DASHUNIN, V.M.; TOVBINA, M.S.; FRIDMAN, Sh.A.; BELOV, V.N.

Preparation of odorous substances, derivatives of 3-hydroxy-γ-pyranone. Trudy VNIISNDV no.6:73-80 '63. (MIRA 17:4)

BRATUS, I.N.; VORONIN, V.G.; BELOV, V.N.

Some variants of coumarin synthesis. Trudy VNIISNDV no.6:81-85 '63. (MIRA 17:4)

PRZHIYALGOVSKAYA, N.M.; SHNER, V.F.; BELOV, V.N.

Reduction of naphtholcarboxylic acids. Part 10: Preparation of 6-acetamino-2-tetralone and methyl ester of 6-acetamino-2,3-tetralonecarboxylic acid. Zhur.ob.khim. 34 no.2:508-511 F '64. (MIRA 17:3)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.

PRZHIYALGOVSKAYA, N.M.; MONDODOYEV, G.T.; BELOV, V.N.

Reduction of naphtholcarboxylic acids. Part 12: Synthesis of 1,4-dihydro-2-methoxy-3-naphthoic acid and its methyl ester. Zhur. ob. khim. 34 no. 5:1570-1572 My '64. (MIRA 17:7)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.

DASHUNIN, V.M.; MAYEVA, R.V.; KAZALETOVA, G.A.; BELOV, V.N. [deceased]

Substituted lactones and their transformations. Part 3: Hydrogenation of the aromatic ring in α-arylalkylidene butyrolactones. Zhur. ob. khim. 34 no.9:3096-3101 S '64. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv, Moskva.

LASKINA, Ye.D.; BELOV, V.N. [deceased]; RUDOL'FI, T.A.; SHCHEDRINA, M.M.

Claisen rearrangement. Zhur. ob. khim. 34 no.12:4015-4018 D '64
(MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv.

SMUSHKEVICH, Yu.I.; BELOV, V.N.; KLEYEV, B.V.; AKIMOVA, A.Ya.

Reaction of olefins with aldehydes. Part 2: Reaction of chloroacetaldehyde with cyclopentene. Zhur.org.khim. 1 no.2:288-289 F '65. (MIRA 18:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

BELOV, V.N. [deceased]; SOLOV'YEVA, N.P.; RUDOL'FI, T.A.; VORONINA, I.A.

Macrocyclic lactones. Part 1: Synthesis and infrared spectra of thialactones. Zhur.org.khim. 1 no.3:546-550 Mr '65.

Macrocyclic lactones. Part 2: Synthesis of sulfonolactones and thialactone iodomethoxides. Ibid.:551-554

(MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv, Moskva.

BELOV, V.N. [deceased]; TARNOPOL'SKIY, Yu.I.

Reaction of butyrolactone with organomagnesium compounds. Zhur. org. khim. 1 no.4:634-636 Ap '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

MONDODOYEV, G.T.; PRZHIYALGOVSKAYA, N.M.; BELOV, V.N. [deceased]

Reduction of naphtholcarboxylic acids. Part 14: Indirect electroreduction of methyl 2-naphthoate. Zhur. org. khim. 1 no.7:1224-1248 Jl '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva i Buryatskiy sel'skokhozyaystvennyy institut.

PROMONENKOV, V.K.; SKVORTSOVA, N.I.; BELOV, V.N. [deceased]; KAMENSKIY, A.B.; RODIONOVA, N.V.

Some transformations of 3-methyl-4-(cyclopenten-2'-yl)buten-2-al. Zhur. org. khim. 1 no.8:1431-1434 Ag '65.
(MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

MONDOROYEV, G.T.; PRZHIYALGOVSKAYA, N.M.; BELOV, V.N. [deceased]

Reduction of naphtholcarboxylic acids. Part 15: Reduction dimerization of methyl ester of 1-naphthoic acid. Zhur. org. khim. 1 no.11:2008-2012 N '65. (MIRA 18:12)

1. Submitted December 28, 1964.

BELOV, V.N. [deceased]; YERYSHEV, B.Ya.; AVRAMENKO, V.G.

Syntheses on a base of ω-chloroalkanoic acids. Part 3: Reaction of ω-chloroalkanoic acids with alkalies. Zhur. org. khim. 1 no.4:645-648 Ap '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

BELOV, V.N. [deceased]; YERYSHEV, B.Ya.; AVRAMENKO, V.G.; SYCHEVA, Z.F.

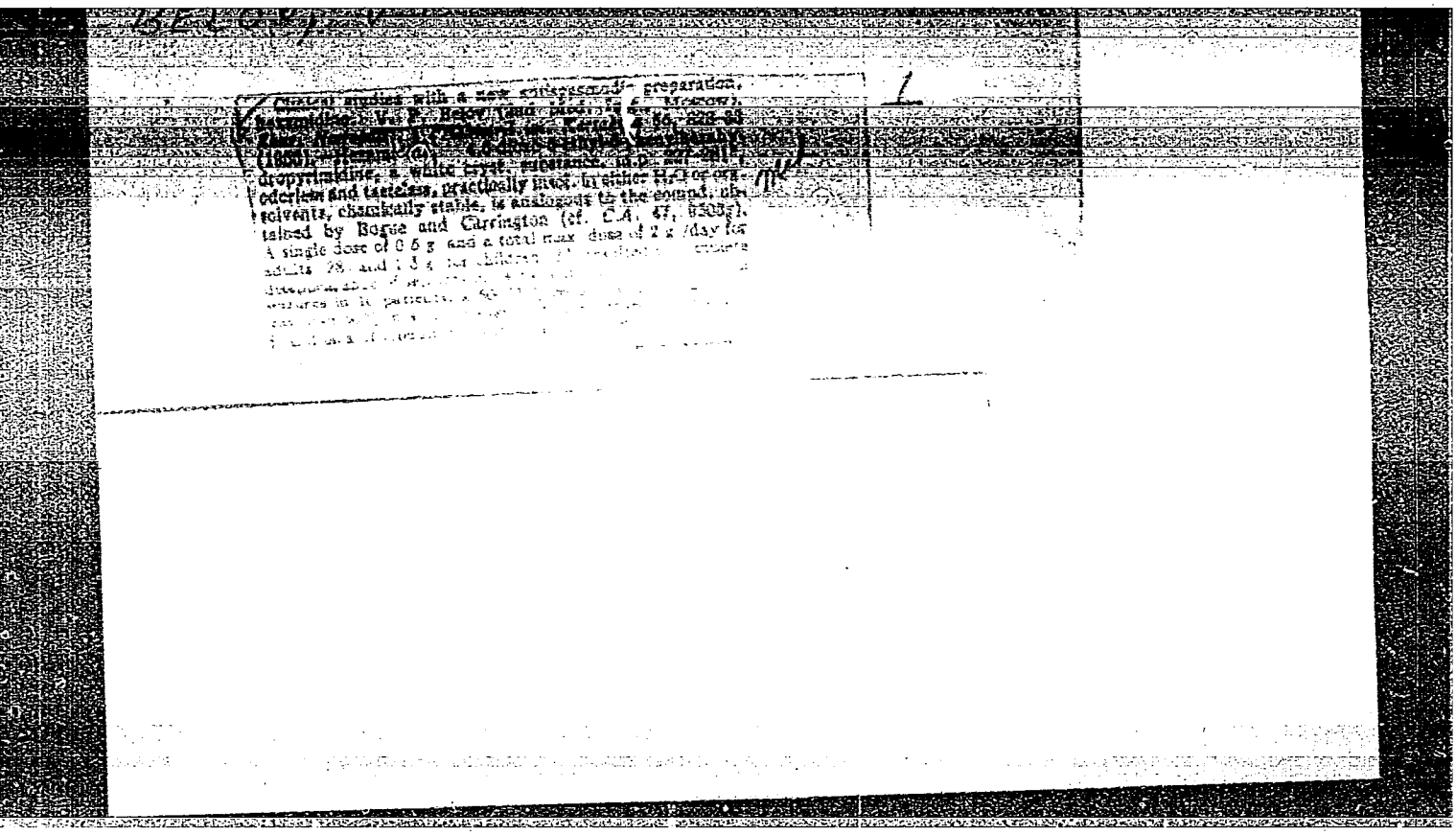
Synthesis based on ω-chloroalkanoic acids. Part 3: Synthesis and pyrolysis of S-(ω-carboxy and ω-carbethoxy) alkyl esters of ethylxanthic acid. Zhur. org. khim. 1 no.4:686-688 Ap '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

VOUTSEKHOVSKAYA, A.L.; KOSUL'NIKOVA, N.A.; RUDOL'FI, T.A.; DASHUNIN, V.M.
BELOV, V.N. [deceased]

Transformations of δ-methyl-γ-alkyl-δ-valerolactones under the effect of polyphosphoric acid. Zhur. VKHO 10 no.6:702-703 '65 (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv. Submitted April 7, 1965.



