

Vitreous State (Cont.)

SOV/5035

institutes were cited for their contribution to the development of glass science and technology: Gosudarstvennyy opticheskiy institut (State Optical Institute), Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), Fizicheskiy institut AN SSSR (Physics Institute AS USSR), Fiziko-tehnicheskiy institut AN SSSR (Physicotechnical Institute AS USSR), Institut fiziki AN BSSR, Mińsk (Institute of Physics, Academy of Sciences, Belorusskaya SSR, Minsk), Laboratory of Physical Chemistry of Silicates of the Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk (Institute of General and Inorganic Chemistry, Academy of Sciences, Belorusskaya SSR, Minsk), Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, AS USSR), Gosudarstvennyy institut stekla (State Institute for Glass), Gosudarstvennyy institut steklovolokna (State Institute for Glass Fibers), Gosudarstvennyy institut elektrotehnicheskogo stekla (State Institute for Electrical Glass), Sibirskiy fiziko-technicheskiy institut, Tomsk (Siberian Physicotechnical Institute, Tomsk), Leningradskiy gosudarstvennyy universitet (Leningrad State University), Moskovskiy khimiko-technologicheskiy institut (Moscow Institute of Chemical Technology), Leningradskiy technologicheskiy institut im. Lensoveta (Leningrad Technological Institut imeni Lensovet), Belorusskiy politeknicheskiy institut Minsk (Belorussian Polytechnic Institute, Minsk), Novocherkasskiy politeknicheskiy institut (Novocherkassk Polytechnic Institute), and Sverdlovskiy politeknicheskiy institut (Sverdlovsk

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Vitreous State (Cont.)

80V/5035

Polytechnic Institute). The Conference was sponsored by the Institute of Silicate Chemistry AS USSR (Acting Director - A.S. Gotlib), the Vsesoyuznoye khimicheskoye obshchestvo im. D.I. Mendeleeva (All-Union Chemical Society imeni D.I. Mendeleev), and the Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova (State "Order of Lenin" Optical Institute imeni S.I. Vavilov). The 15 resolutions of the Conference include recommendations to organize a Center for the purpose of coordinating the research on glass, to publish a new periodical under the title "Fizika i khimiya stekla" (Physics and Chemistry of Glass), and to join the International Committee on Glass. The Conference thanks A.A. Lebedev, Academician, Professor, and Chairman of the Organization of Committee; Ye.A. Poray-Koshits, Doctor of Physics and Mathematics, Member of the Organizational Committee; and R.L. Myuller, Doctor of Chemical Sciences, Member of the Organizational Committee. The editorial board thanks G.M. Bartenev, M.V. Vol'kenshteyn, L.I. Demkina, D.P. Dobychin, S.K. Dubrovo, V.A. Ioffe, and B.T. Kolomiyets. References accompany individual reports.

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GENERAL PROBLEMS OF THE VITREOUS STATE

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Poray-Koshits, Ye. A. [Doctor of Physics and Mathematics]. Diffraction Methods for Studying Vitreous Substances 14

Vogel, W. [Schott Glass Works in Jena, German Democratic Republic]. On the Cellular Structure of Glass 24

