5(0) SOV/32-25-6-1/53

AUTHORS: Semenov, N. N., Academician, Kleymenov, N. A.

TITLE: On Some Problems Concerning the Work of Factory Laboratories (O nekotorykh voprosakh raboty zavodskikh laboratoriy)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 643 - 646 (USSR)

ABSTRACT: The successful accomplishment of the new Seven-year Plan depends to a great extent on scientific research work. In this connection it is pointed out that at present new chemical-technological processes are for the most part developed in research institutes. The elaboration of a new procedure takes at least 2-3 years, and additional time is subsequently required for further development, so that a considerable length of time is needed. Moreover, delays are often to be taken into account, which are sometimes due to a lack of readiness on part of factory directors to introduce new procedures devised by other establishments. Owing to these and other reasons, simpler and concrete problems must be solved directly in the factory laboratories (FL), e.g. the improvement of technological processes, improvement of quality, enrichment of the production variety, etc. On the other hand it may be convenient for larger

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On Some Problems Concerning the Work of Factory Laboratories SOV/32-25-6-1/53

Kombinats, at least for administrative reasons, to built up a branch of the pertinent research institute. This has been already done in the Chernorechenskiy khimicheskiy kombinat (Chernorech'ye Chemical Kombinat), where a filial nauchno-issledovatel'skogo instituta azota (Branch of the Scientific Research Institute of Nitrogen), the central office of which is in Moscow, has been set up. At the present time the (FL) of chemical factories are mostly concerned only with control work, and there are some factories that do not possess any (FL) at all, as has been pointed out in various conference reports on meetings held in some of the Union Republics in 1958. Qualified designers, physicists, experts in the field of automation et al must be called to work in the (FL).

Card 2/2

5(3)

SOV/80-32-4-38/47

AUTHORS: Yenikolopyan, N.S., Kleymenov, N.A., Karmilova, L.V., Markevich, A.M. and Nalbandyan, A.B.

TITLE: The Preparation of Formaldehyde in a Jet Apparatus by Means of the Oxidation of Methane Catalyzed by Nitrogen Oxides (Polucheniye formal'degida na struyevoy ustanovke putem okisleniya metana, katalizirovannogo okislami azota)

PERIODICAL: Zhurnal prikladnoy Khimii, 1959, Vol 32, Nr 4, pp 913-919 (USSR)

ABSTRACT: The problem of methane oxidation, very important in view of chemical utilization of natural gases, was dealt with in many investigations, including those of Medvedev [Refs 25, 26] and D.M. Rudkovskiy. The present article describes some results of laboratory studies in obtaining formaldehyde by means of methane oxidation catalyzed by nitrogen oxides. The following research workers of the VNIIGAZ MNP participated in individual phases of these studies: S.A. Anisonyan, S.Ya. Beyder, and N.I. Vinnikova, and of the Giprokauchuk MKhP: A.S.Zhadayev, N.N. Chernov and M.N. Shendrik. The methane oxidation was carried out under jet conditions at a pressure of the gas mixture near the atmospheric one and at temperatures of 600 to 800°C. Various conditions of experimentation were tried out in order to find the optimum ones, and the results were as follows: 1. The treatment of the inner surface of

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SOV/80-32-4-38/47

The Preparation of Formaldehyde in a Jet Apparatus by Means of the Oxidation of Methane Catalyzed by Nitrogen Oxides

a vessel, in which reactions take place, with $K_2B_4O_7$ increases and stabilizes the yield of formaldehyde and reduces the reaction temperature by 80 or 100°C; 2. The relative yield of formaldehyde (CH_2O : NO) amounts to 10 to 12 molecules per one molecule of the catalyst; 3. The optimum composition of the methane-air mixture was found to be 1 : 2; 4. The optimum temperature of the reaction is about 100°C; 5. The stable run of the reaction is possible in metal vessels; 6. The laboratory results were confirmed by experiments carried out in a pilot installation with a capacity of 13 m^3/hr of gas-air mixture. There are 7 graphs and 35 references, 16 of which are Soviet, 14 English, 2 German, 1 Swiss, 1 French and 1 Japanese.

SUBMITTED: September 30, 1957

Card 2/2

5(3) SOV/80-32-5-35/52

AUTHORS: Yenikolopyan, N.S., Kleymenov, N.A., Karmilova, L.V., Markevich, A.M., Nalbandyan, A.B.

TITLE: The Preparation of Formaldehyde by Methane Oxidation Reaction Catalyzed by Nitrogen Oxides

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1132-1135 (USSR)

ABSTRACT: The preparation of formaldehyde in reaction vessels installed in line and also by the method of recirculation is investigated here. In one series, the gas-air mixture of 33.3% CH_4, 66.6% air and 0.1% NO was passed through reaction vessels. The formaldehyde was separated by water in absorbers. It has been shown that under these conditions 7.4% of methane is oxidized to formaldehyde and 9 - 12% to carbon monoxide. In the closed circulation method the mixture was passed many times through the reaction vessel. After 8 cycles 18.5% of methane is oxidized to formaldehyde and 19.7% to carbon monoxide. An additional supply of air or oxygen increases the yield to 32%. The yield of formaldehyde per 1 molecule of NO is 20 and even 30 molecules at 550 and 590°C. In the continuous circulation method the mixture is continuously supplied with fresh gas. The temperature varies from 565 - 680°C. NO was supplied

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SOV/80-32-5-35/52

The Preparation of Formaldehyde by Methane Oxidation Reaction Catalyzed by Nitrogen Oxides

to keep the concentration at 0.1 volume %. After 10 circulations 21% of methane is converted to formaldehyde. The losses of NO due to absorption in the absorber amount to 2-16%. It has been found that NO is not consumed in the reaction.
There are 3 graphs, 1 table and 2 Soviet references.

SUBMITTED: September 30, 1957

Card 2/2

5(4)

AUTHORS: Kleymenov, N. A., Nalbandyan, A. B. SOV/20-124-1-33/69

TITLE: On the Ways of Forming Methyl-Hydroperoxide and Formaldehyde in the Reaction of Low Temperature Oxidation of Methane (O putyakh obrazovaniya gidroperekisi metila i formal'degida v reaktsii nizkotemperaturnogo okisleniya metana)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 119-122 (USSR)

ABSTRACT: On the basis of the oxidation of methane, this paper for the first time provides qualitative proof of the existence of parallel reactions leading to the formation of aldehydes and peroxides. Besides, the production rates of all these substances are determined. This problem was solved by employing the method of marked atoms. The reaction, which occurs at low temperatures, was photochemically initiated. The light source used was a mercury-quartz lamp PRK-2. For the purpose of a maximum utilization of energy, a quartz device of special construction was developed, which makes irradiation from the interior of the reactor possible. By means of provisional tests carried out at 360°, it was found that, within the interval of time under investigation, no other products besides peroxide

Card 1/3

On the Ways of Forming Methyl-Hydroperoxide and Formaldehyde in the Reaction of Low Temperature Oxidation of Methane

SOV/20-124-1-33/69

and formaldehyde were formed. In order to intercept these substances, gases emerging from the reactor were allowed to pass through aqueous absorbers. The concentration of the peroxide in the solution was idiometrically determined. The authors also developed a new method of determining formaldehyde. A diagram shows the kinetic curves of the production of CH_3OOH and CH_2O at 360°. The yield in connection with these products is, within the interval of time under investigation, a linear function of the duration of the contact. The second diagram shows the variation of the specific activities of peroxide and formaldehydes. The existence of an activity in the formaldehyde shows that a certain portion of the peroxide decays or is oxidized into formaldehyde. It is characteristic of the result obtained by the present paper that the curve for the specific activity of peroxide in its entire extent develops above the curve for the specific activity of formaldehyde. Such a behavior of specific activity is known to be characteristic of parallel reactions. At the temperature used in the present case about 64% of the methane participating in the reaction go over

Card 2/3

On the Ways of Forming Methyl-Hydroperoxide and Formaldehyde in the Reaction of Low Temperature Oxidation of Methane SOV/20-124-1-33/69

into formaldehyde by the immediate decay of the peroxide radical. Only 36% of the methane is transformed into hydroperoxide by the reaction with the peroxide radical. The ratio of the production rates of formaldehyde and peroxide is $W_f/W_p = 1.75$, and herefrom it is possible to determine the difference ΔE between the activation energies of the isomerization- and decay processes of the peroxide radical and its reaction with methane. The authors found $\Delta E \simeq 9600$ cal/mol. There are 2 figures, 1 table, and 10 references, 9 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: July 28, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: July 24, 1958

Card 3/3

L 22443-66 EWT(m)/EWP(j) IJP(c) WW/RM

ACC NR: AP6006360 (A) SOURCE CODE: UR/0413/66/000/002/0095/0095

AUTHOR: Pashchenko, D. I.; Vtorygin, S. M.; Kleymenov, N. A.; Markevich, A. M.; Volokhonovich, I. Ye.; Nosov, E. F.; Zorina, L. B.

