KAZAKOV, S.P.

Motion of a hydrometric float. Trudy Mor.gidrofiz.inst. AN URSR 28:67-71 '63. (MIRA 17:3)

L 14728-65 EWP(m)/EWT(1)/EWA(1) Pd-1 AFWL/AEDC(a)/ESD(t)
ACCESSION NR: AP5000110 S/0196/64/010/006/0649/0653

AUTHOR: Kazakov, S. P. (Moscow)

TITLE: Experimental determination of the apparent mass and drag coefficients of bodies being immersed in water

SOURCE: Pry*kladna mekhanika, v. 10, no. 6, 1964, 649-653

TOPIC TAGS: hypervelocity particle, drag coefficient, virtual mass coefficient

ABSTRACT: The accuracy of determining the velocities and times of immersing a body (sphere) into water depends, to a significant degree, on the assumed values for the coefficients of apparent mass and the drag coefficients. Precise values for the apparent mass and drag coefficients can be determined by conducting special experiments, particularly for bodies traveling at hypercritical velocities and also in periods of unsteady motion. In the present work, methods of experimentally determining the apparent mass and drag coefficients of bodies immersed vertically in water are compared, with and without consideration of the intrinsic weight of the body. For precise experimental determination of the apparent mass and drag coefficients it is necessary to consider the intrinsic weight of the body; other-

Card 1/2

L 14728-65
ACCESSION NR: AP5000110

wise, the drag coefficients for two spheres having different mass densities will be different, which is contrary to the experimental conditions. Orig. art. has: 13 equations, 2 diagrams, and 1 table.

ASSOCIATION: Morsk*y gidrofiz*icheskiy inst*tut AN URSR (Naval Hydrophysics Institute, AN URSSR)

SUBMITTED: 30Jul63 ENCL: 00

SUB CODE: ME NO REF SOV: 003 OTHER: 002

Card 2/2

USPENSKIY, Ye.N.; KAZAKOV, S.P.

Use of a correlator in experimental studies of wind waves using continuous-strip photographic registration. Okeanologiia 4 no.5: 900-904 '64 (MIRA 18:1)

1. Morskoy gidrofizicheskiy institut AN UkrSSR.

KAZAKOV, S.P., inzh.

Hydraulic calculation of siphons. Vod. i san. tekh. no.7:11-14 Jl '55. (MIRA 18:8)

KON'KOV, Arkadiy Sergeyevich; RAYTSES, Veniamin Borisovich; GARYAYEV, P.I., inzh., retsenzent; KAZAKOV, S.S., inzh., retsenzent; TYAGUNOV, V.A., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Skill in forging] Masterstvo kuznetsa. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 350 p. (MIRA 14:1)

(Forging)

PETRENKO, P.V.; EL'KIN, I.L.; KAZAKOV, S.S.; VOZHIK, D.L.; DENISOV, V.V.; PUCHKOV, V.I.; BOGUTSKIY, N.V.; SAVEL'YEV, I.P.; KOLENTSEV, M.T.; MERKULOV, N.Ya.; VERKLOV, V.A.; OVSYANNIKOV, P.A.; SOSNOV, V.D., otv. red.; CHIZHOVA, V.V., otv.red.; ZHUKOVA, A.P., red.; LEVINA, T.I., red.; PRONINA, N.D., tekhn. red.; OVSEYENKO, V.G., tekhn. red.

[Practice of using cutterloaders]Opyt ispol'zovaniia ochistnykh kombainov; sbornik statei. Moskva, 1962. 102 p. (MIRA 16:2)

1. TSentral'nyy institut tekhnicheskoy informatsii ugol'noy promyshlennosti.
(Coal mining machinery)

SAMSONOV, Georgiy Nikiforovich; EL'KIN, Iosif Lazarevich; MERKULOV, Nikolay Yakovlevich; BOGUTSKIY, Nikolay Vasil'yevich; KAZAKOV, Stanislav Semenovich; IVANOV, Ivan Konstantinovich; ABRAMOV, V.I., inzh., otv. red.

[The K-52M (1K-52M) narrow-cut cutter-loader] Uzkozakhvatnyi kompleks K-52M (1K - 52M). Moskva, Nedra, 1964. 207 p. (MIRA 18:4)

[illegible], [illegible]

Peredovye [illegible] [illegible] [illegible]. Kratkii [illegible] [illegible] [illegible] [illegible] people of the collective [illegible] village; brief [illegible] bibliography]. [illegible], [illegible]. 40 p. (Gos. ordena Lenina b-ka SSSR im. V. I. Lenina).

SO: [illegible] List of [illegible] Accessions, Vol 7, No 4, July [illegible].

KAZAKOV, V.

Unforgettable minutes. Grazhd.av. 18 no.10:25 O '61. (MIRA 15:5)

(Space flight)

KAZAKOV, V., marshal artillerii, Geroy Sovetskogo Soyuza

Battle glory of artillerymen. Voen. znan. 38 no.11:6-7 N '62. (MIRA 15:11)
(Artillery)

KAZAKOV, V. (g.Dmitriyev, Kurskoy oblasti)

Damage locator. Radio no.9:50-51 S '60. (MIRA 13:10)
(Electric lines--Testing)

KAZAKOV, V.

The construction crew of the Kalinin Collective Farm works the year around. Sel'.stroi.11 no.2:6-7 F '56. (MLRA 9:7)

1.Nachal'nik otdela po stroitel'stvu v kolkhozakh Medvedevskogo rayona, Mariyskoy ASSR.
(Building)

IL'IN,S.S.; IL'IN,K.S.; KAZAKOV,V.A., redaktor; FUTORYAN,S.B., kandidat tekhnicheskikh nauk, redaktor; ZUDAKIN,I.M., tekhnicheskiy redaktor

[Our method of combining lathe operations in turning out spare parts] Nash metod kombinirovaniia operatsii pri tokarnoi obrabotke detalei. Pod red.V.A.Kazakova. Moskva, Gos.izd-vo obor.promysh., 1955.47 p. (Lathes) (MIRA 9:1)

PROSKURNYA, F.A., kand.tekhn.nauk; KAZAKOV, V.A.

Drawbar family of motortruck trains. Avt. prom. no.5:22-23 My '60. (MIRA 14:3)

(Automobile trains)

KAZAKOV, V. A.

USSR/Chemistry - Corrosion; Fuels

21 Sep 51

"Corrosion of Metals by Hydrocarbon Solutions of Fatty Acids," L. G. Gindin, V. A. Kazakov

"Dok Ak Nauk SSSR" Vol LXXX, No 3, pp 389-392

Studies the action of benzene, isooctane, and petroleum ether solns of acetic, propionic, butyric, valeric and caproic acids on magnesium, iron, and lead. The corrosive action of 0.5N solns of acetic to caproic acids in isooctane increases with mol wt but not evenly. The rate of corrosion depends nonlinearly on the concn of the acid, and this dependence varies from one metal to another, as illustrated by curves. 210T32

GUREVICH, G.P.; MALYUTINA, L.I.; KAZAKOV, V.A.

Hygienic evaluation of the air in Vladivostok. Trudy Vladivost. (MIRA 18:5)
no.2:222-227 '62.

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny.

KAZAKOV, V.

Horizon of a helicopter pilot. Grazhd.av. 20 no.4:10-11 Ap '63. (MIRA 16:5)
(Helicopters--Piloting)

Kazakov, V.A

28(2) P.2 PHASE I BOOK EXPLOITATION SOV/3254

Moscow. Vyssheye tekhnicheskoye uchilishche imeni Baumana.

Schetno-reshayushchiye pribory (Computers) Moscow, Mashgiz, 1959. 84 p. (Series: Its: Sbornik trudov, vyp. 82) 6,000 copies printed.

Ed.: S. O. Dobrogurskiy, Doctor of Technical Sciences, Professor; Ed. of Publishing House: A. L. Tairova; Tech. Ed.: A. F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Making (Mashgiz): N. V. Pokrovskiy, Engineer

PURPOSE: This collection of articles is intended for engineers, scientific personnel and students working in the field of computers.

COVERAGE: This is a collection of articles compiled by the department of computers at MVTU and devoted to analysis of computer components: diode circuits which perform mathematical operations; drive circuits with a servomotor in the form of a powder magnetic

Card 1/6

SOV/3254

Computers (Cont.)

clutch, with a mushroom-shape friction clutch and with a friction clutch of the Svetozarov system; investigation of a pulse tracking system and of the drifts occurring in a single-shaft gyrostabilizer. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Card 2/6

and, consequently, in low inertia. The author presents several schematic diagrams of various types of function generators and derives their equations according to functions of these generators (reproduction of a parabola, sine and cosine functions, multiplication of two independent variables, etc.). The author concludes that errors occurring in the operation of diode function generators are mostly errors of method and instrument errors.

