KOZLOV, V.

Resonance indicator. Radio no.4:45 Ap '61. (MIRA 14:7)
(Radio—Equipment and supplies)

KOZLOV, V., inzh.

Active relaying units on orbits. Av. i kosm. 47 no.7:36-41 Jl '65. (MIRA 18:6)

L 37939-66 EWT(d)/EWT(m)/EWP(h) JAJ

ACC NR: AP6021965 SOURCE CODE: UR/0025/66/000/006/0032/0032

AUTHOR: Kozlov, V. (Engineer)

ORG: none

TITLE: Winged fire fighter [An-2P fire-fighting amphibious aircraft]

SOURCE: Nauka i zhizn', no. 6, 1966, 32 and insert facing p. 32

TOPIC TAGS: aircraft, aircraft fire equipment, amphibian aircraft/An 2P aircraft

ABSTRACT: The An-2P fire-fighting amphibious aircraft, a product of extensive research in pursuit of maximum utility in an all-purpose aircraft, can be used for cargo and passengers as well as for reconnaissance and fire fighting. Since most forest fires are caused by man, who cannot survive without water, they usually break out near lakes and rivers; therefore, an amphibious aircraft is advantageous. In the center of each of the An-2P's floats is a water compartment of 1260-l capacity. On the float bottom are water-intake valves and wide outlet valves for spraying the fire. In the tail section of the fuselage are two containers of Sulfanol NP-1 solution, a water additive which penetrates the forest crown permitting the water to be absorbed rather than to roll off (see Fig. 1). The aircraft proceeds to the fire with its maximum load of fuel, firemen, and equipment. At its destination the equipment and firemen are unloaded or dropped by parachute. The firemen determine

Card 1/2

L 37939-65
ACC NR: AP6021965

the area to be sprayed while the aircraft fills its tanks at the nearest water supply. The An-2P carries 600 liters of water with a full fuel tank and 1260 liters with a nearly empty fuel tank. The water load is automatically controlled relative to the fuel supply. During flight from the water source to the fire, the pilot prepares the solution. If the fire station is 200 km from the fire and the source of water is 8 km from the fire the An-2P aircraft can make 23 trips and cover a 15,560-m^2 area, each trip taking approximately 7 min. The fire equipment weighs only 94 kg. Orig. art. has: 6 figures. [WH]

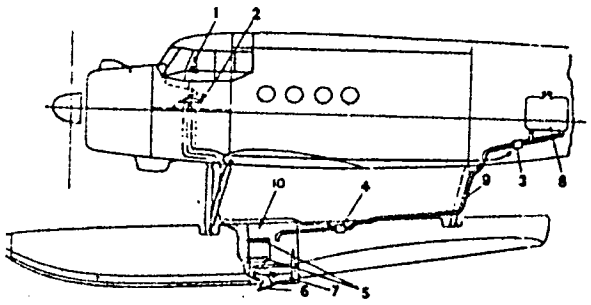


Fig. 1. An-2P aircraft fire-fighting system

1 - Water-intake button; 2 - pneumatic water-discharge cock; 3 - cock for the preparation of the "wetting" solution; 4 - "wetting" solution-discharge cock; 5 - water-level float sensors; 6 - intake valve; 7 - outlet valve; 8 - "wetting" solution containers; 9 - dosimeter pipeline; 10 - water compartment.

SUB CODE: 01/ SUBM DATE: none/ ATD PRESS: 5044

Card 2/2 mlp

L 01070-67 EWT(1)/EWP(m)/EWT(m) FDN
ACC NR: AP6026333 (N) SOURCE CODE: UR/0308/66/000/005/0023/0024

AUTHOR: Kozlov, V. (Senior engineer)

ORG: Technical Administration, MMF (Tekhnicheskoye upravleniye MMF)

TITLE: Isotopes on ships and in enterprises of the merchant marine

SOURCE: Morskoy flot., no. 5, 1966, 23-24

TOPIC TAGS: radioisotope, marine engineering, SHIP COMPONENT

ABSTRACT: The author discusses the use of radioactive isotopes in marine applications. Examples are the AZhS-1 analyzer for determining sulfur content in diesel fuel, the SDPU-1 unit for fire detection, the UDAR-3 and UR-8 liquid level indicators used for remote control of fuel storage, the NIV-1 instrument for measuring moisture content in cargoes of grain and similar materials, as well as instruments for studying machine components and mechanisms and for continuously checking wear automatically during operation. Radiation technology is not only being used in applications which are inaccessible to conventional instruments but in many cases is also competing successfully with conventional methods on their own ground.

SUB CODE: 18, 13/ SUBM DATE: None

Card 1/1 vlr UDC: 621.039.8

TROFIMOV, P.; KOZLOV, V.

Protection of grain crops in Saratov Province. Zashch. rast. ot vred. i bol. 10 no.5:17-20 '65. (MIRA 18:6)

1. Nachal'nik Saratovskoy stantsii zashchity rasteniy (for Trofimov). 2. Nachal'nik Vol'skogo otryada zashchity rasteniy (for Kozlov).

KOZLOV, V., pilot pervogo klassa; PESHKOV, S., pilot pervogo klassa

Landing of a TU-104 plane at a strong cross wind. Grazhd.av. 19 no.7:18-19 Jl '62. (MIRA 15:8)
(Airplanes--Landing)

KOZLOV, V., inzh.; FROLOV, Ye., kand.tekhn.nauk

Measurement of the temperature of a working body in the cylinder of a heat engine. Khol.tekh. 37 no.4:9-13 Jl-Ag '60.
(MIRA 13:11)

1. Moskovskoye vysshaye tekhnicheskoye uchilishche im. N.E.Baumana.
(Compressors) (Temperature--Measurement)

KOZLOV, V., inzh.

Organizing the maintenance of motor vehicles in agriculture. Avt.-transp. 40 no.10:23-25 O '62. (MIRA 15:11)
(Motor vehicles--Maintenance and repair)

BREGER, A.Kh.: Prinimali uchastiye: VAYNSHTEYN, B.I.; SYRKUS, N.P.; RYABUKHIN, Yu.S.; KOZLOV, V.A.; KARPOV, V.L., red.; TAHAKHOVSKAYA, N.K., red.; YAZLOVSKAYA, E., tekhn.red.