Vlasov, A.G. Natural Oscillations of the Glass Lattice and Its Structure 30

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Discussion

522

Final Session of the Conference

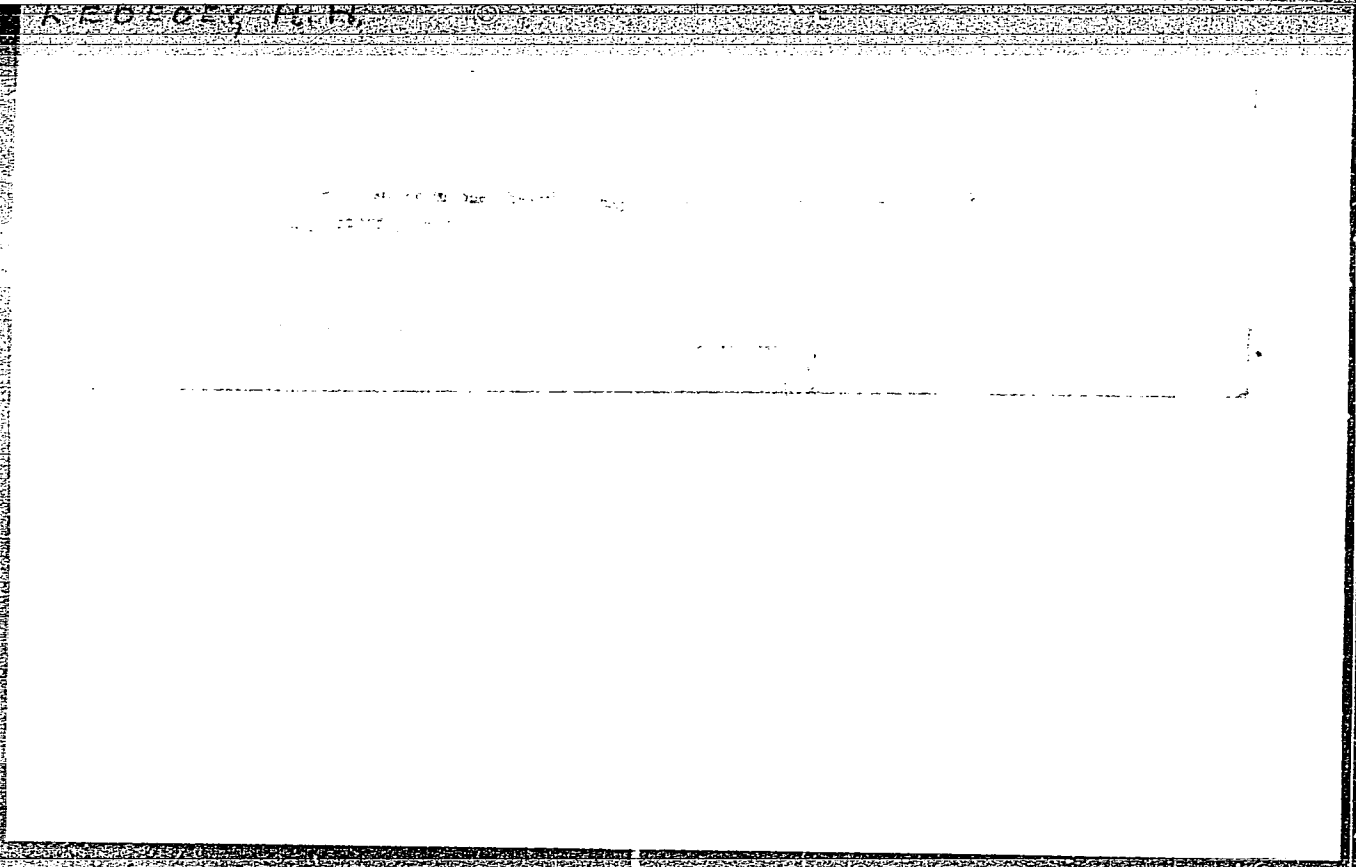
On the State and on the Further Tasks Connected With the Solution of Glass
Structure Problems (Resolution of the Third All-Union Conference Held
During November 16-21, 1959)

528

AVAILABLE: Library of Congress

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JA/dwm/gmp
6-29-61



~~Lebedev, A.A.~~
LEBEDEV, A.A.

Deoxidation of open steels in the ladle ¹⁸ ¹⁷ K. A. Lebedev
~~U. F. Nigmatov, and A. A. ...~~
~~... Stal' 16, 1963-1964. The practice saves~~
22-50% FeMn, increases production by about 1% by saving
time in the furnace, and does not lower the quality of the
steel. I. I. Gol

PR 11

137-1957-12-23266

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 59 (USSR)

AUTHORS: Lebedev, A., Savel'yev, D.

TITLE: The Operation of Recovery Boilers Installed With Open-hearth furnaces
(Rabota kotlov-utilizatorov, ustanovlennykh za martenovskimi
pechami)

PERIODICAL: V sb. : Kotly-utilizatory martenovsk. pechey. Moscow,
Metallurgizdat, 1957, pp 172-180

ABSTRACT: The boiler room of a open-hearth furnace shop contains two KU-50
recovery boilers (RB) with a steam-generating capacity of 2.7 to
3.4 t/hr and a steam pressure of 2.4 to 3.7 atu. The efficiency
of the RB is less than originally anticipated; this is explained by
the following factors: 1) low efficiency of the compressed-air
blasting of the heating surfaces (in 15 days of operation the pro-
ductivity of the RB decreased from 3.7 to 1.5 t/hr); 2) insufficient
capacity of the exhaust system results in the passage of only a
portion (36-67 percent) of the gases from the open-hearth furnaces
through the RB's; 3) unsatisfactory exhaust system for the re-
moval of gases from the RB's resulting in reduced draft. The
replacement of air blasting of the heating surfaces by washing

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137-1957-12-23266

The Operation of Recovery Boilers Installed with Open-hearth Furnaces

with feed water at 60-70° proved to be effective and resulted in an increase in the productivity of the RB's by 3.7 to 4 t/hr. The heating surfaces are washed daily for about 15 to 20 minutes.

Ye. N.

1. Boilers-Operation
2. Furnaces-Applications

Card 2/2

Lebedev, A.A.

AUTHORS: Vecher, H.A., Lebedev, A.A. and Korneyev, N.D. (Engineers)

TITLE: Use of sinter in open-hearth furnace smelting. (Primeneniye aglomerata v martenovskoy plavke). 130 - 6 - 8/27

PERIODICAL: "Metallurg" (Metallurgist), 1957, No.6, pp.17-19 (USSR).