Chetverikov, V. N. Candidate of Technical Sciences. Tracking Drives With Powder Magnetic Clutches 22

The author investigates the possibilities of developing drives with position control or with the rate of change of position or with both methods combined. A powder magnetic clutch was used as the actuating element. As setting elements, a potentiometer and a tachogenerator were used. From these a voltage proportional to the angle and speed of rotation of the flywheel is delivered as the input signal, from which a corresponding clutch velocity is

obtained. The author establishes equations for the system, determines its efficiency and investigates methods for its improvement.

Presnukhin, L. N. Doctor of Technical Sciences, Professor. Components of Semi-automatic Drives 29

The author describes various types of mechanical variable speed drives. Three types of friction mechanisms are described and the principles of their operation presented: the disk friction clutch, the mushroom-shaped friction clutch and the friction mechanism of Svetozarov. Characteristic equations and some specifications of these three types are presented.

Smirnov, Yu. M., Candidate of Technical Sciences. Investigation of Tracking Systems Operating Under Pulse Conditions 44

The author investigates the quality of performance of a semi-automatic tracking system with a manual drive. Assuming the linearity of the system and, consequently,

utilizing the superposition principle, the author finds optimum values of system parameters by comparing results obtained from the investigation of the three most characteristic features of the operation of tracking systems under pulse conditions. These features are: 1) effect of the initial error of the indicator device on the stability and quality of the tracking system. 2) distortion of the coordinate incoming on the system input by tracking errors and the determination of the accuracy of continuous adjustment of this coordinate. 3) effect of acceleration in the rate of change of the input coordinate on the value of the systematic error of adjustment. The results of investigation of these three cases permit making recommendations as to the selection of optimum values of the basic system parameters and particularly, of the optimum value of the time constant of the drive. This, in turn, permits calculating the function generator of the system according to the pulse sequence periods, which change within wide limits.

KAZAKOV, V A

16(1);28(2) PHASE I BOOK EXPLOITATION SOV/2349

Dobrogurskiy, Sergey Osipovich, Vyacheslav Antipovich Kazakov, and Viktor Konstantinovich Tutov

Schetno-reshayushchiye ustroystva (Computers) Moscow, Oborongiz, 1959. 463 p. Errata slip inserted. 20,000 copies printed.

Reviewer: N.I. Pchel'nikov, Doctor of Technical Sciences, Professor; Scientific Ed.: L.N. Presnukhin, Doctor of Technical Sciences, Professor; Ed. of Publishing House: M.F. Bogomolova; Tech. Ed.: V.P. Rozhin; Managing Ed.: A.I. Sokolov, Engineer.

PURPOSE: This book is approved by the Ministry of Higher Education, USSR, as a textbook for students in vtuzes.

COVERAGE: The book is divided into three parts. In the first part, written by Professor S.O. Dobrozurskiy, various mechanical calculator mechanisms such as friction and gear differential mechanisms are discussed in detail. Here the author stresses the structural peculiarities of the various mechanisms and the

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operations they perform. The author also discusses various characteristic components and the problems concerning them which are often encountered in the construction of calculators. Problems of accuracy in operation, the most important requirement any calculator has to meet, are accorded a significant place in the book. In the second part of the book, written by Docent V.A. Kazakov, a study is made of electric and electromechanical devices, i.e., potentiometers, rotary transformers, and various differentiating and integrating devices. The third part, written by V.K. Tutov, covers elements of servosystems, their fundamental static and dynamic characteristics, and the functions that they can perform. Among the types of servosystem elements studied are devices which determine the difference between two values, devices which handle the input signal, and devices which amplify the error signal. Among the error- measuring devices, a study is made of selsyns, while amplifiers are represented by electronic, thyratron, and magnetic amplifiers and amplidynes. Direct and alternating current motors which handle the input signal are considered last. No personalities are mentioned. References are given at the end of each of the three parts of the book.

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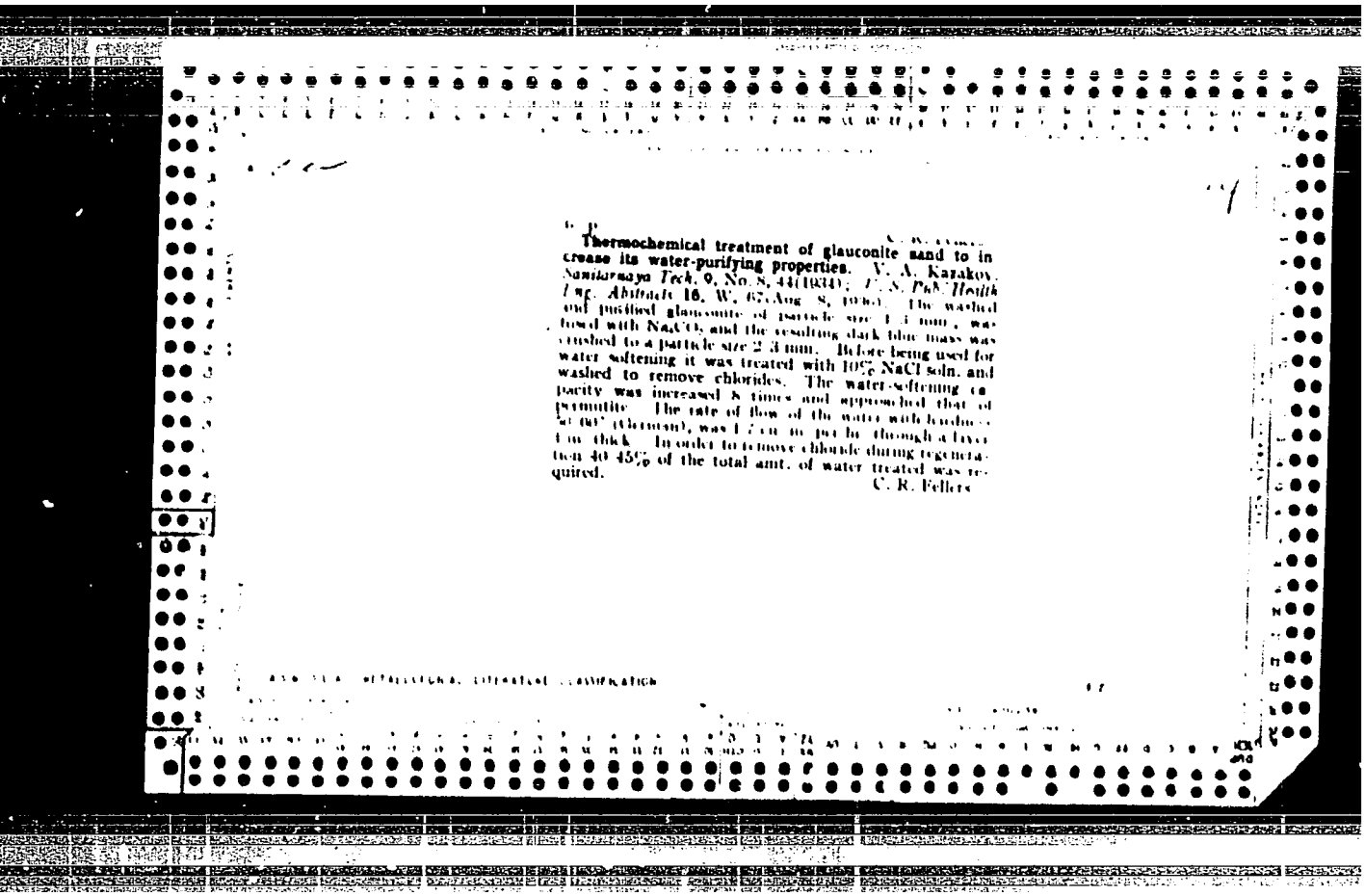

Thermochemical treatment of glauconite sand to increase its water-purifying properties. V. A. Karakov. *Sanitarnaya Tekh.* 9, No. 8, 44(1934); *J. S. Pub. Health Eng. Abstracts* 16, W. 67 (Aug. 8, 1936). The washed and purified glauconite of particle size 1.1 mm., was fused with NaOH, and the resulting dark blue mass was crushed to a particle size 2.3 mm. Before being used for water softening it was treated with 10% NaCl soln. and washed to remove chlorides. The water-softening capacity was increased 8 times and approached that of permutite. The rate of flow of the water with hardness 7° (German), was 1.2 cu. m. per hr. through a layer 1 m. thick. In order to remove chloride during regeneration 40-45% of the total amt. of water treated was required.

C. R. Fellers

[redacted], V. A.

USSR/Engineering
Salinometers
Hydraulic Machinery

Jan 1948

"Automatic Determination of High Saline Content by a Standard Salinometer With Small Measuring Capacity," A. F. Vinogradov, V. A. Kazakov, All-Union Sci Res Inst for Water Supply, Sewage, Hydrotech Construction and Engr Hydrology, 3 pp

"Zavod Labor" Vol XIV, No 1

Explains construction of a hydraulic apparatus for rapid determination of salt content of concentrated solutions. Apparatus needs further improvement before it is put to industrial use.