[Nuclear radiation sources and their application to radiochemical processes] Istochniki iadernykh izluchenii i ikh primenenie v radiatsionno-khimicheskikh protsessakh. Pod red. V.L. Karpova. Moskva, Vses.in-t nauchn.i tekhn.informatsii, 1960. 128 p. (MIRA 13:10)
(Radiation) (Radiochemistry)

L 41499-65 EWG(j)/EWT(m)
ACCESSION NR: AP4043247 S/0205/64/004/004/0587/0593

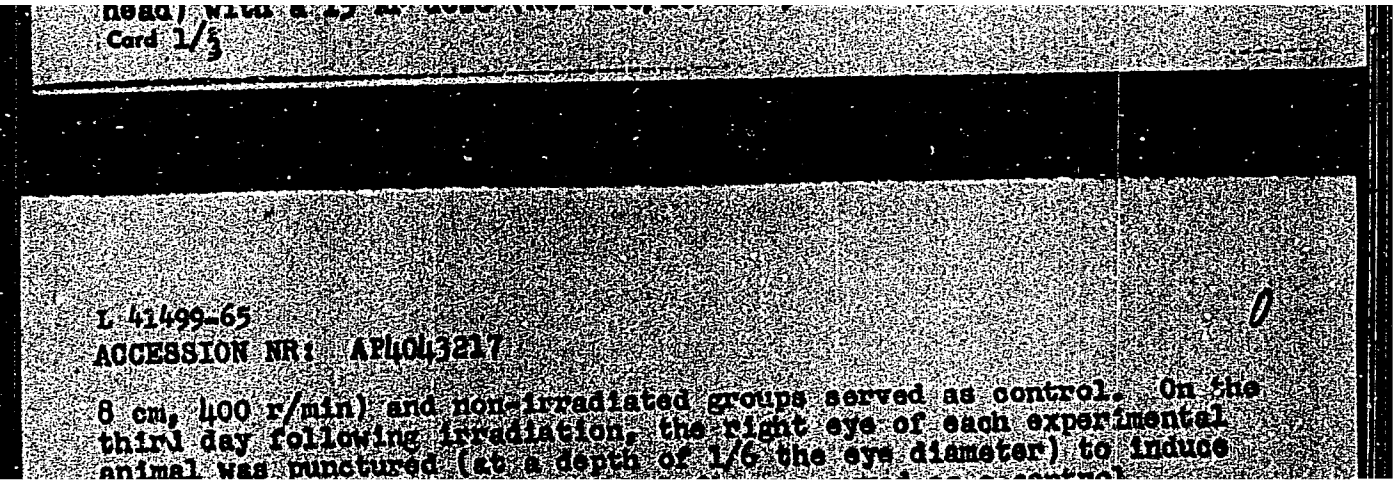
AUTHOR: Golichenkov, V. A.; Popov, V. V.; Vasvolodov, E. B.; Kozlov, V. A.

TITLE: Beta-mercaptoprophylamine protective action against radiation damage of the crystalline lens intensified by traumatization

SOURCE: Radiobiologiya, v. 4, no. 4, 1964, 587-593

TOPIC TAGS: frog, eye, radiation injury, beta-mercaptopropylamine, radioprotector

ABSTRACT: In earlier studies the authors have demonstrated that a slight trauma of an irradiated crystalline lens causes accelerated development of a radiation cataract within 2 to 3 days, a condition



Card 1/3

L 41499-65

ACCESSION NR: AP4043217

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8 cm, 400 r/min) and non-irradiated groups served as control. On the third day following irradiation, the right eye of each experimental animal was punctured (at a depth of 1/6 the eye diameter) to induce

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L 41499-65
ACCESSION NR: AP4043217

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 13May63 ENCL: 00 SUB CODE: LS

NR REF SOV: 006 OTHER: 004

Card 3/3 mc

KOZLOV, V.A., kapitan meditsinskoy sluzhby, kandidat meditsinskikh nauk

Importance of studying the rhythmical sensitivity of hearing in selecting ruture radio tlelgraph operators. Voen.-med.zhur. no.9: 36-42 S '56. (MIRA 10:3)
(RHYTHM) (HEARING) (TELEGRAPHERS)

BOYENKO, Igor' Dmitriyevich; KOZLOV, Vasiliy Antipovich; MALINOVSKAYA, N., red.; YURGANOVA, M., tekhn.red.

[Influence of the climate of Transbaikalia on the human body] O vliianii klimata Zabaikal'ia na organizm cheloveka. Chita, Chitinskoe knizhnoe izd-vo, 1959. 79 p. (MIRA 13:7)
(TRANSBAIKALIA--MAN--INFLUENCE OF CLIMATE)

KOZLOV, Vladimir Alekseyevich; KUDINOV, Valentin Vladimirovich; POLUSHKIN, Vsevolod Alekseyevich; SHUPLOV, Vyacheslav Ivanovich; SUKHORUKOV, P.A. red.; DIZHUR, I.M., red.izd-va; TIKHONOVA, Ye.A., tekhn.red.

[Fire alarm systems and temperature control for seagoing ships] Pozharnaia signalizatsiia i temperaturnyi kontrol' na morskom transporte. Moskva, Izd-vo "Morskoi transport," 1957. 118 p. (MIRA 11:2)

(Ships--Fires and fire prevention)

KOZLOV, V. A.; FRENKEL' P.M.; SHISHKIN, R. G.; Engs.

Rolling mills

Problems of laying and of planning industrial construction of rolling mill foundations. Stroi.prom. 31, no. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

KOZLOV, V.A., inzhener; KOSTROMIN, A.N., inzhener.

Experience with designing and erecting control posts for rolling mills. Stroi.prom. 34 no.4:18-22 Ap '56. (MLRA 9:8)

1. Kiyevskoye otdeleniye Promstroyproyekta.
(Rolling mills)

KOZLOV, V.A.

Machine maintenance operations at the sintering plant of the Magnitogorsk Metallurgical Combine. Obog. rud 7 no.4:42-47 '64. (MIRA 16:4)

1. Magnitogorskiy kombinat.
(Magnitogorsk—Sintering—Equipment and supplies)
(Machinery—Maintenance and repair)

ZHILINSKIY, O.V.; KOZLOV, V.A.; MIKHAL'KEVICH, I.V.; PETROV, O.D.

Hydraulic system of a broaching machine with two-position safety valves. Stan.i instr. 32 no.6:36-37 Je '61. (MIRA 14:6)
(Broaching machines--Hydraulic driving)

ZHUKOV-VEREZHNIKOV, N. N.; VOLKOV, M. N.; MAYSKIY, I. N.; TRIBULEV, G. P.; RYBAKOV, N. I.; SAKSONOV, P. P.; ANTIPOV, V. V.; KOZLOV, V. A.; PODOPLELOV, I. I.

"Results of microbiological and cytological investigation on Vostok type spacecraft."

paper presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

ACCESSION NR: AP4045320 S/0209/64/000/006/0068/0071

AUTHOR: Kozlov, V.; Makiyenko, V.; Khmelyuk, V.