ORG: none

TITLE: Preparation of polytetrafluoroethylene. Class 39, No. 178104 [announced by Institute of Chemical Physics, AN SSSR (Institut khimicheskiy fiziki AN SSSR)]

SOURCE: Izobreteniya, promyshlennyye obrazcy, tovarnyye znaki, no. 2, 1966, 95

TOPIC TAGS: polytetrafluoroethylene, polymerization, polymerization initiator

ABSTRACT: A method of preparing polytetrafluoroethylene through polymerization of tetrafluoroethylene under ultraviolet light in the presence of initiators is described. In order to obtain polymers with an extensive surface area, perhalogenated freons are proposed for use as initiators. [LD]

SUB CODE: 07/ SUBM DATE: 22Feb65/

Card 1/1 UDC: 678.743.41.002.2

L 00827-67 EWT(m)/EWP(j)/T LJP(c) WW/RM

ACC NR: AP6027766 (A) SOURCE CODE: UR/0190/66/008/008/1330/1335

43
42
B

AUTHOR: Nosov, E. F.; Kleymenov, N. A.; Markevich, A. M.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Tetrafluoroethylene polymerization in aqueous solutions

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 8, 1966, 1330-1335

TOPIC TAGS: tetrafluoroethylene, polymerization kinetics, polymerization initiator, activation energy, polymerization rate, polymerization degree, copolymer, copolymerization

ABSTRACT: A study was made of the kinetics of tetrafluoroethylene polymerization in aqueous solutions initiated by $(NH_4)_2S_2O_8$ at 40—70C, with pressures below 1 atm. The effect of O_2 on the reaction was analyzed. The reaction rate is proportional to the tetrafluoroethylene concentration and the square root of the concentration of the initiator (at low concentrations). The activation energy is 17.3 ccal/mol. The polymerization rate depends on pH and reaches its maximum

Card 1/2 UDC: 66.095.26+678.743

L 00827-67

ACC NR: AP6027766

at pH = 5—5.5. The ratio of propagation constants to the square root of the termination constant was calculated and the average polymerization rate was determined. Two to three percent O_2 admixtures in tetrafluoroethylene decrease the polymerization rate 40 times. Higher O_2 concentrations do not affect the polymerization rate. The ratio of tetrafluoroethylene to O_2 is close to 1:1 with more than 10% of O_2. The mechanism of CO_2 and HF formation is proposed in the copolymerization of tetrafluoroethylene with O_2. It is shown that the copolymer and the tetrafluoroethylene polymer obtained at a high initiator concentration contain fractions which are thermally unstable at 160—180C. Orig. art. has: 8 figures and 6 formulas. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 16Apr65/ ORIG REF: 004/ OTH REF: 005/

Card 2/2 fv

KLYUYEVSKIY, M. G.

23174 Opredeleniye optimal'nogo vremeni puska turbiny BK-100-2. Elektr. stantsii 11, 1949, No. 7, c. 8-14.

SO: LETOPIS' NO. 31, 1949

KLEYMENOV, N.G.

Operating an AK-3,5 turbine to the exhaust point. Energetik 1 no.7: D '53. (MLRA 6:12)

(Steam turbines)

KLEYMENOV, N.G., kandidat tekhnicheskikh nauk; BUNKIN, V.I., inzhener, redaktor; SAVEL'YEV, V.I., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor.

[Washing turbines to remove deposits of feedwater salts from blades] Promyvka parovykh turbin pri sanose lopatok soliami kotlovoi vody. Moskva, Gos.energ.izd-vo, 1954. 55 p.[Microfilm] (MIRA 9:6)

1. Gosudarstvennyy trest po organizatsii i ratsionalizatsii elektricheskikh stantsiy i setey. Moscow.
(Steam turbines--Maintenance and repair)

KLEYMENOV, N.G., kandidat tekhnicheskikh nauk.

Washing high-pressure turbines with salt incrustations on the vanes. Energetik 5 no.8:33-37 Ag '57. (MLRA 10:10)
(Turbines)

KLEYMENOV, N.G., kand.tekhn.nauk

Chapter 12 "Pipelines and feeding devices" of the new "Regulations for operating electric systems and power plants." Energetik 10 no.2:23-26 F '62. (MIRA 15:2)
(Steam power plants--Equipment and supplies)

KLEYMENOV, N.G., kand.tekhn.nauk

Chapter 13, "Steam turbine systems" from the new "Regulations for operating electric networks and power plants." Energetik 10 no.1:28-31 Ja '62. (MIRA 14:12)

(Steam turbines)

KLEYMENOV, N.G.

Prevention of the corrosion of the components of an inoperative steam turbine. Energetik 10 no.9:35 S '62.
(MIRA 17:1)

KLEYMENOV, N. I. Cand Agr Sci -- (diss) "Utilization of special combined ~~feed~~ fodder in the raising of calves." Mos, 1957. 16 pp 22 cm. (All-Union Sci Res Inst of Animal Husbandry. Dept of Feeding). 110 ~~100~~ copies (KL, 22-57, 106)

Kleymonov N. I.

2

8(3)

S/019/60/000/04/100/315
D038/D006

AUTHORS: Fofanskiy, P.I., Nikolayev, F.I., Smirnov, P.P., Lashmanov, P.F., Kleymonov, N.I., Komarov, V.S. and Solov'yev, V.N.

TITLE: A Method of Sealing a Cable Bunch in a Partition Cable Box

PERIODICAL: Byulleten' izobreteniy, 1960, Nr 4, pp 23-24 (USSR)

ABSTRACT: Class 21c, 24_{02}. Nr 126165 (626368/24 of 25 April 1959). A method of sealing cables in a partition cable box by filling the box with plastics. To improve sealing quality and stability, the cables are laid between layers of thermoreactive plastics and the box is afterwards filled with a hot thermoplastic mass to fill all free space.

Card 1/1

KLEYMENOV, N.I., kand. sel'khoz. nauk; KARTASHEVA, N.M., red.; KOHYAKOVA, G.N., tekhn. red.

[Effectiveness of the various types of feeding calves with varying consumption of milk] Effektivnost' razlichnykh tipov kormleniia telliat pri raznom raskhode moloka. Moskva, Sel'khozizdat, 94 p. (MIRA 17:1)
(Calves--Feeding and feeds) (Milk as feed)

KLEYMENOV, P.

107-57-5-17/63

AUTHOR: Kleymenov, P.

TITLE: Wrangel Island (Ostrov Vrangelya)

PERIODICAL: Radio, 1957, Nr 5, p 13 (USSR)

ABSTRACT: The amount of scientific research work will increase during the Geophysical Year. Monitoring of solar radiation will be conducted for the first time, also investigations of the upper strata of the atmosphere. Meteorological observations will be expanded. New radio equipment was received recently.

AVAILABLE: Library of Congress

Card 1/1

KLEYMENOV, V F

137

PHASE I BOOK EXPLOITATION SOV/5486

Vsesoyuznoye soveshchaniye po vnedreniyu radioaktivnykh izotopov i yadernykh izlucheniy v narodnoye khozyaystvo SSSR. Riga, 1960.