PA 61T34

1. KAZAKOV V.A., VARAZASHVILI G.S., ABELISHVILI G.V. Eng.

2. USSR (600)

4. Soil Percoation

7. Field method of determining the filtration coefficient of cohesiv soils, Gidr.stroi. 21 no.12, 1952.

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

KAZAKOV, V.A.

AID P - 2590

Subject : USSR/Hydraulic Engineering

Card 1/1 Pub. 35 - 13/20

Authors : Kovalenko-Kazantsev, G. I. and Kazakov, V. A., Engs.

Title : Operation of the drainage suction system lowering the level of underground water at construction sites

Periodical : Gidr stroi, 4, 38-39, Ap 1955

Abstract : Experiments made with a certain type of the pumping installation at the Gor'kiy Hydro-Power Plant construction project in 1953 are reported. The capacity of this LIU-3 type pump with a 210 kw motor is 60-70 cu m per hr. Two diagrams.

Institution : None

Submitted : No date

KAZAKOV, V.A.; KOVALENKO-KAZANTSEV, G.I.

Automatic light signals for controlling the operation of borehole filter pumping apparatus. Rats. i izobr. predl. v stroi. no.107:14-17 '55. (Automatic control) (Pumping machinery) (MLRA 9:7)

SOV/76-33-7-36/40

5(4)

AUTHORS: Shluger, M. A., Kazakov, V. A.

TITLE: The Effect of SO_4^{2-}-Ions on the Formation of a Cathodic Film in the Electrodeposition of Chromium

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1666 - 1667 (USSR)

ABSTRACT: The authors investigated the effect exerted by SO_4^{2-}-ions on the formation of metallic films in the electrolysis of chromic acid solutions. The electrodeposition of chromium was observed by means of an MKU-1—microcamera when light passed through. A pointed copper wire (0.3 mm thick) was used as a cathode, which had been coated with chromium before the experiment. The electrolysis took place at 20°, a current density of 50 a/dm^2, and a CrO_3-concentration of 250 g/l. The microfilm pictures obtained (Figs 1-3) showed that in the presence of SO_4^{2-}-ions a colloidal film round the cathode is formed by chromium deposition. A denser film is produced by increasing the concentration of SO_4^{2-}-ions. Accordingly, the experimental results obtained confirm the data of the article mentioned in reference 7, contrary to

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The Effect of SO_4^{2-}-Ions on the Formation of a Cathodic Film in the Electrodeposition of Chromium SOV/76-33-7-36/40

other data indicating that an addition of SO_4^{2-}-ions in the electrodeposition of chromium does not lead to a loosening but to the formation of a cathodic film. Thus, it is possible to explain several phenomena observed in the electrodeposition of chromium. There are 3 figures and 7 references, 6 of which are Soviet.

SUBMITTED: March 23, 1959

Card 2/2

SHLUGER, M.A.; KAZAKOV, V.A.

Microstudy of a cathodic process during the electrodeposition of chromium. Zhur.prikl.khim. 33 no.3:644-651 Mr '60. (MIRA 13:6)

(Chromium plating)

KAZAKOV, V. A., SIRYL, I. I., DVORETSKIY, A. S., SEREBRYAKOV, R. A.,
KOLESOV, I. V., SIKOLENKO, V. F., ORAVETS, Y., and FROLOV, N. S.

"Choice of Coordinates in Regard to the Entrance of Particles into an Emulsion Chamber (STuU-1),

Joint Institute of Nuclear Research, Dubna, USSR.

report submitted for the IAEA conf. on Nuclear Electronics, Belgrade, Yugoslavia 15-20 May 1961

5.2100,18.7400,5.1310

78223
SOV/80-33-3-24/47

AUTHORS: Shluger, M. A., Kazakov, V. A.

TITLE: Microinvestigation of Cathode Processes in Chromium Electroplating

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 644-651 (USSR)

ABSTRACT: This is the first of a series of studies on the mechanism of electrolytic precipitation of chromium. The cathodic processes occurring on reduction of chromic acid solution containing SO_4^{2-} were investigated in a model MKU-1 apparatus which allows visual study as well as taking still and motion pictures. The tip of a thin, chromium-covered copper needle was the cathode, and platinum wire was the anode. According to A. T. Vagranyan and D. N. Usachev (ZhFKh, 1958, Vol 32, p 1900), the polarization curve of the above reduction consists of a section (abcc) corresponding to the incomplete reduction of chromic

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acid ($Cr^{6+} \rightarrow Cr^{3+}$) and of section (e-d) which characterizes three simultaneous electrode reactions: (1) $Cr^{6+} \rightarrow Cr^{3+}$; (2) $H^{+} \rightarrow H$; and (3) $Cr^{6+} \rightarrow Cr$.

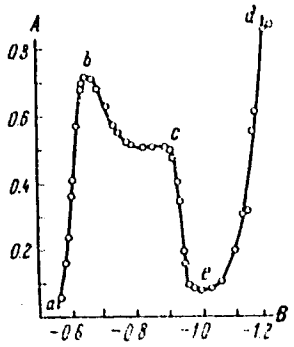

Fig. 1. Polarization curve of electrolytic deposition of chromium (according to A. T. Vagramyan and D. N. Usachev); (A) current (in ma); (B) potential (in v).

In the incomplete reduction range of potential (abce), a layer of electrolyte with a much smaller CrO_3 concentration (greater pH value) than the bulk of the electrolyte was formed around the cathode. Nascent hydrogen formed at the cathode, diffused through this layer, and reduced sesquivalent chromium to trivalent not only at the cathode but also at a considerable distance from it. In the higher potential value range (e-a), the pH increased to a value at which a colloidal film could form around the cathode. This cathodic film hampered the diffusion of hydrogen and facilitated the formation of hydrogen bubbles as well as the reduction of sesquivalent chromium to metallic chromium. The thickness and compactness of the cathodic film increased with the SO_4^{2-} content in the solution, with the current density, and with the lowering of the temperature of the electrolyte. Above the optimum concentration of SO_4^{2-}, however, the cathodic film became so dense that it inhibited the cathodic processes.

Microinvestigation of Cathode Processes in Chromium Electroplating

78823
SOV/80-33-3-24/47

In order to obtain bright chromium deposits, the temperature and current density must be adjusted accordingly. It was noted that thicker cathodic films gave a metastable hexagonal structure to the chromium deposit; thinner films gave stable body-centered cubic structure. There are 7 figures; and 14 references, 2 U.S., 12 Soviet. The U.S. references are: Sasaki, Sekito, Trans. Electrochem. Soc., 59, 437 (1931); C. A. Snavely, ibid., 92, 35 (1947).

SUBMITTED: June 4, 1959

Card 4/4

SHLUGER, M.A , RYABOY, A.Ya., KAZAKOV, V.A.

Internal stresses in chromium platings deposited from a tetra-chromate electrolyte. Zhur.prikl.khim. 33 no.5:1217-1218 My '60. (MIRA 13:7)

(Chromium plating) (Strains and stresses)

ACCESSION NR: AR4032164 S/0058/64/000/002/A039/A039

SOURCE: Ref. zh. Fiz., Abs. 2A337

AUTHORS: Dvoretskiy, A. S.; Kazakov, V. A.; Kolesov, I. V.; Oravets, Yu.; Sikolenko, V. F.; Skry*l', I. I.; Frolov, N. S.

TITLE: Installation for automatic registration of the coordinates of a particle entering a pellicle stack

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 4. M., Gosatomizdat, 1963, 15-27

TOPIC TAGS: high energy particle interaction, emulsion technique, electronic particle identification, particle trajectory recording, particle trajectory photography

TRANSLATION: An automatic installation is described, combining the emulsion technique for high-energy particle interactions and the

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ACCESSION NR: AR4032164

electronic method of identifying the particles. The installation can register the coordinates at which the required particles enter the pellicle stack with ±0.5 mm accuracy. It consists of a spark-counter telescope, a pellicle stack, a recording chamber, and electronic control blocks. The coordinates of the spark that develops along the track of the particle passing through the counters are photographed through an optical unit that produces pictures of two mutually-perpendicular projections of each spark on one frame of motion picture film. High accuracy in the determination of the coordinates is attained by precision construction of the optical and mechanical units of the installation, by selecting the optimum operating conditions of the spark-counter telescope, and by using a triggered-voltage pulse generator with low delay (not more than 0.25 μsec). The use of the insulation described yields a substantial gain in the time required to interpret the experimental data. L. I.

DATE ACQ: 31Mar64 SUB CODE: PH, SD ENCL: 00

Card 2/2

L 10783-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACC NR: AP6000008 SOURCE CODE: UR/0080/65/038/011/2595/2596

AUTHOR: Kazakov, V. A.; Kipin, A. I.; Martynova, L. S.