TITLE: Passive relay devices

SOURCE: 'Aviatsiya i kosmonavtika, no. 6, 1964, 68-71

TOPIC TAGS: relay, passive relay, communication satellite, Echo-2, radio transmission, radio probe

ABSTRACT: The authors briefly discuss the joint British, American and Soviet epxeriment on the reception of radio signals reflected from the artificial Earth satellite "Echo-2" and the Moon (signals transmitted from the Observatory at Jodrell Banks, reflected from the satellite or the Moon and received at the city of Zimenki in the Gor'kiy oblast). The authors distinguish two possible means of communication through artificial Earth satellites (AES): the use of active or passive relays. They show that the second method does not require the presence in space of a transceiver station, it being sufficient that there merely be some sort of a body to reflect the radio waves transmitted from the Earth. The specific requirements of such a "passive relay" system are briefly outlined. The radio probe of the planet Venus by Soviet scientists in 1962 is described. Details are given on the American "Echo-1" and "Echo-2" satellites, and on the experiments

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ACCESSION NR: AP4045320

carried out with the second of these during the period from 21 February through 8 March, 1964. Some information with respect to the radio telescope at Zimenki, used by the Soviets to pick up the signals, is given, and the basic plan of the experiment is shown in diagrammatic form. The practically distortion-free reception of Morse telegraphy is noted in the authors' consideration of the results of this interesting series of experiments. The quality of facsimile and letter-printing telegraphy is noted to have been worse. The authors point to the need for higher transmitter output and a transition to the centimeter wave band for improved signal-to-noise ratio at the input of the receiving apparatus. Difficulties in the use of passive relay systems, due to power considerations which have the effect of limiting the bandwidth and the need for a large number of individual components, are discussed, and the need for passive satellites of other and different configurations from that of the "Echo-2" is analyzed from the point of view of achieving a greater effective surface of reflection, without making their injection into orbit and maintenance of shape more difficult. The use of satellites with Van Att grids is discussed, with the authors claiming that such devices permit a channel bandwidth of 10 Mc in a waveband of 2.75-5.77 cm with an effective satellite area of 1 m^2 at an altitude of approximately 10,000 kilometers. Orig. art. has: 3 figures.

Card 2/3

ACCESSION NR: AP4045320

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EC, SV

NO REF SOV: 000 OTHER: 000

Card 3/3

KOZLOV, V.A.

Identifying the prospecting levels in multilayered fields.
Gaz. prom. 9 no.4:4-6 '64. (MIRA 17:8)

KOZLOV, Vladimir Aleksandrovich; SHARGORODSKIY, L.Ye., red.; ZUYEVA, N.K., tekhn.red.

[Some problems in improvement and the development of devices in orthopedic stomatology] Nekotorye voprosy ratsionalizatsii i izobretatel'stva v ortopedicheskoi stomatologii. Moskva, Gos. izd-vo med.lit-ry, 1960. 20 p. (MIRA 13:5)
(DENTAL INSTRUMENTS AND APPARATUS)

KOZLOV, V. A., CAND MED SCI, "CLINICO-EXPERIMENTAL ~~INVESTIGATIONS~~ studies ON REPLANTATION OF TEETH." LENINGRAD, 1961. (LENINGRAD STATE ORDER OF LENIN ~~INSTITUTE~~ FOR ADVANCED TRAINING OF PHYSICIANS IMENI S. M. KIROV). (KL-DV, 11-61, 228).

KOZLOV, V.A.

Replantation of teeth after injuries to the maxillodental region. Stomatologiia 40 no.3:55-57 My-Je '61. (MIRA 14:12)

1. Iz kafedry chelyustno-litsevoy khirurgii i stomatologii (zav. - prof. A.A.Limberg) Leningradskogo instituta usovershenstvovaniya vrachey (dir. - dotsent A.Ye.Kiselev).
(TEETH--TRANSPLANTATION)

GORYACHEV, B.I.; KOZLOV, V.A.; CHERKOV, N.V.; YUR'YEV, B.A.

Effect of the gamma background on the energy resolution of a spectrometer with a semiconductor detector. Izv. AN SSSR Ser. fiz. 29 no.2:315-319 F '65.

(MIRA 18:1)

ACC NR: AR6026487 SOURCE CODE: UR/0274/66/000/004/A024/A024

AUTHOR: Kozlov, V. A.; Nasyrov, R. V.; Shteyn, V. K.

TITLE: Stability of the kinematic magnetostriction filter

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 4A150

REF SOURCE: Sb. Vopr. teorii i nadezhnosti apparatury i kanalov svyazi. Tashkent, Nauka, 1965, 214-220

TOPIC TAGS: magnetostriction, filter, ~~magnetostriction~~ resonator

ABSTRACT: Factors are considered which assure stability to magnetostriction resonators (MR) used in kinematic magnetostriction filters. The thermal stability of Q-factor and resonance frequency and their effects on the cross attenuation at 20--60C are analyzed. Temperature variation impairs the cross attentuation (due to Q-factor instability) by 25 db or less. Instability of the resonance frequency has a greater effect. The effect of instability of electromechanical-coupling coefficient K and static inductance on the oscillation suppression has been studied. With a suppression duration of 1 microsec, a MR with K > 12% permits obtaining a depth of suppression upto 60 db; the effect of temperature instability can be neglected. The effect of inducatance instability is serious but it can be reduced by introducing a capacitor with a negative temperature coefficient into the suppression loop. Four figures. Three tables. Bibliography of 5 titles. L. S. [Translation of abstract]

Card 1/1 SUB CODE: 20, 09 UDC: 621.372.542.24

KOZLOV, V.A.; CHERNYAYEV, N.V.; ZILOTIN, Yu.V., red.

[Goryachinsk Health Resort] Kurort Goriachinsk. Ulan-Ude, Buriatskoe knizhnoe izd-vo, 1965. 50 p. (MIRA 18:11)

AHONZON, N.Z., kand.tekhn.nauk; KOZOBKOV, A.A., kand. tekhn.nauk; KHACHATURYAN, S.A., kand.tekhn.nauk; KOZLOV, V.A., inzh.

Electrical model of a piston-type compressor station. Prom. energ. 20 no.10:43-45 O '65. (MIRA 18:10)

KOZLOV, V.A.

Commercial prospecting of gas pools in the Uzen' gas field.
Gaz. prom. 8 no.7:8-12 '63. (MIRA 17:8)

KOZLOV, V. A. Engr.

"Soviet Scientific and Technical Conference on Gas Purification," Elektrichestvo, No.2, p. 91, 1950

Translation W-15312, 21 Nov 50

1. KOZLOV, V. A., Eng.

2. USSR (600)

4. Electric Networks

7. Economic criteria for cable networks of cities, Elektrichestvo, No. 11, 1952.

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

KOZLOV, V.A., inzhener; YEREMEYEV, V.D., inzhener.

Use of cut-off switches for automatic switching-in of reserve capacity. Elektrichestvo no.6:75-77 Je '54. (MLRA 7:7)

1. Leningradskaya kabel'naya set'.
(Electric switchgear)

Kozlov, V. A.

AID P - 1028

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 5/23

Author : Kozlov, V. A., Eng., Leningrad

Title : Technical and economic calculations of city cable networks

Periodical : Elektrichestvo, 11, 31-38, N 1954

Abstract : The author presents his method of calculating, based on the determination of the optimal capacity of transformer substations. He selects the cable cross-sectional area for the low voltage network on the basis of permissible current heating capacity and illustrates his method with examples of calculation for two city districts. Four diagrams, 2 tables, 5 Russian references (1948-1954).

Institution : None

Submitted : Ag 9, 1954

Kozlov, V. A.

AID P - 1614

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 23/27

Author : Kozlov, V. A., Eng., Leningrad

Title : Conference about electrical appliances (current events)

Periodical : Elektrichestvo, 3, 82-83, Mr 1955

Abstract : The conference was organized by the Leningrad branch of the VNITOE (All-Union Scientific Engineering and Technical Society of Power Engineers) and took place in December 1954. A list of reports with the names of the authors and of institutions represented as well as of the decisions accepted is given.