Radioaktivnyye izotopy i yadernyye izlucheniya v narodnom khozyaystve SSSR; trudy soveshchaniya v 4 tomakh. t. 1: Obshchiye voprosy primeneniya izotopov, pribory s istochnikami radioaktivnykh izlucheniy, radiatsionnaya khimiya, khimicheskaya i neftepererabatyvayushchaya promyshlennost' (Radioactive Isotopes and Nuclear Radiations in the National Economy of the USSR; Transactions of the Symposium in 4 Volumes. v. 1: General Problems in the Utilization of Isotopes; Instruments With Sources of Radioactive Radiation; Radiation Chemistry; the Chemical and Petroleum-Refining Industry) Moscow, Gostoptekhizdat, 1961. 340 p. 4,140 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR, and Gosudarstvennyy komitet Soveta Ministrov SSSR po ispol'zovaniyu atomnoy energii.

Ed. (Title page): N.A. Petrov, L.I. Petrunko and P.S. Savitskiy; Eds. of this Vol.: L.I. Petrunko, P.S. Savitskiy, V.I. Sinitsin, Ya. M. Kolotyrkin, N.P. Syrkina and R.F. Rosm; Executive Eds.: Ye. S. Levina and B. F. Titskaya; Tech. Ed.: N.A. Mukhina.

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Radioactive Isotopes (Cont.) SOV/5486

PURPOSE: The book is intended for technical personnel concerned with problems of application of radioactive isotopes and nuclear radiation in all branches of the Soviet economy.

COVERAGE: An All-Union Conference on problems in the introduction of radioactive isotopes and nuclear radiation into the national economy of the Soviet Union took place in Riga on 12-16 April 1960. The Conference was sponsored by: the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers, USSR); Glavnoye upravleniye po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR (Main Administration for the Utilization of Atomic Energy of the Council of Ministers, USSR); Academy of Sciences, USSR; Gosplan USSR; Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu (State Committee of the Council of Ministers, USSR, for Automation and Machine Building) and the Council of Ministers of the Latvian SSR. The transactions of this Conference are published in four volumes. Volume I contains articles on the following subjects: the general problems of the Conference topics; the state and prospects of development of radiation chemistry; and results and prospects of applying radioactive isotopes and nuclear radiation in the petroleum refining and chemical industries. Problems of designing and manufacturing instruments which contain sources of radioactive radiation and are used for checking and automation of technological processes are examined, along with problems of accident prevention in their use. No personalities are mentioned. References accompany some of the articles.

Card 2/12

CHEMICAL AND PETROLEUM DISTILLING INDUSTRY

S/081/62/000/004/036/087
B156/B138

AUTHORS: Borukhov, M. Yu., Ivashev, V. Ts., Kleymenov, V. F.

TITLE: A sensing element for the continuous measurement of small deviations in liquid solution concentration using radioactive radiation

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 314, abstract 4I205 (Sb. "Radioakt. izotopy i yadern. izlucheniya v nar. kh-ve SSSR. v. I". M., Gostoptekhizdat, 1961, 253 - 256)

TEXT: The sensitive element of this instrument for sensing small deviations in concentration, in which a temperature correction is automatically introduced, consists of a hydrometer and a thermometer in one unit (i. e., the hydrometer tube is filled with the thermometric liquid, mercury or alcohol). The parameters of the sensitive element are such that the linear values of the hydrometer immersion depth and the height to which the liquid has risen in the tube are equal over a wide range of temperatures. Consequently the height of the thermometric liquid above the level of the solution, in which the hydrometer is

Card 1/2

immersed, depends solely on the concentration of the solution. The radioactive isotope floats on the surface of the thermometric liquid, and its radiations are received by pulse counters connected to an electronic unit. The output from the electronic unit is connected to the concentration indicator and a signal device. The measurement system may be of relay or proportional type, depending on the number of counters and the way in which they are installed. An overflow is used to ensure that the the liquid being measured is at a constant level. Formulae are given for calculating the volume and weight of thermometric liquid. [Abstracter's note: Complete translation.]

KLEYMENOV, V. F.

"Radioisotope Concentration Meter for Liquids"

paper presented at the All-Union Seminar on the Application of Radioactive Isotopes in Measurements and Instrument Building, Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

VILESOV, F.I.; AKOPYAN, M.Ye.; KLEYMENOV, V.I.

Improvement of the electric and lighting parameters of high-voltage hydrogen lamps. Prib. i tekh. eksp. 8 no.6:150-153 N-D '63. (MIRA 17:6)

KLEYMENOV, V.P., gornyy insh.

Rod bolting is an effective means of curtailing losses and reducing impoverishment of ore. Gor. zhur. no.2:75 F'62. (MIRA 17:2)

KLEYMENOV, V.P., gornyy inzh.; FILIMONOV, A.G., gornyy inzh.

Studying the strength of reinforced concrete fastening rods.
Gor. shur. no.6:71 Je '64. (MIRA 17:11)

1. Karagandinskiy nauchno-issledovatel'skiy ugol'nyy institut, Karaganda.

VAL'SHTEYN, G.I.; KLEYMENOV, V.P.; FILIMONOV, Ya.G.

Investigating efficient parameters of the rod bolting of stopes in the Daheskasgan Mine. Nauch. trudy KNIUI no.14:291-298 '64. (MIRA 18:4)

SOV/144-59-11-17/21

AUTHORS: Kleymenov, V.V., and Nikitenko, A.G., Assistants

TITLE: The Design of Low-Voltage Fuses by Means of Electronic Analogue Computers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 11, pp 123-129 (USSR)

ABSTRACT: Unfilled cartridge-type replaceable-element fuses type PR-2 have been widely used for over-current protection of low-voltage equipment because they are better than other types of fuse in respect of rupturing capacity, silence and safety. Fuse design, which consists in determining the melting current, the melting time and the pressure in the cartridge, is of considerable practical and theoretical interest. However, strict mathematical treatment is difficult and the present article describes the use of analogue computers for fuse design. Under short-circuit conditions the relationship between the section of the fusible element, the current and the time is given by expression (1). For greater convenience this expression is modified to the form of expression (4).

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SOV/144-59-11-17/21

The Design of Low-Voltage Fuses by Means of Electronic Analogue Computers

The fundamental equation of an electric circuit containing inductance and resistance is given by expression (5). Calculation of the melting current and time entails solving Eqs (4) and (5). To solve these equations by means of an analogue computer an equivalent block circuit is first drawn up, using the circuit equivalents of mathematical operations shown in Fig.1. Eqs (4) and (5) are then converted into the form of machine equations giving expressions (10) and (11) respectively. A numerical example is given of the determination of the current and operating time of a fuse on short-circuiting a 500 kW 250V d.c. machine, the circuit and fuse constants being stated. The machine equations are derived, and the corresponding block diagram of the electronic analogue is given in Fig.2. Fig.3 shows an oscillogram of the solution of the machine equations and of the transient process in the d.c. circuit for this case. The calculated values of current and time were found to be in full agreement with experiment.

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SOV/144-59-11-17/21

The Design of Low-Voltage Fuses by Means of Electronic Analogue Computers

When alternating current is used the machine equations take the form of expressions (14) and (15). A numerical example is then given of the calculation of current and operating time of a fuse during short-circuit of a 320 kVA 250V transformer. The transformer and circuit constants are stated, the machine equations are determined, and the corresponding block diagram is given in Fig.4. Figs. 5, 6, 7 and 8 give oscillograms of the solution of the machine equations and of the transient processes in the a.c. circuit for various values of the voltage phase-angle at the instant of short-circuit. Calculated and experimental values are in good agreement. It is concluded that fuse problems of this kind can be quickly solved with an analogue computer. On altering the circuit and fuse parameters the block diagram remains as before, only the coefficients of the machine equations being changed.

