ALEKSANDROV, B. A. and Vanyukov, M. P.

"Optic Measurements of the Phenomenon of a Directed Blast," a report presented at one of the sessions of the General Assemblies of OFMN in 1944.

IAN-Ser Fiz, No 3, Vol 9, 1945

ALEKSANDROV, B.A., inzh.; SAIDOV, M.S., inzh.

Sectionalization of rural electrical networks. Mekh.i elek. sots.sel'khoz. 17 no.5:39 '59. (MIRA 12:12)

1. Tashkentskaya oblastnaya kontora Glavsel'elektro.
(Electric networks)

ALEKSANDROV, B A

Stalinskiy Plan Preobrazovaniya Prirody V Deystvii. Moskva, MOIP, 1952.
197 p. illus. 26 cm.
At head of title: Moskovskoye Obshchestvo Ispytateley Prirody.

89778

9.9500
3.9100

S/169/61/000/002/033/039
A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 2, p. 49, # 20339

AUTHORS: Aleksandrov, B. A., Pudovkin, M. I., Yanovskiy, B. M.

TITLE: The Magnetic Field of Magnetic Disturbances in the Arctic and Antarctic Regions

PERIODICAL: V sb.: "Magnitno-ionosfernyye vozmushcheniya", No. 1, Moscow, AN SSSR, 1959, pp. 17-23

TEXT: During 1953-1957, up to five magnetic variational field stations operated simultaneously in the northwestern region of the Asiatic part of the USSR. Their data were used together with data of the arctic and mid-latitude magnetic observatories of the USSR for the presentation of the geomagnetic variation field during magnetic storms by synoptic maps of variation isolines. The analysis of these maps allowd the authors to draw some conclusions on the morphology of the magnetic variation field during storms. The author holds electric currents as the main cause of variations; they formed nearly linear and extended in latitudinal direction over latitudes of about 65°. The comparison of the magnetic and

Card 1/2

89778

S/169/61/000/002/033/039
A005/A001

The Magnetic Field of Magnetic Disturbances in the Arctic and Antarctic Regions

Ionospheric data of the antarctic observatory Mirnyy led to the conclusion that these currents are originated, apparently, by the "dynamo mechanism" in the E_s-layer at its motion in the Earth's constant magnetic field.

V. Afanas'yeva

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

Card 2/2

ALEKSANDROV, B.A.

Structure and dynamics of magnetic variations in the Arctic and subarctic regions. Trudy NIIGA 132:10-20 '62. (MIRA 16:4)
(Arctic regions--Magnetism, Terrestiral)

ALEKSANDROV, B.A.; DEMENITSKAYA, R.M., doktor geol.-miner. nauk red.

[Concise instruction on calculating a changing magnetic field in aeromagnetic surveying in the Arctic and Subarctic regions] Kratkoe nastavlenie po uchetu peremennogo magnitnogo polia pri aeromagnitnykh s"emkakh v Arktike i Subarktike. Leningrad, 1964. 42 p. (MIRA 18:5)

1. Leningrad. Nauchno-issledovatel'skiy institut geologii Arktiki.

ALEKSANDROV, B. A.

ALEKSANDROV, B. A. "The elder agronomist of the Soviet Union, Vasiliy Robertovich Vil' yams", Oktybr', 1949, No. 1, p. 153-66.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No.7 1949).

ALEKSANDROV, B.A.

Uchenie V.P. Vil'iamsa o pochvo-
obrazovanii i travopol'noi sisteme zemledeliia (Doc-
trine of V.R. Vil'yams on soil formation and grass-
land agriculture). Moskva, Goskul'tprosvetizdat, 1953.
48 p. (B-chka "V pomoshch' lektoru". no. 9)

SO: Monthly List of Russian Accessions, Vol. 7, No. 5, August 1954

ALEKSANDROV, B.A.

Raise flowers. Zdorov'e 4 no.6:31 Je '58 (MIRA 11:6)
(FLORICULTURE)

ALEKSANDROV, B.A.

Lemons in the window. Zdorov'e 4 no.11:30-31 N '58. (MIRA 11:11)
(LEMON)

ALEKSANDROV, B.A.

ALEKSANDROV, B.A.

Fig tree in the house. Zdorov'e 5 no.10:29 O '59. (MIRA 13:2)
(PLANTS, ORNAMENTAL) (FIG)

S/049/60/000/04/017/018
E032/E314

AUTHOR: Aleksandrov, B.A.

TITLE: In Memory of Dmitriy Nikolayevich Kazanli (Obituary)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No. 4, p. 631

TEXT: D.N. Kazanli died on November 7, 1959. He was concerned with the study of the natural resources of Kazakhstan and worked on this problem for over twenty years.

Card 1/1

ALEKSANDROV, B.A.

Vitaminic greens in the room. Zdorov'e 6 no.1:31 Ja '60. (MIRA 13:4)

(GREENS, EDIBLE)

L 64777-65 EWA(h)/EWT(1)

ACCESSION NR: AP5020244 UR/0188/65/000/004/0091/0091
621.374.4

AUTHOR: Aleksandrov, B. A.; Brandt, A. A.; Tyagunov, A. V.

TITLE: Decimeter wave frequency multiplier using gas discharge in a nonhomogeneous electric field

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no. 4, 1965, 91

TOPIC TAGS: frequency multiplier, gas discharge multiplier, decimeter range frequency multiplier

ABSTRACT: A frequency multiplier is described in which a nonhomogeneous electric field is created between plates of a cylindrical capacitor with considerably differing diameters. High-frequency pulses (400 Mc) are fed to the discharge chamber through a measuring line, matching transformer, test loop, transit resonator, and coaxial line stretcher. Current thus induced contains higher harmonic components as a result of the movement of plasma electrons in the nonhomogeneous field. The current excited the resonator, which is tuned to the frequency of n-harmonics. The harmonic is picked up by the test loop and supplied to the measuring instrument.

Card 1/2

L 64777-65
ACCESSION NR: AP5020244

The loop is adjusted so that its maximum impedance corresponds to the basic frequency and its minimum impedance, to that of the harmonics. In order to create a current antinode in the resonator transfer loop, the test loop is located at a distance from the resonator equal to the even number of half-waves of separated harmonics. Argon, neon, and helium were used in the discharge tube within a wide pressure range. It was found that harmonic power and conversion efficiency depend on both the type of gas and the pressure. Optimum pressures were similar for all the investigated harmonics but different for the various gases. The best results were obtained with helium at a pressure of 1 mm Hg. The power output of the second harmonic was 2.2 w at a conversion efficiency of 5 db, that of the third harmonic, 0.55 w at 13 db. Orig. art. has: 2 figures. [KM]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Kafedra fiziki kolebaniy (Moscow State University, Department of the Physics of Oscillations)

SUBMITTED: 01Feb65 ENCL: 00 SUB CODE: EC, EM

NO REF SOV: 001 OTHER: 000 ATD PRESS: 4078

Card 2/2

ACC NR: AR6035071 SOURCE CODE: UR/0169/66/000/008/A054/A054

AUTHOR: Aleksandrov, B. A.

TITLE: Structure and dynamics of polar and world magnetic storms

SOURCE: Ref. zh. Geofizika, Abs. 8A345

REF SOURCE: Uch. zap. N.-i. in-t geol. Arktiki. Regional'n. geol., vyp. 7, 1965, 201-208

TOPIC TAGS: magnetic storm, magnetometer, magnetic survey, ionosphere, magnetic anomaly, aerial survey, hydromagnetics/T-magnetometer

ABSTRACT: A study was made of maps showing the distribution of magnetic field disturbances on the Earth's surface during the magnetic storms of 8—9 and 21 July 1958. The structure of the disturbance field and its dynamics on 21 July indicate that aeromagnetic and hydromagnetic measurements could be made with a required accuracy in medium and equatorial latitudes. But on 8—9 July, magnetic surveying with a T-magnetometer was practically impossible in any region. The changes in the field on 21 July follow clear-cut rules only in the Arctic region, which indicates

Card 1/2 UDC: 550.385.36

ACC NR: AR6035071

the proximity of the source of disturbance to the Earth's surface in that region. The appearance of two sources of the storms of 8—9 July is clearly seen. One of these was in the ionosphere near the polar region, and the other, evidently at a considerable distance, covering the Earth in the equatorial plane. Large anomalies characterized by another sign in relation to the surrounding field and caused by regional, deep-seated ruptures, are shown in the maps included in the article. Bibliography has 20 references. Ya. Fel'dstein. [Translation of abstract] [GC]

SUB CODE: 08, 20/

Card 2/2

ALEKSANDROV, B.B. i VASHCHUROVA, T.A.

25750

Induktsionnaya termoobrabotka svarnykh shvoniz uglerodistoi stali. Avtogen. delo, 1949, No. 8, s. 20-23.

