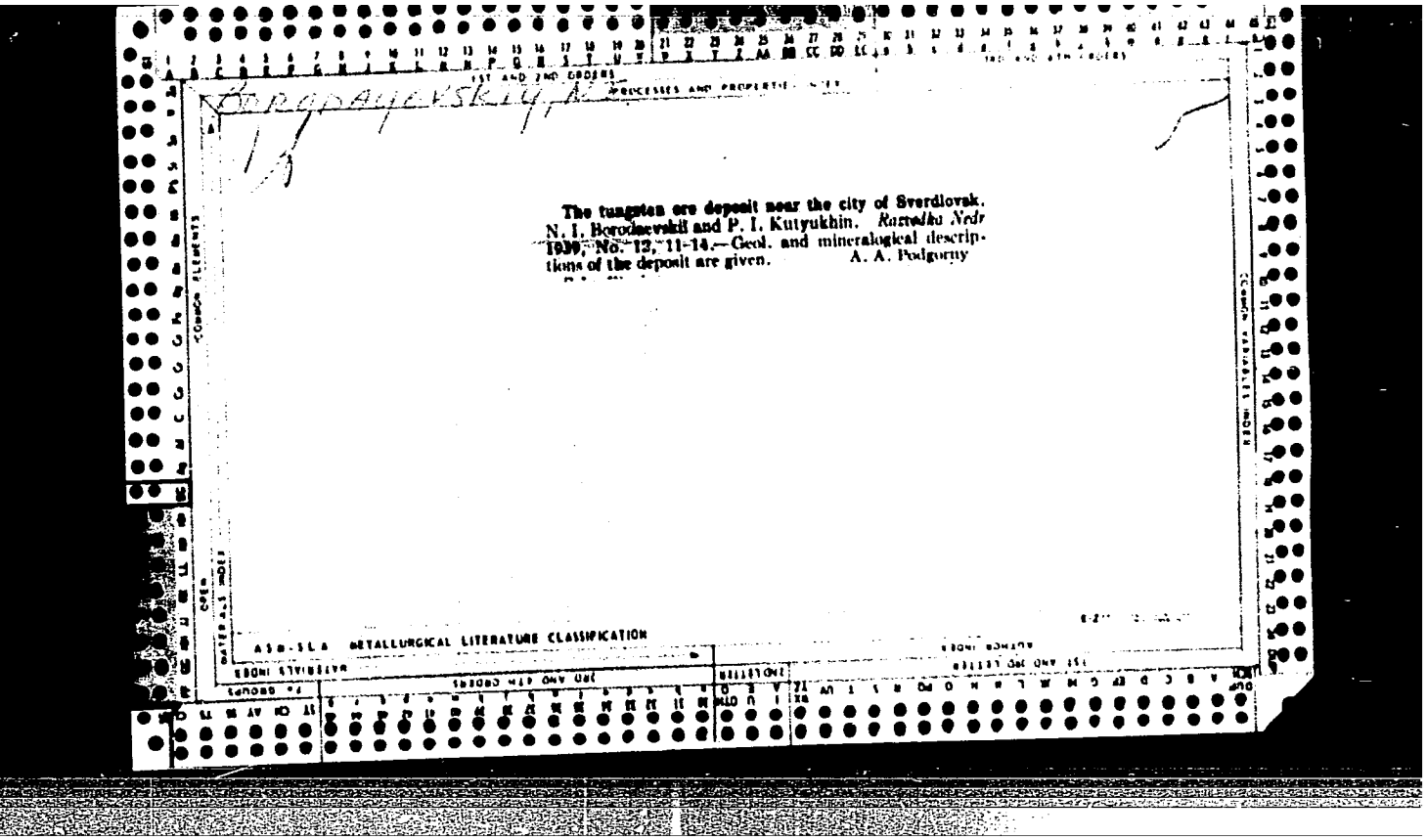
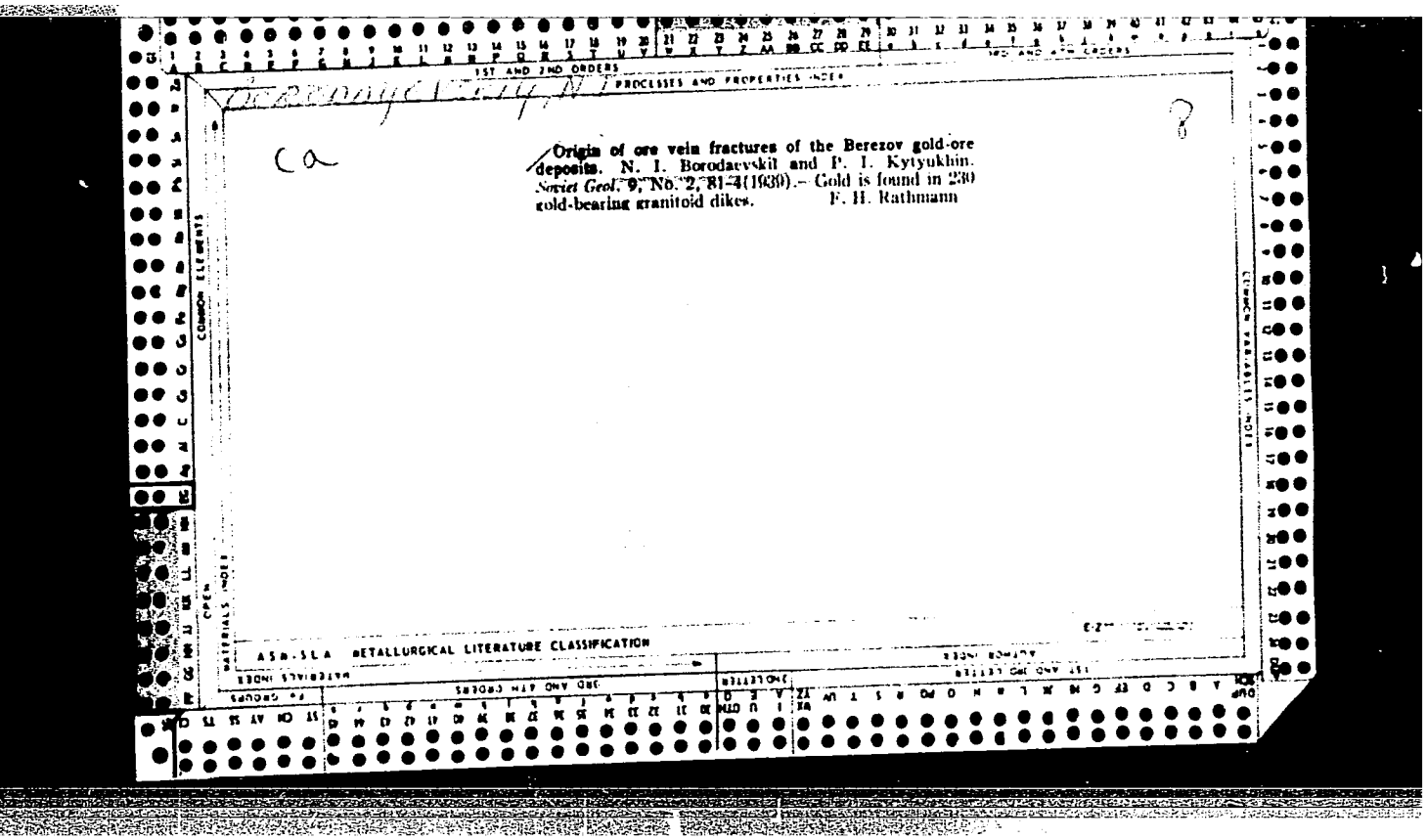
POLYANIN, D.V.; ZOTOV, G.M.; GRYAZNOV, E.A.; MENZHINSKIY, Ye.A.; RUBININ, A.Ye.; CHEBOTAREVA, Ye.D.; ZAKHMATOV, M.I.; OKUNEVA, L.P.; SHMELEV, V.V.; STULOV, A.A.; POKROVSKIY, A.N.; SHIL'DKRUT, V.A.; IVANOV, A.S.; NABOROV, V.B.; FINOGENOV, V.P.; KUR'YEROV, V.G.; KHRAMTSOV, B.A.; BATYGIN, K.S.; BOGDANOV, O.S.; KROTOV, O.K.; GONCHAROV, A.N.; KRESTOV, B.D.; LYUBSKIY, M.S.; SOKOL'NIKOV, G.O.; KAMENSKIY, N.N.; YASHCHENKO, G.I.; SABEL'NIKOV, L.V.; GERCHIKOVA, I.N.; FEDOROV, B.A.; STEPANOV, G.P.; BORODAYEVSKIY, A.D.; INGATUSHCHENKO, S.K.; VARTUMYAN, E.L.; KAPELINSKIY, Yu.N., red.; MAYOROV, B.V., red.; NABOROV, V.B., red.; SOLODKIN, R.G., red.; DROZDOV, A.G., red.; ROSHCHINA, L., red.; SOLOV'YEVA, G., mladshiy red.; CHEPELEVA, O., tekhn. red.

