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O reshenii arifmeticheskikh zadach. Posobie dlia uchitelei ped. uchilishch (Solving arithmetic problems; textbook for teachers of pedagogical institutes). 2-e pererabot. izd. Moskva, Uchpedgiz, 1953. 100 p.

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

SHOR, Ya.A. (Moscow).

Activities of the mathematical circles. Mat.v shkole no.5:61-65 S-O '53. (MLRA 6:9)

(Mathematics-- Study and teaching)

IGNAT'YEV, V.A.; IGNAT'YEV, N.I.; SHOR, Ya.A.; BORISOV, A.A., redaktor; RYBIN, I.V., tekhnicheskiy redaktor

[Collection of arithmetic problems; a textbook for pedagogical schools] Sbornik zadach po arifmetike; posobie dlia pedagogicheskikh uchilishch. 2-e izd. Moskva, Gos. uchebno-pidagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 375 p. (MLRA 8:7)
(Arithmetic--Problems, exercise, etc.)

SHOR, Yakov, Aleksandrovich; PAZEL'SKIY, S.V., redaktor; SIDOROVA, L.A., redaktor; RYBIN, M.V., tekhnicheskiy redaktor.

[Solving arithmetic problems; manual for teachers in pedagogical schools] O reshenii arifmeticheskikh zadach; posobie dlia uchitelei pedagogocheskikh uchilishch. Izd. 3-e. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1955. 105 p. (MLRA 9:4)
(Arithmetic--Study and teaching)

SHOR, Ya.

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GALAFUTNIK, Yeva Meiseyevna; ILYAKHINSKAYA, Klavdiya Nikolayevna; SHOR, Yakov Aleksandrovich; LEPESHKINA, N.I., redaktor; TSYPPO, R.V., tekhnicheskiy redaktor; RYBIN, I.V., tekhnicheskiy redaktor.

[Arithmetic lesson plans for class 4] Plany urokov po arifmetike; dlia 4 klassa. Izd 2-oe, perer. Moskva, Gos.uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 150 p. (MIRA 9:6)
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[Arithmetic besson plans; for grade 3 of the elementary school] Plany urokov po arifmetike; dlia 3 klassa nachal'noi shkoly. Izd. 2-oe, perer. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshchenila RSFSR, 1956. 181 p. (MLRA 10:2)
(Arithmetic--Study and teaching)

IGNAT'YEV, Venedikt Antonovich; PCHELKO, Aleksandr Spiridonovich; SHOR, Yakov Aleksandrovich; SIDOROVA, L.A., redaktor; RYBKIN, I.V., tekhnicheskiy redaktor

[Methods of teaching arithmetic in elementary schools; a manual for pedagogical institutions] Metodika prepodavaniia arifmetiki v nachal'noi shkole; posobie dlia pedagogicheskikh uchilishch. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1956. 242 p. (MLRA 10:4)

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(Arithmetic) (Shevchenko, I.N.)

KONTOROVICH, P.G.; KURBATOV, V.A. (Sverdlovsk); GUTMAN, A.Ya. (Moskva); DEYNEGA, A.V. (Kiyev); ISACHKIN, B.Ya. (Penza); NETRONINA, N.G. (Tambov); PONOMAREV, V.S.(Izhevsk); SELIVANOV, D.P. (Korsun'-Shevchenkovskiy, Cherkasskaya obl.); KOLIKOV, A.F. (Kalinin); SHOR, Ya.A. (Moskva); IVANOV, M.I. (Tula)

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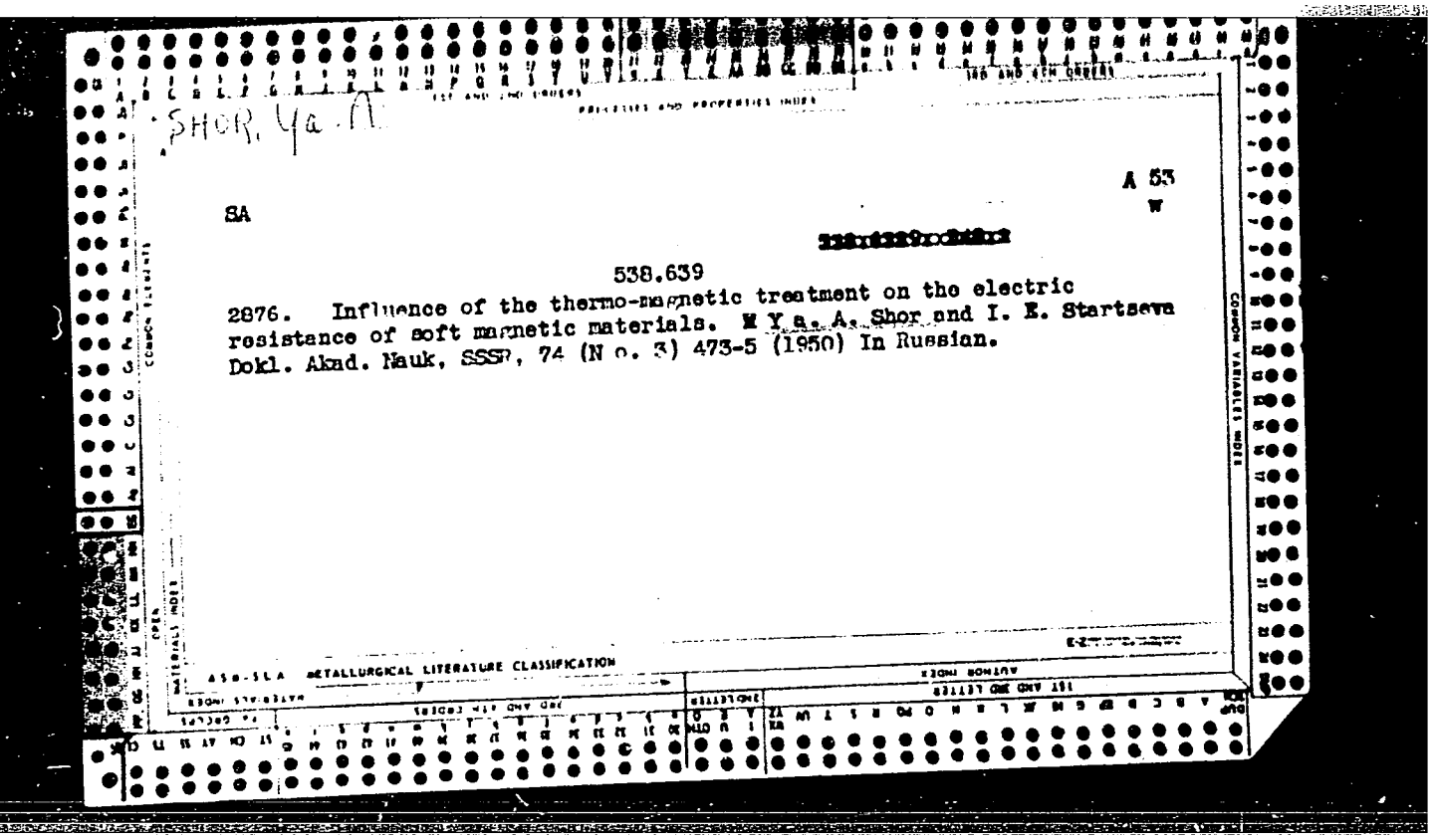
(Mathematics)



SHOR, Ya. A.

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538.639

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"Graphic Solution of a Fundamental Problem of Three-Dimensional Mechanics,"
Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 6, 1951 Submitted 4 Dec 1950

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SHOR, Ya.B

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Source: Mathematical Reviews, Vol 8 No. 6

POLOVKO, Anatoliy M[illegible]; SHOR, Ya.B., [illegible] tekhn. [illegible] retsenzent; SOBOLEV, [illegible], red.

[Fundamentals of the theory of reliability] [illegible] nadezhnosti. Moskva, Nauka, [illegible] [illegible] p. (MIRA [illegible])

SHOR, Ya.B., doktor tekhn. nauk

Problem of reliability and standards. Standartizatsiia 28 no.4:20-24 Ap '64. (MIRA 17:6)

1. Komitet nadezhnosti i kontrolya kachestva pri Vsesoyuznom sovete nauchno-tekhnicheskikh obshchestv.

CHUYEV, Yu.V., doktor tekhn. nauk, prof.; MEL'NIKOV, P.M.; PETUKHOV, S.I.; STAPANOV, G.F.; SHOR, Ya.B.; KUZ'MIN, V.I.; BOGOLYUBSKIY, V.S.; IVANUSHKO, N.D., red.