BELOV, V. P.

Fuel Abstracts
May 1954
Steam Raising
and Steam
Engines

3752. USE OF GANTRY CRANES IN BOILER HOUSES. Belov, V.P. (Elekt. Sts. (Pwr Sta., Moscow), June 1953, vol. 24, 15-18). The cranes capable of assembling the large components of 170 and 230 ton high pressure boilers without auxiliary drum raising equipment. Features of a 2 x 15 t capacity two-truck gantry crane, installed in 1949 for the assembly of boiler units, are described. B.E.A.

BELOV, V.P.

Possibilities of simplifying the design of production strings and saving metal in drilling. Izv. vys. ucheb. zav.; neft' i gaz 2 no.7:111-114 '59. (MIRA 12:12)

1.Kuybyshevskiy industrial'nyy institut im. V.V. Kuybysheva.
(Pipe)

BELOV, V. P.

Measurement of the principal optical characteristics of the surface layer of the air. (In Russian).
Leningrad, Gidromet. Izdat., 1956, 76p., figs., diagrs., tables, refs.

BELOV, V.P.

Coefficient of safety for tightness of threaded joints of casing pipes. Izv.vys.ucheb.zav.; neft' i gaz 3 no.3:27-32 '60. (MIRA 14:10)

1. Kuybyshevskiy industrial'nyy institut imeni V.V.Kuybysheva.
(Oil well casing)

BELOV, V.P.

Use of plastics for controlling circulation loss. Izv. vys. ucheb. zav.; neft' i gaz 4 no.1:33-37 '61. (MIRA 15:5)

1. Kuybyshevskiy industrial'nyy institut imeni V.V. Kuybysheva.
(Oil well drilling fluids)
(Plastics)

BELOV, Valeriy Petrovich; SOKOL, I.V., red.; KRASAVINA, A.M., tekhn. red.

[Motor-vehicle tires] Avtomobil'nye shiny. Moskva, Voen.izd-vo M-va obor.SSSR, 1961. 82 p. (MIRA 14:12)
(Motor vehicles--Tires).

AVAYEV, Sergey Aleksandrovich; ZINGMAN, Aleksandr Abramovich; KOZLOV, B.P., retsenzent; ROZANOV, S.P., retsenzent; BELOV, V.P., retsenzent; SHTEYNGART, M.D., red.; SHVETSOV, S.V., tekhn. red.

[Fundamentals of the automation of technological processes in the textile and other light industries] Osnovy avtomatizatsii tekhnologicheskikh protsessov v tekstil'noi i legkoi promyshlennosti. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1961. 378 p. (MIRA 14:12)

(Automatic control) (Factories--Equipment and supplies)

BELOV, V.P.; KOZLOV, B.P.; LESHCHENKO, V.G.; SHMELEV, A.N., kand. tekhn. nauk, retsenzent; VLASKO, Yu.M., red.; TAIROVA, A.L., red. izd-va; EL'KIND, V.D., tekhn. red.; DEMKINA, N.F., tekhn. red.

[Automatically controlled electric drives of textile machinery] Avtomatizirovannyi elektroprivod tekstil'nykh mashin. Moskva, Mashgiz, 1962. 371 p. (MIRA 16:2)
(Textile machinery--Electric driving)
(Automatic control)

BELOV, V.P.

Work of a school radio club useful to the community. Fiz. v shkole 20 no.5:93-95 S-O '60. (MIRA 13:11)

1. 6-ya srednyaya shkola, Armavir.
(Armavir--Radio clubs)
(Soils--Electric properties)

BELOV, V.P.; MINGALEV, B.S.; SHEKHTER, V.M.

Possibility of determining form factors in the leptonic decay of hyperons. Zhur.eksp.i teor.fiz. 38 no.2:541-552 F '60. (MIRA 14:5)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Mesons--Decay)

BELOV, V.P.; KUCHINSKIY, I.N.

Attempt to use the artificial kidney in treating schizophrenia. Zhur.nevr. i psikh. 63 no.12:1856-1860 '63. (MIRA 18:1)

1. Kafedra psikhiatrii (zav. - prof. O.V.Kerbikov) i urologicheskaya klinika (zav. - prof. A.Ya.Pytel') II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.

BELOV, V.P., inzh.

Minor mechanization of labor-consuming operations in the installation of thermal power plant equipment. Energ. stroi. no.1:163-169 '59. (MIRA 13:2)

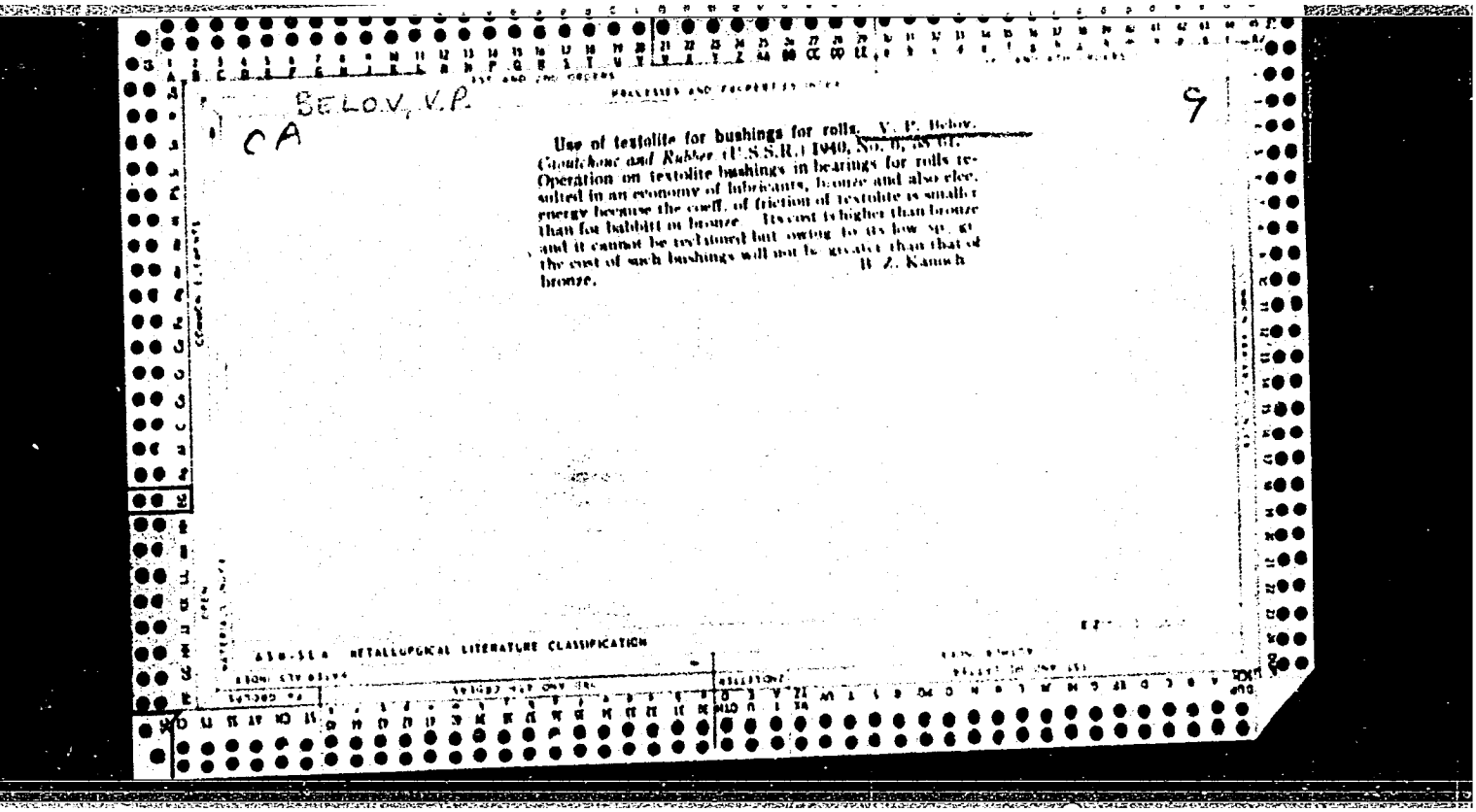
1.Trest "TSentroenergomontazh". (Electric power plants)

