ZUYEVA, Ye.S.; PROSKURYAKOV, N.I.

Glutathions reductase system of pea seeds at various ripening stages. Biokhim. zer. i khlebopech. no.7:83-92 '64.

Glutathione reductase system of pea seeds at various germination stages in the darkness and in the light. Biokhim. zer. i khlebopech. no.7:93-100 '64. (MIRA 17:9)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

PROSKURYAKOV, N.I.; ZUYEVA, Ye.S.

Enzymatic reduction of disulfide bonds in proteins and low-molecular substances of wheat flour. Dokl. AN SSSR 158 no.1: 232-234 S-O '64 (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet. Predstavleno akademikom A.I. Oparinym.

ASRIYAN, I.S.; ZUYEVA, Ye.S.; PROSKURYAKOV, N.I. [deceased]

Enzymatic reduction of disulfide bonds in low molecule and protein substances during germination and maturation of wheat seeds. Prikl. biokhim. i mikrobiol. 1 no.5:500-504 S-O '65.
(MIRA 18:11)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

MAGDIYEV, R.R.; DZHABRIYEV, N.I.; ZUYEVA, Ye.V.; ARUTYUNOVA, A.A.; YEMYASHEVA, Z.I.; STREL'NIKOVA, G.A.; ABUNAGIMOV, Kh.Z.

Expérience in the organization of taeniarhynchosis control directed at its liquidation. Med. paraz. i paraz. bol. 34 no.2:133-139 Mr-Ap '65. (MIRA 18:11)

1. Uzbekskiy institut eksperimental'noy meditsinskoy parazitologii i gel'mintologii, g. Samarkand, i Gorodskaya bol'nitsa, Rayonnaya sanitarno-epidemiologicheskaya stantsiya, g. Katta-Kurgana.

MAGDIYEV, R.R.; DREMOVA, V.P.; BYKHOVSKAYA, A.M.; ZUIEVA, Ye.V.

Control of synanthrophic flies in the city of Katta-Kurgan, Uzbekistan, by preventing their breeding in manure. Med.paraz. i paraz.bol. 29 no.1:72-76 Ja-F '60. (MIRA 13:10)
(KATTA-KURGAN--FLIES)

PILLE, E.R.; YERMAKOVA, Ye.Ya.; ZUYEVA, Yu.N.; NADAYCHIK, L.V.

Study of viruses isolated from monkeys. Vop. virus. 6 no.6:704-710 N-D '61. (MIRA 15:2)

1. Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.
(VIRUSES) (MONKEYS)

ZUYEVA, Yu.N.

Detection of a specific antigen in the tissues of mice with leukemia induced by Mazurenko's virus with the aid of the cytotoxic reaction in vitro. Vest. AMN SSSR 19 no.11:51-54 '64. (MIRA 18:7)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

ZUYEVA, Z.; KUZINA, M.

Issuing credit to special accounts in combination with payment operations. Den.i kred. 21 no.2:22-25 F '63. (MIRA 16:2)
(Moscow--Credit)

ZUYEVA, Z.

Efficiency of issuing credit for new machinery. Den. i kred. 21 no.11:30-34 N '63. (MIRA 17:2)

ZUYEVA, Z.; GIOYEVA, K.

Issuing credit to industrial enterprises to finance the introduction of new machinery. Den. i kred. 19 no.3:25-30 Mr '61. (MIRA 14:3)

(Moscow--Machinery in industry)
(Moscow--Credit)

NAZARKIN, K.

The organization of economic work in branches of Moscow State Bank. Den.i kred. 17 no.6:28-35 Je '59. (MIRA 12:10)
(Moscow--Banks and banking)

ZUYEVA, Z.; GALIMON, L.; SUSLOVA, N.

State Bank control over housing construction carried out economically.
Den. i kred. 16 no. 7:50-54 Jl '58. (MIRA 11:7)
(Construction industry--Finance)

PUCHKOVSKIY, V.V., dotsent, kand.tekhn.nauk; ZUYEVA, Z.G., inzh.

Electric strength of a laminated dielectric subjected to a voltage of a complicated curve. Izv.vys.ucheb.zav.; energ. 2 no.4: 38-42 Ap '59. (MIRA 12:9)

1. Chelyabinskiy institut elektrifikatsii i mekhanizatsii sel'skogo khozyaystva.

(Dielectrics)

ZUYEVA, Z.G.

66309

~~9(3)~~ 24,7800 SOV/143-59-4-7/20

AUTHORS: Puchkovskiy, V.V., Candidate of Technical Sciences, Docent, and Zuyeva, Z.G., Engineer

TITLE: **Breakdown Strength of Laminated Dielectrics During the Application of Complex-Wave Voltage**

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 4, pp 38-42 (USSR)

ABSTRACT: The article deals with the breakdown strength of laminated media, which were exposed to voltages whose curves showed a complicated course. The graphs show the results of tests which were carried out with double-layer media. The dielectric strength under complicated voltage conditions is then discussed in theory. As a result it was found that the breakdown strength of a laminated dielectric is dependent on the course of the curve of the voltage and that the maximum dielectric strength is contained in this dependency. This means that under certain conditions the dielectric strength is larger, if the voltage curve is complicated, than if it is simple. A double-layer di-

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66309

Breakdown Strength of Laminated Dielectrics During the Application of Complex-Wave Voltage

SOV/143-59-4-7/20

electric, which is exposed to a continuously changing voltage, has a curve of its dielectric strength which has two branches and a maximum. There are 6 graphs and 2 Soviet references.

ASSOCIATION: Chelyabinskiy institut elektrifikatsii i mekhanizatsii sel'skogo khozyaystva (Chelyabinsk Institute for Electrification and Mechanization of Agriculture)

4

Card 2/2

Zuyeva, Z. G.

AID P - 4020

Subject : USSR/Power

Card 1/1 Pub. 26 - 9/31

Authors : Zuyeva, Z. G. and V. V. Puchkovskiy, Kand. Tech. Sci.

Title : More on testing electric machine insulation.

Periodical : Elek. sta., 11, 33-35, N 1955

Abstract : Tests on 3.15 kv motor insulation were made on a-c and rectified voltage. Coil insulation tests are discussed. Four diagrams present test curves. Two Russian sources, 1953.

Institution : None

Submitted : No date

ZUYEVA,Z.G., inzhener; PUCHKOVSKIY,V.V., kandidat tekhnicheskikh nauk

More on the testing of insulation of electric machinery. Elek. sta.26 no.11:33-35 N'55. (MLRA 9:1)
(Electric insulators and insulation--Testing)

SHUMOV, M.S., kand.ekonom.nauk; LAPTEV, Ye.N.; KAZANTSEV, A.I., kand. ekonom.nauk; ZUYEVA, Z.I.; KOCHEGAROVA, A.I.; SHRAYBER, I.I., kand.ekonom.nauk; TSAPIN, I.T.; KITAYGORODSKIY, I.P.; ZAVERNYAYEVA, L., red.; TELEGINA, T., tekhn.red.

[Payments in industry] Raschety v promyshlennosti. Moskva, Gosfinizdat, 1959. 125 p. (MIRA 12:11)

1. Moscow. Nauchno-issledovatel'skiy finansovyy institut. 2. Zavedduyushchiy otdeleniyem Nauchno-issledovatel'skogo finansovogo instituta Ministerstva finansov SSSR (for Shumov). 3. Starshiy ekonomist Nauchno-issledovatel'skogo finansovogo instituta Ministerstva finansov SSSR (for Laptev). 4. Nachal'nik upravleniya kreditovaniya promyshlennosti sovnarkhozov Pravleniya Gosbanka SSSR (for Kazantsev). 5. Nachal'nik planovo-ekonomicheskogo otdela Moskovskoy gorodskoy kontory Gosbanka (for Zuyev). 6. Ekonomist Moskovskoy gorodskoy kontory Gosbanka (for Kochegarova). 7. Zamestitel' nachal'nika planovo-ekonomicheskogo upravleniya Rossiyskoy respublikanskoy kontory Gosbanka (for Shrayber). 8. Glavnyy bukhgalter moskovskogo khlebozavoda No.4 (for TSapin). 9. Ekspert otdela kredita i denezhnogo obrashcheniya Ministerstva finansov SSSR (for Kitaygorodskiy).