Institution: None

Submitted : No date

Kozlov, V.A.

AID P - 2003

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 7/31

Author : Kozlov, V. A., Eng., Leningrad

Title : One of the versions of a city electric network

Periodical: Elektrichestvo, 4, 34-36, Ap 1955

Abstract : The author submits for discussion a city network designed in conformity with the recommendations of the Ministry of Electric Power Stations (No.23 of May 6, 1950). He compares it with other proposed solutions. Three diagrams, 5 Russian references (1945-1954).

Institution: Leningrad Cable Network

Submitted : Mr 10, 1954

AID P - 3452

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 19/32

Author : Kozlov, V. A., Eng., Leningrad

Title : Complete assembled substations of most wide use (article by A. A. Yermilov, this journal, No. 6, 1954; discussion)

Periodical : Elektrichestvo, 10, 68-69, O 1955

Abstract : The author is of the opinion that the example presented by A. A. Yermilov is not a complete assembled substation, but rather a temporary assembled and dismountable station as used during construction and seasonal works. Several problems of a technical nature arise when looking at the problem from the point of view of a temporary or permanent substation: protection, dimensions, distances, etc. For such complete assembled substations the industry should create specially designed equipment. The author presents his own suggestions for certain solutions for

AID P - 3452

Elektrichestvo, 10, 68-69, O 1955

Card 2/2 Pub. 27 - 19/32

city, rural and industrial substations.

Institution : None

Submitted : No date

KAMENSKIY, M.D., doktor tekhnicheskikh anuk; AYZENBERG, B.L., kandidat tekhnicheskikh nauk; NIKOGOSOV, S.N., kandidat tekhnicheskikh nauk, dotsent; BESSMERTNYY, I.S., kandidat tekhnicheskikh nauk (Moskva); GITMAN, M.I., inzhener (Moskva); KOZLOV, V.A., inzhener.

Technical and economic calculations of city cable networks. Elektrichestvo no.12:66-72 D '55. (MLRA 9:3)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina (for Kamenskiy); 2. Leningradskiy inzhenerno-ekonomicheskiy institut imeni Molotova (for Ayzenberg, Nikogosov); 3. Leningradskaya kabel'naya set' (for Kozlov).
(Electric power distribution)

AID P - 4134

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 21/33

Author : Kozlov, V. A., Eng. Leningrad

Title : Technical and economic calculation of city cable networks.(Discussion of the article of V. A. Kozlov, this journal, No. 11, 1954).

Periodical : Elektrichestvo, 12, 70-72, D 1955

Abstract : The author in his reply to the discussion of his article emphasizes the importance of the problem of calculation of city cable networks in view of the enormous expansion of residence construction in the Soviet Union. Proper selection of technical and economic parameters for this calculations is, therefore, of paramount importance. The author then goes into the details of the discussion and explains his position in several instances, attempting to prove the validity of his assumptions. The editors in a final note state that despite all the deficiencies of

AID P - 4134

Elektrichestvo, 12, 70-72, D 1955

Card 2/2 Pub. 27 - 21/33

V. A. Kozlov's article, his initiative is very timely and the discussion proves that the problem is ripe for serious study.

Institution : Leningrad Cable Network.

Submitted : No date

KOZLOV, V.A.

Producing families of voltage-current characteristics of crystal triodes on the oscillograph screen. Poluprov. prib. i ikh prim. no.2:142-148 '57. (MIRA 11:6)
(Transistors) (Oscillography)

KOZLOV, V.A., inzhener.; AYZENBERG, B.I., kandidat tekhnicheskikh nauk.; BOBOVICH, L.I., inzhener.; ZAKHARZHEVSKAYA, Ye.G., inzhener.; BARANOV, B.M., inzhener.

Urgent problems in the theory of urban networks. Elektrichestvo no.3:77-80 Mr '57. (MLRA 10:4)

1. Leningradskaya kabel'naya set' (for Kozlov). 2. Leningradskiy inzhenerno-ekonomicheskiy institut im. Molotova (for Ayzenberg). 3. Uzbekenergo (for Bobovich, Zakharzhevskaya). 4. Moskovskaya kabel'naya set' (for Baranov).
(Electric networks)

KOZLOV, V.A., inzhener.

On the use of load breakers in urban networks. Elektrichestvo no.4:84-86 Ap '57. (MLRA 10:5)

1.Leningradskaya kabel'naya set'.
(Electric circuit breakers)

KOZLOV, V.A.; KUDRYASHOV, S.A.; YERMILOV, A.A., inzhener.

Using load breaking switches; in regard to A.A. Ermilov's article. Prom. energ. 12 no.3:5-8 Mr '57. (MLRA 10:4)

1. Leningradskaya kabel'naya set' Lenenergo (for Kozlov). 2. Kuybyshevskoye otdeleniye GPI Elektriproyekt (for Kudryashov). 3. GPI "Tyazhpromelektroproyekt" (for Yermolov).
(Electric circuit breakers)

KOZLOV, V.A., inzh.

Systems of electric power supply in foreign cities. Trudy LIMI no.19:232-245 '57. (MIRA 11:6)
(Electric power)

8(3) PHASE I BOOK EXPLOITATION SOV/2670

Kozlov, Vladimir Alekseyevich

Metodika tekhniko-ekonomicheskikh raschetov gorodskikh raspredelitel'nykh elektrosetey (Methods of Technico-economic Calculation of City Electric Distribution Networks) Moscow, Gosenergoizdat, 1958. 87 p. 4,000 copies printed.

Ed.: B. A. Konstantinov; Tech. Ed.: A. A. Zabrodina.

PURPOSE: This book is intended for engineers and technicians engaged in the design, construction and operation of electrical networks. It may also be useful to students in corresponding fields of engineering.

COVERAGE: The book describes the basic features of designing city electric distribution networks in accordance with modern requirements of equipment. Optimum indices characterizing the efficiency of construction are substantiated and examples are presented of the use in network design of relationships determined by technico-economic factors. The author lists some of these factors, such as the large increase in the use of electrical appliances as envisioned in the current Seven-Year-Plan. He states that up to now little attention has been given to technico-economic calculations in the design of networks.

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He makes a critical survey of existing methods of calculation and presents some initial considerations. There are 46 references, 41 of which are Soviet and 5 non-Soviet.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

KOZLOV, V.A.

