"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

transformation curve. According to A. N. Alfimov (Ref 7), the formation of martensite during cooling takes place in pulses and, therefore, the author of this paper attempted to study the kinetics of such a pulse, for which purpose he used a modified version of a "Veloferrometer", described by Alfimov, a sketch of which is shown in Fig.8. In Fig.9 an oscillogram is reproduced of the martensitic transformation during cooling (recording speed 500 mm/sec); it can be seen by a comparison of this oscillogram with those reproduced in Figs. 5 and 6 that the processes of formation of martensite during deformation and during cooling are similar. According to some authors (Refs.10 and 11), under certain conditions of cooling, a large quantity of martensite will form simultaneously, i.e. there will be "a martensitic explosion". In Fig.12, the recording of such an "explosion" produced by means of an anisometer is reproduced; the martensitic transformation begins at 0°C, i.e. 30°C below the martensitic point of the given heat. The following conclusions are arrived at: The process of martensite formation resulting from deformation, as well as resulting from drop in the temperature,

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Micro-kinetics of Martensite Transformation SOV/126-6-3-16/32

consists of individual successive pulses and during one such pulse (lasting about 1/100th of a second) a large quantity of martensitic crystals form; the quantity of martensite which forms during one pulse can be expressed by a curve, the shape of which is that of the ordinary kinetic phase transformation curve; no transformation takes place between individual pulses irrespective of increase in the stress or drop in the temperature; the "explosion", i.e. formation during a short time of a large quantity of martensite, is observed in cases in which the time interval between individual pulses is rapidly reduced whatever the reason (this phenomenon occurs only in the case of martensitic transformation during cooling); the formation of each martensitic crystal, irrespective of whether this is due to deformation or decrease in the temperature, is linked with the formation of a micro-shift; if martensite is formed during stretching, the effect of elementary shifts are arranged in such a way that a macro-shift occurs, whilst in the case of cooling the orientation of the elementary shifts differ so that the resultant macro-deformation is zero; the braking of the martensitic

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

Micro-kinetics of Martensite Transformation SOV/126-6-3-16/32

reaction of the micro-process is attributed to local increases in temperature and a reduction in the stresses during the formation of a certain quantity of martensite. The here described work was carried out under the leadership of Professor A. P. Gulyayev.
There are 13 figures and 13 references, 9 of which are Soviet, 3 English, 1 German.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Engineering)

SUBMITTED: January 4, 1957

1. Martensite--Transformation 2. Martensite--Mechanical properties
3. Steel--Phase studies 4. Magnetometers--Applications

Card 5/5

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SOV/126-6-5-16/43

AUTHORS: Arskiy, V.N., and Gulyayev, A.P.

TITLE: Kinetics of the Formation of Deformation Martensite (Kinetika obrazovaniya martensita deformatsii)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 866 - 873 (USSR)

ABSTRACT: A distinction is made between deformation martensite and quench martensite. The aim of the present work was to investigate the kinetics of the formation of deformation martensite, as well as to compare the process of deformation martensite-formation with that of martensite formation on cooling. The investigation was carried out using nickel steels made in the laboratory, the composition of which is given in Table 1. Besides the elements indicated, the ingots contained approximately 0.25% Si, 0.20% Mn, 0.02% P and 0.02% S. For the study of martensite formation during deformation, the ingots of the investigated steels were forged into rods of 12 mm dia from which tensile test specimens and specimens for the study of the martensitic transformation during cooling were made. Specimens were quenched from 1 220 °C, heating being carried out in

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SOV/126-6-5-16/43

Kinetics of the Formation of Deformation Martensite

vacuum. For the study of the formation of deformation martensite, the quenched specimens were pulled in the tensile testing machine IM-12-A. As the specimen was pulled in tension, the quantity of martensite forming was measured at the same time as measurements were carried out of deformation forces by means of a specially constructed magnetometer. The principle of the layout of the apparatus is shown in Figure 1, where 1 - primary-, 2 - measuring-, 3 - compensating coils, 4 - the specimen, 6 - the rectifier. In Figure 2, extension curves and martensite curves for all the investigated steels are shown. The normal martensite curves for the same steels, i.e. curves for martensite obtained on cooling, are shown in Figure 4. Figure 5 shows martensite curves for steel 95N19 as obtained by deformation at various deformation speeds. Martensite curves for conditions under which martensite forms under constant loading ("isobar martensite curves") are shown in Figure 6. The results obtained from the curves of Figures 2 and 4 are given in Table 2. It is shown that externally applied forces cause martensite transformation which can be represented in the form of martensite

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Kinetics of the Formation of Deformation Martensite

curves (see Figures 2 and 5). The lowering in temperature for development of the martensitic transformation is analogous to increase of the externally applied force. The influence of the rate of loading and the magnitude of the constant load for the formation of deformation martensite are shown, the latter being analogous to the influence of the cooling rate and to the temperature of isothermal soaking at which quench martensite forms. The influence of the position of the M_s point and other indicators of the development of the transformation of austenite into martensite during deformation is shown. When the deformation is carried out below the M_s point, i.e. when the specimen already contains a certain quantity of quench martensite, external forces do not lead to a full transformation of austenite into martensite owing to the low plasticity of the specimen. If the load is applied at the M_s temperature, the stresses lead eventually to a complete austenite-martensite reaction. This is due to the austenite above the M_s point being less prone to becoming

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

transformed into martensite under the influence of deformation and the higher the deformation temperature in relation to the M_s point the lower the tendency for deformation martensite to form. Thus, the maximum quantity of deformation martensite forms when the deformation temperature coincides with the M_s point. Identical influences of lowering the temperature (below the M_s point) and of increase in force (above σ_M) show that a lowering in temperature causes stresses which lead to martensite formation. Approximate calculations show that in the investigated steels an increase in stress above the yield point by 2 kg/mm^2 causes the formation of approximately 1% martensite. The same quantity of martensite forms when the temperature is lowered by 1 °C. It appears that a lowering of temperature by 1 °C under the experimental conditions described causes a stress of approximately 2 kg/mm^2.

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SOV/126-6-5-16/43

Kinetics of the Formation of Deformation Martensite

There are 6 figures, 2 tables and 5 references, 4 of which are Soviet and 1 German.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Construction of Machines)

SUBMITTED: January 31, 1957

Card 5/5

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSKIY, V. N., CAND TECH SCI, "MARTENSITE TRANSFORMATION IN STEEL." MOSCOW, 1961. (STATE COM OF THE COUNCIL OF MINISTERS USSR FOR AUTOMATION AND MACHINE BUILDING. ~~TsNI~~ (CENTRAL SCI RES INST) OF TECHNOLOGY AND MACHINE BUILDING "TsNIITMASH." ONTI ~~[illegible]~~). (KL-DV, 11-61, 217).

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

S/081/62/000/010/025/085
B138/B101

AUTHORS: Vinogradov, V. A., Arskiy, Yu. M., Mikhaylova, A. F.