ABSTRACT: Open-hearth ore has been partly or completely replaced by sinter at the Nizhne-Tagil'sk metallurgical combine since early in 1956. From experimental heats and the statistical treatment of operating data the following main conclusions are drawn: under otherwise similar conditions more sinter is charged than ore (e.g. 8% more for rail steel); more slag is run with sinter than with ore; because of its lower melting point the duration of melting is reduced with sinter to 12-15 min. per heat; the melt-down slag contains more ferrous oxide; the phosphorus content at melt-down is 0.002-0.012% less; the consumption of ore for refining is less because of the more oxidized melt-down slag obtained with sinter; and lime and bauxite consumptions are also less; the rate of carbon removal during the ore boil is less and the duration of finishing is reduced. The reasons for these effects of sinter are discussed and the corresponding quantitative data tabulated. The composition of the sinter was: 58.6% Fe, 19.2% FeO, 62.6% Fe₂O₃,

Card 1/2

130 - 6 - 8/27

Use of sinter in open-hearth furnace smelting. (Cont.)

0.15% S, 0.047% P, 0.82% Mn, 7.6% SiO₂, 3.82% CaO, 1.60% MgO, 3.35% Al₂O₃; it contained 25% of <10 mm fines on charging.

There are 2 tables.

ASSOCIATION: Nizhne-Tagil'sk Metallurgical Combine.
(Nizhne-Tagil'skiy Metallurgicheskiy Kombinat).

AVAILABLE:

Card 2/2

3(9)

SOV/50-59-5-13/22

AUTHOR:

Lebedev, A. A.

TITLE:

Hydrometeorological and Industrial Sea Bulletin (Morskoy gidrometeorologicheskii i promyslovyy byulleten') (From the Experience of the Murmansk Hydrometeorological Service Administration) (iz opyta Murmanskogo UGMS)

PERIODICAL:

Meteorologiya i gidrologiya, 1959, Nr 5, p 50 (USSR)

ABSTRACT:

The Murmanskoye UGMS (Murmansk Hydrometeorological Service Administration) together with the Polyarnyy institut morskogo rybnogo khozyaystva i okeanografii (Polar Scientific Research Institute of Sea Fisheries and Oceanography) issues a monthly "Hydrometeorological and Industrial Sea Bulletin". The Bulletin consists of 2 parts: the first contains a survey of the weather and hydrological conditions, the second a survey of the course and conditions of trawl fishing and the prospective conditions for this industry. According to the character of the synoptic processes, the Bulletin brings the analysis of the isabnormal lines of air temperature and of the resulting wind during the periods with a relatively uniform circulation in the atmosphere. Principal attention is paid to the heat content of the water masses, as a change in the

Card 1/2

- Hydrometeorological and Industrial Sea Bulletin. (From the SOV/50-59-5-13/22 Experience of the Murmansk Hydrometeorological Service Administration)

physical state of the living space of fish exerts a direct or indirect influence on the propagation of fish in the sea. Besides the general analysis, also the distribution of water temperature within the fishing areas, and even within the individual "squares" with a size of 10 by 30 nautical miles, is indicated. In winter, long-termed forecasts for the water temperature in the layer near the bottom along the flow filament of the Murmansk Current are given for the individual "squares" with an earliness of 1-2 months. The last section of the Bulletin brings the forecast of the Polar Institute for the prospective conditions of the fishing industry under consideration of all hydrometeorological and biological factors. The Bulletin appears monthly, not later than on the 7th day of each month, with an edition of 700 copies, and is immediately sent to all trawlers.

Card 2/2

REVEBTSOV, V.P.; ABRAMOV, B.A.; NAGOVITSYN, D.F.; LEBEDEV, A.A.;
CSIPOV, G.V.; TANTSUREV, V.V.; ISUPOV, V.F.; ZAYTSEVA, Ye.I.

Quality of manganese ferroc alloys from ores of the Polunochnoye
deposit. Stal' 21 no.9:806-809 S.'61. (MIRA 14:9)

1. Institut metallurgii Ural'skogo filiala Akademii nauk;
Nizhne-Tagil'skiy metallurgicheskiy kombinat i Kombinatsiya im.
Serova.
(Ferromanganese) (Polunochnoye region--Manganese ores)

KLYUCHEROV, Anatoliy Petrovich; KONDRAT'YEV, Sergey Nikolayevich;
LEBEDEV, Aleksandr Aleksandrovich; VLASOV, Radem Vasil'yevich;
LITVISHKO, V.N., inzh., retsenzent; BUR'KOV, M.M., insh., red.;
LEPINSKIKH, B.M., kand. tekhn. nauk, red.; KOROL', V.P., tekhn.
red.

[Work experience of Novotagil'skoye steel smelters] Opyt raboty
nizhnetagil'skikh staleplavil'shchikov. Sverdlovsk, Metallurg-
izdat, 1963. 93 p. (MIRA 16:4)
(Novotagil'skoye--Open-hearth process)

22 Feb 64 A.H

PHASE I BOOK EXPLOITATION

SOV/6478

Al'tman, Morits Borisovich, Aleksandr Aleksandrovich Lebedev, and
Matvey Vasil'yevich Chukhrov

Plavka i lit'ye splavov tsvetnykh metallov; metallurgicheskiye
osnovy (Melting and Casting of Nonferrous Metal Alloys; Metallur-
gical Principles) Moscow, Metallurgizdat, 1963. 523 p. Errata
slip inserted. 4400 copies printed.

Ed. (Title page): A. T. Tumanov, Doctor of Technical Sciences,
Honored Scientist and Technologist of the RSFSR; Ed. of
Publishing House: O. M. Kamayeva; Tech. Ed.: Ye. B. Vaynshteyn.