ORG: None

TITLE: Electrodeposition of chromium at high temperatures

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 11, 1965, 2595-2596

TOPIC TAGS: electrodeposition, chromium, electrolysis

ABSTRACT: The precipitation of chromium was carried out in an autoclave at 100°. Steel samples 6 x 6 mm were used as the cathode and platinum wire was used as the anode. One electrolyte was prepared from chromium anhydride and another was prepared from fluorine. In the latter case, the sulfuric acid was previously precipitated with barium carbonate. The anions were added as SO_4^{2-} and F^-. The experiments with the sulfate electrolyte were done in a glass vessel, and those with the fluorine-containing electrolyte were done in a platinum vessel. A figure shows the effect of the concentration of foreign anions, current density, and electrolysis temperature on the yield of chromium with respect to current. The concentration of chromium trioxide was 300 gram/liter in all cases. Results show that the electrolysis temperature has a great

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UDC: 621.357.9+546.76

Card 2/2

KAZAKOV, V.A.; LIPIN, A.I.; MARTYNOVA, L.S.

Chromium electrodeposition at high temperatures. Zhur.prikl.khim. 38 no.11:2595-2596 N '65. (MIRA 18:12)

1. Submitted November 10, 1963.

L 25813-66 EWT(d)/EWP(1) IJP(c) GG/BB

ACC NR: AM6008543 Monograph UR/ 58 B+1

Kazakov, Vyacheslav Antipovich

Computing devices of analog computers 160 (Vychislitel'nyye ustroystva mashin nepreryvnogo deystviya) Moscow, Izd-vo "Mashinostroyeniye", 1965. 427 p. illus., biblio. Textbook for students at institutions of higher learning specializing in mathematical and computing instruments and devices. Errata slip inserted. 9000 copies printed.

TOPIC TAGS: analog computer, computer component, potentiometer, pulse integrator, differentiating circuit, transistorized circuit, magnetic amplifier, function generator, adder, electron multiplier

PURPOSE AND COVERAGE: This textbook had been approved by the Ministry of Higher and Secondary Special Education USSR for students in schools of higher education taking special courses in "Mathematical and computing instruments and devices." It may also be of special interest to engineering, technical, and scientific workers concerned with the design and operation of analog computers. The book discusses the theoretical principles, calculation, and design of electromechanical and electronic analog computers. Computer construction and effective methods of plotting basic circuits to obtain various functional relations are also described. There are 71 references of which 66 are Soviet and 5 are non-Soviet.

Card 1/5 UDC 681.142.644

L 25813-66

ACC NR: AM6008543 O

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L 25813-66
ACC NR: AM6008543 O

SUB CODE: 09/ SUMB DATE: 070ct65/--65/ ORIG REF: 065/ OTH REF: 006

Card 5/5 dc

L 46049-66 EWT(d)/FSS-2 GD

ACC NR: AT6022349 SOURCE CODE: UR/0000/66/000/000/0079/0086

67
B+1

AUTHOR: Kazakov, V. A.

ORG: None

TITLE: Antinoise properties of a communications system with comparison

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya teorii i tekhniki peredachi diskretnykh signalov. Doklady. Moscow, 1966, 79-86

TOPIC TAGS: transponder, communication channel, data transmission, Gaussian distribution, signal reception, signal transmission, communication system

ABSTRACT: The basic characteristics of communications systems with comparison is the fact that the decision on reception or nonreception of a transmitted signal is made on the transmitting side of the system. The author considers the processes which take place in a communications system of this type with an unlimited number of repeated transmissions. It is assumed that signal energy and the dimensions of reception regions are independent of transmission multiplicity and the results of preceding transmissions. Formulas are derived for determining the probability of reliable reception [illegible]ing additive Gaussian noise with a given spectral density in the forward and re[illegible] channels. Analysis of the antinoise properties of communications systems with

Card 1/2

ACC NR: AT6022349

comparison shows that these systems have greater freedom from interference under optimum operating conditions than unidirectional communications systems. In theory, if the reverse channel of this type of system is idealized the results are better than for an interrogator-responder system. Orig. art. has: 3 figures, 11 formulas.

SUB CODE: 09/7/SUBM DATE: 09Apr66/ ORIG REF: 002

Card 2/2 XC

KAZAKOV, Vyacheslav Antipovich; SMOLOV, V.B., doktor tekhn. nauk prof., retsenzent; SAPOZHKOV, K.A., kand. tekhn. nauk, retsenzent; SANNIKOV, K.A., kand. tekhn. nauk retsenzent

[Calculating devices of analog computers] Vychislitel'nye ustroistva mashin nepreryvnogo deistviia. Moskva, Mashinostroenie, 1965. 427 p. (MIRA 18:12)

SOV/86-59-1-34/39

AUTHOR: Kazakov, V.B., Sen Lt

TITLE: A Computer Slide Rule for Helicopters (Vertoletnaya lineyka)

PERIODICAL: Vestnik vozdushnogo flota, 1959, Nr 1, pp 85-86 (USSR)

ABSTRACT: The article gives a description of a computer slide rule designed for the use of helicopter crews. The author states that the atmospheric conditions and other factors affect to a considerable degree the thrust of the Mi-4 helicopter rotor. High temperature of the outside air, high absolute humidity, poor wind conditions, and the location of some landing fields high above sea level decrease the thrust of the rotor and, consequently, the load capacity of a helicopter. The slide rule facilitates the necessary computations, and its skillful use by the crews makes it possible to find the maximum load a helicopter is capable of carrying (taking off and landing) under various conditions of flight. There is one diagram.

Card 1/1

KAZAKOV, V. D.

PHASE I BOOK EXPLOITATION SOV/6012

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Avtomaticheskoye regulirovaniye i upravleniye (Automatic Regulation and Control) Moscow, Izd-vo AN SSSR, 1962. 526 p. Errata slip inserted. 9000 copies printed.

Resp. Ed.: Ya. Z. Tsypkin, Professor, Doctor of Technical Sciences; Ed. of Publishing House: Ye. N. Grigor'yev; Tech. Ed.: I. N. Dorokhina.

PURPOSE: This book is intended for scientific research workers and engineers concerned with automation.

COVERAGE: The book is a collection of articles consisting of papers delivered at the 7th Conference of Junior Scientists of the Institute of Automation and Telemechanics, Academy of Sciences USSR, held in March 1960. A wide range of scientific and technical questions relating to automatic regulation and control is covered.

Card 1/12

The articles are organized in seven sections, including automatic control systems, automatic process control, computing and decision-making devices, automation components and devices, statistical methods in automation, theory of relay circuits and finite automatic systems, and automated electric drives. No personalities are mentioned. References are given at the end of each article.

TABLE OF CONTENTS:

KAZAKOV, V.D.

PHASE I BOOK EXPLOITATION SOV/4403

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Avtomaticheskoye upravleniye; [sbornik rabot] (Automatic Control; Collected Works) [Moscow] Izd-vo AN SSSR [1960] 431 p. Errata slip inserted. 5,500 copies printed.

Ed.: Ya.Z. Tsypkin, Doctor of Technical Sciences, Professor; Ed. of Publishing House: Ya.N. Grigor'yev; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of reports is intended for scientists and engineers engaged in the study of automation.

COVERAGE: The collection contains reports presented at the 6th Conference of Young Scientists of the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics of the Academy of Sciences USSR) in January 1959. The collection covers a wide range of scientific and technical problems connected with automatic control. No personalities are mentioned. References accompany each report.

Kovanskiy, G.Ya., and L.A. Tal'kanis. Evaluation of Accuracy of Presentation of a Random Function by the Finite Segment of a Canonical Series 307

The authors consider existing methods of evaluating the dispersion at the output of automatic control systems to be too complex for engineering calculations. They suggest the use of random functions in their canonical formulation for the statistical analysis of such systems. In this case standard electronic analog computers with simple additional equipment can be used successfully for evaluating the accuracy of the presentation of a random function by the finite segment of a canonical series. There are 3 references, all Soviet.

Chugin, Yu.I. Noise Immunity of a Single-Channel Frequency Telemetering System During Strong Fluctuation Noise 312

The author determines the noise immunity of a single-channel frequency telemetering system in the case of very strong and relatively strong noise when $0 < \alpha < 1$, where $\alpha = \left(\frac{V_s}{V_n}\right)^2$, or equals the ratio of the square of signal voltage to the square of the average noise voltage at the output of the input filter. There are 2 references: 1 Soviet, and 1 English.

PART V. THEORY OF RELAY-ACTION

Didenko, V.P. Concerning a Synthesis Method of Nonrepeated Switching Circuits 320

The author describes a method of synthesis of nonrepeated switching circuits which is based on simultaneous short-circuiting elements connected in series at separate steps of the synthesis. The process is divided into two parts. The first part examines the problem of determining parallel, series, and bridge subcircuits according to the given function, while the second part describes the method of synthesis. There are 7 references, all Soviet.