(Payment)

BREMENER, S.M.; VELIKOVSKAYA, M.M.; ZUYEVA, Z.V.; LANINA, N.V.; TARNOPOL'SKAYA, P.D.

Use of vitamin B_6 and B_{12} in compound treatment of stomach and duodenal ulcer. Vest. AMN SSSR 18 no.2:85-87 '63.

(MIRA 17:5)

1. Nauchno-issledovatel'skiy institut vitaminologii Ministerstva zdravookhraneniya SSSR.

ZUYEVSKIY, Yu.M.

Stand for measuring the performance of pumps. Mashinostroitel' no.12:22 D '63. (MIRA 17:1)

AUTHOR: Zuykina, G. A. 106-12-2/10

TITLE: Maximum Exactitudes of Radio Navigational Systems As Regards Remote Effect and Phase Reading (Predel'nyye tochnosti radionavigatsionnykh sistem dal'nego deystviya s fazovym otschëtom).

PERIODICAL: Radiotekhnika, 1957, Vol. 12, Nr 12, pp. 19-28 (USSR)

ABSTRACT: The problem of the influence of propagating conditions on the phase and the phase velocity of radiowaves of the range of 100-150 kilocycles per second is investigated. The results obtained from computation carried out for the correction of the phase and phase velocity for various kinds of ground are given. Diagrams are constructed with the aid of which it is possible to determine phase velocity in dependence on the nature of the soil (or ground). The evaluation of the boundary accuracy of Radio Navigation Systems with Remote Effect and Phase Reading, which is due to the influence of the surface extending beneath it, is given. The following summary is given: Up to recent times the entire practice of distance measuring by means of the phase method based on the assumption that the phase velocity of the propagation of radio waves does not depend on the properties of the surface

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extending beneath it as well as on the assumption that the phase velocity is equal to the velocity of light (which was first stated by Mandel'shtam and Papaleski, and was theoretically confirmed by Ryazin). However, when investigating this question with respect to application to phase-measuring-systems for larger distances, which work in the 100 ÷ kc range, it was found that the conclusion drawn in Ryazin's work is much too general and is correct only in principle, and that it is of theoretical value only. For the practice of phase systems with remote effect the conclusion drawn is useless, for, as is shown here, phase velocity adjusts itself so slowly in the 100 - 150 kc range, that, with the measuring accuracy of modern apparatus, it is impossible to ignore the difference between phase velocity and the velocity of light. At long distances from the transmitter diffraction occurs, and in that case it is entirely impossible to speak of phase velocity being independent of the properties of the surface extending below or of its being equal to the velocity of light. In the case

Maximum Exactitudes of Radio Navigational Systems As Regards Remote Effect and Phase Reading 10C-12-3/10

of existing diffraction the phase velocity of the propagation of radio waves depends on the properties of the ground (or soil) above which propagation takes place. According to its absolute order, phase velocity is not as high as the velocity of light, and its difference from it increases with a decrease of the conductivity of the ground (or soil).
There are 2 figures, 1 table , and 3 references, all of which are Slavic.

SUBMITTED: April 12, 1957

AVAILABLE: Library of Congress

1. Radio waves-Phase velocity 2. Mathematics-Theory 3. Radio navigation systems

Card 3/3

TIKOTSKAYA, K.M.; ZUYEVA, Z.V.

Third session of the State Institute of Vitamin Research of the Soviet Ministry of Health. Vop. pit. 19 no. 5:90-94 S-O '60. (MIRA 14:2)

(VITAMINS)

TIKOTSKAYA, K.M.; ZUYEVA, Z.V.

Second session of the Vitaminological Research Institute of the Ministry of Public Health of the U.S.S.R. Vop.pit. 18 no.5:87-90 S-O '59. (MIRA 13:1)

(VITAMINS)

PESTRYAKOV, V.B.; ZUYKINA, G.A. [translator]; VOLKOVSKIY, S.A. [translator]; DANILOV, N.A., red.; EMZOUKHOVA, A.G., tekhn.red.

[Propagation of radiowaves of low and very low frequencies; collection of articles] Rasprostranenie dlinnykh i sverkh-dlinnykh radiovoln; sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1960. 260 p. (MIRA 13:6)

(Radiowaves)

ZUYKO, V. I.; ROSHCHIN, G. I., kand. tekhn. nauk

Study of hip stump pressure on the walls of the recipient cavity. Ortop., travm. i protez. no.11:68-71 '61. (MIRA 14:12)

1. Iz TSentral'nogo instituta protezirovaniya i protezostroyeniya (dir. - zasluzh. deyatel' nauki prof. B. P. Popov)

(AMPUTATION STUMP)

ZUYKOV, A.I., dotsent, kand. tekhn. nauk

Efficient area for developing thick coal seams with hard headings. Nauch. trudy Tul. gor. inst. no.4:55-60 '61. (MIRA 16:8)

(Coal mines and mining)

Zuykov, A.I.

PHASE I BOOK EXPLOITATION SOV/4042

Leningrad. Universitet

Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy; trudy konferentsii 13-21 fevralya 1958 goda (Optical Polarization Method for Stress Analysis; Transactions of the Conference of February 13-21, 1958). [Leningrad] Izd-vo Leningradskogo u. v., 1960. 451 p. Errata slip inserted. 2,400 copies printed.

Resp. Ed.: N.P. Shikhobalov; Ed.: Ye.V. Shchemeleva; Tech. Ed.: S.D. Vodolagina; Editorial Board: S.G. Gutman, L.M. Kachanov, V.M. Krasnov, T.D. Maksutova, N.I. Prigorovskiy, V.M. Proskin, N.S. Rozanov, and Ye.I. Edel'shteyn.

PURPOSE: This collection of 58 articles is intended for scientists and engineers concerned with experimental stress analysis of machine parts and structural components.

COVERAGE: The collection contains reports presented at the conference on optical polarization methods in stress analysis held February 13 - 21, 1958, in Leningrad and attended by 324 delegates including representatives of the People's Republic of China, the Polish People's Republic, the German Democratic Republic, and the Republic of Czechoslovakia. The reports discuss general theoretical problems and new methods of investigation and describe apparatus and materials used in the optical method. Solutions of specific two-dimensional and three-dimensional problems occurring in shipbuilding, aircraft design, engine construction, in various branches of heavy and precision machine design, in mining, metallurgy, hydraulic structures, railroad transport, in structural mechanics, geodynamics, in the control of stresses in products of the glass and electronic industry, etc., are given. Solution of the three-dimensional problem by means of the method of photoelasticity is introduced and the use of this method for the solution of problems associated with plasticity, creep, dynamics, hydrodynamics, etc., is demonstrated. Reports previously published elsewhere are printed here in abbreviated form. No personalities are mentioned. References are found at the end of 47 of the reports.

Optical Polarization Method (Cont.) SOV/4042

39. Zuykov, A.I. Use of the Optical Method for Stress Analysis in Solving Several Problems Connected With Mine Pressure 312

40. Yaremenko, D.I. Investigation of Stress Distribution Around Chambers and Working Faces 317

IX. ANALYSIS OF STRESSES IN MACHINE PARTS

41. Maksutova, T.D. Investigation by the "Chilling" Method of the Three-Dimensional State of Stresses of the Servomotor Piston of a Hydraulic-Turbine Runner 321

42. Sibchikov, B.Ya. Stress Analysis by Means of the Optical Polarization Method of the Rotating Blade of an Axial-Flow Compressor 332

43. Khmyrov, I.A., N.A. Yefremova, and L.S. Kokoshko. Experimental Solution of the Problem of the Compression of a Cube and Cylinder Between Rigid Plates Without Friction 341

Card 9/12

ZUYKOV, A. I.