PURPOSE: This book is intended for engineering personnel of metal-
lurgical and metal-working plants and scientific research institutes.
It may also be of interest to students at schools of higher
education.

Card 1/10

Melting and Casting (Cont.)

SOV/6478

COVERAGE: The book discusses basic principles of the theory and practice of melting, casting, and crystallizing nonferrous metals and alloys. The authors review problems of interaction between gases and metals, degassing, removal of solid nonmetallic inclusions, modification, segregation, and interaction between the metal and the mold; properties of the nonferrous metals and alloys; and methods of melting and casting ingots and parts made from aluminum, magnesium, copper, and other alloys. No personalities are mentioned. There are 275 references, mostly Soviet.

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L 58395-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(1)/EPR/EPA(w)-2/T/EWP(b) Pab-10/
Pt-4/Ps-4/Pt-7 WW/JG/WH
ACCESSION NR: AR5013015

UR/0137/65/000/004/I027/I028
539.37:669.621.762

SOURCE: Ref. zh. Metallurgiya, Abs. 4I172

AUTHOR: Lebedev, A. A.

56
55
B

TITLE: Theoretical problems on the strength of metallo-ceramic materials

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii.
Yerevan, 1964, 55-63

TOPIC TAGS: cermet, material strength, mechanical property, silicon carbide

TRANSLATION: Strength criteria were studied by evaluating the strength properties of a material from the point of view of mechanical theories, assuming infinite divisibility and homogeneity of the substance, with corresponding correction by statistical methods to calculate the more series structural imperfections, characteristic of the given material. This approach to the problem gives a limiting strength which is the product of two functions: $\sigma = NP$, where N is a function of the invariants of stresses and of certain constants of the material; P is a func-

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ACCESSION NR: AR5013015

tion of the volume of material in the stressed and deformed state and of its constants, depending on the nature of the most serious defects. The function N , in coordinates σ_1 , σ_2 and σ_3 , must be a smooth curvilinear surface since the strength conditions obviously change gradually with the gradual change in the principal normal stresses. The form of the function P is dependent on the initial form of the material and on the distribution of stresses near defects. The role of the function P increases in the case of low-strength materials, a typical representative of which is a cermet material. Results are given of an experimental study of a cermet composition based on silicon carbide, in a plane stressed state created in a tubular specimen by the simultaneous application of an axial force, internal pressure, and torque, in various combinations. The form of the function P and the strength condition best corresponding with the experimental data was found. The equation describing the strength condition expresses the parabolic relationship between the specific potential energy of deformation and the spherical tensor. The function N is obtained in the form of the design equation of the 4-th strength theory. The function P takes into account, by statistical methods, the effect which the level of the potential energy of the imperfections most characteristic for the given material has on the limiting values. L. Gordiyenko.

SUB CODE: MT, AS

ENCL: 00

Card 2/2 *ADP*

PORTNOY, K.I.; LEBEDEV, A.A.

[Magnesium alloys (properties and technology); a handbook] Magnievye splavy
(svoistva i tekhnologiya) spravochnik. Moskva, Gos. nauchno-tekhn. izd-vo
lit-ry po chernoi i tsvetnoi metallurgii, 1952. 736 p. (MLRA 6:9)
(Magnesium alloys)

Lebedev A.A.

LEBEDEV, A. A.

Handbook on Machine-Building (~~Cont.~~)

SOV/3505

Spravochnikpo mashinostroitel'nyim materialam v chetyrekh tomakh, tom 2: Tsvetnyye metally i ikh splavy (Handbook on Machine-Building Materials in 4 volumes, v. 2: Nonferrous Metals and Alloys) Moscow, Mashgiz, 1959, 639 p E

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Handbook on Machine-Building (Cont.)

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18.1000

45230

S/806/62/000/003/015/018

AUTHORS: Lebedev, A. A., Anikina, A. D.

TITLE: Salt fluxes for the introduction of zirconium into light alloys.

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniye splavov tsvetnykh metallov. no.3, 1962, 181-186.

TEXT: The introduction of metallic Zr into Mg melts is rendered difficult by the elevated m. p. and chemical activity relative to gases of the Zr. Introduction of Zr as a chloride is less difficult but impairs the corrosion resistance of the resulting alloys. The introduction of K_2ZrF_6 appears most effective. However, the direct introduction of K_2ZrF_6 requires a melt T of $920^\circ C$ and entails substantial Zr losses. The phase diagram Zr_2F_4 -KF was investigated, and 3 congruently fusible compounds were found: $KZrF_5$ with a m. p. of 600° , K_2ZrF_6 with a m. p. of 500° , and K_3ZrF_7 with a m. p. of 930° , together with 4 eutectics have m. p.'s of 790 , 500 , 400 , and $430^\circ C$, respectively. It is concluded that the reduction of Zr from $KZrF_5$ proceeds according to the following 3-stage process: $6KZrF_5 + 12Mg \rightleftharpoons 3K_2ZrF_6 + 6MgF_2 + 3Zr + 6Mg$ (first stage) $\rightleftharpoons 2K_3ZrF_7 + 8MgF_2 + 4Zr$ (second stage) \rightleftharpoons

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Salt fluxes for the introduction of zirconium ...

