Study of reverse ...

on the voltage. When diode current changes linearly from forward to reverse direction, τ_2 is equal to half-lifetime of minority carriers. The circuit is shown for the experimental checking of the dependence of τ_1 on the ratio of forward/reverse current with both currents constant; results of measurements are shown in a graph. The junction diode can be used as a generator of very small time intervals (down to a few nanoseconds) by making use of the dependence of τ_1 on the above current ratio. The independence of current on diode voltage in the second stage permits generating in an external circuit pulses of desired shape, independently of EMF's active in the circuit. A circuit for the generation of short pulses is shown which was tried in the kc/s - Mc/s range. There are 12 figures.

ASSOCIATION: Fiziko-Tekhnicheskii institut im. A. F. Joffe AN SSSR (Physical and Technical Institute im. A. F. Joffe, AS USSR)

SUBMITTED: July 12, 1961

Card 2/2

L 27689-66 EWT(1)/T WR

ACC NR: AT6004856 (N) SOURCE CODE: UR/2563/65/000/255/0093/0101

AUTHOR: Karatygin, V. A.

ORG: none

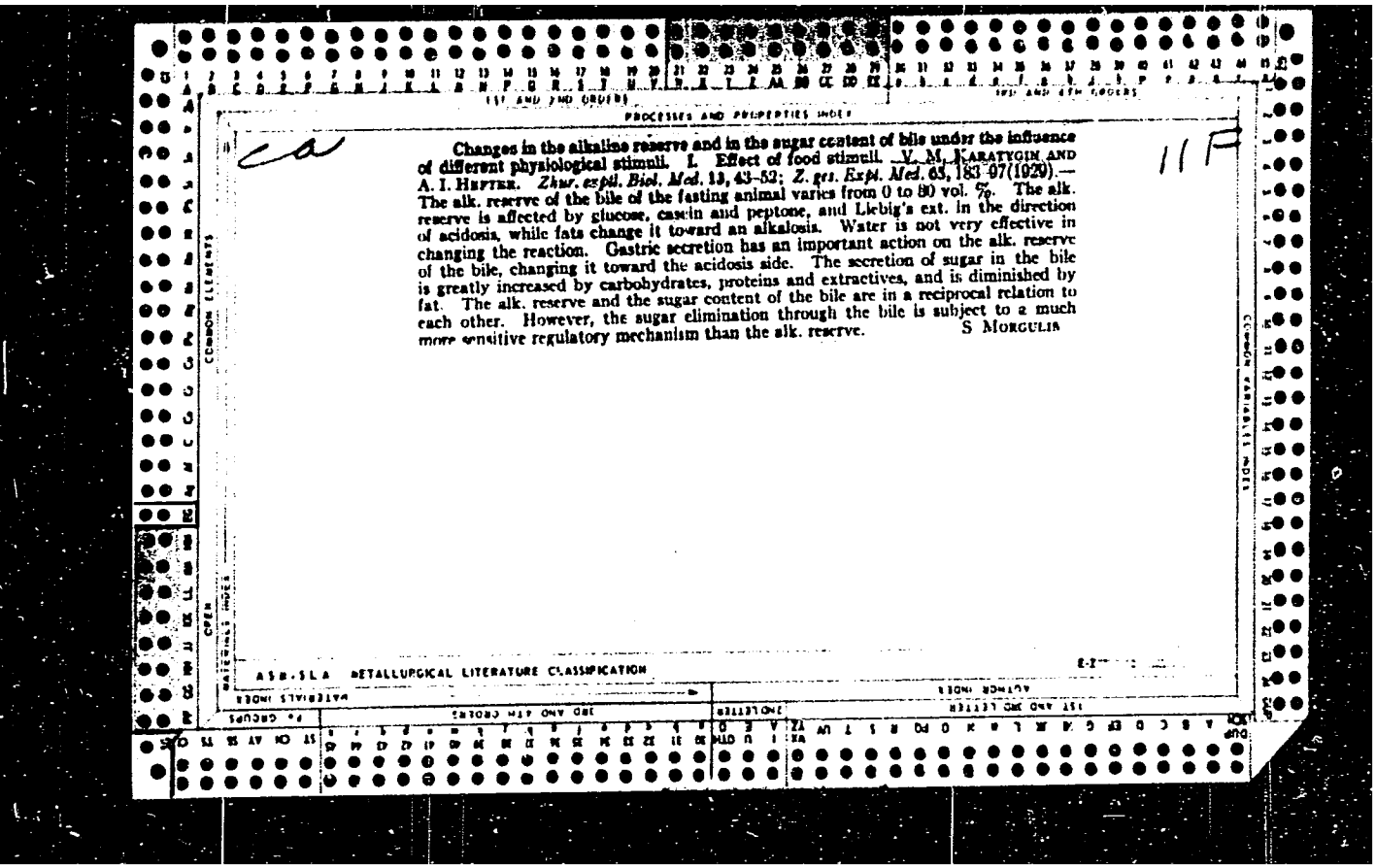
TITLE: Maximum directive gain of an antenna with continuous current distribution

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 255, 1965. Radioelektronika (Radio electronics), 93-101

TOPIC TAGS: antenna, antenna gain, antenna directivity

ABSTRACT: A problem of the maximum directive gain, defined as a ratio of the power radiated in the specified direction to the total power fed to the antenna, is solved by the variational method. The spatial current distribution ensuring maximum gain is sought. Current modulus and phase are varied independently, and the first variations of the directive gain are calculated. Mathematically, the problem is reduced to a Fredholm integral equation of the second kind with a symmetrical and continuous kernel. This equation is not solved, but a coefficient K_{ex} is indirectly evaluated instead; it is shown that $K_{ex} \geqslant K\,[f(V')]$, where K is the directive gain and V' is the space occupied by the electromagnetic field in question; the evaluation can be carried out with any degree of accuracy. The method is equally applicable to surface and linear current distributions; it can also be adapted to discrete current distribution. The case of linear antenna solved numerically is used to demonstrate the gain vs. radiation angle plot, radiation pattern, and current modulus and phase distribution along the antenna. Orig. art. has: 7 figures and 37 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002



PROCESSES AND PROPERTIES INDEX

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11 P

Changes in the alkaline reserve and in the sugar content of bile under the influence of different physiological stimuli. I. Effect of food stimuli. V. M. KARATYGIN AND A. I. HEPTER. *Zhur. exptl. Biol. Med.* 13, 43–52; *Z. ges. Exptl. Med.* 65, 183–97(1929).—The alk. reserve of the bile of the fasting animal varies from 0 to 80 vol. %. The alk. reserve is affected by glucose, casein and peptone, and Liebig's ext. in the direction of acidosis, while fats change it toward an alkalosis. Water is not very effective in changing the reaction. Gastric secretion has an important action on the alk. reserve of the bile, changing it toward the acidosis side. The secretion of sugar in the bile is greatly increased by carbohydrates, proteins and extractives, and is diminished by fat. The alk. reserve and the sugar content of the bile are in a reciprocal relation to each other. However, the sugar elimination through the bile is subject to a much more sensitive regulatory mechanism than the alk. reserve. S MORGULIS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KARATYGIN V. M. and ROZHNOVA Z. I.
Internal Clinic, Medical Institute of Sverdloosk.
Vitaminnaya nedoctatochnost pri alirentarno-toksicheskoi aleikii (septicheskoi angine)
Vitamin deficiency in alimentary toxic leucopenia (septic angina)
Sovietskaya Meditsina 1947, 11/5 (17-19)

4723 A survey of 735 cases of alimentary leucopenia caused by inadequate, inferior nutrition. In 0.7 per cent the number of leucocytes was less than 1,000 in 14 per cent 1,000 to 2,000, in 20.3 per cent 2,000 to 3,000, in 32 per cent 3,000 to 4,000 and in 33 per cent 4,000 to 5,000. Both in the leucopenic state (590 cases), and in the septic angina state (145 cases), the authors found that the vitamin B_1, C and K content in the blood had decreased. Administration of vitamin B_1 and C resulted in increased leucopoiesis, better granulation in the necrotic regions, diminished haemorrhagic diathesis, rapid improvement of the general condition.

Francke - The Hague(SecVI)

SO: Section II Vol. 1^2 No. 7-12

KARATYGIN, V. M. (Prof) Hospital Therapeutics Clinic, Sverdlovsk Med Inst

"Photosensitive Edema"

SOURCE: Klin. Med., 26, No 7, 1948

KARATYGIN, V.M.; ROZHNOVA, Z.I.

Analgesic effects of promedol in internal diseases. Klin. med., Moskva 31 no.2:64-67 Feb 1953. (CLML 24:3)

1. Professor for Karatygin; Candidate Medical Sciences for Rozhnova.
2. Of the Department of Hospital Therapy of Sverdlovsk Medical Institute and of the First Therapeutic Division of Sverdlovsk Municipal Clinical Hospital.

KARATYGINA, G.N.

Manufacture of decorative laminated plastics. Bum.i der.prom. no.1:27-29 Ja-Mr '62. (MIRA 15:5)

1. Kiyevskiy lesokhimicheskiy kombinat.
(Laminated plastics)

KARATYGINA, Ye.N.

Methods for determining the role of a hydroelectric power station in covering the peak load in a unified power system. Soob. DVFAN SSSR no.19:139-143 '63. (MIRA 17:9)

1. Dal'nevostochnyy filial imeni Komarova Sibirskogo otdeleniya AN SSSR.

38056. KARATYNSKIY, V. I.

Polzunkovye skrepery. les i step', 1949, No. 8, s. 48-51.

KARATYSH, A.G.

Agricultural Machinery

Implements for cultivating crops for experimental selection. Sel. i sem., 19, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

KARATYSH, A.G.

Threshing Machines

Clover huller for processing seeds from experimental selection seedings. Sel. i sem. 19, No. 9, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

KARATYSH, Anton Grigor'yevich

[Mechanization of the cultivation of vegetables and melons in Kirgizistan] Mekhanizatsiia vozdelyvaniia ovoshche-bakhchevykh kul'tur v Kirgizii. Frunze, Kirgizskoe gos. izd-vo, 1955. 53 p.
(Kirghizistan--Vine crops) (MLRA 10:3)
(Kirghizistan--Vegetable gardening)

KARATYSH, A.G.; USTYUGOV, P.G., red.; BEYSHENOV, A., tekhn. red.

