GOROKHOV, I.G., KARAVAYEVA, Z.F., KOZLOV, F.M., ARTAMONOV, G.V., red.; SHAMAROVA, T.A., red.izd-va., ROMANOVA, V.V., tekhn.red.

[Maps and atlases; a catalog] Karty i atlasy; katalog. [Moskva] Glavknigotorg M-va kul'tury SSSR, 1958. 105 p. [Order blanks for the catalog "Maps and Atlases."] Zakaz po katalogu "Karty i atlasy." 1958. 42 p. (MIRA 11:9)
(Bibliography--Maps)

SENDEROVA, G.M., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.; VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.; SAMOYLOV, I.I., red.; SENDEROVA, G.M., red.; SLADKOVA, Ye.A., red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TUTOCHKINA, V.A., red.; ERDELI, V.G., red.

[Geographical atlas for the fourth grade] Geograficheskii atlas dlia 4-go klassa. Moskva, Glav.uprav.geodez. i kartografii M-va geol. i okhrany nedr SSSR, 1960. 16 p. (MIRA 13:8)
(Atlases)

SAFRONOVA, V.A., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.; VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.; SAMOYLOVA, I.I., red.; SLADKOVA, Ye.A., red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TUTOCHKINA, V.A., red.; ERDELI, V.G., red.; DYUZHEVA, A.M., red.kart; POLYANSKAYA, L.A., red.kart

[Geographical atlas of the U.S.S.R. for the seventh grade] Geograficheskii atlas SSSR dlia 7-go klassa. Moskva, 1960. 31 col.maps. (MIRA 14:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Russia--Maps)

MEKLER, M.M., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.; VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.; LARIN, D.A., red.; LYALIKOV, N.I., red.; MAMAYEV, I.I., red.; NIKISHOV, M.I., red.; RAUSH, V.A., red.; SAMOYLOV, I.I., red.; SLAIKOVA, Ye.A., red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TUTOCHKINA, V.A., red.; ERDELI, V.G., red.; BUSHUYEVA, M.P., red.kart; DYUZHEVA, A.M., red.kart; KROTKOV, B.S., red.kart; MESYATSEVA, L.N., red.kart; PEKHOVA, Z.P., red.kart; POLYANSKAYA, L.A., red.kart; SAFRONOVA, V.A., red.kart; FEDOTOVA, N.I., red.kart; FETISOVA, N.P., red.kart; CHERNYSHEVA, L.N., red.kart; BUKHANOVA, N.I., tekhn.red.; KUZNETSOVA, O.L., tekhn.red.; NIKOLAYEVA, I.N., tekhn.red.

[Atlas of the U.S.S.R. for the secondary school; course in economic geography] Atlas SSSR dlia srednei shkoly; kurs ekonomicheskoi geografii. Moskva, Glav.uprav.geodez. i kartografii M-va geol.i okhrany nedr SSSR, 1960. 50 p. (MIRA 13:12)

(Geography, Economic--Maps)

KOZLOV, F.M.

Atlas of the Ukrainian S.S.R. and the Moldavian S.S.R. Geod. i kart. no.5:60-62 My '62. (MIRA 15:7)
(Ukraine--Maps) (Moldavia--Maps)

KOZLOV, F.M.

Atlas of the U.S.S.R. Geod.i kart. no.8:65-68 Ag '62. (MIRA 15:8)

(Russia—Maps)

KOZLOV, F.M.

New school atlases and maps. Geog. v shkole 25 no.1:93-94 Ja-F '62. (MIRA 15:1)
(Atlases)

BARANSKIY, N.; KOZLOV, F.M.; POPOV, A.P.

Bookshelf. Geog. v shkole 25 no.4:93-94 Jl-Ag '62. (MIRA 15:8)
(Bibliography—Geography)

KOZLOV, F.M.

New maps. Geog. v shkole 25 no.3:96 My-Je '62. (MIRA 15:7)

1. Redaktor Glavnogo upravleniya geodezii i kartografii.
(Bibliography—Maps)

KOZLOV, F.M.

New atlases and maps. Geog. v shkole 25 no.5:91-92 S-O '62.
(MIRA 15:9)
(Maps)

KOZLOV, F.M.

School economic maps of regions. Geod. i kart. no.9:74-57 S '64.
(MIRA 17:12)

KOZLOV, F.M.

Geographic atlas of Kalinin Province. Geod. i kart. no.11:58-60 N '64. (MIRA 18:2)

PROKOP'YEVA, M.S.; PILYUSHENOK, S.V.; NIKOLAYEVA, R.I.; CHECHENKOVA, M.V.; MIKHAYLOVA, A.A.; STRELKOVA, A.V.; LOPUKHA, N.Ye; KOZLOV, F.N., red.; VOINOV, K.F., red.; BABESHKINA, N., tekhn. red.

[Economy of Pskov Province; statistical collection] Narodnoe khoziaistvo Pskovskoi oblasti; statisticheskii sbornik. Leningrad, Gosstatizdat, 1960. 175 p. (MIRA 14:6)

1. Pskov (Province) Statisticheskoye upravleniye. 2. Rabotniki Statisticheskogo upravleniya Pskovskoy oblasti (for all except Kozlov, Voinov, Babeshkina). 3. Nachal'nik Statisticheskogo upravleniya Pskovskoy oblasti (for Kozlov). 4. Zamestitel' nachal'nika Statisticheskogo upravleniya Pskovskoy oblasti (for Voinov) (Pskov Province--Statistics)

KOZLOV, F.P.

New developments in the upgrowth of industry and transportation.
Geog. v shkole 21 no. 1:15-22 Ja-F '58. (MIRA 11:7)
(Kazakhstan--Industries)
(Kazakhstan--Transportation)

KOZLOV, F.; SHISHMANYAN, Zh.; GAGARNIKOVA, T.; KOVAL', V.

Ultra-shortwave operators on the air. Radio no.11:17 N '56.
(MLRA 9:12)

1. Predsedatel' korotkovolnovoy i ul'trakorotkovolnovoy sektsiy radiokluba, Yerevan, Armeniya (for Shishmanyan).
(Radio, Shortwave)

AUTHORS: Kozlov, F., Baganov, S. 107-58-6-28/58

TITLE: More Attention to the Ultrashort Wave Sport (Bol'she vnimaniya UKV sportu)

PERIODICAL: Radio, 1958, Nr 6, p 24 (USSR)

ABSTRACT: The constantly increasing number of ultrashort wave radio stations requires strict discipline from all radio amateurs. Receivers with poor or improper modulation should be restricted from operation, since they disturb the work of other radio stations.

Card 1/1 1. Radio-Amateur personnel 2. Radio-Operation 3. Radio-Restrictions

KOZLOV, F.P.

86-58-6-30/34

AUTHOR: Kozlov, F. P.

TITLE: A Checking Device for Thyratrons (Prisposobleniye dlya proverki tiratronov)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 6, p 80 (USSR)

ABSTRACT: The author gives a description of his device for checking the efficiency of thyratrons of the TG2-0.1/0.1 type used in aircraft radio equipment. The device consists of the following parts: a metal or wooden frame, a tube socket, a double wire with plug, a high voltage filter inductor, an RU-11AM motor-generator set, a potentiometer (250 ohms), a variable resistor (200 ohms), and K-205 or K-204 type keys. The circuit is fed by the aircraft power plant at 22-28 v. There is one diagram.

AVAILABLE: Library of Congress

Card 1/1

SOV/86-59-30/39

AUTHORS: Kozlov, F.P.

TITLE: A Portable Set (Perenosnaya ustanovka)

PERIODICAL: Vestnik vozdushnogo flota, 1959, Nr 1, p 71 (USSR)

ABSTRACT: The author states that in his unit a portable set was built which permits the checking of the electric parameters of bomb racks, electric starter, and the electrically controlled valves of the pneumatic system. It also can be used as a circuit tester. There is one diagram.

Card 1/1

KOZLOV, F.R.; KOSYGIN, A.N.; ZASYAD'KO, A.E.; NESMEYANOV, A.N.; ANTROPOV, P.Ya.; YELYUTIN, V.P.; RUDAKOV, A.P.; KIRILLIN, V.A.; TOPCHIYEV, Al-dr V.; BLAGONRAVOV, A.A.; SHEVYAKOV, L.D.; SHILIN, A.A.; MEL'NIKOV, N.V.; KRASNIKOVSKIY, G.V.; TOPCHIYEV, A-y V.; BOYKO, A.A.; BRATCHENKO, B.F.; GRAFOV, L.Ye.; KUZ'MICH, A.S.; KRATENKO, I.M.; MAN'KOVSKIY, G.I.; PLAKSIN, I.N.; AGOSHKOV, M.I.; SPIVAKOVSKIY, A.O.; POCHENKOV, K.I.; KRASOZOV, I.P.; KOZHEVIN, G.V.; LINDENAU, N.I.; KUZNETSOV, K.K.