Kazakov, V.D. Determination of the Maximum Number of Simple Implications in the Arbitrary Logical Function of "n" Variables 330

The author discusses the better known methods of minimization of logical functions in which the minimum equivalents of the given functions in disjunctive normal form consist of a certain number of simple implications of basic functions. When determining the minimum equivalents, it is necessary to take into account the maximum number of simple implications which may appear in any arbitrarily taken function of "n" variables. The memory of a minimizing device is based on such a maximum number. This report describes the comparatively simple method of calculating the maximum number of simple implications and gives algebraic formulas for an approximate determination of that number. There is 1 English reference.

KAZAKOV, V. D.

"The Form of Minimum Symmetric Boolean Functions With Any Number of Variables."

"The Realization of Boolean Functions with n Variables on Contactless Logical Switches by Means of the Method of Supplement to a Definition," (with V.V. Naumchenko)

Papers presented at:

Seventh Scientific and Technical Conference of Young Scientists of the Institute of Automation and Telemechanics of the AS USSR. March 14-16 1960.

S/044/62/000/006/001/127
B112/B104

AUTHOR: Kazakov, V. D.

TITLE: Determination of the maximum number of simple implicants of an arbitrary logical function of n variables

PERIODICAL: Referativnyy zhurnal. Matematika, no. 6, 1962, 9, abstract 6A59 (Sb. "Avtomat. upravleniye". M., AN SSSR, 1960, 330-338)

TEXT: A method is described for setting up functions of the algebra of logic with a large number of simple implicants (i. e., very complex reduced disjunctive normal forms (d. n. f.)). This method makes it possible to set up functions of n arguments, having a number of terms of the order of $3^n/n$ in the reduced d. n. f. [Abstracter's note: The author's statement that the above-mentioned method makes it possible to obtain functions maximally composite (with respect to the number of terms in the reduced d. n. f.) and a formula expressing this maximum number cannot be regarded as proved.] [Abstracter's note: Complete translation.]

Card 1/1

GADZHIYEV, M.Yu.; GUL'KO, F.B.; DZHELYALOV, A.R.; DUDNIKOV, Ye.Ye.; KAZAKOV, V.D.; LITOVCHENKO, I.A.; NORKIN, K.B.; PROKHOROV, N.L.

Seventh conference of young scientists of the Institute of Automatic and Remote Control of the Academy of Sciences of the U.S.S.R. Avtom. i telem. 21 no.9:1326-1331 S '60. (MIRA 13:10)
(Automatic control--Congresses)

KAZAKOV, V.D.; KUZNETSOV, O.P.

List of foreign literature on relay devices and finite automata for 1958. Avtom. i telem. 21 no.9:1332-1338 S '60. (MIRA 13:10)

(Bibliography--Automatic control)

KAZAKOV, V.D.; KUZNETSOV, O.P.

List of Russian works on the theory of switching circuits and finite automata for 1959. Avtom. i telem. 22 no.2:275-277 F '61. (MIRA 14:4)

(Bibliography--Automatic control)
(Bibliography--Switching theory)

S/103/62/023/009/005/007
D201/D308

AUTHOR: Kazakov, V. D. (Moscow)

TITLE: Minimization of logic functions of a great number of variables

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 9, 1962, 1237-1242

TEXT: The author considers the algorithm of minimization of logic functions which are incompletely specified in the sense as given by P. Roth (Minimization over Boolean Trees, IBM J. Research and Development, no. 5, 1960). The algorithm consists of determining not the truly minimal, but "adequately" good non-redundant expressions of functions H_i ($H_i \subset M_N$), where M_N is the set of all functions H_i such that $F \longrightarrow H_i$ and $H_j \longrightarrow G$, where F and G are given logic functions and $F \longrightarrow G$. With the aid of either specialized or universal computers the algorithm makes it possible to determine nearly minimum expressions of functions of up to 20 variables. The

Minimization of logic ...

algorithm is used for the approximate evaluation of the number of basic steps when minimizing a function of n variables. There is 1 table.

SUBMITTED: January 11, 1962

Card 2/2

KAZAKOV, V. D.

"Algorithms of finding the absolute minimal expressions for a logical funtion"

report submitted for the Intl. Symposium on Relay Systems and Finite Automata Theory (IFAC), Moscow, 24 Sep-2 Oct 1962.

KAZAKOV, V. D. (Moskva)

Minimization of the logical functions of a great number of variables. Avtom. i telem. 23 no.9:1237-1242 S '62. (MIRA 15:10)

(Functions of several variables)

44826

S/044/63/000/001/046/053
A060/A000

AUTHOR: Kazakov, V. D.

TITLE: Minimal forms of symmetric boolean functions of an arbitrary number of variables

PERIODICAL: Referativnyy zhurnal, Matematika, no. 1, 1963, 33, abstract 1V144 (In collection: "Avtomat. regulirovaniye i upr.", Moscow, AN SSSR, 1962, 468 - 473)

TEXT: By $B_n(a_i, a_j)$ we shall denote a set of non-repeating elementary products so that there is at least one product whose positive part (variables without negation) corresponds to some arbitrary combination of n elements from a_i, and at least one product whose negative part corresponds to an arbitrary combination of n elements from a_j. Theorem: The minimal form of a symmetric function is given by one of the possible minimal representations min $B_n(a_i, a_j)$ of the sets $B_n(a_i, a_j)$, where the number of the elements of the sets min $B_n(a_i, a_j)$ is equal to $\max [c_n^{a_i}, c_n^{a_j}]$. If $c_n^{a_i} \neq c_n^{a_j}$ then the minimal form is not uniquely determined. The lower bound is cited for the estimate of the maximal number

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Minimal forms of symmetric...

K^n_{max} of minimal forms. This number increases very steeply. For example, $K^5_{max} = 704$, $K^6_{max} \geq 26624$.

R. G. Bukharayev

[Abstracter's note: Complete translation]

KAZAKOV, V.D.; KUZNETSOV, O.P.

List of foreign literature on the theory of switching devices and finite automata for 1959-1960. Avtom. i telem. 24 no.5: 699-712 My '63. (MIRA 16:6)

(Bibliography—Switching theory)
(Bibliography—Automatic control)
(Bibliography—Electric relays)

KAZAKOV, V.D.

International symposium on the theory of switching devices and finite automata. Avtom. i telem. 24 no.6:856-858 Je '63. (MIRA 16:7)

(Automatic control--Congresses)
(Switching theory--Automatic control)

ACCESSION NR: AT4031769 S/0000/63/000/000/0163/0169

AUTHOR: Kazakov, V. D.

TITLE: Minimization of Boolean functions with consideration of the operation of removal from parentheses

SOURCE: AN SSSR. Strukturnaya teoriya releyny*kh ustroystv (Structural theory of relay devices). Moscow, Izd-vo AN SSSR, 1963, 163-169

TOPIC TAGS: control system, automatic control, relay, Boolean function, minimization, Boolean function minimization

ABSTRACT: The author notes, by way of introduction, that the classically derived minimal expressions of Boolean functions of the type sp or ps are not, in the majority of cases, genuinely minimal, since the application to such expressions of the laws $Ax + Bx = (A + B)x$ and $(A + x)(B + x) = AB + x$ makes it possible to shorten them. As a result, expressions of a more complex form are obtained: sps... and psp. Since their writing includes parentheses, such expressions have become known as parenthetical expressions. Referring to the work of Abhankar (Minimal 'Sum of products of Sums" expressions of Boolean functions. IRE Trans., v. EC - 7, no. 4, p. 268-276, 1958), the author calls attention to the problem of finding new regular methods of minimization, which will make it possible to find absolutely minimal

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ACCESSION NR: AT4031769

expressions of arbitrary Boolean functions. In the present paper, a short description is given of possible algorithms for finding absolutely minimal expressions of given Boolean functions along with an approximate estimation of the number of elementary operations necessary to achieve absolutely minimal expressions of functions at a given number of variable n. The result obtained permits the assertion that it is practically impossible to find absolutely minimal expressions when $n \geqslant 4$ and, thus, directs attention to another problem — that of the parenthesis treatment of minimal sp- and ps-expressions. In the first part of the article, basic definitions are introduced and the statement of the problem is formulated. The problem is stated by the author in the following terms: find an algorithm which will make it possible to discover Z(f) of a given function f. In this connection, it is pointed out that the widely-used designation of this problem — finding minimal parenthetical expressions of a given Boolean function — is inexact, since there may be z(f), the writing of which does not involve parentheses (for example, $x_1 + x_2$ or $x_1 + x_2x_3$, etc.) and, conversely, the presence of parentheses even in a minimal ps-expression by no means guarantees that there will not be found a z(f) among expressions of a more complex form. In the author's treatment of the problem, the finding of Z(f), Zsp(f) and Zps(f) requires the use of two fundamental operations: (a) finding the items of the given function; that is, such g_i that

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ACCESSION NR: AT4031769

$\sum g_i \sim f$, where f is a given function; (b) finding the cofactors of the given functions; that is, such as hi that $\prod h_i \sim f$, where f is a given function. The author then proceeds to find the minimal expressions, the form of which is written by means of a finite number of symbols s and p. After this, Z(f) is derived. The article concludes with an estimate of the number of elementary operations required to discover Z(f) for an arbitrary Boolean function and variables. By "elementary" the author understands here a comparison for "equivalence" and Boolean addition. It is noted that the analysis, necessary in order to derive the Z(f) of Boolean functions of more than three variables, is practically impossible, even with the help of computers. Orig. art. has: numerous formulas.