[The economy of capitalist countries in 1961; economically developed countries] Ekonomika kapitalisticheskikh stran v 1961 godu; ekonomicheski razvitye strany. Pod red. IU.N.Kapelinskogo. Moskva, Sotsekgiz, 1962. 447 p. (MIRA 16:2)
(Economic history)



The tungsten ore deposit near the city of Sverdlovsk. N. I. Borodaevskii and P. I. Kutyukhin. *Razvedka Nedr* 1939, No. 12, 11-14.—Geol. and mineralogical descriptions of the deposit are given. A. A. Podgorny



Origin of ore vein fractures of the Berezov gold-ore deposits. N. I. Borodaevskii and P. I. Kytyukhin. *Soviet Geol.*, 9, No. 2, 81-4 (1939).— Gold is found in 230 gold-bearing granitoid dikes. F. H. Rathmann

BORODAYEVSKIY, N. I

USSR/Geological Prospecting
Ore Deposits 1948

"Pre-Ore Structures of the Berezovsk Deposits in the Central Urals," M. B. Borodayevskaya, N. I. Borodayevskiy, NIGRIZ, 16 pp

"Sovet Geolog" No 29

Data on geology of regions surrounding deposits, results of bores through greenstone layers of structure of ore field, vein granitoids, and an evaluation of practical use of conclusions on structural studies.

PA 69T44

BORODAYEVSKIY, N. I.

Abdrakhimov, K. Z. and Borodayeskiy, N. I. "A new finding of cuprous gold in the Southern Ural," Trudy Gorno-geol. in-ta (Akad. nauk SSSR, Ural'skiy filial), Issue 14, 194[illegible], p. 61-63

SO: U-3[illegible]50, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 194[illegible]).

KOVALEV, F.I., redaktor; BORODAYEVSKIY, N.I., redaktor; BABINTSEV, N.I., redaktor; GUROVA, O.A., tekhnicheskiy redaktor.

[Geological survey methods in prospecting for mineral deposits; a collection of articles] K metodike geologicheskoi s"emki pri poiskakh i razvedkakh mestorozhdenii poleznykh iskopaemykh; sbornik materialov. Sostavlen gruppoi geologov VIMS pod rukovodstvom F.I.Kovaleva, pod red. i s dop. N.I.Borodaevskogo. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1955. 423 p. [Microfilm] (MIRA 8:5)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Prospecting)

BORODAYEVSKIY, N.I.; BORODAYEVSKAYA, M.B.

Review of the collected articles edited by N.N.Kurek "Changed rocks adjacent to ore bodies and their prospecting significance." Reviewed by N.I.Borodaevskii, M.B.Borodaevskaia. Zap.Vses.min. ob-va 85 no.3:444-448 '56. (MLRA 9:11)
(Ore deposits) (Kurek, N.N.)

BORODAYEVSKIY, N. I.

"On the Problems of Modeling Tectonic Phenomena," physicists L. M. Kachanov, Ye. I. Edel'shteyn, G. V. Vinogradov, G. N. Kuznetsov, M. P. Volarovich, and A. V. Stepanov and geologists F. I. Vol'fson, V. A. Aprodov, N. I. Borodayevskiy, and Yu. S. Shikhin

paper presented at the First All-Union Conference on Tectonophysics, Moscow 29 Jan - 5 Feb 1957.

Sum 1563

BORODAYEVSKIY, N.I.

BORODAYEVSKAYA, M.B.; BORODAYEVSKIY, N.I.

"Dikes and mineralization" by Kh.M. Abdullaev. Reviewed by M.B. Borodaevskaia, N.I. Borodaevskii. Sov. geol. 1 no.2:137-143 '58. (MIRA 11:4)

1. Nauchno-issledovatel'skiy geologo-razvedochnyy institut po zolotu.
(Dikes) (Mineralogy) (Abdullaev, Kh.M.)

BORODAYEVSKIY, N.I.; SHER, S.D.

Metasomatic rocks in the Melent'evskoye deposit in the Urals.
Zap. vses. min. ob-va 87 no.5:603-607 '58. (MIRA 12:1)
(Ural Mountains--Metasomatism)

BORODAYEVSKAYA, M.B.; BORODAYEVSKIY, N.I.

Concerning F.I. Vol'fson's book "Problems in studying hydrothermal deposits." Geol.rud.mestorozh. 5 no.4:103-110 Jl-Ag '63.
(MIRA 16:9)

(Ore deposits)
(Vol'fson, F.I.)

BORODAYEVSKIY, N.I.

Genetic types of hydrothermal gold ore deposits in the U.S.S.R.
Zakonom.razm.polezn.iskop. 7:376-378 '64. (MIRA 17:6)

1. TSentral'nyy nauchno-issledovatel'skiy gorno-razvedochnyy institut.

BORODAYEVSKIY, V.

Unit cost accounting on poultry farms
Mias. ind., 23, no.4, 1952

DVOSKIN, S.M.; BORODAYEVSKIY, Ye.T.; SHIYAN, V.G.

Mastering centrifugal casting of iron water pipes. Lit. proizv. 5:7-9 My '64. (MIRA 18:3)

BORODAYEVSKIY, Ye.T.; DVOSKIN, S.M.; KHAKHALIN, B.D.; IVANOV, V.G.

Use of steel water-cooled chills for the centrifugal casting of pipe. Lit.proizv. no.11:5-7 N '61. (MIRA 14:10)
(Centrifugal casting--Equipment and supplies)

DZIERZKOWA, Wanda; BORODEJ, Alicja Kober; SUJAKOWA, Kulesza; SUJAKOWA, Alina

Studies on immune iso-antibodies in human milk. II. Role of Munk-Andersen's reaction in the evaluation of the nature of antibodies in the blood serum and milk of women with main group conflict. Pol. tyg. lek. 17 no.13:461-464 26 Mr '62.

1. Ze Stacji Krwiodawstwa we Wroclawiu; dyrektor: doc. dr Tadeusz Dorobisz i ze Szpitala Miejskiego im. Madurowicza we Wroclawiu; dyrektor: dr med. Sergiusz Doganowski.

(MILK HUMAN) (ANTIBODIES) (ERYTHROBLASTOSIS FETAL) (BLOOD GROUPS)

BORODENCHIK, N.K.; DIKALOV, A.I.; STOROZHIK, D.A.; KHMARA, A.M.

Three-bell charging hopper. Metallurg 6 no.2:7-11 F '61.
(MIRA 14:1)

1. Zavod "Zaporozhstal'" i Dnepropetrovskiy metallurgicheskiy institut.
(Blast furnaces—Design and construction)

BORODENCHIK, N.K.; DIKALOV, A.I.; STOROZHIK, D.A.

Increasing the durability of blast furnace charging equipment. Stal' 21 no.9:782-790 S '61. (MIRA 14:9)

1. Zavod "Zaporozhstal'" i Dnepropetrovskiy metallurgicheskiy institut.

(Blast furnaces—Equipment and supplies)

BORODENCHIK, P.I., brigadir

The workman is known by his work. Mekh.sil'.hosp. 13 no.12:3-5 D '62. (MIRA 16:2)

1. Traktornaya brigada kolkhoza im. 9 yanvarya, Kulikovskogo rayona, Chernigovskoy oblasti.
(Agricultural machinery)

MEDVEDEV, P.I.; Prinimali uchastiye: BABENKO, Ye.; BORODENKO, V.I.

Determining the electrokinetic potential of the particles of nuclear sols. Lakokras.mat.i ikh prim. no.6:50-52 '62.
(MIRA 16:1)

(Paint materials--Electric properties)

DAYCH, A.R.; Prinimal uchastiye BORODENKO, V.I.

Determining the cover power of white pigments. Lakokras. mat. i ikh prim. no.3:58-61 '63. (MIRA 16:9)

1. Khar'kovskiy sel'skokhozyaystvennyy institut.
(Pigments--Testing)

BGRODENKO, Yu.P., inzh. (stantsiya Kirsanov).

Change the technology of rebracing track. Put' i put. khoz. no.6: 17 Je '58. (MIRA 11:6)
(Railroads--Maintenance and repair)

BORODENKO, Yu.P., inzh. (st.Kirsanov Moskovsko-Ryazanskoy dorogi).