[Ways for increasing the performance of sugar beet combines] Puti uluchsheniia raboty sveklokombainov. Frunze, Kirgizskoe gos. izd-vo, 1960. 56 p. (MIRA 15:4)
(Sugar beets) (Combines (Agricultural machinery))

KARATYSHKIN, Semen Grigor'yevich

KARATYSHKIN, Semen Grigor'yevich, (Academic degree of Doctor of Technical Sci, based on his defense, 15 December 1954, in the Council of the Inst of Machine Building, Acad Sci USSR, of his dissertation entitled: "Theoretical and experimental study of bearings operating in alternation loads." For the Academic Degree of Doctor of Sciences.

SO: Byulleten' Ministerstva Vysshego Obrazovaniya SSSR, List No. 6, 17 March 1956, Decision of Higher Certification Commission Concerning Academic Degrees and Titles.

JPRS 512

KARAIYSHKIN, S.B.

28(5) PHASE I BOOK EXPLOITATION SOV/2632

Akademiya nauk SSSR. Institut mashinovedeniya

Treniye i iznos v mashinakh; sbornik XII (Friction and Wear in Machines; Collection 12) Moscow, Izd-vo AN SSSR, 1958. 354 p. Errata slip inserted. 4,000 copies printed.

Ed.: M.M. Khrushchov, Professor; Ed. of Publishing House: M.A. Babichev; Tech. Ed.: Ye.V. Zelenkova; Editorial Board: Ye.M. Gut'yar, Professor, A.K. D'yachkov, Professor, I.V. Kragel'skiy, Professor, A.D. Kuritsyna, Candidate of Technical Sciences, L.Ru. Pruzhanskiy, Candidate of Technical Sciences, and M.M.Khrushchov, Professor.

PURPOSE: This book is intended for scientists, engineers, and technicians in the field of machine manufacture and operation, and for instructors in schools of higher education (vuzes).

COVERAGE: This collection of articles presents the results of new investigations in the field of wear, friction, and lubrication. The subjects discussed include structural changes in the surface layer of metals in friction, development of friction-brake materials, and theoretical investigations in the field of dry friction and friction with boundary and complete friction. For the abstract of each article see the Table of Contents. A bibliography of Soviet and non-Soviet materials on friction, wear and lubrication for 1954-55 prepared by Ye.O. Vil'dt is included.

KARATYSHKIN, S.G.

Theory of oil layers in dynamically loaded bearings. Tren. i izn. mash. no. 12:163-180 '58. (MIRA 11:8)
(Bearings(Machinery))
(Lubrication and lubricants)

KARATYSHKIN, S.G.

PHASE I BOOK EXPLOITATION SOV/3948

Akademiya nauk SSSR. Institut mashinovedeniya

Treniye i iznos v mashinakh; sbornik XIV (Friction and Wear in Machinery; Collection of Articles, no. 14) Moscow, Izd-vo AN SSSR, 1960. 333 p. Errata slip inserted. 3,000 copies printed.

Resp. Ed.: M. M. Khrushchov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V. A. Giryayeva; Tech. Ed.: O. A. Astaf'yeva; Editorial Board: Ye. M. Gut'yar, Doctor of Technical Sciences, Professor; A. K. D'yachkov, Doctor of Technical Sciences, Professor; I. V. Kragel'skiy, Doctor of Technical Sciences, Professor; A. D. Kuritsyna, Candidate of Technical Sciences; L. Yu. Pruzhanskiy, Candidate of Technical Sciences; and M. M. Khrushchov, Doctor of Technical Sciences, Professor.

PURPOSE: The book is intended for scientific research workers and designers in the machine industry.

COVERAGE: The recent works of Soviet scientists on the subject of friction and wear in machinery are presented. Problems discussed include abrasive wear, the real area of contact surface, wear resistance and antifriction properties of some bronze and brass materials, the effect of hot jets of gases on surface layers of steel, and seizure and movements of journals in bearings. Brief biographical sketches and bibliographies of the works of Ye. M. Shvetsova, V. F. Lorents, and L. V. Yelin are presented. Bibliographies on friction, wear, and lubrication for 1956 and 1957 compiled by Ye. O. Vil'dt are also presented. References accompany several of the articles.

KARATYSHKIN, S.G.

PHASE I BOOK EXPLOITATION SOV/5055

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Gidrodinamicheskaya teoriya smazki. Opory skol'zheniya. Smazka i smazochnyye materialy (Hydrodynamic Theory of Lubrication. Slip Bearings. Lubrication and Lubricant Materials) Moscow, Izd-vo AN SSSR. 422 p. Errata slip inserted. 3,800 copies printed. (Series: Its: Trudy, v. 3)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Eds. for the Section "Hydrodynamic Theory of Lubrication and Slip Bearings": Ye. M. Out'yar, Professor, Doctor of Technical Sciences, and A. K. D'yachkov, Professor, Doctor of Technical Sciences; Resp. Ed. for the Section "Lubrication and Lubricant Materials": G. V. Vinogradov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: M. Ya. Klekanov; Tech. Ed.: O. M. Gus'kova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in Hydrodynamic Theory (Cont.) SOV/5055

Card 4/7

BALASHEVA, Yelena Nikolayevna; KARAUL'SHCHIKOVA, Nina Nikolayevna; SABININA Irina Georgiyevna; SEMENOVA, Ol'ga Aleksandrovna; KOZIK, S.M., red.; VAYTSMAN, A.I., red.; SERGEYEV, A.N., tekhn. red.

[Climatological description of Surkhan-Darya Province]Klimaticheskoe opisanie Surkhan-Dar'ianskoi oblasti. [By]E.N. Balasheva i dr. Leningrad, Gidrometeoizdat, 1962. 114 p. (MIRA 15:10)

(Surkhan-Darya Province—Climate)

KHEYNMAN, A.S.; KARAUL'SHCHIKOVA, R.V.; VOLKOVA, G.S.; PARFENOVA, N.M.; SOLOV'YEV, S.M.; VOMPE, A.F.; ALEKSANDROV, I.V.; KUREPINA, G.F.; IVANOVA, L.V.

Infrachromatic materials for scientific and technological purposes. Zhur. prikl. spekt. 2 no.6:558-561 Je '65. (MIRA 18:7)

KARAULASHVILI, Sh.A.

Experience in reeling silk from cocoons of the white-cocoon silk worm species. Tekst.prom. 14 no.7:49 Jl '54. (MLRA 7:8)

1. Glavnyy inzhener Telavskoy shelkomotal'noy fabriki.
(Silk manufacture)

KARAULLI, Shaqir, dr.

Outpatient treatment of tuberculosis and nursing tasks. Shendet. pop. 1:33-36 '64.

1. Zv. drejtor i Sanatoriumit, Tirane.

KARAUL'NIK, A.Ye.; ROSTOV, V.T.; RUBO, G.L.

Formation of quartz-wolframite veins as exemplified by the Bukukinskoye deposit. Izv.vys.ucheb.zav.; geol. i razv. 1 no.6:123 Je '58. (MIRA 13:2)
(Quartz) (Wolframite)

KARAULNYY-ZVEREV, N. V.

KARAULNYY-ZVEREV, N. V. -- "The Effect of Conditions in the External Environment on Obtaining Double-Panicled Oats (The Problem of Deriving the Double-Panicled Form of Oats)." All-Union Order of Lenin Academy of Agricultural Sciences imeni V. I. Lenin. All-Union Inst of Plant Growing. Leningrad, 1955.
(Dissertation for the Degree of Candidate in Agricultural Sciences).

SO: Knizhnaya Letopis', No 9, 1956

KARAUL'NYY-ZVEREV, N. V., Cand Agr Sci -- (diss) "Agrobiological peculiarities of oats in connection with the problem of development of more productive varieties." Gorki, 1958. 15 pp (Min of Agriculture USSR, Belorussian Order of Lenin Labor Red Banner Agr Acad), 161 copies (KL, 16-58, 122)

KARAUL'NYY-ZVEREV, N.V., kand.sel'skokhozyaystvennykh nauk

How growing conditions of parent plants affect the effectiveness of crossbreeding and the productivity of intervarietal oat hybrids. Agrobiologiia no. 3:379-382 My-Je '60. (MIRA 13:12)

1. Belorusskaya sel'skokhozyaystvennaya akademiya.
(Oat breeding)

8(6), 14(6) SOV/112-59-4-6800

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, pp 56-57 (USSR)

AUTHOR: Nikolayshvili, M. S., Karaulov, A. A., and Kheyfets, I. D.

TITLE: AC Schemes of Stationary Auxiliaries for Medium-Capacity Hydroelectric Power Plants. AC Auxiliaries. DC Auxiliaries.