SO: LETOPIS' No. 34

ALEKSANDROV, B.F., inzh.; BALYKOV, V.M., inzh.; BARANOVSKIY, F.I., inzh.; BOGUTSKIY, N.V., inzh.; BUN'KO, V.A., kand.tekhn.nauk, dotsent; VAVILOV, V.V., inzh.; VOLOTKOVSKIY, S.A., prof., doktor tekhn.nauk; GRIGOR'YEV, L.Ya., inzh.; GRIDIN, A.D., inzh.; ZARMAN, L.N., inzh.; KOVALEV, P.F., kand.tekhn.nauk; KUZNETSOV, B.A., kand.tekhn.nauk, dotsent; KUSNITSYN, G.I., inzh.; LATYSHEV, A.F., inzh.; LEYBOV, R.M., doktor tekhn.nauk, prof.; LEYTES, Z.M., inzh.; LISITSYN, A.A., inzh.; LOKHANIN, K.A., inzh.; LYUBIMOV, B.N., inzh.; MASHKEVICH, K.S., inzh.; MALKHAS'YAN, R.V.; MILOSERDIN, M.M., inzh.; MITNIK, V.B., kand.tekhn.nauk; MIKHEYEV, Yu.A., inzh.; PARAMONOV, V.I., inzh.; ROMANOVSKIY, Yu.G., inzh.; RUBINOVICH, Ye.Ye., inzh.; SAMOYLYUK, N.D., kand.tekhn.nauk; SMEKHOV, V.K., inzh.; SMOLDYREV, A.Ye., kand.tekhn.nauk; SNAGIN, V.T., inzh.; SNAGOVSKIY, Ye.S., kand.tekhn.nauk; FEYGIN, L.M., inzh.; FRENKEL', B.B., inzh.; FURMAN, A.A., inzh.; KHORIN, V.N., dotsent, kand.tekhn.nauk; CHETVEROV, B.M., inzh.; CHUGUNIKHIN, S.I., inzh.; SHELKOVNIKOV, V.N., inzh.; SHIRYAYEV, B.M., inzh.; SHISHKIN, N.F., kand.tekhn.nauk; SHPIL'BERG, I.L., inzh.; SHORIN, V.G., dotsent, kand.tekhn.nauk; SHTOKMAN, I.G., doktor tekhn.nauk; SHURIS, N.A., inzh.; TERPIGOREV, A.M., glavnyy red.; TOPCHIYEV, A.V., otv.red.toma; LIVSHITS, I.I., zamestitel' otv.red.; ABRAMOV, V.I., red.; LADYGIN, A.M., red.; MOROZOV, R.N., red.; OZERNOY, M.I., red.; SPIVAKOVSKIY, A.O., red.; FAYBISOVICH, I.L., red.; ARKHANGEL'SKIY, A.S., inzh., red.;

(Continued on next card)

ALEKSANDROV, B.F.---(continued) Card 2.

BELYAYEV, V.S., inzh.; red.; BUKHANOVA, L.I., inzh., red.; VLASOV, V.M., inzh., red.; GLADILIN, L.V., prof., doktor tekhn.nauk, red.; GREBTSOV, N.V., inzh., red.; GRECHISHKIN, F.G., inzh., red.; GONCHAREVICH, I.F., kand.tekhn.nauk, red.; GUDALOV, V.P., kand.tekhn. nauk, red.; IGNATOV, N.N., inzh., red.; LOMAKIN, S.M., dotsent, kand. tekhn.nauk, red.; MARTYNOV, M.V., dotsent, kand.tekhn.nauk, red.; POVOLOTSKIY, I.A., inzh., red.; SVETLICHNYY, P.L., inzh., red.;SAL'TSEVICH, L.A., kand.tekhn.nauk, red.; SPERANTOV, A.V., kand.tekhn. nauk, red.; SHETLER, G.A., inzh., red.; ABARBARCHUK, F.I., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav.red.A.M.Terpigorev. Chleny glav.redaktsii A.I. Baranov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Vol.7. [Mining machinery] Gornye mashiny. Redkol.toma A.V.Topchiev i dr. 1959. 638 p. (Mining machinery) (MIRA 13:1)

23916
S/035/61/000/006/034/044
A001/A101

3,4000 (1121, 1128)

AUTHOR: Aleksandrov, B.G.

TITLE: The preliminary calculation of the sides and direction angles of direct intersection by the graphic-analytical method

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 6, 1961, 8, abstract 6G74 ("Nauchn. tr. Khar'kovsk. gorn. in-t", 1960, v.7, 45-53)

TEXT: The author proposes a method of estimating the accuracy of direct intersection which takes into account the condition of angle sum, beside the other conditions, and permits therefore the estimate of accuracy of results with a higher precision than by formulae presented by K.L. Provorov (see RZhAstr, 1957, no. 7, 6132), A.S. Chebotarev (see RZhAstr, 1957, no. 5, 4056) and others. The known formulae are used in estimating the accuracy of sides and direction angles:

$$\frac{m_s}{s} = \frac{m_{\lg s}}{\mu \cdot 10^5} = \frac{m^* \sqrt{\frac{1}{P_{\lg s}}}}{\mu \cdot 10^5},$$

$$m_\alpha = m^* \sqrt{\frac{1}{P_\alpha}}$$

Card 1/2

23946
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A001/A101

The preliminary calculation ...

To simplify calculations of inverse weights $\frac{1}{P_{lgs}}$ and $\frac{1}{P_{\alpha}}$, the author compiled graphs. He presents the graphs and results of estimating the accuracy of 10 intersections made by the graphic-analytical and analytical methods. It is noted that the accuracy of the graphic-analytical method is quite sufficient, if angles are measured with the root-mean-square error ± 15"; saving of time in comparison with the analytical method amounts to 20-25%. There are 6 references.

P. Kuznetsov

[Abstracter's note: Complete translation]

Card 2/2

ALEKSANDROV, B.G.

Estimating the accuracy of triangulation sides. Nauch. trudy KHGI no.6:37-49 '58. (MIRA 14:4)
(Triangulation)

ALEKSANDROV, B.G., assistent

Errors in the linking sides of a simple chain of triangles between two fixed points. Izv. vys. ucheb. zav.; geod. i aerof. no.4:57-73 '63. (MIRA 17:9)

1. Khar'kovskiy ordena Trudovogo Krasnogo Znameni sel'skokhozyaystvennyy institut imeni V.V. Dokuchayeva.

ALEKSANDROV, B.I.

Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirotin, and M.G. Chilikin; Eds.: I.I. Sud, and E.F. Sileyev; Tech. Eds.: K.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

COVERAGE: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GNTK SSSR, the Gosudarstvennyy Komitet po avtomatizatsii i mashinostroyeniyu (State Committee on Automation and Machine Building) and the Natsional'nyy Komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskiy komitet po avtomatizirovannomu elektroprivodu (Scientific and Technical Committee on Automated Electric Drives), the MEI (Moscow Institute of Energetics), the VNIIEM, the IAT (Institute of Automation and Telemechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to noncontact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulation and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of NII EP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART I. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

PART III. ELECTRIC DRIVES FOR MECHANISMS OF VARIOUS BRANCHES OF INDUSTRY

23

ALEKSANDROV, B.

AID - P-254

Subject : USSR/Aeronautics

Card : 1/1

Author : Aleksandrov, B., Lt. Col.

Title : Interception of Air Targets

Periodical : Vest. vozd. flota, 6, 70-77, Je 1954

Abstract : The author describes the USA theory of air attack and antiaircraft defense. He cites several USA authors and their articles, describes recent USA aircraft, and discusses their performances. Photos.

Institution : None

Submitted : No date

ALEKSANDROV, B.

AID P - 974

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 18/21

Author : Aleksandrov, B., Lt. Col.

Title : American guided missiles

Periodical : Vest. vozd. flota, 12, 79-86, D 1954

Abstract : A report on the development of guided missiles in the USA. General technical data and photos.

Institution : None

Submitted : No date

ALEKSANDROV, B.I.

AID P - 4742

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 23/23

Author : Aleksandrov, B. I., Lt. Col.

Title : Semi-automatic system for guiding of fighters to aerial targets.

Periodical : Vest. vozd. flota, 7, 93-96, Jl 1956

Abstract : The author, on the basis of various foreign aviation periodicals, describes the Semi-Automatic Ground Environment (SAGE) system for guiding of fighters, used in USA.

Institution : None

Submitted : No date

ALEKSANDROV, B.

AID P - 5525

Subject : USSR/Aeronautics - Aircraft

Card 1/1 Pub. 58 - 16/17

Author : Aleksandrov, B.

Title : British bombardment aviation

Periodical : Kryl. rod., 2, 29-30, F 1957

Abstract : A cursory review of some of the latest models of British bombardment aircraft (Canberras, Valiants, Vulcans and Victors), said to be based on information gathered in "Jane's Aircraft", "Interavia", "Flight" and "Airplane". 4 designs.