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SOV/144-59-11-17/21

The design of Low-Voltage Fuses by Means of Electronic Analogue Computers

Thus calculations can quickly be made for a large number of variants. There are 8 figures and 2 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute)

SUBMITTED: 12th September, 1959

Card 4/4

BOLYAYEV, Ivan, Pavlovich, dotsent, kand.tekhn.nauk; KLEYMENOV, Vladimir Vasil'yevich, assistent

Investigating the skidding of gas-turbine locomotives with an electronic model.. Izv.vys.ucheb.zav.; elektro-mekh. 3 no.1:16-29 '60. (MIRA 13:5)

1. Kafedra elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo instituta.
(Electromechanical analogies)
(Gas-turbine locomotives)

KUROCHKA, Aleksandr Leont'yevich, kand.tekhn.nauk; KLEYMENOV, Vladimir Vasil'yevich; BOLYAYEV, Ivan Pavlovich, kand.tekhn.nauk, dotsent

Use of an electric simulating model for the study of the dynamics of regeneration circuits of electric locomotives with consideration of the saturation of traction motors. Izv. vys. ucheb. zav.; elektromekh. 3 no.3:41-49 '60. (MIRA 13:10)

1. Zamestitel' direktora Novocherkasskogo nauchno-issledovatel'skogo instituta (for Kurochka). 2. Nachal'nik laboratorii vychislitel'nykh nepreryvnogo deystviya Novocherkasskogo nauchno-issledovatel'skogo instituta elektrovozostroyeniya (for Kleymenov). 3. Kafedra elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo institut (for Bolyayev).

(Electric locomotives)
(Electromechanical analogies)

9.7000

S/144/60/000/007/005/007
E041/E455

AUTHORS: Nikitenko, A.G. and Kleymenov, ~~V.V.~~ Vladimir Vasil'yevich

TITLE: Use of Electronic Simulators for Computing Dynamic Characteristics of Electromagnetic Mechanisms

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Elektromekhanika, 1960, No.7, pp.51-56

TEXT: It is assumed here that the relevant parameters of a given magnetic circuit are known. Their determination is not considered. Fig.1 is a sketch of a lifting magnet whose performance has been evaluated on the IPT-5 machine. The magnetic circuit itself is linear, i.e. the inductance depends only on the gap width. Eq.(1), (2) and (3) refer to the electrical circuit, the system motion and the tractive force respectively. These expressions are simulated by the circuits shown schematically in Fig.2; the separate functional units in the diagram are shown in more detail in Fig.3. Fig.4 and Table 1 show the relation between the inductance, its reciprocal and the rate of change of inductance with path length as a function of path length. This relationship is simulated by a nonlinear functional unit in the machine. The scale factors adopted for various blocks are

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S/144/60/000/007/005/007
E041/E455

Use of Electronic Simulators for Computing Dynamic Characteristics of Electromagnetic Mechanisms

given in Table 2 and may be changed by particular cases. Fig.5 and Table 3 show the results of calculation when the magnet is first switched on. Experimental results are given as the oscillograms of Fig.6, Tables 4 and 5 and the curves superposed on Fig.5. The operating time of the magnet is calculated to be 0.122 sec and is measured as 0.132 sec. The error of 8% could be due to unsatisfactory determination of the circuit parameters. There are 6 figures, 5 tables and 3 Soviet references.

ASSOCIATIONS: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute) Novocherkasskiy nauchno-issledovatel'skiy institut elektrovozostroyeniya (Novocherkassk Scientific Research Institute of Electrical Locomotives Construction) → Head, Lab. Computing machines (for Kleymenov)

SUBMITTED: April 20, 1960

Card 2/2

9,7200

S/144/60/000/010/005/010
E194/E355

AUTHORS: Sinel'nikov, Ye.M., Doctor of Technical Sciences, Professor, Departmental Head, Nazikyan, A.G., Assistant, Klaymanov, V.V., Head of Laboratory and Chernyavskiy, F.I., Candidate of Technical Sciences

TITLE: The Use of Analogue Computers to Investigate the Commutation of DC Machines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No. 10, pp. 58 - 77

TEXT: It is impossible to provide a strict analytical solution of commutation problems in DC and AC machines because of the complex nonlinear character of the differential equations involved. Assumptions that are made to simplify the equations lead to errors in these solutions. The development of computers offers new prospects of solving commutation problems. These devices can solve the problems involving the complex differential equations of the commutation process without introducing crude simplifying assumptions. The first practical attempt to use modern high-speed computers

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for calculations on commutation was reported by Alger and Bewley in Power Apparatus and Systems, August, 1957. These authors used a digital computer and because of the cumbersome algorithms it was necessary to make a number of simplifications and exclude various factors which are important in practice. In particular, it was necessary to simplify the volt-ampere characteristic of the brushes and to assume sinusoidal flux distributions of the interpoles.
In comparing the advantages of digital and analogue computers for solving commutation problems it should be remembered that existing procedures for calculating the parameters that enter into the equation do not utilise the potential accuracy of computers. Accordingly, in this case, the accuracy of digital machines is of no advantage as compared with that of analogue computers which are adequate for the purpose. With an analogue computer it is possible to obtain a number of output magnitudes

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such as the voltage between commutator bars, currents in sections and their differential coefficients, voltages as the commutator bars leave the brush and other magnitudes. With digital machines each of these magnitudes would require a fresh algorithm. Accordingly, at the present time analogue computers have considerable advantages for work of this kind. In the present work the authors show the extensive possibilities of analogue computers for calculating and explaining various factors that influence the commutation process. It would be difficult or impossible to study these factors by existing procedures. The assumptions that were made in applying the method are then stated. The more important are: the self-induction coefficients of short-circuited sections and mutual induction coefficients between simultaneously commutating sections do not depend on the value of current or the angular position of the rotor; for any given slot section the inductance is the same as that of any other corresponding

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section in other armature slots; section and loop resistances are constant; the voltage drop in the brush contact depends on the current density and not on the speed. The direct-current machine for which the differential equations of commutation were formulated was of the following characteristics: 2.6 kW, 220 V, rated current 14 A, speed 1400 r.p.m. The armature has a diametral pitch winding with three sections per slot and the commutator bar width is 7.5 mm with 1 mm of mica between. The brush is 15.5 mm wide and can short-circuit one or two sections simultaneously. Fig. 1 shows a schematic section of the winding undergoing commutation under two brushes of opposite polarity. In view of the assumptions that are made, if the brushes are similarly located relative to the neutral position, brushes of opposite polarity have identical volt-ampere characteristics, and the laws of change of current in analogous sections short-circuited by brushes of opposite polarity are the same. Accordingly, there is no need to

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write down twice the differential equations of commutation for identical sections and correspondingly to double the electronic model. Hence the circuit of Fig. 1 may be simplified to obtain that of Fig. 2, and as in the real machine the resistance of the risers is small they are omitted. In formulating the equations of commutation it is convenient to measure time from the start of commutation of a section; in particular, the start of commutation of sections 2-3 in Fig. 2 is considered. The commutation process is cyclic and is repeated after the armature has passed through a single-tooth pitch. The commutation cycle may be divided into three stages, each of which introduces new operating conditions in some section. Fig. 3 shows equivalent circuits of section commutation for all stages of a complete cycle. There are nine of them. Eq. (1) is then written for the first section of the slot in operator form for all stages of commutation. In the second stage the equation takes the form of Eq. (2)

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which is the equation of damping of current oscillations in the section 1-2. In the next four stages of section 1-2 the first section of the first slot is not commutated. However, the process of modelling commutation of this section is incomplete since no allowance has been made for the start of commutation of the section 1-2. The method of allowing for this is explained, and Eq. (3) is derived. In the next, eighth stage, Eq. (3) is again valid. The ninth stage of commutation commences when electromagnetic oscillations in section 3-1 are terminated and is described by differential equation (4). The nonlinear differential equations (1), (2) and (3) for the first section must be solved simultaneously with similar equations for other sections for the same stages of commutation. Consequently, the electronic model which is required to solve the equations should automatically on completing the solution of one system of equations reconnect in the next stage of

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commutation to solve another system of equations to give a continuous solution of the commutation process on the machine output. Thus, from the mathematical standpoint the process of commutation is determined by a system of differential equations with coefficients which are discontinuous functions of time. Differential equations (1) and (2) may be combined to give an expression of the form of Eq. (5). Similarly, expressions (3) and (4) may be united into the general equation (6). Finally, to obtain the most compact electronic model, Eqs. (5) and (6) should be united into a more general equation for the first section of the slot, which will be of the form of Eq. (7). Eqs. (1a) and (3a) are then combined to obtain a general expression (7a). Similar expressions (8) and (8a) are obtained for the second section of the slot and Eqs. (9) and (9a) for the third section of the slot.
Eqs. (7), (8) and (9) are solved relative to the differential coefficient of current for the first, second and third sections