TITLE: Geochemistry of the rare earths in North Verkhoyansk region

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 102, abstract 10G13 (Inform. byul. In-ta geol. Arktiki, no. 22, 1960, 21-29)

TEXT: The article gives the results of mineralogical and rough spectral analyses of more than 300 slimes and metallometric samples from current flocculent deposits in North Verkhoyansk region. It was established that La, Ce and Y occur in the sedimentary rocks of the upper Paleozoic, predominantly the Tiksi series, in the form of fine sandy aggregates of the heavy fraction. In the friable deposits they exist in the composition of the electromagnetic fraction of the slime, to the amount of 5 - 10 % in brecciated argillites and silt stones. The usual concentration of La and Ce in rare earth aggregates is 10 %, and that of Y 0.3 - 1 %. It is suggested that the dominant process in the concentration of rare earth elements was their adsorption by pelite particles during the late Paleozoic sedimentation. [Abstractor's note: Complete translation.]

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"Results of Research on the Kinetic of Oxydation of Molybdenum and Tungsten and on the Nature of the Oxydes that Appear", a report presented at the 6th Conference on Chemical Physics, Paris, 1956.

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLAMBEKOV, V.A., Cand Chem Sci -- (diss) "Study of the kinetics of ~~mechanisms of~~ the oxidation processes ~~of~~ tungsten and molybdenum". Mos, 1957. 11 pp 22 cm. (Acad Sci USSR. Inst of Phys Chemistry). 100 copies . (KL, 23-57, 108).

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APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

76-1-25/32

AUTHOR: Arslambekov, V. A.

TITLE: On the Question of Kinetics of the Interaction Between Gases and Metallic Surfaces (K voprosu o kinetike vzaimodeystviya gazov s poverkhnost'yu metallov)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp.170-177 (USSR)

ABSTRACT: Here, the attempt is made to investigate the question of interaction between gases and metals on the surface, from the viewpoint of molecular-kinetics. Hereby, the possibility of a renewal of "active centres" at the expense of a displacement of the reacting components in the forming phase is considered. The investigation of a direct interaction between the metallic surface and the gas was carried out under the following assumptions: A gaseous molecule enters into interaction-reaction with an active centre. The active centre here denotes a surface-atom of the metal or a group of these which are capable to react simultaneously with a gaseous molecule. Every impact of a gaseous molecule on an active centre may be characterized by an effective cross section σ, determined by the surface occupied by the active centre and by the molecule of the reacting gas. Here, kinetic equations are derived for processes at increased temperature and low pressures, as well as for the primary

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

On the Question of Kinetics of the Interaction Between Gases and Metallic Surfaces 76-1-26/32

stage of the surface-interaction between gas and metal. The last equation permits at the application to processes limited by a boundary to evaluate the activation energy according to the data for one temperature. By the aid of the manometer-method the molybdenum-oxidation-process was investigated at 20 and 76°C by means of condensation of the metallic vapor in the vacuum. It is shown that the kinetic data about the molybdenum-oxidation apply to the equations derived for this case. The velocity constants were determined for the primary stage. On the base of those the values for the activation energy were evaluated: E ≈ 8,7 kcal/Mol at 20°C and E ≈ 12,5 kcal/Mol at 76°C. On the basis or on the assumption respectively, that the interaction between the gaseous molecules and the surface atoms of the crystal lattice itself and those situated somewhat lower, being approachable, however, to a direct interaction, shows a different character, here the differences occurring in the values of the activation energies during the processes carried out on different conditions (conditions and oxygen pressure) were investigated. There are 1 figures, and 6 references, 1 of which is Slavic.

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APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

On the Question of Kinetics of the Interaction Between Gases and Metallic Surfaces 76-1-26/32

ASSOCIATION: AN USSR. Institute of Physical Chemistry, Moscow (Akademiya nauk SSSR. Institut fizicheskoy khimii, Moskva)

SUBMITTED: November 29, 1956

AVAILABLE: Library of Congress

Card 3/3

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

20-119-2-29/60

AUTHORS: Arslambekov, V. A., Gorbunova, K. M.

TITLE: The Kinetics of the Processes of Formation of Oxide Films on Tungsten and Molybdenum (K kinetike obrazovaniya okisnykh plenok na vol'frame i molibdene)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 2, pp. 294 - 297 (USSR)

ABSTRACT: The results obtained are also of interest for the interpretation of the data of the kinetics of the oxidation of arbitrary metals. The apparatus used here made possible continuous observations of the growth of the oxide films within a wide interval of the oxygen pressures and within a wide temperature range by means of the weight method. Especially constructed vacuum micro-balances were used. The results of the measurement of weight were also recorded by means of an electronic circuit and by an automatically registering galvanometer. The sample suspended by a platinum wire was heated in a tubular furnace. With rising temperature the amount of the oxygen reacting with tungsten and molybdenum increases considerably and in this the velocity of the growth of the

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

20-119-2-29/60

The Kinetics of the Processes of Formation of Oxide Films on Tungsten and Molybdenum

oxide film increases noticeably. At temperatures of above 300°C the growth of the oxide films on tungsten and molybdenum is described sufficiently by an equation of the parabolic type:

$$x^2 = kt + C.$$

The value of the constant k of the oxidation velocity of oxide films of considerable thickness depends only little on the amount of the original (specific) surface. With polished samples C was almost equal to zero and with reduced samples the value C was almost equal to that amount of oxygen which was necessary for the preceeding laying-on of the oxide film. A diagram shows the temperature dependence of the constants of oxidation of tungsten and molybdenum in the case of different kinds of surface pretreatment. The values of the activation energy are compiled in a table. The difference of the activation energies of electrolytically polished and ground tungsten samples is probably caused by the fact that the surface layer becomes deformed to a great extent

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

20-119-2-29/60

The Kinetics of the Processes of Formation of Oxide Films on Tungsten and Molybdenum

in grinding, and that remanent stresses occur. But in the samples electrolytically polished afterwards the surface under stress is removed. At temperatures of below 360°C the course of the curve lg k - 1/T changes with tungsten and molybdenum. Within this temperature range the process takes place only with half the activation energy as at higher energies. The constants of the reaction velocity to a great extent depend on the thickness of the oxide film; it shows its greatest value in the case of small film thickness and decreases by several orders of magnitude with growing thickness of film. Such a dependence can obviously be explained by the fact that the increase of the null scale (okalina) is determined by the diffusion of the component through the oxide film.

There are 4 figures, 1 table and 1 reference.

Card 3/4

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

20-119-2-29/60

The Kinetics of the Processes of Formation of Oxide Films on Tungsten and Molybdenum

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute for Physical Chemistry, AS USSR)

PRESENTED: October 4, 1957, by P. A. Rebinder, Member, Academy of Sciences, USSR

SUBMITTED: Library of Congress

Card 4/4

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L 17924-63 EWT(m)/BDS AFFTC/ASD/ESD-3/IJP(C)
Pg-4 AT/JD

ACCESSION NR: AT3002444 S/2935/62/000/000/0093/0100

AUTHOR: Smirnov, G. V.; Polukarov, Yu. M.; Arslanbekov, V. A.