Institution : None

Submitted : No date

ALEKSANDROV, B. I.

ALEKSANDROV, B. I. -- "INVESTIGATION OF THE FATIGUE STRENGTH OF METALS AT HIGH TEMPERATURE." SUB 12 MAY 52, CENTRAL SCI RES INST OF TECHNOLOGY AND MACHINE BUILDING (TSNIITMASH) (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCES)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

ALEKSANDROV, B.I., kandidat tekhnicheskikh nauk.

Study of the high-temperature fatigue strength of two alloys.
[Trudy] TSNIITMASH no.63:5-49 '54. (MLRA 7:9)
(Steel alloys--Fatigue)

The Effect of Strain Hardening on the High-Temperature Strength of the Austenitic Steel EI395 (Continued)

rolled samples, between the fatigue resistance and the annealing process.

Uniform cold-rolling hardening with a 25 per cent elongation increased the fatigue resistance with stress concentration up to 20 per cent.

The fatigue resistance of strain-hardened and annealed samples does not change after a 2,000-hour heating at 650° C.

(B. F. Balashov)

SOV/124-58-1-1360

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 168 (USSR)

AUTHORS: Aleksandrov, B.I., Shishkova, A.P.

TITLE: The Fatigue Strength of Austenitic EI405 Steel at Elevated Temperatures (Ustalostnaya prochnost' austenitnoy stali EI405 pri vysokikh temperaturakh)

PERIODICAL: V sb.: Povysheniye ustalostnoy prochnosti stal'nykh i chugunnykh detaley poverkhnostnym naklepom. Moscow, Mashgiz, 1955, pp 57-78

ABSTRACT: The fatigue endurance limit of smooth and notched specimens at 20°C amounts to 27.5 kg/mm^2. At 500-650° the fatigue endurance limit of smooth specimens attains 21.5-20.5 kg/mm^2, that of notched specimens 19.5-12.5 kg/mm^2, with a reduction at rising temperatures. Test basis was 2×10^8 stress cycles. Strain hardening due to hammer forging leads to a doubling of the hardness and an increase by 80% in the endurance limit at 600°. Tensile strain hardening increases the endurance limit at 600° by 25%. Rolling treatment increases the endurance limits of smooth and notched specimens at 600° to 50 and 70%, respectively. The residual compressive stresses in the strain layer, amounting to 30-40 kg/mm^2, and the

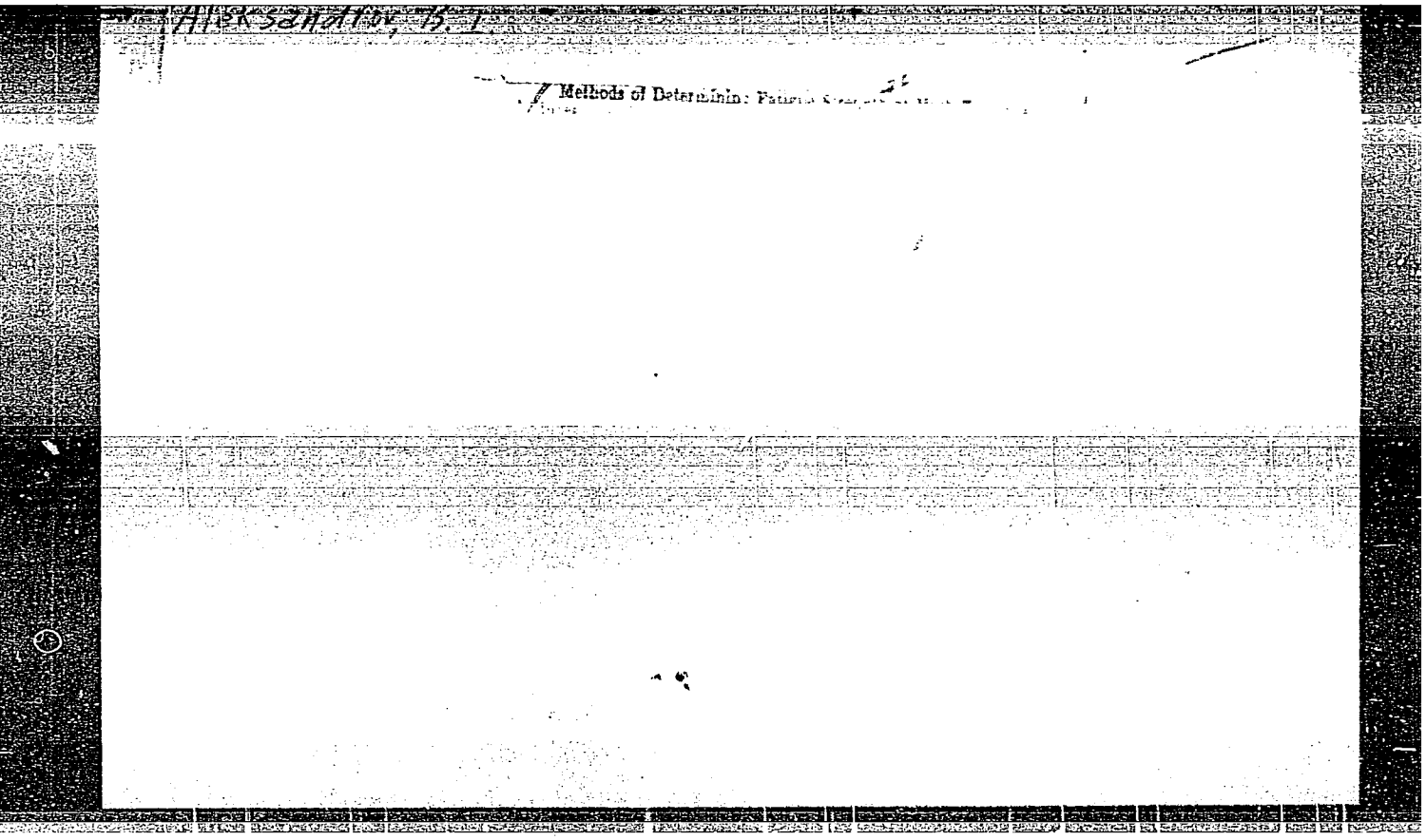
Card 1/2

The Fatigue Strength of Austenitic EI405 Steel (cont.)

75% increase in hardness are not reduced even during prolonged heating to 600°.

B. F. Balashov

Card 2/2



Methods of Determining

ALEKSANDROV, B.I.

KUDRYAVTSEV, I.V., doktor tekhnicheskikh nauk; ALEKSANDROV, B.I., kandidat tekhnicheskikh nauk.

Effect of surface peening on the fatigue strength of (2Kh13) chromium steel at high temperatures. [Trudy] TSNIITMASH no.74: 21-41 '55. (MLRA 9:1)

(Chromium steel--Cold working) (Metals at high temperatures)

ALEKSANDROV, B.I., kandidat tekhnicheskikh nauk.

Effect of cold working on the fatigue strength of EI395 austenite steel at high temperatures. [Trudy] TSNIITMASH no.74:42-55 '55. (MLRA 9:1)

(Steel--Cold working) (Metals at high temperatures)

SOV/124-58-2-2409

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 119 (USSR)

AUTHOR: Aleksandrov, B. I.

TITLE: High-temperature Fatigue Strength and Stress-concentration Sensitivity of EI-434 Steel (Ustalostnaya prochnost' i chuvstvitel'nost' k kontsentratsii napryazheniy stali EI-434 pri vysokikh temperaturakh)

PERIODICAL: V kn.: Issledovaniya po zharoprochnym splavam. Moscow, AN SSSR, 1956, pp 60-68

ABSTRACT: EI-434 was studied following quenching and stabilization at 20, 650, 700, and 750°C. The tests were made on smooth specimens and on specimens with turned and ground annular notches. The test basis (loading cycle) at elevated temperatures was 10^8 stress cycles. In addition to the fatigue tests a determination was made of the mechanical properties of the steel and the microstructure of the specimens in their initial state and following the cyclic loading. It is established that at temperatures between 20 and 650° quenched and stabilized EI-434 steel exhibits an elevated fatigue strength; the character of the stabilization, up to 700°, does not exert any particular influence on the fatigue strength. The experiments performed

Card 1/2

High-temperature Fatigue Strength and Stress-concentration (cont.)

justify the recommendation that parts made of EI-434 steel be surface-hardened at stress-concentration points in order to enhance the fatigue strength.

A. M. Sinyukov

Card 2/2

2

1051* (Russian) The Effects of Various Types of Treatment on the Fatigue Strength of EI434 Steel. Vliianie razlichnykh vidov obrabotki na ustalostnuiu prochnost' stali EI434. B. I. Aleksandrov and A. P. Shashkova. Metallovedenie i obrabotka Metallov, 1956, no. 8, Aug. 1956, p. 20-27.

Tests for determining effects of treatment. Cold working or surface peening are the most effective means for increasing fatigue strength.