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of the slot, and on introducing other necessary terms Eqs. (7'), (8') and (9') are obtained. The reason for writing the expressions in this form is explained. The Eqs. (7') - (9') and (7a) - (9a) were used to formulate the analogue-computer block circuit diagram shown in Fig. 4, the notation of the block-circuit components being given in Table 1. Table 2 notes certain parameters of the DC machine investigated; the scales used are stated. Table 3 gives coefficients of the block-circuit of the electronic model with the circuit of Fig. 4. Fig. 6 shows the law of change during the process of commutation of the area of contact between the brush and the corresponding commutator bar. Vales of section capacitance on the machine investigated were determined with a ballistic galvanometer, using the circuit of Fig. 7. A description is then given of the electronic model whose block-circuit diagram is given in Fig. 4. In order to

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understand all the mathematical operations carried out by the model in a complete commutation cycle it is sufficient to follow the solution of the equations of any one section. Accordingly, solution of the equations of commutation of the first section of the slot (7') and 7a) is considered. The way in which the various values shown in the block-circuit diagram of Fig. 4 are obtained is explained. It is shown that on the model it is possible to follow the solution of the necessary equations for a complete cycle of commutation of the machine. The model was designed to reproduce the process of commutation continuously, i.e. to solve the equations in a time of 255 sec, which corresponds to the time of the commutation cycle on the time scale chosen. When the calculations for one cycle are complete the computer stops and a further current setting may be made. The operation of repeated starting could have been made automatic but the complication involved was not worth while.

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Some results are then given of the solution of the commutation equations. Oscillograms of current in commutating sections obtained with the model are shown in Fig. 8 and the shape of the curves is discussed. Corresponding curves with higher values of e.m.f. are plotted in Fig. 9, and again the shape is discussed. These curves show that with the machine investigated satisfactory commutation cannot be obtained with a uniform field in the commutation zone. The optimum field can very easily be selected on the model and changes in section current with optimum field in the commutation zone are plotted in Fig. 10. Fig. 11 gives oscillograms of currents in the section assuming that there is no voltage drop in the brush contact. It will be seen that because of the intensive magnetic linkage between sections the values of section current are much closer together in this case. Consequently, the greater the voltage drop in the contact the greater the counteraction to the effect of equalising current in the section and

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the more uniform the process of current change in the section. Fig. 13 shows curves of changes of current in two section short-circuited by two brushes of opposite polarity. The curves were taken oscillographically on an actual DC machine; the method is briefly explained. It will be seen that there is satisfactory agreement between the curves obtained on the machine and with the computer and this confirms the method of formulating the differential equations for modelling.
The general principles of formulating equations of commutation and block-circuit diagrams of an electronic model are then considered. This section for the most part repeats the explanations given in preceding parts of the article. It is shown, however, that in writing the expressions for the transient process in analytical form the requisite number of commutation equations need not exceed the maximum number of commutator bars covered by both brushes.
It is concluded that the principles described in the article

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may easily be used to construct a model of a DC machine with any practical number of sections in the slot and with any width of brushes. By making very simple changes in the coefficients and other parameters of the model it may be used to study commutation processes in DC machines with different winding pitches and with any number of sections in the slot or widths of brush.
The following data may be obtained for each of the variants: the nature of current changes in the sections and their differential coefficients; the nature of current changes in the risers; the law of change of voltage drop in the brush contacts; the law of change of current density in the brush contact and the voltage of the commutator bar relative to the brush at the moment of exit of the section from commutation. The influence on the above characteristics of the following factors may be considered: the field shape in the commutation

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zone of the machine; the grade of brushes and the effect of too early interruption of contact between brush and commutator bar. Further work with electronic modelling methods and the development of special analogue computers will make it possible to discard most of the ill-founded assumptions that are usually made, including some tolerated in this article. Then a more complete study can be made of the commutation process. There are 13 figures, 3 tables and 3 references: 2 Soviet and 1 non-Soviet.

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The Use of Analogue Computers to Investigate the Commutation of DC Machines

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ASSOCIATION: Kafedra elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo instituta (Department of Electrical Machines and Apparatus, Novocherkassk Polytechnical Institute)

SUBMITTED: August 17, 1960

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SINEL'NIKOV, Yefim Markovich, doktor tekhn.nauk, prof.; NAZIKYAN, Artem Grigor'yevich, assistent; KLEYMENOV, Vladimir Vasil'yevich; CHERNYAVSKIY, Fedor Ivanovich, kand.tekhn.nauk, dotsent

Use of computers in the study of the commutation of d.c. machines. Izv. vys. ucheb. zav.; elektromekh. 3 no.10:58-77 '60. (MIRA 14:4)

1. Zaveduyushchiy kafedroy elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo instituta (for Sinel'nikov).
2. Kafedra elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo instituta (for Nazikyan and Chernyavskiy).
3. Nachal'nik laboratorii vychislitel'nykh mashin Novocherkasskogo politekhnicheskogo institut (for Kleymenov).

(Electric calculating machines)
(Electric machinery—Direct current)
(Commutation (Electricity))

MOSYAGINA Yelena Nikiforovna, kand.med.nauk, starshiy nauchnyy sotrudnik; KLEYMENOV, Vladimir Vasil'yevich; VOL'VICH, Anatoliy Grigor'yevich mladshiy nauchnyy sotrudnik; LITVINOV, Boris Nikolayevich, tekhnik

Use of electronic analog computers for studying the dynamics of the changes of the level of erythrocytes in a body.
Izv. vys. ucheb. zav.; elektromekh. 4 no.4:62-70 '61.
(MIRA 14:7)

1. Institut pediatrii AMN SSSR (for Mosyagina). 2. Nachal'nik laboratorii vychislitel'nykh mashin Novocherkasskogo nauchno-issledovatel'skogo instituta elektrovozostroyeniya (for Kleymenov). 3. Novocherkasskiy nauchno-issledovatel'skiy institut elektrovozostroyeniya (for Vol'vich). 4. Laboratoriya schetnykh mashin Novocherkasskogo politekhnicheskog instituta (for Litvinov).

(MEDICAL ELECTRONICS)
(ELECTRONIC ANALOG COMPUTERS)
(ERTHROCYTES)

VEGNER, O.G., kand. tekhn. nauk (Leningrad); KLEYMENOV, V.V., inzh.; MAGIDSON, V.V., inzh.; KAZIKYAN, A.G., kand. tekhn. nauk; KARASEV, M.F., doktor tekhn. nauk, prof.; MEDLIN, R.Ya., inzh.

Concerning A.S. Kurbasov's articles "Principles of the power theory of the commutation of d.c. machines" and "Calculation of the commutation of d.c. machines." Elektrichestvo no.5: 81-87 My '63. (MIRA 16:7)

(Electric machinery--Direct current)
(Kurbasov, A.S.)

KLEYMENOV, Vladimir Vasil'yevich, inzh.; BOLYAYEV, Ivan Pavlovich, kand.-tekhn.nauk, dotsent; NAZIKYAN, Artem Georgiyevich, kand.tekhn.nauk; ZAVEZEN, Aleksandra Fedorovna

Simultaneous use of analog and digital computers in studying processes in electrical machines. Izv. vys. ucheb. zav.; elektromekh. 6 no.1: 11-24 '63. (MIRA 16:5)

1. Nachal'nik laboratorii elektronnykh vychislitel'nykh mashin Novocherkasskogo nauchno-issledovatel'skogo instituta elektrovosostroyeniya (for Kleymenov). 2. Kafedra elektricheskikh mashin, apparatov, matematicheskikh i schetnoreshayushchikh priborov i ustroystv Novocherkasskogo politekhnicheskogo instituta (for Bolyayev, Nazikyan). 3. Starshiy inzhener laboratorii vychislitel'nykh mashin Novocherkasskogo politekhnicheskogo instituta (for Zavezen).

(Electric machinery)

(Electric machinery--Electromechanical analogies)

KLEYMENOV, Vladimir Vasil'yevich, inzh.