Academician A.A.Skochinskii; obituary. Bezov.truda v prom. 4 no.11: 18-19 N '60. (MIRA 13:11)
(Skochinskii, Aleksandr Aleksandrovich, 1873-1960)

KOZLOV, F.R.; KOSYGIN, A.N.; ZASYAD'KO, A.F.; NESMEYANOV, A.N.; ANTROPOV, P.Ya.; YELYUTIN, V.P.; RUDAKOV, A.P.; KIRILLIN, V.A.; TOPCHIYEV, Aleksandr V.; BLAGONRAVOV, A.A.; SHEVYAKOV, L.D.; SHILIN, A.A.; MEL'NIKOV, N.V.; KRASNIKOVSKIY, G.V.; TOPCHIYEV, Aleksey V.; BOYKO, A.A.; BRATCHENKO, B.F.; GRAFOV, L.Ye.; KUZ'MICH, A.S.; KRATENKO, I.M.; MAN'KOVSKIY, G.I.; PLAKSIN, I.N.; AGOSHKOV, M.I.; SPIVAKOVSKIY, A.O.; POCHENKOV, K.I.; KRASOZOV, I.P.; KOZHEVIN, G.V.; LINDENAU, N.I.; KUZNETSOV, K.K.

Academician A.A.Skochinskii; obituary. Mast.ugl. 9 no.11:22 N '60. (MIRA 13:12)
(Skochinskii, Aleksandr Aleksandrovich, 1873-1960)

KOZLOV, F.R.; KOSYGIN, A.N.; ZASYAD'KO, A.F.; NESMEYANOV, A.N.; ANTROPOV, P.Ya.; YEMLUTIN, V.P.; RUDAKOV, A.P.; KIRILLIN, V.A.; TOPCHIYEV, Aleksandr V.; BLAGONRAVOV, A.A.; SHEVYAKOV, L.D.; SHILIN, A?A?; MEL'NIKOV, N.V.; KRASNIKOVSKIY, G.V.; TOPCHIYEV, Aleksey V.; BOYKO, A.A.; BRATCHENKO, B.F.; GRAFOV, L.Ye.; KUZ'MICH, A.S.; KRATENKO, I.M.; MAN'KOVSKIY, G.I.; PLAKSIN, I.N.; AGOSHKOV, M.I. SPIVAKOVSKIY, A.O.; POCHTENKOV, K.I.; KRASOZOV, I.P.; KOZHEVIN, G.V.; LINDENAU, N.I.; KUZNETSOV, K.K.

A.S.Skochinskii; obituary. Vest.AN SSSR 30 no.11:73-75 N '60. (MIRA 13:11)
(Skochinskii, Aleksandr Aleksandrovich, 1874-1960.)

BOKSHITSKIY, Ya.M., inzhener; PERTSEV, M.A., inzhener; KOZLOV, F.V., inzhener.

Avoiding the formation of axial cracks in alloy steel ingots. Stal' 16 no.7:602-608 Jl '56. (MLRA 9:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i Zlatoustovskiy metallurgicheskiy zavod.
(Steel--Electrometallurgy) (Steel ingots)

S/089/62/012/006/016/019
B102/B104

AUTHORS: Moskov, F. V., Tenenbaum, I. M.

TITLE: Systematic errors of gamma-ray assaying and possible means to eliminate them

PERIODICAL: Atomnaya energiya, v. 12, no. 6, 1962, 535-536

TEXT: The systematic errors occurring in the process of measuring the gamma-ray intensity (in μr/hr) of ores and its conversion to uranium equilibrium per cents (cf. Shashkin, Atomnaya energiya, II, No. 1, 48; No. 2, 157, 1957) are estimated. From a comparison of the results of gamma-ray and "groove assaying" for five uranium deposits, it can be seen that the first method yields values which are higher by 27-133%. For pay ores the values agree within 3-9%, and for rich ores gamma-ray assaying shows a 6-53% systematic depression of the values. In order to get reliable accuracy estimates such comparisons were made for 1166 different samples from five mines and for 46 samples from four mines of one deposit with impregnated ore. The effects which lead to the raised values in gamma-ray assaying were analyzed. The actual content of uranium can be

Card 1/2

Systematic errors of gamma-ray ...

determined from the curves of the above-mentioned comparison. There are 4 figures.

SUBMITTED: October 28, 1961

Card 2/2

KOZLOV, F. V., Engineer, and B. I. SMIRNOV, Engineer

"Methods of Determining the Productive Capacity of Shipyards."

(Determining Productive Capacities in Machinery Manufacturing) Moscow, Mashgiz, 1957. 185 pp.

KOKICHEV, Valentin Nikolayevich; KOZLOV, F.V., retsenzent;
YEROMITSKAYA, Ye.Ye., red.

[Noncircular joints in marine engineering] Nekruglye soedineniia v sudovom mashinostroenii. Leningrad, Sudostroenie, 1965. 116 p. (MIRA 18:5)

KOZLOV, G.A., inzh.

Standard hydraulic equipment for machine-tool units and automatic lines. Mashinostroenie no.3:14-22 My-Je '62. (MIRA 15:7)
(Machine tools--Hydraulic drive)

KOZIOV, G.A.

From conventional machine tools to tools with program control. Znan.sila 35 no.7:7-8 Jl '60. (MIRA 13:7)
(Automatic control) (Machine tools)

KOZLOV, G.

Building of communism and several methodological problems of economics. Vop. ekon. no.1:36-52 Ja '64.
(MIRA 17:3)

KOZLOV, Genrikh Abramovich

Kozlov, Genrikh Abramovich Economic calculation in a socialist society
2. izd. perer. Moskva Gos. izd-vo polit. lit-ry,1945.

89 p. V pomoshch izuchaiushchim politicheskuiu ekonomiiu (51-22769) HC335.K872 1945

KOZLOV, Genrikh Abramovich

Kozlov, Genrikh Abramovich O piatiletnem plane vosstanovleniia i razvitiia narodnogo khoziaistva SSSR na 1946-1950 gg. Materialy dlia lektorov i propagandistov sbornik statei i lektsee concerning the Five-Year Plan for the reconstruction anddevelopment of the national economy of the USSR for 1946-1950. Materials for lecturers and propagandists Moskva Izd-vo Vysshei Partiinoi Shkoly pri TSK VKP (b) 1946

183 p.

16G35

KOZLOV, G.

USSR/Govt Economic Policy 4102. and 3141.0205 Dec 1947

Monetary Reform 4909.

"Advantages of Soviet Monetary System and Monetary Reform," G. Kozlov, 10 pp

"Partiynaya Zhizn'" No 24

Discusses USSR monetary system, how it benefits workers and how it is related to recent monetary reform. Comparisons made between aftereffects of war on USSR economy and that of capitalistic countries. Monetary reform explained away, in part, by vast increase of money in circulation during period of lesser consumer production. Cites military expenditures from 1940-1947 as factor.

16G35

LC

KONAKOV, D.M.; KOZLOV, G.A., redaktor.

[Wages] Zarabotnaia plata. Moskva, Vysshaia partiinaia shkola pri TsK KPSS, 1954. 28 p. (MIRA 8:4)
(Wages)

KOZLOV, G.A.

BUDARIN, V.A.; PANTELEYEV, N.A.; KOZLOV, G.A., otvetstvennyy redaktor; ZHDANOVA, Z.A., zamestitel' otvetstvennogo redaktora; RACHKO, V., redaktor; LUR'YE, A., tekhnicheskiy redaktor

[Album of visual aids for studying political economy; "capitalism" section] Al'bom nagliadnykh posobii po politicheskoi ekonomii; razdel "Kapitalizm." [Leningrad] Gos.izd-vo polit.lit-ry. Pt.2. 1956. 38 plates. (MLRA 10:10)

1. Kommunisticheskaya Partiya Sovetskogo Soyuza. Vysshaya partiynaya skola.
(Economic conditions)

Kozlov, G. A.

KOZLOV, Genrikh Abramovich; AROV, O., red.

[First steps in the development of commodity production; an introduction to the theory of commodity production] Pervye stupeni v razvitii tovarnogo proizvodstva; vvedenie v teoriiu tovarnogo proizvodstva. Moskva, Gos.izd-vo polit.lit-ry, 1957. 134 p. (MIRA 11:2)
(Economics)

KOZLOV, G.