1. Tsentral'nyy nauchno-issledovatel'skiy inst. tekhnologii i mashinostroyeniya. (Steel - Fatigue)

ALEKSANDROV, B.I.

4
4E2c

Endurance strength of steel EI723 at high temperatures.
B. I. Aleksandrov. *Metalloved. i Obrabotka Metal.* 1956, No. 12, 27-33. Specimens 18 × 18 mm. and 200 mm. long were cut from a rolled bar 90 mm. in diam. and 1.5 to 2.5 m. long with the compn. C 0.20, Cr 2.3, Mo 0.93, V 0.45, Mn 0.54, Si 0.28, P 0.010, and S 0.010%. Heat-treatment consisted of heating at 1040° for 1 hr., air cooling, tempering at 680° for 5 hrs., and air cooling. The resulting structure was sorbite with a Brinell hardness of 285 to 302. The heat-treated specimens were machined to make the usual endurance specimens for a rotating-beam test. The test section was 8 mm. in diam. for smooth specimens. Notched specimens were made by machining a groove 1 mm. deep and with a 0.5 mm. bottom radius into this 8 mm. section. The theoretical stress concn. coeff. of the notch was about 2.4. The rate of testing was 2870 cycles/min. The endurance limit was taken as 30 × 10⁶ cycles for testing at 20 to 300°, 100 × 10⁶ at 400°, and (100 to 300) × 10⁶ at 500° and higher temps. The endurance limits of the smooth and notched specimens, resp., at various temps. were: 20°, 47.0, 26.0; 100°, 41.0, 21.0; 200°, 39.0, 20.0; 300°, 40.0, 17.0; 400°, 39.0, 21.0; 500°, 30.0, 22.0; 535°, 28.0, 17.0; 575°, 27.0, 19.5 kg./sq. mm. The S-N curves for the smooth specimens showed the usual sharp break at (1-3) × 10⁶ cycles for temps. of 20-200°. The break was less distinct at 300 and 420° and was absent at 500° and above. The notched specimens behaved similarly except that their results were more scattered. When surface cold rolling was employed the endurance limits at 535° were, resp., 35.0 and 29.0. Thus, this treatment was effective in offsetting stress concns. Microscopic study showed no change in microstructure but it revealed wedge-shaped depressions in the surfaces of specimens tested at 500° and higher. These were nuclei for fatigue cracks.

A. G. Guy

Cent. Sci. Res. Inst. Heavy Machine Building

ALEKSANDROV, B.I.

137-58-2-4165

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 271 (USSR)

AUTHORS: Aleksandrov, B.I., Shishkova, A.P.

TITLE: The Effect of Tempering and Surface Hardening on the High-temperature Fatigue Resistance of Steel EI434 (Vliyaniye otpuska i poverkhnostnogo uprochneniya na ustalostnuyu prochnost' stali EI434 pri povyshennykh temperaturakh)

PERIODICAL: V sb.: Vopr. konstrukts. prochnosti stali. Moscow, Mashgiz, 1957, pp 144-159

ABSTRACT: An investigation was made of the effect of stabilizing tempering, surface-hardening with rollers, hammer-hardening in sealed dies, aluminum-chroming, and electric-spark hardening on the fatigue resistance and susceptibility to stress concentration of the Cr-Ni-Co steel EI434 at temperatures of 20, 650, 700, and 750°C. Tests were made on smooth and notched test bars, the notched bars having circular notches 1.0 mm deep and 0.5 mm in radius. Initially the bars were quenched in water at 1220-1230° and had an austenitic and Nb-carbide structure. Stabilization, which occurred at 700-860° and lasted 20-24 hours, was followed by a supplementary heating to 760-800°, which

Card 1/2

137-58-2-4165

The Effect of Tempering and Surface Hardening on the High-temperature (cont.)

lasted 10-20 hours. It was found that steel EI434 at 20 and 650°, after being quenched and stabilized, had good fatigue resistance, which declined, however, when the metal was heated to 750°. The conditions of stabilization did not significantly affect fatigue resistance at 700°. Susceptibility to stress concentration at 20 and 600° depended on how the notch was cut. When notch surfaces were polished, the steel was highly susceptible to stress concentration up to 700°. When notches were made with a cutting tool, fatigue resistance at 20 and 600° was increased by 80 percent and 22 percent respectively -- which is attributed to the hardening of the metal's surface layers and to the propitious residual stresses produced by the turning. Working the surfaces with rollers (knurling) increased fatigue resistance at 650° by 16-24 percent in the case of the smooth bars, 42-45 percent in the case of the notched bars. Aluminum-chroming and the electric-spark treatment caused a 12-20 percent drop in fatigue resistance at 650°.

N.K.

1. Steel--Tempering--Applications 2. Steel--Fatigue

Card 2/2

137-58-4-8201

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 265 (USSR)

AUTHOR: Aleksandrov, B. I.

TITLE: Fatigue Strength of Alloys at High Temperatures (A Review of Foreign Investigations) [Ustalostnaya prochnost' splavov pri vysokikh temperaturakh. (Obzor zarubezhnykh issledovaniy)]

PERIODICAL: V sb.: Vopr. konstrukts. prochnosti stali. Moscow, Mashgiz, 1957, pp 163-197

ABSTRACT: A survey of investigations in the field of the cyclical strength of heat-resistant alloys at elevated temperatures, performed chiefly in England and the United States, is offered. The methods and machines used for fatigue testing, the effect of the cycle frequency, the temperature, the chemical composition of the alloy, the grain size, and stress concentrations on the strength of heat-resistant alloys to repeated stresses are examined. Bibliography: 36 references.

S.G.

1. Heat resistant alloys--Fatigue--Temperature effects

Card 1/1

KUDRYAVTSEV, I.V., prof., doktor tekhn.nauk; ALEKSANDROV, B.I., dots., kand. tekhn.nauk

Fatigue strength of the 1X13 steel samples with fixed joints at high temperatures. Energomashinostroenie 4 no.12:38-41 D '58. (MIRA 11:12)

(Steel--Fatigue)

ALEKSANDROV B.I.

25(2,5) PHASE I BOOK EXPLOITATION SOV/2885

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Povysheniye prochnosti elementov konstruktsiy i detaley mashin (Increasing the Strength of Constructional and Machine Elements) Moscow, Mashgiz, 1959. 210 p. (Series: Its: /Sbornik/ kn. 91) 5,500 copies printed.

Ed. (Title page): I. V. Kudryavtsev, Doctor of Technical Sciences, Professor; Ed. (Inside book): A. G. Nikitin, Engineer; Tech. Ed.: V. D. El'kind; Managing Ed. for Literature on Transport Machine Building (Mashgiz): K. A. Ponomarev, Engineer.

PURPOSE: This collection of articles is intended for designers, process engineers, and scientific research workers in the machine-building industry.

COVERAGE: The collection contains papers dealing with experimental work done recently by TsNIITMASh. The experiments are concerned with the practical use of surface work hardening in industry. Industrial practices intended to increase the strength and service life of machine parts and constructional elements are discussed. Several articles are devoted to problems of increasing the fatigue strength of machine parts by work hardening. Industrial practices of NKMZ in Kramatorsk in external burnishing of large machine parts are presented. Tools and fixtures used in surface work hardening are described. No personalities are mentioned. References follow each article.

Kudryavtsev, I. V., T. V. Naumova, and L. M. Rozenman /Engineers/. Effect of Work Hardening on the Strength of Carbon Steels 129

Changes in hardness, ductility, yield, ultimate stress, impact toughness, and fatigue limit of carbon steels due to work hardening are investigated. Results are presented in tables and diagrams.

Kudryavtsev I. V., and T. V. Naumova. Effect of Large Plastic Deformations on the Strength Properties of Austenitic Steels 159

The investigation described in this article was conducted in order to establish the effect of extensive strain hardening on the fatigue resistance of heat-resistant steels. In addition to fatigue tests, short-time tensile, compression, impact, and hardness tests were taken. The tests were taken at room temperature (20°C) and at elevated temperatures (580°C). The effect of heat treatment on strain-hardened steels and the simultaneous effect of strain hardening and artificial aging were investigated.

Aleksandrov, B. I. /Candidate of Technical Sciences/. Fatigue Resistance of EI723 Pearlitic Steel at High Temperatures 174

The method of investigation and preparation of samples are described. The influence of temperature and external burnishing with rollers, the sensitivity to stress concentration, and the changes in microstructure due to cyclic

Card 8/10 [illegible]

Gulyayev, A. P. /Doctor of Technical Sciences, Professor/, and N. P. Vorokhanova, /Engineer/. Microscopic Investigation of Plastic Deformation 188

This article describes an experimental investigation of plastic deformation with the use of the optical microscope. A titanium model of the microsection was then studied in an electron microscope. Plastic flow, changes in grain shape, and generation of cracks are discussed.