TITLE: Effect of electrochemical treatment upon the rate of surface recombination of germanium in various gas media [Report at the Conference on Surface Properties of Semiconductors, Institute of Electrochemistry, AN SSSR, Moscow, 5-6 June 1961]

SOURCE: Poverkhnostnyye svoystva poluprovodnikov. Moscow, Izd-vo AN SSSR, 1962, 93-100

TOPIC TAGS: germanium, germanium surface characteristics

ABSTRACT: Single-crystal specimens of n-Ge with a resistivity of 10 ohms.cm and a diffusion length of 1.2 mm (also with 40 ohms.cm and 2.5 mm) were ground, etched, and washed, after which surface-recombination measurements were made by the photoconductivity-drop method. The measurements were conducted under these conditions: atmospheric air, 10^{-6}- 10^{-7}-torr vacuum, heating to 120C with restoration of the vacuum, dry oxygen, and atmospheric air. Investigation by a high-sensitivity precision vacuum quartz damped balance revealed that, as a result of holding Ge in humid atmosphere, a relatively large quantity of moisture (up to 20 microgram/cm²

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ACCESSION NR: AT3002444

or 2,000-Å-thick film) can be adsorbed by Ge. It is assumed that water vapor reacts chemically with the Ge surface oxide film. Rates of surface recombination were measured as functions of these variables: vacuumizing time, potential of anode polarization in distilled water, and temperature. "The authors wish to thank Professor, Dr. of chemical sciences K. M. Gorbunova for her interest in the work, valuable hints, and advice." Orig. art. has: 4 figures.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AN SSSR)

SUBMITTED: 00 DATE ACQ: 15May63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

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APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

S/0181/64/006/001/0311/0313

ACCESSION NR: AP4011776

AUTHORS: Arslambekov, V. A.; Smirnov, G. V.

TITLE: Influence of oxide films on the electrophysical properties of silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 311-313

TOPIC TAGS: silicon, electrophysical property, oxide film, secondary current conductor, surface recombination, n type silicon, life span, silicon oxidation

ABSTRACT: The change in the electrophysical parameters of n-type silicon with specific resistivity of 10-35 Ω cm and with volumetric life length of 210-300 microsec has been studied. Specimens oxidized in the air and in humid oxygen at 700-800C exhibited a low speed of surface recombinations (often about 150-200 cm/sec). The effective life span reached a maximum after high temperature oxidation. The observed rate of surface recombinations and of the surface conductivity remained unchanged in specimens kept in the air for several months and in water for several days. Between room temperature and 200 C no change was observed under the influence of dry oxygen, in vacuum 10^{-6}-10^{-7} mm Hg, in air, and in water vapor. When samples which were oxidized in moist air and moist oxygen were heated in dry

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ACCESSION NR: AP4011776

oxygen to several hundred degrees, the rate of surface recombinations increased. Comparison of these results with data collected by the weighing method discussed by G. V. Smirnov, Yu. M. Polukarov, and V. A. Arslambekov (Sb. "Poverkhnostnyye svoystva poluprovodnikov", str. 93. Izd. AN SSSR, 1962) proves that the weight loss of specimens heated in dry oxygen is caused by the loss of water. Oxidation in oxygen and in air at 1200-1250C in many cases resulted in higher values of the effective life span than oxidation at 850-1100C. No secondary current conductors were observed on the surface of specimens in any atmospheres tested. The authors thank Professor K. M. Gorbunov for his help and discussion of this work, and P. K. Mogilevets for his assistance in conducting electronographic investigations. Orig. art. has: 1 table.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR, Moscow (Institute of Physical Chemistry, AN SSSR)

SUBMITTED: 06Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLAMBEKOV, V.A.; SMIRNOV, G.V.

Effect of oxide films on the electrophysical properties of silicon. Fiz. tver. tela 6 no.1:311-313 Ja '64. (MIRA 17:2)

1. Institut fizicheskoy khimii AN SSSR, Moskva.

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ACC NR: AP6007245 SOURCE CODE: UR/0363/66/002/002/0217/0222

AUTHOR: Arslambekov, V.A.; Smirnov, G.V. 34

ORG: Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR) 33 B

TITLE: Oxide films on silicon 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 2, 1966, 217-222

TOPIC TAGS: oxide formation, polycrystalline film, silicon, single crystal

ABSTRACT: After chemical etching of silicon in aqueous solutions there is always an oxide or hydroxide film on its surface with a thickness of tens or even hundreds of Angstrom units. Depending on the conditions of its formation, the properties of such a film can change radically with respect to thickness, structure, porosity, and degree of hydration, as well as with respect to its electrophysical properties. The structure and the degree of defectiveness of the boundary between the oxide film and the silicon can also change with a change in the conditions of formation and growth of the "natural" oxide film. The present article contains no new experimental data. It surveys previously published work in the field and draws certain theoretical conclusions. Irradiation of a

Card 1/2 UDC: 546.28'21:539.238

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ACC NR: AP6007245

single crystal of silicon in an air or oxygen atmosphere leads to a change in its weight; depending on the spectral composition of the light and the pressure, either desorption or adsorption of the gas can take place. At high pressures (up to atmospheric) a decrease in weight is usually observed. Based on data from the literature, a curve shows the influence of hydrogen fluoride on the surface recombination rate. Under the effect of gaseous hydrogen fluoride, the surface recombination rate declines sharply to 100-200 cm/sec. In a vacuum, it decreases to 50 cm/sec, which is about 50 times less than the rate in vacuum before the interaction with hydrogen fluoride. A second curve illustrates the dissipation of heat from a point source during the growth of the oxide film. According to data previously published by the authors, the growth of the film is described over a wide range of temperatures and oxygen pressures by the following empirical expression:

$$X^2 = 1{,}1 \cdot 10^6 \cdot p^{1{,}5 \pm 0{,}2} \cdot e^{-(10000 \pm 1000)/RT} \cdot t$$

where X is the thickness of the oxide film in Angstrom units, p is the oxygen pressure in mm Hg, and t is the time in minutes. "The authors express their deep thanks to Professor K.M. Gorbunov for his constant interest in the work, his valuable advice, and his critical review of the manuscript." Orig. art. has: 3 figures.

SUB CODE: 07,11,24/ SUBM DATE: 25Jul65/ ORIG REF: 008/ OTH REF: 005

Card 2/2

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SIMIC, Doc. d-r. ARSLANAGIC, M., d-r.

Case of confirmed psittacosis. Med. arh., Sarajevo 11 no.3:11-16 May-June '57.

1. II Interna klinika Med. fakultata u Sarajevu.
(ORNITHOSIS, case report
(Ser))

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, G.

Preserving the quality of petroleum products in storage and transportation operations. Neftianik 6 no.3:9-10 Mr '61. (MIRA 14:10)

1. Nachal'nik otdela resursov i kachestva Glavneftesnaba RSFSR.
(Petroleum products)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SOV/120-58-2-3/37

AUTHORS: Protopopov, Kh. V., Arslanov, Kh. A., Butoso, S. V. and Timofeyeva, T. V.