The quantity of money circulation indispensable in a socialist economy. Vop.ekon. no.2:34-48 F '57. (MLRA 10:5)
(Money)

ABRAMOV, V.A.; ALEKSEYEV, A.M.; AL'TER, L.B.; ARAKELYAN, A.A.; BAKLANOV, G.I.; BASOVA, I.A.; BLYUMIN, I.G.; BOGOMOLOV, O.T.; BOR, M.Z.; BREGEL', E.Ya.; VEYTSMAN, N.R.; VIKENT'YEV, A.I.; GAL'TSOV, A.D.; GERTSOVSKAYA, B.R.; GLADKOV, I.A.; DVORKIN, I.N.; DRAGILEV, M.S.; YEFIMOV, A.N.; ZHAMIN, V.A.; ZHUK, I.N.; ZAMYATNIN, V.N.; IGNAT'YEV, D.I.; IL'IN, M.A.; IL'YN, S.S.; IOFFE, Ye.A.; KAYE, V.A.; KAMENITSER, S.Ye.; KATS, A.I.; KLIMOV, A.G.; KOZLOV, G.A.; KOLGANOV, M.V.; KONTOROVICH, V.G.; KRAYEV, M.A.; KRONROD, Ya.A.; LAKHMAN, I.L.; LIVANSKAYA, F.V.; LOGOVINSKAYA, R.L.; LYUBOSHITS, L.I.; MALYSH, A.I.; MENZHINSKIY, Ye.A.; MIKHAYLOVA, P.Ya.; MOISEYEV, M.I.; MOSKVIN, P.M.; NOTKIN, A.I.; PARTIGUL, S.P.; PERVUSHIN, S.P.; PETROV, A.I.; PETRUSHOV, A.M.; PODGORNOVA, V.M.; RABINOVICH, M.A.; RYVKIN, S.S.; RYNDINA, M.N.; SAKSAGANSKIY, T.D.; SAMSONOV, L.N.; SMEKHOV, B.M.; SOKOLIKHIN, S.I.; SOLLERTINSKAYA, Ye.I.; SUDARIKOV, A.A.; TATAR, S.K.; TERENT'YEV, P.V.; TYAGAY, Ye.Ya.; FEYGIN, Ya.G.; FIGURNOV, P.K.; FRUMKIN, A.B.; TSYRLIN, L.M.; SHAMBERG, V.M.; SHAPIRO, A.I.; SHCHENKOV, S.A.; EYDEL'MAN, B.I.; EKHIN, P.E.; MITROFANOVA, S., red.; TROYANOVSKAYA, N., tekhn.red.

[Concise dictionary of economics] Kratkii ekonomicheskii slovar'. Moskva, Gos.izd-vo polit.lit-ry, 1958. 391 p. (MIRA 11:7)
(Economics--Dictionaries)

KOZLOV, Genrikh Abramovich, prof.; SHIRINSKIY, Ivan Dmitriyevich, dotsent; KONAKOV, Dmitriy Maksimovich, prof.; MOROZOV, Aleksandr Vasil'yevich, dotsent; BELYAYEVA, Zoya Nikolayevna, kand.ekonom.nauk; KORYAGIN, A.G., red.; PROKOF'YEV, S.P., red.; NAUMOV, K.M., tekhn.red.

[Capitalist methods of production] Kapitalisticheskii sposob proizvodstva. Moskva, Izd-vo VPSh i AON pri TsK KPSS. Pt.1. 1959. 237 p. (MIRA 12:6)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola. Kafedra politicheskoy ekonomii.
(Economics) (Capitalism)

KOZLOV, G.

Socialism and commodity-monetary relations. Vop. ekon. no.11; 13-27 N '60. (MIRA 13:11)

(Economics)

[illegible], T.V.; KOZLOV, G.A.; LYGIN, V.I.

Infrared and electron paramagnetic resonance spectra of channel blacks. Zhur.fiz.khim. 39 no.11:2772-2778 N '65. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

KOZLOV, G.A.

A chamber for microscopic examinations of biological objects at the temperatures ranging from +100° to —50° C. TSitologiia 5 no.6:700-704 N-D '63. (MIRA 17:10)

1. Radiologicheskaya laboratoriya Instituta perelivaniya krovi, Leningrad.

KISSLEV, A.V.; [illegible], G.A.; LYGIN, V.I.

Electron paramagnetic resonance spectra of graphitized carbon blacks. Koll. zhur. 26 no.5:651-653 S-O '64. (MIRA 17:10)

1. Moskovskiy universitet imeni Lomonosova, Khimicheskiy fakul'tet.

KOZLOV, G.A., naladchik kontaktno-svarochnykh mashin (Yaroslavl')

Improved hoisting mechanism. Put' i put.khoz. 9 no.4:30 '65. (MIRA 18:5)

KISELEV, A.V.; KOZLOV, G.A.; LYGIN, V.I.

Electron paramagnetic resonance of modified Ukhta channel blacks. Zhur. fiz. khim. 39 no.5:1256-1263 My '65. (MIRA 18:8)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

ACCESSION NR: AR4015665 S/0081/63/000/021/0343/0343

SOURCE: RZh. Khimiya, Abs. 21M122

AUTHOR: Teterin, P. K.; Vdovin, V. F.; Kozlov, G. B.

TITLE: Selection of glass fluxes for hot pressing of steels and alloys

CITED SOURCE: Steklo. Inform. materialy* Gos. n.-i. in-ta stekla, no. 1 (118), 1963, 57-61

TOPIC TAGS: glass flux, hot pressing glass flux, steel pressing flux, alloy pressing flux, flux identification, high temperature flux property

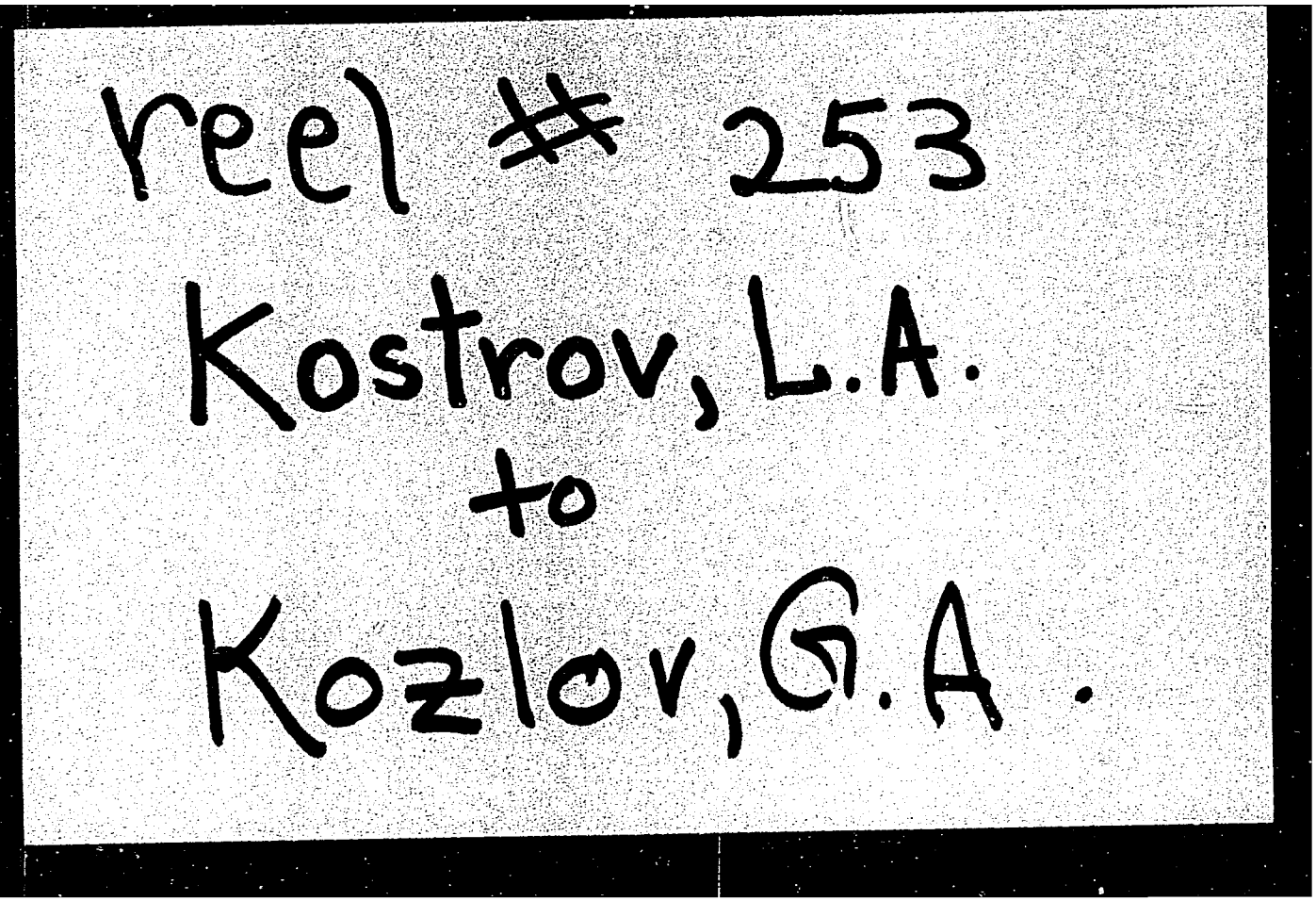
ABSTRACT: Universal glass fluxes for pressing steels at any temperature are not available. The authors suggest that the best flux to use in pressing steels and alloys for millable blanks is a glass which exhibits the properties of 185V glass at 1150C at the temperature of pressing in a container. Glass flux exhibiting the properties of glass 269 at 1150C at discharge temperature can be used when pressing steel and alloys for glass collars. To insure proper use of glass fluxes in hot pressing, each manufactured lot of glass should be tagged with a rating plate in the form of a viscosity-temperature graph. Authors' summary.