IV. MODERN STRENGTH-TESTING EQUIPMENT

Yatskevich, S. I. /Candidate of Technical Sciences/, and N. Ye. Naumchenkov /Engineer/. Model U-200 Machine for Fatigue Testing Shafts With up to 200-Millimeter Diameters 201

This machine, designed and built by TsNIITMASh, requires only 16 kw. for fatigue testing 200-millimeter shafts. It employs the principle of resonance for loading. Other design considerations and operating techniques are discussed.

PHASE I BOOK EXPLOITATION SOV/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [sbornik dokladov...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference), Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Bruguli'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Science of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: casting, forging, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature media, dies, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

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S/114/60/000/009/004/007
E191/E481

AUTHOR: Aleksandrov, B.I., Candidate of Technical Sciences

TITLE: Surface Rolling for the Strain Hardening of Turbine Rotor Grooves

PERIODICAL: Energomashinostroyeniye, 1960, No.9, pp.32-34

TEXT: The ring grooves for the end glands of turbine rotors have a depth of 3 mm and a fillet radius of 0.75 mm and the relieving groove, a depth of 8 mm and a fillet radius of 2 mm. This group has a theoretical stress concentration factor of 3.5 and, in the austenitic EI405 steel at 600°C an effective stress concentration factor of 2.1. It has previously been shown that surface rolling to produce strain hardening increases the fatigue strength of components made with EI405 steel having stress concentrations. A surface rolling device with interchangeable rollers for the 0.75 and 2 mm radii was used capable of exerting a spring pressure of 300 to 800 kg. Experiments were carried out with surface rolling of a rotor model of EI405 steel (containing 0.08% C; 0.66% Si; 0.77% C; Mn; 0.024% P; 0.013% S; 14.89% Cr; 13.14% Ni; 2.1% Mo; 1.2% Nb), having a diameter of 265 mm and a length of 330 mm. The forging was normalized and stabilized and,

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Surface Rolling for the Strain Hardening of Turbine Rotor Grooves

in this condition, had a yield stress of 26 kg/mm^2, an ultimate tensile strength of 56.5 kg/mm^2, an elongation of 40%, a reduction of area 37.5% and an impact value of 6 to 7 kgm/cm^2. Already in turning the grooves, some cold work takes place to a depth of 0.3 mm, in which the hardness is raised from the initial 180 to 235 pyramid number. The depth of the cold worked layer begins to increase beyond a rolling pressure of 500 kg and reaches 1.2 mm at 800 kg. The hardness increases to 270 PN. The surface finish improves with pressure. At a rolling speed of 9 m/min and a pressure of 700 kg, the cold work takes place mainly during the first 3 passes when the depth of cold work reaches 1 mm. Further rolling increases the layer depth gradually to 1.3 mm after 25 passes. Increasing the rolling speed to 40 m/min has a negligible effect on the layer depth. Rolling of the 0.75 mm radius produces cold work beyond a pressure of 200 kg, reaching 0.6 mm depth at 300 kg. Once again, increasing the rolling speed from 9 to 38 m/min has no effect on the layer depth. Changing the roller diameter from 68 to 54 mm, it was possible to reduce the pressure to 150 kg. The procedure for inserting and rolling-in of the gland fins is described in detail as followed in the model rotor. It is important to maintain

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S/114/60/000/009/004/007
E191/E481

Surface Rolling for the Strain Hardening of Turbine Rotor Grooves

a precise distance between the edges of the double swaging roller. The recommended procedure for surface rolling of the 8 mm depth, 2 mm radius groove, makes use of a 68 mm diameter roller with a radius of 1.95 mm at a pressure of 650 kg, a surface speed of 40 m/min in 6 passes. For rolling of the 3 mm depth, 0.75 mm radius grooves, a 68 mm diameter 0.7 mm/radius roller is recommended under a pressure of 200 kg at a speed of 40 m/min in 6 passes. There are 4 figures, 1 table and 4 Soviet references.

Card 3/3

ALEKSANDROV, B.I.; MISHIN, P.A.; FUNSHTEYN, Ya.N.; DROZD, S.N.; VASILETS, F.P.

Effect of surface hardening on the strength of the rear semiaxle casing of motor vehicles. Sbor.trud.Inst.mash.i avtom.AN BSSR no.2:29-45 '61. (MIRA 15:3)
(Case hardening) (Motor vehicles—Axles—Testing)

ALEKSANDROV, B.I.; MISHIN, P.A.; DROZD, S.N.; VASILETS, F.P.

Effect of the surface heafening on the wear resistance of the case of the rear axle shaft. Avt.prom. no.2:35-36 F '61. (MIRA 14:3)

1. Institut mashinovedeniya AN BSSR i Minskiy avtozavod.
(Automobiles—Axles)

ALEKSANDROV, B.I.; MISHIN, P.A.; DROZD, S.N.; SAMOYLENKO, V.I.

Effect of heat treatment and of the dimensional factor on the strength of bolts. Sbor.trud.Inst.mash.i avtom.AN USSR no.2:65-80 '61. (MIRA 15:3)

(Bolts and nuts--Testing)

ALEKSANDROV, B.I., kand.tekh.nauk.; KLIBANSKII, I.B., kand.tekh.nauk.

Effect of material and technological factors on the strength endurance of the connecting rod of a tractor engine. Acta techn Hung 35/36:319-330. '61

ALEKSANDROV, B.I., kand.tekh.nauk.; SAMOYLENKO, V.I., mladshii nauchnyi sotrudnik.

Influence of heat treatment and measuring factor on the strength of bolts.
Acta techn Hung 35/36:331-338 '61

. ALEKSANDROV, B.I.

Soveshchaniye po ustalosti [illegible]

Tsiklicheskaya prochnost' [illegible] po ustalosti metallov, [illegible] Strength; Materials of [illegible] Metals, held [illegible] 339 p. Errata slip [illegible]

Resp. Ed.: I. A. Oding, [illegible] Sciences of the USSR; [illegible] Tech. Ed.: A. P. [illegible]

PURPOSE: This collection of [illegible] is intended for scientific research workers and [illegible]

COVERAGE: The collection [illegible] at the second conference on [illegible] at the Institute of [illegible] with the nature of [illegible]

Card 1/[illegible]

and growth of fatigue cracks, the role of plastic deformation in fatigue fracture, an accelerated method of determining fatigue strength, the plotting of fatigue diagrams, and various fatigue test methods. New data are presented on the sensitivity of high-strength steel to stress concentration, the effect of stress concentration on the criterion of fatigue failure, the effect of the size factor on the strength of metal under cyclic loads, and results of endurance tests of various machine parts. Problems connected with cyclic metal toughness, internal friction, and the effect of corrosion media and temperature on the fatigue strength of metals are also discussed. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

Card 8/9

S/137/62/000/011/023/045
A052/A101

AUTHOR: Aleksandrov, B. I.

TITLE: The effect of temperature and technological factors on endurance of heat-resistant and scale-resistant steels and alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1962, 43, abstract 11I273 (In collection: "Tsiklich. prochnost' metallov". Moscow, AN SSSR, 1962, 257 - 266)

TEXT: The sensitivity to stress concentrators was studied as well as the effect of temperature and technological treatment on the endurance of various scale-resistant and heat-resistant steels and alloys. Fatigue tests were carried out under conditions of a round alternating bending in air atmosphere on Я -8 (Ya-8) machines. Flat samples with 10 mm diameter in critical section and samples with annular notches of two types (ρ = 0.2 mm, t = 0.5 mm and ρ = 0.5 mm, t = 1.0 mm) were used. The basis of fatigue tests was 30 - 300 mln cycles (frequency ~3,000 cycle/min.). Fatigue limit values in the presence (or absence) of stress concentrators and the sensitivity of steel to stress concentrators were determined. Fatigue curves for various austenitic and ferritic steels in 20 -

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800°C range were plotted and the shape variation of the obtained curves depending on the temperature was analyzed. It is shown that for ferritic steels, at a general tendency to a considerable decrease of σ_w with an increase of temperature, in 300 - 400°C range an inhibition of the decrease of fatigue strength is observed; with an increase of testing temperature to 400 - 500°C and higher a sharp drop of σ_w is observed. Most austenitic steels at 500°C have about the same σ_w as at 20°C. In 600 - 700°C range the presence of large amounts of carbide or intermetalloid dispersion component has a decisive effect on the fatigue strength of steel. A comparison of σ_w in the presence of stress concentrators points to the advantage of ferritic steels at relatively low temperatures (up to 400°C) and of high-alloy ferritic steels at temperatures up to 535°C; at 580°C the endurances of ferritic and austenitic steels practically coincide, but at higher temperatures the endurance of austenitic steels proves to be higher. The results of the investigation of the effect of heat and chemico-thermal treatment and of plastic deformation of metal on the value of σ_w are presented. It is established that favorable residual stresses and the strengthening of the surface layers of metal, produced after hardening, surface cold hardening and subsequent

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The effect of temperature and...

stabilizing, are stable under continuous action of working temperature and cyclic loading, with the result that the value of σ_w increases noticeably.