S/806/62/000/003/015/018

$= 6KF + 12MgF_2 + 6Zr$ (third stage). As we proceed from left to right in the reaction formula, more and more substances with extremely high m.p. appear, and the reaction may never develop past the second stage and only part of the Zr introduced may become liberated. Inasmuch as a T increase beyond 920-950° is not practicable, a search was begun for a flux or salt fusion that would: (1) Supply K_2ZrF_6 , (2) not contain any elements that would chemically react with Mg and Zr, (3) have as low a m.p. as possible, (4) have a low viscosity and be surface-active relative to Mg, and (5) produce reaction products that can be readily removed from the melt. Such a flux was found in a fusion containing 66% K_2ZrF_6 , 26% LiCl, and 8% CaF_2 . This flux permits (1) a lowering of the melt T during introduction of the Zr-containing salts from 900-920° to 800° for Mg alloys and from 1,000 to 750-760° for Al alloys, (2) a reduction in the irreversible losses, (3) an approximate doubling of the delivery of Zr to the alloy, (4) a better quantitative stability of the amount of Zr delivered to the alloy, and (5) considerable simplification of the process of preparation of the alloys. Details of the comparative tests, in which the component ratios, charge ratios, and T were varied, are described, tabulated, and graphed. There are 3 figures and 2 tables; no references.

ASSOCIATION: None given.

Card 2/2

L 22464-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) AFWL/SSD/ASD(f)-3/
ASD(m)-3/AFETR/AFTC(p) JD/EM

ACCESSION NR: AR4045245

S/0124/64/000/007/V088/V089

SOURCE: Ref. zh. Mekhanika, Abs. 7V666

AUTHOR: Lebedev, A. A.

TITLE: The problem of the experimental investigation of creep and stress
rupture strength of materials in a complex stress state

CITED SOURCE: Sb. Polzuchest' i dlitel'n. prochnost'. Novosibirsk, Sib. otd.
AN SSSR, 1963, 148-151

TOPIC TAGS: creep, stress rupture strength, complex stress, high temper-
ature strength, cathetometer

TRANSLATION: A small device is described which permits the testing of materials
for short-term and stress-rupture strength under a plane stress state and at
high temperature, with the sample subjected to any system of loading by axial
tension or moment of torque. The device provides for reliable fastening and

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L 22464-65

ACCESSION NR: AR4045245

heating of the sample, its transport into the internal cavity of the working medium, the application to the sample of supplementary axial force or moment of torque from the load-applying system, as well as operational reliability and safety. The placing of a heating element within the internal cavity of the sample (sic) considerably reduces the force of the explosion together with errors in the readings of the thermocouples, and preserves the heating element when the sample is destroyed. This heater is actually a metal-ceramic rod terminating in a nickel electrode. The temperature can be regulated along the length of the sample. The output of the heating element is designed for working temperatures on the order of 1000C. Deformations in the sample can be measured in two ways: either by means of a cathetometer according to the relative displacements of two expandable brackets, or by means of high-temperature sensors. A special high-pressure unit, rated for 500 kg/cm², was designed in order to create pressure in the sample by the working gas medium.

A. M. Lokoshchenko

SUB CODE: AS

ENCL: 00

Card 2/2

ACCESSION NR: AP4010059

S/0021/64/000/001/0059/0062

A. A.
AUTHOR: Pytsarenko, G. S. (Corresponding member); Lebedev, A. O.

TITLE: On the criterion of strength of materials

SOURCE: AN UkrRSR. Dopovidí, no. 1, 1964, 59-62

TOPIC TAGS: material strength, stress tensor; stress tensor invariant, stressed silicon carbide

ABSTRACT: Proof is given of the applicability of an estimate of the strength of materials in the form of a sum of two functions, one of which is a function of the stress tensor invariants, while the second, which is a function of the volume of the strained material and some of its constants, is of a statistical nature. The results are presented of an experimental study of the strength on a silicon carbide base with a plane stressed state. These results confirm the applicability and usefulness of the method. Orig. art. has 3 graphs and 6 numbered equations.

Card 1/2

ACCESSION NR: AP4010059

ASSOCIATION: Instytut Metalokeramiki* ta spetsplaviv AN UkrSSR (Institute of
Metallo-ceramics and Special Alloys, AN UkrSSR)

SUBMITTED: 05Jun63

DATE ACQ: 10Feb64

ENCL: 00

SUB CODE: AP

NO REF SOV: 005

OTHER: 002

Card 2/2

LEBEDEV, A.A.

Improving the shape of hard-alloy blades. Mashinostroitel'
no.3:33 Mr '64. (MIRA) 17:4:

USSR/Medicine - Physiology

FD-1330

Card 1/1 : Pub 33-8/25

Author : Lebedev, A. A. and Sevast'yanova, L. V.