S.C.L. BELOV, V.P.

and Materials

Accidents caused by calender and mixing machine rolls and their prevention. V. P. BELOV (Kauchuk i Rezina, 1940, 1, 36–40; Rev. Gén. Caout., Doc. Anal., 1945, 22, 53).—The reason for the accidents is usually failure to observe the rules for the treatment of the mixings. Some accident statistics are given. 75521

1946



BELOV, V.P.

CA

9

Use of textolite for bushings for rolls. V. P. Belov. *Goutchouc and Rubber* (U.S.S.R.) 1940, No. 6, 48-51.
Operation on textolite bushings in bearings for rolls resulted in an economy of lubricants, bronze and also elec. energy because the coeff. of friction of textolite is smaller than for babbitt or bronze. Its cost is higher than bronze and it cannot be reclaimed but owing to its low sp. gr. the cost of such bushings will not be greater than that of bronze.

B. Z. Kanuch

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

BELOV, V.P., kandidat tekhnicheskikh nauk; LESHCHENKO, V.G., inzhener. SPIRIDONOV, I.I., inzhener.

Electric drive for the ShKU-140 sizing machine. Tekst.prom. 16 no.2:40-43 F '56. (MLRA 9:5)
(Sizing (Textile)) (Textile machinery)

L 00942-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c)

ACCESSION NR: AT5015935 UR/3092/65/000/003/0003/0024

AUTHOR: Basargin, Yu. G.; Belov, V. P.

B+1 19

TITLE: Some problems of the dynamics of particles moving in a cyclotron with a spatial variation of the magnetic field

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura; sbornik statey, no. 3, 1965, 3-24

TOPIC TAGS: cyclotron, spatial field variation cyclotron

ABSTRACT: General equations describing orbital parameters and dynamic phenomena in spacial-magnetic-field-variation accelerators are written after H. L. Hagedoorn et al. (Nucl. Instr. and Meth., 18, 19, 201, 1962), R. S. Livingston et al. (Nucl. Instr. and Meth., 6, 1, 1959, and 6, 105, 221, 234, 1960), and other sources. Unlike in the above sources, the higher-order terms in these equations are taken into account, which makes mathematical transformations

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L 00942-66
ACCESSION NR: AT5015935

more complicated but yields more accurate results. The more accurate formulas are desirable for analyzing medium-energy cyclotrons that use magnetic systems with few periodic elements and deep radially nonuniform azimuthal variation. General formulas for the equilibrium orbit, linear radial and axial oscillations, period of particle orbiting, and isochronism condition are derived. These formulas are also given in simplified forms suitable for quick rough estimates. The accuracy of the general formulas was verified by comparison with the results obtained on a computer for an easy-spiral 3-sector cyclotron with magnetic-field parameters defined as analytical functions of its radius. Orig. art. has: 71 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NO REF SOV: 004 OTHER: 007

Card 2/2

BELOV, V.P., kand.tekhn.nauk

Warp tension on modern sizing machines. Tekst. prom. 20 no. 11:29-32 N '60. (MIRA 13:12)
(Textile machinery) (Sizing (Textile))

SHCHUKIN, Petr Mikhaylovich; BELOV, V.P., kand.tekhn.nauk, retsenzent; AVERKIN, V.A., red.izd-va; CHERNOVA, Z.I., tekhn.red.; DEMKINA, N.F., tekhn.red.

[Basic trends in the design and construction of sizing machinery] Osnovnye napravleniia v konstruirovanii shlikhtoval'nykh mashin. Moskva, Mashgiz, 1962. 142 p. (MIRA 15:5)
(Textile machinery) (Sizing (Textile))

SHEIN, V.A.; BELOV, V.P.

Some means for lowering the expenditure of time and materials in lost circulation. Izv. vys. ucheb. zav.; neft' i gaz 5 no.6: 111-114 '62. (MIRA 16:5)

1. Kuybyshevskiy industrial'nyy institut imeni V.V.Kuybysheva.
(Oil well drilling fluids) (Plastics)

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

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

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

BELOV, V.P., kand.tekhn.nauk

Level and degree of mechanization and automation of textile machinery. Tekst.prom. 22 no.6:13-16 Je '62. (MIRA 16:5)

1. Rukovoditel' laboratorii elektroniki i elektroprivoda TSentral'nogo nauchno-issledovatel'skogo instituta khlopchatobumazhnoy promyshlennosti (TsNIKhBI).
(Textile machinery) (Automatic control)

AVAYEV, Sergey Aleksandrovich, kand. tekhn. nauk; BELOV, Vladimir Pavlovich; ZINGMAN, Aleksandr Abramovich; MILOVIDOV, Nikolay Nikolayevich; SIDOROV, Yuriy Pavlovich; SIMIGIN, Petr Andreyevich; GARTUNG,S.V., retsenzent; KRYLOV, A.P., retsenzent; CHUGREYEVA,V.N., red.; VINOGRADOVA,G.A., tekhn.red.

[Automatization of technological processes in the cotton industry] Avtomatizatsiia tekhnologicheskikh protsessov khlopchatobumazhnoi promyshlennosti. Moskva, Gizlegprom, 1963. 279 p. (MIRA 16:11)
(Cotton machinery) (Automation)

BELOV, V.P., kand. tekhn. nauk

Concerning the handbook for the textile industry power engineer. Tekst. prom. 23 no.10:92-93 O '63. (MIRA 17:1)

1. Rukovoditel' laboratorii elektroniki i elektroprivoda TSentral'nogo nauchno-issledovatel'skogo instituta khlopchatobumazhnoy promshlennosti (TsNIKhBI).

BELOV, V. P.; GERMAN, A. I.; KOSTYANOV, G. N.; PAKHOMOVA, L. A.

"Balloon and aircraft measurements of short wave radiation."

report presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

BELOV, V.P.

Mental disorders in patients with ulcerative colitis. Vest. AMN SSSR 18 no.10:82-90 '63. (MIRA 17:6)

1. II Moskovskiy meditsinskiy institut imeni Pirogova.

BELOV, V.P.

Using urea-formaldehyde resins to control circulation loss.
Neft. khoz. 41 no.2:56-61 F '63. (MIRA 17:8)

BELOV, V.P.

Ultrabasic and basic rocks in the northwestern part of the Yenisey Range. Vest. Mosk. un. Ser. 4: Geol. 19 no.1:8-14 Ja-F '64. (MIRA 18:2)

1. Kafedra petrografii Moskovskogo universiteta.

BELOV, V.P. (Moskva); KULIKOV, L.S. (Moskva); TRIFONOV, O.A. (Moskva)

Some characteristics of the dynamics of neurotic states originating in childhood. Zhur. nevr. i psikh. 65 no.5:733-736 '65. (MIRA 18:5)

BELOV, V.P.; SHEKHTER, V.M.

Trajectories of Regge poles for a nonrelativistic two-channel problem. Zhur. eksp. i teor. fiz. 47 no.5:1855-1867 N '64. (MIRA 18:2)

1. Fiziko-tekhnicheskiy institut imeni Ioffe AN SSSR.

BELOV, V.P.