Card 1/1 DATE ACQ: 09Dec63 SUB CODE: ML, MA ENCL: 00

RAVDEL', A.A.; [illegible], G.A.

Microscopic observation of ice formation in cooled inverse emulsions. Koll. zhur. 27 no.2:287-288 Mr-Ap '65.
(MIRA 18:6)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.



KOZLOV, Gennadiy Dom'yanovich; NEFEDOVA, V.I., red.; BORUNOV, N.I., tekhn. red.

[New contactless magnetic components] Novye beskontaktnye magnitnye elementy. Moskva, Gosenergoizdat, 1963. 79 p. (Biblioteka po avtomatike, no.92) (MIRA 17:4)

Kozlov G.D.

AUTHOR Kozlov, G.D. (Moscow) 103-9-7/9
TITLE A Magnetic Relay with Ferrite Cores.
(Magnitnoye rele na ferritakh . - Russian)
PERIODICAL Avtomatika i Telemekhanika, 1957, Vol 18, Nr 9, pp 847-851 (U.S.S.R.)

ABSTRACT A magnetic amplfier, which works as a relay and in which the magnetic relay is fitted with ferrite cores, is investigated in the case of a repeated modification of the current at the relay load(100 - 200). For the purpose of conserving the relay characteristic in the amplifier a positive feedback with a sufficiently high coefficient is introduced. The coefficient of the feedback is the ratio between the current field value, which is generated by the feedback current in the same magnetic conduction domain where also the alternating field current is active, and the average current value of the alternating field. One of the most important factors in computing a magnetic relay is the selection of the magnetic modes of operation of the core both in the case of lacking and existing magnetizing fields. It is shown that, in order to obtain a high degree of current modification in the load, it is necessary to use a sufficiently great slope of magnetic permeability, which is created when the magnetizing field changes from zero to its maximum value. A complete computation of a magnetic relay is here given as an example.
There are 5 figures and 3 Slavic references.

SUBMITTED August 31, 1956
AVAILABLE Library of Congress
Card 1/1

BOYARCHENKOV, M.A.; VOLODIN, V.S.; KERBNIKOV, F.I.; KOZLOV, G.D.; SUBBOTINA, G.V.; TREFILOVA, I.S.

All-Union vonference on magnetic elements of automatic and remote control and computer techniques. Avtom. i telem. 19 no.6:614-620 Je '58. (MIRA 11:6)

(Automatic control--Congresses)
(Magnetic amplifiers)

AUTHOR: Kozlov, G. D. 30-2-43/49

TITLE: The Use of Magnetic Elements (Ispol'zovaniye magnitnykh elementov). All-Union Conference (Vsesoyuznoye soveshchaniye)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 2, pp 112-113 (USSR)

ABSTRACT: This conference took place in Moscow from November 25 to 30. It was organized by the Institute for Automatic and Remote Control and the Board for Magnetic Amplifiers and Contactless Magnetic Elements at the Presidential committee of the Akademii Nauk SSSR. Besides the Soviet scientists from various cities of the USSR, officials of scientific research and educational institutions, construction and design organisations of different industrial branches, also representatives of the Academy of Sciences from Bulgaria, China, Poland, and Czechoslovakia attended the conference. The discussions were divided into two groups: magnetic amplifiers and discret magnetic elements. Furthermore, the author divided the reports into the following sections: theory of magnetic amplifiers and discre

Card 1/3

machine elements; their computation and construction; their joint application. The author mentions the following reports: L. I. Gutenmakher reported on the work carried out by the Laboratory for Electrical Modelling
Moreover, reports of foreign scientists were given:

1) Yu. Gashkovets reported on stage of the investigations in the field of magnetic amplifiers in Czechoslovakia.
2) S. Vendzhin reported on automation in Poland.
3) E. S. Dzhakov, Corresponding Member of the Bulgarian Academy of Sciences reported on the development of a contactless magnet relay;
4) Professor Min Nay-da, Representative of the Chinese Academy of Sciences reported on the theory of four poles (chetyrekhpolyusnikov).

It was found at this conference that the debelopment and the application of various types of magnetic elements for automation is too slow. The lacking of a centralized production of the types and series of cores, magnetic amplifiers, and other magnetic elements needed most was described as being main reason for this. The domestic

production of these products shows considerable short comings. The necessity of an extension of scientific research work in this field at the institutes for automation, remote control, pecision mechanics and computation technique and at the Laboratory for Electrical Modelling was pointed out.

AVAILABLE: Library of Congress

1. Magnets-Applications 2. Magnetic amplifiers-Theory

Card 3/3

4.2200

77484
SOV/103-21-1-15/22

AUTHOR: Kozlov, G. D. (Moscow)

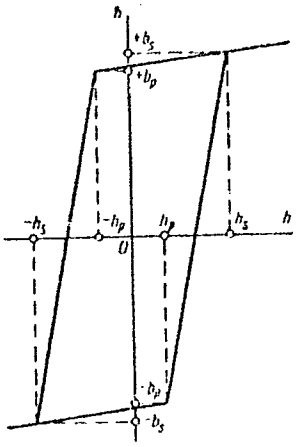
TITLE: The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I.

PERIODICAL: Avtomatika i telemekhanika 1960, Vol 21, Nr 1, pp 119-134 (USSR)

ABSTRACT: In the study the author considers the influence of irregularity of magnetization on the static characteristics of the core. The calculation of the core hysteresis loop is given for symmetrical, displaced, as well as for "basic" magnetization loops. The analysis is made on the axis B = f(F) where F are magnetizing ampere-turns instead of usually used B = f (H). The hysteresis loops of magnetic materials may be represented by two simplified loops shown on Figs. 1 and 2. Here b_s and b_p are inductions at saturation and at the beginning of the reversal of magnetic field, respectively. h_s and h_p are field intensities

Card 1/19

The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I. 77484 SOV/103-21-1-15/22



Card 2/19 Fig. 1.

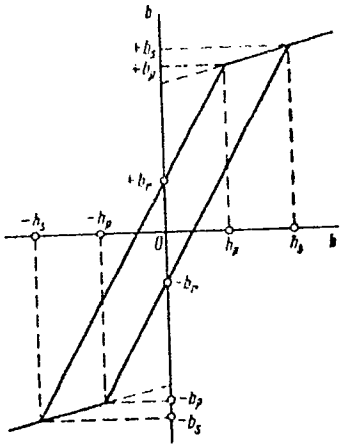


Fig. 2.

corresponding to b_s and b_p, respectively. The mathematical expressions for the hysteresis loops shown on Figs. 3,4,5 and 6 are given. For the hysteresis loop shown on Fig. 3 the rising and descending branches of the curve are determined by Eqs. 1 and 2, respectively:

$$b = \frac{2b_s}{h_s - h_p}\left(h - \frac{h_s + h_p}{2}\right). \quad (1)$$

$$b = \frac{2b_s}{h_s - h_p}\left(h + \frac{h_s + h_p}{2}\right); \quad (2)$$

Similarly, for the hysteresis loop shown on Fig. 4 Eqs. 3 and 4 are valid:

$$b = \frac{2b_s}{h_s + h_p}\left(h - \frac{h_s - h_p}{2}\right), \quad (3)$$

Card 3/19

$$b = \frac{2b_s}{h_s + h_p}\left(h + \frac{h_s - h_p}{2}\right). \quad (4)$$

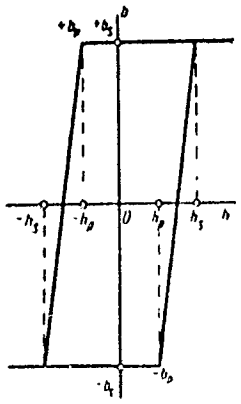


Fig. 3. Family of symmetrical cycles of a hysteresis loop.