TITLE: New Liquid Scintillators (Novyye zhidkiye stsintillyatory)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 24-28 (USSR)

ABSTRACT: Methyl anthranilate scintillators having a high efficiency and which can be used at low temperatures have been studied by the present authors and results of experiments with these scintillators are now reported. The scintillator efficiency was found to increase considerably when naphtalene was introduced into a toluene solution of methyl anthranilate. The change in the efficiency of scintillators on removal of oxygen was found to depend on whether naphtalene was present or not. Particularly noticeable is the increase in the efficiency of terphenyl scintillators containing naphtalene when oxygen is removed from them by means of CO_2. Equally interesting is the increase in the efficiency when small quantities of methanol are added. The effect of the removal of oxygen is illustrated by the following example. After the removal of oxygen a solution of 2.5 g/l of methyl anthranilate containing 3% of methynol, 15% of naphtalene, and 82% of toluene had an efficiency greater by a factor of 1.26

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SOV/1[illegible]-58-8-3/57

New Liquid Scintillators.

compared with a 5 g/l solution of terphenyl in toluene. The characteristics of the various other liquids tried are shown in 4 figures and 1 table. I. Ye. Starik and A.N. Pisarevskiy are thanked for their help. There are 7 references of which 5 are English and 2 are Soviet.

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: February 28, 1957.

Card 2/2 1. Phosphors--Properties

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

S/186/60/002/002/022/022
E071/E433

AUTHORS: Starik, I.Ye., Arslanov, Kh.A. and Zharkov, A.P.

TITLE: A scintillation technique of counting natural radioactive carbon ^{14} and its application for the determination of absolute age

PERIODICAL: Radiokhimiya, 1960, Vol.2, No.2, pp.259-260

TEXT: The scintillation technique is little used for the determination of age probably due to the complexity of the chemical preparation of specimens. The authors developed a method of counting natural radioactive carbon in the form of ethylbenzene or benzene. The scheme of preparation of specimens is as follows:

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A scintillation technique ... S/186/60/002/002/021/022
E071/E433

A complete method of chemical treatment will be described later. The measurement of specific activities of ethylbenzene and benzene was carried out using a coincidence technique. The method has been used for one year for dating geological specimens and due to its high efficiency can be used for other soft β radiations. There are 1 table and 2 references: 1 Soviet and 1 non-Soviet.

SUBMITTED: January 12, 1960

Card 2/2

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

STARIK, I. Ye.; ARSLANOV, Kh. A.; ZHARKOV, A.P.

Scintillation technique of counting natural radiocarbon and its application to the determination of absolute age. Radiokhimiia 2 no.6:259-260 '60. (MIRA 14:4)

(Radiocarbon dating)
(Carbon--Isotopes)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

S/186/61/003/001/018/020
A051/A129

AUTHORS: Starik, I.Ye., Shamov, V.P., Arslanov, Kh.A., Zharkov, A.P., Murashov, G.M.

TITLE: Scintillation technique of counting natural radio-carbon and its application to the determination of the absolute age

PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 101-113

TEXT: The present article deals with a method developed by the authors for liquid-scintillation counting of natural radio-carbon, intended for determining the absolute age. The following scheme was used for the chemical preparation of the sample:

$$\begin{array}{l} \text{carbonate samples} + HCl \searrow \\ \qquad\qquad\qquad\qquad\qquad CO_2 \xrightarrow{+NH_4OH} (NH_4)_2CO_3 \\ \text{organic samples} + O_2 \nearrow \end{array}$$

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$$(NH_4)_2CO_3 + Sr(NO_3)_2 \longrightarrow SrCO_3 \xrightarrow{+\,Mg} SrC_2$$

$$SrC_2 + H_2O \longrightarrow C_2H_2$$

$$3C_2H_2 \xrightarrow[25\ atm.,\ 65^\circ C]{Ni(CO)_2\left[P(C_6H_5)_3\right]_2} C_6H_6$$

$$C_2H_2 + C_6H_6 \xrightarrow[65^\circ]{Al,\ AlCl_3,\ HCl} C_6H_5C_2H_5$$

A coincidence scintillation counter was designed for counting C^{14}, and benzene and ethylbenzene were used as the liquid scintillator solvents, synthesized according to the above-given scheme. Combined with a highly-effective counter these can be used to determine the absolute age up to 37,000 years in the case of ethylbenzene, and 48,000 years in the case of benzene. In selecting a scintillation counting method the authors base their attempts on finding a substance which is easily prepared and does not require large

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amounts of carbon, so that the advantages of both the proportionate and scintillation methods could be combined. Ethylbenzene and benzene chosen by the authors as the carriers of the natural carbon activity are said to render the scintillation method applicable to young samples and in the case of old ones increase the sensitivity of the method. Ethylbenzene is recommended from the following considerations: 1) 22.3% from the sample can be introduced into the ethylbenzene molecule; 2) the ethylbenzene molecule itself is an excellent solvent of liquid scintillators, being inferior only to the very best solvents, such as toluene, xylene; 3) its preparation and purification are simple and do not require complex apparatus or reagents difficult to obtain; 4) for its synthesis a relatively low amount of carbon, 8-15 g, is required. The apparatus used by the authors to count natural C^{14} is described: the photomultipliers function at room temperature, the complete amplification of the amplifier is 400. The counting rate of the noise pulses at an effectiveness of the count of natural C^{14} equalling 60-65% is 0.5 pulses/min. An upper level discriminator is used to lower the counting rate of the background determined by the cosmic and external radiations in the given apparatus. Fig 1 is a block-diagram of the described

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apparatus and Fig 2 shows the principal circuit of coincidences. The tubes of the apparatus are fed by stabilized sources of anode and incandescent voltage, and the photomultipliers by a BC-9(VS-9)-type high-voltage source. The positive pulses from the exits of two non-overloaded amplifiers are fed to the inputs of the diode low-level discriminators (λ_2, λ_9, in Fig 2). The limiting (λ_1, λ_8) diodes are used for eliminating the negative pulse outputs fed to the low-level discriminator inputs. The selected photomultiplier should satisfy the following requirements: 1) a high sensitivity of the photocathode, 2) a high total sensitivity, 3) a low noise level, 4) stability over long periods of service, 5) a good temporary resolving power. The adjustment of the counter for the C^{14} spectrum is carried out according to the γ-line of Cs^{137}. The discriminators of the lower level are installed so that the number of the noise pulses at the output of the circuit of coincidences would be equal to 0.5-1 pulses/min. The sample is counted in a 15.5 cm^3-volume cuvette made of optic quartzite. The preparation of ethylbenzene and benzene from the carbon of the investigated material involves the following chemical steps: 1) formation of CO_2 from the sample, 2) production of strontium carbonate from CO_2 of the sample, 3) reduction of the

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strontium carbonate to strontium carbide, 4) decomposition of strontium carbide, separation of acetylene from hydrogen and purification of acetylene, 5) synthesis of ethylbenzene from acetylene, 6) purification of ethylbenzene and benzene. The samples to be measured are carbonates or organic substances (coal, wood, peat, etc.). In both cases the carbon of the sample is separated out in the form of CO_2. The formation of CO_2 from the carbonate samples is performed by the decomposition of the sample with hydrochloric acid. If the investigated sample is an organic material, the formation of CO_2 is carried out by heating the sample in an oxygen flow. The single synthesis of large amounts of acetylene (up to 30 l) is carried out according to the Suess method (Ref 4), the main advantage of which is said to be the almost quantitative yield of acetylene (95%). The synthesis of ethylbenzene is carried out according to the method of hydroalkylation of benzene with acetylene in the presence of metallic Al, $AlCl_3$ and hydrogen chloride (Ref 16). The authors conducted a complete synthesis of benzene from the investigated material according to Reppe's method (Ref 13). The catalyst for the synthesis of benzene by the given method is a compound of a mixed type having both an organic as well as an inorganic nature: $Ni(CO)_2[P(C_6H_5)_3]_2$.