Reaction with two-meson production, and unitary symmetry.
IAd. fiz. 1 no.6:1137-1138 Je '65. (MIRA 18:6)

L 2254-66 EWT(d)/EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c)

ACC NR: AP5025891 SOURCE CODE: UR/0057/65/035/010/1791/1798

49
37
13

AUTHOR: Belov, V.P. 44,55

ORG: none

TITLE: Nonlinear radial betatron resonances in an isochronous cyclotron 19

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 10, 1965, 1791-1798

TOPIC TAGS: particle accelerator, particle trajectory, clyclotron, nonlinear differential equation, nonlinear differential equation, mathematic method

16, 44, 55

ABSTRACT: The radial betatron resonances Nn/q of an N-element isochronous cyclotron (n and q are integers) are discussed for arbitrary structure of the magnetic field. The differential equation for the orbit in the median plane is written in a form involving the Taylor series expansion coefficients of the axial magnetic field and is solved for the equilibrium orbit in the second approximation in the Fourier coefficients describing the azimuthal variation of the magnetic field. The differential equation for the deviation from the equilibrium orbit is written, and from it the so-called contracted Bogolyubov-Krylov equations are derived by the averaging technique. A first integral of these equations is obtained in the low amplitude approximation. The stationary amplitudes and phases of the betatron oscillations are derived, their stability is discussed, and the width of the resonance is calculated. The invariant

UDC: 621.384.611

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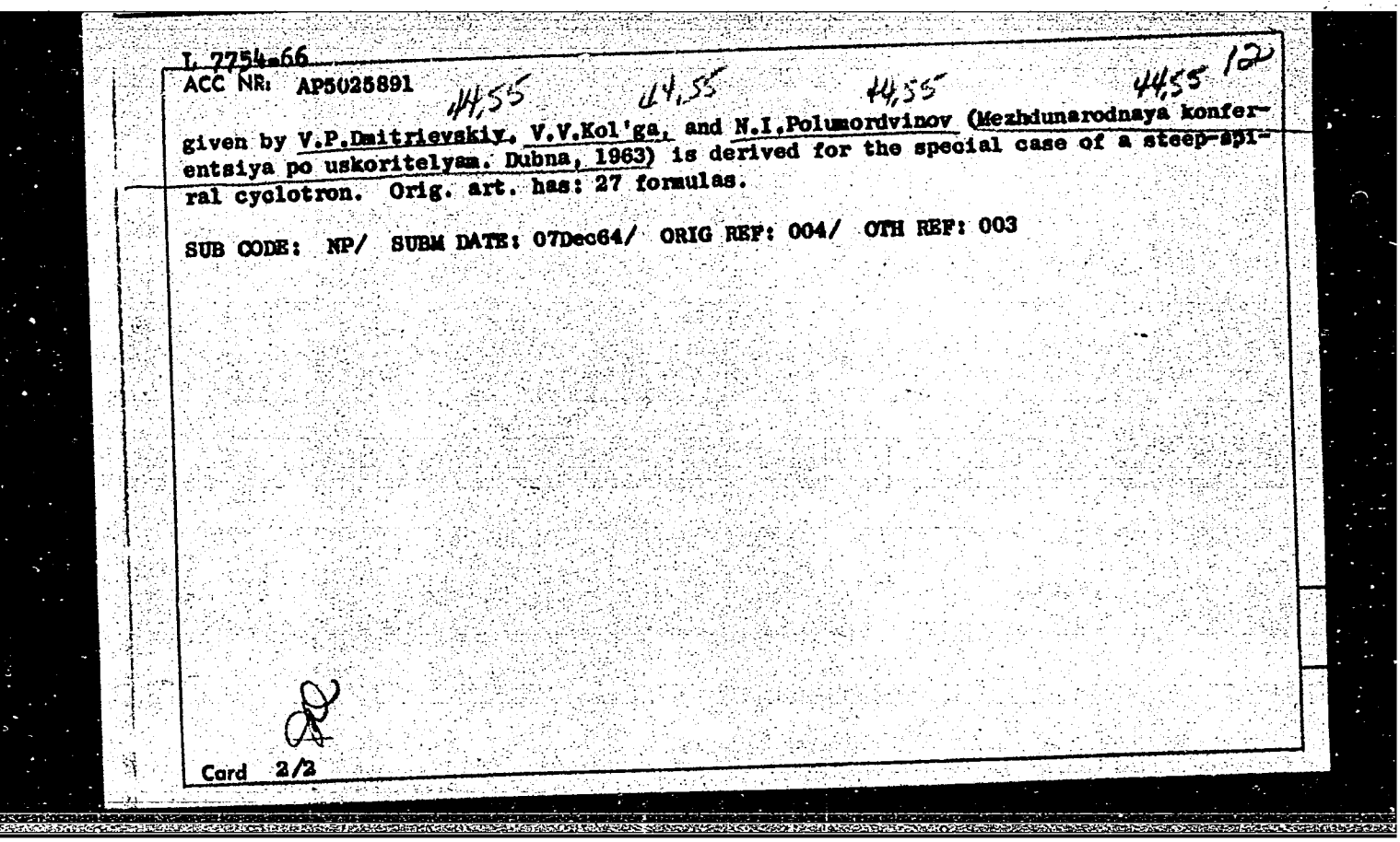

L 7754-66
ACC NR: AP5025891

44,55 44,55 44,55 44,55 12

given by V.P.Dmitrievskiy, V.V.Kol'ga, and N.I.Polumordvinov (Mezhdunarodnaya konferentsiya po uskoritelyam. Dubna, 1963) is derived for the special case of a steep-spiral cyclotron. Orig. art. has: 27 formulas.

SUB CODE: NP/ SUBM DATE: 07Dec64/ ORIG REF: 004/ OTH REF: 003

Card 2/2

ACC NR: AT6031756 SOURCE CODE: UR/3092/66/000/004/0052/0076

AUTHOR: Belov, V. P.

ORG: None

TITLE: Nonlinear resonances of the coupling $\nu_r - 2\nu_z = \varepsilon$, $2\nu_r \pm 2\nu_z = N + \varepsilon$ in a cyclotron with spatial variation of magnetic field

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura, no. 4, 1966, 52-76

TOPIC TAGS: cyclotron, betatron, magnetic field, mathematic method, approximation

ABSTRACT: Coupled motion in the near-resonance region $\nu_r - 2\nu_z = \varepsilon$ and $2\nu_r \pm 2\nu_z = N$, with all summands in the equations for betatron oscillations taken into consideration is reviewed using asymptotic methods. In a unidimensional approximation the formulas for limiting amplitude, increment, and resonance band width coincide with the results obtained by Laslett and Sessler [Rev. Scient. Instrum., 32, No. 11, 1235 (1961)]. Orig. art. has: 53 formulas.

SUB CODE: 20/SUBM DATE: None/ORIG REF: 003/OTH REF: 002

Card 1/1

ACC NR: AT6031755 SOURCE CODE: UR/3092/66/000/004/0038/0051

AUTHOR: Belov, V. P.

ORG: None

TITLE: Nonlinear resonances Nn/3 and Nn/4 in the regular field of an isochronous cyclotron

SOURCE: Moscow. Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury. Elektrofizicheskaya apparatura, no. 4, 1966, 38-51

TOPIC TAGS: cyclotron, cyclotron resonance, mathematic method, mathematic analysis, betatron

ABSTRACT: A study is made of the Nn/3 and Nn/4 resonances in the general form suitable for cyclotrons with arbitrary N. Note is made of the fact that reference works cited on the subject fail to consider $k^{(n)}$ (the average field index) completely, or do not consider all $k^{(n)}$, despite the fact that in certain cases this must be done. The equation for radial betatron oscillations is developed at length, and the Nn/3 and Nn/4 resonances are discussed mathematically. Orig. art. has: 26 formulas.

SUB CODE: 20/SUBM DATE: None/ORIG REF: 002/OTH REF: 006

Card 1/1

BELOV, V.P.; SHEKHTER, V.M.