PERIODICAL: V sb.: Novoye v proyektir. elektr. chasti gidroelektrost. M.-L., Gosenergoizdat, 1957, pp 50-58, 58-61, 120-125

ABSTRACT: Division of hydroelectric-station auxiliaries into three priority groups is presented. The groups depend in part on local conditions and on the station nature. The table of station-auxiliary consumers compiled by LenGIDEP for 9 hydroelectric stations shows widely varying consumers. Some common peculiarities of auxiliaries at certain hydroelectric stations become clear from the table. The system of auxiliaries depends on the station capacity. A scheme of auxiliaries at a station up to 50 Mw, where the essential motors are

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AC Schemes of Stationary Auxiliaries for Medium-Capacity Hydroelectric . . . .

connected to the central auxiliary switchboard, is presented. Normally, the switchboard is supplied by two transformers; however, at small stations, one transformer may suffice. Schemes of station auxiliaries at medium-capacity hydroelectric stations, Gruzenergo power system, are reviewed and analyzed. Disadvantages of the schemes at ZAGES, RionGES, and KhramGES are noted. A standard scheme of station auxiliaries is suggested; it is based on these principles: the minimum possible number of feeders, a ring supply scheme of the essential-consumer bus with a two-bus-section central switchboard, use of change-over switches, and a minimum number of automatic devices and automatic switching under emergency conditions. The central auxiliary switchboard, at medium-capacity stations, should be placed close to the central auxiliary transformers, at the load center; the hydroturbine-generator-unit panels should be placed in pairs between the generator units. The schemes of auxiliaries at 200-600-Mw hydroelectric stations have these peculiarities:

AC Schemes of Stationary Auxiliaries for Medium-Capacity Hydroelectric . . . .

they include large 6-kv motors, and they provide a separate supply to the all-station and the generator-unit switchboards; the latter are usually connected to the generators via individual transformers. The supply can also be provided from the main station 6-10-kv switchgear. The supply of the unit switchboards is reserved by means of a common transformer connected to 6-10-kv switchgear. General station auxiliaries are supplied from a special 6-kv auxiliary switchgear, as well as from feed points that each have two 320-750-kva transformers. The schemes of auxiliaries at super-power hydroelectric stations should be treated individually. Such a scheme of the Krasnoyarsk hydroelectric station is presented. Special under-load-regulated transformers are recommended for lighting. Voltage-adjusting at the central auxiliary transformers is considered undesirable. Conventional switchgear apparatus meets the requirements of small and medium hydroelectric stations; small remote-operated automatic circuit-breakers of 500-1,000-1, 500-amp, are

SOV/112-59-4-6800

AC Schemes of Stationary Auxiliaries for Medium-Capacity Hydroelectric . . . .

needed for large hydroelectric stations. The DC auxiliary power is small. Type SK storage batteries continue to be the DC source, with their charging and trickle-charging machines. At stations up to 200 Mw, one battery is usually installed; at larger stations, two batteries may prove more economical because they shorten the length of cables. Standard DC schemes with 1 or 2 batteries developed by GIDEP are presented. With 2 batteries installed at the same time, there is no need for end-cell switches. Schemes of automatic DC-voltage control effected by relays controlling the end-cell switch are described. Considerations are submitted in favor of the AC control current, whose adoption is deferred by the absence of AC operating mechanisms for high-capacity circuit-breakers.

S.S.L.

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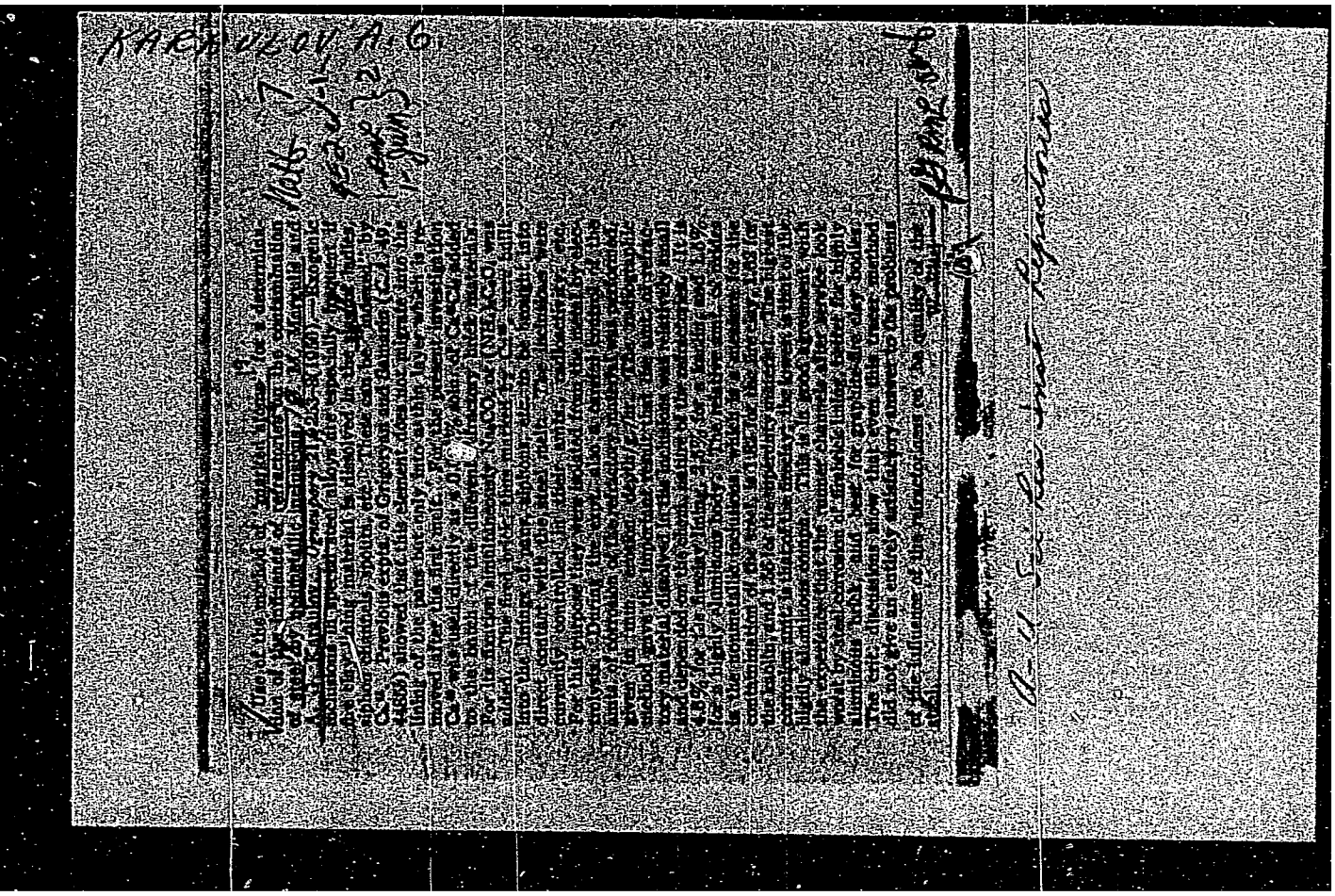

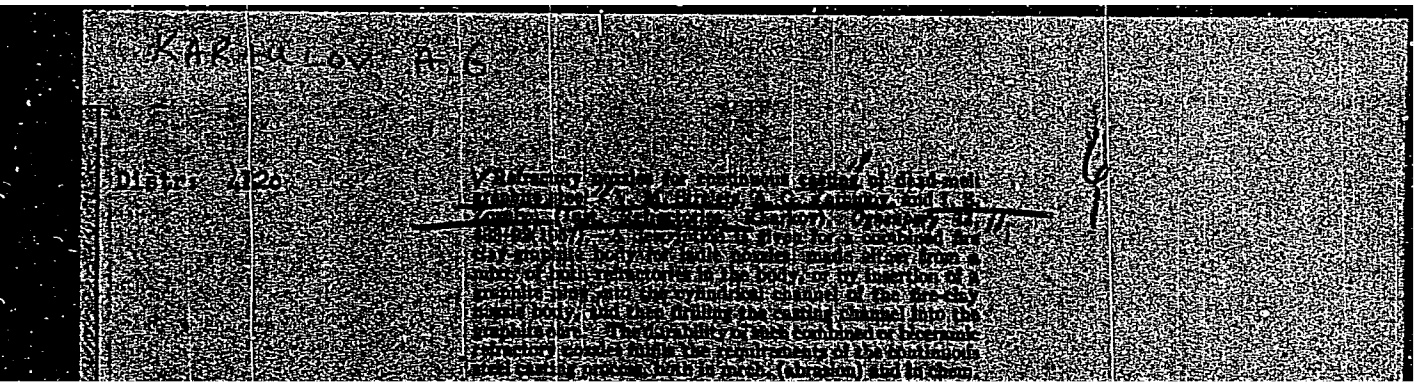

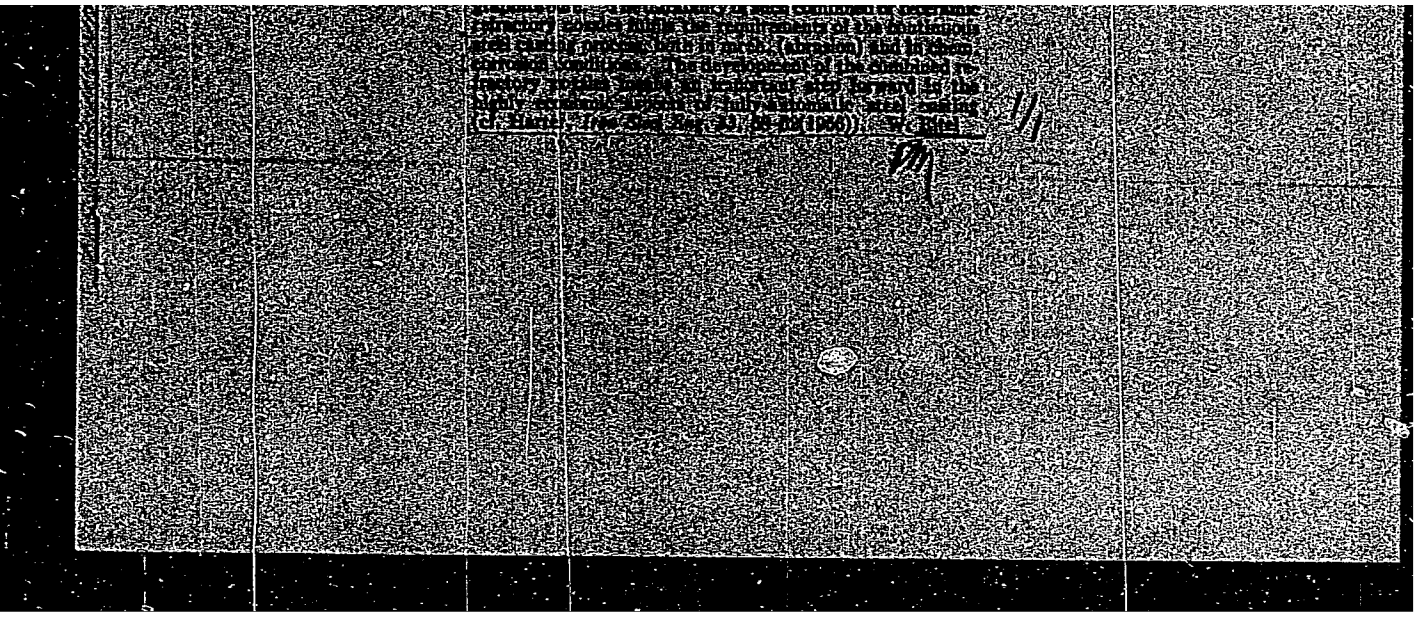

KARAULOV, A.G.