Determining limit frequencies for semiconductor triodes by means of an oscilloscope. Poluprov.prib. i ikh prim. no.3: 148-161 '58. (MIRA 12:4)
(Transistors--Testing)

AUTHORS: 1) Gitman, M. I., Engineer, 2)Kozlov, V. A., SOV/105-58-9-20/34
Engineer (Leningrad)

TITLE: For an Advancement in Electric Power Engineering (Elektro-energetiku - na novuyu stupen')

PERIODICAL: Elektrichestvo, 1958, Nr 9, pp 83 - 85 (USSR)

ABSTRACT: Discussion contributions to the paper by S.M.Gortinskiy and I.A.Syromyatnikov in Elektrichestvo, 1957, Nr 10.
1) One cause for the growing number of small- and smallest—size power stations is the erroneous belief that power transmission will be economically justified only if it meets the 1 kW per 1 km rule. The investments made in constructing a long transmission line, and taking up service, may cost as much as, and even more, than the installation of a local power station. However, these expenses will as a rule pay off within 3 years. The capacity of the transmission line will always exceed that of the local power station. Some examples are given for this fact. At present, forestry and agriculture of the Komi National Area are served by a great number of small power stations. The possibility of serving this

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area from the Perm hydroelectric power station over a 110 kV transmission line of length of 330 km was studied by the Giprokommunenergo. It turned out that even for existing load conditions - 11 million kW hours per years - the net costs would amount to 36 kopecks per kWhr, the amortization time of 5,5 years, may be considered as being normal. The investigations carried out by the Giprokommunenergo have shown that 440 cities from the 857 ones lying on the territory of the Russian Soviet Federated Socialist Republic already receive power from the grid, while another 386 can be connected with it during the next 5 to 8 years, and only 31 cities would need local power stations, 11 of which only temporarily. The author asks for new forms of organization to give all electric utilities of one district a uniform management. The technical management of the ministry of electric power stations has already passed a number of resolutions concerning simplified, cheaper connection of new areas to the power grids. However, Sovnarkhoz power managements do not conform to these resolutions, but impose quite

unjustified, heavy conditions on users, thus defeating execution of the resolutions. 2) Here some problems of development of urban distribution systems are discussed. The urban distribution systems are insufficiently developed, the engineering standard being inadequate. Operation is very expensive, and the energy and power losses are inadmissibly high. The required funds must be assigned, and the production of conductors, cables, contactors, protecting relay equipment, etc. must be increased. It is time for a complete automatization of urban distribution networks.

ASSOCIATION: 1)Giprokommunenergo (Giprokommunenergo)

KOZLOV, V.A., inzh.

Construction of transformer substations. Elek. sta. 29 no.4:32-35 Ap '58. (MIRA 11:6)
(Electric substations)

VLASOV, V.G.; KOZLOV, V.A.

Dissociation kinetics of manganese oxides. Zhur.fiz.khim. 32 no.11: 2608-2613 N '58. (MIRA 12:1)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova, Sverdlovsk.
(Manganese oxides) (Dissociation)

8(3)
AUTHOR: Kozlov, V. A., Engineer SOV/105-59-1-21/29

TITLE: Experience in the Use of Closed Circuits With Automatic Reverse Current Breakers (Opyt vnedreniya zamknutykh setey s avtomatami obratnoy moshchnosti)

PERIODICAL: Elektrichestvo, 1959, Nr 1, pp 84-86 (USSR)

ABSTRACT: The existing equipment was used in Leningrad for the protection of the electric circuits working in closed connection scheme, and the section equipped in this manner was examined. The protection of the 6-kv distribution lines was put into practice by means of maximum current relays placed at the beginning of the 6-kv distribution lines, and the reverse-current cutouts placed in the circuit substations. The mains transformers were secured by fuses PK-6, and the low-tension lines by safety fuses. Some difficulties had to be surpassed as a suitable domestic apparatus was missing. The reverse-current cutout was composed of an automatic air switch and a power-directional relay. Tests at two- and three-phase connections on the 6-kv side permitted to state the following: The switch-off time of the circuit automaton meets the requirements of the closed circuits. The voltage chosen for

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the switch-off coil at 40 v guarantees a precise and reliable performance of the reverse-current cutout. Measurements showed that the short-circuit current on the 6-kv side lies between 60 and 150 a. The selectivity of the performance of the PK-6 fuses and the reverse-current cutouts is guaranteed for short circuits in high-voltage circuits. Tests showed that in case of short circuits on the high-voltage side the currents flowing in the low-voltage lines of the section investigated lay between 600 and 800 a. The smallest cross section of the mains cables 380/220 v of the section was 50-70 mm^2. Therefore, the protection of the line from overload can be secured with fuses for a nominal current of 200-300 a. In these a current will flow which exceeds the nominal value by 3-4 times. Among the questions concerning the protection of closed circuits, two could not be solved by experiments: 1) It was not possible to secure and check the protection of transformers of the section from overload. 2) It was not possible to clarify the behavior of the reverse-current cutouts at the occurrence of shocks of different kinds

in the electric supply system causing a short-termed voltage drop. There are 4 figures.

SUBMITTED: March 4, 1958

KOZLOV, V.A., inzh.

Reducing expenditures for conductor metal in metropolitan electric networks. Elek.sta. 31 no.5:58-62 My '60. (MIRA 13:8)

(Electric lines)

KOZLOV, Vladimir Alekseyevich; VOLOBRINSKIY, S.D., red.; ZHITNIKOVA, O.S., tekhn. red.

[Municipal closed-loop electric networks] Gorodskie zamknutye elektricheskie seti. Moskva, Gos. energ. izd-vo, 1961. 238 p. (MIRA 14:8)

(Electric networks) (Electric power distribution)

KOZLOV, V.A., inzh.

Problems concerning the improvement of the design of electric power supply systems for large industrial enterprises. Prom. energ. 17 no.4:34-35 Ap '62. (MIRA 15:4)
(Electric power distribution)

BELIKOV, V.A.; BESSMERTNYY, I.S.; GLAZUNOV, A.A.; IOKHVIDOV, E.S.; KOZLOV, V.A.; KUZNETSOV, K.S.; MIRER, G.V.; SOLDATKINA, L.A.; FEDOSENKO, R.Ya.

"Fundamental problems concerning the design of municipal electric power distribution networks" by B.L. Aizenberg and S.N. Nikogosov. Reviewed by V.A. Belikov and others. Elektrichestvo no.7:93-94 Jl '62. (MIRA 15:7)

1. Moskovskiy inzhenerno-ekonomicheskiy institut imeni S. Ordzhonikidze (for Belikov). 2. Giprokommunenergo (for Bessmertnyy). 3. Moskovskiy energeticheskiy institut (for Glazunov, Soldatkina). 4. Moskovskoye rayonnoye upravleniye energeticheskogo khozyaystva (for Iokhvidov). 5. Leningradskaya kabel'naya set' Leningradskogo upravleniya energokhozyaystvom Glavenergo Ministerstva elektrostantsiy SSSR (for Kozlov). 6. Mosinzhproyekt (for Kuznetsov). 7. Upravleniye po proyektirovaniyu zhilishchno-grazhdanskogo i kommunal'nogo stroitel'stva g. Moskvy (for Mirer). 8. Akademiya kommunal'nogo khozyaystva im. K.D. Pamfilova (for Fedosenko).

(Electric power distribution)
(Aizenberg, B.L.) (Nikogosov, S.N.)

KOZLOV, V.A. (Leningrad)

Electric power distribution networks should be constructed with lesser expenditures and greater speed. Elektrichestvo no.2:89-90 F '63. (MIRA 16:5)
(Electric lines--Overhead) (Electric power distribution)

KOZLOV, V.A.