[illegible] resonance and unitary symmetry. IAd. fiz. 2 no.4: 757-761 O '65. (MIRA 18:11)

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

L 16509-65 EWT(1) IJP(c)/SSD/AFWL

ACCESSION NR: AP5000344 S/0056/64/047/005/1855/1867

AUTHORS: Belov, V. P.; Shekhter, V. M. B

TITLE: Trajectories of Regge poles for the nonrelativistic two-channel problem

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1855-1867

TOPIC TAGS: Regge pole, angular momentum, elementary particle interaction, potential scattering, nonrelativistic particle

ABSTRACT: Continuing earlier work by one of the authors (Shekhter, with Ya. I. Azimov and A. A. Ansel'm, ZhETF v. 44, 361 and 1078, 1963) on the determination of the explicit form of Regge-pole trajectories, the authors extend the analysis to a more complicated case, when the reaction can proceed via several channels. The specific problem considered is the behavior of Regge pole for scatter-

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ing by Yukawa potentials when the reaction has two possible channels. The analysis is carried out by the same method as in the earlier work. The equation for the pole trajectories is first obtained in the case of weak coupling, followed by an examination of the behavior of trajectories at not too small negative values of k_1^2 and k_2^2. Further motion of the poles at small k_1^2 or k_2^2 is described, as well as the behavior of the trajectories for positive values of k (k = momentum). The analytic properties of the trajectories are then described and the occurrence of so-called M-poles is discussed. It is shown that at high energies two trajectories, corresponding to number of channels, arrive at each integer negative point. The variation of the trajectories with energy is essentially the same as for the single-channel problem. The increase in the number of trajectories causes also an increase in the number of their collisions, i.e., the number of branch points in the complex energy plane. It is concluded that all the earlier results can be easily extended to

L 16509-65
ACCESSION NR: AP5000344

the case of many channels. Orig. art. has: 2 figures and 14 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 11May64 ENCL: 00

SUB CODE: NP NR REF SOV: 002 OTHER: 000

Card 3/3

MUROMTSEV, A.M.; ARKHIPOVA, Ye.G.; MAKEROV, Yu.V.; KHARITONOV, D.G.; DOBROVOL'SKAYA, L.N.; POTAYCHUK, M.S.; VORONOVA, S.P.; BELOV, V.P.; RZHEPLINSKIY, G.V., nauchn. red.; ROSHCHINA, V.V., red.; ZARKH, I.M., tekhn. red.

[Basic characteristics of the hydrology of the Atlantic Ocean] Osnovnye cherty gidrologii Atlanticheskogo Okeana. Pod red. A.M.Muromtseva. Moskva, Gidrometeoizdat, 1963. 835 p. ___[Atlas of vertical cross sections and maps of temperature, salinity, density and oxygen composition] Prilozhenie no.2. Atlas vertikal'nykh razrezov i kart temperatury, solenosti, plotnosti i soderzhaniia kisloroda. 182 p. (MIRA 17:3)

1. Moscow. Gosudarstvennyy okeanograficheskiy institut.

BELOV, Vladimir Petrovich; KOROBOVA, E.S., red.

[New developments in major construction in the Kuban] Novoe v kapital'nom stroitel'stve na Kubani. Krasnodar, Krasnodarskoe knizhnoe izd-vo, 1963. 43 p. (MIRA 18:1)

1. Zamestitel' nachal'nika Glavnogo upravleniya po stroitel'stvu v rayonakh Severnogo Kavkaza Ministerstva stroitel'stva RSFSR(for Belov).

BELOV, V.P.

Treatment with reserpine of preschool age children with schizophrenia. Zhur.nevr.i psikh. 62 no.7:1096-1102 '62. (MIRA 15:9)

1. Kafedra psikhiatrii (zav. - prof. O.V.Kerbikov) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
(SCHIZOPHRENIA) (RESERPINE)

BELOV, V. P., CAND MED SCI, "HEXAMIDINE AND COMBINED treatment ~~THERAPY~~ OF RESISTANT FORMS OF EPILEPSY." MOSCOW, 1961. (MIN OF HEALTH USSR, CENTRAL INST FOR ADVANCED TRAINING OF PHYSICIANS). (KL, 3-61, 230).

L 8584-65 EWT(1)/EWT(m)/EPA(w)-2/EEC(t)/EEC(b)-2/EWA(m)-2 Pab-24/Pt-10
IJP(c)/SSD/ESD/AFWL/ESD(t)
ACCESSION NR: AP4048495 S/0120/64/000/004/0037/0038

AUTHOR: Belov, V. R.; Popov, Yu. S.; Sokolov, L. S.

TITLE: Focusing of a deflected cyclotron beam by a magnetic channel

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1964, 37-38

TOPIC TAGS: ion focusing method, deflected cyclotron beam, cyclotron beam focusing, magnetic channel, cyclotron, plane deflector

Abstract: The article describes several ion methods of focusing. Focusing is provided by two steel wedges (klin) located symmetrically with respect to the median plane of the accelerator and forming a magnetic field incremental with respect to the radius. The degree of increment of the field is selected so that the beam diverging with respect to the horizontal will be caused to converge (Figure 1). The device has the following merits: (1) absence of supplementary sources of power supply and supplementary correction of the magnetic field; (2) absence of beam losses at the elements of the channel; (3) smooth regulation within small variations in the direction of the beam and the degree of focusing it without disturbing the

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ACCESSION NR: AP4048495

vacuum in the acceleration chamber; and (4) simplicity of design. The work was conducted on a cyclotron with a diameter of the poles of 120 cm. The beam was extracted by a plane deflector. The average intensity of the extracted beam amounted to 20 microamperes. There are two figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki, elektroniki i avtomatiki pri TPI (Scientific Research Institute of Nuclear Physics, Electronics, and Automation, TPI)

SUBMITTED: 27Jul63 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 001 JPRS

Card 2/2

BELOV, V.S.

CHERNIKOV, S.S.; MAKUYLOV, L.K.; BELOV, V.S.

The MA-1 vertical broaching machine as part of assembly line. Stan. i instr. 27 no.11:18-20 N'56. (MIRA 10:1)
(Broaching machines)

BELOV, V.S.

PHASE I BOOK EXPLOITATION 1187

Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov

Modernizatsiya strogal'nykh, dolbezhnykh i protyazhnykh stankov: rukovodyashchiye materialy (Modernization of Planing, Shaping, Slotting, and Broaching Machines; Instructions) Moscow, Mashgiz, 1957. 178 p. 8,500 copies printed.

Authors: Boltukhin,A.K., Morozov, I.I., Kudinov, V.A., Lapidus, A.S., Belov, V.S., Manuylov, L.K., Mushtayev, A.F., Engineers; Ed.: Prokopovich, A.Ye.; Ed. of Publishing House: Shemshurina, Ye.A.; Tech. Ed.: Matveyeva, Ye.N.; Managing Ed. for Literature on Metal Working and Tool Making (Mashgiz): Beyzel'man, R.D., Engineer.

PURPOSE: The book is intended for production engineers and machinists in metal cutting shops.

COVERAGE: The book presents instructions on modernization of planers, shapers, slotters, horizontal broaching machines, and vertical broaching machines for internal and external broaching. A brief review and analysis of the operation of these machine tools is

Card 1/6

given and also the basic and most expedient methods of modernizing them. Examples of design and modernization of the speed drive and of the feed drive, measures for raising the level of mechanization and automation of machine tools are discussed and devices are shown for widening the applicability range of machines and for performing various operations not pertaining to those usually done on these machine tools. The problems of increasing rigidity, resistance to vibrations and the life of these machine tools is discussed. Drawings of basic units of standard plans for modernization of tools as worked out by TsKB Remashtrest (Central Design Bureau of the Trust for the Repair of Metal-cutting Machines) and engineering departments of machine-tool building plants are presented in detail. No personalities are mentioned. There are 16 references, all Soviet.

TABLE OF CONTENTS:

Modernization of Planing (Cont.) 1187

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AVAILABLE: Library of Congress (TJ1205.M6)

GO/nah
2-25-59

Card 6/6

YEVSEYEV, P.P.; BELOV, V.S.

The E-108 grooving machine. Biul. tekh.-ekon. inform. no.3:29-31 '58. (MIRA 11:6)

(Broaching machines)

S/193/60/000/011/009/022
A004/A001

AUTHOR: Belov, V. S.