Pay more attention to quality in the manufacture of frogs. Put' i put. khoz. no.9:45-46 S '58. (MIRA 11:9)
(Railroads--Switches)

STOLYAROV, N.I.; BORODENKOV, M.G.

Using a pneumatic lubricator for greasing cylinders of high-pressure gas engines. Khim.prom. no.2:119 Mr '54. (MLRA 7:6)
(Lubrication and lubricants) (Cylinders)

BORODENKOV, M. G.

USSR/Chemistry - Oxygen, liquid

FD-1809

Card 1/1 Pub 50-13/19

Author : Stolyarov, N. I., Borodenkov, M. G.

Title : A new design of [pneumatically] powered valves for regenerators of liquid oxygen installations

Periodical : Khim. prom., No 2, 110-111 (46-47), Mar 1955

Abstract : Outline details of an improved design of a valve for regenerators of KT-1000 liquid oxygen installations. Four figures.

Institution: First Moscow Autogenous [Welding] Equipment Plant

BORODENKOV, M.G.

Machine for reseating valve plates. Kislorod 12 no.5:44 '59.
(MIRA 13:2)
(Compressors)

BORODENOK, A. I.

Filtrable type of the pathogen of paratuberculosis, Veterinariia, 29, No. 8, 1952.

SO: MLRA. October 1952

BORODENOK, A.I.

USSR/Diseases of Farm Animals. General Problems. R

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40599.

Author : Mukhin, G. F., Borodenok, A. I.
Inst : North Osetia Farm Institute.
Title : Morphology of the Hoof Horn and Prophylaxis of Hoof Diseases in Sheep.

Orig Pub: Tr. Severo-Osetinsk. s.-kh. in-ta, 1956, 17, 277-285.

Abstract: The wall of the horn membrane in sheep hoofs forms at the expense of the growth of the tubular (corona) and leafy horn substance. On the outside it is covered with a thin layer of enamel. On the upper part of the corona the horn wall is built entirely at the expense of the tubular horn substance; somewhat lower than the corona rim, it is built at the

Card : 1/2

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40599.

expense of the leafy substance which increases gradually towards the lower margin. In the process of growth the tubular corona horn moves downwards; the leafy horn substance, though, grows perpendicularly to the wall. This pecularity in the growth of the horn wall causes its becoming worn out at the sole rim of the hoof. The dark color of the horn is caused by deposits of melanine in its cells. The strength of the hoof horn depends upon the amount of pigment, upon age, as well as upon the characteristics of breed and constitution of the animals. For reasons of prophylaxis of lameness in sheep, it is necessary to clean and clip their hoofs systematically.

COUNTRY : USSR
CATEGORY : Human and Animal Physiology, Blood T

ABS. JOUR. : RZhBiol., No. 5 1959, No. 21906

AUTHOR : Borodenok, A.I.
INST. : The North Osetinsk Agricultural Institute
TITLE : Morphological Changes in the Blood of Sheep with Paratuberculosis and Mixed Tuberculosis-paratuberculosis Infection.
ORIG. PUB. : Tr. Severo-Osetinsk. s.kh. instituta, 1956, 17, 287--297.

ABSTRACT : Blood morphology was studied in 7 sheep artificially infected with tuberculosis and 7 infected naturally. In the initial latent stage of the disease pronounced morphological changes in the blood were not detected. A reduction in hemoglobin level was most frequently obseved 3 to 3½ months after infection, while during the period of infection eosinophilia was seen. Episodic leukocytic shifts to the left were noted, as well as periodic lymphocytosis and neutropenia in the face of a general tendency toward leukopenia. In the clinical stage there was a pronounced

Card: 1/2

COUNTRY : USSR T
CATEGORY :

ABS. JOUR. : RZhBiol., No. 5 1959, No. 21906

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : anemia (Hb 35%, rbc 637,000/mm^3), neutrophilia with a shift to the left and a certain reduction in the percentage of lymphocytes. A ram which was artificially infected with paratuberculosis, and then happened to contract tuberculosis as well, after 5 months showed a reduction in Hb level and leukocyte count and an increase in the percentage of lymphocytes in the blood.--I.I.Yurovskaya

Card: 2/2

BORODENOK, A.

Some problems in the pathogenesis of paratuberculosis in the experimental infection of sheep. Veterinariia 36 no.12:17-21 D '59. (MIRA 13:3)

1. Severo-Osetinskiy sel'skokhozyaystvennyy institut.
(Johne's disease)
(Sheep--Diseases and pests)

BORODENOK, A. I., (Assistant Porfessor, North-Osetian Agricultural Institute)

Authors report. Mucormycosis in sheep

Veterinariya vol. 38, no. 9 September 1961, pp. 47.

BORODENOK, A.I., dotsent

Mucormycosis in sheep. Veterinariia 38 no.9:47-49 S '61.
(MIRA 16:8)
1. Severo-Osetinskiy sel'skokhozyaystvennyy institut.

S/133/63/000/003/001/007
A054/A126

AUTHORS: Kalinnikov, Ye.S., Efros, D.I., Borodets, I.V.

TITLE: The application of synthetic slag to refining steel melted in 50--ton open-hearth furnaces

PERIODICAL: Stal', no. 3, 1963, 207 - 212

TEXT: The method was tested for Ос.Л (Os.L) axle steel, 40 А (40A), 20 Х2 Н4 А (20Kh2N4A), 20, 40 Х (40Kh) and 20 Х (20Kh) grades in a 50-ton basic open-hearth furnace. Besides the slag addition the conventional technology was modified in that the content of S and Mn was not controlled during melting; for reduction in the ladle 45-% ferrosilicon was used instead of the 75-% grade and less aluminum was added into the ladle for the Os.L, 40A and 20Kh2N4A grades, while for the remaining grades no aluminum was used at all. Ferrosilicon was fed on the ladle bottom, the ladle was then heated and synthetic slag amounting to 5% of the liquid metal with a temperature of at least 1,650° C was fed in. Pouring time 2 - 5 min, pouring height 3.5 - 1.0 m. These conditions ensure a thorough mixing of metal and slag in the ladle. The synthetic lime-aluminoferrous slag

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S/133/63/000/003/001/007
A054/A126

The application of synthetic slag to ....

was melted in a 5-ton arc furnace (at 2,800 kw transformer capacity). The composition of the synthetic slag and its changes during melting the above-mentioned grades are given in a table. Samples from the ladle contained 0.014% S as against 0.025 - 0.039% in the conventional process. The burning out of silicon was also reduced from 19.3 and 15.1 to 14.3 and 10.5% (for the Os.L and 40A grades, respectively). Synthetic slag refining promotes reduction: for the Os.L grade samples, usually containing in forged condition 0.002 - 0.006% O_2, the oxygen content was found to be between 0.002 and 0.004%. The macrostructure of the test steels proved flawless and their content of nonmetallic inclusions decreased. The new method does not deteriorate the mechanical characteristics of the test steel; it improves their notch toughness, the a_k-value in transverse specimens increases, for instance, for the Os.L grade from 3.4 to 4.4, for the 40A grade from 3.8 to 5.6 - 5.7 kg/cm^2 and the anisotropy of the structure as to notch toughness is diminished by 30 - 55%. The investigations for the new method were carried out in cooperation with S.G. Voinov, S.I. Yaburov, L.F. Kosoy, A.G. Shalimov, P.A. Serov, T.A. Izmanova, Ya.M. Bokshitskiy, S.I. Kazarin, V.G. Kuklev, A.M. Mamlin, A.I. Lyutov, B.Kh. Vishevnik, P.I. Yegorov, N.M. Tarasov, et al. There are 8 figures and 2 tables.