Concerning "Regulations for the design of industrial electric power supply systems. Prom. energ. 18 no.5:61-62 My '63. (MIRA 16:6)

1. Kabel'naya set' Lenenergo.
(Electric power distribution)

KOZLOV, V.A., kand. tekhn. nauk (Leningrad)

Protection of closed-loop networks. Elektrichestvo no.12: 39-41 D '63. (MIRA 17:1)

KOZLOV, V.A., kand. tekhn. nauk

Special features of the construction and operation of semi-closed municipal power distribution networks. Energetik 11 no.11:8-11 N '63. (MIRA 16:11)

KOZLOV, V. A.

"Problems in the use of closed systems for municipal electrical networks."

Dissertation for the degree of Doctor of Technical Sciences defended at the Academy of Municipal Economy, January 1963.

Moscow, Elektrichestvo, No. 9, Sept. pp 94-95.

KOZLOV, V.A., inzh.

Choice of an optimum power rating for a substation with 35 kv. deep lead-in. Trudy [illegible] no.41:224-231 '62.

(MIRA 17:6)

1. Leningradskaya kabel'naya set'.

KOZLOV, V.A.

Mechanization of auxiliary operations in sintering plants. Metallurg 9 no.6:5-8 Je '64. (MIRA 17:9)

1. Magnitogorskiy metallurgicheskiy kombinat.

KOZLOV, V.A.

Engineering and economic indices of high-voltage cables.
Trudy LIEI no.51:347-352 '64.
(MIRA 18:11)

KOZLOV, V. A.

Kozlov, V. A. - "On the mechanism of malignant anthrax infection", (Intravisceral infection of white mice under narcosis), In the collection: Makhanizm patol. reaktsiy, Issues 11-15, Leningrad, 1949, p. 46-53.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

KOZLOV, V. A.

Kozlov, V. A. - "On the mechanism of the activity of tetanus toxin", (The activity of the toxin on white mice under narcosis), In the collection: Mekhanizm patol. reaktsiy, Issues 11-15, Leningrad, 1949, p. 54-58.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

KOZLOV, V. A.

Kozlov, V. A. - "On the mechanism of the vascular reaction in burns", In the collection: Mekhanizm patol. reaktsiy, Issues 11-15, Leningrad, 1949, p. 117-22, - Bibliog: 8 items.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

KOZLOV, V. A.

Kozlov, V. A. "On the mechanism of glucosuria", In the collection: Mekhanizm patol. reaktsiy, Issues 11-15, Leningrad, 1949, p. 75-76.

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No 21, 1949).

KOZLOV, V.A., dotsent

Conference on problems of regional pathology, epidemiology and resort therapy in Chita. Vop.kur.,fizioter.i lech.fiz.kul't. 25 no.1:92-93 '60. (MIRA 13:5)

(THERAPEUTICS, PHYSIOLOGICAL)

KOZLOV, V.A.; PRISTAY, Ya.P.

Effect of the season of the year on the course of hypertension in Transbaikalia. Sovet. med. 27 no.6:110-113 Je'63 (MIRA 17:2)

1. Chitinskiy meditsinskiy institut (rektor - dotsent Yu.D. Ryzhkov).

12

ACCESSION NR: AT4042681 S/0000/63/000/000/0185/0188

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Yazdovskiy, V. I.; Pekhov, A. P.; Ry*bakov, N. I.; Tribulev, G. P.; Saksonov, P. P.; Dobrov, N. N.; Antipov, V. V.; Kozlov, V. A.; Vy*sotskiy, V. G.; Mishenko, B. A. Ry*bakova, D. K.; Parfenov, G. P.; Pantyukhova, V. V.; Yudin, Ye. V.; Aniskin, Ye. D.

TITLE: The evaluation of the biological effectiveness of space-flight factors with the aid of lysogenic bacteria

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 185-188

TOPIC TAGS: lysogenic bacteria, biological sensor, radiation detector, bacteriophage, phage, vibration, irradiation/Vostok III, Vostok IV

ABSTRACT: Lysogenic bacteria, E. coli K-12 (λ), was carried on spaceships

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Vostok III and Vostok IV as a biological sensor. The advantages of lysogenic bacteria as biological sensors stem not only from their extreme sensitivity to various types of radiation, but also from the fact that induced changes are directly proportional to the dose of irradiation. In addition, E. coli was subjected to the combined effects of radiation and vibration in ground experiments. Vibration was produced by means of a vibrator with frequencies of 35, 70, and 700 cps, an amplitude ranging from 0.4 to 0.005 mm with a load equal to 10 g, for periods of 15, 30, and 60 min. Co^{60} in doses of 100 r at a rate of 21 r per min served as a source of radiation. Lysogenic bacteria carried on spaceships Vostok III and Vostok IV revealed induction of genetic changes produced by space-flight factors which was indicated by a significant increase in the number of phage particles. The induced effect was more pronounced on Vostok III than on Vostok IV. Forty-eight hours after its return to earth, the bacteria carried by Vostok III had produced 4.6 times as many phage particles as controls which had remained on earth. Ground experiments with vibration indicate that the combined vibration and gamma irradiation, followed by a second exposure to vibration, double the biological effectiveness of gamma rays.

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ACCESSION NR: AT4042681

However, when the bacteria is subjected to only a single dose of vibration following irradiation, there is no increase in the number of phage particles as compared to samples which were exposed to irradiation alone. This fact indicates that under space flight conditions vibration sensitizes the lysogenic bacteria to the effect of ionizing radiation. This as yet hypothetical explanation should be substantiated by additional experiments.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 3/3

L 16634-65 EEO-2/EWG(j)/FSF(h)/FSS-2/EWG(r)/EWT(l)/FS(v)-3/EEC(k)-2/EWG(v)/ FCC/EWA(d)/EEC-4/EEC(t)/EWG(a)/EWG(c)/EWA(h) Pe-4/Pe-5/Pq-4/Pac-4/Pae-2/ Peb/Pi-4/Pb-4 ESD(si)/SSD/BSD/AFWL/AS(mp)-2/AMD/AFMDC/AFETR/AFTC(b)/AFTC(a) TT/DD/GW/MS

ACCESSION NR: AP4046443 S/0205/64/004/005/0738/0742

AUTHOR: Zhukov-Vereshnikov, N. N.; Mayskiy, I. N.; Pokhov, A. P.; Ry*bakov, N. I.; Saksonov, P. P.; Mishchenko, B. A.; Koslov, V. A.; Ry*bakova, K. D.; Anisikin, Ye. D.