ZUYKOV, A. I. -- "The Selection of Rational Location of Drifts Adapted to Existing Systems of Working Thick Inclined and Sloping Coal Seams in the Chelyabinsk Brown-Coal Basin." Min Higher Education USSR. Moscow Mining Inst imeni I. V. Stalin. Moscow, 1955. (Dissertation for the Degree of Candidate of Technical Sciences.)

SO: Knizhnaya letopis', No. 4, Moscow, 1956

8(5) SOV/105-58-11-4/28

AUTHORS: Zuykov, F. N., Khozhainov, A. I. (Leningrad)

TITLE: Construction of Circle Diagrams for an Induction Motor With Biased Reactor Coil (Postroyeniye geometricheskikh mest asinkhronnogo dvigatelya s drosselyami nasyshcheniya)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 14-18 (USSR)

ABSTRACT: This is an investigation of the circle diagram of an induction motor with biased reactors in the stator circuit under the condition that voltage and current maintain their sinusoidal shape under all operational conditions. Notwithstanding the circumstance that a precise equivalent circuit diagram is used as a basis of the construction of the circle diagram, it proves to be more expedient to neglect the ohmic resistance of the choke as this does not falsify the results. It is also expedient to add the inductive resistance of the choke $x_{Ch\ i}$ to the inductive resistance of the main stator circuit. Equation (1) is then written down holding for the entire equivalent resistance of the main stator circuit. The procedure of constructing the circle diagram is presented. Generally

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Construction of Circle Diagrams for an Induction Motor With Biased Reactor Coil

the inductive resistance of the choke varies pronouncedly with the slip at a constant bias magnetization. A graphic method of analysis is presented for the determination of the variation of $x_{Ch\ i}$ with the slip s at different values of I_n = const. (I_n denoting the bias magnetization current). The diagram obtained by this way shows that $x_{Ch\ i}$ is independent of s practically only at a very high bias magnetization. In other cases the non-linearity of the choke must be taken into account. The influence of this non-linearity of the choke coil is illustrated by two circuits which correspond to $x_{Ch\ i\ max}$ and $x_{Ch\ i\ min}$, at I_n = const. The circle diagram of the induction motor at different values of $x_{Ch\ i}$ is presented. The vector OA represents the stator current I_1. The parameters characterizing the operation of the induction motor at $x_{Ch\ i}$ = const. are determined from the current circle by the usual methods (Ref 1). The functions describing $I_1 = \varphi(s)$ at different values of I_n = constant which were obtained either by calculation or experimen-

Construction of Circle Diagrams for an Induction Motor With Biased Reactor Coil

tally are compared in a pertaining diagram. It demonstrates that both sets of values show a good agreement. This is also true of the efficiency of the motor as obtained from the circle diagram and by experiment. There are 6 figures and 1 Soviet reference.

SUBMITTED: June 11, 1958

Card 3/3

KHOZHAINOV, Anatoliy Ivanovich, kand. tekhn. nauk; ZUYKOV, Fedor Nikolayevich, kand. tekhn. nauk

Determination of the permissible number of starts of asynchronous motors with saturable reactors within one hours' time. Izv. vys. ucheb. zav.; elektromekh. 7 no.9:1088-1095 '64 (MIRA 18:1)

ZUYKOV, F.N., inshener; KHOZHAINOV, A.I., inshener.

Using saturation throttles in marine electric drives. Sudostroenie 23 no.2:36-40 F '57. (MLRA 10:5)
(Ship propulsion, Electric)
(Electricity on ships)

KHIGEROVICH, M.I.; MERKIN, A.P.; ZUYKOV, G.G.; KORSHUNOVA, A.P.; OSMANOV, N.N.; DUDAK, N.Ya.; MUSATOVA, Z.I., red.

[Improving the properties of cements and concretes by the addition of synthetic products from petroleum chemistry; a contribution to the problems of using chemical resources in construction] Uluchshenie svoistv tsementov i betonov dobavkami sinteticheskikh produktov neftekhimii; k voprosam khimizatsii stroitel'stva. [By] M.I.Khigerovich i dr. Moskva, 1964. 38 p. (MIRA 18:6)

1. Moscow. Inzhenerno-stroitel'nyy institut.

ZAKHAROV, Anatoliy Ivanovich; ZUYKOV, Ivan Ivanovich; YELISKYEV, S.V., red.

[Medium-precision theodolites and optical telemeters] Teodolity srednei tochnosti i opticheskie dal'nomery. Moskva, Nedra, 1965. 171 p. (MIRA 19:1)

BOGDANOV, S.A., inzh.; ZUYKOV, L.F., inzh.

Methods for the automatic driving of tractors and tractor-driven machinery. Trakt.i sel'khozmash. no.1:3-5 Ja '60. (MIRA 13:4)

(Tractors)

L 2647-66 EWT(d)/EWP(e)/EWT(m)/EPF(c)/EWT(1)/ETC/...

ACC NR: AP5025997 EWP(b)/EWP(1) WW/DS/ WH SOURCE CODE: UR/0294/65/003/005/0815/0815

AUTHOR: Zuykov, N. V.; Tsvetayev, A. A.; Bardyukov, M. Ye.

ORG: Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut)

59
58
B

TITLE: Thermocouple for measuring temperatures up to 2500K

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 5, 1965, 815

TOPIC TAGS: thermocouple, temperature measurement, graphite carbon thermocouple

ABSTRACT: A graphite-carbon thermocouple (see Fig. 1) for measuring temperatures from 1200 to 2900K in a carbonized media of inert gas has been developed at the Moscow Power Engineering Institute. In order to remove the air from the space between the external and internal electrodes during heating, several holes, 1.5 mm in diameter, were made in the graphite bushing. The thermocouple's emf vs temperature curve obtained during three consecutive heatings up to temperatures of 3000K indicates noticeable variations in the emf at temperatures up to 2300—2500K; further heating to 2900—3000K produced no effects. The thermocouple can thus be used for prolonged

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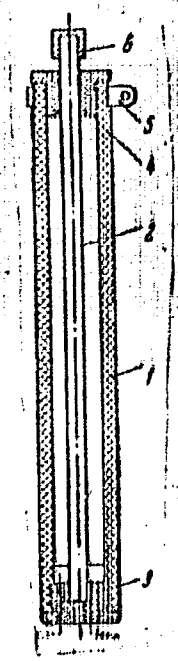

Fig. 1. Diagram of the thermocouple

1 - External graphite electrode; 2 - internal carbon electrode; 3 - graphite bushing; 4 - ceramic electric-insulating sleeve; 5 - copper clamp; 6 - copper contact spring.

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measurements of temperature in an inert-gas media in the 2300--2500K range. It is also capable of withstanding short periods at up to 3000C. Orig. art. has: 2 figures. [AV]

SUB CODE: TD/ SUBM DATE: 31Mar65/ ORIG REF: 000/ OTH REF: 000/ ATD PRESS: 4134

Card 3/3 SP

ZUYKOV, V., khudozhnik

"Aesthetics of work" by N. Silaev. NTO 5 no.8:57 Ag '63.
(MIRA 16:10)

ZUYKOV, V.

Zuykov, V. - "Spectrophotometry of solar floccula in the H-alpha and H-KCa + lines", Izvestiya Glav. astron. observatorii v Pulkove, Vol. XVIII, 1, No. 142, 1949, p. 83-93, - Bibliog: 12 items.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

ZIMIN, B.V.; ZUYKOV, V.I.