Z. Fridman

[Abstracter's note: Complete translation]

Card 3/3

KUDRIAVTEV, I.V.; ALEKSANDROV, B.I.

Cold-hammering influence on high temperature and fatigue resistance of thermostable and refractory steels. Studii tehn Timisoara 9 no.3/4:293-307 Jl-D '62.

ALEKSANDROV, B.I., kand.tekhn.nauk; VASILETS, F.P., kand.[illegible]

Effect of the technology of production and the assymetry of loading cycle on the cyclic strengt' and durability of bolted joints. Vest. mashinostr. 44 no. 4 33-36 Ap '64. (MIRA 17:5)

YANKOV, N.I.; RUBINSHTEYN, S.Ya.; ALEKSANDROV, B.I.

Causes of the occurrence of cracks in the cylinder heads of diesel engines and ways for their correction. Trakt. i sel'khozmash. no.8:7-9 Ag '65. (MIRA 18:10)

1. Institut mashinovedeniya AN BSSR i MMZ.

L 11929-66 EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)

ACC NR: AT5028252 EWP(1)/EWA(c) SOURCE CODE: UR/2590/65/108/000/0087/0095

MJW/JD/HM/EM

AUTHORS: Kudryavtsev, I. V. (Doctor of technical sciences, Professor); Aleksandrov, B. I. (Candidate of technical sciences)

ORG: Central Scientific Research Institute for Technology and Machine Construction, Moscow (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)

TITLE: High temperature fatigue strength of 1Kh13 steel in specimens with motionless joints

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya. Trudy. v. 108, 1965. Povysheniye dolgovechnosti detaley mashin metodom poverkhnostnogo naklepa (Increasing the durability of machine parts by the surface riveting method), 87-95

TOPIC TAGS: metal joining, metal property, fatigue strength, steel, metal heat treatment, metal test, metal hardening, metal stress/ 1Kh13 steel

ABSTRACT: The high temperature fatigue strength of 1Kh13 steel specimens with press-fitted, soldered, and welded joints was determined experimentally and compared with the fatigue strength of solid and notched specimens. Hot-rolled 42-mm diameter rods were forged to 22-mm diameter and heat treated to produce HB220--230 hardness. The solid, notched, and press-fitted specimens were tested at 200C and 400C, while

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ACC NR: AT5028252

the soldered and welded specimens were tested only at 200C on a Ya8 fatigue tester of the TsNIITMASh (at 2870 cpm). Press fit forces of 1200--1400 kg were required, resulting in a compressive stress of 15.5--30 kg/mm^2 in the rod and a tensile stress of 24--50 kg/mm^2 in the sleeve. These stresses should decrease by 5% at 200C and by 13% at 400C. The results of the experiments at 200C are shown in Fig. 1. The following conclusions are drawn: press-fitted, soldered, and welded joints substantially decrease the fatigue strength of 1Kh13 steel at 200C and 400C; peening of press-fit surfaces produces the same fatigue strength as specimens without stress concentrators; fatigue strength of soldered and welded joints was approximately the same.

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L 11929-66

ACC NR: AT5028252

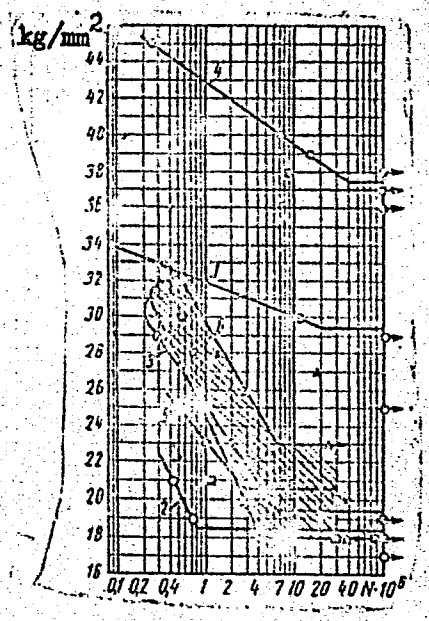

Fig. 1. Fatigue strength at 200C: ⊖ (curve 1) - smooth specimens; O (curve 2) - notched; ⊖ (curve 3) - press-fitted; ● (curve 4) - peened, press-fitted; ■ (curve 5) - welded; ▲ (curve 6) - soldered.

Orig. art. has: 3 tables and 5 figures.

SUB CODE: 11/ SUBM DATE: none/ SOV REF: 002

Card 3/3

ALEKSANDROV, B.I.; KRAVCHUK, S.P.

Effect of temperature on the operation of wire-wound converters of ohmic resistance. Dokl. AN BSSR 9 n. . 4:231-234 Ap '65
(MIR 19:1)

1. Institut mashinovedeniya i avtomatizatsii Gosudarstvennogo komiteta po mashinostroyeniyu pri Gosplane SSSR.

ALEKSANDROV, B.I.; YANKOV, G.I.

Unit for precise measurement of variable fatigue test loads.
Zav. lab. 31 no. 12:1533-1535 '65 (MIRA 19:1)

1. Minskiy institut mashinovedeniya i avtomatizatsii.

1. ALEKSANDROV, B.K.

2. USSR (600)

4. Hospitals

7. Result of the reorganization of work in a district hospital, Sov.zdrav. 12 no. 3, 1953.

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

ALEKSANDROV, B. K. Engineer (Boris Kapitonovich)

"Means for Economizing and Facilitating Construction of Large Low Delivery Hydroelectric Power Stations," abstracted in Gidrotekh. stroi., Nos. 5/6, pp. 28-29, 1946

GidroEnergoProyekt

SOV/112-57-9-18447

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 9, p 50 (USSR)

AUTHOR: Aleksandrov, B. K.

TITLE: Experience in Designing Hydroelectric Stations With Horizontal Units (Opyt proyektirovaniya gidroelektrostantsiy s gorizontal'nymi agregatami)

PERIODICAL: Tr. 2-go nauchn. tekhn. soveshchaniya po proyektir. i str-vu gidroelektrostantsiy, Moscow-Leningrad, 1955, pp 206-212

ABSTRACT: Advantages of hydroelectric stations with horizontal units are considered. At variance with the accepted view, the author believes that the use of conventional horizontal-shaft units, not axial-flow types, is promising. Various types of hydroelectric stations are examined, layouts of their equipment are compared, and the unfortunate Kama hydroelectric-station layout is noted where generators are installed in an underwater chamber or metal housing surrounded by water. Such a layout makes erection and repairs complicated. A happy solution is seen in a powerhouse integrated with the dam, where the spillway is arranged under the draft tubes and the generators are water-washed

Card 1/2

Experience in Designing Hydroelectric Stations With Horizontal Units

only on their sides; the space above the generators is used as an erection bay. A suggestion is advanced that, in the case of horizontal-unit hydroelectric stations, fundamental equipment (and also construction equipment) should be designed not only by the manufacturer, as it was formerly, but also by the projecting organizations; the suggestion is confirmed by a recent hydroelectric station project designed by the Gidroenergoproyekt Institute in cooperation with manufacturing-plant designers. Some ideas about standardizing construction of hydroelectric stations are expressed.

V.I.G.

ALEKSANDROV, B.K.

VINTER, A.V.; NEKRASOV, A.M.; SYROMYATNIKOV, I.A.; VOZNESENSKIY, A.N.; VASILENKO, P.I.; LAUPMAN, P.P.; TERMAN, I.A.; VINOGRADOV, N.P.; ANTOSHIN, N.N.; ALEKSANDROV, B.K.; USPENSKIY, B.S.; KLASSON, I.R.; KHEYFITS, M.E.; DRUTSKIY, V.F.; KRACHKOVSKIY, N.N.; POPOV, P.A.; CHELIDZE, I.M.; FILARETOV, S.N.; KOZLOV, M.D.; BERLIN, V.Ya.; SARADZHEV, A.Kh.; GORDZIYEVICH, I.S.; PAK, V.P.; DORFMAN, S.M.; DUBINSKIY, L.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; KUVSHINSKIY, N.N.; ERMOLENKO, V.M.

Mikhail Mikhailovich Karpov. Elek.sta. 27 no.10:62 O '56. (MLRA 9:12)
(Karpov, Mikhail Mikhailovich, d.1956)

ALEKSANDROV, B.K.

From the Volga to the Angara. Priroda 45 no.2:11-22 F '56.
(MLRA 9:5)

1. Chlen-korrespondent Akademii nauk SSSR.
(Hydroelectric power stations)

ALEKSANDROV, B.K.

AVER'YANOV, S.F.; ALEKSANDROV, B.K.; ASKOCHENSKIY, A.N.; BLIZNYAK, Ye.B.; ZAMARIN, Ye.A.; KOVALENKO, I.I.; KOCHINA, P.Ya.; KUZNETSOV, I.A.; POSLAVSKIY, V.V.; SRIBNYY, M.F.; TURCHINOVICH, V.T.; FAVORIN, N.N.; SHAROV, I.A.