Electronic atachment to r analog computer for measuring potentials. Izv.vys.ucheb.zav.; elektromekh. / no. 3:390 '64. (MIRA 17:5)

1. Nachal'nik laboratorii vychislitel'nykh mashin nepreryvnogo deystviya Vsesoyuznogo nauchno-issledovate skogo i proyektno-konstruktorskogo instituta elektrovozostroyeniya.

KLEYMENOV, Vladimir Vasil'yevich

Calculation of mutual and self-induction coeffi ients of the armature sections of a d.c. machine. Izv. vys. ucheb. zav.; elektromekh. 7 no.2:276-278 '64. (MIRA 17:4)

1. Nachal'nikl laboratorii vychislitel'nykh mashin Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta elektrovozostroyeniya.

KLEYMENOV, V.V., inzh.; ZOLOTAREV, P.A., kand. tekhn. nauk; NAZIKYAN, A.G., kand. tekhn. nauk

Study of transient processes in the traction motor networks of main line electric locomotives. Elektrotekhnika 36 no.8: 35-37 Ag '64. (MIRA 17:9)

KHEGAY, T.A.; SAMUSHENOK, V.I.; KLEYMENOV, V.V.

Use of defibrinated pregnant mare's blood in sheep raising. Veterinariia 41 no.8:82-83 Ag '64. (MIRA 18:4)

1. Glavnyy veterinarnyy vrach Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Khegay). 2. Zaveduyushchiy veterinarnoy laboratoriyey Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Samushenok). 3. Zaveduyushchiy biologicheskim punktom Atbasarskogo proizvodstvennogo upravleniya, TSelinogradskoy oblasti (for Kleymenov).

AVILOV-KARNAUKHOV, B.N.; BATURO, V.I.; BAKHVALOV, Yu.A.; BOGUSH, A.G.; BOLYAYEV, I.P.; GIKIS, A.F.; DROZDOV, A.D.; KAYALOV, G.M.; KLEYMENOV, V.V.; KOLESNIKOV, E.V.; MALOV, D.I.

Professor Efim Markovich Sinel'nikov, 1905- ; on his 60th birthday. Elektrichestvo no.9:89 S '65.

(MIRA 18:10)

POTAPOV, I.V.; KLEDEKOV, V.V.

Use of electronic computers with continuous action in water hammer analysis. Trudy MPI 157:75-85 '64. (MIRA 19:1)

L 22425-66 EWT(d)/EWP(k)/EWP(1)
ACC NR: AT6013623 SOURCE CODE: UR/0105/65/000/009/0089/0090

AUTHOR: Avilov-Karnaukhov, B. N.; Baturo, V. I.; Bakhvalov, Yu. A.; Bogush, A. G.; Bolyayev, I. P.; Gikis, A. F.; Drozdov, A. D.; Kayalov, G. M.; Kleymenov, V. V.; Kolesnikov, E. V.; Malov, D. I.

ORG: none

TITLE: Honoring the 60th birthday of Professor Yefim Markovich Sinel'nikov

SOURCE: Elektrichestvo, no. 9, 1965, 89-90

TOPIC TAGS: academic personnel, electric engineering personnel, computer research

ABSTRACT: Professor Sinel'nikov was born 11 May 1905 in Yekaterinoslav (now Dnepropetrovsk) in the family of a clerk. Following his graduation from the Khar'kov Electrical Engineering Institute in 1930 he was appointed chief of the Technical Division on Electric Drive at the Khar'kov Electrical Machinery Plant. Subsequently he was appointed research engineer at the Vol'ta Plant and later on transferred to Moscow, to the Institute of Experimental Medicine, while at the same time he continued his studies. In 1946 he started working as a senior scientific researcher at the All-Union Electrical Engineering Institute. Since September 1953 Professor Sinel'nikov has been working at the Novocherkassk Polytechnic Institute. At present he is head of the Chair of

UDC: 621.313

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ACC NR: AP6013623

Electrical Machinery, Apparatus, and Computers and Mathematical Devices. He has been instrumental in establishing the computer laboratory at this institute, where research is being performed on the problems of utilizing computer engineering in the design and calculation of electromagnetic, mechanical, and thermal processes in electrical machinery and equipment. Since 1958 Professor Sinel'nikov has been Coordinating Editor of the journal Elektromekhanika (Electromechanics) - one of the series published under the aegis of Izvestiya Vysshikh Uchebnykh Zavedeniy (News of Higher Schools). Yefim Markovich is moreover a prominent educator and the holder of many social honors and consultant to a series of industrial enterprises. For his great merits as an educator and for his scientific contributions he has been awarded the Order of Labor Red Banner. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2

KLEYMENOV, V. Ya. ENGINEER Cand Tech Sci

Dissertation: "Investigation of the Process of Forging Copper, Aluminuim and Magnesium Alloys."

2 Mar 49

All-Union Inst of Aviation Materials, Moskva

SO Vecheryaya Moskva
Sum 71

KLEYMENOV, V.Ya.

16(2) PHASE II - ABSTRACTS AD-1

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and its Alloys; Metallurgy and Physical Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 209 p. 4,000 copies printed.

Resp. Ed.: N.V. Agayev, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rubenchik; Tech. Ed.: A.A. Kiselova.

INTRODUCTION: This book, of which a Phase I Exploitation (SOV/1205) has been prepared, is a collection of scientific papers devoted to the study of titanium and its alloys from three main points of view: physical metallurgy, forming, and welding. Special problems investigated include structural changes occurring during welding, determination of the content of harmful gases, development of industrial methods of rolling, and oxidation at various temperatures.

PART I. PHYSICAL METALLURGY

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out the entire temperature range than those for IMP-1. If it is borne in mind that titanium begins to oxidize markedly at temperatures above 800°, it is easily seen that the 600-800° range is the most advantageous for hot forming, since the energy required for deformation in this range is comparatively small while the ductility is sufficiently high. There are 8 figures (all graphs) and 8 references (all Soviet).

Kleymenov, V.Ya. and T.N. Sazonova (Ministry of the Aircraft Industry of the USSR) Ductility of VT-2 Alloy Under Manufacturing Conditions 145

This investigation was carried out by the following methods: (1) determination of impact toughness at various temperatures; (2) upsetting with a drop hammer on a hydraulic press at various temperatures with various degrees of deformation; (3) short-time fracture and torsion tests at various temperatures; (4) determination of specific pressures in drop-hammer upsetting at various temperatures and various degrees of deformation; (5) study of the effect of carbon content on ductility; (6) metallographic and x-ray analysis of variously deformed specimens; (7) experimental rolling at various temperatures and with various reductions;

(8) experimental forging under manufacturing conditions. It was established that as the carbon content of VT-2 alloy increases, the ductility decreases in the hot-working temperature range. The alloy is highly ductile when the carbon content does not exceed 0.6 percent; beyond that, ductility drops off sharply. Hence, the maximum content has been fixed at 0.8 percent Short-time fracture tests indicate maximum ductility at 850-900°, whereas the torsion test yields a figure of 1000°. It was shown that VT-2 alloy (as well as other Ti-base alloys) show much greater ductility after preliminary forming than in the as-cast state; hence, the forming of the ingot should begin with small reductions until the coarse cast structure disappears. A series of such small reductions must be made until the cast structure shows a deformation of 25-30 percent before larger reductions can be made. Thus, forged, rolled, or extruded ingots are desirable as raw material. VT-2 alloy thus treated shows excellent properties under manufacturing conditions. Aside from carbon, certain gases (oxygen, nitrogen and hydrogen) have a harmful effect on the ductility of Ti alloys. Since these gases are absorbed when the metal is heated, it is advisable to heat the blanks only for very brief periods at high temperatures either in protective atmosphere or in induction furnaces. For

ease of operating the forming equipment, the optimum temperature for forming VT-2 alloy is 1200°, but for minimum absorption of gases the initial temperature should be 1000-1050° with a final temperature of 900°, or 850° if absolutely necessary. In order to obtain good mechanical properties, the alloy should be formed in stages so that each heating may be followed by a deformation of not less than 30 percent. To prevent anisotropy of properties, associated with columnar structure and nonuniform deformation, it is desirable to carry out the forming with large deformations, changing the axis of deformation. Strengthening of the alloy in the process of forming may be accomplished by reducing the temperature and increasing the degree of deformation. Considering the rather narrow temperature range for hot working and the high resistance to deformation at lower temperatures, and in order to assume more uniform deformation and to maintain the plasticity of the alloy under manufacturing conditions, the forming tools should be preheated to 250-400° C. There are 8 figures, but no references.