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The latter is produced by the interaction of nickel tetracarbonyl on an ether solution of triphenyl-phosphine at the boiling point of ether. Results of determinations of the absolute age of four samples are listed. A comparison of various methods is made. There are 2 tables, 6 diagrams and 21 references: 4 Soviet-bloc, 17 non-Soviet-bloc.

Figure 2: Principal circuit of coincidences
(1) - input
(2) - output
(3) - resistance
(4) - v(volt)
(5) - discriminator input of the upper level
(for Fig. 2 see card 8/8)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

STARIK, I.Ye; ARSLANOV, Kh.A.

Radiocarbon estimation of the age of certain Quaternary specimens. Dokl.AN SSSR 138 no.1:102-105 My-Je '61. (MIRA 14:4)

1. Chlen-korrespondent AN SSSR (for Starik).
(Radiocarbon dating) (Geology, Stratigraphic--Quaternary)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

STARIK, I.Ye.; ARSLANOV, Kh.A.

New data on the age of some radiocarbon dated Quaternary sediments in the European part of the U.S.S.R. Biul.Kom.po opr.abs.vozr. geol.form. no.5:43-47 '62. (MIRA 15:11)
(Radiocarbon dating)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

STARIK, I.Ye.; ARSLANOV, Kh.A.; KLEMER, I.R.

Improved techniques for the chemical preparation of samples for radiocarbon dating by the scintillation method. Radiokhimiia 5 no.2:198-205 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

STARIK, I.Ye.[deceased]; ARSLANOV, Kh.A.; MALAKHOVSKIY, D.B.

Age of the Mga interglacial marine formations according to radiocarbon dating. Dokl. AN SSSR 157 no.6:1369-1379 Ag '64. (MIRA 17:9)

1. Chlen-korrespondent AN SSSR (for Starik).

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV M.D.

Evaluation of special footwear for fishermen from the point of view of hygiene. Gig.i san. no.5:37-42 My '53. (MLRA 6:5)

1. Institut gigiyeny truda i professional'nykh zabolevaniy akademii meditsinskikh nauk SSSR. 2. Krasnoyarskaya rayonnaya bol'nitsa Astrakhanskoy oblasti. (Clothing, Protective) (Fishermen)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.D.

6094. ARSLANOFF M.D. Med. Inst., Astrakhan. *Oscillographic examination of arteries in the diagnosis of endarteritis obliterans (Russian text) SOVETSK. MED. 1956, 5 (58-61) Graphs 2 Tables 3

The decrease of the oscillographic index is proportional to the degree of the vascular lesions and the clinical state of the patient. Atherosclerotic lesions are characterized by the decrease of oscillographic index in the lower extremities simultaneously with an increased pulsation and a rise of blood pressure in the brachial arteries. The hyperpulsation of the femoral arteries and failing oscillations of the tibial arteries may be found in the presence of an inflammatory-allergic type of the disease. Cibiński - Bytom

Iz khirurgicheskogo otdeleniya (zav. - M. D. Arslanov) Krasnoyarskoy rayonnoy bol'nitsy, kafedry obshchey khirurgii (zav - prof. V. N. Shubin) i kafedry fakul'tetskoy khirurgii (zav. - prof. KH. F. Kaplan)Akstrakhanskogo meditsinskogo Instituta.

(ENDARTERITIS OBLITERANS, diagnosis, oscillography(Rus))

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.D., kand.med.nauk

Material on the surgical treatment of exophthalmic goiter.
Zdrav.Kazakh. 17 no.7:26-30 '57. (MIRA 12:6)

1. Iz kliniki fakul'tetskoy khirurgii Semipalatinskogo gosudarstvennogo meditsinskogo instituta.
(GRAVES' DISEASE) (THYROID GLAND--SURGERY)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.D., kand.med.nauk (Semipalatinsk, ul. Abaya, d.35-a, kv.3)

Endarteritis obliterans in workers of fish industry and its prevention [with summary in English]. Vest.khir. 79 no.12:70-73 D '57. (MIRA 11:1)

1. Iz khirurgicheskogo otdeleniya (zav. - M.D.Arslanov) Krasnoyarskoy rayonnoy bol'nitsy, kafedry obshchey khirurgii (zav. - prof. V.N. Shubin) i kafedry fakul'tetskoy khirurgii (zav. - prof. Kh.F.Kaplan) Astrakhanskogo meditsinskogo instituta.

(THROMBOANGIITIS OBLITERANS, prev. and control prev. in workers of fish indust.)
(INDUSTRIAL HYGIENE, prev. of thromboangiitis obliterans in workers of fish indust.)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

EXCERPTA MEDICA Sec 6 Vol 13/2 Internal Med. Sep 59

4312. THE IMPORTANCE OF CAPILLAROSCOPY AND SKIN THERMOMETRY IN THE DIAGNOSIS OF THE EARLY STAGES OF OBLITERATING ENDARTERITIS (Russian text) - Arslanov M.D. - ZDRAVOOKHR. KAZ. 1958, 18/1 (64-67)

Examinations in 272 patients suffering from endarteritis obliterans, and in 30 healthy individuals, showed that in the early stage of this disease a spasm of the capillaries is usually present: both the arterial and venous legs of the capillary loops are equally shortened and lengthened in the affected extremities, and the circulation in the capillaries is slowed. In the second, ischaemic stage of endarteritis obliterans the arterial leg of the capillary loop remains generally shortened, while the venous leg becomes markedly extended; the form of the capillary loops changes considerably in this stage, and the number of capillaries decreases. In the advanced, gangrenous stage of endarteritis obliterans both legs of the capillary loop have become extended; stasis and reversal of the circulation are frequent. Already in the early stage of endarteritis obliterans, skin thermometry shows a drop in temperature in the diseased extremities as well as thermo-asymmetries, i.e. lateral differences in skin temperature. With respect to other early symptoms of endarteritis obliterans, capillaroscopy and skin thermometry present valuable methods of examination, which can lead to early recognition of the disease.

Meyer - Marburg (XVIII, 8, 9)

Semipalatinsk State Medical Inst.

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.D., kand.med.nauk

Problem of obliterating endarteritis. Sov.med. 22 no.4:86-91 Ap '58 (MIRA 11:7)

1. Iz khirurgicheskogo otdeleniya (zav. M.D. Arslanov) Krasnoyarskoy rayonnoy bol'nitsy kafedry obshchey khirurgii (zav. - prof. V.N. Shubin) i kafedry fakul'tetskoy khirurgii (zav. - prof. Kh.F. Kaplan) Astrakhanskogo meditsinskogo instituta.
(THROMBOANGIITIS OBLITERANS
pathol. & ther. (Rus))

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.D.

State of the thyroid gland among the population of the Kokpekty, Zharminskiy and Aksuat Districts of Semipalatinsk Province. Zdrav. Kazakh. 22 no.6:21-23 '62. (MIRA 15:11)

1. Iz kafedry obshchey khirurgii (zav. - dotsent M.D.Arslanov) Semipalatinskogo meditsinskogo instituta.
(SEMIPALATINSK PROVINCE--THYROID GLAND)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ANSLANOV, N. S., Cand of Tech Sci -- (diss) "Dynamic resonance in a nonlinear oscillating conture and its use for the selection of impulse signals." Gor'kiy, 1957, 10 pp (Gor'kiy Polytechnical Institute im A. A. Zhdanov, Chair of Radio Receiving Apparatus), 100 copies (KL, 33-57, 88)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.Z., insh.