[Principles of operations research in military technology] Osnovy issledovaniia operatsii v voennoi tekhnike. Moskva, Sovetskoe radio, 1965. 591 p. (MIRA 18:10)

SHOR, Ya.B., doktor tekhn. nauk, prof.

Reliability problem and statistical methods. Standartizatsiia 29 no.5:6-10 My '65. (MIRA 19:1)

SHOR, Ya.B., doktor tekhn. nauk, prof.

Against simplification in the science of the reliability of machinery. Standartizatsiia 29 no.7:17-20 Jl '65. (MIRA 18:11)

KUGEL', R.V., doktor tekhn.nauk; SHOR, Ya.B., doktor tekhn.nauk

Problems in the classification of failures of machines and their parts. Vest.mashinostr. 46 no.1:13-18 Ja '66.
(MIRA 19:1)

(A) L 27317-66

ACC NR: AM6003226 Monograph UR/

Chuyev, Yu. V.; Mel'nikov, P. M.; Petukhov, S. I.; Stepanov, G. F.; Shor, Ya. B. 34 B+1

Principles in the investigation of operations in military technics (Osnovy issledovaniya operatsiy v voyennoy tekhnike) Moscow, Izd-vo "Sovetskoye radio," 1965. 591 p. illus., biblio., index. 6000 copies printed.

14

TOPIC TAGS: operations research, military operation, military engineering, weapon test, antiaircraft defense system

PURPOSE AND COVERAGE: This book is intended for engineers engaged in military operations research. The reliability and efficiency of a variety of products of military technology are critically reviewed. Analytical methods used in evaluating these characteristics in diverse combat situations are presented. The book also contains information on the classical and the latest mathematical optimization methods used in solving military engineering problems. Special attention is given to statistical combat modeling using computers. The text is illustrated by numerous examples.

UDC: 519.8

Card 1/3

L 27317-66

ACC NR: AM6003226

TABLE OF CONTENTS:

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ACC NR: AM6003226

Ch. VIII. Statistical modeling of a combat -- 511

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SUB CODE: 15/ SUBM DATE: 18Sep65/ ORIG REF: 089/ OTH REF: 051

Card 3/3

L 32694-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6016276 (A) SOURCE CODE: UR/0122/66/000/001/0013/0018

AUTHORS: Kugel', R. V. (Doctor of technical sciences); Shor, Ya. B. (Doctor of technical sciences)

39
B

ORG: none

TITLE: Problems of the classification of the failures of machines and their elements

14

SOURCE: Vestnik mashinostroyeniya, no. 1, 1966, 13-18

TOPIC TAGS: material failure, mechanical failure, reliability, reliability theory, probability

ABSTRACT: Failures which occur under normal operating conditions are classified, using thirteen groups indicated by number: 1) conditions of appearance of failure; 2) reasons; 3) possibility of subsequent use of part; 4) nature of change of parameters of part; 5) presence of external phenomena; 6) interrelationship between failures and elements of part; 7) aftereffects; 8) method of elimination; 9) complexity of elimination; 10) frequency of appearance; 11) possibilities of prediction; 12) origin; 13) possibility of elimination of causes. Various types of failures are examined. It is concluded that analysis of machine failures during operation is of great practical value. The combination of all data on failures gives an objective representation of the reliability of a machine and allows measures for increasing it to be developed. Orig. art. has: 1 table, 3 formulas, and 1 graph.

SUB CODE: 13, 14/ SUBM DATE: none/ ORIG REF: 003 UDC: 621.004.6

Card 1/1 BLG

SHOR, Ye.

Trailer with pneumatic loading and unloading of sugar (from "Food Engineering," Aug. 1957). Sakh.prom. 33 no.3:69-70 Mr '59. (MIRA 12:4)
(Unites States--Sugar industry--Equipment and supplies)
(Loading and unloading)

SILYUK, N.; SHOR, Ye.

Using electronic calculating machines for the automation of office work. Biul. nauch. inform.: trud i zar. plata 4 no.10:68-71 '61. (MIRA 14:10)

(United States--Office practice--Automation)

SHOR, Ye.

Establishing work norms for office workers performing simple work. Biul. nauch. inform.: trud i zar. plata 4 no.3:71-75 '61. (MIRA 14:3)

(United States—Office practice—Production standards)
(United States—Time study)

SHOR, Ye.Ya.

Attachment used in copy-boring on multispindle automatic and semiautomatic machines. Stan.i instr. 29 no.1:32-33 Ja '58. (MIRA 11:1)
(Drilling and boring machinery--Attachments)

BARSANOV, G.P.; KRUGLOVA, N.A.; AGAMIRZYANTS, M.S.; SHOR, Ye.N., [translator]

[A.E.Fersman Mineralogical Museum; a brief guidebook] Mineralogicheskii muzei im. A.E.Fersmana; kratkii putevoditel'. Moskva, 1957. 36 p. (MIRA 18:8)

1. Akademiya nauk SSSR.

SHORIN, Yu.A., inzh.; KONDRAT'YEV, A.D., inzh.

Operation of the gas and oil system of generators. Elek. sta. 32 no.12:61-62 D '61. (MIRA 15:1)

(Turbogenerators)

SHORAKHMEDOV, A., geroy Sotsialisticheskogo truda.

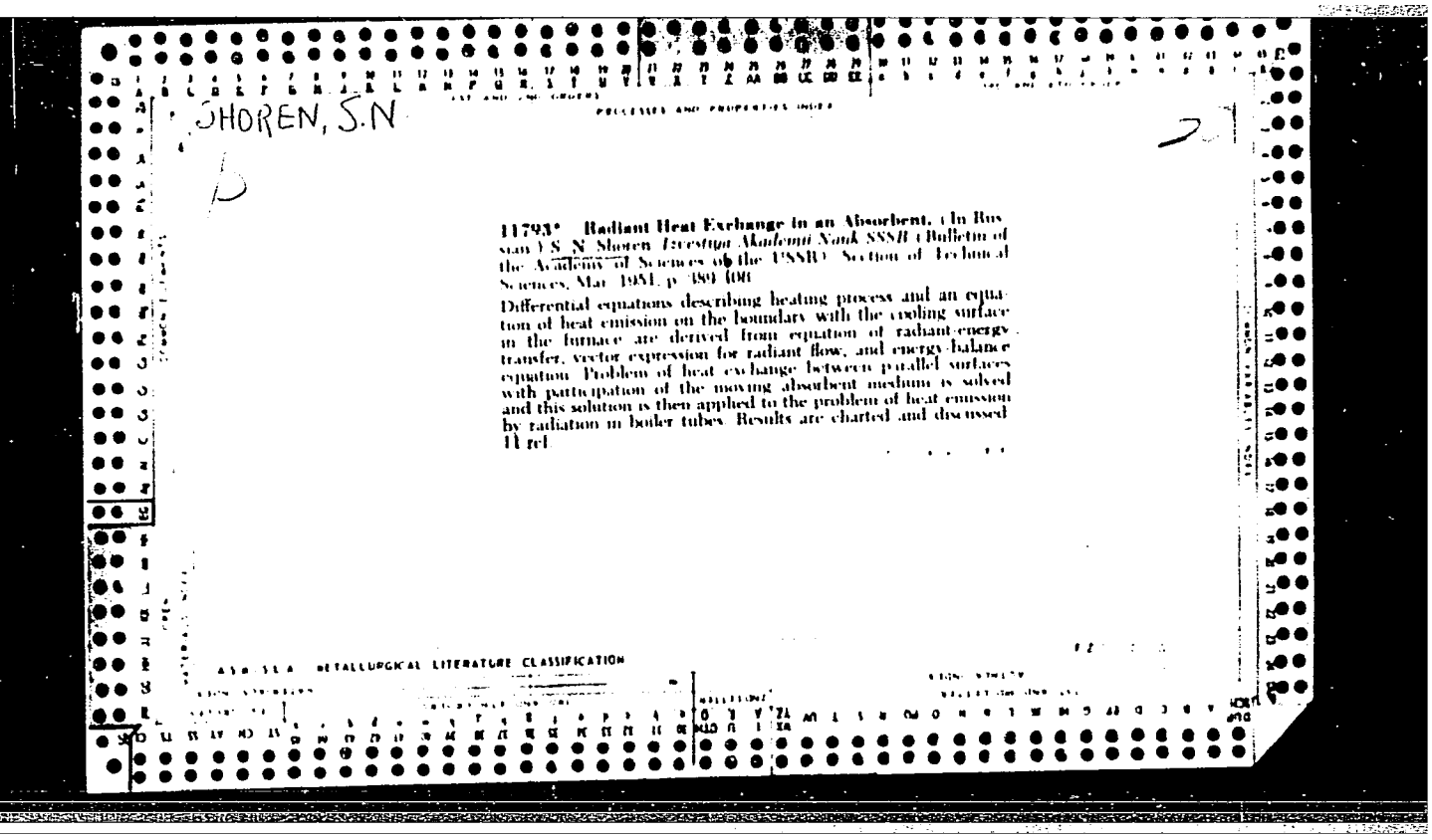
Under new conditions. Nauka i pered. op. v sel'khoz. 8 no.5:7 My '58. (MIRA 11:5)

1. Predsedatel' kolkhoza imeni Sverdlova, Yangi-Yul'skogo rayona, Uzbekistan.
(Uzbekistan--Collective farms)

SHORASZEWSKI, W.