TITLE: Effect of antiradiation drugs on phage production of lysogenic bacteria induced by x-irradiation

SOURCE: Radiobiologiya, v. 4, no. 5, 1964, 738-742

TOPIC TAGS: antiradiation drugs, radioprotectors, phage production, lysogenic bacteria, E. coli K-12(λ), x-ray, irradiation, biological radiation sensor, space flight, 2-mercaptopropylamine, mercamine disulfide, urethane

ABSTRACT: Experiments have been performed to determine the effects of antiradiation drugs and urethane on biological objects capable of warning of radiogenetic damage. Lysogenic bacteria E. coli K-12(λ) was selected because it proved to be a reliable and sensitive biological radiation sensor in space flight experiments by producing

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ACCESSION NR: AP4046443

phage particles in proportion to the dose of ionizing radiation. The mechanism of phage production by lysogenic bacteria constitutes a molecular-genetic reaction related to transformation-type genetic anomolies. The highest permissable concentration of each substance was used which did not have a bacteriostatic effect on E. coli K-12(λ). The concentrations for 2-mercaptopropylamine and mercamine disulfide were 0.05% and 0.8% for urethane. Irradiation of bacterial cultures was produced by an RUM-7 generator with a dose rate of 4050 r/min, a voltage of 50 kv, an amperage of 15 mamps, an irradiation distance of 8 cm, and using a 0.1-mm Al filter. It was found that 2-mercaptopropylamine and mercamine disulfide exert a substantial protective action on the prophage, but that they have no protective effect on mature phage particles. Urethane shows no radioprotective effect on lysogenic bacteria. The results obtained coincide with those obtained with other biological objects, and the ease of working with lysogenic bacteria indicate that E. coli K-12(λ) can serve as a useful subject for the fast primary identification of chemical compounds capable of protecting against genetic injury by radiation. Orig. art. has: 1 figure and 3 tables.

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L 16634-65
ACCESSION NR: AP4046443

ASSOCIATION: Institut eksperimental'noy biologii AMN SSSR, Moscow (Institute of Experimental Biology, Academy of Medical Sciences of the SSSR)

SUBMITTED: 07Mar63 ENCL: 00 SUB CODE: LS

NO REF SOV: 014 OTHER: 014

Card 3/3

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; PEKHOV, A.P.; RYBAKOV, N.I.; SAKSONOV, P.P.; MISHCHENKO, B.A.; KOZLOV, V.A.; RYBAKOVA, K.D.; ANISKIN, Ye.D.

Effect of radioprotective substances on the phage production of lysogenic bacteria induced by X-ray irradiation. Radiobiologiia 4 no.5:738-742 '64. (MIRA 18:4)

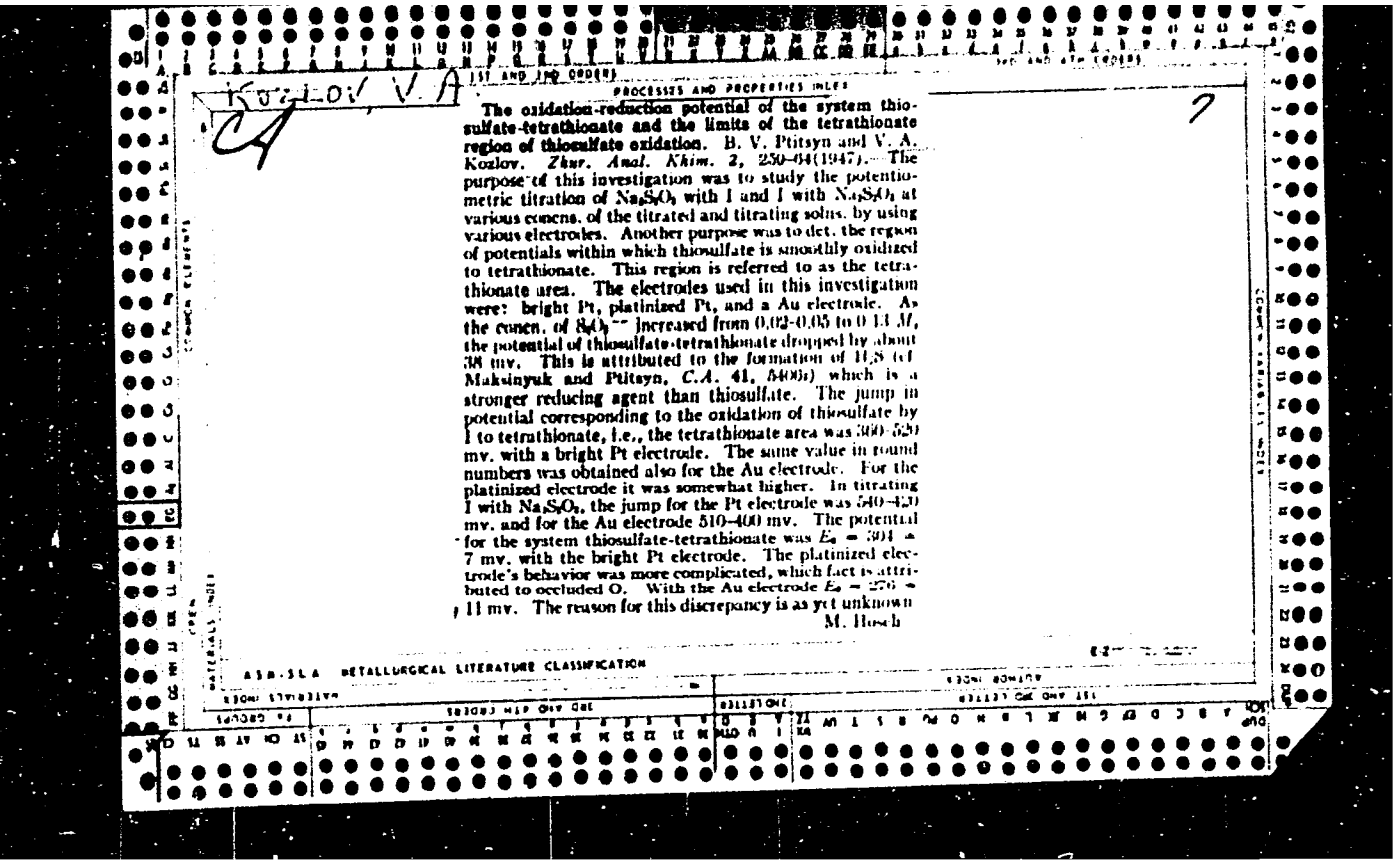
1. Institut eksperimental'noy biologii AMN SSSR, Moskva.

KOZLOV, V.A.; PANAKOV, B.A.; STAROSEL'SKIY, V.I.

Developing a group of gas fields with small gas reserves. Gaz. prom. 10 no.4:6-11 '65. (MIRA 18:5)

DELONE, N.L.; KOZLOV, V.A.

Effect of β-mercaptopropylamine on the reduction of chromosome breakages in microspores of Tradescantia paludosa following gamma irradiation. Radiobiologiia 4 no.6:922-923 '64. (MIRA 18:7)



KOZLOV, V.A.