25(1) PHASE I BOOK EXPLOITATION SOV/1788

Ogneupory dlya chernoy metallurgii; sbornik statey (Refractories in Ferrous Metallurgy; Collection of Articles) Moscow, Metallurgizdat, 1958. Errata slip inserted. 4,000 copies printed.

Ed.: D. I. Gavrish, Engineer; Ed. of Publishing House: I. P. Kirnasov; Tech. Ed.: A. I. Karasev.

PURPOSE: This book is intended for engineers and technicians working in ferrous metallurgy.

COVERAGE: The book consists of 20 articles on the development and use of refractories in the Soviet metallurgical industry. D. I. Gavrish, in the first paper, presents the prospects for development and research projects for the period 1959-1965. He emphasizes development of refractory plants in the eastern part of the USSR. In general the articles deal with recent developments in basic and acidic refractories for blast and open hearth furnaces, and for the lining of ladles and special equipment used in continuous casting and in vacuum treatment of steel. A. S. Berezhnoy discusses the technology of manufacturing magnesite and forsterite refractories which frequently replace Dinas brick and fire clay. Several authors state that good results were obtained with

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periclase-spinell brick and with bricks made of magnesium and chromite compounds. The application of new refractories, insulating materials, high-temperature mortars, binding media, and cements, combined with advanced techniques in lining furnaces, are said to have more than doubled the time intervals between relining and overhauling furnaces. O. M. Margulis and A. G. Karaulov discuss the use of "tagged atoms" to determine the degree of contamination of steel by refractory-lining particles. N. F. Lesnyak describes the production of refractories by the semidry pressing method employed at the Nizhne-Tagil' plant, and I. S. Klymarski and V. D. Tsigler cover the use of lightweight Dinas bricks in industrial furnaces. The last paper written by A. E. Makaryshev compares and evaluates the physical properties and service life of fire-clay bricks, forsterite bricks, Dinas bricks and bricks with high alumina content. Graphs, diagrams, and photographs accompany the papers. For references, see Table of Contents.

TABLE OF CONTENTS:

Refractories in Ferrous Metallurgy (Cont.) SOV/1788

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15-2670

21.2100

27336
S/021/61/000/002/013/013
D210/D303

AUTHORS: Kukolyev, H.V., and Karaulov, A.H.

TITLE: Colloidal and chemical properties of stabilized ZrO_2 aqueous suspensions and their relations to the technological properties of these suspensions

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 2, 1961, 215 - 218

4

TEXT: In this experimental investigation the effect of temperature and that of electric potential Zeta on casting properties ZrO_2 are studied. The chemical composition of ZrO_2 was as follows: ZrO_2 - 98.04, SiO_2 - 0.58, Al_2O_3 - 0.37, Fe_2O_3 - 0.19, CaO - 0.3, R_2O - 0.36 %. ZrO_2 was ground with addition of Bilgorod chalk in the amount corresponding to 6 % CaO, to a powder with particle-size smaller than 0.088 mm. The mixture was pressed into sampless under

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Colloidal and chemical properties ...

500 kg/cm^2 pressure which were fired at 1750°C for 17 hours. After heating the product contained 90 - 92 % of cubic ZrO_2. Samples were reground to particle size <2 m. Iron was eliminated with hot HCl and water. In the investigated suspensions the water content was 20, 30 and 40 %, the pH of acidic suspensions was obtained by adding HCl, that of alkaline ones with NaOH. The suspensions viscosity was affected by adding acid or alkali, reaching a minimum value at some definite pH values interval. The length of this pH interval increased with the rise of suspension humidity (from 1 - 2 for water content of 20 % to 0.7 - 3.5 for 40 % water content). The viscosity in the alkaline medium was much higher than in the acid. Only with a much lower solid phase concentration did the viscosity in alkaline medium approach that of the acid. The Zeto-potential was determined by electrophoresis, it has been found that it reached a maximum in suspensions of lowest viscosity. The dependence of Zeta-potential and viscosity variations on pH values is shown. The rate of casting was lowest in the interval of maxi-

Card 2/5

Colloidal and chemical properties ...

mal liquefaction, but in that case casts of greatest density were obtained, density from acidic suspensions being much higher than that from alkaline ones (3.42 g/cm^3 and 2.74 g/cm^3 respectively). The casts density affected the casts contraction during firing: 16 % and 21-22 % respectively. The lower density of alkaline casts may be explained by the formation of thicker salvatation films around particles, due to a higher hydrophility of their surfaces with absorbed Na^+ ions. During water elimination in gypsum moulds the coagulation forces cause the formation of a loose coagulation carcass with large water content from torn salvatation films. By the action of vacuum on the suspension a higher casts density was obtained (+ 0.02 g/cm^2) and the quantity of air bubbles was smaller. The heating of suspensions before casting led to their lower viscosity, favorably affected the rate of formation and the casts density; the optimal preheating temperature being 30 - 40°C. The results show that the best results were obtained with preheating at 30°C (30 mm pressure), the casts density being 3.54 g/cm^3 and contraction after firing 14.2 %. In order to verify previously pub-

4

27336
S/021/61/000/002/013/013
D210/D303

Colloidal and chemical properties ...

ASSOCIATION: Ukrayins'koyi N.D. Institut vogne tryviv (Ukrainian Scientific-Research Institute of Refractory Materials)

PRESENTED: by Member of AS UkrSSR, P.P. Budnikov

SUBMITTED: March 18, 1960

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15.2230

29397
S/131/61/000/011/002/002
B105/B101

AUTHORS: Kukolev, G. V., and Karaulov, A. G.

TITLE: Production of refractory materials by means of pressure casting

PERIODICAL: Ogneupory, no. 11, 1961, 531 - 534

TEXT: The authors report on processes for molding refractory materials by means of hot casting from aluminum oxide with paraffin as a binder and addition of surface-active substances. Industrial alumina of the following chemical composition was used: 0.26 % SiO_2, 98.6 % Al_2O_3, 0.05 % Fe_2O_3, 0.18 % CaO, 0.15 % R_2O, and 0.44 % various substances. It was fired for 4 hr at 1450°C and ground to a grain size of below 2μ. Oleic acid, $C_{17}H_{33}COOH$, was used as paraffin suspension. Fig. 1 shows a pressure casting installation. The properties of paraffin suspensions from industrial alumina are given in a table. For the manufacture of intricately shaped products it is suitable to mold by casting the suspension of industrial alumina fired at 1450°C, with a grain size of below 2μ. By adding 0.75 %

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Production of refractory materials by...

primary fatty alcohols, C_{16} - C_{18}, it is possible to reduce the amount of paraffin in the suspension from 18 to 13 % and shrinkage during firing from 18.7 to 14.4 %. There are 5 figures, 1 table, and 10 Soviet references.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractories)

Fig. 1. Pressure casting installation. Legend: (1) Upper plate; (2) central plate; (3) three-way cock; (4) lid of the working container; (5) working container; (6) thermostat; (7) lower plate; (8) tightening screw; (9) columns.

Table. Properties of paraffin suspensions from industrial alumina. Legend: (a) no. of masses; (b) surface-active substance (admixture); (c) amount of admixture, %; (d) amount of paraffin, %; (e) viscosity at 70°C according to the rate of flow in sec; (f) castability at 65°C, mm; (g) weight by volume, g/cm^3; (h) packing coefficient; (i) bending strength limit kg/cm^2; k) amount of binder remaining in the products after its partial removal, %; (l) shrinkage during calcination; (m) without admixture; (n) oleic acid; (o) ditto; (p) alcohols C_{16} - C_{18};

ZHIKHAREVICH, A.S.; KARAULOV, A.G.; PANICH, B.I.; SHEYKO, I.I.; POLYAKOV, V.F.; KHALEMSKIY, S.F.

Replacement of cast steel plugs used in the top pouring of steel by ceramic graphite-bearing inserts. Metallurg 6 no.11:18-19 N '61. (MIRA 14:11)

(Steel ingots)

S/893/61/000/005/003/005
B117/B186

AUTHOR: Karaulov, A. G.

TITLE: Pressure casting in the manufacture of products from paraffin suspensions of highly refractory Al_2O_3 and ZrO_2 oxides

SOURCE: Kharkov. Ukrayins'kyi naukovodoslidchyi instytut vohnetryviv. Sbornik nauchnykh trudov, no. 5(52), 1961, 269-289

TEXT: In May 1960 this paper was presented at the 7-aya Molodezhnaya nauchno-tekhnicheskaya konferentsiya UNIIO (7th Scientific-technical Conference of Junior Workers of the UNIIO). Studies of the casting properties of paraffin suspensions of highly refractory Al_2O_3 and ZrO_2 were reported, as well as on some factors influencing these properties. The investigations of a special device showed that pressure casting is much the best method for producing products of complicated configuration or which necessitate subsequent machining. Powders of pre-burnt Al_2O_3

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(at 1450°C), of stabilized ZrO_2 (Belgorod chalk with 53.6% CaO), and of raw ZrO_2 with an addition of 5% $CaCO_3$ were used to prepare the suspensions. In order to produce homogeneous and easily mobile suspensions from these oil-repellent powders they were mixed with surface active substances for 30 to 40 min at 30°C in a rubber-coated mill and then mixed with 12-18% paraffin. Surface active substances with optimal amounts lying within definite limits are: for Al_2O_3, 0.1-2.0% and for stabilized ZrO_2 0.5-0.75% primary aliphatic C_{16} - C_{18} alcohols, and for ZrO_2 with $CaCO_4$ addition, ~0.75% oleic acid. If higher amounts of these additions are used the castability of the suspension is impaired. This is attributed to the formation of a second layer of these additions on the particles, and to a reverse ordering of the molecules. It has been shown that the height with which the products can be manufactured depends on their wall thicknesses and on the castability of the paraffin suspension, which is governed by temperature and pressure. Thus, the desired height can be obtained by changing the wall thickness of the products and by controlling the temperature and the pressure. This, however, is possible only within

comparatively small limits. It has been found that the strength of the products is impaired by the addition of surface-active additions at low temperatures. It reaches its minimum value at an optimal amount of surface-active additions. This is explained by the maximum saturation of the particle surface, the reduction of the contacts between the particles and, thus, by the loosening of the bonds between them. Prior to the burning of the products, the binder must be removed by covering them with commercial alumina. It has been shown that during a 4-hr heating of the products at 70-90°C about 20-30% of the binder is removed by the commercial alumina. This amount is enough to allow of the products undergoing only a single subsequent burning operation without covering and without risk of deformation. The shrinking of the products depends on how much binder they contain; it is 14.3-14.5% for Al_2O_3 with 13.75-14% of binder; for raw ZrO_2 with $CaCO_4$ it is 19.1-19.5% with 13.5-14.5% of binder; for stabilized ZrO_2, 17.4% with 12% of binder. There are 8 figures and 7 tables.