SHORASZEWSKI, W. Septic tanks in the sewerage and drainage system. p. 459. Vol. 30, no. 12, Dec. 1956. GAZ, WODA I TECHNIKA SANITARNA. Warszawa, Poland.

SOURCE: East European Accessions List (EEAL), Vol. 6, No. 4--April 1957



SHOREN, S.N

11793* **Radiant Heat Exchange in an Absorbent.** (In Russian) S. N. Shoren *Izvestiya Akademii Nauk SSSR* (Bulletin of the Academy of Sciences of the USSR) Section of Technical Sciences, Mar 1951, p 389-406

Differential equations describing heating process and an equation of heat emission on the boundary with the cooling surface in the furnace are derived from equation of radiant-energy transfer, vector expression for radiant flow, and energy-balance equation. Problem of heat exchange between parallel surfaces with participation of the moving absorbent medium is solved and this solution is then applied to the problem of heat emission by radiation in boiler tubes. Results are charted and discussed. 11 ref

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GRUSHKO, A.M.; SHORENKO, P.S.; SHOLBINA, L.F.

Steel of reduced hardenability for tractor parts. [illegible]
I term. obr. met. no.[illegible] N '65.

1. Volgogradskiy Vsesoyuznyy nauchno-issledovatel'skiy [illegible] tekhnologii mashinostroyeniya.

GRACHEVSKIY, A. I.; SHORENTSIS, A. N.; BEL'NIKOV, N. A.; Engs.

Electric Lines

Transposition of long electric transmission lines, Elektrichestvo No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

80119

S/121/60/000/01/01/001

25.2

AUTHORS: Akhmechet, L.S., Blokh, O.I., Shorgin, V.S.

TITLE: Magnetostriction Drive of Microfeeds

PERIODICAL: Stanki i instrument, 1960, Nr 1, pp 18 - 20

TEXT: The authors point out that the machining accuracy of parts depends to a great extent on the possibility of very small displacements of tools and blanks. Small feeds make it even possible to correct the setting of tools in order to compensate for the wear. With the aid of magnetostriction a microfeed drive is obtained which ensures stable minor displacements of tools and blanks. The principal layout of the device, based on the change in the length of a ferromagnetic nickel rod in direction of the induced magnetization, is shown in Figure 1. A description of the magnetostriction drive (magnetostrictor) is given. By using microfeed drive it is possible to effect a successive displacement of the movable parts of the machine tool during an automatic operation cycle. The minimum feed necessary for such a displacement corresponds to the magnetostrictive elongation of the nickel rod during one cycle of magnetization, while the total displacement of the movable machine tool part during repeated cycles of magnetization is limited only by the free length of the rod. The operational characteristic

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Magnetostriction Drive of Microfeeds

of the magnetostriction drive is determined by the following functions: 1) the variation in magnitude of magnetostrictive elongation due to different physical-chemical properties of the rod material and variations in magnetization of the coil field; 2) the effect of the resisting force on the magnitude of microfeed. Figure 2 shows the ratio of relative magnetostrictive elongation $\lambda = \frac{\Delta l_m}{L}$ for various materials.

The authors state that the limiting values of relative elongation of various ferromagnetic materials can be increased by a suitable thermal or mechanical treatment of the rod blanks. The operative qualities of the magnetostriction drive with nickel rod were analyzed on a special device (Figure 3a) which was designed and constructed at the Odessa SKB-3 Laboratory. The electric circuit of the device is shown in Figure 3b. Lever-type microgages (with graduation values of 0.001 mm) were used as measuring instruments, recording the motion of the rod. Besides, armature of electroinductive pick-ups, connected to the phase-sensitive circuit, were in contact with the two faces of the rod. Figure 4 shows the function characterizing the variation in magnitude of magnetostrictive elongation when the magnetization of the coil field is varied, in the case of absence of axial resisting forces. The effect of the force Q, gripping the magnetostrictor rod during the feed action, is illustrated by a graph shown in Figure 5. It is evident from the Graph that,

Magnetostriction Drive of Microfeeds

if the resisting forces are increased, the magnetostrictive elongation of the rod is reduced according to a law approaching that of linearity. The authors emphasize that an important operative characteristic of the machine tool is the stability of the microfeed. Repeated measurements of rod elongation at different intensities of the magnetic field and duration of cycle (Figure 6) showed that the limit of errors of microfeed does not exceed 10%, while the average magnitude of error of some displacements amounted to approximately 2 - 3%. Figure 7 shows an oscillograph recording of the microfeed process. As a result of their investigations the authors draw the following conclusions: 1) At a constant load Q, generated by the forces resisting to the feed, it is necessary to select the cross-section of the nickel rod in such a way that the rated stress in it should not exceed $\sigma = 3 \div 4$ kg/mm^2. In this case that load does not lead to substantial variations of the magnetostrictive effect, and the feed magnitude during each cycle is determined by the field intensity of the coil; 2) if during the operation of the feed mechanism variable resisting forces possibly arise, the variable component of the rated compressive stress of the rod should be less than 0.5 kg/mm^2; 3) the magnetizing coil should ensure a

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field intensity in the magnetic circuit of approximately 60 - 80 ampere turns/cm; 4) in order to prevent a substantial thermal elongation of the rod, the current density in the coil winding should not exceed 2 amp/mm^2. Four graphs, 1 circuit, 1 photograph, 1 diagram and 1 oscillogram.

GINDIS, A.P., inzh.; SHORGIN, V.S., inzh.; Prinimal uchastiye TARASHCHUK, A.Kh.

Saturation of electric motor windings with insulating lacquers using an ultrasonic technique. Energ. i elektrotekh. prom. no.1:30-32 Ja-Mr'64. (MIRA 17:5)

SHORYGIN, P. P.

Shorygin, P. P., The influence of intermolecular interaction on the spectrum of combination dispersion of light. P. 873

The limitations of the explanations for the influence of intermolecular interaction upon the vibrating frequencies as given by Buchhein and other authors who have studied inductive interaction are pointed out. The real shift of bands is due to several causes, the most important being the electric anharmony of the vibrations $\left(\frac{\partial^2 \mu}{\partial Q^2}\right)$ in the presence of predominating orientations of dipoles, deformation of polar molecules in the field of adjacent polar molecules and the interaction of vibrations of similar dipoles. It is shown that in polar liquids one can observe incongruity between the frequencies of the bands in the dispersion spectra and the absorption spectra.

The L. Ia. Karpov Inst. of Physical Chemistry, Moscow
Oct. 25, 1948

SO: Journal of Physical Chemistry (USSR) 23, No. 8 (1949)

SHORIGIN, A.A.

A. A. Shorigin, G. G. Abrikosov, N. A. Berezina, Z. S. Bronstein, N. S. Gayevskaya, V. I. Zatzepin, N. N. Kondakov, I. I. Meyer, V. I. Olifan, P. I. Usatchev, E. A. Filatova, T. F. Chitchapova, Z. G. Shchedrin, V. A. Jashov co-authors of the book "Definitions - Fauna and Flora of Northern Seas in USSR edited by Prof. N. S. Gayevski, and approved by the Ministry of USSR Higher Education as a manual for universities. Stat Publishing "SOVIET SCIENCE", Moscow - 1948.

SO: [redacted] 65/015

1. SHORIGINA, N. N.

2. USSR (600)

4. Wood -Chemistry

7. Valuable work ("Chemistry of wood." N.L. Niktin. Reviewed by N. N. Shorigina). Bum. Prom. 27 No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassfied.