TITLE: The Vertical 3128 (E128) Broaching Machine for Internal Broaching

PERIODICAL: Byulleten' tekhniko-ekonimicheskoy informatsii, 1960, No. 11, pp. 21-23

TEXT: The vertical E128 broaching machine, designed by the Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov (Experimental Scientific Research Institute of Metal Cutting Tools) and built 1960 by the Moscow "Stankokonstruktsiya" Plant, is intended for the broaching of smooth, profiled and splined holes in gears, flanges, rings, and other parts. The machine is operated either by adjustment, or in a semi-automatic or fully automatic cycle. The author enumerates the following advantages which the new machine, in comparison with the existing Soviet or foreign broaching machines, possesses: small floor space (2.1 m^2); considerably reduced distance from the floor to the loading station of the workpiece being machined; devices for the removal of chips from the broaches and bearing area of the table; automatic blowing off of cutting fluid from workpieces with grooves and recesses; mechanized chip removal from the cutting zone by a

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S/193/60/000/011/009/022
A004/A001

The Vertical 7128 (E128) Broaching Machine for Internal Broaching

screw conveyer; low weight and small dimensions of the working chuck. It is possible on the machine to machine splined holes in several operations. On the auxiliary carriage a special chuck is mounted which ensures the turning of the broach, so that the splined part of the second broach gets into the grooves of the hole machined by the first broach. The E128 broaching machine has a special hydraulic device ensuring a compulsory approach and retraction of the chuck jaws. The following technical data are given: rated tractive force - 20 tons; maximum travel length of working carriage - 1,050 mm; carriage travel speed: operating speed - up to 10 m/min, reversing speed - 30 m/min; power of main drive motor - 14 kw; overall dimensions (length x width x height) - 2,355 x 900 x 3,220 mm; weight 6 tons. There is 1 figure.

Card 2/2

BELOV, V.S.; MANUYLOV, L.K.; OSIPOV, K.A.; CHERNIKOV, S.S.; ACHERKAN, N.S., prof., doktor tekhn. nauk, red.; PELEKH, M.A., tekhn. red.

[Modern methods of broaching used abroad; survey compiled on the basis of foreign periodical literature in the field of the manufacture of machinery] Sovremennye metody protiagivaniia za rubezhom; obzor sostavlen po materialam zarubezhnoi periodicheskoi literatury v oblasti mashinostroeniia. Pod red. N.S.Acherkana. Moskva, Vses. in-t nauchnoi tekhn. informatsii, 1961. 57 p. (MIRA 14:7)

(Broaching machines)

S/121/61/000/006/004/012
D040/D112

AUTHOR: Belov, V.S.

TITLE: Improving the machining accuracy on internal broaching machines

PERIODICAL: Stanki i instrument, no.6, 1961, 14-16

TEXT: The effect of broaching machine table design has been studied in experiments. The table of existing vertical broaching machines is a platen with three edges clamped and the fourth free. The carriage with the chuck approaches from the free side to grip the broach. A large quantity of 90-200 mm diameter and 20-90 mm high blanks were broached in the described experiments on an "MA-1" ("MA-1") broaching machine. It is shown in Fig.2 how the machine table sagged during broaching (dotted line). On the average, the bottom face of a 100 mm diameter part wobbled 0.017 mm, and of a 200 mm diameter part 0.066 mm. The greater inaccuracy in the case of the larger piece was due to a greater shift in the broaching process. As is shown in Fig.3 only the edges of the part, not its entire surface, were in contact with the table. It is obvious that the load depends on the number of broach teeth in contact with the workpiece; when the load varies, the workpiece wobbles. The less the height of the workpiece, the greater the accuracy.

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Improving the machining accuracy on internal .....

A special device was used to examine the contact between the table and the workpiece by prints left by the workpiece on tissue paper with a sheet of carbon paper put underneath. Another cause of inaccuracies in vertical broaching machines is the jamming of chip pieces in the pulling chuck and on the cylindrical portion of the broaching tool. It is recommended to have a narrower gap between the tool shank and the chuck. Wobbling of the workpiece end on the table evidently affected the accuracy of the broached bore more than the gap between the broaching tool and the wall of the bore in the workpiece. The total machining error was found to be between 0.072 and 0.132 mm. Conclusions: 1) The machine table design must ensure symmetrical sag of table during the broaching process. If the workpiece diameter is large, it must be placed on the top of one with smaller diameter, or the machine must have a square table fixed at four points. 2) An auxiliary chuck slide is necessary to accompany the tool during broaching and maintain accurate axial position. 3) The gap between the wall of the pre-machined bore and the guiding portion of the broaching tool as well as the tilt of the bore in respect to the bottom end on the table must not exceed 0.1 mm. There are 6 figures, 3 tables and 2 Soviet-bloc references.

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Improving the machining accuracy on internal .....

S/121/61/000/006/004/012
D040/D112

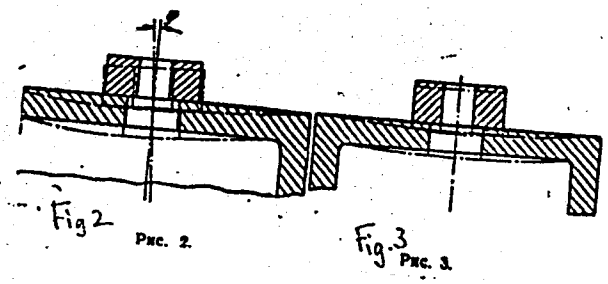

Fig 2 Fig. 2.

Fig.3 Fig. 3.

Fig.2: Sag of table during broaching.

Fig.3: Table with two edges fixed and two free for preventing rotation of workpiece. Parallel movement of workpiece shown by dotted line.

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BELOV, V.S.

Necessary conditions for the precision of internal broaching. Mashinostroitel' no.12:24-26 D '61. (MIRA 14:12)
(Broaching machines)
(Drilling and boring)

AYZENSHTADT, L.A.; PEN'KOV, P.M.; GLADKOV, B.A.; LIKHT, L.O.; KRIMMER, T.Ye.; KASHEPAV, M.Ya., kand. tekhn. nauk; MERPERT, M.P., kand. tekhn. nauk; KOPERBAKH, B.L.; CHERNIKOV, S.S., kand. tekhn.nauk; BELOV, V.S.; ZHURIN, B.F.; MONAKHOV, G.A., kand.tekhn.nauk; MOROZOV, I.I.; MUSHTAYEV, A.F.; OGNEV, N.N.; PALEY, M.B., kand. tekhn. nauk; FURMAN, D.B.; LIVSHITS, A.L., kand.tekhn.nauk;MECHETNER, B.Kh.;SOSENKO,A.B;AVDULOV, A.N.; LEVIN, A.A., kand.tekhn. nauk; YAKOBSON, M.O., doktor tekhn.nauk; MAYOROVA, E.A., kand.tekhn.nauk; MOROZOVA, Ye.M.; ZUSMAN, V.G., kand.tekhn. nauk; NAYDIS, V.A., kand.tekhn.nauk; VLADZIYEVSKIY, A.P., prof., doktor tekhn. nauk, red.; BELOGUR-YASNOVSKAYA, R.I., red.; CHIGAREVA, E.I., red.; ASVAL'DOV, M.Ya., red.; KOGAN, F.L., tekhn. red.

[Machine-tool industry in capitalist countries] Stankostroenie v kapitalisticheskikh stranakh. Pod red. i s predisl. A.P.Vladzievskogo. Moskva, 1962. 822 p. (MIRA 15:7)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii mashinostroyeniya. 2. Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov (for Vladziyevskiy, Belogur-Yasnovskaya, Chigareva, Asval'dov, Kogan).

(Machine-tool industry)

BOGOYAVLENSKIY, A.F.; BELOV, V.T.; VAGINA, I.A.; LIPATOVA, N.Ye.

Hydration of an anodic oxide film on aluminum in aqueous solutions of inorganic salts. Zhur. fiz. khim. 39 no.5: 1108-1111 My '65. (MIRA 18:8)

1. Kazanskiy aviatsionnyy institut.

BELOV, V.T., inzh.