Card 2/2

BORODI, Tibor, ujsagiro

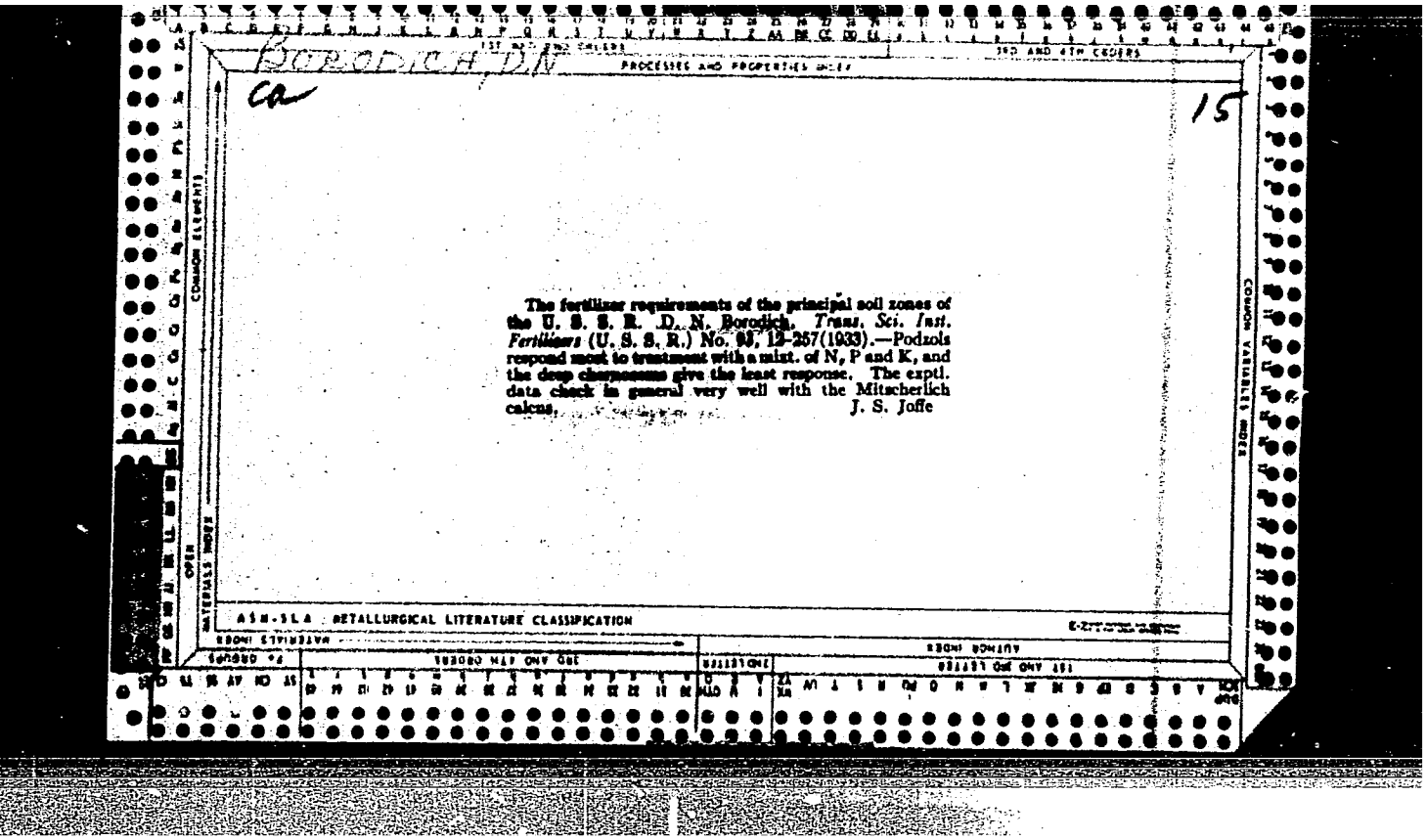
Notes on the work of the Trade Union of Workers in Commerce, Finance and the Catering Industries in the field of disseminating knowledge. Munka 10 no.9:28 S '60.

BORODICH, N. D.[Borodic, N. D.]

Hibernation of bottom organisms in the ground of drained fish-ponds. Vop. ikht. 2 no.3:530-541 '62. (MIRA 15:10)

1. Laboratoriya rybovodstva filiala Chekhoslovatskoy Akademii sel'skokhozyaystvennykh nauk v Bratislave.

(Czechoslovakia—Freshwater fauna)
(Fishponds)
(Hibernation)



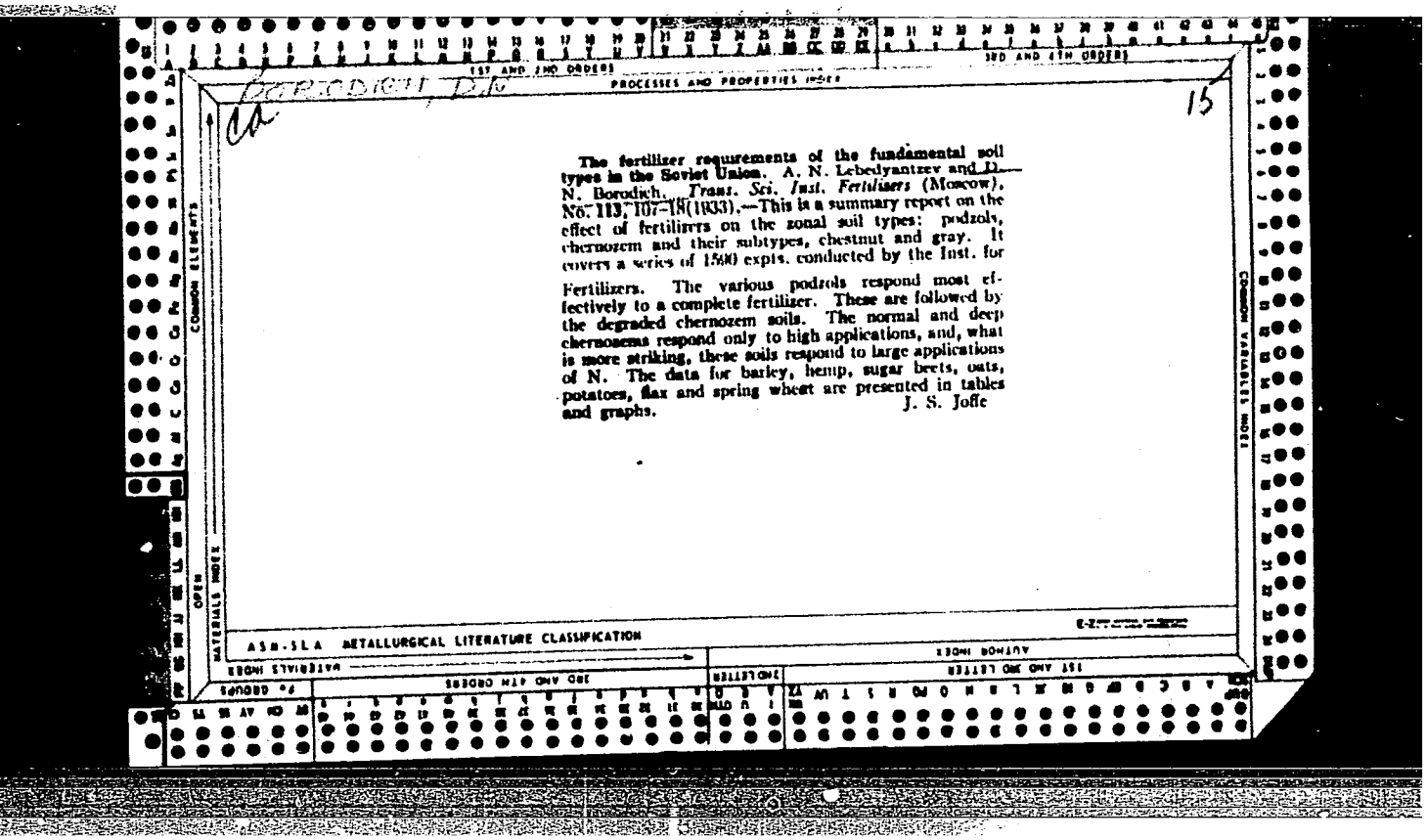
BORODICH, D.N.

Ca

15

The fertilizer requirements of the principal soil zones of the U. S. S. R. D. N. Borodich. *Trans. Sci. Inst. Fertilizers* (U. S. S. R.) No. 93, 12-257(1933).—Podzols respond most to treatment with a mixt. of N, P and K, and the deep chernozems give the least response. The exptl. data check in general very well with the Mitscherlich calcns.

J. S. Joffe



BORODICH, D. N.

15

The fertilizer requirements of the fundamental soil types in the Soviet Union. A. N. Lebedyantzev and D. N. Borodich. *Trans. Sci. Inst. Fertilizers* (Moscow), No. 113, 107–18(1933).—This is a summary report on the effect of fertilizers on the zonal soil types: podzols, chernozem and their subtypes, chestnut and gray. It covers a series of 1500 expts. conducted by the Inst. for Fertilizers. The various podzols respond most effectively to a complete fertilizer. These are followed by the degraded chernozem soils. The normal and deep chernozems respond only to high applications, and, what is more striking, these soils respond to large applications of N. The data for barley, hemp, sugar beets, oats, potatoes, flax and spring wheat are presented in tables and graphs.

J. S. Joffe

USSR / Cultivated Plants. Potato. Vegetables. Meons. M-4

Abs Jour: Ref Zhur-Biol., 1958, No 16, 72954.