SHORIGINA, N.N.; KOLOTOVA, L.I.

Chlorination of hydrolytic lignin. Izv.AN SSSR Otd.khim.nauk no.3:562-566 My-Je '53. (MLRA 6:8)

1. Institut organicheskoy khimii Akademii nauk SSSR. (Lignin)

KOMSKIY, D. Prinimali uchastiye: VOLKOV, V.; VOLCHKOV, V.; GORSHKOV, A. KOPYTOV, Ye.; SALOV, V.; SHORIKOVA, T.; STOLYAROV, Yu., red.

[Cybernetics made easy] Prostaia kibernetika. Moskva, Molodaia gvardiia, 1965. 158 p. (MIRA 18:7)

1. Sverdlovskiy gosudarstvennyy pedagogicheskiy institut (for all except Stolyarov).

SHORIN, A.

Planning the construction of roads. Zhil.-kom.khoz. 12 no.11:25 N '62. (MIRA 15:11)

1. Zaveduyushchiy gorodskim otdelom kommunal'nogo khozyaystva, Volgograd.

(Roads—Design)

137-58-6-11678

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 65 (USSR)

AUTHORS Glinkov, M.A., Men'shikov, R.I., Morozov, V.A., Shorin, A.F.

TITLE Thermal Operation of an Open-hearth Furnace When Oxygen is Used to Intensify the Combustion Process (Teplovaya rabota martenovskoy pechi pri primenenii kisloroda dlya intensifikatsii protsessa goreniya)

PERIODICAL V sb.: Primeneniye kisloroda v metallurgii. Moscow, Metallurgizdat, 1957, pp 95-114

ABSTRACT Results are presented of an investigation on the introduction of O into the flame jet through a tuyere from the sides of the duct into a 200-t furnace at the "Zaporozhstal'" Works. When the oxygen enrichment of the air is 25% and the maximum heat input is 33.2 mill. kcal/hr, output rose by 32.2% and the nominal consumption of fuel dropped by 16.8%. With 30% enrichment and a maximum heat input of 33.4 mill. kcal/hr, the figures were, respectively, 61.0 and 35.0% of those of non-oxygen heats. Ratios for output and unit fuel consumption to average thermal stress and degree of enrichment of the air by O_2 are given. The following factors are examined: the conditions of

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137-58-6-11678

Thermal Operation of an (cont.)

temperature in the course of a heat, the distribution of heat flow across the area of the bath, and the change in the composition of combustion products in the working space. Heat balances are compiled as an average for a heat for various thermal and oxygen regimes.

G.G.

1. Open hearth furnaces--Performance 2. Oxygen--Applications

Card 2/2

SOV/133-59-6-13/41

AUTHORS: Kornfel'd, V.N., Candidate of Technical Sciences, Voytov, A.O., Koshelev, V.I., Shorin, A.F. and Dymov, B.K., Engineers

TITLE: Thermal Performance of an Open Hearth Furnace when Blowing Oxygen or Oxygen Water Mixture into the Bath (Teplovaya rabota martenovskoy pechi pri produvke metalla)

PERIODICAL: Stal', 1959, Nr 6, pp 513-520 (USSR)

ABSTRACT: Thirty eight experimental heats with blowing oxygen into the metal bath were carried out on a 200 ton open hearth furnace operating with 70% of hot iron. The moment of the beginning of blowing was varied. In order to decrease the formation of fumes during blowing in some heats, water was introduced into the oxygen stream (0.7 - 0.9 litres per 1 m^3 of oxygen). The consumption of oxygen during blowing varied from 25 to 35 m^3/min and when using water additions from 27 to 37 m^3/min. Thermal load during the experimental heats was manually controlled on the basis of systematic analyses of the combustion products in vertical flues

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and temperatures of the roof (magnesite chromite) and the top of the air regenerators (upper layers - forsterite bricks). In some moments of the heats the thermal load was limited by draught capacity of the furnace. The oxygen supply to flame was cut off during blowing period in order to economise oxygen. The experimental results obtained are shown in Figures 1 - 8. It was found that: 1) Due to an acceleration of decarburisation of metal and an intensification of the evolution of CO from the bath, thermal load during blowing is considerably decreased. Correspondingly the mean thermal load for the whole decarburisation period (from charging of hot iron to the end of blowing) also decreases. 2) When the blowing is started at an optimal moment, the course of heat in the thermo-technological sense substantially differs from the usual one for the open hearth process. Under experimental conditions the mean thermal load during blowing was decreasing to 14 million cal/hr, whereupon

Thermal Performance of an Open Hearth Furnace when Blowing Oxygen or Oxygen Water Mixture into the Bath

during 30 - 40 minutes it actually amounted to 5 - 6 mil cal/hr and during 15 - 20 minutes of the most violent evolution of CO from the bath, the supply of fuel was completely stopped. 3) The mean thermal load for the whole decarburising period (from charging hot iron to end of blowing) was actually determined by the proportion of the period taken for blowing, the earlier the blowing was started, the lower was the mean thermal load for this period. 4) The absorption of heat by the bath (per unit of time) and the coefficient of the utilisation of the furnace working space increases during blowing. On average during blowing as well as during the decarburisation period the above factors were higher the earlier blowing was started. 5) The period of decarburisation decreases more, the earlier blowing is started, whereupon the rate of decrease of the decarburising period increases faster than the rate of increase of the rate of heat absorption by the bath. Therefore, if blowing was started too early, the metal remains

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Thermal Performance of an Open Hearth Furnace when Blowing Oxygen or Oxygen Water Mixture into the Bath

insufficiently heated when the blowing is finished and it is necessary to heat it further under inconvenient conditions of decarburised bath. A rational relationship of the duration of the decarburising period and intensity of heating up metal will be obtained only if the blowing is started at an optimal moment, as only then will the maximum thermo-technical effect be obtained. Under experimental conditions, the average specific consumption of conventional fuel for heats in which the blowing was started at the optimum moment decreased to 87 kg/t (with specific consumption of oxygen 37 m^3/t, including 22 m^3/ton added to flame before starting blowing). 6) On the addition of water to the stream of oxygen for the prevention of excessive fuming, the abovementioned relationship remains valid. However, as a proportion of heat is consumed for the evaporation of water and heating up of the steam formed to a

Thermal Performance of an Open Hearth Furnace when Blowing Oxygen or Oxygen Water Mixture into the Bath

temperature of the products of combustion, the decarburisation process proceeds less intensively and the heat absorption by the bath and the thermal coefficient of utilisation of the furnace working volume are lower than on blowing oxygen alone. The minimum average specific fuel consumption for heats in which the blowing with the oxygen-water mixture was commenced at the optimum moment for the experimental condition amounted to 107 kg/ton for the whole heat (at the same oxygen consumption as on blowing oxygen alone). 7) In the course of heats with blowing oxygen or oxygen water mixture, the temperature conditions of the furnace lining do not differ materially from ordinary heats, providing the thermal load is controlled according to the intensity of the evolution of carbon monoxide from the bath and normal conditions of normal combustion in the working volume are maintained. A high velocity of the processes taking place during blowing requires continuous watching of the thermal conditions of the heat (an appropriate automation of

Thermal Performance of an Open Hearth Furnace when Blowing Oxygen or Oxygen Water Mixture into the Bath

the control of this process is necessary). 8) Under the experimental conditions the optimum moment for the beginning of blowing was found to be between 60 and 80 minutes after the beginning of charging of liquid iron. The optimum moment can be shifted nearer to the time of charging liquid iron, by decreasing the proportion of the cold component of the charge. However, the advisability of such a measure should be determined under the actual conditions of the economy of the process as a whole. There are 8 figures and 4 Soviet references.

ASSOCIATION: Tsentroenergochermet i Moskovskiy institut stali (Tsentroenergochermet and Moscow Institute of Steel)

SHORIN, A.F. (Moskva)

Microhardness of lignite coke. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:176-179 Jl-Ag '62. (MIRA 15:8)
(Coke--Testing) (Hardness--Testing)

SHORIN, A.F.

Investigation of lignite coke as blast furnace fuel. Izv. vys. ucheb. zav.; chern. met. 5 no.9:43-48 '62. (MIRA 15:10)

1. Moskovskiy institut stali i splavov.
(Coke—Testing)

PHASE I BOOK EXPLOITATION SOV/4354

Sworin, Alexsey Ivanovich, and Vasiliy Mikhaylovich Starostin

Proizvodstvo spiral'nogo metallorezhushchego instrumenta metodom skruchivaniya dvukh metallov (The Manufacture of Helical Metal-Cutting Tools by Twisting Two Metals [Together] Moscow, Mashgiz, 1960. 54 p. 4,500 copies printed.