Title : ~~Conditioned reflex changes in diuresis in a dog with a transplanted kidney~~
Conditioned reflex changes in diuresis in a dog with a transplanted kidney

Periodical : Fiziol. zhur. 4, 441-444, Jul/Aug 1954

Abstract : Experiments on dogs were conducted to determine how a transplanted kidney reacts to the regulating influence of the cortex. The cerebral cortex regulates urination of a transplanted kidney for forming temporary bonds of positive and negative significance. The ultimate effects of positive and differentiated irritants depend on the magnitude of initial urination. Positive conditioned reflex increases urination and at the same time reduces the specific gravity of urine; it also decreases concentration of creatine and chlorides. Graphs. Six Soviet references.

Institution : Chair of Pharmacology of Ivanovo State Medical Institute

Submitted : October 10, 1952

LEBEDEV, A.A.

Interoceptive effects from the stomach on diuresis. *Biul. eksp. biol. i med.* 38 no.11:7-9 N 154. (MLRA 8:1)

1. Iz kafedry farmakologii (zav. dotsent G.M.Shpuga) Ivanovskogo meditsinskogo instituta (dir. dotsent Ya.M.Romanov)
(STOMACH, physiology,
eff. of stimulation on diuresis in dogs)
(DIURESIS, physiology,
eff. of stomach stimulation in dogs)

LEBEDEV, A. A.

Lebcdev, A. A.

"Reflex connections between the stomach and kidneys." Ivanovo State
Medical Inst. Ivanovo, 1955. (Dissertation for the Degree of Candidate
in Technical Science.)

Knizhnaya letopis'
No. 15, 1956. Moscow.

SHEPUGA, L.M., LEBEDEV, A.A.

Function of a reinnervated transplanted kidney [with summary in English]
Eksp. khir. 1 no. 4:59-64 J1-Ag '56 (MIRA 11:10)

1. Iz kafedry farmakologii Ivanovskogo meditsinskogo instituta.
(KIDNEYS, transpl.
exper., re-inner. (Rus))

LEBEDEV, A.A.; YAROSLAVTSEV, S.A.

A model for the study of kidney function in an experiment involving surgical preparation. Urologiia 22 no.2:38-39 Mr-Apr '57. (MLRA 10:7)

1. Iz kafedry farmakologii (zav. - dotsent G.M.Shpuga) i kafedry fakul'tetskoy khirurgii (zav. - prof. M.A.Blagoveshchenskiy) Ivanovskogo meditsinskogo instituta.
(KIDNEYS, funct. tests
in chronic exper. in dogs)

LEBEDEV, A.A.

Afferent pathways of reflex action from the stomach on micturition
[with summary in English]. Biul.eksp.biol.i med. 43 no.1:20-23
Ja '57. (MLRA 10:8)

1. Iz kafedry farmakologii (zav. - dotsent G.M.Shpuga) Ivanovskogo
meditsinskogo instituta (dir. - dotsent Ya.M.Romanov). Predstavlena
deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.

(STOMACH, physiology,

eff. of mechanical stimulation on diuresis in dogs
afferent reflex arch (Rus))

(DIURESIS, physiology,

eff. of mechanical stimulation of stomach in dogs,
afferent reflex arch (Rus))

LEBEDEV, A.A.

Efferent reflex areas from the stomach on affecting mecturition
[with summary in English]. Biul. eksp. biol. med. 44 no. 8:8-10 Ag '57.
(MIRA 10:11)

1. Iz kafedry farmakologii (zav. - dotsent G.M. Shputa) Ivanovskogo
meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN
SSSR prof. V.V. Parinym.

(KIDNEYS, physiology,
reflex response to mechanical stimulation of stomach,
eff. route (Rus))

(STOMACH, physiology,
eff. of mechanical stimulation on kidney funct., efferent
reflex arch (Rus))

LEBEDEV, A.A.

LEBEDEV, A.A.

Some reflexes of a reinnervated transplanted kidney [with summary
in English]. Biul. eksp. biol. i med. 44 no.10:47-52 O '57.
(MIRA 11:2)

1. Iz kafedry farmakologii (zav. - dotsent G.M. Shpuga) Ivanovskogo
meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN
SSSR V.N. Chernigovskim.

(KIDNEYS, transplantation,
reflexes in reinnervated transplanted kidney (Rus))

LEBEDEV, A.A.

Change in residual blood nitrogen and urine nitrogen in experimental renal colic; calculi, urinary. Urologia 23 no.6:6-9 N-D '58. (MIRA 11:12)

1. Iz kafedry farmakologii (zav. - dotsent G.M. Shpuga) i kafedry biokhimii (Zav. - dotsent I.G. Menzorov) Ivanovskogo meditsinskogo instituta.