Aleksei Nikolaevich Kostiakov; obituary. Izv. AN SSSR. Otd. tekh. nauk no.10:113-114 O '57. (MIRA 10:12)
(Kostiakov, Aleksei Nikolaevich, 1887-1957)

ALEKSANDROV, B.K.

VASIL'YEV, A.F., inzhener; ALEKSANDROV, B.K.

The Kama navigation locks. Gidr. stroi. 26 no.5:9-17 My '57.
(MLRA 10:6)

1. Chlen-korrespondent Akademii nauk SSSR (for Aleksandrov).
(Locks (Hydraulic engineering))

14(6) SOV/98-59-4-1/17

AUTHOR: Aleksandrov, B.K., Professor, Corresponding Member of the AS USSR, Yegorov, N.A., and Oborotova, M. G., Engineers

TITLE: Ways to Improve the Design of River-Bed Type Hydroelectric Power Plants (Puti uluchsheniya konstruktsiy ruslovykh gidroelektrostantsiy) For Discussion

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 4, pp 1-7 (USSR)

ABSTRACT: The authors are of the opinion that Soviet river-bed type hydroelectric power plants are too bulky to justify their high construction costs. Their design can be easily made lighter to bring about substantial savings in concrete, reinforced concrete, and metal for power-generating equipment. Lighter construction methods will also result in quicker construction. Plans have been worked out to create a power plant the dam and powerhouse of which consist of a single unit. The principle of this com-

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bined-type power plant was applied in the Kamskiy, Irkutskiy, and Kayrak-Kumskiy gidrouzly (Kama, Irkutsk, Kayrak-Kumy Hydroelectric Power Plants) and will be realized in the planned Cheboksarskiy and Plyavinskiy gidrouzly (Cheboksary and Plyavinyas Hydroelectric Power Plants). An additional method to save metal is to build smaller generators, as proposed by Professor B.K. Aleksandrov in 1955, for the Cheboksary GES-project. A smaller generator results in a larger spillway opening, which, in turn, effects a greater flow-through capacity. The "multiplicator" - a toothed transmission between the turbine shaft and that of the generator - serves also for scaling down the generator. A new gearing developed by Doctor of Technical Sciences M.L. Novikov is able to transmit power of up to several tens of thousands of kw at a rather high efficiency rate. Professor G.N. Petrov and Docent V.L. Lipkovskiy have developed a new combined generator-transformer

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for a voltage as high as 110 and even 220 kv. Professor B.K. Aleksandrov is working on lessening the weight of hydroelectric power plant bodies at the Moskovskoye otdeleniye instituta Gidroenergoproyekt or Mosgidep (Moscow Department of the Gidroenergoproyekt Institute) in which the above-mentioned principles are being taken into consideration. The authors present four diagrams of proposed power plant arrangements for the Cheboksary Hydroelectric Power Plant. They show that both the equipment weight and the volume of construction work can be considerably reduced. The new principles also hold true for the construction of locks for shipping. Diagram Nr 5 shows a cribwork wall consisting of two hollow reinforced concrete elements, the volume of which amounts to only 15-20% of a solid concrete wall. Diagram Nr 6 shows the cross section of lock-chamber walls

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developed according to the so-called "honeycomb" principle at the Mosgidep. Set up on the lock chamber's bottom and filled with sand, the new "honeycomb" structure brings an economy of 470% in concrete per running m in 2-way locks. There are 6 sets of diagrams.

Card 4/4

ALEKSANDROV, B.K., prof.; prinimali uchastiye: IVANOV-SMOLENSKIY, A.V., dots.; KORKHOVA, V.I., inzh.; OBOROTOVA, M.G., inzh.; KVYATKOVSKIY, V.S., prof.; ALEKSEYEV, A.Ye., prof.

Hydroelectric power stations with horizontal generating units. Gidr. stroi. 30 no.6:1-8 Je.'60. (MIRA 13:7)

1. Chlen-korrespondent AN SSSR (for Aledsandrov).
(Hydroelectric power stations)

ALEKSANDROV, B.K., gornyy inzh.; VOLKOV, G.M., kand.ekon.nauk

All-Union conference on the over-all mechanization and automatization of open-pit mineral mining. Gor.zhur. no.10:75-76 O '60. (MIRA 13:9)

(Strip mining--Congresses)

ALEKSANDROV, Boris Konstantinovich; MEN'SHOV, Vasiliy Semenovich; DUBROVSKIY, Ye.M., otv. red.; TAYTS, T.A., red.; LAVRENT'YEVA, L.G., tekhn. red.

[Multibucket excavators]Mnogocherpakovye ekskavatory. Moskva, TSentr. in-t tekhn.informatsii ugol'noi promyshl., 1962. 60 p. (MIRA 15:8)

(Excavating machinery)

ALEKSANDROV, B.K.

Evaluation of the physicomechanical properties of rocks in order to calculate the stability of open-pit sides as exemplified in deposits of the Kursk Magnetic Anomaly. Nauch. soob. IGD 12: 84-93 '61. (MIRA 15:9)

(Kursk Magnetic Anomaly--Strip mining) (Rocks--Testing)

NOVIKOV, I.T.; NEPOROZHNIY, P.S.; GINZBURG, S.Z.; BELYAKOV, A.A.; ERISTOV, V.S.; VOZNESENSKIY, A.N.; IVANTSOV, N.M.; BOROVOY, A.A.; TERMAN, I.A.; ALEKSANDROV, B.K.; YURINOV, D.M.; NOSOV, R.P.; MIKHAYLOV, A.V.; NICHIPOROVICH, A.A.; ABELEV, A.S.; PROSKURYAKOV, B.V.; MENKEL', M.F.; KRITSKIY, S.N.; BELYY, L.D.

Mikhail Evgen'evich Knorre. Gidr. stroi. 32 no.5: My '62. (MIRA 15:5)

(Knorre, Mikhail Evgen'evich, 1876-1962)

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

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

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

ALEKSANDROV, B.K., inzh.

Study of the stability of the sides of benches during the operation of mine haulage equipment in open-pit mines. Nauch. soob. IGD 20:11-17 '63. (MIRA 16:10)

(Mine haulage) (Rocks—Seismic properties)

ALAD'YEV, I.T.; ALEKSANDROV, B.K.; BAUM, V.A.; GOLOVINA, Ye.S.; GOL'DENBERG, S.A.; ZHIMERIN, D.G.; ZAKHARIN, A.G.; IYEVLEV, V.N.; KNORRE, V.G.; KOZLOV, G.I.; LEONT'YEVA, Z.I.; MARKOVICH, I.M.; MEYEROVICH, E.A.; MIKHNEVICH, G.V.; POPKOV, Z.I.; POPOV, V.A.; PREDVODITELEV, A.S.; PYATNITSKIY, L.N.; STYRIKOVICH, M.A.; TOLSTOV, Yu.G.; TSUKHANOVA, O.A.; CHUKHANOV, Z.F.; SHEYNDLIN, A.Ye.

Lev Nikolaevich Khitrin, 1907-1965; obituary. Izv. AN SSSR. Energ. i transp. no.2:159-160 Mr-Ap '65. (MIRA 18:6)

L 11549-66

ACC NR: AP6005027 SOURCE CODE: UR/0105/65/000/001/0090/0090

AUTHOR: Aleksandrov, B. K.; Derman, B. A.; Drozdov, N. G.; Dubinskiy, L. A.; Zalesskiy, A. M.; Kamenskiy, M. D.; Kozlov, M. D.; Lisovskiy, G. S.; Sinelobov, K. S.; Trebulev, P. V.; Uspenskiy, B. S.; Kheyfits, M. D.; Shvetsov, M. A.