Reviewer: G. V. Podgurskiy; Managing Ed. for Literature on Metal-working and Toolmaking: V. V. Rzhavinskiy, Engineer; Ed. of Publishing House: G. I. Baydakov; Tech. Ed.: G. V. Smirnova.

PURPOSE: This brochure is intended for designers and process engineers in toolmaking and machine-building plants.

COVERAGE: Practical experience gained in the design and production of helical metal-cutting tools (face-milling cutters, end-milling cutters, arbor-type reamers, and others) by hot twisting of two different metals is discussed. This method was developed and applied by the Kolomenskiy teplovozostroitel'-nyy zavod im. Kuybysheva (Kolomna Diesel-Locomotive-Building

Card 1/4

L 20703-65 EWT(l)/EEC(b)-2/EWA(h) Pm-4/Po-4/Pq-4/Pg-4/Peb/Pl-4 ASD(a)-5/ BSD/AFETR/ESD(dp)

ACCESSION NR: AR3010274 S/0081/63/000/012/0037/0037

SOURCE: RZh. Khimiya, Abs. 12B219

AUTHOR: Shorin, A. M.

TITLE: Experimental use and measures for increasing the reliability of operation of the "Kristall" electronic computer

CITED SOURCE: Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-ta Sov. Min. SSSR po khimii, no. 7-8, 1962, 121-123

TOPIC TAGS: crystal structure, x-ray analysis, electron density measurement, electronic computer, computer design, diode testing

TRANSLATION: The author describes an attachment for the testing and "training" of diodes of various types, as well as a series of other organizational and technological measures permitting a 200% increase in the productivity of the specialized electronic computer "Kristall"; this computer was designed for calculations of the electron density in the x-ray analysis of crystal structure. O. Starovskiy

SUB CODE: DP, OP ENCL: 00

Card 1/1

KARPOVICH, Nikolay Konstantinovich; SHORIN, A.M., podpolkovnik, redaktor; MYASNIKOV, T.F., tekhnicheskiy redaktor.

[Aerial photogrammetry] Aerofotogrammetriia. Izd-ve 3-e, perer. i dop. Moskva, Voen. izd-ve Ministerstva obor. SSSR, 1956. 178 p. (Aerial photogrammetry) (MLRA 9:5)

BULINSKIIY, Vadim Aleksandrovich, professor, doktor tekhnicheskikh nauk; SHORIN, A.M., podpolkovnik, redaktor; KUZ'MIN, I.F., tekhnicheskiy redaktor.

[Dynamics of maneuvering fighter planes in air battle] Dinamika manevrirovaniia samoleta-istrebitelia v vozdushnom boiu. Moskva, Voen. izd-vo M-va obor. SSSR, 1957. 199 p (MLRA 10:6)
(Airplanes--Piloting)

ZHUKOV, Vladimir Nikolayevich; SHORIN, A.M., polkovnik, red.;
SOLOMONIK, R.L., tekhn.red.

[Airplane armament] Oruzhie aviatsii. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 133 p. (MIRA 13:5)
(Aerial gunnery) (Airplanes, Military--Armament)
(Bombing, Aerial)

KUCHEROV, Ivan Kirillovich; MARISOV, Vladimir Illarionovich; SHORIN, A.M., polkovnik, red.; MYASNIKOVA, T.F., tekhn.red.

[Guided missiles; according to foreign data] Upravliaemye snariady; po inostrannym dannym. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 295 p. (MIRA 12:12)
(Guided missiles)

NIKOLAYEV, Mikhail Nikolayevich; SHORIN, A.M., polkovnik, red.; VOLKOVA, V.Ye., tekhn.red.

[Anti-missile missiles; based on data from the foreign press] Snariad protiv snariada; po materialam zarubezhnoi pechati. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 146 p.
(Guided missiles) (MIRA 13:12)

TATARCHENKO, Aleksandr Yevgen'yevich; SHORIN, A.M., red.; MYASNIKOVA, T.F., tekhn. red.

[Ballistic rocket ; according to materials published abroad] Ballisticheskaia raketa; po materialam zarubezhnoi pechati. Moskva, Voen. izd-vo M-va obor. SSSR, 1961. 76 p. (MIRA 14:12)
(Rockets (Aeronautics)) (Artificial satellites)

NIKOLAYEV, Mikhail Nikolayevich; SHORIN, A.M., red.; MYASNIKOVA, T.F., tekhn. red.

[Antimissile missiles; from materials in the foreign press] Raketa protiv rakety; po materialam zarubezhnoi pechati. Izd.2., perer. i dop. Moskva, Voenizdat, 1963. 198 p.
(MIRA 16:4)

(Guided missiles)

BUBNOV, Igor' Nikolayevich; KAMANIN, Lev Nikolayevich; SHORIN, A.I., red.

[Manned space stations] Obitaemye kosmicheskie stantsii. Moskva, Voenizdat, 1964. 188 p. (MIRA 17:9)

LEVANTOVSKIY, Vladimir Isaakovich; SHORIN, A.M., red.

[Ways to the moon and the planets of the solar system] Puti k Lune i planetam solnechnoi sistemy. Moskva, Voenizdat, 1965. 205 p. (MIRA 18:6)

LEVIT, M.S., kandidat tekhnicheskikh nauk; SHORIN,A.P., inzhener; RUBTSOVA, T.V., inzhener.

Practicing continuous refining of fats at the Moscow Margarine Plant. Masl.-zhir.prom.21 no.2:12-16 '56. (MLRA 9:7)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Levit).
2.Moskovskiy margarinovyy zavod (for Shorin, Rubtsova).
(Moscow--Oils and fats)

SHORIN, A.P., inzh.; ZELIKSON, T.I., inzh.

Operational experience of the Moscow Hydrogenation Plant.
Masl.-zhir. prom. 23 no.9:33-35 '57. (MIRA 10:12)

1.Mosgidrozavod.
(Hydrogenation)
(Moscow--Oils and fats)

SHORIN, A.P., inzh.

Heat method for unloading fats. Masl.-zhir. prom. 24 no.3:32-37 '58. (MIRA 11:4)

1. Moskovskiy gidrogenizatsionnyy zavod.
(Oil industries--Equipment and supplies)
(Loading and unloading)

USSR/Chemical Technology. Chemical Products and Their Application -- Fats and oils. Waxes. Soap. Detergents. Flotation reagents, I-25

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6397

Author: Levit, M. S., Sborin, A. P., Rubtsova, T. V.

Institution: None

Title: Putting into Practice of Continuous Refining of Fats at the Moscow Margarine Plant

Original Publication: Maslob.-zhir. prom-st', 1956, No 2, 12-16

Abstract: A layout is shown of a unit of the Laval Company for a continuous refining of fats and a description is given of the technological conditions of the process as well as of the average expenditure indices computed per 1 ton of refined fat. The disadvantages and the advantageous features of the unit are listed.

Card 1/1

SHORIN, A.S.

The Osh economic and geographical region. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 3 no.5:5-30 '61. (MIRA 15:9)
(Osh Province—Economic geography)

SHORIN, A.S.

Naukatskiy District, Osh Province; concise economic and geographical features. Izv. AN Kir. SSR. Ser. est.i tekh. nauk 3 no.5:31-45 '61. (MIRA 15:9)

(Naukatskiy District—Economic geography)

SHORIN, A. S.

Dissertation defended at the Institute of Geography
for the academic degree of Candidate of Geographical Sciences:

"Oshskiy Intra-oblast Economico-Geographical Rayon."

Vestnik Akad Nauk No. 4, 1963, pp. 119-145

SHORIN, A. V.

124-58-9-10641

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 168 (USSR)

AUTHOR: Shorin, A. V.

TITLE: Multi-specimen Testing Machine for Stress-rupture Testing at Elevated Temperatures (Mnogoobraztsovaya mashina dlya ispytaniy na dlitel'nuyu zharoprochnost')

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow, AN SSSR, 1957, pp 281-284

ABSTRACT: Description of the design of a machine for the concurrent testing for stress-rupture behavior in tension of six specimens 5 mm in diameter and 25 mm in length. The greatest load per specimen is 750 kg, the highest test temperature is 960°C. A five-compartment electric furnace rated at 5 kw is employed, in which two compartments are controlled by PNO-250 type regulators. Maintenance of a constant furnace temperature and automatic recording is accomplished by an EPD-12 type electronic potentiometer. It should be noted that fairly significant temperature differences (3-5°) obtain between specimens during the tests and, in particular, after a cold specimen has been installed to replace one that has failed (30-35°)

Card 1/2

124-58-9-10641

Multi-specimen Testing Machine for Stress-rupture Testing (cont.)

at the two adjacent specimens and 7-10° at the other three).