Automatic clamp apparatus used for erecting large-panel partitions. Rats. i izobr. predl. v stroi. no.5:14-17 '58. (MIRA 11:6)

1.Trest Mosstroy No.9 Glavmosstroya.
(Walls) (Building machinery)

S/153/60/003/004/004/006
B004/B058

AUTHORS: Bogoyavlenskiy, A. F., Belov, V. T., Kozyrev, Ye. M.

TITLE: Investigating the Sorption of Phosphate Ion on the Anodic Oxide Film of Aluminum by the Method of Traced Atoms

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 4, pp. 616 - 619

TEXT: This paper was read at the 1st Intercollegiate Conference on Radiochemistry, Moscow, April 20-25, 1959. The sorption of phosphate ions on the anodic oxide film of aluminum has not yet been studied sufficiently (Ref. 13). For this reason, the authors carried out experiments with samples of aluminum sheet type АД-1 (AD-1), which were anodically treated in a sulfuric acid bath under standard conditions (D_a = 1a/dm^2, t = 20°C, τ = 20 min, $C_{H_2SO_4}$ = 20%). Before the treatment with phosphate solution, the oxide film had a weight of 1.38 mg/cm^2, a thickness of 5.8μ, a porosity of approximately 30%, and a corrosion resistance of 16 min

according to the drop reaction of the VIAM. The film was treated with aqueous solutions of Na_2HPO_4, containing P^{32}. Sorption and desorption of the phosphate ion was determined by means of AC-2 (AS-2) counter in a B-2 (B-2) apparatus. The number of impulses per unit area was calculated according to an equation by N. A. Balashova and N. S. Merkulova (Ref. 16). Fig. 1 shows the sorption of the phosphate ion at 10°C during 30 min as a function of the phosphate concentration (0.007 - 0.280 mole/l). In the entire concentration range investigated, the sorption increased with increasing concentration of Na_2HPO_4. A condition of equilibrium was not obtained even after 200 h. Fig. 2 shows that sorption begins to rise noticeably at temperatures of from 50 to 60°C. It can be seen from Fig. 3 that the phosphate content of the film increased quickly right at the start, although a noticeable increase in weight set in only after about 10 hours. This is explained by the fact that an ion exchange takes place at the start between the sulfate ions contained in the film and the phosphate ions contained in the solution, and that a chemical interaction

Investigating the Sorption of Phosphate Ion on the Anodic Oxide Film of Aluminum by the Method of Traced Atoms

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of the phosphate ion with the micelles of the film sets in only later. Extraction by means of water, acetone, dioxane, covering of the film with mineral oil and subsequent extraction with acetone did not lead to a desorption of the phosphate ion. The desorptive effect of various salts dissolved in water is tabulated. While Cl^- - and Br^- ions do not desorb, the film is destroyed by sodium fluoride and sodium citrate, and an exchange of the HPO_4^{2-} ions contained in the film sets in with SO_4^{2-} - and CrO_4^{2-} ions. The authors mention a paper by V. A. Kistyakovskiy (Ref. 7). There are 3 figures, 1 table, and 16 references: 11 Soviet, 1 US, 3 British, and 1 Indian.

ASSOCIATION: Kazanskiy aviatsionnyy institut, Kafedra obshchey khimii (Kazan' Aviation Institute, Chair of General Chemistry)

Card 3/3

BOGOIAVENSKIY, A.F.; BELOV, V.T.

Computation variant for the surface activity of flat metal applicators and its experimental principle. Med. rad. 5 no.11:67-70 N '60. (MIRA 13:12)

(RADIATION--MEASUREMENT)

BOGOYAVLENSKIY, A.F.; BELOV, V.T.; KOZYREV, Ye.M.

Sorption properties of an anodic oxide film on aluminum investigated by the tracer method. Part 2: Effect of the pH of filler solution on the sorption of a phosphate ion by an anodic oxide film on aluminum. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5 no.2: 267-271 '62. (MIRA 15:8)

1. Kazanskiy aviatsionnyy institut, kafedra khimii.
(Phosphates) (Hydrogen-ion concentration) (Sorption)
(Aluminum oxide)

BOGOYAVLENSKIY, A.F.; KOZYREV, Ye.M.; BELOV, V.T.

Investigation of the sorption properties of an anodic oxide film on aluminum by the tracer method. Part 3: Effect of the electrochemical conditions of anodic oxidation of aluminum in a sulfuric acid bath on the sorption characteristics of the oxide film. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5 no.3:423-427 '62. (MIRA 15:7)

1. Kazanskiy aviatsionnyy institut, kafedra khimii.
(Aluminum oxide) (Sorption) (Electrochemistry)

S/080/62/035/007/010/013
D202/D307

AUTHORS: Bogoyavlenskiy, A.F., Kozyrev, Ye.M. and Belov, V.T.

TITLE: Investigating the process of filling anodic oxidized films on aluminum in chromate solutions by the method of radioactive tracers

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 7, 1962, 1560-1565

TEXT: Mixtures of dichromate and chromate in H_2SO_4 were used as electrolytes at pH 3.2 to 6.2, to determine the chromium contents in the oxidized film after filling and after desorption. ^{51}Cr was used as an indicator and ^{35}S was employed for the determination of SO_4^{11} anions in the film after desorption. Conclusions: 1) The content of chromate anions in the film decreases with increasing pH despite the increase in the film's weight. 2) The desorption of Cr from the filled film proceeds more intensively when the filling process has been carried out in solutions of lower pH values.

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Investigating the process ...

3) There is practically no desorption of sulfate anions from the filled film in contact with acidified distilled water or an acid dichromate-chromate solution (pH - 5.6). From the latter result the authors conclude that no ionic exchange takes place between the sulfate and Cr ions during the filling process. There are 1 table and 5 figures.

SUBMITTED: April 4, 1961

Card 2/2

ACCESSION NR: AP4043765 S/0080/64/037/008/1743/1748

AUTHOR: Bogoyavlenskiy, A. F.; Belov, V. T.

TITLE: The role of the nature of anion of an electrolyte-charger in the settling process of an anode oxide film on aluminium

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 8, 1964, 1743-1748

TOPIC TAGS: anion, electrolyte, anode, oxide, aluminium, charge solution, sulfuric acid

ABSTRACT: The purpose of this work was to establish the character of clogging of film pores during the settling process. In the capacity of charge solutions the following potassium salt solutions were used: $K_2Cr_2O_7/K_2CrO_4$, K_2SO_4 and KH_2PO_4. The pH value of the charge solutions equaled 4.8-5.2, i.e. it corresponded to the maximum sorption capability of the film in the area of its lowest solubility. Anode oxide films were formed on aluminum samples of the AD-1 type in a 20% solution of sulfuric acid at 20°C over a period of 20 minutes. The current density was 1 A/dem^2. The samples were then rinsed in a vessel with distilled water until the ions SO_4^{2-} disappeared from the water. After an aging period of 15 hours in an exsiccator, the sulfuric acid was supplemented at 95°C with 0.1 m of solution of the

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ACCESSION NR: AP4043765

above mentioned salts, marked by corresponding radioactive isotopes (chromium-51, sulfur-35, phosphorus-32). The charged samples were further processed in a mixture containing 45 mg/l orthophosphoric acid and 2 g/l chromium anhydrite. The results have shown that in process of charging the film in sulphate and chromatic solutions the corresponding anions hinder insignificantly the swelling process. As the duration of the charging period increases the pore openings become more and more contracted and it becomes difficult for the resolving mixture to penetrate into the pores. The authors concluded that the duration of the charging period of an anode film in phosphate solutions has an extremely insignificant effect on the durability of the film. In the case of chromatic and sulphatic charges the resistance of the film toward dissolving increases considerably. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 28Sep62 ENCL: 00

SUB CODE: GC, MM NO REF SOV: 014 OTHER: 003

Card 2/2

ACCESSION NR: AT4043079 S/0000/64/000/000/0262/0271

AUTHOR: Kozy*rev, Ye. M.; Bogoyavlenskiy, A. F. (Doctor of chemical sciences, Professor); Belov, V. T.