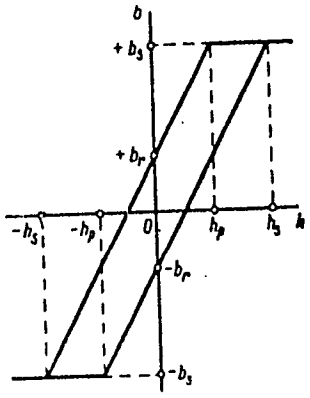
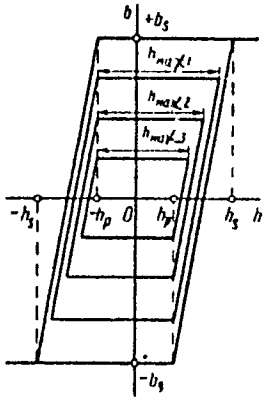


Fig. 4. Family of symmetrical cycles of a hysteresis loop.

Card 5/19

The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I.

77484
SOV/103-21-1-15/22

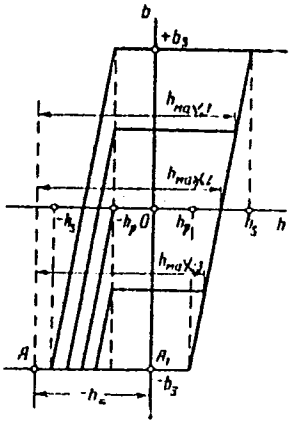


Card 6/19

Fig. 5. Family of symmetrical cycles of a hysteresis loop.

The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I.

77484
SOV/103-21-1-15/22



Card 7/19

Fig. 6. Family of displaced cycles of a hysteresis loop.

For the hysteresis loop shown on Fig. 5, Eqs. 5 and 6 are valid:

$$b = \frac{2b_s}{h_s - h_p}\left(h - \frac{h_{max} + h_p}{2}\right), \quad (5)$$

$$b = \frac{2b_s}{h_s - h_p}\left(h + \frac{h_{max} + h_p}{2}\right). \quad (6)$$

where h_{max} is maximum value of the magnetizing field. For displaced hysteresis loop shown on Fig. 6, the rising part of the displaced cycle coincides with the rising part of the limiting magnetization curve. The descending part of the hysteresis loop is determined by equation:

$$b = -b_s - \frac{2b_s}{h_s - h_p}(h' - h'_{max}), \quad (7)$$

Card 8/19

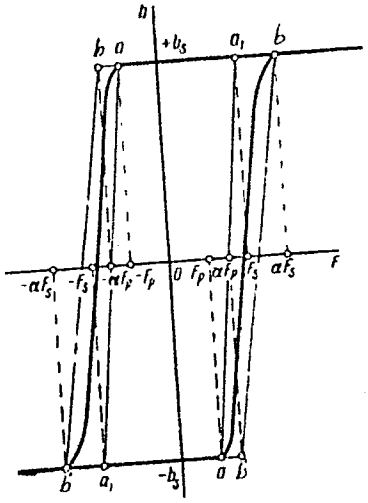
where $h'_{max} = h_{max} - h_{=}$ and $h' = h - h_{=}$ are the field intensities when the operating point is at A_1. In order to determine the magnetization loop of the core, the following expression for the average magnetic induction is used:

$$B = \frac{1}{R_H - R_B} \int_{R_B}^{R_H} b\,dR, \qquad (8)$$

where R_H and R_B are external and internal radius of the core, respectively, and $\alpha = R_H/R_B$. Function $B = f(F)$ is determined from Eq. (8) and Eqs. 1-7. Magnetic characteristics of the core. (a) Reversal of magnetic polarity along the limiting loop. ($F_{max} \geqslant \alpha F_s$). On Fig. 7 the construction of the limiting loop of remagnetization of the curve is shown. This magnetic

The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I.

77484
SOV/103-21-1-15/22



Card 10/19 Fig. 7.

loop is plotted on axes B and F. Lines aa_1 and bb_1 represent rising and descending branches of the hysteresis loop corresponding to internal and external layers, respectively. F_p and F_s are ampere-turns at the beginning of reversal of magnetic polarity and the ampere-turns of saturation for the internal layer of the core, respectively, αF_p and αF_s determine the quantities for the external layer of the core. The characteristic $B = f(F)$ is calculated for each section of the loop using Eq. (8) and Eqs. (1) and (2), transformed in the form:

$$b = \frac{2b_s}{F_s - F_p}\left(F\frac{R_m}{R} - \frac{F_s + F_p}{2}\right). \quad (9)$$

$$b = \frac{2b_s}{F_s - F_p}\left(F\frac{R_m}{R} + \frac{F_s + F_p}{2}\right). \quad (10)$$

On Fig. 8 the basic magnetization loops are shown for various values of α . Curves I, II and III correspond to $\alpha = 0.75\ h_s/h_p$, $\alpha = h_s/h_p$; $\alpha = 1.5 h_s/h_p$, respectively. (b) Reversal of magnetic polarity by symmetrical loops ($F_{max} < \alpha F_s$). The characteristic $B = f(F)$ is determined in a similar manner as under (a), making use of Eq. (8) and of Eqs. (5) and (6), transformed in the form:

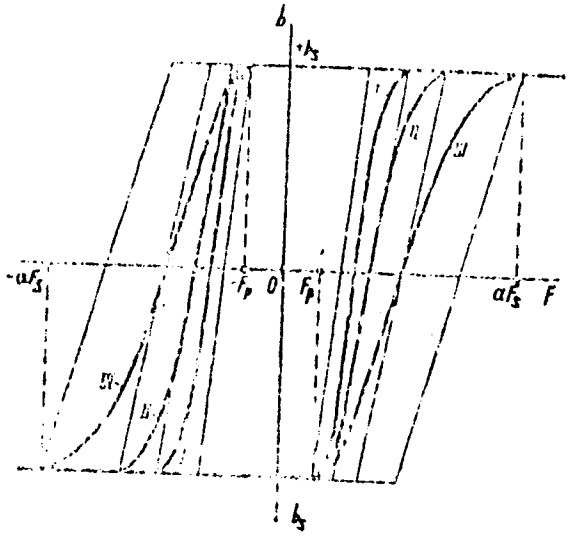
$$b = \frac{b_s}{F_s - F_p}\left[(2F - F_{max})\frac{R_n}{R} - F_p\right], \qquad (18)$$

$$b = \frac{b_s}{F_s - F_p}\left[(2F + F_{max})\frac{R_n}{R} + F_p\right]. \qquad (19)$$

The analysis is made for three cases: case I when $F_p < F_{max} \leq F_p$, case II when $\alpha F_p \leq F_{max} \leq F_s$, and

The Influence of Irregularity of Magnetization on Static Characteristics of the Core. Part I.