ASSOCIATION: none

SUBMITTED: 14Nov63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: IE, MA NO REF SOV: 003 OTHER: 004

Card 3/3

KAZAKOV, V.E.

Increased pipe production at the Karl Libknekht Plant.
Stal' 22 no.7:585-586 Jl '62. (MIRA 15:7)

1. Direktor Truboprokatnogo zavoda imeni K. Libknekhta.
(Nizhnedneprovsk—Pipe mills)

VATKIN, Ya.L., doktor tekhn. nauk; CHERNYAVSKIY, A.A., kand. tekhn. nauk; KAZAKOV, V.E., inzh.; GLIKIN, M.P., inzh.; PERCHANIK, V.V., inzh.; KHANIN, M.I., inzh.; BIBA, V.I., inzh.

Reducing internal laps in tube rolling on Pilgrim mills. Stal' 24 no.1:63-67 Ja '64. (MIRA 17:2)

1. Dnepropetrovskiy metallurgicheskiy institut i zavod im. Libknekhta.

KAZAKOV, V.F.

Health resort facilities of the Chelcken Peninsula. Izv.AN Turk. SSR.Ser.biol.nauk no.4:3-9 '62. (MIRA 15:9)

1. TSentral'naya kompleksnaya tematicheskaya ekspeditsiya Upravleniye geologii i okhrany nedr pri Sovete Ministrov Turkmenskoy SSR.
(CHELEKEN PENINSULA--HEALTH RESORTS, WATERING PLACES, ETC.)

S/795/62/000/000/002/007

AUTHOR: Kazakov, V. F.

TITLE: On certain laws governing high-speed envelopment grinding.

SOURCE: Vysokoproizvoditel'noye shlifovaniye. Ed. by Ye. N. Maslov. Kom. po tekh. mashinostr. In-t mashinoved. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 112-123.

TEXT: The paper contains a proposal by the author for high-speed grinding by means of the inner surface of a grinding wheel completely enveloped and held by a circular metal holder, and reports an experimental investigation of the newly proposed method. The purpose of the proposal and of the investigation is to overcome the problem currently engendered by centrifugal forces in the achievement of ever-increasing grinding speeds. The author proposes a new method, which he terms "envelopment grinding," in which the centrifugal forces arising during the high-speed rotation of the grinding wheel serve to strengthen it, instead of weakening it. The grinding wheel is completely enveloped and held by a strong metallic holder and is attached to the face of the holder by a metallic retainer ring. The actual grinding function is performed by the inner surface of the grinding wheel, so that the part to be ground touches the inner surface of the grinding wheel with its own outer surface.

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The drive of the part may be central or centerless. The grinding disk may consist of a single ring or of partial segments. Envelopment grinding is especially suitable for short parts that can be cantilever-held on the machine, for example, for the grinding of the races of rolling-contact-type bearings. Grinding speeds of up to 115 m/sec can be performed safely with ordinary grinding disks, and up to 135 m/sec with high-strength grinding disks. The holders tested were made of Dural and were designed for a safety factor of 6 at a speed of 120 m/sec. Thus, the subject method permits cutting speeds that are 3.5-5 times as high as those currently achievable with ordinary disks and 2.5-3 times as high as those achievable with high-strength-high-speed disks. Other advantages are: (1) The actual contact between grinding disk and part is increased by 2-3.5 times, and (2) the additional gain in contact length (some 15%) obtained in in-cut grinding as against out-cut grinding, can be utilized to obtain the best possible results by in-cut grinding. The investigation was performed by means of a study of the furrows cut by an individual grinding grain (cross-section of special equipment shown). The investigation proved the superiority of high-speed grinding over grinding at lower speeds in which the individual groove profiles vary along their length. In most instances a direct comparison between the high-speed envelopment grinding and ordinary grinding at the max. achievable speeds is set forth. Maximum grinding rate of 460 mm^3/min per mm of operative width of the grinding disk was achieved without any sacrifice in quality. This

maximum was conditioned by the capabilities of the machine and not by the cutting method itself. The improvement of the cooling conditions in the new method and the fact that the local failure of the metal, which is ground off at high speeds, occurs with much smaller plastic deformation and, hence, a smaller rejection of heat, reduces the danger of the formation of hot spots on the surface subjected to grinding. As the grinding disk in an envelopment-type grinder wears down, its working diam increases and so does the grinding speed. Thus, the quality of grinding improves further; this constitutes a further advantage of the envelopment-type grinder. The theoretical and experimental data obtained here should justify the prompt introduction of high-speed envelopment-type grinding into the production of rolling-contact bearings and wherever high-speed grinding by ordinary means has attained the limit of its potentialities. There are 7 figures and 7 Russian-language Soviet references.

KAZAKOV, V.F.

Ooze of the Uzboy Valley and volcanic muds of the eastern Caspian coast. Izv. AN Turk. SSR. Ser. biol. nauk no.2:64-70 '64.
(MIRA 17:6)

1. TSentral'naya kompleksnaya tematicheskaya ekspeditsiya Upravleniya geologii i okhrany nedr pri Turkmenskoy SSR.

KAZAKOV, V.F.; SEDLETSKIY, V.I.; SOKOLOVSKIY, L.G.

Underground waters of the Gaudak-Kugitang region. Izv. AN Turk. SSR.Ser. fiz.-tekh., khim. i geol.nauk no.6:87-93 '63.
(MIRA 18:1)

1. TSentral'naya kompleksnaya tematicheskaya ekspeditsiya Upravleniya geologii i okhrany nedr pri Sovete Ministrov Turkmenskoy SSR.

ERVAYS, A.V.; YUDIN, M.F.; RYSTSOVA, V.S.; VOLODIN, Ye.I.; KAZAKOV, V.F.

Reactions to P.E.D'iachenko's article concerning the preparation of smooth surface samples. Stan.i instr. 24 no.11:17-19 N '53. (MLRA 6:12

1. Byuro vsaimozamenyayemosti moto-mekhanizirovannogo soyedineniya (for Ervays). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut meteorologii im. Mendeleyeva (for Yudin). 3. Leningradskiy isntitut ekonomicheskikh issledovaniy im. V.N.Molotova (for Rystsova). 4. KhGIMIL i KharNITOMASh (for Kazakov).

(Surfaces (Technology))

KAZAKOV, V.F.

Device for measuring the radius of rounded shapes. Stan.i instr. 24 no.11: 32 N '53. (MLRA 6:12)
(Gauges)

KAZAKOV, V.F., kandidat tekhnicheskikh nauk.

Remarks on the State Standard for merchandise weight. Standartizatsiia no.4:68-69 Jl-Ag '54. (MLRA 8:2)
(Weight and measures--Standards)

KAZAKOV, V. F.

USSR/Engineering - Laps

Card 1/1 : Pub. 12 - 11/16

Authors : Kazakov, V. F.

Title : Working of abrasive laps for lapping cylindrical surfaces

Periodical : Avt. trakt. prom. 8, 30-31, Aug 1954

Abstract : The process of preparing and working abrasive and steel laps for lapping cylindrical surfaces is described. Specifications for laps and type of materials used are given, together with work methods. Drawings.

Institution : .....

Submitted : .....

L 11266-65 EWP(1)/EWT(m)/T/EWP(t)/EEC(b)-2/EWP(b) IJP(c)/ASD(a)-5/AFWL/ESD(t)/ASD(f)-2/ASD(dp) JD/GG

ACCESSION NR: AP4046054 S/0070/64/009/005/0758/0759

AUTHORS: Buravikhin, V. A.; Kazakov, V. G.