Performance indices of three-layered shot drills. Razved. i okh.nedr 31 no.4:28-31 Ap '65. (MIRA 19:1)

1. Gosudarstvennyy geologicheskiy komitet SSSR.

ZUYKOV, V.I.

Technical and economic indices of the operation of various construction semiautomatic elevators during drilling of vertical and inclined boreholes. Razved. i okh. nedr 30 no.2: 50-52 F '64. (MIRA 17:8)

1. Gosudarstvennyy geologicheskiy komitet SSSR.

ZUYKOV, V. N.

"Spectrophotometric Determination of the Moments of Contacts of the Total Solar Eclipse of 21 September 1941," Iz. Glav. Astron. Observ. v Pulkovo, Vol. 18, No. 4(145), Leningrad, 1950

ZUYKOV, V. N.

USSR/Astronomy - Solar Studies Nov 49
Spectrograph, Diffraction

"Solar Floccules," V. N. Zuykov, 6 pp

"Priroda" No 11

General discussion of bright floccules, which are bright regions on spectroheliograms corresponding to tongues of flame on the sun's surface, and review of Soviet work on this phenomenon. In 1940, V. P. Vyazanitsyn obtained number of spectrograms of bright floccules in the lines H - KCa+ using the large diffraction spectrograph of Pulkovo Obs. Includes table of relative intensities of bright floccules

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USSR/Astronomy - Solar Studies (Contd) Nov 49

which Zuykov constructed from spectroheliograms obtained by Vyazanitsyn in 1939.

152T1

1. ZUYKOV, V. N.

2. USSR (600)

4. Sun - Prominences

7. Spectrophotometry of prominences during the solar eclipse of 1941. Izv. Glav. astron. obs. 19 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

ZOTKOV, V. N. --

Dissertation: "Spectrophotometry of Solar Protruberances." Cand Phys-Math Sci, Main Astronomical Observatory, Acad Sci USSR, Jan-Mar 54. (Vestnik Akademii Nauk, Moscow, Aug 54

SO: SUM 393, 28 Feb 1955

SOV/169-59-4-4043

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 4, p 124 (USSR)

AUTHOR: Zuykov, V.N.

TITLE: On the Kinetic Temperature of Gases in Solar Prominences

PERIODICAL: Izv. Gl. astron. observ. v Pulkove, 1958, Vol 20, Nr 6, pp 61-65 (Engl. Res.)

ABSTRACT: This is a discussion of the problem of the kinetic temperature and some other physical characteristics of prominences, determined by the contours of H_α, H and K lines of ionized calcium. In so far as these lines posses self-absorption, the observed contours were corrected for this effect. A temperature T_{kin} = 6370°C was found on the average for the three aforementioned lines. The quantity of hydrogen atoms in the second quantum state is equal to $N_{z,H} = 1.5 \times 10^{13}$ atoms/cm^2, and the quantity of Ca^+ atoms in the ground state amounts to $N_{Ca^+} = 1.2 \times 10^{13}$ atoms/cm^2.

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Author's résumé

ZUYKOV, V.N. (Pilkovo)

Chromospheric flares over sun's border. Astron. tsir. no.199:11-12 Ja '59. (MIRA 13:2)

(Sun--Prominences)

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E140/E435

AUTHORS: Krasovskiy, A.A. and Zuykov, V.N.

TITLE: Limiting Threshold of Sensitivity of Thermal Radio-Radiation Reception

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 4, pp 544-550 (USSR)

ABSTRACT: On the basis of Einstein's formula for radiation-energy fluctuations, an expression is obtained for the limiting threshold of sensitivity of thermal radio-radiation receivers. The wavelength brightness temperature plane is divided into two regions. In the first the usual formulae for threshold of sensitivity are valid and in the second region that of short wavelengths and low temperatures, the present formulae are valid. The expressions are valid for arbitrary types of receiver structure (with antenna, absorption cell etc). There are 1 figure and 12 references, 3 of which are Soviet and 9 English.

SUBMITTED: April 2, 1959

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4

Zuykov, V.N. PHASE I BOOK EXPLOITATION 951

Sverdlovsk, Russia. Institut istorii partii

Sotsialisticheskoye stroitel'stvo na Urale; sbornik statey (Socialist Construction in the Ural Industrial Area; Collection of Articles) [Sverdlovsk] Sverdlovskoye knizhnoye izd-vo, 1957. 345 p. 5,000 copies printed.

Ed. (front of book): Zuykov, V.N., Candidate of Historical Sciences; Ed. (back of book): Getling, Yu.; Tech. Ed.: Pal'mina, N.

PURPOSE: This collection of articles is intended for the general reader.

COVERAGE: The collection contains reports on the economic growth of the Ural Industrial Area, including the development of farming. Particular attention is given to the role played by this region during the 2nd World War. Relatively little space is devoted to the current Five Year Plan. There are 20 photographs in the text, some of which show industrial objects.

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AVAILABLE: Library of Congress

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MM/fal
1-9-59

ZUYKOV, V. N.

Specific features of a metallic prominence. Izv. GAO 22 no.2: 86-94 '61. (MIRA 15:10)

(Sun--Prominences)

30264

S/035/61/000/010/013/034
A001/A101

3.1540 (1559,1137)

AUTHOR: Zuykov, V.N.

TITLE: On some peculiarities of a metallic prominence

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 55-56, abstract 10A401 ("Izv. Gl. astron. observ. v Pulkove", 1961, v. 22, no. 2, 86 - 94, Engl. summary)

TEXT: The author discusses some peculiarities of a metallic prominence whose spectrum was obtained at Pulkovo in 1956 by means of a horizontal solar telescope. It is shown that the height of the metallic prominence is different in different spectral lines. Doppler half-widths of lines $\Delta\lambda_D$ decrease with the number of the line in the Balmer series. The central intensity of line Hε is higher by 1.5 times than the central intensity of the CaII line H. The total number of calcium atoms $n_{Ca} = 1 \times 10^7$, which is more by a factor of about 100 than the number of CaII atoms. Since the kinetic temperature of the metallic prominence turned out to be high ($\sim 14{,}000°K$), hydrogen ionization must be sufficiently complete; therefore, approximately $n_1 = n_e \sim n(H) = 2 \times 10^{11}$, where n (H)

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A001/A101

On some peculiarities of a metallic prominence

is density of hydrogen. The relative abundance of hydrogen and calcium in the prominence $\frac{n(H)}{n(Ca)} = 2 \times 10^4$. Kinetic temperature of both hydrogen and helium may be the same and equal to 12,000 - 14,800°K. There are 13 references.

From author's summary

[Abstracter's note: Complete translation]

Card 2/2

8484?

3,1540 (1062, 1128, 1168)

B/035/60/000/008/006/007
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 8, p p. 68, # 7789

AUTHOR: Zuykov, V. N.

TITLE: Concentration of Calcium and Helium Atoms in Metallic Prominences

PERIODICAL: Solnechnyye dannyye, 1959, No. 7, pp. 87-89

TEXT: The final results of processing the spectrograms of a metallic prominence are reported. Precise profiles of the lines and equivalent widths have been obtained. The concentrations of hydrogen, helium and calcium atoms have been determined. The problem of calcium and helium ionization has been considered. The number of CaII atoms and the total number of CaI and CaII atoms in the prominence have been calculated. On the assumption that hydrogen is a supply source of free electrons, electron density has been estimated to be $\sim 6 \times 10^{10}$. The concentration of ionized helium has been determined, which proved to be equal to 1.5×10^{9}. According to the author estimate the total number of helium atoms amounts to 1.2×10^{10}, i. e. the ratio of ionized helium

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S/035/60/000/008/006/007
A001/A001

Concentration of Calcium and Helium Atoms in Metallic Prominences

to neutral one amounts to 1 : 10. This value agrees well with theoretical calculations. The table of concentration of various atoms in the prominence is presented. There are 5 references.