77484
SOV/103-21-1-15/22



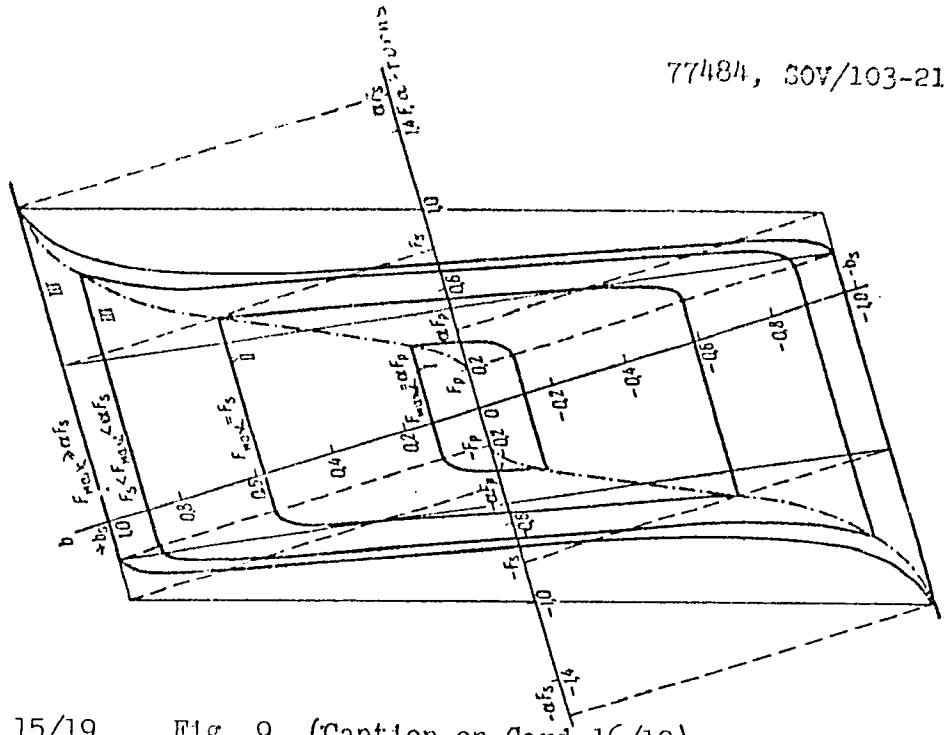
Card 13/19 Fig. 8.

case III when $F_s \leqslant F_{max} \leqslant \alpha F_s$. The results of analysis are shown on Fig. 9. (c) Reversal of magnetic polarity displaced loops. ($F_= \geqslant \alpha F_s$). The characteristic B = f(F) is determined in a similar manner as under (a) and (b). Equation 7 is transformed in the form:

$$b = -b_s - \frac{2b_s}{F_s - F_p}(F' - F'_{max})\frac{R_p}{R}. \qquad (31)$$

Here $F' = F - F_=$ are ampere-turns of magnetization, $F_=$ are constant ampere-turns of magnetization causing the displacement of the loop (See notation $-h_=$ on Fig. 6), and $F'_{max} = F_{max} - F_=$. The analysis is made

Card 14/19

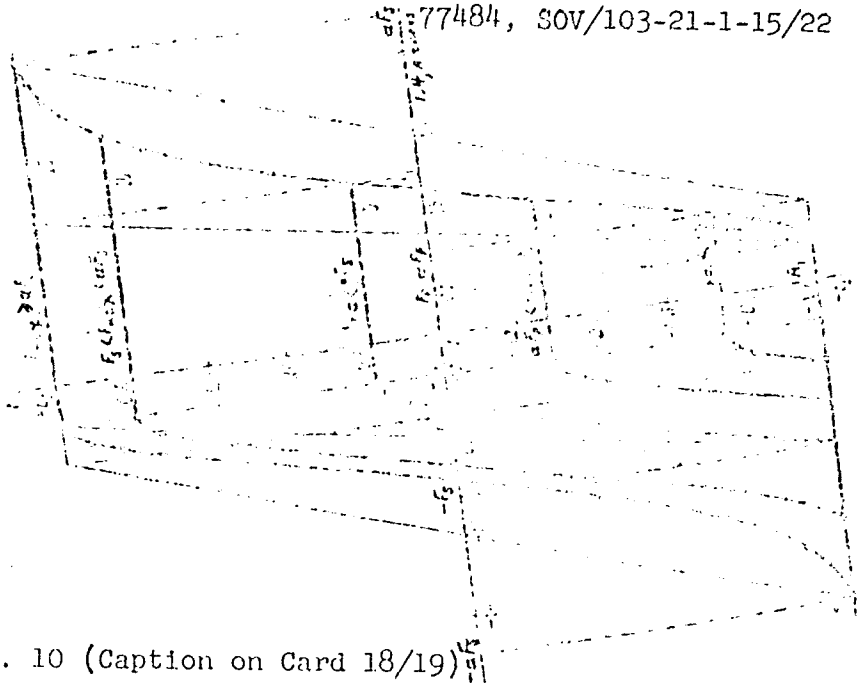


Card 15/19 Fig. 9. (Caption on Card 16/19)

Caption for Fig. 9.

Fig. 9. Family of symmetrical loops of the reversal of magnetic polarity and the "basic" magnetization loop, calculated for $a = 2$; $F_p = 0.2$ ampere-turns, $F_s = 0.8$ ampere-turns. I,II,III on the loops of reversal of magnetic polarity of I,II and III type, respectively.

for three cases: case I when $F_p \leqslant F_{max} \leqslant a F_p$, case II when $a F_p \leqslant F'_{max} \leqslant F_s$, and case III when $F_s \leqslant F'_{max} \leqslant a F_s$. The results of analysis are shown on Fig. 10. Assuming various magnetidues of $F_= \geqslant a F_s$ the family of static characteristics $B = f(F;F_=)$ may be determined (See Fig. 11). In conclusion, the author says that the shape of magnetic loops of the core depends on geometric relations of the core and on



Card 17/19 Fig. 10 (Caption on Card 18/19)

Caption for Fig. 10

Fig. 10. Family of displaced loops of reversal of magnetic polarity, calculated for $\alpha = 2$, $F_p = 0.2$ ampere-turns, $F_s = 0.8$ ampere-turns, $F_= = F_s = 1.6$ ampere-turns.

the maximum value of magnetization ampere-turns. The method proposed may be used also when the hysteresis loop of the magnetic material is given in a different form. There are 12 figures; and 2 references, 1 Soviet, 1 U.S. The U.S. reference is: Roberts, R. W., Van Nice, R. J. Influence of ID/OD Ratio on Static and Dynamic Magnetic Properties of Toroidal Cores, Trans. AIEE, Vol. 74 pt. I, 1955.

SUBMITTED: June 4, 1959

KOZLOV, G.D. (Moskva)

Effect of irregularities in the magnetization of a core on its static characteristics. Part 2. [with summary in English]. Avtom. i telem. 21 no.7:1057-1072 Jl'60. (MIRA 13:10)
(Cores (Electricity)--Magnetic properties)

S/103/62/023/006/008/012
D288/D308

24.2300

AUTHOR: Kozlov, G.D. (Moscow)

TITLE: Characteristics of magnetic devices with bifurcated magnetic circuit. I.

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 6, 1962, 786-794

TEXT: The unit chosen for investigation is rectangular with uniform cross-section, one of the sides being bifurcated by a circular aperture. The following assumptions are made: the hysteresis loop is a parallelogram with horizontal upper and lower portions; the cross-section of the undivided part is equal to the sum of cross-sections of the divided part; dimensions and electro-magnetic parameters to be such as not to cause reciprocal effects between windings and magnetic states of opposite sides. One side carries a control and a blocking winding; the divided side, opposite to the former, has an energizing winding on one leg and an output winding on the other leg. The control and energizing processes are not simul-

Card 1/2

taneous. Three magnetic states are considered: positive saturation, negative saturation and an intermediate switching zone. Hysteresis loops are plotted for the divided cross-sections and various states of all windings, the resulting curves having no longer horizontal but sloping characteristics in + Φ_{max} and - Φ_{max} regions. The experimental investigation is described next. The 4 measuring cycles are: 1) Blocking current pulse of 25 Amp turns is applied; 2) Energizing current (1.2 Amp turns, 50 cps) is applied and the output voltage is measured; 3) Energizing current is switched off and a reversed polarity control pulse is applied; 4) Energizing current is switched on and the output voltage is read. The experimental results are shown in a graph and agree satisfactorily with the theoretical results. There are 8 figures.

SUBMITTED: October 30, 1961

[redacted], G.P. (Moskva)

Characteristics of magnetic devices with branched cores.
Part 2. Avtom. i telem. 25 no.4:570-577 Ap '64.
(MIRA 17:6)

ACCESSION NR: AP4035079 S/0103/64/025/004/0570/0577

AUTHOR: Kozlov, G. D. (Moscow)

TITLE: Characteristics of magnetic devices with branched magnetic circuits [Report at the Eighth Conference on Magnetic Elements Used in Automation, Telemechanics, Measuring and Computing Devices, L'vov, Sep62]

SOURCE: Avtomatika i telemekhanika, v. 25, no. 4, 1964, 570-577

TOPIC TAGS: transfluxor, 3 hole transfluxor, branched magnetic circuit

ABSTRACT: Magnetic flux reversal in a 3-hole magnetic circuit with an allowance for peculiarities due to branching is considered. These assumptions are made: (1) idealized hysteresis loop; (2) flux reversal in a separate volume of the branched core can be represented as a reversal in a closed zone moving from inside out; (3) magnetic interaction between the isthmi is neglected; (4) controlling and exciting processes are separated by time. Physical

Card 1/2

ACCESSION NR: AP4035079

phenomena are analyzed, and design steps recommended. It is recommended that these factors be taken into consideration in designing a transfluxor: control current, excitation current, pulse duration, pulse front, etc. Experimental verification with permalloy cores at 100 cps is mentioned. Orig. art. has: 6 figures and 7 formulas.