TITLE: Effect of elastic stresses on the polarity of the boundaries of ferromagnetic films

SOURCE: Kristallografiya, v. 9, no. 5, 1964, 758-759

TOPIC TAGS: ferromagnetic film, domain structure, thin film, elastic stress, domain boundary

ABSTRACT: Thin ferromagnetic films of composition 25% Fe and 75% Ni, obtained by thermal evaporation in a vacuum of $\sim 10^{-5}$ mm Hg on organic substrates heated to 75C were tested under elastic tension produced by a special mechanism. The results show that application of a horizontal tension force to the film with the substrate, and further increase in the force, leads to a change in the polarity of the domain boundaries. After a certain relatively low load, powder

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patterns show a certain intensification of a strongly pronounced domain boundary. Further increase in the load blurs the boundary somewhat, even if the applied magnetic field does not change in either magnitude or direction. A tension load equal to 180 grams reverses the polarity of the boundaries. The polarity of the interdomain boundaries has the same variation under load and without load. The conditions under which polarity reversal took place under various values of the field and for various tensions are reported briefly, as is the effect of the angle between the tension line and the easy magnetization axis. It is concluded that the accompanying change in the domain structure does not necessarily lead to a change in the prior polarity of the boundaries. Orig. art. has: 3 figures.

ASSOCIATION: Irkut*skiy gosudarstvenny*y pedagogicheskiy institut (Irkut*sk State Pedagogical Institute)

SUBMITTED: 13Apr64 ENCL: 00

L 11266-65
ACCESSION NR: AP4046054

SUB CODE: SS NR REF SOV: 001 OTHER: 000

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L 31322-65 EWT(l)/EWT(m)/EWP(w)/EPR/T/EWP(t)/EEC(b)-2/EWP(b) Pad IJP(c) JD/
ACCESSION NR: AP5004264 S/0126/65/019/001/0045/0051 HW/EM/GD

AUTHOR: Buravikhin, V. A.; Kazakov, V. G.

TITLE: The effect of elastic stress on the domain structure of thin ferromagnetic films

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 1, 1965, 45-51

TOPIC TAGS: elastic stress, domain structure, ferromagnetic film, magnetic field, light magnetization, dynamometer, stretched film, Permalloy film, demagnetization, nickel alloy

ABSTRACT: This article reports the results of an investigation into the effect of elastic stresses on the domain structure of thin ferromagnetic films of an alloy consisting of 25% iron and 75% nickel. It has been shown that the appearance of the powder figures, the initial magnetic structure and the direction of the film stretch are changed under the influence of elastic stresses. Some of the results obtained may be qualitatively explained by the fact that the areas of the film in which the limiting energy is at a minimum are redistributed under the influence of elastic stresses, and the direction of the slight magnetization axis turns

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toward the direction of the applied load. The eventual diminution of the load does not restore the domain structure to its initial appearance. The domain structure of a film in an unstretched state completely disappears in a field of 20 oersteds; in case of an elastic stress equalling 50 grams, the domain structure of such a film in a similar field remains unchanged. Orig. art. has: 5 figures.

ASSOCIATION: Irkutskiy pedagogicheskiy institut (Irkutsk pedagogical institute)

SUBMITTED: 11Feb64 ENCL: 00 SUB CODE: MM, EM

NO REF SOV: 002 OTHER: 008

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L 00972-65 EWT(l)/EPA(s)-2/EWT(m)/EWP(i)/EWP(t)/EWP(z)/EWP(b) Pz-6/Pq-4 JD/JG

ACCESSION NR: AP5011452 UR/0048/65/029/004/0655/0658

AUTHOR: Buravikhin, V.A.; Kazakov, V.G.

TITLE: On the polarity of domain walls in ferromagnetic films /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 655-658

TOPIC TAGS: ferromagnetic thin film, domain structure, permalloy, magnetic property

ABSTRACT: The work was concerned with the polarity behavior of the domain walls in ferromagnetic films of 25% Fe + 75% Ni, an alloy with positive magnetostriction [illegible] Fe + 64% Ni, an alloy with negative magnetostriction under the [illegible] mechanical stress. The films were deposited by vacuum evaporation [illegible] ethyleneterephthalate substrates heated to 75°C. The films were deposited [illegible] field of 50 Oe, the dimensions of the films were 30 x 5 x [illegible] mm. [illegible] stressed in tension by clamping one end of the substrate and pulling [illegible] means of a micrometric screw through a load indicator. The film thicknesses were

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ACCESSION NR: AP5011452

measured optically. The structure was observed by the powder pattern technique, using an MBI-6 microscope. Several series of domain photographs of stressed films in a field normal to the plane of the film are reproduced in the text. The various changes in wall polarity evinced under different conditions are described and discussed. Orig. art. has: 5 figures (series of domain photographs).

ASSOCIATION: Irkutskiy gosudarstvennyy pedagogicheskiy institut (Irkutsk State Pedagogical Institute)

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

NR REF SOV: 000 OTHER: 000

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L 50952-65 EWT(1)/EPA(s)-2/EWT(m)/EWP(1)/EWA(d)/T/EWP(t)/EWG(b)-2/EWP(z)/EWP(b)
Pad/Pt-7/Pi-4 IJP(c) JD/HW/GO
ACCESSION NR: AP5011453 UR/0048/65/029/004/0659/0662

AUTHOR: Buravikhin, V.A.; Kazakov, V.G.; Popov, V.I.

TITLE: Influence of elastic stress on the coercive force and hysteresis loops of ferromagnetic films [Report, Second All-Union Symposium on the Physics of Ferromagnetic Films held in Irkutsk 10-15 July 1964]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 659-662

TOPIC TAGS: ferromagnetic thin film, hysteresis loop, permalloy, magnetic property

ABSTRACT: The work was concerned with the effects of elastic stress on the coercive force H_c, the anisotropy field H_k and the shape of the hysteresis loop of thin films of three Permalloys: 25% Fe + 75% Ni; 10% Fe + 90% Ni and 17% Fe + 83% Ni. The films were prepared by vacuum (10^{-5} torr) evaporation of the initial material onto polyethyleneterephthalate substrates heated to 75°C, mounted in a 100 Oe field. The film dimensions were 40 x 5 x 0.01 mm. The films were suspended vertically, clamped at one end and subjected to tension (with the substrate) by means of a screw device equipped with a load indicator. The film thickness was determined optically; the value of H_k was evaluated by procedure described by

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ACCESSION NR: AP5011453

E.M.Bradley and M.J.Prutton (J. Electr. & Control, 6, 81, 1959), and A.J.Kolk and J.T.Doherty (Datamation, 5, 8, 1959). The results are presented in the form of a series of oscillographic hysteresis loops and curves of H_c and H_k versus load, and are described - with little discussion - primarily with reference to the figures. The behavior of the different films under load differs, for the investigated films were characterized by different values of magnetostriction. Upon application of a load H_k increases, slowly for films with zero magnetostriction and rapidly for films with negative magnetostriction. Under stress H_c decreases slightly and then levels off for films with zero magnetostriction and increases gradually for films with positive magnetostriction. The behavior also depends on the angle between the load and the easy direction. Orig. art. has: 5 figures.

ASSOCIATION: Irkutskiy gosudarstvennyy pedagogicheskiy institut (Irkutsk State Pedagogical Institute)

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

NR REF SOV: 002 OTHER: 002

Card 2/2

L 50082-65 EWT(l)/EPA(s)-2/EWT(m)/EWP(i)/EWP(j)/EWP(t)/EWP(s)/EWP(b) Pad/Pt-7
IJP(c) JD/EW/GG/RM

ACCESSION NR: AP5011454 UR/0048/65/029/004/0663/0667

AUTHOR: Kazakov, V. G.

TITLE: Variation of the domain structure of ferromagnetic films under the influence of elastic stresses /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 663-667

TOPIC TAGS: ferromagnetic thin film, permalloy, domain structure, magnetic property

ABSTRACT: In continuation of the cycle of studies at Irkutsk State Pedagogical Institute (see ACCESSION NRS. AP5011452 & 3), in the present work there were investigated the changes in domain structure in 75% Ni + 25% Fe and 90% Ni + 10% Fe Permalloy films under the action of stress. The 75% Ni films are characterized by positive magnetostriction; the 90% Ni films, by negative magnetostriction. As usual, the films were deposited by thermal evaporation onto polyethyleneterephthalate substrates, and stressed together with the plastic substrate in different directions relative to the easy axis. The domain structure was observed by means of

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L 50982-65

ACCESSION NR: AP5011454

powder patterns. Four series of domain patterns are reproduced in the text. The results of the observations are described for the different films. Note is made of the change in appearance under load of domain walls with cross ties. The character of the changes in domain structure depends on the type of strain, the magnitude of the load, the direction of the tensile stress relative to the easy axis and the sign of the magnetostriction. In general, in films with positive magnetostriction incident to elongation the magnetization vectors in the domains tend to turn towards the line of elongation, while in films with negative magnetostriction the vectors tend to rotate to an angle of 90° to the elongation direction; that is, films with negative magnetostriction behave under tensile stress much as films with positive magnetostriction behave under compressive stress. Orig. art. has: 4 figures.