G. A. Tulyakov

1. Testing equipment--Design

Card 2/2

CHERTKOV, Khaim Ayzikovich; DOLGIY, A.G., retsenzent; SHORIN, D.M., red.; EBERLIN, K.Z., red.; KRASNAYA, A.K., tekhn.red.

[Manual on marine boilers and ship hulls] Posobie kotel'shchiku-sudokorpusniku. Izd.3-e, perer.i dop. Moskva, Izd-vo "Rechnoi transport," 1957. 199 p. (MIRA 11:1)
(Hulls (Naval architecture)) (Boilers, Marine)

GRIGOR'YEV, Vitaliy Konstantinovich; KIRILLOV, Grigoriy Konstantinovich; RABEY, Isaak Yakovlevich; SHORIN, D.M., red.; ALEKSEYEV, V.I., red. izd-va; FILIPPOV, A.L., tekhn. red.

[Maneuverability of oil barges in push-type towing] Upravliaemost' neftenalivnykh sostovov pri tolkanii. Moskva, Izd-vo "Rechnoi transport," 1958. 55 p. (MIRA 11:7)

(Towing)

MATROSOV, G.F., inzhener; SHORIN, D.M., inzhener.

Efficient method of attaching smoke stacks to boiler fire grates. Rech. transp. 16 no.3:19-21 Mr '57. (MLRA 10:4)
(Boilers, Marine)

TROFIMOVA, V.I., nauchnyy sotr.; SHTEYMAN, R.A., nauchnyy sotr.; GROZNOV, S.R., nauchnyy sotr.; SIDOROVA, L.I., nauchnyy sotr.; DUNTSOVA, V.G.; KAZENOVA, A.R.; PROTOPOPOV, S.I.; SHORIN, G.F., red.; LOBANOV, D.I., red.; MOLCHANOV, O.P., red.; MARTYNOVA, Ye.G., red.; SIDOROV, V.A., red.; TIMATKOV, V.D., red.; VAGANOVA, N.A., red.; BABIGEVA, V.V., tekhn. red.

[Collected recipes of dishes for workers and students] Sbornik retseptur bliud dlia pitaniia rabochikh i studentov. 2. perer.,dop. izd. Moskva, Gos.izd-vo torg.lit-ry, 1961. 491 p. (MIRA 15:1)

1. Russia (1917- R.S.F.S.R.) Ministerstvo torgovli. 2. Nauchno-issledovatel'skiy institut torgovli i obshchestvennogo pitaniya (for Trofimova, Shteyman, Groznov, Sidorova). 3. Upravleniye obshchestvennogo pitaniya Ministerstva torgovli RSFSR (for Duntsova, Kazenova). 4. Glavnyy kulinar Upravleniya obshchestvennogo pitaniya Ministerstva torgovli RSFSR (for Protopopov).

(Cookery)

MIKHAYLOV, D.V., inzh., red.; FUTORYAN, S.B., kand. tekhn. nauk, red.; SHORIN, I.M., inzh., red.; BARYKOVA, G.I., red. izd-va; GERASIMOVA, Ye.S., tekhn. red.

[Cutting with mineral-ceramic tools; turning and milling] Rezhimy rezaniia mineralokeramicheskimi instrumentami; tochenie i frezerovanie. Moskva, Gos. nauchno-tekh. izd-vo mashinostroit. lit-ry, 1958. 49 p. (MIRA 11:10)

1. Russia (1923- U.S.S.R.) Glavniiproyekt. Nauchno-issledovatel'skoye byuro tekhnicheskikh normativov. 2. Nachal'nik sektora nauchno-issledovatel'skogo byuro tekhnicheskikh normativov (for Mikhaylov). (Metal cutting)

SHORIN, I. Ye. (Cand Biol Sci); SHABUROV, M. S.; POPOV'YANTS, M. N. (Cand. Vet Sci)

"Isolation of a Living Bacterial Culture of Brucella from a Quasi-Sterile Semiliquid Antibrucellosis Formol Vaccine," Veterinariya, Vol 27, No 9, pp 28-30, 1950.

(This report is from the Dept. of Biochemistry, All-Union Inst. of Experimental Veterinary Science)

Translation W-17962, 3 May 51

SHORIN, I. IE.

Foot-and-Mouth Disease

Microbic forms of the virus of hoof and mouth disease. Veterinariia, 29, No. 7, 1952.

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

Shorin, K. N.

PARTICLE ACCELERATORS: SYNCHROTRON

"Universal Parameter for Measuring the Magnetic Field of a Synchrotron," by V.N. Kannunnikov and K.N. Shorin, Physics Institute imeni P.N. Lebedev, Academy of Sciences USSR, Pribory i Tekhnika Eksperimenta, No 3, November-December 1956, pp 22-25.

Description of a scheme employing an electronic switch with low resistance in the closed state that permits measurements of the magnetic field in a synchrotron with an accuracy not less than 1% in the range of 1500--12,00 oersted. Reference is made to an article by Elewett, Rogers, and Swartz (Review of Scientific Instruments, 1953, 24, 732-738).

Card 1/1

SOV/120-58-4-5/30

AUTHORS: Shorin, K.N., Metal'nikov, Yu.N., Bozin, G.M., Yeremin, L.V.

TITLE: Using Permalloy Core [illegible] Instruments in Making Magnetic Measurements in Accelerators (Primeneniye permalloyevykh datchikov pri magnitnykh izmereniyakh v uskoritelyakh)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 25-29 (USSR)

ABSTRACT: Permalloy elements have large sensitivity in the range 0 to a few hundred oersted. They may be used to construct apparatus having sensitivities in the order of 10^{-5} to 10^{-6} oersted or better in the case of static fields, i.e. fields which do not change with time. In measuring non-uniform magnetic fields which vary with time, a permalloy core moving coil instrument will give rise to an error associated with the hysterisis of permalloy and the dependence of the field, due to transients in the core, on the rate of change of the field with time. A method is described in the present paper whereby this error may be eliminated automatically. The magnetometer which has been constructed using may be used

Card 1/2

Using Permalloy Core Instruments in Making Magnetic Measurements in Accelerators

measure both static and dynamic magnetic fields in accelerators in the range 0-60 oersted. The sensitivity of the instrument is $(2-3)10^{-3}$ in this range. The instrument can be used to measure distortions in the mean magnetic plane in synchrotrons. The compensation circuit which eliminates the above error is shown in Fig.2 and the complete electronic circuit used is shown in Fig.6. The moving coil instrument itself is illustrated in Fig.8. V.A.Petukhov, M.S.Rabinovich and V.Ye.Pisarev are thanked for their help. There are 8 figures and 1 English reference.

ASSOCIATION: Fizicheskiy institut AN SSSR (Institute of Physics, Academy of Sciences, USSR)

SUBMITTED: October 27, 1957.

GRYAZNOV, A.I., METAL'NIKOV, Yu.N.; MOLCHANOV, S.S.; NOVIKOVA, G.V.; PETUKHOV, V.A. PISAREV, V.Ye.; PYSHKIN, B.N.; PANTYUSHKOVA, Ye.V.; SEDOV, M.G.; SHCRIN, K.N.; YAKIMENKO, M.N.

The 680 Mev. synchrotron of the Physical Institute of the Academy of Sciences of the U.S.S.R. Atom. energ. 13 no.3:228-234 S '62. (MIRA 15:9)

(Synchrotron)

S/908/62/000/000/001/008
B163/B180

AUTHORS: Bozin, G. M., Yeremin, L. V., Metal'nikov, Yu. N., Pisarev, V. Ye., Shorin, K. N.

TITLE: Magnet and magnetic field characteristics of the 680 Mev accelerator

SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by Z. D. Andreyenko. Moscow, Gosatomizdat, 1962, 5-23

TEXT: The weak-focusing 680 Mev synchrotron of the Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P.N.Lebedev of the Academy of Sciences USSR) is based on the 180 Mev proton accelerator which was the model for the big Dubna 10 Bev proton-synchrotron accelerator. The electromagnets, power system and certain other parts were taken from this model. Average orbit radius in the 4 sectors is 2 meters, the length of each of the 4 rectilinear sections 67 cm, pole width 36 cm, gap width at equilibrium orbit 12 cm, and angle of the circular sectors 86'. The magnetic pulse in the gap is almost triangular in shape, with an amplitude of 11,500 oe (current amplitude 950 a) and build-up time

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Magnet and magnetic field ...