Card 3/3

KUKOLEV, G.V.; KARAULOV, A.G.

Manufacture of refractory articles by casting under pressure. Ogneupory 26 no.11:531-534 '61. (MIRA 17:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

ZHIKHAREVICH, S.A.; KARAULOV, A.G.

Graphite-bearing refractories for ingot mold bottom plates during the top pouring of killed steel. Ogneupory 27 no.3:104-111 '62. (MIRA 15:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.
(Refractory materials) (Ingot molds)

KUKOLEV, G.V.; KARAULOV, A.G.

Properties of aqueous suspensions, commercial alumina and the efficient conditions of slip casting. Ogneupory 28 no.4:168-174 '63. (MIRA 16:6)

1. Khar'kovskiy politekhnicheskiy institut imeni Lenina (for Kukolev). 2. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Karaulov).
(Aluminum oxide)
(Refractory materials)

ZHIKHAREVICH, S.A.; KARAULOV, A.G.; SAFRONOVA, I.P.; PANICH, B.I.; DRYAPIK, Ye.P.; DYMARSKIY, M.Ya.; MOISEYENKO, A.I.; TARZEYAN, P.G.

Replacing steel, circular-flanged ingot stools by graphite-containing ones. Ogneupory 28 no.10:437-443 '63. (MIRA 16:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Zhikharevich, Karaulov, Safronova). 2. Ukrainskiy nauchno-issledovatel'skiy institut metallov (for Panich). 3. Kommunarskiy metallurgicheskiy zavod (for Dryapik, Dymarskiy, Moiseyenko, Tarzeyan).

L 17829-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EWP(t)/EWP(b) Pr-4/
Ps-4/Pu-4 IJP(c)/AS(mp)-2/ASD(m)-3 WH/WW/JD/JG
ACCESSION NR: AP4047018 S/0131/64/000/010/0436/0440

AUTHOR: Karaulov, A. G.; Usatikov, I. F.

TITLE: Production of cast products from zirconium dioxide

SOURCE: Ogneupory*, no. 10, 1964, 436-440

TOPIC TAGS: refractory, zirconia refractory, zirconia, casting, cast refractory

ABSTRACT: A study has confirmed that the addition of 10% monoclinic zirconia to zirconia stabilized in the cubic form raises the thermal shock resistance of refractories made from this material. This research was done because of the contradictory data in the literature on the casting properties and thermal shock resistance of such refractories. Thermal shock resistance was determined by subjecting crucible specimens to cycles of heating to 1600C and rapid air-cooling until crucible failure. The expediency of using 10% finely ground nonfired monoclinic zirconia instead of the fired variety was shown; the results were confirmed in the production of a pilot batch of refractories. This amount (10%) of nonfired zirconia had little

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L 17829-65
ACCESSION NR: AP4047018

effect on the structural and mechanical characteristics of suspensions and improved the thermal shock resistance of the refractories; castings retained the same firing shrinkage as with 20% fired zirconia. The use of nonfired zirconia eliminates preliminary compacting of the zirconia, and firing and grinding of the compact. Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: Ukrainskiy Nauchno-issledova-tel'skiy institut ogneuporov (Ukrainian Scientific Research Institute for Refractories)

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, MT

NO REF SOV: 011 OTHER: 000

Card 2/2

KAYNARSKIY, I.S.; DEGTYAREVA, E.V.; ORLOVA, I.G.; KARAULOV, A.G.; GNATYUK, G.Ye.

Effect of additions of γ-Al_2O_3 on the properties of alumina slip, the baking, hardening in the firing process, and the properties of corundum products. Ogneupory 30 no.11:27-32 '65. (MIRA 18:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

L 22605-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k) JD/WH

ACC NR: AP6008690 SOURCE CODE: UR/0131/65/000/011/0027/0032

AUTHOR: Kaynarskiy, I. S.; Degtyareva, E. V.; Orlova, I. G.; Karaulov, A. G.; Gnatyuk, G. Ye.

ORG: Ukrainian Scientific Research Institute of Refractories (Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov)

TITLE: The effect of gamma-Al_2O_3 admixture on the properties of alumina slips, sintering, hardening in annealing, and properties of corundum products

SOURCE: Ogneupory, no. 11, 1965, 27-32

TOPIC TAGS: alumina, corundum, aluminum oxide, corundum ceramic

ABSTRACT: The effect of γ-Al_2O_3 on various properties of slips, on the behavior of castings during annealing, and on the properties of sintered products was studied. The introduction of γ-Al_2O_3 increases the zeta-potential. Recrystallization of active γ-Al_2O_3 at low temperatures followed by conversion of γ-Al_2O_3 to α-Al_2O_3 causes a substantial increase in the strength of the castings in the heated state in the 600-1300°C range as compared to strength of castings without γ-Al_2O_3. The latter decreases the size of corundum crystals in the sintered body, and this raises the strength of corundum ceramics to which MgO had not been added. Shrinkage in castings containing γ-Al_2O_3 becomes more pronounced during annealing and an anisotropy of shrinkage is ob-

Card 1/2 UDC: 666.76.022.38

L 2261 6-66
ACC NR: AP6008690

served. Addition of γ-Al_2O_3 slows down the sintering at about 1500°C; at higher temperatures, the degree of sintering of the castings is only slightly less. Introduction of γ-Al_2O_3 reduces the distortion of alumina castings up to 1450-1470°C but increases it at higher temperatures. The main advantage of γ-Al_2O_3 is that no binder (such as sucrose, flour, etc.) is needed in the slip, and a considerable strengthening of the heated raw material is obtained. It is desirable to use the γ-Al_2O_3 admixture together with MgO; the latter causes a substantial reduction of open porosity and an increase in the strength of the ceramic. Orig. art. has: 14 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 008/ OTH REF: 000

Card 2/2 HW

L 36372-66 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD/WH

ACC NR: AP6019872 (A) SOURCE CODE: UR/0131/66/000/002/0045/0051

AUTHOR: Kaynarskiy, I. S.; Degtyareva, E. V.; Orlova, I. G.; Karaulov, A. G.

ORG: Ukrainian Scientific Research Institute of Refractories (Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov)

TITLE: Effect of the method of vibratory milling of alumina on the properties of slips, sintering and hardening of castings during firing, and properties of corundum articles

SOURCE: Ogneupory, no. 2, 1966, 45-51

TOPIC TAGS: alumina, corundum, sintering

ABSTRACT: The study involved technical-grade alumina G-00 prefired at 1550, 1650, and 1750°C, then ground in a vibratory mill with steel balls for 2-10 hr by the dry and wet methods until about 80% of the grains were less than 3μ in size. The milling lasted from 2 to 10 hr. The use of the wet method of vibratory milling for the preparation of corundum ceramics was found to increase the zeta potential, viscosity, and kinetic stability of the slip. The strength of dried castings obtained by the wet method is much higher than that of castings obtained by the dry method. Wet vibratory milling causes a substantial hydration of the grain surface, and subsequent dehydration during heating causes a decrease in the strength of the heated casting; this decrease is much greater than that of a dry-milled casting. Wet-milled castings

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UDC: 666.76:553.65

L 36872-66
ACC NR: AP6019872

undergo a substantially greater shrinkage and deformation under their own weight than do dry-milled ones. The anisotropy of shrinking of the latter is much lower. The use of dry vibratory milling insures the formation of a sintered body of higher density and a smaller size of corundum crystals. The mechanical and dielectric properties of corundum ceramics are much higher in articles prepared by dry vibratory milling as compared to wet-milled articles. Orig. art. has: 8 figures and 6 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 018/ OTH REF: 002

Card 2/2 mlp

ACC NR: AP7005313 (A) SOURCE CODE: UR/0131/67/000/001/0050/0055

AUTHOR: Karaulov, A. G.; Grebenyuk, A. A.; Rudyak, I. N.