V. F. Yesipov

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/035/60/000/04/05/017
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 4, p. 42, # 3167

AUTHOR: Zuykov, V. N.

TITLE: Chromospheric Flares Over the Sun Edge

PERIODICAL: Solnechnyye dannyye, 1959, No. 1, pp. 83-85

TEXT: During the summer of 1958, 120 spectrograms of four chromospheric flares over the Sun disk edge were obtained by means of the Pulkovo horizontal telescope. A list of 80 lines of various elements is given in the range of wavelengths $\lambda\lambda$ 3213-6848. The spectrograph dispersion amounts to 2.05 and 2.09 A/mm for H_α and H_{19} (?), respectively. A decrease in Doppler widths of the lines in the Balmer series has been discovered. A similar phenomenon, although pronounced considerably less, was found by the author earlier in the spectrum of a metallic prominence.

R. B. T.

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B/035/60/000/006/022/038
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 6, p. 53, # 5229

AUTHOR: Zuykov, V. N.

TITLE: Chromospheric Flares Over the Sun's Edge

PERIODICAL: Astron. tsirkulyar, 1959, yanv. 30, No. 199, pp. 11-12

TEXT: In summer 1958, 120 spectrograms were taken of four chromospheric flares over the Sun's edge ($\lambda\lambda$ 6847.6 - 3213.3). Dispersions in the 1 order were 2.05 and 2.09 A in the regions of $H\alpha$ and H_{19}, respectively. Eighty lines of various elements were identified. It was found out that the widths of hydrogen lines ($\Delta\lambda_D$) in flares decrease with an increase in the number of the line. The same regularity holds also for the ratios $\Delta\lambda_D/\lambda$.

V. P. F.

Translator's note: This is the full translation of the original Russian abstract.

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ZUYKOV, V.N.

Spectrophotometry of solar prominences. Izv.GAO 20 no.2:22-45 '56. (MIRA 13:5)

(Sun--Prominences)

SOLOV'YEV, V.N.; ZUYEVA, V.S.; KONYAYEV, G.A.

Mechanism of the weakening of the antimicrobial action of tetracycline in suppurative exudate. Antibiotiki 6 no.8:715-720 Ag '61. (MIRA 15:6)

1. Otdel khimioterapii (zav. - prof. A.M. Chermukh) Instituta farmakologii i khimioterapii AMN SSSR.
(TETRACYCLINE) (SUPPURATION)

ZUYEVA, V.S.

Dynamics of the antimicrobial action of colimycin. Antibiotiki 6 no.8:720-725 Ag '61. (MIRA 15:6)

1. Otdel eksperimental'noy khimioterapii (zav. - prof. A.M. Chernukh) Instituta farmakologii i khimioterapii AMN SSSR.
(ANTIBIOTICS)

SOLOV'YEV, V.N.; ZUYEVA, V.S.

Antimicrobial effects of penicillin in suppurative exudate in relation to the viscosity and aeration of the medium. Antibiotiki 5 no.3:75-80 My-Je '60. (MIRA 14:6)

1. Otdel eksperimental'noy khimioterapii (zav. - prof. A.M.Chermukh) Instituta farmakologii i khimioterapii AMN SSSR.
(PENICILLIN) (STAPHYLOCOCCUS)

S/797/61/022/002/003/007
E032/E114

AUTHOR: Zuykov, V.N.

TITLE: Some peculiarities of a metallic prominence

SOURCE: Pulkovo. Astronomicheskaya observatoriya. Izvestiya. v.22, no.2 (167). 1961. 86-94

TEXT: A total of 22 spectrograms of a metallic prominence was obtained at Pulkovo in 1956, using a horizontal solar telescope and a diffraction spectrograph having a dispersion in the first order of 2.08 Å in the H and K region of the spectrum of ionised calcium. Altogether, 41 lines of metals were recorded. As a result of the analysis of the data, very accurate line profiles were obtained for many of the lines. The central intensity of the H_ε line was found to be greater than that of the H line of Ca^+ by a factor of 1.5. The Doppler half widths for the metal lines and also for the lines of helium and hydrogen were determined, and hence the kinetic temperature of the prominence was calculated. It was found that the Doppler widths of the Balmer lines decreased with the number of the line in the series. The reason for this is so far not clear. Assuming that the line broadening is due to

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the Doppler effect, it is concluded that the kinetic temperature of hydrogen lies between 12 000 and 14 800°. The density of hydrogen atoms (which is assumed equal to the electron density), the density of Ag^+ atoms and the density of doubly ionised Ca atoms are estimated as 2×10^{11}, 1.5×10^8, and 1.06×10^7 cm^{-3} respectively. The density of Ca atoms is estimated as 10^7 cm^{-3} and the relative abundance of hydrogen and calcium in the prominence is 2×10^4. Some of the results are only preliminary; further data will be reported later.
There are 2 figures and 7 tables.

SUBMITTED: April 1960

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ZUYKOV, V.Ya.; IVANOV, A.M.; KRISTALL, Z.B.; MAKSIMOVA, N.K.; NOVIKOV, O.P.; POTKOV, G.A.; KRIKUNOV, A.Ye., red.; SELEZHOV, P.M., red.; SHUVALOVA, N.S., red.; ZORINA, G.V., red.; VINOGRADOV, Ye.A., tekhn. red.

[Liquid separators for the food industry; handbook-catalog]Separatory zhidkostnye dlia pishchevoi promyshlennosti; katalog-spravochnik. Moskva, 1962. 86 p. (MIRA 15:10)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii mashinostroyeniya. 2. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (for Zuykov, Ivanov, Kristall, Maksimova, Novikov, Potkov).

(Separators (Machines))

SHCHUKIN, P.; ZUYKOVA, A.

How we are improving the work of public bath establishments.
Zhil.-kom.khoz. 6 no.4:9-10 '56. (MLRA 9:8)

1. Direktor bani No. 1 goroda Vladimira (for Shchukin);
2. Starshiy inzhener Vladimirskogo oblkomkhoza (for Zuykova)
(Vladimir--Baths, Public)

ZUYKOVA, A.A.

Category : USSR/Solid State Physics - Phase Transformation in Solid Bodies E-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3856

Author : Uzhik, G.V., Zuykova, A.A.
Inst : Institute of Machine Science, Academy of Sciences USSR
Title : On the Mechanical Nature of Temper Brittleness

Orig Pub : Metallovedeniye i obrabotka metallov, 1956, No 4, 26-34

Abstract : Explanation of the mechanical nature of temper brittleness and the cause of the transition of the material at a certain tempering temperature into a brittle state. The investigation was made on 30 KhGS steel. It is shown that the mechanical nature of the temper brittleness lies principally in the different ability of the steels to form the initial plastic deformation in the brittle and viscous states under conditions that are created after the start of the damage, i.e., after the appearance of the cracks, and in connection with this in the different ability of the material in the brittle and viscous state to resist the development of the already initiated damage. Under conditions when $\tau_{max}/6 < 0.5$, the resistance to shear and the time interval required

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BOV/24-58-10-14/34

AUTHOR: Zuykova, A. A. (Moscow)

TITLE: Change in Size of β-Brass Specimens During Cyclic Thermal Treatment (Izmeneniye razmerov obraztsov β-latuni pri tsiklicheskoy termicheskoy obrabotke)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 10, pp 92-95 (USSR)