ASSOCIATION: none

SUBMITTED: 26Jun62	DATE ACQ: 26May64	ENCL: 00
SUB CODE: EC, EE	NO REF SOV: 004	OTHER: 000

Card 2/2

L 6517-66 EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) IJP(c)
ACC NR: AP5024863 MJW/JD/HW SOURCE CODE: UR/0136/65/000/010/0079/0083

AUTHOR: Korshchikov, V. D.; Zasukha, P. F.; Kozlov, G. D.; Nikiforov, V. K.

ORG: none

TITLE: Conditions of rolling aluminum-clad steel plates

SOURCE: Tsvetnyye metally, no. 10, 1965, 79-83

TOPIC TAGS: steel, stainless steel, steel plate, bimetallic plate, clad plate, aluminum alloy clad plate, stainless steel plate, plate rolling, warm rolling/ 1Kh18N9T steel, 1Kh21N5T steel, 3s steel, SkhL4 steel, 45G17Yu3 steel, AMg3 alloy, AMg5V alloy, AMg6 alloy

ABSTRACT: The technology of rolling bimetallic plates such as 1Kh18N9T, 1Kh21N5T stainless steel, or St.3s, SKhL-4, and 45G17Yu3 ship-building steel plates 6—15 mm thick, 200—300 mm wide, and 1000—2500 mm long clad with AMg3, AMg5V, and AM6 aluminum alloys has been developed by the Ural Institute of Ferrous Metallurgy in cooperation with the Mikhailovskiy plant. Thoroughly cleaned aluminum-alloy plates are preheated to 350—400C and placed on steel plates preheated to 150—200C. The pack is then rolled in one pass with an aluminum-plate reduction up to 75% and without deformation of the steel plate. The temperature of the plate after rolling is 230—280C. This method was used for large amounts of bimetallic plates in various

Card 1/2 UDC: 621.9-419:621.771.2

0901 1705

L 6517-66

ACC NR: AP5024863

combinations and thicknesses. The bond strength in shear amounts to 10 kg/mm^2 and in tension to 17 kg/mm^2. Orig. art. has: 3 figures and 2 tables. [AZ]

SUB CODE: MM/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4139

nw

Card 2/2

KORSHCHIKOV, V.D.; ZASUKHA, P.F.; KOZLOV, G.D.; NIKIFOROV, V.K.

Rolling parameters of structural steel-aluminum bimetals.
TSvet.met. 38 no.10:79-83 O '65.
(MIRA 18:12)

ACC NR: AP7005760 SOURCE CODE: UR/0126/67/023/001/0170/0173

AUTHOR: Kolmogorov, V. L.; Ural'skiy, V. I.; Kozlov, G. D.

ORG: Ural NIIChERMET

TITLE: On the theory of hydrostatic extrusion of brittle metals

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 170-173

TOPIC TAGS: hydrostatic extrusion, plasticity, shear stress, molybdenum, zinc, beryllium, tungsten

ABSTRACT: The plasticity Λ_p (degree of shear deformation at moment of fracture) of metals depends on their indicator σ/T of stressed state (where σ is the mean hydrostatic pressure and T is the intensity of shear stresses), as has been established for Mo, Zn, Be and W. An analysis of the pertinent plasticity diagrams for Mo, Zn, Be and W, taken from Pugh (NEL Report, no. 142, March 1964) and other investigators, warrants the following conclusions: There exists a certain critical stressed state $(\sigma/T)_{cr.1}$ at which transition from the plastic to brittle state or vice versa takes place. It is possible to assume the existence of a second

Card 1/2

UDC: 620.16.539.374

ACC NR: AP7005760

characteristic indicator $(\sigma/T)_{cr.2}$ at which transition of the metal to a state of unlimited plasticity takes place; then deformation is not accompanied by any loss of plasticity. The variation in Λ_p as a function of the indicator of stressed state differs sharply for different metals. Thus for Be Λ_p increases slowly with decrease in σ/T. The growth rate of Λ_p for Mo and W is roughly the same, but Mo is much more plastic. Thus at zero σ/T (torsion, pure shear, etc.) Mo may undergo deformation with 68% reduction in cross sectional area while W is absolutely nonplastic. The plastic deformation of a metal is feasible if the metal's $(\sigma/T)_{cr.1}$ exceeds its σ/T. If this condition is satisfied and σ/T is not smaller than $(\sigma/T)_{cr.2}$, the deformation of the metal is possible only up to a point; in all cases the degree of deformation must be lower than the limiting Λ_p which leads to fracture. A formula is derived for the utilizable plasticity margin of metals. In this connection, the possibilities of hydrostatic extrusion (without counter-pressure) are considered for Mo, Zn, Be and W. An analysis of stressed state reveals that extrusion of this kind is feasible for Mo and Be since the critical indicator of transition to brittle state is much higher (-0.94) for these two metals. The pressing of Zn and particularly W (considering certain fluctuations in plasticity) is difficult to accomplish, in view of the high likelihood of cracking of the products. "In conclusion, the authors are indebted to K. P. Rodionov for his kind provision of a translation of Pugh's work." Orig. art. has: 2 figures, 7 formulas.
SUB CODE: 13, 11/ SUBM DATE: 13Jun66/ ORIG REF: 005/ OTH REF: 002
Card 2/2

KOZLOV, Genrikh Fedorovich; TARARUKHIN, A., red.

[The Moscow experiment] Moskovskii eksperiment. Moskva, Mosk. rabochii, 1965. 79 p. (MIRA 19:1)

MELIUDYAKOV, L.N.; TSOKAIO, V.M.; KOZLOV, G.F.; SARANINA, Ye.I.

Sulfate sodium method of decopperizing and desulfurizing of cast irons obtained in the processing of copper-containing slags. Trudy Inst. khim. nauk AN Kazakh.SSR 12:186-193 '64. (MIRA 18:2)

KOZLOV, G. I.

(Institute of Energetics, USSR Academy of Sciences, Moscow)

"On High Temperature Oxidation of Methane."

paper submitted at the Seventh Intl. Symposium on Combustion - London and Oxford, England, 28 Aug - 3 Sep '58.

C - 3,800,830, 25 July 1958.

KOZLOV, G.I.

Determining total kinetic equation for methane oxidation at high temperatures. Inzh.-fiz.zhur. no.7:41-48 Jl '58. (MIRA 11:8)

1.Eneregeticheskiy institut AN SSSR, Moskva.
(Combustion) (Methane) (Gases, Kinetic theory of)

KOZLOV, G.I.

Absolute reaction rate and rate of flame propagation in mixtures of carbon monoxide with air. Inzh.-fiz.zhur. no.11:24-30 N '58. (MIRA 12:1)

1. Energeticheskiy institut AN SSSR, g. Moskva.
(Chemical reaction, Rate of) (Carbon monoxide)

KOZLOV, G. I., Candidate Tech Sci (diss) -- "Investigation of certain summary kinetic laws of the combustion of methane". Moscow, 1959. 12 pp (Acad Sci USSR, Power Engineering Inst im G. M. Krzhizhenovskiy), 150 copies (KL, No 22, 1959, 115)

35756
S/124/62/000/003/035/052
D237/D302

11 6100

AUTHOR: Kozlov, G.I.

TITLE: Overall kinetics of methane combustion and determination of the normal flame propagation velocity of methane and other hydrocarbons

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 100, abstract 3B647 (Sb. 3-ye Vses. soveshchaniye po teorii goreniya, v. 1, M., 1960, 30 - 34)

TEXT: The order of reaction with respect to methane is considered in the region of poor and rich stoichiometric mixtures. The dependence of the reaction velocity on the oxygen concentration with methane concentration constant and equal 20 %, is determined. Results are given of experiments on determining temperature dependence of this reaction. An overall kinetic equation of the oxidation of methane to CO is given for rich mixtures and temperatures above 900°C. A formula is derived, based on the thermal effects of the combustion reactions of methane and CO, by which the dependence of the normal flame propagation velocity on the methane or propane concen-

Card 1/2

tration for poor methane-air or propane-air mixtures was determined, and which shows good agreement with experimental data obtained by other authors. [Abstractor's note: Complete translation].