0.68 sec. The initial growth rate of the magnetic field strength is 20,000 oe/sec. The following modifications were made to the power system for operation with electrons: 1) a demagnetization device was fitted, creating an opposite current pulse in the main windings in between the working cycles, to reduce the remanence field to about 2 oe, 2) a magnetizing arrangement was added, to create a negative field of 35 oe in the gap before the beginning of the cycle, (this helps to finish all transition processes in the magnet and the power system before the moment of the injection), 3) a stabilization circuit was added for the initial voltage at the magnet windings, to fix the initial growth rate of the magnetic field with an accuracy of 0.5%, thus stabilizing the influence of eddy currents on the magnetic characteristics at the injection. The injection energy is 800 kev, and the initial field 20 oe on average the field index is 0.66-0.68. The influence of deviations of the real from the ideal magnetic field on the corresponding orbital deviations from the ideal orbit, is studied by perturbation calculations in a linear approximation, and it is estimated that the greatest deviations from the equilibrium orbit in axial and radial direction are less than 5 cm. Magnetic field distribution was measured on an improved permalloy pickup for field

Magnet and magnetic field ... S/908/62/000/000/001/008
B163/B180

strengths up to 100 oe, and also by the inductive method, using a ballistic galvanometer or electron integrator, for field strengths above 300 oe. Figures show the magnetic setup, field distribution and equilibrium orbits along the racetrack with and without field compensation, and the distribution of the field index over the radial coordinate for various states of compensation and various field strengths, and the arrangement of compensation coils. The deviations of the magnetic median surface from the middle-gap plane are also compensated by special windings, so as not to exceed 15 mm. There are 9 figures.

Card 3/3

S/908/62/000/000/002/008
B163/B180

AUTHORS: Gryaznov, A. I., Novikova, G. V., Shorin, K. N.

TITLE: Power supply system for the electromagnet of the 680 Mev accelerator

SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by Z. D. Andreyenko. Moscow, Gosatomizdat, 1962. 24-30

TEXT: The power system used for the 180 Mev proton synchrotron was completely modernized for operation with electrons, especially with respect to the weak magnetic field characteristics at the beginning of the acceleration cycle. A suitably adapted demagnetization device was introduced, the voltage across the magnet windings in the first period of the acceleration cycle was stabilized, and a negative field created before the working cycle. This reduced the residual field in the gap from 50 to 2 oe. The working pulse was supplied from a controllable ignitron rectifier fed from a synchronous generator calculated for an average power of 3000 kw. The generator voltage is controlled by a regulator. Mounted on the same shaft are a 1400 kw asynchronous motor,

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Power supply system for the ...

a 4 ton flywheel for smoothing out power fluctuations, and a synchronous generator for supplying the control circuits. The field windings of the synchronous generators are fed from two autonomous generators comounted with another, 135 kw asynchronous motor and a sub-exciter. Four phase shifters regulate the pulses controlling the ignitron rectifier. A block-diagram of the power system, and circuit diagrams of the ignitron rectifier, demagnetizing arrangement, negative magnetic field system, and initial voltage stabilization are given. There are 5 figures.

GOL'DIN, L.L.; SKACHKOV, S.V.; SHORIN, K.N.; PODOSHVINA, V.A., red.; VLASOVA, N.A., tekhn. red.

[Magnetic measurements in charged particle accelerators] Magnitnye izmereniia v uskoriteliakh zariazhennykh chastits. Moskva, Gosatomizdat, 1962. 55 p. (15:4)
(Particle accelerators) (Magnetic measurements)

ARTEM'YEVA, Z.L.; SHORIN, K.N.

Adjusting the gamma-ray direction in cyclic electron accelerators. Prib. i tekh. eksp. 10 no.1:201-202 Ja-F '65. (MIRA 18:7)

1. Fizicheskiy institut AN SSSR.

SHORIN K. N.

3

S/908/62/000/000/007/008
B163/B180

AUTHORS: Babkin, V. M., Bozin, G. M., Gagin, Ye. N., Yeremin, L. V., Metal'nikov, Yu. N., Orlovskiy, G. N., Petukhov, V. A., Pisarev, V. Ye., Sedov, N. G., Shorin, K. N.

TITLE: Some starting-up and operating problems of the 680 Mev synchrotron

SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by Z. D. Andreyenko. Moscow, Gosatomizdat, 1962. 64-74

TEXT: The momentary particle orbit during the first revolutions is distorted due to a number of uncontrollable deviations from the ideal magnetic field configuration. This must be corrected in order to capture a sufficient part of the injected electrons. Indicating devices measuring deviations help to find the initial conditions, e.g., the correct injection angle and timing for which the free oscillations about the equilibrium orbit become minimal during the first revolutions. Similar methods were used to correct for deviations of the median surface of the magnetic field from the geometrical symmetry plane. For these measurements

Card 1/3

Some starting-up and operating ...

a chopper was used, consisting of an electric deflector immediately behind the 60° magnetic sector field in the injection line, by which short pulses of 1-2 μsec duration could be selected from the injected beam. The signalling devices were flags and grids coated with luminescent paint, sometimes in connection with photomultipliers. In this way the orbit deviations could be reduced to 2-3 cm in radial in 1-2 cm in vertical direction. In the quasibetatron and the synchrotron acceleration stages the envelope of all oscillating orbits was measured by movable vanes, three or four in each sector. In the first stage, about 15 μsec, the accelerating field is disconnected but the magnetic field is growing. When the momentary particle orbit has been reduced, at 0.2 to 0.3 mm per revolution, from the inflector to the central chamber radius, the accelerating electric field is switched on. Under optimal conditions, the capture coefficient is 2%, which corresponds to $2.5 \cdot 10^9$ electrons per cycle. To avoid undesirable resonance effects from the passing electron beam in the resonator during the first stage the resonator is detuned, and the second stage is performed at a smaller orbit radius. When the field is switched off at the end of the accelerating cycle, the magnetic field is still rising and the electrons hit the target, a tungsten wire 1 mm

Some starting-up and operating ...

diam, inside the acceleration orbit. The intensity of the γ radiation produced was measured in a thick-walled graphite ionization chamber. A total γ energy per cycle of $2 \cdot 10^9$ Mev could be achieved, and the number of accelerated electrons per cycle was of the order of 10^8. There are 6 figures.

Card 3/3

L 8585-65 EWT(1)/EWG(k)/EWT(m)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/EWA(m)-2
Pz-6/Pc-4/Pab-24/Pt-10/Pi-4 IJP(c)/SSD/AFWL/ASD(a)-5/AEDC(b)/AFETR/ASD(p)-3/
ACCESSION NR: AP4048494 RAEM(c)/ESD(t)/RAEM(t) S/0120/64/000/004/0025/0027
AT

AUTHOR: Shorin, K. N.