KLEYMENOV, V.Ya.; SAZONOVA, T.N.

Industrial plasticity of the BT2 alloy. Titan i ego splavy no. 1:145-151 '58. (MIRA 14:5)

1. Ministerstvo aviatsionnoy promyshlennosti SSSR.
(Titanium alloys—Testing)
(Plasticity)

PHASE I RCA 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. 211 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. Dimitrin, Academician; Ed. of Publishing House: V.A. Ratov; Tech. Ed.: V.V. Brunguli'.

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, forming, 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.

KORNEYEV, Nikolay Ivanovich, prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki; SKUGAREV, Ivan Grigor'yevich, dotsent, kand.tekhn.nauk. Prinimali uchastiye: KLYUGANOV, V.Ya.; SAZONOVA, T.N., inzh. OSIPOVA, L.A., red.izd-va; CHERNOVA, Z.I., tekhn.red.

[Principles of the physical and chemical theory of press forging; thermomechanical factors in the working of metals and alloys] Osnovy fiziko-khimicheskoi teorii obrabotki metallov davleniem; termomekhanicheskie faktory obrabotki metallov i splavov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 315 p. (MIRA 13:9)

(Forging) (Physical metallurgy)

KLEYMENOV, Ye.I., inzhener.

New method of controlling losses in powderlike freight in shipment. Vest.TSNII MPS no.1:58-59 F '57. (MLRA 10:3)
(Coal--Transportation)

SADIKOV, P.P.; AMAN'EVA, S.A.; LEBEDEVA, T.P.; SMIRNOV, Ye.K.; PRIGOROVSKIY, V.F., insh., red.; TISHKOV, L.B.; KATOLICHENKO, V.A.; PANIN, A.V.; MOSKOV, Yu.A.; TRIFONOVA, M.G.; KLEYDENOV, Ye.I.; BOBROVA, Ye.N., tekhn.red.

[Technical equipment for large general-purpose freight yards] Tekhnicheskoe osnashchenie krupnykh gruzovykh stantsii obshchego pol'zovaniia. Moskva, Gos.transp.shel-dor izd-vo. 1958. 186 p. (Moscow. Moskovskii institut inzhenerov zheleznodorozhnogo transporta. Trudy, no.161) (MIRA 12:2)
(Railroads--Yards--Equipment and supplies)

SNOKHOV, A.A., kand.tekhn.nauk; TRIFONOVA, M.O., insh.; KLETMENOV, Ye.I., insh.

Ways for the mechanization and automatization of operations in freight agencies. Vest. TSNII MPS 19 no.3:12-17 '60. (MIRA 13:10)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta im. I.V.Stalina i Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta.
(Railroads--Management) (Automatic control)

KRAVCHENKO, V.S., doktor tekhn.nauk; OBRAZTSOV, A.P., kand.tekhn.nauk; SIMONOV, V.M., kand.tekhn.nauk; KLEYMENOV, Ye.I., inzh.; TRIFONOVA, N.G., inzh.

Use of high-frequency currents for unloading frozen ores. Zhel.dor. transp. 42 no.11:63-64 N '60. (MIRA 13:11)
(Ore handling) (Induction heating)
(Railroads—Freight—Cold weather operations)

LIZUNOV, V.A., inzh.; Prinimali uchastiye: SMIRNOV, Ye.K., kand.tekhn. nauk; KOROL'KOV, V.V., mekhanik; KLEYMENOV, Ye.I., inzh.

Use of radiant heat in discharging highly viscous materials. Vest.TSNII MPS 21 no.3:39-41 '62. (MIRA 15:5)
(Radiant heating) (Material handling)

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29447
S/081/61/000/017/149/166
B117/B138

AUTHORS: Sanin, P. I., Shepeleva, Ye. S., Ul'yanova, A. V., Kleymenov, Ye. V.

TITLE: Effect of synthetic lubricating oils additives on frictional wear

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 472 - 473, abstract 17H224 (Tr. 3-y Vses. konferentsii po treniyu i iznosu v mashinakh. M., AN SSSR, v. 3, 1960, 234 - 239)

TEXT: The relative effect on the seizing load (SL) and on the wear of a number of Cl-, S-, and P-containing additives was studied on a 4-ball friction machine. The additives were tested in the solution of a highly refined mineral oil with a viscosity of 20.8 cst/50°C at a concentration of 6 moles of additive per 100 g of oil. Oleic and stearic acids, as well as methyl stearate, did not change the character of the wear-load curve, nor increase the SL of the pure oil (69 kg). SL were determined for the following additive solutions (in kg): methyl dichlorostearate, 126; tetrachloronaphthalene, 126; chlorinated paraffin $C_{25}H_{51}Cl$, 79; much

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Effect of synthetic lubricating...

higher chlorinated paraffin $C_{25}H_{40}Cl_{12}$, $(n\text{-}C_3H_7S)_3P$, 110; $(n\text{-}C_{18}H_{37}S)_3P$, 68; $(C_4H_9O)_3PO$, 102; $(C_4H_9S)_3PS$, 69. An introduction of 1, 2, 3, and 4 S atoms in transition from $(C_4H_9O)_3PO$ to $(C_4H_9S)_3PS$ reduced the SL, but decreased the wear with loads above SL. Particularly high SL were obtained for compounds with molecules containing P and CCl_3 groups: $(C_4H_9O)_2P(O)CCl_3$ (the SL is 2.5 times higher than for pure oil), $(CCl_3CH_2O)_3P$ (SL > 300), and tri-(trichloro-tert-butyl)-phosphite (SL > 300). At the same time these compounds reduce wear with loads above SL. [Abstracter's note: Complete translation.]

Card 2/2

BOYAROV, A.I.; KLYUMENOV, Yu.V.; NOVITSKIY, Ye.A.; OVCHARENKO, G.I.

The "Kaliber-VNI" induction profilograph and profilometer.
Stan.i instr. 26 no.12:20-24 D '55. (MIRA 9:2)
(Surfaces (Technology))

KIBYMENOV, Yu.V.

The "Kalibr-VMI" induction profilograph-profilometer. Biul.tekh.-ekon. inform. no.2:26-29 '58. (MIRA 11:4)
(Electronic instruments)
(Surfaces (Technology)--Measurement)

KLEYMENOV, Yu. V.

PHASE I BOOK EXPLOITATION SOV/5606

Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po tekhnologii mashinostroyeniya. Seminar po kachestvu poverkhnosti

Kachestvo poverkhnosti detaley mashin, chast' 3. Tekhnologicheskiye faktory obrabotki. Metrologiya i priборы. Ekspluatatsionnyye svoystva poverkhnostnogo sloya (Surface Quality of Machine Parts. Collection of Articles, No. 3. Processing Factors in Machining. Metrology and Instruments. Operational Properties of the Surface Layer) Moscow, Izd-vo AN SSSR, 1959. 221 p. (Series: Its: Trudy) Errata slip inserted. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.

Resp. Ed.: P.Ye. D'yachenko, Professor; Ed. of Publishing House: G.B. Gerchikov; Tech. Ed.: T.P. Polunova.

PURPOSE: This collection of articles is intended for technical personnel concerned with the quality of surface finishes of machine parts.

COVERAGE: This collection of articles deals with problems of surface roughness and the effect of surface roughness on the wear and strength of machine parts. Among the topics discussed are the development of international standards for surface roughness, the effect of cutting fluids and cutting-tool vibration on the surface roughness of machined parts, the effect of lay direction on the wear of plane friction surfaces, methods and instruments for measuring surface roughness, and the processing of profilograms of finished surfaces. No personalities are mentioned. References follow several of the articles.

S/121/60/000/010/013/015
A004/A001

AUTHORS: Kleymenov, Yu. V., Devyatykh, A. S.