ABSTRACT: The problem is considered as to why, under identical conditions of cyclic heat treatment, specimens of pure aluminium or nickel elongate longitudinally as the number of heat cycles is increased, whereas α-iron specimens of the same shape contract. Contraction of iron and (α + β)brass led to the assumption that this phenomenon is associated with the type of crystal lattice of the metal under investigation or the phases contained in the structure of the alloy. To verify this assumption, flat cast and rolled specimens, of BCC β-brass (47% Zn), 100 x 25 x 5 mm, were given cyclic thermal treatment. This was carried out on a specially constructed machine allowing two specimens to be tested simultaneously by heating for 8.5 minutes to the appropriate

Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

temperature, followed by fast cooling in water to room temperature. The measurement of the sizes of the specimens was carried out with an accuracy of ±0.05 mm. The results of cyclic thermal treatment of specimens of cast β-brass for the maximum temperatures of the thermal cycle of 600, 500, 460°C are shown in Fig.1. From this figure it is evident that at the indicated temperatures a reduction in the lengths of the specimens takes place during cyclic thermal treatment as the number of cycles increases. At the maximum temperature of the 460°C cycle, this reduction in length is only 0.6% after 200 cycles. According to the investigations of A. A. Bochvar (Ref.8) an appreciable effect of cyclic thermal treatment only becomes evident if a sufficiently high atomic mobility of the metal is attained on heating. In β-brass such an atomic mobility is evidently attained at temperatures exceeding the disorder establishment temperature, i.e. 454-474°C. An increase of the maximum temperature of the cycle by as little as 40°C sharply increases the effect of cyclic thermal treatment. Further increase in the temperature of the cycle up to 600°C leads to a further contraction of the β-brass. However, this increase in temperature shows less influence on the effect of cyclic thermal

Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

treatment, particularly as regards the change in the length of the specimen per degree rise in temperature, i.e. the relationship $\Delta l/1^{\circ}C$ decreases. The decrease in the length of the β-brass after cyclic thermal treatment, took place unevenly as the number of cycles was increased, i.e. the intensity of the change in length or the numerical value of the relationship $\Delta e/\Delta n$ does not remain constant as the number of cycles is increased and has a maximum for the cyclic thermal treatment $600^{\circ} \rightleftarrows 20^{\circ}C$ and $500^{\circ} \rightleftarrows 20^{\circ}C$ after 100 and 125 cycles respectively. Simultaneously with the reduction in length, an increase in thickness and width of the specimen occurs. For investigation of the influence of texture of β-brass due to rolling, cyclic thermal treatment was applied to specimens which were given a reduction in area of 80% by rolling at 700°C. The specimen sizes in this case were the same as for the cast brass. From Fig.2 it can be seen that the angle made with the direction of rolling does not fundamentally influence the change in dimensions after.

Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

cyclic thermal treatment. β-brass specimens both in the cast and rolled states always show a contraction along their length. Hence the directional change in the β-brass dimensions is apparently associated with the shape and dimensions of the specimen, i.e. with the magnitude of stresses arising from the temperature change at the instant of cooling along the length, width and thickness of the specimen. The degree of preferred orientation, in contrast to hexagonal and other non-cubic metals (Refs.1-3), does not show any particular influence after the cyclic thermal treatment. Other body centred cubic alloys were tested for the effect of cyclic thermal treatment and the results are shown in Fig.3. Qualitatively all these alloys change after cyclic thermal treatment in the same direction as pure β-brass. The β-brass represented in Fig.3 contained a small amount of γ-phase. The low plasticity γ-phase in the grain boundaries, which goes into solution after 25-30 cycles during cyclic thermal treatment of $600 \rightleftarrows 20^{\circ}C$, causes less elongation of specimens after the initial cycles. Special brasses containing 2% Al and 41% Zn (curve 1, Fig.3), 4% Al and 34% Zn (curve 2) have a β-phase structure in the temperature range 600 to 20°C. The increase in aluminium content from 2 to 4% in the β-brass decreases

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Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

the effect of cyclic thermal treatment. In aluminium bronze containing 11.8% Al the β-phase, which is stable at temperatures above 570°C, undergoes an eutectoid change at that temperature. Since the cyclic thermal treatment 600 ⇄ 20°C after 100 cycles did not bring about a noticeable change in the specimen length, which is probably due to the greater strength of aluminium bronze, the maximum temperature of the cycle was raised to 700°C. The effect of cyclic thermal treatment on various metals and alloys, which is expressed by the change in the specimen dimensions, is to a considerable extent due to the extent of distribution along the cross-section of stresses arising during cooling. The formation of stresses and hence the effect of cyclic thermal treatment depends on the shape of the specimens and their relative dimensions. In order to elucidate the influence of the shape and the cross-sectional dimensions, specimens of cast β-brass were given cyclic thermal treatment at a maximum temperature cycle of 600°C. The initial length of the specimens was 100 mm. The results of this series of experiments are shown

Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

in Fig.4. It can be seen that the effect of cyclic thermal treatment depends primarily on the shape of the specimens but even for the various shapes tested, after cyclic thermal treatment β-brass exhibits essentially longitudinal contraction. The presence of ribs, which are stress concentrators, intensifies the effect of cyclic thermal treatment in specimens with rectangular (curve 1, Fig.4) and square (curve 2) cross-sections as compared with cylindrical specimens (curve 4) which have approximately the same cross-sectional areas. The time of heating during cyclic thermal treatment of specimens with diameters of 15 and 20 mm was 18 min. After cyclic thermal treatment of specimens of 15 mm dia (curve 5) and 20 mm dia (curve 6), the increase in length during the initial cycles is at least partly associated with the formation of protrusions in the central portion of the specimen bodies. The formation of protrusions appears to be the result of a higher temperature in the centre of the specimens at the instant of cooling, and of the action of stresses in the centre of the specimens which are opposite in sign to the stresses in the surface layer. The external shape of the specimen of 20 mm dia of the 610 cycles of the cyclic thermal treatment 600$\rightleftarrows$20°C is shown in Fig.5. The following

Change in Size of β-Brass Specimens During Cyclic Thermal Treatment

conclusions are arrived at: 1) The effect of cyclic heat treatment depends on the type of lattice of the alloy or of the phases in the alloy structure. Body-centred cubic metals, such as β-brass, as well as aluminium bronze, special brasses and high chromium steel, contract on cyclic heat treatment longitudinally, similarly to the α-iron contraction. 2) The texture did not noticeably influence the effect of cyclic heat treatment of β-brass. 3) The change in dimensions of specimens as a result of cyclic heat treatment depends essentially on their shape and initial dimensions, but with various shapes of β-brass specimens mainly longitudinal contraction is evident after cyclic heat treatment. There are 5 figures and 9 references, 7 of which are Soviet, 2 English. (Slightly abridged translation, except for figure captions).

SUBMITTED: May 19, 1958.

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SOV/20-121-1-24/55

AUTHORS: Bochvar, A. A., Member, Academy of Sciences, USSR, Zuykova, A. A.