C4

7

PROCESSES AND PROPERTIES INDEX

The oxidation-reduction potential of the system thiosulfate-tetrathionate and the limits of the tetrathionate region of thiosulfate oxidation. B. V. Ptitsyn and V. A. Kozlov. *Zhur. Anal. Khim.* 2, 250–64(1947).—The purpose of this investigation was to study the potentiometric titration of $Na_2S_2O_3$ with I and I with $Na_2S_4O_6$ at various concns. of the titrated and titrating solns. by using various electrodes. Another purpose was to det. the region of potentials within which thiosulfate is smoothly oxidized to tetrathionate. This region is referred to as the tetrathionate area. The electrodes used in this investigation were: bright Pt, platinized Pt, and a Au electrode. As the concn. of $S_4O_6^{--}$ increased from 0.02–0.05 to 0.13 *M*, the potential of thiosulfate-tetrathionate dropped by about 38 mv. This is attributed to the formation of H_2S (cf. Maksimyuk and Ptitsyn, *C.A.* 41, 5400i) which is a stronger reducing agent than thiosulfate. The jump in potential corresponding to the oxidation of thiosulfate by I to tetrathionate, i.e., the tetrathionate area was 300–520 mv. with a bright Pt electrode. The same value in round numbers was obtained also for the Au electrode. For the platinized electrode it was somewhat higher. In titrating I with $Na_2S_2O_3$, the jump for the Pt electrode was 540–420 mv. and for the Au electrode 510–400 mv. The potential for the system thiosulfate-tetrathionate was E_0 = 304 ± 7 mv. with the bright Pt electrode. The platinized electrode's behavior was more complicated, which fact is attributed to occluded O. With the Au electrode E_0 = 276 ± 11 mv. The reason for this discrepancy is as yet unknown.

M. Hosch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA Kozlov, V.A.

7

Determination of trivalent iron with ascorbic acid. P. V. Pitsyn and V. A. Kozlov. *Zhur. Anal. Khim.* 4, 35-9(1949). The method is based on the reaction $C_6H_8O_6 + 2Fe^{+++} \rightarrow C_6H_6O_6 + 2Fe^{++} + 2H^+$. The ascorbic acid soln. was prepd. by dissolving a weighed sample in 50 ml. of 0.02 *N* HCl. The pH should be between 1 and 2. Error is likely to result from atm. oxidation of the ascorbic acid. To avoid this treat 20 ml. of FeCl$_3$ in 0.1 *N* HCl with a known wt. of ascorbic acid and titrate the excess with I soln. to a starch end point. M. Hosch

KOZLOV, V. A.

KOZLOV, V. A. -- "The Kinetics of the Reduction of Manganese Oxides with Solid Carbon." Min Higher Education USSR. Ural Polytechnic Institute imeni S. M. Kirov. Sverdlovsk, 1956
(Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Letopis', No 9, 1956

Kozlov, V.A.

BESOLOV, M.F.; GRAYEVSKAY, O.N.; KOZLOV, V.A.

Consumption of nickel, zinc, lead, and tin in the United States (from "Yearbook of the American Bureau of Metal Statistics" 1953). Biul. TSIIN tsvet. met. no.4:35-36 '58. (MIRA 11:5)
(United States--Nonferrous metals)

KOZLOV, V.A.

Administrative and economic activity in 1957 at the Moscow Copper Smelting and Electrolysis Plant. Biul. TSIIN tsvet. met. no. 5:35-36 '58. (MIRA 11:7)

(Moscow--Copper industry)

KOZLOV, V.A.; KHODOV, L.V.; LOGUNOVA, M.M.; TARUBAROV, I.G.

Technical and economic results enterprises of nonferrous metallurgy in 1957. Biul. TSIIN tsvet. met. no.8:34-38 '58. (MIRA 11:6)
(Nonferrous metal industries)

5(4)

AUTHORS: Vlasov, V. G., Kozlov, V. A. SOV/76-32-11-23/32

TITLE: Dissociation Kinetics of Manganese Oxides (Kinetika dissotsiatsii okislov margantsa)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2608-2613 (USSR)

ABSTRACT: Investigations of the subject mentioned in the title are of special interest as the dissociation processes are applied in metallurgy, and moreover, they are characteristic examples of topochemical reactions. Besides the investigations of the dissociation kinetics the authors also determined the dissociation pressures of MnO_2 and Mn_2O_3. MnO_2 was used in a form which according to the terminology by Ye. Ya. Rode (Ref 5) is called the β-modification of MnO_2. The experiments were carried out in a high-vacuum plant on a quartz spring balance. The dissociation kinetics of MnO_2 was investigated at 600-650°C and that of Mn_2O_3 at 400-550°C. The function of the dissociation pressure of MnO_2 versus the temperature is expressed by the

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Dissociation Kinetics of Manganese Oxides

equation $\lg P_{O_2} = -\frac{6602}{T} + 8.21$, and that for Mn_2O_3 by $\lg P_{O_2} = -\frac{11040}{T} + 8.57$. It was found that the dissociation of both oxides at lower temperatures (400° or 600°, respectively) takes place in the beginning at a constant velocity ($g=kt$). The velocity of the process in this period is determined by the separation of the oxygen from the oxide surface. In the further course of the reaction this oxygen separation is slowed down and the diffusion resistance of the layer of the reaction products is increased. At higher temperatures the dissociation processes take place according to the diffusion equation ($g^2 = kt$), which fact is explained by an increase in the diffusion resistance mentioned above. The character of the dissociation processes changes on its transition into the range where there are solid solutions, and the equation

$$\ln \frac{a}{a-g} = kt$$

becomes valid. The activation energies were determined.

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Dissociation Kinetics of Manganese Oxides

There are 2 figures, 3 tables, and 6 references, 3 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova, Sverdlovsk (Ural Polytechnical Institute imeni S. M. Kirov, Sverdlovsk)

SUBMITTED: May 29, 1957

5(2) SOV/80-32-3-10/43

AUTHORS: Kozlov, V.A., Vlasov, V.G.

TITLE: The Kinetics of the Reduction of Manganese Oxides by Solid Carbon (Kinetika vosstanovleniya okislov margantsa tverdym uglerodom)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 523-531 (USSR)

ABSTRACT: The reduction of the manganese oxides MnO_2, Mn_2O_3 and Mn_3O_4 by means of charcoal at relatively low temperature is studied here. Figure 2 shows that the reduction of MnO_2 at 400 - 550°C proceeds only to Mn_2O_3, but at 500 and 550°C the reduction is autocatalytic. The reduction of Mn_2O_3 and Mn_3O_4 proceeds to manganous oxide. The reduction rate decreases with the elimination of oxygen. If the contact between the reactants is very close, e.g., if they are mixed and ground together, the reduction rate increases sharply (Figure 5). The activation energy increases with the transition from the higher to the lower oxide (Table 3). It is evident that the reduction process has a diffusion character which is affirmed by the equation $g^2 = K\tau$, where g is the degree of oxygen elimination, τ the time since the beginning of the experiment and K a constant. At the transition into the

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The Kinetics of the Reduction of Manganese Oxides by Solid Carbon

field of solid solutions a change takes place in the character of interaction of oxides with carbon and the process of reduction may be described by the equation $\ln \frac{a}{a-g} = K' \cdot \tau$, where a is the quantity of oxygen which must be eliminated from the reduced oxide in order to transform it completely to the lower oxide and K' is a constant.
There are 4 sets of graphs, 1 diagram, 3 tables, and 15 references, 9 of which are Soviet and 6 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: October 19, 1957