ASSOCIATION: Irkutskiy gosudarstvennyy pedagogicheskiy institut (Irkutsk State Pedagogical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: EM, SS

NR REF SOV: 004 OTHER: 001

Card 2/2

L 60983-65 EWT(1)/EPA(e)-2/EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EEC(b)-2/EWP(z)/EWP(b)
Pad/Pt-7/Pi-4 IJP(c) JD/HW/GG

ACCESSION NR: AP5011455 UR/0048/65/029/004/0668/0672

AUTHOR: Buravikhin, V. A.; Kazakov, V. G.

TITLE: Effect of elastic stress on magnetization and magnetization reversal processes in ferromagnetic films /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1964, 668-672

TOPIC TAGS: ferromagnetic thin film, permalloy, hysteresis loop, domain structure

ABSTRACT: In continuation of the cycle of studies at Irkutsk State Pedagogical Institute (see ACCESSION NR3. AP5011452, 3 & 4), in the present work there were investigated the variations in domain structure in 75% Ni + 25% Fe films of different thickness (and some 90% Ni + 10% Fe films) in the process of magnetization and magnetization reversal while under tensile stress (elongation). The 75% Ni alloy is characterized by positive magnetostriction (the 90% Ni alloy, by negative magnetostriction). The films were prepared by vacuum evaporation onto polyethyleneterephthalate substrates and stressed in tension at different angles to the easy direction together with the substrate. The domain structure was observed

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L 50983-65

ACCESSION NR: AP5011455

by the powder pattern technique. Seven series of powder pattern micrographs are reproduced. The changes evinced in the structure are described. In general, the value of the critical field required to initiate changes in the domain structure (i.e., start reversal) increased with increase of the tensile load. Orig. art. has: 7 figures.

ASSOCIATION: Irkutskiy gosudarstvennyy pedagogicheskiy institut (Irkutsk State Pedagogical Institute)

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

NR REF SOV: 000 OTHER: 000

Card 2/2

KAZAKOV, V. I.

KAZAKOV, V. I.: "On the problem of calculating bridge foundations". Moscow, 1955. Min Higher Education USSR. Moscow Order of Labor Red Banner Construction Engineering Inst imeni V. V. Kuybyshev. (Dissertation for the Degree of Candidate of TECHNICAL SCIENCES)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

Kazakov, V.I.

PHASE I BOOK EXPLOITATION SOV/3509

Sbornik radiokhimicheskikh i dozimetricheskikh metodik (Collection of Radio-Chemical and Dosimetric Methods) Moscow, Medgiz, 1959. 489 p. Errata slip inserted. 9,000 copies printed.

Eds. (Title page): N.G. Gusev, U.Ya. Margulis, A.N. Marey, N.Yu. Tarasenko, Yu.M. Shtukkenberg; Ed. (Inside book): V.I. Labaznov; Tech. Ed.: A.I. Zakharova.

PURPOSE: This collection of articles is intended for physicians, sanitation and public health doctors, chemists and other specialists working in radioactive dosimetry.

COVERAGE: This work discusses the following subjects: (1) principles of organizing sanitation and dosimetric control in institutions where work is carried on with radioactive substances; (2) radio-chemical and chemical methods for determining certain radioactive substances in samples of air, water, soil and foodstuffs; (3) physical methods of measuring contamination of the air by radioactive gases and aerosols, and methods for determining the level of contamination of working surfaces, clothes and leather coverings; (4) methods of measuring external streams of x- and gamma-radiation, and methods of individual dosimetric monitoring; (5) Absolute and relative methods of measuring the activity of solid and liquid radioactive sources. There are four appendixes dealing with methods of calculating the total dosage from sources of ionizing radiation, units of activity, and doses from natural (background) radioactivity in the calcium of foodstuffs. Sanitary regulations observed during transportation, storage, and handling of radioactive substances are discussed, as well as the permissible level of ionizing radiation. The editors thank Yu.V. Sivintsev and D.P. Shirshov. References appear at the end of each chapter.

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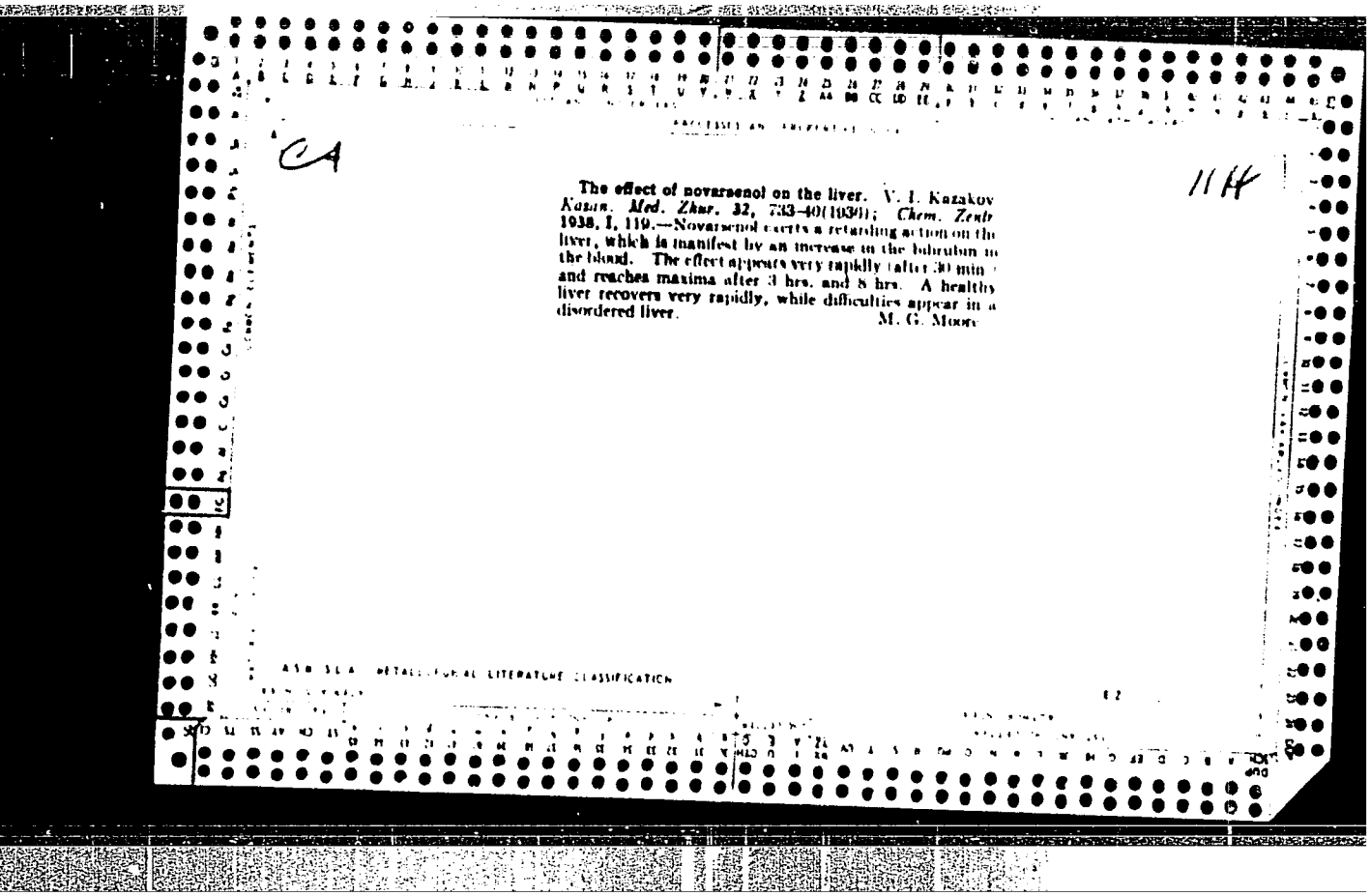

CA

11 H

The effect of novarsenol on the liver. V. I. Kazakov *Kazan. Med. Zhur.* 32, 733–40(1939); *Chem. Zentr* 1938, I, 119.—Novarsenol exerts a retarding action on the liver, which is manifest by an increase in the bilirubin in the blood. The effect appears very rapidly (after 30 min and reaches maxima after 3 hrs. and 8 hrs. A healthy liver recovers very rapidly, while difficulties appear in a disordered liver. M. G. Moore

KAZAKOV, V.I.

Dynamics of the effect of balneotherapy in dermatoses as an index of the mechanism of balneological factors. Vest.vener. No.3:22-24 May-June 50. (CLML 19:4)

1. Of the Department of Skin and Venereal Diseases, Chkalov Medical Institute (Head --Docent V.I.Kazakov)

SUKHAREV, V.I.

Venereal Diseases

"Health resort therapy of skin and venereal diseases," Reviewed by V.I. Sukharev, Vest. ven. i derm. no. 2, 1952.

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