TITLE: Inside Calipers With a Graduation Scale of 0.001 mm

PERIODICAL: Stanki i Instrument, 1960 No. 10, p. 39

TEXT: In 1960 the "Kalibr" Plant developed a new inside calipers design for dimensions in the range of 3 - 18 mm with a graduation scale of 0.001 mm. This instrument will be produced in series from 1961 on. The mechanism of the calipers in combination with the reading facilities of the indicator-type represent a wedge-shaped transmission. The MOM lever-gear head of the Leningradskiy instrumental'nyy zavod (Leningrad Instrument Plant) is used as indicating device. The new calipers measure inside dimensions by the comparison method. A set of calibration rings with an interval of 0.1 mm is used to show the deviation of the reading device when checking the dimensions of the workpiece. The measurement is effected with the aid of two balls which are placed in the seats of the measuring insertion piece. The ball displacement is transmitted to the needle-shaped wedge and further to the reading device. The inside calipers are fitted with a prop in order to facilitate the measurement of apertures the axes of which are perpendi

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dicular to the measuring surface. The reading device of the inside calipers is fastened by a chuck ring and nut. In order to prevent a displacement of the calipers from the aperture axis by more than 0.01 mm, two centering balls are located in the same plane with the measuring balls at an angle of 90° to the measuring line. The technical specifications of the new inside calipers are given in the following table:

S/121/60/000/010/013/015
A004/A001

Inside Calipers With A Graduation Scale of 0.001 mm

Measuring range of one inside caliper	Number of interchangeable inserts	Measuring range of inserts in mm	Maximum measuring depth in mm	Permissible reading errors of calipers with reading device in mm, not exceeding	Reading errors caused by inaccurate centration in mm, not exceeding	Reading variations
3-6	5	3 -3.3 3.3-3.7 3.7-4.3 4.3-5.1 5.1- 6	20	± 0.002	0.001	0.001
6-10	3	6 - 7 7 -8.3 8.3-10	30	± 0.002	0.001	0.001
10-18	3	10-12 12-14.5 14.5-18	50	± 0.0025	0.002	0.001

There is one figure and 1 table.

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KLEYMENOV, Yu.V.; FREYDOKIN, N.I.

Examiner graduated to 1 second. Stan.i instr. 31 no.10:39-40 O '60. (MIRA 13:10)

(Level (Tools)--Testing)

BOYAROV, A.I.; VYATICH, L.A.; KLEYMENOV, Yu.V.; OVCHARENKO, G.I.

New recording profilometer. Stan.i instr. 32 no.2:16-19 F '61. (MIRA 14:2)

(Surfaces (Technology)—Measurement)

KLEYMENOV, Yu.V.

Unit-type profilograph-profilometer. Trudy Sem.po kach.poverkh. no.5:225-232 '61. (MIRA 15:10)

KLEYMENOVA, B.M.

SHUYKIN, N.I.; TIMOFEYEVA, Ye.A.; KLEYMENOVA, B.M.

Dehydrogenation of n-pentane in the presence of an alumochromopotassium catalyst. Izv.AN SSSR.Otd.khim.nauk. no.7:875-877 Jl '57. (MIRA 10:10)

1.Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Dehydrogenation) (Pentane) (Catalysts)

SOV/96-59-3-12/21

AUTHORS: Zikeyev, T.A., Candidate of Technical Sciences and Kleymenova, I.I., Engineer

TITLE: Characteristics of Oxidised Coals From Open-Cast Workings of the Kuznetsk Basin (Kharakteristika okislennykh ugley, dobyvayemykh na razrezakh Kuznetskogo basseyna)

PERIODICAL: Teploenergetika, 1959, Nr 3, pp 55-61 (USSR)

ABSTRACT: Coals mined in the Kuznetsk basin are of high quality. Shallow open-cast deposits in the Kuzbass have undergone considerable oxidation and are of appreciably lower quality than the mined coals and approximate to poor-quality lignite. They have over 40% water content and a calorific value of 6,000 kcal/kg or less. Because of their poor quality they will be primarily used in large pulverised-fuel power stations. As these fuels have hitherto been inadequately studied, the necessary work was undertaken in the All-Union Thermo-Technical Institute. Fuel from ten of the largest open-case workings in the Kuzbass were studied. The method of sampling is described. The degree of oxidation of the

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SOV/96-59-3-12/21

Characteristics of Oxidised Coals from Open-Cast Workings of the Kuznetsk Basin

coals was assessed in terms of the hygroscopic moisture content; the method of determination is referred to. Variations in the properties of coals according to the depth in the workings from which they are obtained are plotted in Fig.1. Characteristics of one of the coals as function of the hygroscopic water content are given in Fig.2. As individual consumers may receive coal from a number of different workings, it was of interest to see whether the calorific value could be expressed in terms of the hygroscopic moisture content for a number of different coals and this possibility is demonstrated by the results plotted in Fig.3. Graphs of carbon, hydrogen and oxygen contents, again as functions of calorific value for different coals, are plotted in figures 4, 5 and 6. Like the other properties, the volatiles content varies regularly with the degree of oxidation of the coal, as will be seen from Fig.7. Further curves in Fig.8 indicate that the calorific value of the volatiles drops from 10,000 kcal/kg for unoxidised coals to 3,000 kcal/kg for intensively

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Characteristics of Oxidised Coals from Open-Cast Workings of the Kuznetsk Basin

oxidised coals. As many of the samples were taken from fuel stacks in which the moisture content might not be typical, a special study was made of the operating moisture content of the coals. The relationship between the maximum moisture content and the hygroscopic water content is plotted in Fig.11 for a number of coals. Information is given about the chemical composition and melting points of the ashes from these coals. Finally, the principal properties of the coals from the different open-cast workings are tabulated. In conclusion, the Kuzbass open-case coals are commended as very promising fuels for power stations because of their cheapness. The properties of the oxidised coals in the surface layers are very different from those of the deeper-mined coals. There is considerable difference between the properties of coals obtained from different open-cast workings. Accordingly it is difficult to obtain average

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SOV/96-59-3-12/21

Characteristics of Oxidised Coals from Open-Cast Workings of the Kuznetsk Basin

coal characteristics: nevertheless, typical figures are offered for the more important characteristics. There are 11 figures, 1 table and 2 Soviet references.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut (All-Union Thermo-Technical Institute)

Card 4/4

TRET'YAKOV, V.M.; KLEYMENOVA, I.I.; DVORETSKIY, A.I., kand. tekhn. nauk, red.; SAVEL'YEV, V.I., red.; VORONIN, K.P., tekhn. red.

[Automatic device for collecting average samples of fuel gas] Avtomaticheskii sbornik srednikh prob goriuchego gaza. Moskva, Gosenergoizdat, 1960. 45 p. (MIRA 15:12)
(Gas as fuel)

KSENZOV, D.G.; KLEYMENOVA, I.I.

Acute cholecystitis in children. Pediatriia no.8:18-21 '62. (MIRA 15:10)

1. Iz khirurgicheskogo otdeleniya (zav. M.P.Senatova) Klinicheskoy detskoy bol'nitsy No. 9 imeni F.E.Dzerzhinskogo (glavnyy vrach A.N.Kudryashova), Moskva.
(GALL BLADDER—DISEASES)

FEDOROVA, Ye.P., redaktor; KLEYMENOVA, K.F., redaktor; POLOSINA, A.S., tekhnicheskiy redaktor.

[Application of the rapid cutting of metals in large feeds; methods of the fast turners V.Kolesov and B.Umanov] Primenenie skorostnogo resaniia metallov pri bol'shikh podachakh. Metody tokarei-skorostnikov V.Kolesova i B.Umanova. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1954. 26 p. (MLRA 7:8)

1. Russia (1923- U.S.S.R.) Ministerstvo neftyanoy promyshlennosti.
(Metal cutting)

FEFER, A.S.; SOKOLOV, G.D.; KLEYMENOVA, K.F., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor.

[Argillite as a new type of raw material for the building materials industry] Argillity - novoe syr'e dlia proizvodstva stroitel'nykh materialov. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1954. 69 p. (MLRA 8:1)
(Building materials industry) (Clay)