TITLE: Some characteristics of the sorption process on an anodic oxide film over aluminum

SOURCE: Mezhvuzovskaya konferentsiya po anodnoy zashchite metallov ot korrozii. 1st, Kazan, 1961. Anodnaya zashchita metallov (Anodic protection of metals); doklady* konferentsii. Moscow, Izd-vo Mashinostroyeniye, 1964, 262-271

TOPIC TAGS: aluminum AD1, anodized aluminum sulfate anodizing, anodic film filling, inorganic salt filling solution, filling solution acidity, filling process temperature, filling process duration, anodic film sorption capacity, anodic oxidation period, anodizing current density, filling solution anion concentration, aluminum corrosion, aluminum oxide film

ABSTRACT: Filling of Al_2O_3 films in aqueous solutions of phosphates, chromates and sulfates was studied on anodized (20% sulfuric acid solution, 20C, 20 mon., 1 a-min/dm^2) stampings of sheet aluminum AD1 (18 cm^2) in relation to pH of the filler solution (2.5-10.9), anion concentration (0-0.5M at pH=constant, 20C, 24 hrs.), temperature (0.6-95C for optimal pH values), time (5-180 min. at 95C and optimal pH), oxidation period and current density (0-200 a-min/dm^2). The results indicate that sorption occurring at the solution-film boundary cannot be considered separately from a number of other processes

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ACCESSION NR: AT4043079

taking place during the filling of anodic films in aqueous solutions of inorganic salts. Sorption generally increased with increasing electrolyte concentration, temperature, filling time and current density. Modification of the electrochemical conditions of anodizing thus allows one to vary the sorption capacity of an anodic film. Orig. art. has: 10 graphs.

ASSOCIATION: None

SUBMITTED: 13Mar64 ENCL: 00

SUB CODE: MM NO REF SOV: 013 OTHER: 005

2/2

Card

BOGOYAVLENSKIY, A.F.; BELOV, V.T.

Nature of the anion of an electrolyte-filler and its role in the process of condensation of anodic oxide film on aluminum. Zhur. prikl. khim. 37 no.8:1743-1748 Ag '64.

(MIRA 17:11)

BOGOYAVLENSKIY, A.F.; BELOV, V.T.; KOZYREV, Ye.M.

Study of the sorption properties of the anode oxide film on aluminum by the tracer technique. Part 4: Sorption of inorganic anions as a function of their concentration in solution. Izv.vys. ucheb.zav.; khim.i khim.tekh. 7 no.6:962-966 '64.

(MIRA 18:5)

1. Kazanskiy aviatsionnyy institut, kafedra khimii.

L 25297-65 EWT(1)/EWT(m)/EWA(d)/T/EWP(t)/EWP(b) RWH/JD/WB

ACCESSION NR: AP5002175 S/0032/65/031/001/0079/0080

AUTHORS: Bogoyavlenskiy, A. F.; Belov, V. T.

TITLE: Correction coefficient for volume of pores in calculating anode film thickness

SOURCE: Zavodskaya laboratoriya, v. 31, no. 1, 1965, 79-80

TOPIC TAGS: anodic protection, aluminum oxide, electrolytic plating, plating

ABSTRACT: To determine accurately the thickness of Al_2O_3 anode films by the weight method, it is necessary to introduce a porous volume correction factor $K = (V_B + V_{por})/V_B$ into the equation for the film thickness $\mu = (P \cdot K)/d \cdot S$ (where P = weight of anode oxide film, d = specific weight, S = area of metal covered by film, V_B = actual film volume, V_{por} = porous volume). The porosity of the film can be determined by filling the pores with a fluid and weighing the amount of fluid required. Then the thickness of the film is given by $\mu = (P/d + g/\gamma)/S$ (where g and γ are the weight and specific weight of the filler respectively). To check the necessity of a correction coefficient, the anode oxide film thickness was measured by both methods for a large range of formation parameters (20% H_2SO_4, 20C,

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ACCESSION NR: AP5002175

0.5-4.0 amp/dm^2, 10-120 min) and was compared with values obtained with a microscope. It was found that in all cases the uncorrected film thickness values were wrong by as much as 40%, while the corrected values agreed very well with microscopically measured results. Orig. art. has: 2 tables.

ASSOCIATION: Kazanskiy aviatsionnyy institut (Kazan Aviation Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MA

NO REF SOV: 013 OTHER: 002

Card 2/2

BOGOYAVLENSKIY, A.F.; BELOV, V.T.; KOZYREV, Ye.M.

Study of the sorption properties of an anodic oxide film on aluminum by the tracer method. Part 5: Effect of temperature sorption as dependent on the concentration of solution filler at high temperatures. Izv. vys. ucheb. zav.; khim. i khim. tekh. 8 no.3:407-410 '65. (MIRA 18:10)

1. Kazanskiy aviatsionnyy institut, kafedra khimii.

L 57742-65 EWT(1)/EWT(m)/EPF(c)/EWP(i)/EWA(d)/EPR/EWP(t)/EWP(b) Ps-4 IJP(c)
JD/MS

ACCESSION NR: AP5017091 UR/0032/65/031/007/0816/0818
620.197

AUTHOR: Bogoyavlenskiy, A. F.; Belov, V. T.; Trofimov, A. A.; Shipulina, G. V.; Vagina, I. A.; L'vov, G. E.

TITLE: Quick method of evaluating the protective properties of anodic oxide film on aluminum

SOURCE: Zavodskaya laboratoriya, v. 31, no. 7, 1965, 816-818

TOPIC TAGS: anodic oxide film, oxide film, galvanic circuit, electrolyte solution, electromotive force, protective film/ VIAM electrolyte (solution of potassium bichromate in sulfuric acid)

ABSTRACT: The authors describe a method they developed for the quick determination of the protective properties of oxide film on aluminum, based on utilizing the e.m.f. of the aluminum|electrolyte solution|platinum galvanic circuit. The pre-

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let of electrolyte solution 1 (see figure) was deposited on the purified and degreased surface 2 of non-anodized aluminum so as to immerse part of the vertically positioned platinum wire 3 in this droplet. Wire 3 is linked to the specimen by external circuit 4. The platinum wire was fastened on plexiglas bracket 5. Of the electrolyte solutions tested, the VIAM electrolyte (25 cc HCl (sp. gr. 1.19), 3 g $K_2Cr_2O_7$, 75 cc H_2O) proved to be the most suitable. The method was verified with the aid of anode-formed oxide films on aluminum in a sulfuric acid solution

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SUBMITTED: 00 ENCL: 01 SUB CODE: ME, MM

NR REF SOV: 002 OTHER: 000

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L 54032-65 EWT(1)/EWT(m)/EWP(i)/EPR/EWP(t)/EWP(b) Ps-4 IJP(c) JD

ACCESSION NR: AP5013521 UR/0076/65/039/005/1108/1111
541.8

AUTHOR: Bogoyavlenskiy, A. P.; Belov, V. T.; Vagina, I. A.; Lipatova, N. Ye.

TITLE: Hydration of anodic oxide film on aluminum in aqueous solutions of inorganic salts

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 5, 1965, 1108-1111

TOPIC TAGS: aluminum oxide, hydration, anodic oxide film

ABSTRACT: The volume of hydrogen formed by interacting water vapor and calcium hydride was measured to determine the water content of anodic oxide films filled with water at 95°C in sodium dichromate, sulfate, and phosphate solutions (10^{-4} to 1 mol/l). In the order of their effect on hydration of the oxide films, the anions are: $H_2PO_4^- > HCrO_4^- > SO_4^{2-}$. When the films are filled in phosphate solutions, the quantity of the sorbed phosphate ion increases with the concentration of the latter in the solution, and the water content decreases. In dichromate solutions, the water content of the filled film depends only slightly on the solution concentra-

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tion, but the water content increases with rising concentration. In sulfate solutions, the water content of the film increases with the concentration of the solution, and the sorption of the sulfate ion either promotes or does not interfere with the adsorption of water. Differences in filling conditions have a pronounced effect on the state of the surface of the anodic film; the sorption of anions and the hydration of the film are variously affected. Orig. art. has: 1 figure.

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SUBMITTED: 12Dec63 ENCL: 00 SUB CODE: GC

NO REF SOV: 012 OTHER: 006

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