(NITROGEN

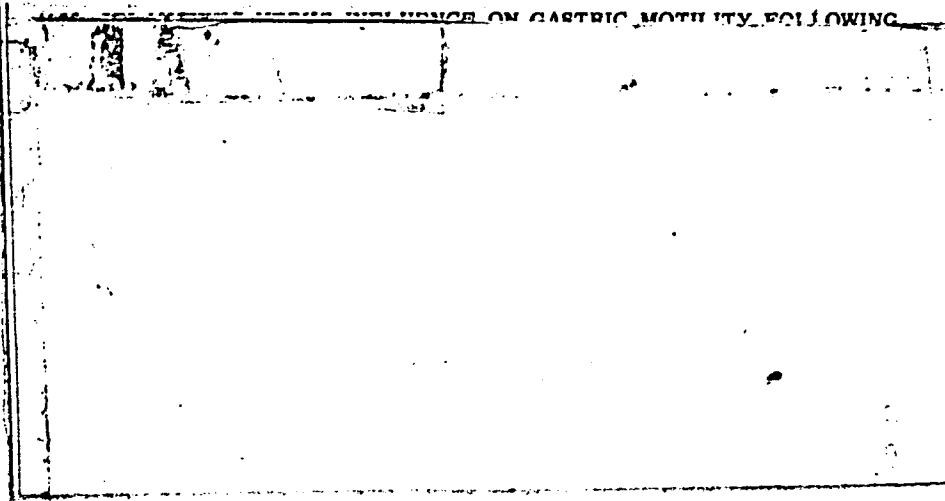
residual blood nitrogen & urine nitrogen, eff. of kidney colic in dogs (Rus))

EXCERPTA MEDICA Sec 2 Vol 12/9 Physiology Sept 59

4149. CHANGES IN PERIODIC MOTOR ACTIVITY OF THE STOMACH FOLLOWING STIMULATION OF THE RENAL PARENCHYMA (Russian text) - Lebedev A. A. Dept. of Pharmacol., Med. Inst., Ivanovo - FIZIOL. ZH. IM. SECH. 1958, 44/6 (560-564) illus. 4

Stimulation of the parenchyma of an intact kidney changes periodic gastric motility on the day of stimulation and on subsequent days. The period of rest (pause) is shortened immediately following stimulation and on subsequent days usual pauses between contractions are missing. Stimulation of the parenchyma of a transplanted kidney is also capable of modifying periodic gastric activity. The changes appear later, however, than when the parenchyma of an intact kidney is stimulated.

Simonson - Minneapolis, Minn.



LEBEDEV, A.A.

Some reflexes in the transplanted reinnervated kidney. *Biul. eksp. biol i med.* 50 no.12:37 D '60. (MIRA 14:1)

1. Iz kafedry farmakologii (zav. -- prof. G.M.Shruga) Ivanovskogo meditsinskogo instituta, Predstavlena akademikom V.N.Chernigovskim. (KIDNEYS--TRANSPLANTATION)

LEBEDEV, A.A.

Effect of adrenaline on the function of a transplanted reinnervated
kidney. Fiziol. zhur. 47 no.7:892-899 J1 '61. (MIRA 15:1)

1. From the Medical Institute, Ivanovo.
(KIDNEYS__TRANSPLANTATION) (ADRENALINE)

LEBEDEV, A.A.

Effect of acetylcholine on the function of the transplanted kidney.
Fiziol.zhur. 47 no.8:1062-1067 Ag '61. (MIRA 14:8)

1. From the Department of Pharmacology, Medical Institute, Ivanovo.
(CHOLINE) (KIDNEYS--INNERVATION)

LEBEDEV, A.A.

Comparative evaluation of diuretic changes in experimental convulsive seizures. Biul. eksp. biol. i med. 51 no.3:52-54 Mr '61.

(MIRA 14:5)

1. Iz kafedry farmakologii (zav. - prof. G.M.Shpuga) i kafedry biokhimii (zav. - dotsent V.A.Usol'tseva) Ivanovskogo gosudarstvennogo meditsinskogo instituta (dir. - dotsent Ya.M.Romanov). Predstavlena akademikom V.N.Chernigovskim.

(URINE—SECRETION)

(CONVULSIONS)

LEBEDEV, A.A.

Efferent nerves in a transplanted re-innervated kidney. Biul. eksp.
biol. i med. 51 no.4:8-12 Ap '61. (MLPA 14:8)

1. Iz kafedry farmakologii (zav. - prof. G.M.Shpuga) Ivanovskogo
meditsinskogo institut. Predstavlena akademikom V.N.Chernigovskim.
(KIDNEYS--TRANSPIANTATION)

LEBEDEV, A.A.

Function of a transplanted reinnervated kidney. *Biul. eksp. biol. i med.* 54 no.7:18-22 J1 '62. (MIRA 15:11)

1. Iz kafedry farmakologii (zav. - prof. G.M.Shpuga) Ivanovskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.

(KIDNEYS--TRANSPLANTATION) (VAGUS NERVE)

LEBEDEV, A.A.

Compensatory hypertrophy of a transplanted reinnervated kidney.
Biul. eksp. biol. i med. 54 no.8:41-43. Ag '62.

(MIRA 17:11)

1. Iz kafedry farmakologii (zav. - prof. G.M. Shpuga) Ivanovskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.

LEBEDEV, A.A.; KOROLEV, B.K.; RATNIKOV, V.I.

Changes in the blood protein fractions in dogs following autotransplantation of kidneys and spleen. Biul. eksp. biol. i med. 60 no.11:42-44 N '65.