Variation of the formulation of a problem on dynamic resonance in a nonlinear oscillatory circuit. Trudy GPI 14 no.5:5-8 '58 (MIRA 13:3)
(Electric circuits)
(Oscillators, Electric)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.Z., insh.

Experimental investigation of interference effect on a receiving device which uses dynamic resonance in selecting pulse signals. Trudy GPI 14 no.5:9-15 '58 (MIRA 13:3)
(Radio—Interference)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, M.Z.

A method for blanking the channel of a radio receiver during the action of impulse noise. Izv. vys. uchebn. zav.; radiotekh. 5 no.4:521-523 Jl-Ag '62. (MIRA 16:6)

1. Rekomendovano kafedroy radiopriyemnykh ustroystv Gor'kovskogo politekhnicheskogo instituta im. A.A. Zhdanova.
(Radio—Receivers and reception)
(Radio—Interference)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ACCESSION NR: AR4023747 S/0274/64/000/001/A008/A008

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 1A34

AUTHOR: Arslanov, M. Z.

TITLE: Passage of pulsed noise through a synchronous detector

CITED SOURCE: Tr. Gor'kovsk. politekhn. in-ta, v. 18, no. 2, 1962, 5-8

TOPIC TAGS: noise, pulsed noise, synchronous detector, synchronization channel, receiver channel, broadband channel, direct channel, automatic phase control, signal from noise separation

TRANSLATION: The narrow-band synchronization channel is preceded by a broadband high-frequency receiver channel. The narrower the synchronization channel, the slower the voltage amplitude and phase deviations due to the action of the pulsed noise. The amplitude de-

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viations of the heterodyne voltage are eliminated by amplitude limiters; therefore only the slower variations of the phase, due to the action of the pulse noise, are considered. The heterodyne oscillations are of the form

$$u_2(t) = u_{het} \sin[\omega_0 t + \varphi_2(t)]$$

where $\varphi_2(t)$ is the slowly varying heterodyne phase component due to the action of the noise. The transconductance of the synchronous-detector tube is assumed linear:

$$S(u_{het}) = S_0 + S_1 \sin[\omega_0 t + \varphi_2(t)]$$

The summary oscillation of the signal and the pulse noise at the input of the synchronous detector in the main broadband channel is of the form

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$$u_{sum}(t) = U_{s.max}(1 + m \sin\Omega t) \sin\omega_0 t + U_n(t) \sin(\omega_0 t + \theta_n)$$

The plate current components are:

$$i_a = S(u_{het}).u_s(t) = \frac{1}{2}S_1 U_{s.max}(1 + m \sin\Omega t).\cos\varphi_2(t) -$$

$$\frac{1}{2}S_1.U_n(t) \cos[\theta_n - \varphi_2(t)] + \ldots$$

The first term determines the action of the noise passing through the synchronization channel of the heterodyne at the output of the synchronous detector, and the second component determines the action of the noise passing through the direct channel. The duration of the pulse noise passing through the roundabout path is considerably larger than the duration at the input, and the level depends on the values of $\cos\varphi_2(t)$, m, and $U_{s.max}$. The duration of the pulsed-noise component passing through the main channel remains unchanged. The

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ACCESSION NR: AR4023747

passage of the pulsed noise and the signal was verified experimentally, and turning on the heterodyne automatic phase control reduced the level of the noise passing through the roundabout channel by 2--3 times. Bibliography, 1 title. T. K.

DATE ACQ: 03Mar64 SUB CODE: GE ENCL: 00

Card 4/4

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSIANOV, M.Z., kand. tekhn. nauk

Passage of impulse noise through a synchronous detector. Trudy GPI 18 no.2:5-8 '62.

Experimental study of a synchronous alternative for suppressing short-term impulse noise by interrupting the reception of the channel during the action of the noise. Ibid.:9-12

(MIRA 17:8)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, N.

Arslanov, N. — "Sudden Blowouts of Coal and Gas in the Ural Shafts and Measures of Combatting Them." Min of Coal Industry USSR, Acad of the Coal Industry, Moscow, 1955 (Dissertation for Degree of Candidate of Technical Sciences).

SO: Knizhnaya Letopis', No. 23, Moscow, June, 1955, pp. 87-104.

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSIANOV, N. K.

with I. I. Vibe, Z. M. Minkin, and K. I. Genkin "Heat production in the engine and its influence on the stroke"

report presented at the conference on Combustion and Formation of the Mixture in Diesel Engines, convened by the Motor Laboratory, Acad. Sci. USSR, Moscow 10-12 June 1958.
(Vest. Ak Nauk SSSR, 1958, No. 9, 115-117)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

S/124/60/000/003/010/017
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 3, p. 49, # 3258

AUTHOR: Arslanov, N. K.

TITLE: Investigation of Thermodynamic Gas Cycles

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol. 38, pp. 239-255

TEXT: Results from calculations of idealized thermodynamic cycles in heat engines are presented. The author treats other more complicated cycles, satisfying the concept of extremum cycles, in addition to the Carnot cycle and the cycles with combustion at p = constant and v = constant. The fundamental possibilities of heightening the capacity and efficiency of the cycles are shown. There are 6 references.

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B

O. A. Varshavskiy

Card 1/1

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, N.K., dotsent; NOVICHKOV, S.I., insh.

Science and technology conference dedicated to the 90th anniversary of V.I. Lenin's birth. Izv. vys. ucheb. zav. gor. zhur. no.8:147-149 '60. (MIRA 13:9)

(Lenin, Vladimir Il'ich, 1870-1924)
(Mining engineering--Congresses)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, N.K., dotsent; REPIN, N.Ya., kand.tekhn.nauk

Student scientific and technological conferences. Izv. vys. ucheb. zav. gor. zhur. no.8:150-152 '60. (MIRA 13:9)
(Mining engineering--Study and teaching)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, [illegible]

Mechanical [illegible] 81:3-12 '63.
(MIRA 18:4)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, N.K., dotsent

Tula Institute of Mining Engineering is being expanded. Izv. vys. ucheb. zav.; gor. zhur. no.12:96 '60. (MIRA 14:1)
(Tula--Mining engineering--Study and teaching)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ROSHCHUPKIN, Igor' Georgiyevich, dots.; ANAN'IN, Gleb Pavlovich, dots.; ARSLANOV, Nikolay Konstantinovich, dots. Prinimali uchastiye: KOLONCHUK, V.M., insh.; SIDOROV, N.A., insh.; POL'ZIKOV, I.N., dots.; KORZH, G.V., kand. tekhn. nauk; BARANOV, A.I., otv. red.; OKHRIMENKO, V.A., red. izd-va; SABITOV, A., tekhn. red.

[Working mineral deposits] Razrabotka mestorozhdenii poleznykh iskopaemykh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1962. 590 p. (MIRA 15:4)
(Mining engineering)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOV, N.K. (Kazan')

Investigation of thermodynamic gas cycles. Trudy KAI 38:239-255 '58. (MIRA 16:8)

(Thermodynamics)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, N.I.; ARSLANOV, N.K.