17
16
B

ORG: none

TITLE: Nikolay Nikolayevich Krachkovskiy

SOURCE: Elektrichestvo, no. 1, 1965, 90

TOPIC TAGS: electric power engineering, electric engineering personnel

ABSTRACT: Brief biography of subject, a senior scientific associate of the Institute of Power Engineering AS USSR, on the occasion of his 75th birthday on 16 Dec 64. He was graduated from the Leningrad Polytechnical Institute in 1916. Worked for a number of years in the planning, surveying, construction and operation of the first HV transmission lines and substations. From 1922 to 1926, participated in the planning and construction of the first Soviet hydroelectric station (Volkov GES im. Lenin) and 110 kv transmission line. In 1927-1932, designed transmission lines at the GET (State Electrical Engineering Trust) and the Leningrad branch of Dneprostroy. Chief of electric power and transmission section at Sverdlovsk, Volgostroy and Leningrad Energoproyekt (1932-1938); simultaneously studied 100-cycle current for AS USSR and participated in planning the Kuybyshev GES - Moscow transmission line. Worked at Leningrad Gidroproyekt until 1947, and at Moscow Gidrenergoproyekt until 1955. Among the first to propose

Card 1/2 UDC: 621.31

L 11549-66

ACC NR: AP6005027

converting the Kuybyshev - Moscow line from 400 to 500 kv. An ardent advocate of d-c for HV and EHV transmission. Authored over 75 scientific and technical articles, and two inventions. Awarded the Order of the Red Banner of Labor and other decorations. Orig. art. has: 1 figure. [JPRS] 14

SUB CODE: 09 / SUBM DATE: none

HW

Card 2/2

L 11548-66 EWT(d)/EWP(k)/EWP(l) JT

ACC NR: AP6005028 SOURCE CODE: UR/0105/65/000/001/0091/0091

AUTHOR: Ayvaz'yan, V. G.; Aleksandrov, B. K.; Andrianov, V. N.; Beschinskiy, A. A.; Budzko, I. A.; Zhimerin, D. G.; Krasnov, V. S.; Kruzhilin, G. N.; Kulebakin, V. S.; Listov, P. N.; Markvardt, K. G.; Markovich, I. M.; Popkov, V. I.; Styrikovich, M. A.

ORG: none

TITLE: Professor Andrey Georgiyevich Zakharin

SOURCE: Elektrichestvo, no. 1, 1965, 91

TOPIC TAGS: electric power engineering, electric engineering personnel

ABSTRACT: A short biography of subject on the occasion of his 60th birthday in November 64. A close disciple of Krzhizhanovskiy, he now heads sector of general methodological problems and forecasting at ENIN (Institute of Power Engineering imeni Krzhizhanovskiy), and power engineering section within its scientific council. In 1927-1932, worked in designing and construction of power stations and industrial power installations in the Trans-Caucasus. In 1932, having graduated as electrical engineer from Tbilisi Polytechnical Institute, he switched to scientific work at All-Union Institute of Farm Electrification, and at ENIN since 1944. Became candidate of technical sciences in 1937; doctor, in 1948. Subject is credited with working out the methods for designing efficient and economical regional and local power systems, utilizing local power resources and coordinating them with the power grids. He participated in studies on electrification through 1980, and on

Card 1/2 UDC: 621.31:(0,75.5)

L 11548-66

ACC NR: AP6005028 2

the application of mathematical methods to solution of problems concerning fuel-power balance. In recent years, he has been concerned with linear programming, and long-term prediction with computer techniques. He authored about 80 scientific works, including monographs, textbooks and handbooks, and has been editing all ENIM publications. Is active in CEMA commissions and GOSPLAN USSR, devoting special attention to coordination of scientific research in power engineering. Has been awarded the Order of the Badge of Merit and other decorations. Orig. art. has: 1 figure.
[JPRS] 14

SUB CODE: 09 / SUBM DATE: none

HW
Card 2/2

L 24077-66 EWT(1)/EWP(m)/EWT(m)/EWA(d)/T/EWA(h)/EWA(l) JKT/WW/JW/JWD/WE/JT
ACC NR: AP6014966 SOURCE CODE: UR/0281/65/000/002/0158/0159

AUTHOR: Alad'yev, I. T.; Aleksandrov, B. K.; Baum, V. A.; Golovina, Ye. S.; Gol'denberg, S. A.; Zhimerin, D. G.; Zakharin, A. G.; Iyevlev, V. N.; Knorre, V. G.; Kozlov, G. I.; Leont'yeva, Z. I.; Markovich, I. M.; Meyerovich, E. A.; Mikhnovich, G.V.; Popkov, V. I.; Popov, V. A.; Predvoditelev, A. S.; Pyatnitskiy, L. N.; Styrikovich, M. A.; Tolstoy, Yu. G.; Tsukhanova, O. A.; Chukhanov, Z. F.; Sheyndlin, A. Ye. 125 120 B

ORG: none

TITLE: Lev Nikolayevich Khitrin

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 2, 1965, 158-159

TOPIC TAGS: academic personnel, physics personnel, combustion, carbon, high temperature research, plasma beam, fuel

ABSTRACT: Professor L. N. Khitrin, Corresponding Member, Academy of Sciences USSR, State Price Laureate, and Doctor of Engineering Sciences, died after a short but severe illness at the age of 58. He was well known here and abroad as an outstanding scientist and specialist in the field of combustion theory and the development of methods for speeding up burning of fuel. He began his scientific work at the All-Union Heat Engineering Institute after graduating from the physics department of Moscow University in 1930. His early work was on the propagation of flames in gases, and on heterogenous combustion. In 1948 he defended his Doctor's Dissertation on the theory of combustion of car-

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ACC NR: AP6014966

bon. His monograph "Combustion of Carbon" was awarded the State Prize in 1950. In 1951 he became the permanent director of the laboratory for the intensification of combustion processes of the G. M. Krzhizhanovskiy Power Institute. He was elected a corresponding member of the Academy of Sciences USSR in 1953. He headed the All Union Advisory Board on combustion, represented Soviet science at International Symposia, and was a member of the International Institute of combustion. For a number of years, he directed the Moscow general seminar on combustion, and took an active part in the work of the Scientific Council of the Academy of Sciences USSR, on high temperature heat physics, and of the scientific council on the comprehensive utilization of fuel. He devoted a large amount of attention to teaching work. He directed the Combustion Division of the Physics Department of Moscow State University. His monograph "Physics of Combustion and Explosion" (1957) is a basic text for students in this field. Three Doctor's Dissertations and fifteen Candidate Dissertations were defended under his direction. In the last years of his life he directed work on methods for comprehensive utilization of fuel at power stations so as to obtain valuable products from the mineral part of the fuel, as well as work on the physical chemical processes in a plasma stream, and the mechanism of interaction between carbon and gases. He was the author of more than 60 scientific works, for which he was awarded the Order of the Red Banner of Labor and medals. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 21, 20 / SUBM DATE: none

Card 2/2 pla

ALEKSANDROV, B.M., red.; GEDIMINAS, A.A., red.; GRIGOR'YEV, S.V., red.; MEL'YANTSEV, V.G., red.; KOZLOVA, G.I., red.izd-va; KONDRAT'YEVA, M.N., tekhn.red.

[Biology of inland waters in the Baltic Sea region; transactions] Biologiia vnutrennikh vodoemov Pribaltiki; trudy VII nauchnoy konferentsii po izucheniiu vnutrennikh vodoemov Pribaltiki. Moskva, Izd-vo Akad.nauk SSSR, 1962. 286 p. (MIRA 15:2)

1. Nauchnaya konferentsiya po izucheniyu vnutrennikh vodoyemov Pribaltiki. 7th, Petrozavodsk, 1959.
(Baltic Sea region--Freshwater biology--Congresses)

ALEKSANDROV, B.M.; GORDEYEV, O.N.; ZABOLOTSKIY, A.A.

Limnological characteristics of Lake Lososinskoye. Uch.zap.Kar.ped. inst. 7:41-65 '58. (MIRA 15:2)
(Lososinskoye, Lake—Limnology)

ALEKSANDROV, B.N.

Category : USSR/Solid State Physics - Morphology of Crystals. Crystallization E-7

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3932

Author : Aleksandrov, B.N., Verkin, B.I., Lazarev, B.G.
Inst : Physicotechnical Institute, Academy of Sciences Ukrainian SSR
Title : Obtaining Pure Metals by the Zone Crystallization Method. I. Obtaining Pure Tin.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 2, No 1, 93-99

Abstract : The purity of the initial and recrystallized tin is characterized by the relative value of the residual electric resistivity $\delta = R_{4.2}/R_r$, where $R_{4.2}$ is the resistance of the investigated specimens of tin at the boiling point of liquid helium under normal pressure conditions, and R_r is the resistance of the same specimen at room temperature. When measuring the residual resistance of individual "samples", the specimens were prepared in the form of thin wires (0.1 mm in diameter) obtained by melting a piece of metal in a glass capillary tube and stretching it into a thread. The wires were annealed at 120 - 140° for one hour. Curves are given for the dependence of the residual resistance of tin in the initial and final

Card : 1/2

Category : USSR/Solid State Physics - Morphology of Crystals. Crystallization E-7

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3932

portion of the ingot on the number of the recrystallizations. Eight to ten recrystallizations are enough to complete the tin-purification process. It can be seen from a graph showing the distribution of the impurities along the ingot after tin recrystallization, that in half the length of the ingot the impurity concentration is at a minimum and is constant. The impurities are concentrated at the end of the specimen (approximately 0.25 of the length of the ingot). From the scheme of the fractional multiple zone crystallization it can be seen that commercial tin contains impurities with $K \ll 1$ and $K > 1$ (K is the coefficient of impurity destribution, $K = C_{\text{imp.}}^{\text{solid}} / C_{\text{imp.}}^{\text{liq.}}$; C is the concentration).

Card : 2/2