TITLE: On the Behaviour of β-Brass Plates Subjected to Cyclic Thermal Treatment (O povedenii plastin iz β-latuni pri tsiklicheskoy termicheskoy obrabotke)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 91-92 (USSR)

ABSTRACT: According to a previous investigation (Ref 1) the occurrence of the β-phase in the structure of the alloy does not only change the amount but also changes the sign of the effect of the cyclic heat treatment. It remained unexplained by what the strong influence of the comparatively small increase in zinc content in the alloy (e.g. from 38 to 40%) is caused. For the solution of this problem it must be known how the plates of pure β-phase behave during a cyclic heat tretment. Therefore pure β-brass with 47% of zinc (in the structure of which were neither an α- nor a β-phase) was produced. Of this alloy cast and rolled plates (5 • 25 • 100 mm) were produced, heated to 600° for 2,5 minutes, and quenched in water. The cast as well as the rolled

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On the Behaviour of β-Brass Plates Subjected to Cyclic Thermal Treatment

plates of β-brass after a different number of cycles became much shorter, thicker, and partly also wider. There was no essential difference in the behaviour of the cast and of the rolled plates. A decrease in surface on occasion of the cyclic heat treatment is characteristic for plates of pure β-phase. The sign of the effect of the cyclic heat treatment in brass in the case of increasing zinc content (above 38-39%) changes, according to the obtained data, as a consequence of all properties of the β-phase occurring in the structure. This β-phase has a cubic volume-centered lattice. There are 2 figures and 1 reference, which is Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota im. M. I. Kalinina (Moscow Institute of Nonferrous Metals and Gold imeni M. I. Kalinin)

SUBMITTED: April 2, 1958

AUTHOR: Zuykova, A.A. (Moscow) SOV/180-59-2-22/34

TITLE: Influence of the Composition of Aluminium-Copper Alloys on the Size-Change of Plates During Cyclic Heat Treatment (Vliyaniye sostava splavov alyuminiy-med' na izmeneniye razmerov plastin pri tsiklicheskoy termicheskoy obrabotke)

PERIODICAL: Izvestiya akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 2, pp 115-117 (USSR)

ABSTRACT: The object of the work described was the elucidation of the influence of the copper content of aluminium-copper alloys on their behaviour in cyclic heat treatment. Alloys were prepared from grade A00 (99.7% Al) aluminium and a 50% Cu aluminium-copper alloy. Hot-rolled 3 x 25 x 100 mm plates with 0.5, 1, 2, 4 or 7% Cu were used. The heat treatment cycle was between room temperature and about 500 oC. The plates were heated on a metal base or a wire basket and quenched. Figs 1 and 2 show the relative elongation of cast and deformed specimens, respectively, for various copper contents as functions of the number of cycles. Fig 3 gives the corresponding curves for specimens with longer high-temperature periods and Fig 4 for those previously

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Influence of the Composition of Aluminium-Copper Alloys on the Size-Change of Plates During Cyclic Heat Treatment

subjected to homogenization. Tests were also carried out on plates of grade D20, D16 and AK4 commercial alloys (Fig 5). The author concludes that at a high temperature an increase in the copper content in cast and in deformed specimens reduces the effect of cyclic heat treatment. The same result is obtained for 2% Cu deformed alloys by increasing the duration of the high-temperature period. With a higher copper content the sign of the effect of cyclic heat treatment changes. In the homogenized state the alloy with 7% Cu shows a greater change than does one with 0.5% Cu. The least effect with long high-temperature periods is shown by a deformed alloy with about 2% Cu. Copper concentration increases in the solid solution, the presence of a second structural component and intensification of diffusion all tend to change the sign

SOV/180-59-2-22/34

Influence of the Composition of Aluminium-Copper Alloys on the Size-Change of Plates During Cyclic Heat Treatment

of the effect of cyclic heat treatment.
There are 5 figures and 3 Soviet references.

SUBMITTED: December 12, 1958

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18.7100

SOV/180-59-5-8/37

AUTHORS: Bochvar, A.A., Zuykova, A.F. (Moscow)

TITLE: On the Reason for the Different Behaviour of Cubic Metals in Cyclic Thermal Treatment

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 5, pp 54-56 (USSR)

ABSTRACT: In order to elucidate the role of deformation in the core, investigations of the cyclic thermal treatment (c.t.t.) effect were carried out on cylindrical β-brass specimens with bores drilled along their length (curve 2, Fig 1). In order to ensure uniform cooling conditions as compared with a solid cylinder (curve 1), the ends of the drilled specimens were welded up. As the number of cycles is increased the change in sign of the effect is associated with recrystallization and possibly oxidation. In β-brass recrystallization takes place under the influence of c.t.t. which leads to a considerable grain growth after approximately 140 cycles between 600 and 20 °C for the solid cylinder (curve 1), which coincides with the beginning of strong contraction of the specimen along its length. Simultaneously as the number of cycles increases the oxide film thickens. In subsequent investigations plates of β-brass (5 x 25 x 100 mm) were subjected to

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On the Reason for the Different Behaviour of Cubic Metals in Cyclic Thermal Treatment

c.t.t. in different temperature ranges with the aim of lowering the yield point of the metal in the surface layers of the specimen and thus to decrease the ratio of σ_s in the extended and compressed zones. A lowering in yield point in the surface layer at the starting point of cooling was attained by raising the temperature of the cooling medium. In Fig 2 the change in length of the specimen in percent after 100 cycles between 600 and 20°C with cooling in oil is shown by point 1, with cooling in oil heated to 100 °C by point 2, and the change in length of the specimens cooled in potassium nitrate maintained at 200 and 400 °C by points 3 and 4 respectively. The small difference in cooling rate between points 1 and 2 did not exert a noticeable influence on the c.t.t. effect. The c.t.t. effect for β-brass at a constant temperature drop of the media (400°C) is shown in Fig 3. Hence the considerable lowering in yield stress of β-brass in its surface layers at a minimum cyclic temperature of 200 °C (Ref 6), i.e. a decrease in the relationship between the yield stresses of the extended and contracted zones,

On the Reason for the Different Behaviour of Cubic Metals in Cyclic Thermal Treatment

causes tensional plastic deformation of sufficient magnitude to lead to a general elongation of the specimen similar to that met with in metals with a face-centred cubic lattice. As could be expected from the point of view of the above assumptions, a c.t.t. of aluminium plates under similar conditions did not result in a change of sign of the effect.

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There are 3 figures and 9 Soviet references.

SUBMITTED: June 18, 1959

18(7) SOV/32-25-2-23/78

AUTHOR: Zuykova, A. A.

TITLE: The Methodology of Studying the Cyclic Thermal Processing of Metals and Alloys (Metodika izucheniya tsiklicheskoy termicheskoy obrabotki metallov i splavov)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 2, pp 170 - 172 (USSR)

ABSTRACT: Because of the industrial uses of uranium more attention has in recent years been paid to the effect of cyclic thermal processing (CTP), since it is here that the effect of repeated heating and cooling operations is to be seen most clearly (Ref 1). A. A. Bochvar and others (Refs 2-4) showed that irreversible changes may be caused by thermal tensions even with common metals. In the present case a unit is described which was designed especially for the CTP of metals. Moreover the article contains a description of the working method and the results obtained. The apparatus (Fig 1) consists of two parts with an electric heating element each (maximum working temperature 1000°) controlled by means of the EPD-12 apparatus. Several samples may be studied at a time. The disadvantage

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that the warming-up rate of the apparatus is as little as 70° per minute is mentioned. Because of the very negative effect of CTP on β-brass samples of different shapes made of cast β-brass were studied (Fig 2). The samples were heated to 600° in 8.5 minutes, then the samples were chilled quickly (within 1.5 minutes) in water (at room temperature). It was observed that the presence of fins on the sample, which act as tension-collectors, increase the effect of CTP. Furthermore investigations were carried out of the changes in length occurring during CTP in samples of steel containing 13% Cr and different alloys (Fig 3). There are 3 figures, 1 table, and 5 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota im. M. I. Kalinina (Moscow Institute of Non-Ferrous Metals and Gold imeni M. I. Kalinin)

ZUYKOVA, A. A., Cand Tech Sci -- (diss) "Effect of the nature, composition, and structure of some alloys on their dimensional and structural stability under conditions of thermal cycles." Moscow, 1960. 22 pp; (Academy of Sciences USSR, Inst of Metallurgy im A. A. Baykov); 150 copies; price not given; printed on duplicating machine; (KL, 25-60, 131)

KONOKOTIN, G.S., kand.tekhn.nauk; ZUYKOVA, L.P., starshiy nauchnyy sotrudnik

Use of polymer films in fish freezing and storage. Khol.tekh. 41 no.1:42-44 Ja-F '64. (MIRA 17:3)

1. Nauchno-issledovatel'skiy i konstruktorskiy institut mekhanizatsii rybnoy promyshlennosti, Leningrad.

ZUYKOVA, N.