Analytic determination of the friction power of piston engines. Trudy KAI no.66:19-31 '61. (MIRA 16:10)

(Internal combustion engines—Testing)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ACCESSION NR: AT4024392 S/2529/61/000/066/0019/0031

AUTHOR: Arslanova, N. I.; Arslanov, N. K.

TITLE: The analytical determination of friction power in piston engines

SOURCE: Kazan. Aviatsionny*y institut. Trudy*, no. 66, 1961. Aviatsionny*ye dvigateli (Aircraft engines), 19-31

TOPIC TAGS: internal combustion engine, piston engine, friction power, friction loss, mechanical loss, efficiency, aircraft engine

ABSTRACT: In contemporary piston engines, a considerable part of the produced or consumed mechanical energy is spent in driving auxiliary devices and in overcoming friction forces arising between the basic parts of machines in consequence of the forces acting on them, such as pressure forces of working bodies, inertia forces, gravitation forces, and elastic forces. The sum of the mechanical losses and the so-called friction power of engines, at present can be determined only with low accuracy and after the engine is constructed, and then by rather complex experimental procedures. However, in a number of machine-building branches there is an urgent need for a previous analytical determination of the values mentioned. This

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ACCESSION NR: AT4024392

need is particularly acute during the design of machines of a new type. Despite this need, up to the present time a method for calculation of friction power has not been elaborated. The authors offer an analytical method for the determination of friction work in the main moving connections of single-action two-stroke piston engines. The friction work has been separately analyzed by simple considerations for piston rings, piston, and bearings, and has been expressed in formulas. The following approximate values have been indicated in terms of total mechanical losses:

Piston rings in cylinder	40 - 60 %
Piston	15 - 20 %
Bearings	6 - 15 %
Total friction losses	80 %

In the design of carburetor, diesel, and supercharged diesel internal combustion engines it is common to use the following approximate empirical expressions for the mean pressure on the piston, equivalent to total mechanical losses in the machine:

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$$P_m \cong 0.3 + 0.1\ C_m$$

$$P_m \cong 0.9 + 0.15\ C_m$$

$$P_m \cong 0.3\ P_c + 0.1\ C_m,$$

where C_m is the mean velocity of the piston and P_c is the outlet pressure of the supercharging compressor. In the absence of empirical data, the mechanical losses are sometimes taken into consideration by the assumption of a mechanical efficiency. For example:

$$\eta_m \cong 0.8 \text{ to } 0.93 \text{ for compressors;}$$

$$\eta_m \cong 0.85 \text{ to } 0.95 \text{ for steam engines.}$$

It is obvious that considerable errors may result from such simple approaches. Orig. art. has: 4 figures and 40 formulas

ASSOCIATION: Aviatsionnyy institut, Kazan (Kazan Aviation Institute)

SUBMITTED: 10Mar60 DATE ACQ: 15Apr64 ENCL: 00

Card 3/4

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ACCESSION NR: AT4024392

SUB CODE: PR NO REF SOV: 006 OTHER: 000

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SHUVALOV, V.; ARSLANOV, R.

Put order into merchant seamen's work routine. Mor.flot 22 no.12:21-22 D '62. (MIRA 15:12)

1. Kapitan parokhoda "A.Suvorov" Murmanskogo parokhodstva (for Shuvalov).

(Merchant marine--Personnel management)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, A. Kh., NAIMOV, N. P., ZHUMHAEV, A. A., ZHUMHAEVA, A. F., VARSHAVSKIY, S. N., SHILOV, M. N., BESEDIN, B. D., PODLESSKY, G. I., KRYLOVA, K. T., and KOMARDINA, M. G.
(Moscow, Aralsk)

"Main Results of the Epizootological Study of the Aral Region of the Middle-Asiatic Plains Home From 1946 Till 1956,"

paper Presented at Joint Conference on Problems of Natural Homes and Epidemiology of Highly-Infectious Diseases, held 25 Jan to 2 Feb 1957 at the State Inst of Microbiology & Epidemiology of the South-East, "MICROBE".

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, A.Kh.; BELYAKOV, V.D.; BERGER, B.I.; VASIL'YEV, A.S.; GAVRILOV, N.A.; GEL'MAN, L.I.; KALUGIN, V.P.; KOROSTELEV, V.Ye.; KRAMER, I.I.; MIKHAYLOVSKIY, V.T.; ROGOZIN, I.I.; SERKEBRYAKOV, L.V.

Combined vaccination with chemical and living vaccines. Voen.-med. zhur. no. 1:78-80 Ja '60. (MIRA 14:2)
(VACCINATION)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, A.Kh.

Alveolar echinococcosis in the southern part of Kazakhstan; according to autopsy material. Med.paras.i paras.bol. 29 no.3: 349-351 '60. (MIRA 13:12)
(KAZAKHSTAN--LUNGS--HYDATIDS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SHUL'TS, R.S., prof.; ARSLANOVA, A.Kh.

Echinococcosis in Kazakhstan. Zdrav. Kazakh. 21 no.2:51-57 '61. (MIRA 14:3)

1. Iz laboratorii gel'mintologii Veterinarnogo instituta Akademii sel'skokhozyaystvennykh nauk Kazakhskoy SSR i kafedry epidemiologii Kazakhskogo meditsinskogo instituta.
(KAZAKHSTAN—HYATIDS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

AUSLANOVA, A.Kh.

Diagnostic value of various echinococcal allergens. Zdrav. Kazakh. 21 no.6:58-62 '61. (MIRA 15:2)

1. Iz kafedry epidemiologii Kazakhskogo meditsinskogo instituta. Nauchnyy rukovoditel' temy - prof. R.S.Shul'ts.
(ECHINOCOCCUS) (ALLERGY)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, A.Kh.

Enzootic focus of alveolar echinococcosis in Alma-Ata Province. Med.paraz.i paraz.bol. no.1:88-91 '62. (MIRA 15:5)

1. Iz kafedry epidemiologii Kazakhskogo gosudarstvennogo meditsinskogo instituta (nauchnyye rukovoditeli - prof. R.S. Shul'ts i prof. I.K. Karakulov).
(ALMA-ATA PROVINCE—HYDATIDS)

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

SOV/137-58-8-16679

Translation from Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 63 (USSR)

AUTHOR: Arslanova, A.M.

TITLE Analysis of the Functioning of Electrostatic Precipitators at the Karabash Plant (Analiz raboty elektrofil'trov na Karabashskom zavode)

PERIODICAL: Sb. materialov po pyleulavlivaniyu v tsvetn. metallurgii, Moscow, Metallurgizdat, 1957, pp 160-167

ABSTRACT: An examination is made of the results of tests of model DV-9 electrostatic precipitators (EP) with vertical gas passage and hexagonal precipitating electrodes in the cleaning of, a) reverbatory-furnace smelting gases, b) shaft-furnace smelting gases, and c) mixed shaft-furnace and reverbatory-furnace smelting gases (1:1). The following conclusions are drawn: 1) Dust containing a significant amount of Pb and Zn (10-20%) is poorly separated in the EP unless the gases are humidified; 2) the functioning of the EP improves if the velocity of the gases is reduced, their moisture content increased, the temperature reduced, and if they contain H_2SO_4; 3) when halfwave feed is employed the number of step-up and rectifying units is cut in

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SOV/137-58-8-16679

Analysis of the Functioning of Electrostatic Precipitators (cont.)

hall, and the functioning of the EP is quieter, but there is no noticeable rise in efficiency. Data are reduced on the chemical composition of the dusts borne by gases originating in reverbatory-furnace and shaft-furnace smelting. Data are presented on losses of metal with dust carried off into the atmosphere with the gases. Installation of scrubbers with automatic controls for gas-temperature regulation is recommended.