Author : Borodich, D. N.
Inst : All-Union Scientific-Research Institute of Fertilizers and Agricultural Soil Science.
Title : Effectiveness of Fertilizers Under Potatoes During Square Pocket Method of Planting on Podzolic Soils.

Orig Pub: Byul. nauchno-tekhn. inform. Vses. n.-i. in-t udobr. i agropochvoved., 1957, No 3, 3-7.

Abstract: This work represents a summary of results of a geographic network of experiments in the non-chernozem zone. During square-pocket planting of potatoes, P 15-30 locally is especially effective on a rich manure base; a mixture of phosphorus with humus on a broad ratio exerts a negative effect. N 15-30 locally gives a higher addition on poor bases; the

Card 1/2

USSR / Cultivated Plants. Potato. Vegetables. Melons. M-4

Abs Jour: Ref Zhur-Biol., 1958, No 16, 72954.

Abstract: effect of K 10-30 locally is in general hardly perceptible. Two-five t/ha of humus applied locally gives a stable addition. Adding humus and P_c of lime in holes, in doses recommended by the All-Union Academy of Agriculture imeni V. I. Lenin, decreased the harvest somewhat. -- V. V. Prokoshev.

Card 2/2

BORODICH, I.D.; TOKARCHUK, B.F.

Pneumatic frame for veneering table legs. Der. prom. 13 no.12: 27 D '64 (MIRA 18:2)

AFANAS'YEV, P., inzh.; BORODICH, M., inzh.; VISHNYAKOV, Ye., inzh.

Making wire-reinforced concrete girders on stands. Na stroi. Ros. 3 no.5:37 My '62. (MIRA 15:9)
(Beams and girders)

BORODICH, M.A., kandidat tekhnicheskikh nauk, dotsent.

Some problems of designing complex (reinforced steel and concrete) bridges having continuous girders. Trudy BIIZHT no.1:105-129 '57. (MIRA 10:9)

(Concrete bridges)

BORODICH, M.K., kandidat tekhnicheskikh nauk.

Statistical method for determining temporary loads exerted on multitrack railroad bridges. Sbor.trud. MISI no.10:146-166 '56. (MLRA 9:11)

(Railroad bridges)

BORODICH, M. K.

Borodich, M. K.

"Some Problems in the Planning of Complex Bridges for Railroad Lines." Min Higher Education USSR. Moscow Order of Labor Red Banner Construction Engineering Inst imeni V. V. Kuybyshev. Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Letopis', No. 27, 2 July 1955.

BORODICH, M.K., kandidat tekhnicheskikh nauk, dotsent.

Calculating beams with wide flanges for bending from evenly distributed loads. Trudy BIIZHT no.1:96-104 '57. (MLRA 10:9)
(Girders)

SOV/124-58-1-1124

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 146 (USSR)

AUTHOR: Borodich, M. K.

TITLE: Some Problems of the Design Composition of Complex (Steel-plus-reinforced-concrete) BridgesWith Plate-reinforced Frameworks [Nekotoryye voprosy komponovki kompleksnykh (stalezhelezobetonnykh) mostov so sploshnymi fermami]

PERIODICAL: Tr. Belorussk. in-ta inzh. zh. -d. transp., 1957, Nr 1, pp 105-129

ABSTRACT: An investigation of the rational shape of the cross sections of bending elements, wherein particular attention is devoted to single-lane flitch-beam bridges. A procedure for the selection of the respective dimensions is proposed.

Reviewer's name not given

Card 1/1

124-58-9-10504

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 154 (USSR)

AUTHOR: Borodich, M. K.

TITLE: To the Calculation of Compound (Combination Steel and Reinforced-concrete) Bridges for a Vertical Loading Relative to the Strength of the Concrete [K raschetu kompleksnykh (stalezhelezobetonnykh) mostov na vertikal'nuyu nagruzku na prochnost' po betonu]

PERIODICAL: Tr. Belorussk. in-ta inzh. zh.-d. transp., 1957, Nr 1, pp 130-139

ABSTRACT: The author states that the premise, generally adopted in structural analysis, that the ratio of the moduli of elasticity of steel and concrete m=10-15 is not realistic and that the refinement proposed by the TU (Technical Specification) should be adopted. However, the calculation method proposed by the TU project leads to a weight penalty and therefore requires correction. In the structural analysis of concrete the author recommends that, 1) not the permissible stresses but the permissible fiber strain of the concrete be specified; 2) the value of the ratio m be specified in relation to the grade of concrete to be employed.

Card 1/1 1. Bridges--Structural analysis

M. M. Manukyan

TSEGEL'NIK, A.G., inzh.; BORODICH, M.K., inzh.

Using prestressed reinforced concrete construction elements in constructing industrial plants in Krasnodar Economic Region. Bet.i zhel.-bet. no.12:568-569 D '60. (MIRA 13:11)
(Krasnodar Territory--Girders)

AFANAS'YEV, P.M., inzh.; BORODICH, M.K., inzh.; DOLGOV, V.A., inzh.; KOZLOV, V.V., inzh.

Manufacture of wire-reinforced concrete articles on the TP-906 unit in Krasnodar. Bet.i zhel.-bet. no.6:254-257 Je '61. (MIRA 14:7)

(Krasnodar—Prestressed concrete)

BORODICH, M.K., nauchnyy sotrudnik; AFANAS'YEV, P.M., nauchnyy sotrudnik; KOZLOV, V.V.

Tensioning station of very simple design. Bet. i zhel.-bet. 8 no.6:276 Je '62. (MIRA 15:7)

1. Krasnodarskiy filial Nauchno-issledovatel'skogo instituta po stroitel'stvu Ministerstva stroitel'stva RSFSR (for Borodich, Afanas'yev). 2. Glavnyy inzhener zavoda No.3 Krasnodarskogo sovnarkhoza (for Kozlov).
(Prestressed concrete)

BELOV, V.P.; BORODICH, M.K., nauchnyy sotrudnik; SHCHEBLANOV, N.M., nauchnyy sotrudnik

Design of a sleeve anchor. Bet. i zhel.-bet. 8 no.6:277-278 Je '62. (MIRA 15:7)

1. Nachal'nik Upravleniya stroitel'stva Krasnodarskogo sovnarkhoza (for Belov). 2. Krasnodarskiy filial Nauchno-issledovatel'skogo instituta po stroitel'stvu Ministerstva stroitel'stva RSFSR (for Borodich, Shcheblanov).
(Concrete reinforcement)

GORDIYEV, I., kand. tekhn. nauk; MISHIN, V., inzh., BORODICH, K., inzh.; [illegible], B., prepodavatel'; POPOV, A., inzh.; [illegible],

Technological innovations. Gruzbd. sv. 22 no.8:22-23 Ag '65.
(MIRA 18:8)

1. Shkola vysshey letnoy podgotovki, Ul'yanovsk (for Zadorozhnova). 2. Lineynyye ekspluatatsionnoremontnyye masterskiye, Krasnoyarsk (for Popov). 3. Starshiy inzhener otdela rezervnykh soorudheniy Privolzhskogo upravleniya, Kuybyshev (for Ivalyashvili).

BORODICH, N. D.

BORODICH, N. D. -- "Feeding of Larvae Chironomus f. l. Plumosus and Other Aspects of Their Biology." Sub 28 Nov 52, Moscow Technical Inst of the Fish Industry and Economy imeni A. I. Mikoyan. (Dissertation for the Degree of Candidate in Biological Sciences).

So: Vechernaya Moskva January-December 1952

BORODICH, V.D.

Food of the larvae of Chironomus f.l. plumosus and their wintering in the bottom soils of drained fish ponds. Trudy Gidrobiol.ob-va 7:123-147 '56. (MLRA 10:2)

1. Moskovskiy tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva.
(Chironomidae) (Fish ponds)

BORODICH, S.V.

33995 BORODICH, S.V. O Ryeal; Noy Pomyekhoustoychivosti Pri Priyemye Signalov Impul;sno-Vryemyennoy Modulyatsit Sbornik Nauch Trud Ov (Tsyen Tr. Nauch-Isslyed In-T Svyazi) Vyp. 1, 1949, S. 5-25- Bibliogr: 5 Nazv

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

BORODICH, S. V.

USSR/Electronics - Communications Interference Sep/Oct 49

"Noise Stability of Communication With Pulse-Code Modulation," S. V. Borodich, Engr

"Radiotekh" Vol IV, No 5, pp 13-28

Presents method of calcg potential noise stability of subject communication during fluctuating interferences. Examines method of receiving pulse-code modulation signals and assesses their noise stability. Obtains formulas suitable for any signal-to-noise ratio at the receiver input. Submitted 8 Dec 48.