Length of the work week in the industry of Great Britain. Biul. nauch. inform. trud i zar. plata 4 no.12:66-69 '61. (MIRA 15:1)
(Great Britain--Hours of labor)

L 22342-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t) IJP(c) JD/JG

ACC NR: AT6012397 SOURCE CODE: UR/0000/65/000/000/0243/0246

AUTHOR: Kornilov, I. I. (Doctor of chemical sciences; Professor); Shakhova, K. I.; Nuss, P. A.; Klimov, B. A.; Budberg, P. B.; Chernova, T. S.; Zuykova, N. A.

ORG: none

TITLE: Some mechanical and physical properties of AT13 alloy

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 243-246

TOPIC TAGS: titanium, titanium alloy, aluminum containing alloy, zirconium containing alloy, molybdenum containing alloy, alloy mechanical property, alloy physical property /AT13 alloy

ABSTRACT: On the basis of experimental data on titanium alloys gathered at the Laboratory of the Chemistry of Metallic Alloys of the Institute of Metallurgy im. A. A. Baykov, a new, eight-component, high-strength weldable titanium alloy AT13 has been developed. The alloy liquidus and solidus temperatures were found to be 1800 and 1675C, respectively. The alloy structure consists mainly of the α-phase with a very insignificant amount of the β-phase. The α→β transformation occurs in the 1030-1050C range; no other transformation occurs in the 100—1000C range. At room temperature, AT13 alloy has a tensile strength of 127—129 kg/mm^2, a yield

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UDC: 669.295.001.5

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strength of 120—125 kg/mm^2, an elongation of 4—6%, a reduction of area of 30—35%, an impact toughness of 3 kg·m/cm^2, and an HV hardness of 258 kg/mm^2. In the annealed condition the alloy has an elasticity modulus of 13,600 kg/mm^2, a shear modulus of 4850 kg/mm^2, and a Poisson ratio of 0.4. The alloy softens insignificantly at 500—600C, but the tensile and yield strengths drop sharply as the test temperature increases to 700C. The creep rate at 500 and 600C is low, but sharply increases at 800C. The alloy elongation and the coefficient of thermal expansion increase uniformly with increasing temperature. The alloy resistivity was 1.73 and 1.84 ohm·mm^2/m in the annealed and in the strained condition, respectively. AT13 has the highest electric resistance of all the alloys used for heating elements, i.e., Kh20N80T3 (Nichrome) or OKh27Yu5A (alloy no. 2) and special electric heater alloys MNMts3-12 (manganin) or MNMts40-1.5 (constantan). Further research on AT13 alloy is planned. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 007/ ATD PRESS: 4241 [MS]

Card 2/2 lda

KOVAL'CHUK, V.P., kand.tekhn.nauk; ZUYKOVA, V.I., inzh.; ETMANOV, S.Ya., red.; MAL'KOVA, N.V., tekhn.red.

[Mechanizing the repair of automobile tires] Opyt mekhanizatsii protsessov remonta avtomobil'nykh shin. Moskva, Avtotransizdat, 1948. 14 p. (MIRA 12:6)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.
(Automobiles--Tires)

GOLUBEV, V.V.; KRASNOSHCHEKOVA, Ye.Ye; ZUYKOVA, V.P.

Our practice in improving asepsis in rural medical centers.
Fel'd. i akush. 28 no.3:44-45 Mr'63. (MIRA 16:7)

1. Iz bakteriologicheskoy laboratorii Kazanskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii i Arskoy rayonnoy bol'nitsy Tatarskoy ASSR.
(ASEPSIS AND ANTISEPSIS)

ACC NR: AP7000016 SOURCE CODE: UR/0080/66/039/011/2505/2509

AUTHOR: Layner, V. I.; Velichko, Yu. A.; Zuykova, V. S.

ORG: none

TITLE: Electrodeposition of a gold-antimony alloy

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 11, 1966, 2505-2509

TOPIC TAGS: gold alloy, antimony alloy, electrodeposition

ABSTRACT: The study was made in order to refine the basic parameters of the process of electrodeposition of hard gold coatings. The process involves alloying with antimony, which is introduced into the electrolyte in the form of antimonyl potassium tartrate ("tartar emetic"). The gold was deposited on brass and permalloy. On the latter, the electrodeposition is best carried out from cyanide solutions of the following composition (g/l): metallic gold 8.00, free KCN 15.0, $K(SbO)C_4H_4O_6 \cdot 0.5H_2O$ 0.05; current density, 0.3-0.7 A/dm^2; temperature, 40°. The microhardness and wear resistance of the Au-Sb alloy are respectively 1.5 and 15 times greater than those of pure gold. A considerable increase in the concentration of antimonyl potassium tartrate (above 0.015 g/l) leaves the hardness of the Au-Sb alloy practically unchanged and has no effect on the Sb content of the alloy. An increase in the content of free KCN causes a temporary increase in the hardness of the pure gold coating, but does not affect the hardness of the Au-Sb alloy. A strong bonding between the latter and

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UDC: 541.13+546.3-19'59'86.541.13+546.3-19'59'86

ACC NR: AP7000016

permalloy is obtained by first depositing thin layers of copper in two pyrophosphate baths of different compositions. The liberation of pure gold is associated with considerable polarization. The introduction of antimonyl potassium tartrate has virtually no effect on the position and shape of the polarization curve recorded during the deposition of pure gold. An increase in the amount of free KCN and decrease in gold concentration shifts the polarization curve toward negative potentials. Orig. art. has: 9 figures.

SUB CODE: 07,11/ SUBM DATE: 04Nov64/ ORIG REF: 007/ OTH REF: 002

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KAS'YANOV, I.S., kand.biol. nauk; SVIRIDOV, N.K., kand. biol. nauk; ZUYKOVA, Ye.A., prof.; VASIL'yeva, I.G. (Moskva)

Clinicohematological and morphological changes in a combination of lesions treated with a rapidly congealing plastic mass. Vrach. delo no.9:84-88 S '63. (MIRA 16:6)

1. Kliniko-eksperimental'naya laboratoriya po aprobatsii novykh radioaktivnykh preparatov (zav. - prof. V.V.Alpatov) nauchno-issledovatel'skogo rentgenoradiologicheskogo instituta Ministerstva zdravookhraneniya RSFSR.
(BURNS AND SCALDS) (PLASTICS IN SURGERY)
(RADIATION SICKNESS)

KAS'YANOV, I.S., kand.biol. nauk; SVIRIDOV, N.K., kand. biol. nauk; ZUYKOVA, Ye.A., prof.; VASIL'yeva, I.G. (Moskva)

Clinicohematological and morphological changes in a combination of lesions treated with a rapidly congealing plastic mass. Vrach. delo no.9:84-88 S '63. (MIRA 16:6)

1. Kliniko-eksperimental'naya laboratoriya po aprobatsii novykh radioaktivnykh preparatov (zav. - prof. V.V.Alpatov) nauchno-issledovatel'skogo rentgenoradiologicheskogo instituta Ministerstva zdravookhraneniya RSFSR.
(BURNS AND SCALDS) (PLASTICS IN SURGERY)
(RADIATION SICKNESS)

ABATUROVA, Ye.A.; SVIRIDOV, N.K.; YELPAT'YEVSKAYA, G.N.; ZUYKOVA, Ye.A.

Clinicohematological, biochemical and morphological changes in the recovery period during therapy of radiation sickness. Biul. eksp. biol. i med. 58 no.8:34-39 Ag '64.

(MIRA 18:1)

1. Radiologicheskiy otdel (zav. - prof. A.V. Konkova) Nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir. - prof. I.G. Lagunova) Ministerstva zdravookhraneniya RSFSR. Submitted Sept. 14, 1963.