ORG: Ukrainian Scientific Research Institute of Refractories (Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov)

TITLE: Effect of stabilizing additives on the thermal resistance of zirconia products

SOURCE: Ogneupory, no. 1, 1967, 50-55

TOPIC TAGS: zirconium compound, refractory product, calcium oxide, magnesium oxide, phase composition

ABSTRACT: The effect of such stabilizing agents as chalk containing 53.8% CaO (calcination loss 42.48%) and magnesium oxide containing 75.2% MgO (calcination loss [illegible]%) on the heat resistance and mechanical properties of zirconia products was investigated. Briquets of zirconia (97.15% $ZrO_2 + HfO_2$, with traces of SiO_2, Al_2O_3, TiO_2, Fe_2O_3, CaO, MgO) treated with these stabilizing agents were fired in a flame furnace at 1750°C, pulverized in a jaw crusher, subjected to magnetic separation to remove iron. The resulting powder was subjected to x-ray phase analysis and tests of refractoriness at ~2400-2600°C. Findings: zirconia

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UDC: 666.76.004.12

ACC NR: AP7005313

products with satisfactory heat resistance can be obtained provided that the amount of the monoclinic phase in fired specimens prepared from granular compositions should be at least 15%. It is further established that as the CaO content increases from 7.0 to 20 mol.% the heat resistance of ZrO_2 products decreases. The addition of up to 20% of monoclinic ZrO_2 to the charge enhances heat resistance in inverse proportion to the amount of CaO present in the stabilized part of the material. This is due to the additional stabilization of zirconia by the CaO migrating from the stabilized grain to the monoclinic ZrO_2. Additional stabilization of monoclinic ZrO_2 is also observed on cyclic heating from 20 to 1600°C and back to 20°C. Specimens of CaO-stabilized zirconia display a higher heat resistance than specimens of MgO-stabilized zirconia, given an equal content of monoclinic phase. Orig. art. has: 3 figures, 4 tables.

SUB CODE: 11, 20, 13/ SUBM DATE: none/ ORIG REF: 022/ OTH REF: 010

Card 2/2

KARAULOV, Aleksey Nikolayevich; FRIDMAN, Moisey Aleksandrovich; ZOLOTOV, S.S., otv.red.; ALEKSEYEVA, M.N., red.; DVORAKOVSKAYA, A.A., tekhn.red.; KONTOROVICH, A.I., tekhn.red.

[Shipbuilding drawing] Sudostroitel'noe cherchenie. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1958. 120 p. (MIRA 13:4)

(Shipbuilding) (Mechanical drawing)

PUGACHEV, Aleksandr Sergeyevich; KARAULOV, A.N., otv.red.; KUSKOVA, A.I., red.; FRUMKIN, P.S., tekhn.red.

[Collection of problems on drawing in shipbuilding] Sbornik zadach po sudostroitel'nomu cherchcniiu. Izd.2., perer. i dop. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 335 p. (MIRA 13:6)

(Naval architecture) (Architectural drawing)

14(6) SOV/112-59-1-447

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 60 (USSR)

AUTHOR: Karaulov, B. F., Rossinskiy, K. I., and Kuz'min, I. A.

TITLE: Manual For Designing Energy Dissipators and Lower-Pool Reinforcements of a Spillway Dam Built on Nonrocky Soil

PERIODICAL: Tr. Gidroproyekta, 1958, Nr 1, pp 117-151

ABSTRACT: Bibliographic entry.

Card 1/1

BOMBCHINSKIY, V.P.; VTOROV, N.A.; DUNDUKOV, M.D.; YEGOROV, S.A., doktor tekhn.nauk, prof.; YERMOLOV, A.I.; ZAVORUYEV, V.P.; KALININ, V.V.; KACHEROVSKIY, N.V.; KUZNETSOVA, A.K.; KUZ'MIN, I.A., kand.tekhn. nauk; MEDVEDEV, V.M., kand.tekhn.nauk; MIKULOVICH, B.F.; MIKHAYLOV, V.V., kand.tekhn.nauk; PETRASHEN', R.N.; REYZIN, Ye.S.; SINYAVSKAYA, V.M.; KHALTURIN, A.D.; SHCHERBINA, I.N., kand.tekhn.nauk; SEVAST'YANOV, V.I., red.; KARAULOV, B.F., retsenzent; LOVETSKIY, Ye.S., retsenzent; MIKHAYLOV, A.V., doktor tekhn.nauk, retsenzent; NATANSON, A.V., retsenzent; SOKOL'SKIY, M.M., retsenzent; STANKEVICH, V.I., retsenzent; FREYGOFER, Ye.F., retsenzent; GOTMAN, T.P., red.; VORONIN, K.P., tekhn.red.

[Work of the All-Union Scientific Research Institute for the Study and Design of Hydraulic Structures] Nauchno-issledovatel'skie raboty Gidroproekta. Pod obshchei red. V.I.Sevast'ianova. Moskva, Gos.energ.izd-vo, 1961. 214 p. (MIRA 15:2)

1. Moscow. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut Gidroproyekt imeni S.Ya.Zhuk. Nauchno-issledovatel'skiy sektor.

(Hydraulic engineering--Research)

AVRAMENKO, F.D.; VEYTS, V.I.; GUREVICH, B.A.; DENISOV, V.I.; ZAKHARIN, A.G.; KARAULOV, N.A.; KOLOSOV, I.S.; KRACHKOVSKIY, N.N.; KRITSKIY, S.N.; LEBEDEV, M.M.; LEONT'YEVA, T.K.; MENKEL', M.F.; NEKRASOV, A.S.; ROSSIYEVSKIY, G.I.; SHVORIN, B.I.; KRZHIZHANOVSKIY, G.M., akademik, red.; MARKOVICH, S.G., tekhn.red.

[Principal problems in designing a unified power system in the U.S.S.R.] Osnovnye voprosy planirovaniia edinoi energeticheskoi sistemy SSSR. Pod red. G.M.Krzhizhanovskogo, V.I.Veitsa. Moskva, 1959. 174 p. (MIRA 12:6)

1. Akademiya nauk SSSR. Energeticheskiy institut. 2. Chlen-korrespondent Akademii nauk SSSR (for Veyts).
(Electric power)

Karaulov, N.A.

AUTHORS: Veyts, V. I., Popkov, V. I., Markovich, I. M., Zatharin, A. G., Tolstov, Yu. G., Nikitin, B. I., Karaulov, N. A., Teleshev, B. A., Gurevich, B. A., Lebedev, M. M., et al. S/105/60/000/04/022/024 B007/B008

TITLE: On the 70th Birthday of N. N. Krachkovskiy

PERIODICAL: Elektrichestvo, 1960, Nr 4, p 93 (USSR)

TEXT: Nikolay Nikolayevich Krachkovskiy is one of the oldest Soviet power engineers. He started his activities in 1916 after finishing his studies at the elektromekhanicheskoye otdeleniye Petrogradskogo politekhnicheskogo instituta (Department of Electromechanics of the Petrograd Polytechnic Institute). From 1922 he worked at the planning and construction of electric networks in the Volkhovstroy, Dneprostroy, and Srednvolgostroy. He worked as an engineer in a leading position in the eastern regions of the USSR from 1942 to 1944. From 1944 to 1946 he was Director of the sektor sistem Leningradskogo otdeleniya Gidroenergoproyekta (Sector of Networks of the Leningrad Branch of the All-Union Trust for the Design and Planning of Hydroelectric Power Plants and Hydroelectric Developments). His scientific and teaching activity began in 1930 at the Politekhnikum Putey soobshcheniya (Polytechnic Institute of Railroads), at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic

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Institute), and the Akademiya nauk SSSR (Academy of Sciences of the USSR). Since 1950 he was in a leading position at a Planning Institute, directing simultaneously research work at the Energeticheskiy institut AN SSSR (Institute of Power Engineering of the AS USSR). Since 1954 he has devoted himself entirely to scientific work. He graduated as a Candidate in 1948. In 1953 he was approved as a Senior Scientific Collaborator of the Institute of Power Engineering of the AS USSR in the field of "Electric Networks". He published over 50 papers in the periodicals "Elektrichestvo", "Elektricheskiye stantsii", "Izvestiya AN SSSR", et al., and made a number of inventions. There is 1 figure.

Card 2/2

KARNAUKHOV, S.

Developing creative activity in labor is the main task of the Economic Councils. Mast. ugl. 7 no.9:10 S '58. (MIRA 11:10)

1. Zaveduyushchiy promyshlenno-transportnym otdelom Cheremkhovskogo gorkoma kommunisticheskoy partii Sovetskogo Soyuza.
(Coal miners) (Economic councils)

KARAULOV, B.F., inzh.; ROSSINSKIY, K.I., kand.tekhn.nauk; KUZ'MIN, I.A., kand.tekhn.nauk

Procedural specifications for designing energy dissipators and reinforcements in the tailrace of spillway dams built on nonrocky soils. Trudy Gidroproekta no.1:117-151 '58. (MIRA 11:9)
(Dams)

KARAULOV, M.V.

137-1958-1-88

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 16 (USSR)

AUTHOR: Karaulov, M. V.

TITLE: Meet the Great Holiday With a Proper Accomplishment (Velikomu prazdniku - dostoynuyu vstrechu)

PERIODICAL: Kolyma, 1957, Nr 5, pp 9-10

ABSTRACT: The results of the 1956 washing season at the "Bodryy" placer are presented.

A. Sh.

1. Mining industry--USSR 2. Ores--Production

Card 1/1

ALEKSANDROV, B.; AYVAZ'YAN, V., doktor tekhn.nauk, starshiy nauchnyy sotrudnik;
KARAULOV, N., doktor tekhn.nauk, strashiy nauchnyy sotrudnik;
FEL'DMAN, M., doktor tekhn.nauk, strashiy nauchnyy sotrudnik

Biased attitude to the construction of hydroelectric power stations.
NTO 3 no.8:19-22 Ag '61. (MIRA 14:9)