206T53

BORODICH, S.V.; MINASHIN, V.P., redaktor; SOKOLOVA, R. Ya., tekhnicheskiy redaktor.

[Multichannel radio relay communication lines] Mnogokanal'nye radiorelelnye linii sviazi. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1953. 45 p. [Microfilm] (MLRA 8:9)
(Radio relay systems)

BORODICH, S.V. Cand in Tech Sci, Chief of the Laboratory of the Scientific Research Inst of the Ministry of Communications.

"Frequency Multiplexing of Radio Relay Communication Lines"
Vestnik svyazi, No 3, 1954, pp 5-6.

Translation M-3,053,704

BORODICH, S. V.

USSR/Miscellaneous - Radio

Card 1/1 : Pub. 133 - 4/20

Authors : Borodich, S. V., Cand. of Techn. Sc.

Title : Traffic density of radio-relay communication lines in time

Periodical : Vest. svyazi 7, 8-10, July 1954

Abstract : The principle of dividing channels in time and the construction of an apparatus for increasing the traffic density of impulse-modulated radio relay lines are described. A comparison is made between radio-relay lines with traffice density according to frequency and lines with traffic density according to time. Fields of application of such relay systems, are explained. A system with channel divided according to time can be used for conventional telephone and telegraph transmission, transmission of telephoto news and for broadcasting by increasing traffic density or by combining several telephone channels. Drawings.

Institution : Ministry of Communications, USSR

Submitted : ...

BORODICH, S.V.

Linear distortions in frequency modulation. Radiotekhnika 9 no.6: 66-72 D '54. (MIRA 8:4)
(Radio frequency modulation)

BORODICH, S. V. Cand. Tech. Sci., MINASHIN, V. P., Cand. Tech. Sci. SOKOLOV, A. V. Engr

"High Frequency Equipment of Radio-Relay Communication Lines"

Vestnik Svyazi No 5, 1955, pp 7-10

Transaltion M-1321, 19 Nov 56

621.396.621 : 621.376.3.018.783

3990. NON-LINEAR DISTORTION CAUSED BY AERIAL FEEDER MISMATCH IN MULTICHANNEL FREQUENCY-MODULATION SYSTEMS. S.V. Borodich. Radiotekhnika, Vol. 10, No. 10, 3-14 (1955). In Russian.

Non-linear distortion can arise in receivers receiving f.m. signals of identical information but displaced in phase, and also due to non-uniformity of aerial feeders, resulting in energy reflections; distortion increases with the amplitude of the reflected wave and with the phase difference between the two multipath transmissions, and is particularly evident in multichannel radio relay lines, usually as additional noise. A mathematical analysis of the generated distortion in a multichannel system is given, and the correlation function of the distortion produced is calculated, also the frequency spectrum of the spurious signals generated. A simpler calculation is also made for the case of a single wide-band communication channel, illustrated by a numerical example. A. Landman

BORODICH, S.V.; KALININ, A.I.; FORTUSHENKO, A.D., otvetstvennyy redaktor; GRIGOR'YEV, B.S., redaktor; VEYNTRAUB, A.B., tekhnicheskiy redaktor

[Handbook for electrocommunications engineering] Inzhenerno-tekhnicheskii spravochnik po elektrosviazi. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio. Vol. 7. [Radio relay systems] Radiorelelnye linii. 1956. 172 p. (MIRA 9:9)

1. Russia (1923- U.S.S.R.) Ministerstvo svyazi. (Radio relay systems)

BORODICH, S.V.

Calculation of noise in channels of radio relay lines with frequency compositing and frequency modulation. Elektrosviaz' 10 no.3:13-20 Mr '56. (MLRA 9:7)
(Radio--Interference) (Radio relay systems)

6(4) PHASE I BOOK EXPLOITATION SOV/2322

Borodich, S.V., N.I. Kalashnikov, A.M. Model', S.D. Manayenkov, and V.V. Petrov

Radiorelaynyye linii svyazi (Radio Relay Networks) Moscow, 1957. 36 p. (Series: Obzory po novoy tekhnike. Energetika) Errata slip inserted. 3,000 copies printed.

Sponsoring Agencies: USSR. Gosudarstvennyy komitet po novoy tekhnike, and Akademiya nauk SSSR. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii.

Ed.: V.I. Siforov, Corresponding Member, USSR Academy of Sciences.

PURPOSE: This booklet may be useful to engineering personnel working with radio relay systems.

COVERAGE: The authors discuss radio relay lines existing in the USSR and abroad. They also describe the utilization of tropospheric scattering of radio waves in radio and television broadcasting. There are 10 references: 2 Soviet (both trans-

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lations) and 8 English.

TABLE OF CONTENTS:

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Radio Relay Networks

AVAILABLE: Library of Congress (TK 6553 .B59)

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Card 3/3

BORODICH, S.V.

SMIRNOV, Vasiliy Alekseyevich; BORODICH, S.V., otvetstvennyy redaktor; GOROKHOVSKIY, A.V., redaktor; BERESLAVSKAYA, L.Sh., tekhnicheskiy redaktor

[Principles of radio communication by ultra-short waves] Osnovy radiosviazi na ul'trakorotkikh volnakh. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1957. 818 p. (MIRA 10:11)
(Radio, Shortwave)

BORODICH, S. V.

"Determination of the Fundamental Parameters of an Apparatus for Multichannel Radio Relay Lines," by S. V. Borodich, Elektrosvyaz, No 3, Mar 57, pp 14-23

A method is given for determining the optimum parameter values of a multichannel radio relay with frequency division channeling and FM.

The optimum quantitative relation between the individual constituents of noise in the telephone channel was established. (U)

BORODICH, S.V.

AUTHOR: Borodich, S.V., Candidate of Technical Sciences 111-9-6/28

TITLE: The "P-60/120" Radio Relay Equipment (Radioreleynaya apparatura "P-60/120")

PERIODICAL: Vestnik Svyazi, 1957, Nr. 9, pp 3-7 (USSR)

ABSTRACT: This article deals with the new "P-60/120" radio relay line equipment for multi-channel telephone communications and TV-transmission, designed to replace the 24-channel telephone communication and TV transmission system. This standard unit allows to establish, in one radio relay line, one simplex reversible TV trunk-line having a pass-bandwidth of 6 megacycles and two duplex telephone trunk-lines having one duplex-channel each with a pass-bandwidth of 300 cps to 552 kilocycles. This channel is condensed by means of terminal equipment separating the channel frequencies. The maximum capacity of the trunk-line is 120 telephone channels when using two "K-60" systems in the ranges of 12-252 and 312-552 kilocycles. When the simplified condensing equipment "KPP-30/60" is used, the same frequency-ranges contain 60 telephone-channels. In addition to 120 (or 60) telephone-channels, the same trunk-line contains service-channels and the channel of the aural TV reception. The service-channels have a bandwidth of 300 cps to 6 kilo-

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cycles, the bandwidth of 300 cps to 3 kilocycles being reserved for conversations and 3 to 6 kilocycles for TV-service. The channel of the aural TV-reception has 275 to 290 kilocycles, its LF pass-bandwidth has 30 cps to 15 kilocycles. The intermediate stations controlled by "P-60/120" type equipment are automatic, having an automatic reserve-system, remote signalization and remote control. The automatic reserve system consists at each line station of a complete reserve unit in addition to the complete base unit of the transceiving (transmitting-receiving) equipment. There is an automatic replacement of the base unit by the reserve unit and the time of communication interruption does not exceed 200 microseconds. The electric power supply of 220 v, 50 cps, is provided either by a separate engine-driven generator or by the local network through a voltage-stabilizer. About 5 kva are required by a complete unit of the equipment used by an intermediate station for two trunk-lines (TV and telephone). The quality indices of a radio relay line using the "P-60/120" type equipment meet the standards and recommendations of the International Advisory Committee for Radio Communications and the International Advisory Committee for Telegraph and Telephone which specify a hypothetical calibration line of 2,500 kilometers length

The "P-60/120" Radio Relay Equipment

with a condensing of the trunk-line by 120 telephone-channels. Such a calibration line adopted for radio relay lines contains 9 stations with signal modulation and demodulation. The quality indices of the TV-channel, in case of utilization of the "P-60/120" type equipment and ofaradio relay line having a length of 1,000 kilometers correspond to the recommendations the above international committees are planning.