TITLE: Method of control of the motion of a beam of particles in accelerators

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1964, 25-27

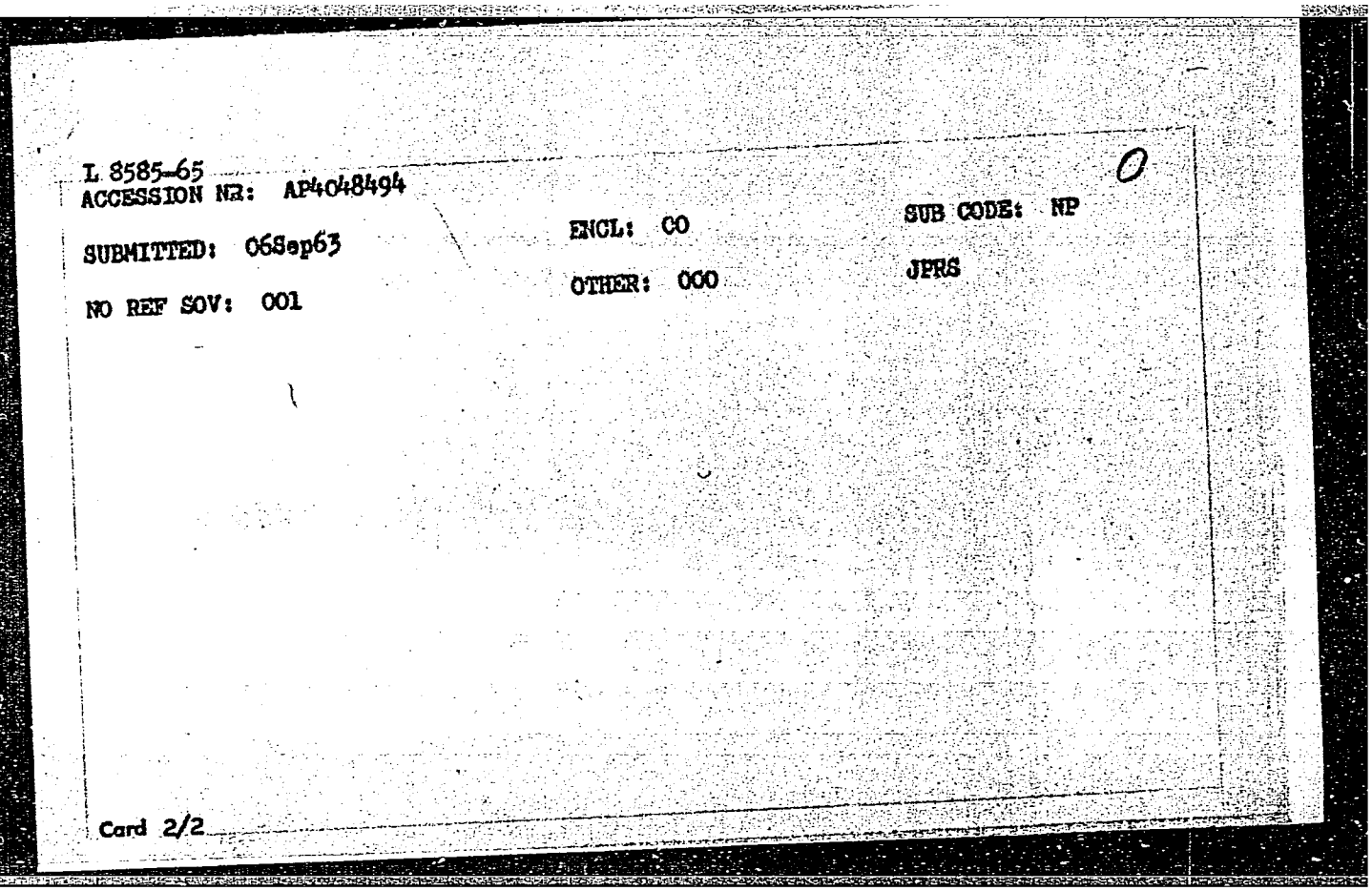
TOPIC TAGS: particle beam, particle motion, accelerator, synchrotron, magnetic field

Abstract: The article describes a method for controlling the motion of a beam of particles accelerated in the synchrotron at the Physics Institute of the Academy of Sciences with an energy of 0.7 Gev for the purpose of making more precise the principle of changing the currents to compensate for distortions in the magnetic field. Use of the data obtained by this method assures a tenfold decrease in the loss of particles during acceleration. There are two figures.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, AN SSSR)

Card 1/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001549910004-8"



L 8585-65
ACCESSION NR: AP4048494

SUBMITTED: 06Sep63 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 000 JPRS

Card 2/2

L 57824-65 EPA(w)-2/EWT(m)/EWA(m)-2 Pt-7/Pab-10 IJP(c)
ACCESSION NR: AR4049412 S/0275/64/000/009/A059/A059
621.384.6

45
B

SOURCE: Ref. zh. Elektronika i yeye primeneniye. Svodnyy tom, Abs. 9A399

AUTHOR: Metal'nikov, Yu. N.; Pisarev, V. Ye.; Shorin, K. N.

TITLE: Adjusting the orbits according to the electron beam in synchrotrons 11

CITED SOURCE: Sb. Elektron. uskoriteli, M., Vyssh. shkola, 1964, 77-81

TOPIC TAGS: synchrotron, synchrotron alignment

TRANSLATION: A method is described for eliminating free oscillations in determining the shape of the first instantaneous orbits in an electron synchrotron. The method is illustrated by an example of the radial movement of particles in a circular synchrotron. It is shown that the orbits for vertical particle movement can be found by similar techniques. Indication of the radial beam coordinates at various azimuths was effected by means of phosphor-coated tags and a photomultiplier and also by means of phosphor-coated metal screens, 75%-transparent for the beam. For vertical movement indication, a horizontal rod-type tags were used. The method permitted correcting the orbits at the first stage of the accelerator operation, during the period of quisi-betatron regime. The above described method

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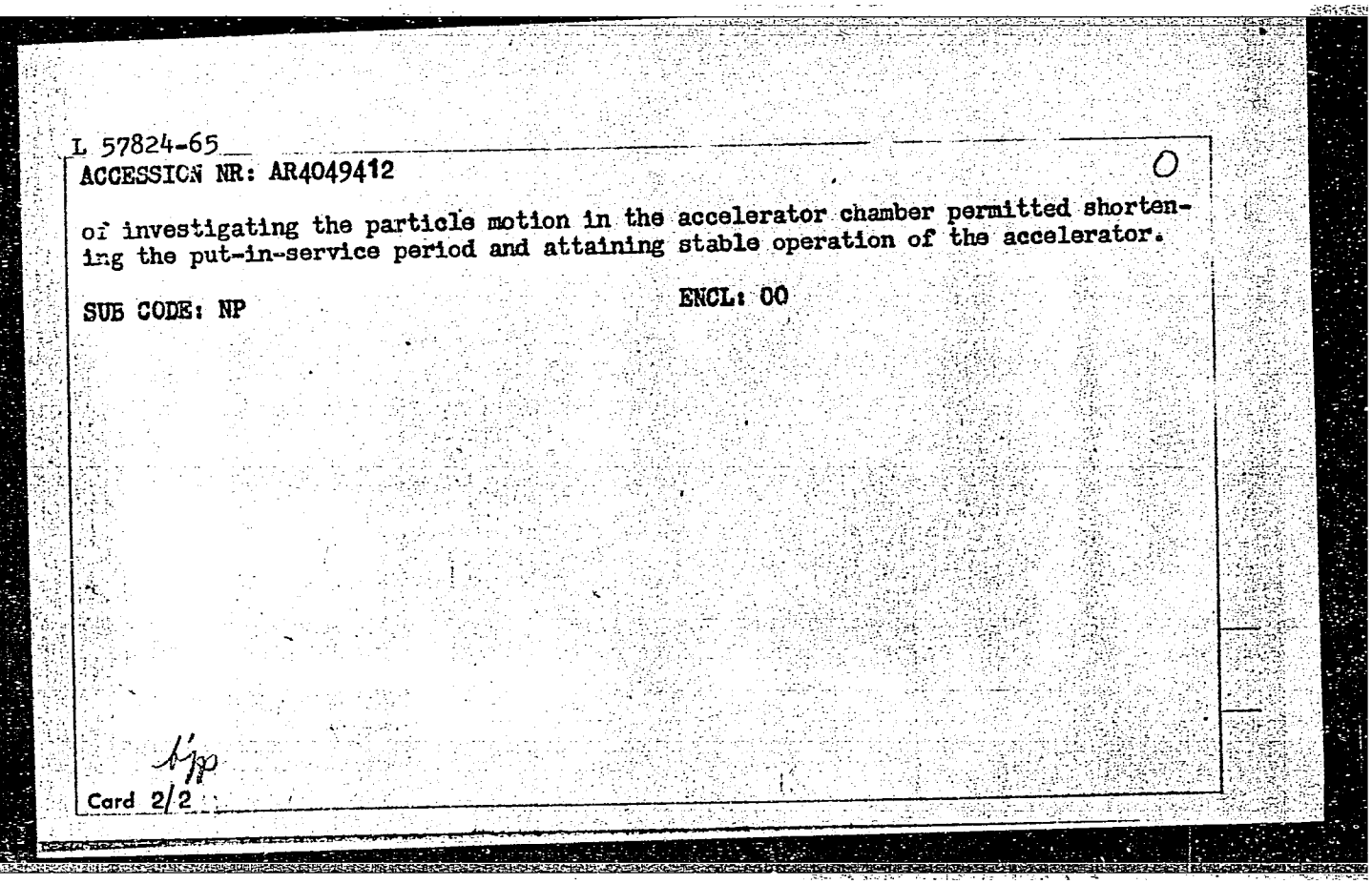

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of investigating the particle motion in the accelerator chamber permitted shortening the put-in-service period and attaining stable operation of the accelerator.

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