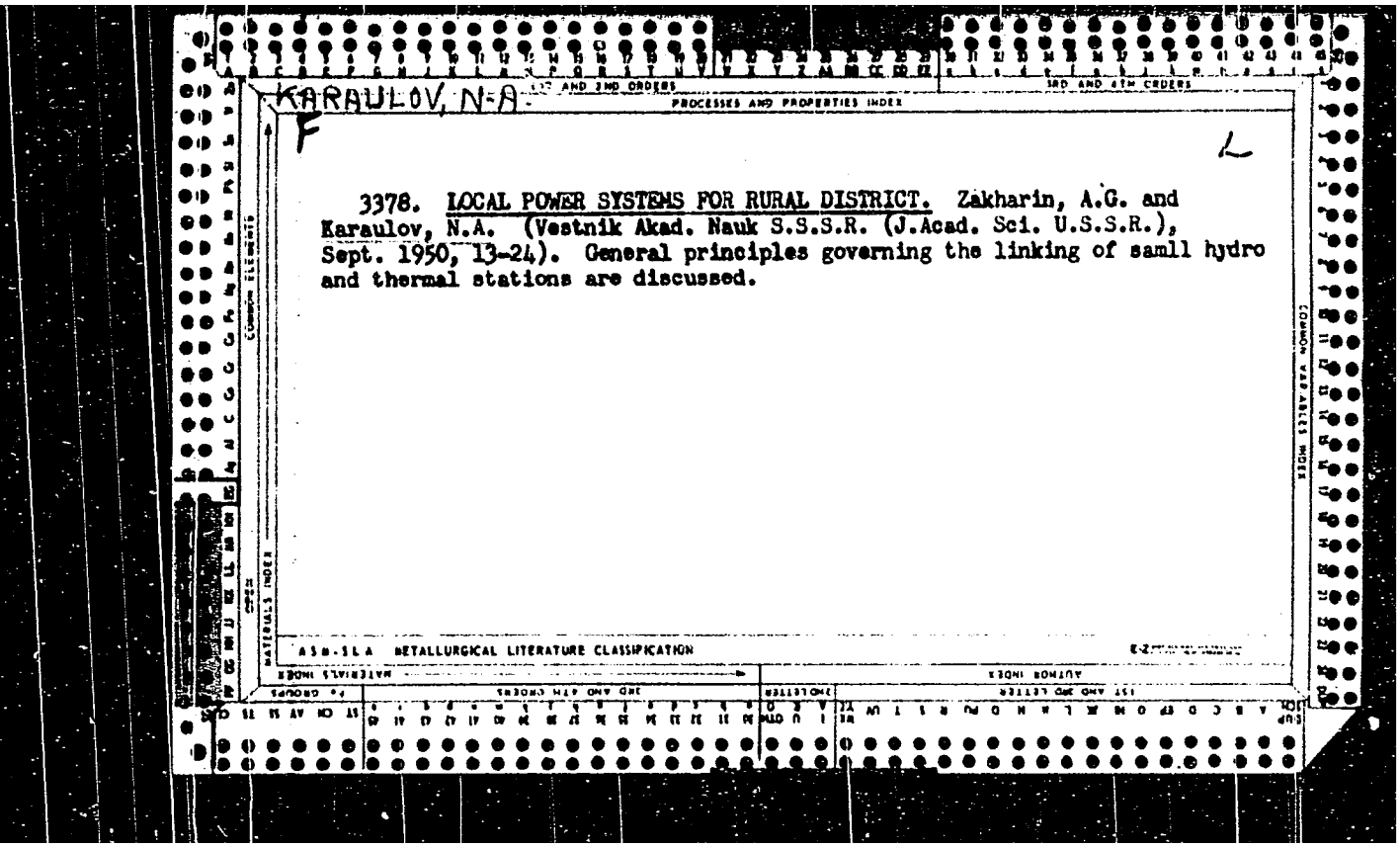
1. Chlen-korrespondent AN SSSR, zaveduyushchiy sektotom gidroenergetiki energeticheskogo instituta imeni G.M. Krzhizhanovskogo (for Aleksandrov). 2. Energeticheskiy institut imeni G.M. Khzhizhanovskogo (for Ayvaz'yan, Karaulov, Fel'dman).
(Hydroelectric power stations)

KARAULOV, N. A.

Energetics Inst. im Krzhizhanovskiy, Acad. Sci. SSSR, -1949-.

"A local electric power system with a preponderance of hydroelectric power stations," Iz. Ak. Nauk SSSR, Odtel. Tekh. Nauk, No. 12, 1949.

"Papers in the Power Engineering Section of the Third Conference on the Coordination of the Scientific Activity of Power Engineering Institutions of the Acad. of Sci. USSR and the Academies of Sci. of the Union Republics," ibid.



KARAULOV, N-A

F

L

3378. LOCAL POWER SYSTEMS FOR RURAL DISTRICT. Zakharin, A.G. and Karaulov, N.A. (Vestnik Akad. Nauk S.S.S.R. (J.Acad. Sci. U.S.S.R.), Sept. 1950, 13-24). General principles governing the linking of samll hydro and thermal stations are discussed.

USSR/Engineering - Power, Electric Stations Jun 52

"Local Electric Power System With Duplication of Capacity," N. A. Karaulov

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 6, pp 883-890

Deals with method for establishing power character-istic of local elec power system under any given condition for complete or partial duplication of power capacity. Study represents part of general work on fundamentals of local power systems with

230T30

KARAULOV, N. A.

predominant role of hydroelec power stations, in particular, referring to electrification problems in large new area of irrigation on basis of Kuybyshev, Stalingrad and, Tsimlyanskaya hydraulic installations. Submitted by Acad A. V. Vinter 23 Jun 51.

230T30

1. KARAULOV, N.A.

2. USSR (600)

4. Volga-Don Canal

7. Volga-Don Navigation Canal is the great hydrotechnical construction work of the Stalin epoch. Izv.AN SSSR.Otd.tekh.nauk no.7, 1952.

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

KARAULOV, Nikolay Aleksandrovich

Academic degree of Doctor of Technical Sciences, based on his defense, 2 December 1954, in the Council of the Power Engineering Inst imeni Krzhizhanovskiy Acad Sci USSR, of his dissertation entitled: "The power engineering bases of a local system with predominant role of hydroelectric power stations." (the theory of power engineering system with a forced regime of energy sources).

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 21, 22 Oct 55, Byulleten' MVO SSSR, No. 19, Oct 56, Moscow, pp 13-24, Uncl. JPRS/NY-536

KARAULOV, N.A., doktor tekhnicheskikh nauk.

The Nile, a source of irrigation and electrification for Egypt.
Priroda 45 no.12:47-57 D '56. (MLRA 10:2)
(Nile River) (Egypt--Irrigation)
(Egypt--Hydroelectric power stations)

KARAULOV, N. A.

"Power Basis of a Local System With Hydroelectric Power Stations in the Dominant Role." Dr Tech Sci, Power Engineering Inst imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 2 Dec 54. (VM, 22 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

KARAULOV, N. A.

ERZHIZHANOVSKIY, G.M.; VINTER, A.V.; POPKOV, V.I.; MARKVARDT, K.G.; KARAULOV, N.A.; MIKHAYLOV, V.I.

Professor V.I.Veits. Elektrichestvo no.5:86 My '55. (MIRA 8:6)
(Veits, Veniamin Isaakovich, 1905-)

TSUNTS, Mikhail Zinov'yevich; KARAULOV, N.A., doktor tekhnicheskikh nauk, redaktor; PETROVA, S., redaktor; TROYANOVSKAYA, N., tekhredaktor

[Great construction projects on the rivers of Siberia] Velikie stroiki na rekakh Sibiri. Moskva, Gos. izd-vo polit. lit-ry, 1956. 76 p. (MLRA 10:1)

(Siberia--Hydroelectric power stations)

Krzhizhanovskiy, N.A.

KRZHIZHANOVSKIY, G.M., akademik; AYVAZYAN, V.G.; ALAMPIYEV, P.M.; BUYANOVSKIY, M.S.; VARTAZAROV, S.Ya.; VEYTS, V.I.; GUVIN, F.F.; DYMITRASHKO, N.V.; KARAULOV, N.A.; KOCHARYAN, G.A.; KRITSKIY, S.N.; LEBEDEV, M.M.; MURZAYEV, E.M.; FEL'DMAN, M.P.; SHCHENGELIYAN, P.G.; ERISTOV, V.S.

Sukias Efremovich Manaserian; obituary. Izv.AN SSSR. Ser.geog. no.5:143-144 S-O '56. (MLRA 9:11)

(Manaserian, Sukias Efremovich, 1881-1956)

KARAULOV, N.A., doktor tekhnicheskikh nauk.

Construction of hydroelectric power plants in the U.S.S.R. Priroda 45 no.5:3-16 My '56. (MLRA 9:8)
(Hydroelectric power stations)

8(6) PHASE I BOOK EXPLOITATION SOV/1277

Veyts, Veniamin Isaakovich, Zakharin, Andrey Georgiyevich, Karaulov, Nikolay Aleksandrovich, and Pirkhavka, Petr Yakovlevich

Mestnyye energeticheskiye sistemy (Local Power Systems) Moscow, Izd-vo AN SSSR, 1958. 294 p. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Energeticheskiy institut.

Resp. Ed.: Krzhizhanovskiy, G.M., Academician; Ed. of Publishing House: Bogoslovskiy, B.B.; Tech. Ed.: Astaf'yeva, G.A.

PURPOSE: The book is intended for engineers and planners working in the field of rural electrification.

COVERAGE: According to Academician G.M. Krzhyzhanovskiy, responsible editor of the book, the electrification of agriculture will proceed by connecting rural areas with the networks of interconnected power systems. However, the electrification of a number of agricultural regions must, for the near future, be oriented on a local scale. Studies conducted at the Energeticheskiy institut AN SSSR (Power Engineering Institute AS USSR) led to conclusions that the basic

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form of development of local power engineering must be the local power system, connecting rural and other local power stations for parallel operation in a common high-voltage network. Basic theoretical assumptions determining the selection of parameters of local power systems were outlined in a series of works conducted at the Power Engineering Institute. The present book generalizes the results of these works without, however, attempting to cover all the problems connected with the development of local power systems of various types. The authors thank Academician G.M. Krzhizhanovskiy for his help and Doctor of Technical Sciences I.A. Bu[illegible]zko and Engineer A.A. Beschinskiy for reviewing the manuscript. V.N. Sakharov, junior scientific assistant, helped with certain sections of Chapter V and Engineer N.S. Kanakin wrote section 2 of Chapter VII. There are 80 references, all Soviet.