The complex "P-60/120" equipment is described in detail and summarized in a table. The transceiving devices are shown in a block diagram (Figure 1) and consist of several units described in detail. In the transmitter, the average frequency of the FM oscillator is 70 megacycles. The receiver section contains a crystal frequency converter and a heterodyne operating with a "K-11" klystron. The intermediate frequency has also 70 megacycles. The block diagram Figure 2 shows the transceiving device of an intermediate station. The peculiarity of this device is the utilization of a master-oscillator of the transmitting section as heterodyne of the receiving section. In order to maintain the service-communication with a given station in case of signal-vanishing at its input, an emergency oscillator of 70 megacycles is inserted into the circuit. This oscillator is switched on by an indicator, if

The "P-60/120" Radio Relay Equipment

the signal of the IF amplifier is vanishing. The transceiving devices have the following base characteristics: The frequency-range has 1,600 - 2,000 megacycles (this frequency-range has fixed frequency-values for two telephone and one TV trunk-lines); the transmitter power has 3 watts; the noise-factor of the receiver is 30; the bandwidth has 20 megacycles; the frequency deviation of the telephone operating has 100 - 200 kilocycles per channel, the corresponding value for the transmission of TV-signals having ± 4 megacycles.

A complete system of terminal devices is installed at each radio relay line station having "P-60/120" type equipment. The terminal equipment of the aural reception channel contains amplifiers, an individual frequency converter, an oscillator and filters. The converter has a two-phase modulation (phase-difference diagram), by means of which the separation of one lateral frequency band is effected after the amplitude-modulation without any quartz filters. The stability of the carrier-frequency is increased by quartz, the whole oscillator being contained in a thermostat. The terminal video amplifier of the TV-channel matches the amplitudes at the input and at the output of the channel. The signal amplitude at the output of the amplifier attains 5 v. The same has also a separate output

for controlling the picture quality.
A special test-system prevents false commutation in case of signal fading at the output of the receiver. It switches on first the reserve receiver and only after re-appearance of the signal at its output, the complete unit is switched over. The remote-control contains sensitive elements placed at main (or terminal) stations, and receivers placed at intermediate stations. Figures 5 and 6 show the photos of such automatic devices.
The main unit of the antenna of the "P-60/120" equipment is the periscopic antenna elaborated by V.D. Kuznetsov and used also in 24-channel equipment. It consists of a horn-radiator installed inside a building, a lower elliptic reflector at the tower-base and a flat reflector at the tower top. Long feeders are unnecessary. Another antenna type is the parabolic antenna with a vibrator (similar to the parabolic antenna of the 24-channel radio relay equipment), connected with the transceiving devices by a "PKK-5/18" coaxial cable. The antenna and the feeder devices contain separating filters consisting of two parts made of coaxial line section. The antenna commutator has the form of a coaxial T-pipe with a contactor actuated by electromagnets.

The "P-60/120" Radio Relay Equipment 111-9-6/28

The "P-60/120" equipment has been designed by the Scientific Research Institute and the Experimental Plant of the USSR Ministry of Communications under the direction of I.V. Kazistov, V.P. Minashin, A.V. Sokolov, M.V. Brodskiy, V.D. Kuznetsov, V.M. Shifrina and Ya.M. Madorskiy. The mass production of this equipment is being prepared.
This article contains two block-diagrams, 1 table, 4 photos and two Russian references.

AVAILABLE: Library of Congress

Card 6/6

PHASE I BOOK EXPLOITATION SOV/3550

Borodich, Sergey Vladimirovich, Vladimir Pavlovich Minashin, and Arseniy Vasil'yevich Sokolov

Radioreleynaya svyaz' (Radio Relay Communications) Moscow, Svyaz'-izdat, 1960. 434 p. Errata slip inserted. 17,000 copies printed.
Resp. Ed.: S.V. Borodich; Ed.: V.I. Bashchuk; Tech. Ed.: K.G. Markoch.

PURPOSE: This is a textbook approved by the Ministry of Communications, USSR, for use in communications tekhnikums. It was prepared in accordance with the program of the course "Radio Relay Communications."

COVERAGE: The book describes the fundamentals of radio relay communications, the structure of all the components of a radio relay line, principles of design of radio relay lines, and the electrical characteristics of communication channels and methods of measuring them. Particular attention is paid to radio relay communication systems using frequency-division multiplexing and frequency modulation, systems considered the most promising and

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most extensively used in practice. Systems using time-division multiplexing and pulse modulation are discussed to the extent necessary to familiarize students with the principles of their operation and with the basic peculiarities of the equipment's structure. In this textbook the authors' aim is to generalize from vast amounts of material on the theory and the engineering problems of radio relay communications contained in a series of articles by Soviet and non-Soviet authors. The authors also used their own experience gathered in developing the equipment of Soviet radio relay systems and in lecturing at courses for the improvement of communication workers' skills. They avoid as far as possible the use of complicated methods of mathematical analysis. The subject of radio relay lines has only recently been introduced into the curriculum of electrical communications tekhnikums, and this work represents the first textbook in the field. The Introduction and Chapters I, II, VII, and VIII were written by S.V. Borodich; Sections 1, 2, 8, 9, 10, and 11 of Chapter III, and Chapter IV by V.P. Minashin; Sections 3, 4, 5, 6, 7, and 12 of Chapter III, and Chapters VI and IX and the Appendix by A.V. Sokolov. The whole work was written under the

. general supervision of S.V. Borodich. There are 47 references, all Soviet

TABLE OF CONTENTS:

Radio Relay (Cont.)

AVAILABLE: Library of Congress

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32951
S/106/62/000/001/002/009
A055/A101

9.3273 (1040,1159)
6.4800

AUTHOR: Beredich, S.V.

TITLE: Calculation of the permissible radio interference magnitude in multichannel radio relay systems

PERIODICAL: Elektrosvyaz', no. 1, 1962, 13 - 24

TEXT: The author examines the increase of nonlinear transitions in radio relay channels with frequency multiplexing and frequency modulation in the presence of radio interferences. He analyzes the effect of both the nonmodulated interferences and the interferences modulated by the multichannel communications. He begins by deducing the formula giving the correlation function $\overline{\theta\theta}_\tau$ and the time-averaged correlation function $\overline{\overline{\theta\theta}}_\tau$ of the phase of the total oscillation (the index τ designates the value of the function at the moment $t + \tau$). These formulae are deduced under the assumption that the amplitude modulation of the signal by the interferences is fully suppressed by the amplitude limiter and that no substantial components of the combination frequencies (getting into the i-f amplification band) are formed in the nonlinear elements of the receiver. The formulae obtained by the author show that the correlation function of the

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Calculation of the permissible radio ....

phase is a periodical function of time. Using the averaged correlation function and the theorem for the spectrum of the derivative of the random process, the author deduces next a formula giving the averaged spectrum of the interferences at the output of the frequency discriminator. This formula enables him to proceed to the calculation of the psophometric power of the interferences in the telephone channel. The final formula to which this calculation leads permits to determine the dependence of the power of the interferences in the telephone channel upon: 1) the interference-to-signal ratio; 2) the difference between the frequencies of the signal and of the interferences; 3) the modulation parameters. Precise calculations with the aid of this final formula (involving the calculation of two complicated integrals) are made for two cases: 1) absence of predistortions; 2) applying the predistortions recommended by the C.C.I.T.T. Several graphs are reproduced, which also show the power spectrum of oscillations frequency-modulated by multichannel communications. The Soviet personalities mentioned in the article are: I.S. Gonorovskiy, M.A. Lavrent'yev, B.V. Shabat and A.A. Kharkevich. There are 7 figures, 1 table and 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc.

SUBMITTED: October 30, 1961

Card 2/2

38973
S/106/62/000/007/001/005
A055/A101

6,4300
9.8300

AUTHOR: Borodich, S. V.