Card 2/2

KOZLOV, G.I.; KNORRE, V.G.

Use of a single-pulse shock tube for studying the total kinetics of the thermal decomposition of methane. Inzh.fiz.zhur. 4 no.7:11-18 Jl '61. (MIRA 14:8)

1. Energeticheskiy institut imeni G.M.Krzhizhanovskogo, Moskva.
(Chemical reactions, Rate of) (Shock waves) (Methane)

KOZLOV, G.I.

BAZHENOVA, T. V. - "Evaluation of time of relaxation of carbon dioxide dissociation according to shock tube experiments", and "Determination of the dissociated CO_2 flow condition after the normal shock on the rarefaction wave arising while flowing around a protuberant angle"

GOLDENBERG, S. A. - "Ignition in the flow"

KHITRIN, Lev Nikolayevich - "Diffusion effect on ignition characteristics of gas mixtures ignited by a heated surface"

KNORRE, V. G. and KOZLOV, G. I. - "One-impulse shock tube investigation of the kinetic thermal decomposition of methane"

KOZLOV, G. I. - "Calculation of normal rate of flame propagation of methane and some other hydrocarbons"

LOBASTOV, U. S., and BAZHENOVA, T. V. - "Research on absorption of radio waves by air following the shock wave"

NABOKO, I. M. - "The problem of ignition in supersonic gas flow decelerated at an obstacle"

SALAMANDRA, G. D., and SEVASTYANOVA, I. K. - "Amplification of the shock waves during transition through the flame front", and "Formation of weak shock waves before the flame front and their role in organizing the process of explosive mixture burning in tubes."

Reports to be submitted for the 9th Intl. Symposium on Combustion, Ithaca, New York 27 Aug - 1 Sep 1962.

All affiliated with Inst. of Energetics im. G. M. Krzhizhanovskiy, Moscow.

43533

S/204/62/002/005/007/007
E202/E192

11.1340

AUTHORS: Gulyayev, G.V., Kozlov, G.I., Polak, L.S., Khitrin, L.N., and Khudyakov, G.N.

TITLE: Conversion of methane into acetylene in a plasma jet

PERIODICAL: Neftekhimiya, v.2, no.5, 1962, 793-794

TEXT: Acetylene synthesis was studied quantitatively in a constricted arc plasma torch. The working parameters of the latter were as follows: W-cathode, Cu - water cooled nozzle-anode, input 15 kW, power to plasma 9.5-10.0 kW, current 280 A, working gas - argon, at 60.3-58.0 litre/min. Methane was introduced above the W-electrode at rates 6.7-49.7 litre/min. The temperature of pure Ar plasma was calculated approximately at 10 000 °K, and the time of residence of methane in plasma approximately 10^{-5} sec. The product gases were sampled along the plasma jet axis at various distances and analysed chromatographically. In contrast to the results of H.W. Leutner and C.S. Stokes (Ind. Engng Chem., v.53, 1961, 341) the authors found that almost 100% of methane had reacted and the conversion into acetylene was approximately 80%.

Card 1/2

Conversion of methane into ... S/204/62/002/005/007/007
E202/E192

The authors claim that their present rate of energy consumption of 15 kW.hr. per one m^3 of acetylene could be considerably improved by replacing the argon with methane or hydrogen and increasing the power of the plasma torch.
There are 1 figure and 1 table.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR
(Institute of Petrochemical Synthesis AS USSR)

Energeticheskiy institut im. G.M. Krzhizhanovskogo
(Power Engineering Institute imeni G.M. Krzhizhanovskiy)

SUBMITTED: July 14, 1962

Card 2/2

KOZLOV, G.I.; KNORRE, V.G.

Investigation of the kinetics of thermal decomposition of ethylene using the single-pulse shock tube method. Kin.i kat. 4 no.2:189-192 Mr-Ap '63. (MIRA 16:5)

1. Energeticheskiy institut imeni G.M.Krzhizhanovskogo AN SSSR.
(Ethylene) (Pyrolysis)

45119

S/170/63/006/002/014/018
B108/B186

11.6100

AUTHORS: Knorre, V. G., Kozlov, G. I.

TITLE: Investigation of the kinetics of the thermal decomposition of ethane with a single-pulse shock tube

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 2, 1963, 109-113

TEXT: The experiments were carried out by a method described in IFZh, no. 7, 1961, using a mixture of 5% C_2H_6 and 95% Ar, in a few cases 1% C_2H_6 and 99% Ar. The products of the reaction, which lasts for about 1 msec, were analyzed for C_2H_6, C_2H_4, C_2H_2, H_2, and CH_4. The measurements were made in the temperature range 1160 - 1580°K. The slight dependence of the reaction rate on pressure indicated that the thermal decomposition of ethane is a first-order reaction. The activation energy of the reaction decreases with increasing temperature (equal to temperature behind the reflected shock wave, plus correction for heat of reaction). It also decreases with increasing degree of decomposition. Extrapolating

Card 1/2

the experimental values of the constant of the decomposition rate to low degrees of decomposition, the authors found the total constant of the decomposition rate: $k_{20} = 9 \cdot 10^{13} \exp(-69000/RT)$. The thermal decomposition is probably a chain process in which free radicals arise in the reaction $C_2H_6 \longrightarrow 2CH_3$. Some of the intermediate products can act as inhibitors of the reaction. There are 3 figures and 1 table.

ASSOCIATION: Energeticheskiy institut imeni G.M. Krzhizhanovskogo, g. Moskva (Power Engineering Institute imeni G.M. Krzhizhanovskiy, Moscow)

SUBMITTED: September 25, 1962

L 19016-63 BDS/EPA(b)/EPF(c)/EWT(l)/EWT(m)/FCS(k)/ES(v) AFMDC/
AEDC/AFFTC/ASD Pd-4/Pd-4/Pr-4 RM/WW/JW/MAY

ACCESSION NR: AP3006625 S/0076/63/037/009/2082/2086

AUTHOR: Kozlov, G. I.; Knorre, V. G.

TITLE: Kinetic study of the thermal decomposition of methane in a single-impulse shock tube

SOURCE: Zh. fizicheskoy khimii, v. 37, no. 9, 1963, 2082-2086

TOPIC TAGS: methane, methane decomposition, thermal decomposition, decomposition, reaction kinetics, shock wave, combustion, shock tube

ABSTRACT: The thermal decomposition of methane in shock waves has been studied kinetically with two argon-methane mixtures (2% and 10% methane). The experiments were conducted in a shock tube; incident shock wave Mach numbers were varied from 2.82 to 3.33 to generate gas temperatures behind the reflected shock wave (T_5) ranging from 1670 to 2090K. T_5 was calculated with allowance for temperature dependence of the specific heat of methane; full vibrational relaxation and the absence of chemical reactions were

Card 1/3

L 19016-63

ACCESSION NR: AP3006625

assumed. The reaction temperature (T_r) was calculated from T_5 by correcting for the reaction heat, determined from the product composition. The reaction products were analyzed for methane, ethane, ethylene, acetylene, and hydrogen. Overall rate constants were obtained from a total of 19 experimental runs. Experiments with a 10% CH_4-90% Ar mixture, conducted at identical M but at reaction pressures ranging from 2 to 8 atm, showed that pressure does not substantially affect the methane decomposition rate, proving that the decomposition is a first-order process. Other experiments with a methane-argon mixture to which hydrogen, ethane, ethylene, or acetylene were added showed that the presence of these gases does not affect the decomposition, a fact which suggests that the reaction chain is of short length. The rate constant for methane decomposition at 1000—2000K obeys the equation:

$$k_1 = 8 \times 10^{13} e^{-93000/RT} \text{ sec}^{-1}.$$

Analysis of the partial reactions showed further that the reaction $CH_4 \rightarrow CH_2 + H_2$ is the rate-controlling step in the decomposition.

Card 2/3

L 19016-63

ACCESSION NR: AP3006625

3

The activation energy of 93 ± 4 kcal/mol and the rate constants determined in the experiments are in good agreement with earlier results. "In conclusion the authors express their gratitude to Corr. member AN SSSR L. N. Khitrin and Corr. member AN SSSR Z. F. Chukhanov for their continuous interest in the work and their useful suggestions." Orig. art. has: 9 formulas, 2 figures, and 1 table.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo (Power Engineering Institute)

SUBMITTED: 22Oct62 DATE ACQ: 30Sep63 ENCL: 00

SUB CODE: PR, AS NO REF SOV: 003 OTHER: 005

Card 3/3