G.G.

1. Electrostatic precipitators--Performance 2. Electrostatic precipitators --Test results

Card 2/2

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"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, A.V.

Raising up those who must crawl. Sov.zdrav.Kir. no.2:7-11 Mr-Ap '63. (MIRA 16:5)

1. Iz kafedry ortopedii i travmatologii (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent N.K. Studentsova) Kirgizskogo gosudarstvennogo meditsinskogo instituta i Respublikanskoy klinicheskoy bol'nitsy (glavnyy vrach - S.D. Rafibekov).

(POLIOMYELITIS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

AFSLANOVA, F.K.

[redacted] Irtysh region. Vest. AN Kazakh.SSR 19 no.10: [redacted]. (MIRA 17:1)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh.

Tuberculosis of the occipital bone. Nov.khir.arkh. no.82 my-Je '57. (MIRA 10:8)

1. L'vovskaya oblastnaya bol'nitsa
(OCCIPITAL BONE--TUBERCULOSIS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh.

Transfusion of erythrocyte concentrations in combined therapy for osteoarticular tuberculosis. Ortop.travm. i protez. 20 no.3:71-72 Mr '59. (MIRA 12:6)

1. Iz kliniki fakul'tetskoy khirurgii (zav.kafedroy - prof. V.I.Akimov) L'vovskogo meditsinskogo instituta, L'vovskogo nauchno-issledovatel'skogo instituta perelivaniya krovi (nauchnyy rukovoditel' - prof.I.I.Fedorov), 5-y klinicheskoy bol'nitsy (glav.vrach - I.I.Khoma) i oblastnogo gospitalya invalidov Otechestvennoy voyny (nach. - kand.med.nauk S.O.Lopata).
(BLOOD--TRANSFUSION) (BONES--TUBERCULOSIS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh. (L'vov, ul.Pushkina, kv.1)

Erythrocyte mass transfusion in osteoarticular tuberculosis.
Nov. khir. arkh. no.3:77-80 My-Je '60. (MIRA 15:2)

1. L'vovskiy nauchno-issledovatel'skiy institut perelivaniya krovi (nauchnyy rukovoditel' - prof. I.I.Fedorov), kafedra fakul'tetskoy khirurgii (zav. - prof. V.I.Akimov) L'vovskogo meditsinskogo instituta i 5-ya klinicheskaya bol'nitsa.
(BONES--TUBERCULOSIS) (JOINTS--TUBERCULOSIS)
(BLOOD--TRANSFUSION)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh.

Posttransfusion reactions in the transfusion of blood and erythrocytes to patients with osteoarticular tuberculosis. Probl. gemat. i perel. krovi. 5 no. 5:56-58 My '60. (MIRA 14:1)
(TUBERCULOSIS) (BLOOD—TRANSFUSION)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh.

State of blood gases in patients with osteoarticular tuberculosis before and after the transfusion of packed erythrocytes. Probl. tub. 38 no. 5:103-104 '60. (MIRA 14:1)
(BONES—TUBERCULOSIS) (BLOOD—TRANSFUSION)
(BLOOD, GASES IN)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh.Sh.

Effect of erythrocyte transfusions on kidney function in patients with osteoarticular tuberculosis. Probl.tub. 38 no.6:68-71 '60. (MIRA 13:11)

(BONES--TUBERCULOSIS) (BLOOD--TRANSFUSION) (KIDNEYS)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ARSLANOVA, Kh. Sh., Cand. Medic. Sci. (diss) "Transfusion of Erythrocytic Masses in Complex Treatment of Patients with Bone-Joint Tuberculosis," L'vov, 1961, 16 pp. (L'vov Med. Inst.) 200 copies (KL Supp 12-61, 283).

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

AFSLANOV, N.K., dotsent, kand. tekhn. nauk

Relationship between some physicomechanical properties of coals and sudden outbursts of coal and gas. Nauch. trudy Tul. gor. inst. no.4:27-33 '61. (MIRA 16:8)

(Mine gases) (Coal--Testing)

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6"

"APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000102210018-6

ACCESSION NR: AT4024392 S/2529/61/000/066/0019/0031

AUTHOR: Arslanova, N. I.; Arslanov, N. K.

TITLE: The analytical determination of friction power in piston engines

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 66, 1961. Aviatsionnye dvigateli (Aircraft engines), 19-31

TOPIC TAGS: internal combustion engine, piston engine, friction power, friction loss, mechanical loss, efficiency, aircraft engine

ABSTRACT: In contemporary piston engines, a considerable part of the produced or consumed mechanical energy is spent in driving auxiliary devices and in overcoming friction forces arising between the basic parts of machines in consequence of the forces acting on them, such as pressure forces of working bodies, inertia forces, gravitation forces, and elastic forces. The sum of the mechanical losses and the so-called friction power of engines, at present can be determined only with low accuracy and after the engine is constructed, and then by rather complex experimental procedures. However, in a number of machine-building branches there is an urgent need for a previous analytical determination of the values mentioned. This

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ACCESSION NR: AT4024392

need is particularly acute during the design of machines of a new type. Despite this need, up to the present time a method for calculation of friction power has not been elaborated. The authors offer an analytical method for the determination of friction work in the main moving connections of single-action two-stroke piston engines. The friction work has been separately analyzed by simple considerations for piston rings, piston, and bearings, and has been expressed in formulas. The following approximate values have been indicated in terms of total mechanical losses:

Piston rings in cylinder	40 - 60 %
Piston	15 - 20 %
Bearings	6 - 15 %
Total friction losses	80 %

In the design of carburetor, diesel, and supercharged diesel internal combustion engines it is common to use the following approximate empirical expressions for the mean pressure on the piston, equivalent to total mechanical losses in the machine:

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ACCESSION NR: AT4024392

$$P_m \cong 0.3 + 0.1\ C_m$$

$$P_m \cong 0.9 + 0.15\ C_m$$

$$P_m \cong 0.3\ P_c + 0.1\ C_m,$$

where C_m is the mean velocity of the piston and P_c is the outlet pressure of the supercharging compressor. In the absence of empirical data, the mechanical losses are sometimes taken into consideration by the assumption of a mechanical efficiency. For example:

$$\eta_m \cong 0.8 \text{ to } 0.93 \text{ for compressors;}$$

$$\eta_m \cong 0.85 \text{ to } 0.95 \text{ for steam engines.}$$

It is obvious that considerable errors may result from such simple approaches. Orig. art. has: 4 figures and 40 formulas

ASSOCIATION: Aviatsionnyy institut, Kazan (Kazan Aviation Institute)

SUBMITTED: 10Mar60 DATE ACQ: 15Apr64 ENCL: 00

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