TITLE: On the required passband width of the h-f channel of multichannel radio relay systems

PERIODICAL: Elektrosvyaz', no. 7, 1962, 3 - 10

TEXT: The problem of determining the required passband width of the h-f channel of multichannel radio relay systems with frequency multiplexing and frequency modulation was already tackled by Medhurst (RF Bandwidth of frequency division multiplex systems using frequency modulation, "Proc. IRE", 1956, v. 44, no. 2). The present article is an attempt to find a practically useful solution of this problem. The characteristics of the channel are supposed to be ideal. The nonlinear noise power in the telephone channel is used as a criterion for determining the required bandwidth. The article consists essentially of the deduction of a formula giving the nonlinear noise power. Starting from the formula

$$u_1(t) = u_o \cos[\omega_o t + \Delta\omega_m S(t)], \quad (1)$$

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where $u_1(t)$ is the voltage of the signal at the input of the ideal four-pole, frequency-modulated by the multichannel communication $U(t)$, and $S(t) = \int_{-T}^{t} U(t)dt$, the author analyzes the processes $U(t)$ and $S(t)$, and finds their correlation functions; the energy spectrum of the multichannel communication being $W_u(F) = W_o$ within the band $F_1 < F < F_2$, he next deduces a formula for the spectrum of nonlinear noises $W_\epsilon(F)$. Using this formula, he finally derives his essential formula giving the nonlinear noise power in the zero relative level point:

$$P_{noise} = \frac{\Delta F_k \cdot k_{ps}^2 \cdot 10^9}{F_2 \eta^2 M_k^2} H(a, q_\Delta) \text{ picowatts,} \qquad (15)$$

where

$$H(a, q_\Delta) = \int_{q_\Delta}^{q_\Delta+1} g(a, q)g(a, q-1)dq. \qquad (16)$$

In formulae (15) and (16): F_k is the bandwidth of the telephone channel; k_{ps} is a psophometric coefficient; $M = \frac{\Delta f_k}{F_2}$ is the effective modulation index for a

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channel; Δf_k is the effective frequency deviation for a channel (when a sinusoidal current of 1 millivolt power is supplied to the zero relative level point); $a = \frac{\Delta\omega_m}{\Omega_2}$; $q = \frac{\Omega}{\Omega_2}$; $q_\Delta = \frac{\Delta f}{2F_2}$; $\frac{F_2}{F_1} = \frac{\Omega_2}{\Omega_1}$; $F < \frac{\Delta f}{2}$. Formula (15) and a set of graphs (five of which are reproduced in the article) enable the author to determine the required bandwidth $\Delta f = 2F_2 q_\Delta$ for six different multichannel systems. There are 5 figures.

SUBMITTED: February 20, 1962

Card 3/3

L 17810-63 EWT(d)/BDS/ES(w)-2 APGC/ASD/AFWL/ESD-3/RAEM/SSD/

APGC Pn-4/Pp-4

ACCESSION NR: AP3005601 S/0106/63/000/008/0001/0013

69

AUTHOR: Borodich, S. V.

8

TITLE: Statistical calculation of nonlinear crosstalk caused by reflections in antenna feeders of multichannel radio-relay systems

8

SOURCE: Elektrosvyaz', no. 8, 1963, 1-13

TOPIC TAGS: crosstalk antenna feeder, radio-relay system, echo signal

ABSTRACT: A mathematical investigation is offered of nonlinear crosstalk in telephone channels that terminate a frequency-division-multiplexed FM radio-relay line; the crosstalk is due to echo signals in all antenna feeders of the line. Equations are set up that describe a useful signal at the receiver input combined with a number of relatively weak distortions due to echo signals. By analyzing the energy spectrum of the cross noise, it is proven that the noise power is a random value for the various realizations of feeders. Orig. art. has: 11 figures and 34 formulas.

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L 17801-63 EWT(d)/BDS/EEC-2 AFFTC/ASD/AFMDC/ESD-3/RADC/
APGC/SSD Pn-4/Pp-4
ACCESSION NR: AP3006945 S/0106/63/000/009/0001/0007

69

AUTHOR: Borodich, S. V.

TITLE: Statistical calculation of nonlinear crosstalk caused by reflections in antenna feeders of multichannel radio-relay systems (continued)

SOURCE: Elektrosvyaz', no. 9, 1963, 1-7

TOPIC TAGS: crosstalk, antenna feeder, radio-relay system, echo signal

ABSTRACT: This is a continuation of the author's article published in Elektrosvyaz', no. 8, 1963, 1-13. Formulas are deduced for calculating crosstalk psophometric power on the assumption that the crosstalk spectrum is approximately uniform within the telephone-channel band. Orig. art. has: 33 formulas.

ASSOCIATION: none
SUBMITTED: 08Mar63
SUB CODE: CO
DATE ACQ: 30Sep63
NO REF SOV: 002
ENCL: 00
OTHER: 002

Card 1/1

BORODICH, S.V.

On the necessary band width of FM multichannel radio relay systems. Acta techn Hung 42 no.1/3:48-49 '63.

1. Nauchno-issledovatel'skiy institut Radio ministerstva svyazi, Moskva.

GUSYATINSKIY, Igor' Aleksandrovich; RYZHKOV, Yevgeniy Vasil'yevich; NEMIROVSKIY, Aleksandr Solomonovich; MARKOV, V.V., retsenzent; LEVIN, G.A., retsenzent [deceased]; BORODICH, S.V., otv. red.; NOSOVA, M.N., red.

[Radio relay communication lines] Radiorelelnye linii sviazi. Moskva, Sviaz', 1965. 542 p. (MIRA 19:1)

ACC NR: AP7011358 SOURCE CODE: UR/0106/67/000/001/0001/0013

AUTHOR: Borodich, S. V.

ORG: none

TITLE: Method of calculating non-linear transitions in the high frequency channel of a multi-channel radio relay system

SOURCE: Elektrosvyaz', no. 1, 1967, 1-13

TOPIC TAGS: radio noise, point to point radio, frequency modulation, frequency division multiplex

SUB CODE: 09

ABSTRACT: method is suggested for calculating the noise resulting from non-linear transitions which arise in the HF channel of a multi-channel radio relay system with frequency division multiplexing and FM. A formula is produced for calculation of noise for fixed frequency and phase characteristics, supported by experimental results. The formula is:

Card 1/2 UDC: 621.396.43: 621.391.827

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ACC NR: AP7011358

$$P_n = \frac{\Delta F_\kappa k_n^2 10^9}{F_3 B^2(F)} \left(\frac{F}{\Delta f_\kappa}\right)^2 \left\{ M^4 \sum_{n=2}^{\infty} \sum_{m=2}^{\infty} (C_{mn} q_m q_n + D_{mn} \delta_m \backslash +$$

$$+ M^4 \sum_{n=2}^{\infty} \sum_{m=2}^{\infty} (E_{mn} Q_m Q_n + F_{mn} \Delta_m \Delta_n) \right\} \text{in mw} \qquad (28)$$

The coefficients C_{mn}, D_{mn}, E_{mn} and F_{mn} disappear rapidly with increasing m and n, so that the number of terms in the series which must be used in calculation is comparatively slight, and calculation is not difficult.

The author thanks I. S. Tsirlin and Z. F. Gurova for completing the experiment. Orig. art. has: 6 figures, 29 formulas and 2 tables. [JPRS: 40,360]

Card 2/2

L 09191-67
ACC NR: AP7002802 SOURCE CODE: UR/0106/66/000/009/0001/0008

AUTHOR: Borodich, S. V.

ORG: none

TITLE: Applicability of a quasi stationary approximation to calculation of non-linear transitions in multichannel radio relay systems

SOURCE: Elektrosvyaz', no. 9, 1966, 1-8

TOPIC TAGS: radio relay, approximation

ABSTRACT: The area of applicability of a quasi stationary approximation for calculation of non-linear transitions which occur in a high frequency channel of a multichannel radio relay system with frequency compression and frequency modulation is determined. The quasi stationary approximation is proper if the integrand functions in the expression for the correlation function of process $x_s(t)$ disappear when $\Omega_2\tau_{1,2}>0.1\pi$. In practice, the quasi stationary approximation is thus applicable if $\Delta\omega/2(\tau)>\pi$ or $\Delta\omega/2\approx10\Omega_2$ where $\Omega_2\tau>0.1\pi$, i.e. if approximately 10 sidebands of the signal are included in 1/2 the band of the quadrupole which is the input of the hf channel. The quasi stationary solution is inapplicable for calculation of non-linear transitions in systems with large numbers of channels (600 or more). It is usable only for calculation of systems up to about 60 channels with rather wide hf channel band widths. Orig. art. has: 3 figures and 34 formulas. [JPRS: 39,183]

SUB CODE: 17 / SUBM DATE: 10May66 / ORIG REF: 004

UDC: 621.396.43

Card 1/1 0925 1690

BORODICH, V.

316 Opyt Raboty Prokhodchikov Brigady D. F. Dvornicheva, Kemerovo, Kn. Izd., 1954
20s. S Chert.; 1 L Graf. 20 SM. 5,000 Ekz. 40 K.-Na Obl. Avt. Ne. Ukazany-
(54-54976) P. 622.333:622.26 St

SO: Knizhnaya, Letopis, Vol. 1, 1955

BORODICH, V. D., KOMAROV, A. K., FILKEN, V. Ya., Golub, A. P., KREMLEV, M. G., MOROZ, N. K., and SAMOYLOV, B. N.

"Critical current for Nb-Zr ribbons in external magnetic field."

report to be submitted for the 8th Intl. Conf. on Low Temperature Physics (IUPAP) London, England, 16-22 Sep 62.