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AUTHOR: Karaulov, N. A., Doctor of Engineering Sciences SOV/30-58-7-6/49

TITLE: Problems of Soviet Hydroelectric Power Engineering (Problemy sovetskoy gidroenergetiki)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 7, pp. 39 - 44 (USSR)

ABSTRACT: More and more hydroelectric power plants replace thermal power plants in meeting the peaks of the load distribution and thus improve the technical and economic characteristic factors and reduce the specific fuel consumption. The hydroelectric power plants are best suited for automation and remote control. Approximately 80% of the hydroelectric power sources, practically not exploited at all, are located in western and eastern Siberia (see Fig 1). The construction of big hydroelectric power plant in Eastern Siberia has been started. The time- and energy-consuming construction work is completely mechanized. At present, important theoretical problems concerning the control of hydro-electric power plants in complicated systems with different electric power plants of new types, must be solved. The co-

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operation of the hydroelectric power plants with atomic power plants is reported to operate most effectively. Taking the extended ocean shore line of the USSR into consideration, the problems of utilizing the energy produced by the tides must also be duly taken into account. The problem of amortization of the hydroelectric power plants must also be cleared. The construction of big hydroelectric power centrals must be considered as being of vital importance for several economically important districts of Central Asia (Srednyaya Aziya) and Kazakhstan, Zakavkaz'ye, the Far East and others, as far as irrigation, protection against inundation and navigation are concerned. Thus, considerable capital investments will make themselves well paid. The power plants Bratskaya, Ust'-Ilimskaya, Boguchanskaya on the river Angara, and Sayanskaya, Krasnoyarskaya, Yeniseyskaya and Osinovskaya on the river Yenisey (Fig 2) are amongst the most urgent and most effective power stations planned. The total output of these 7 hydroelectric generating stations will exceed 28 million KW. It may be assumed, on the basis of the plans that the cost of production of the electric current generated by these hydroelectric power stations will amount to from

0,5 to 0,8 copecks per KW and that the capital investments will amount to less than 1000 Roubles per 1 KW of output. These hydroelectric generating stations - in connection with important thermal power stations should guarantee rapid development of various industrial plants. N.A.Grigorovich proposed to achieve an increased output of the Angara hydroelectric power plant by means of a compensative regulation of the Baykal Lake. Investigations have shown that an aggregation of the energy systems of the European part of the USSR with Siberia could lead to a reduction by approximately 2 million KW of the total output of the thermal power plants. The theoretical foundations of the energy systems have been developed by the Institute of Power Engineering imeni G.M.Krzhizhanovskiy. The planning of hydroelectric power plants is carried out by the leading institutes of the Ministry of Electric Power Stations of the USSR ("Gidroenergoproyekt" and "Gidroproyekt") and by the scientific investigations in the institutes of the AS USSR and of the Republics of the Soviet Union, as well as by the corresponding universities. There are 2 figures.

KARAULOV, N.A.

8(6) PHASE I BOOK EXPLOITATION SOV/2382

Voprosy planirovaniya yedinoy energeticheskoy sistemy SSSR (Basic Problems in Planning a United Power System for the USSR.) Moscow, Izd-vo AN SSSR, 1959. 176 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Energeticheskiy institut.

Eds.: G.M. Krzhizhanovskiy, Academician and V.I. Veyts, Corresponding Member, USSR Academy of Sciences; Tech. Ed.: S.G. Martovich.

PURPOSE: This book is intended for government planning circles, scientific research organizations and others interested in the electrification of the USSR.

COVERAGE: The book examines the principal problems of a unified power system for the USSR as a basis for a program of government planning in that field. It is the result of several years of study conducted mainly at the Power Engineering Institute of the Academy of Sciences, USSR, in cooperation with power engineering institutes of the individual Soviet Republics, universities and learned societies, and in close cooperation with the Gosplan, USSR. These studies are connected with basic problems of a scientific nature and problems of technical policy for the prospective development of a unified electric power system in the USSR. The problems outlined are applicable when the planned system reaches an output of 1000 billion kwh's which is scheduled for 1970. One of the results of the plan is that since it is possible to obtain higher installed capacities is a shorter time and at lower capital outlays by the construction of steam turbine electric power plants rather than hydraulic ones, the emphasis is now on building steam turbine plants with a simultaneous slowdown in hydro-power developments, carrying the most economical ones or those which are the only or the main sources of power in a given region or are dictated by other needs, such as irrigation, river control, etc. Nuclear plants will play a steadily increasing role in the development of a unified power system. Several problems of a purely scientific and technical nature were prompted by the study of a unified system: problems of nuclear power stations, the application of high-speed electronic computers for automatic control, regulation and protection of the system, the increasing use of semiconductors, the use of various types of fuels, etc. These problems were presented in two earlier publications of the Academy of Sciences: Nachalnye osnovy sozdaniya i razvitiya yedinoy energeticheskoy sistemy SSSR (Scientific Bases in the Creation and Development of a Unified Power System in the USSR) Conclusions of a Conference, Moscow, 1954; and Razrabotka nauchnykh osnov razvitiya energeticheskikh sistem i ikh ob"yedineniy yedinoy energeticheskoy sistemy

PHASE I BOOK EXPLOITATION SOV/3407

Akademiya nauk SSSR. Energeticheskiy institut im. G.M. Krzhizhanovskogo

Problemy energetiki; sbornik pamyatnykh statey akademika G.M. Krzhizhanovskogo (Problems of Power Engineering; Collection of Articles Dedicated to the Academician G.M. Krzhizhanovskiy) Moscow, 1959. 851 p. Errata slip inserted. 2,500 copies printed.

Eds.: of Publishing House: B.D. Artyukhin, P.V. Dobrov, P.I. Zubkov, and S.M. Meyerson; Tech. Ed.: Z.A. Prusakova; Editorial Board: A.V. Vinter, Academician (Deceased), V.I. Popov (Resp. Ed.) Corresponding Member, Academy of Sciences USSR, V.I. Veyts, A.S. Predvoditelev, M.A. Styrikovich, M.P. Chukhanov, E.E. Bogdanov, Candidate of Technical Sciences, B.K. Keller, Candidate of Technical Sciences, M.M. Lebedev, Candidate of Technical Sciences, and Z.Z. Sambor.

PURPOSE: This collection of articles is intended as a tribute to the memory of Academician G.M. Krzhizhanovskiy.

COVERAGE: The collection contains sixty articles by former students and coworkers of the deceased Academician. The articles deal with problems of a wide range of subjects in the field of power engineering: problems of the regional development of electrical and thermal power engineering, power engineering technology, and the physics of combustion. No personalities are mentioned. References are given after most articles.

8(5) SOV/30-59-2-4/60

AUTHOR: Karaulov, N. A., Doctor of Technical Sciences

TITLE: Maximum Capacity Power Plants and Pump Storage (Manevrennyye elektrostantsii i nasosnoye akkumulirovaniye)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 2, pp 17-19 (USSR)

ABSTRACT: In connection with the 7-year plan the construction of electric central stations with an especially high degree of efficiency is planned; these centers are to supply as base load power plants current as cheap as possible. Besides these, however, also power plants with a maximum capacity are to be constructed for the purpose of covering the maximum load of the network which increases more and more and is estimated to amount in 1965-1970, only for the standard energy system of the European part of the USSR to several million kw. Most appropriate for this purpose are gas turbine and pump storage stations (NAES). The operation principle of the pump storage stations is the following: during the night the water is pumped from the lower river basin into the upper water reservoir in which connection the especially cheap night-current of the thermal power plants is used. In the Soviet Union this procedure is used in the

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VEYTS, V.I.; POPKOV, V.I.; MARKOVICH, I.M.; ZAKHARIN, A.G.; TOLSTOV, Yu.G.; NIKITIN, B.I.; KARAULOV, N.A.; TELESHEV, B.A.; GUREVICH, B.A.; LEBEDEV, M.M.

Nikolai Nikolaevich Krachkovskii. Elektrichestvo no.4:93 Ap '60. (MIRA 14:4)
(Krachkovskii, Nikolai Nikolaevich, 1890-)

KARAULOV, N.A.

Academician G.M.Krzhizhanovskii is the founder of the socialist power engineering. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.1:31-36 Ja-F '62. (MIRA 15:3)
(Power engineering)
(Krzhizhanovskii, Gleb, Maksimilianovich, 1872-)

ALEKSANDROV, B.K.; KARAULOV, N.A., inzh.

Conference devoted to problems of the method of covering varying graphs of electric load and to peak electric power plants. Gidr. stroi. 33 no.11:58-59 N '62. (MIRA 16:1)

1. Chlen-korrespondent AN SSSR (for Aleksandrov).
(Electric power plants--Congresses)

KARAULOV, N.A., AYVAZYAN, V.G., ZHILIN, V.G.

Problems of optimum peak-load coverage in a complex power system, and modern ways of dealing with them in the conditions existing in the USSR

Report submitted for the Symposium on Peak Load Coverage, Venice, Italy May 20-23 ~~1963~~ 1963

KARAULOV, N.A., doktor tekhn. nauk, prof., otv. red.; GRIGOR'YEV, Ye.N., red.izd-va; PRUSAKOVA, T.A., tekhn. red.; YEGOROVA, N.F., tekhn. red.

[Methods for covering peak power loads] Metody pokrytiia pikov elektricheskoi nagruzki. Moskva, Izd-vo AN SSSR, 1963. 526 p. (MIRA 16:9)

1. Moscow. Energeticheskiy institut imeni G.M.Krzhizhanovskogo.
(Electric power distribution)

KARAULOV, P.N. (g. Kaluga)

Production of self-wedging anticreepers. Put' i put.khoz. no.10:10-11 O '58. (MIRA 11:12)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela Kaluzhskogo putevogo remontno-mekhanicheskogo zavoda No.12.
(Railroads--Equipment and supplies)

KARAULOV, V.A.

Result of primary surgical treatment of minor industrial injuries of the fingers among railway workers. Ortop.,travm. i protez 19 no.2:21-27 Mr-Ap '58 (MIRA 11:5)

1. Iz polikliniki st. Ydino, Kazanskoy zh.d. Nauchnyy rukovoditel' - prof. G.A. Rikhter (Insitut khirurgii im. A.V. Vishnevskogo AMN SSSR).

(FINGERS, wds. & inj.
primary surg.,results (Rus))

KARAULOV, V.A.

Industrial injuries and advanced forms of work. Ortop., travm. i protez. 22 no.2:46-48 F '61. (MIRA 14:3)
(INDUSTRIAL ACCIDENTS)