(MIRA 19:1)

1. Kafedra farmakologii (ispolnyayushchiy obyazannosti zav. - prof. N.A. Myasoyedova) i kafedra obshchey khimii (zav. - dotsent N.M. Chistyakov) Ivanovskogo meditsinskogo instituta. Submitted June 8, 1964.

L 04785-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6024467

SOURCE CODE: UR/0181/66/008/007/2074/2076

AUTHOR: Zotova, N. V.; Lebedev, A. A.; Nasledov, D. N.ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-
tehnicheskiy institut AN SSSR)TITLE: Diffusion of cadmium in indium arsenide

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2074-2076

TOPIC TAGS: cadmium, physical diffusion, indium compound, arsenide, pn junction, semi-conductor impurity

ABSTRACT: In view of the limited amount of systematic data concerning the diffusion of impurities in indium arsenide, the authors present some new results on the diffusion of Cd in InAs of n-type. The donor content was $4 \times 10^{16} - 6 \times 10^{19} \text{ cm}^{-3}$. The tests were made on single-crystal indium arsenide, both pure and doped with tellurium and selenium. The diffusion was in saturated cadmium vapor at 750 - 780C and 10^{-6} mm Hg. The depth of the p-n junction was determined by the removal of layer method and determination of the sign of the charge from the thermal emf. The results show that the diffusion of Cd in InAs depends on the initial concentration of the donor impurity but not on the nature of the donor; the diffusion coefficient decreases with increasing impurity concentration in the initial substance. The decrease in the diffusion coefficient in strongly doped material is shown to be connected with the formation of donor-acceptor pairs which diffuse more slowly than free acceptors. Orig. art. has: 2

Card 1/2

L 04785-67

ACC NR: AP5024467

figures, 2 formulas, and 2 tables. 0 .

SUB CODE: 20/ SUBM DATE: 07Dec65/ ORIG REF: 001/ OTH REF: 001

Card 2/2 *pla*

LEBEDEV, A.A.

Carbohydrate metabolism and the endocrine-vegetative correlation in cases of hyperemesis gravidarum. A. A. LEBEDEV. *Akusherstvo i Ginekol. (Obstet. and Gynecol.)* 1940, No. 2, 10-15.—The glucose tolerance was estimated in a number of the above patients. The majority of them had an aversion to sugar resulting in vomiting, therefore, injections of adrenaline (1 cc. of 1:1000 soln.) were given instead of sugar administration. The blood was analyzed just before and at 1/2 hr. intervals for 3 hrs. after the injection. In mild cases the carbohydrate metabolism was not impaired, although the sympathetic and parasympathetic nervous systems were somewhat excited. The hyperglycemia coefficient (Bodon) was 1.77 or 77%; the hypoglycemia index (Rafalsky) was 0.85 or 15%; the carbohydrate metabolism index (Sokolnikov) was 0.84. In moderate cases there was a pronounced excitation of the vegetative nervous system and this led to a derangement of carbohydrate metabolism. The sympathico-adrenaline phase prevailed over the vago-insulin phase and accordingly, the rate of glycogenolysis was higher than that of its synthesis. The above indexes were respectively: 1.75; 1.28 and 1.57. In severe cases a typical diabetes mellitus disfunction of the insulin apparatus of the pancreas, as well as of the liver was observed, as evidenced by the indices: 1.10-

1.35, 1.14 1.27 and 0.96. In severity, after pregnancy termination, the pathological shifts in the vegetative nervous system still remained to some extent and glycogenolysis was more pronounced than glycogenesis. Since vitamin C is known to stimulate the vago-insulin phase, the patients' blood and urine were tested for ascorbic acid. Vitamin C was found in minimum quantity, or was absent in these fluids. The C avitaminosis was pronounced in all patients, amounting in mild, moderate and severe cases, resp. to 3120, 3640 and 5000 mg. on the average. It follows that in the above disease, the adrenal cortex is in a hypostate the medulla being in a hyper state. The high rate of glycogenolysis and the low glycogen concn. in the blood are due to an excessive secretion of adrenaline. The relative insufficiency of insulin is due to the large amt. of this hormone used up in counteracting hyperglycemia. The impairment of the liver function is due to its impoverishment in glycogen. This latter deficiency also leads to an increased fat metabolism, which however, cannot go beyond the keto-bodies stage, these substances accumulating in the liver. Finally lack of carbohydrates leads to increased deamination of proteins, which also results in impaired liver cells. It was also noticed that sympathico-tropic overstimulation causes intolerance of glucose, while vagotropic excitation produces insulin idiosyncrasies. Both types are observed even when the liver is not damaged. It is concluded that vitamin C given to saturation alone, or where possible in combination with glucose and insulin would have a therapeutic effect on these patients.
C. S. Shapiro

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A 58-51.4 METALLURGICAL LITERATURE CLASSIFICATION

LEBEDEV, A.A.

Activities of chief obstetrician-gynecologists in RSFSR. Akush. gin.,
Moskva no.5:32-37 Sept-Oct 1952. (GIML 23:2)

1. Professor, Head Obstetrician-Gynecologist of the Ministry of Public
Health RSFSR.

LEBEDEV, Anatoliy Alekseyevich

[Determination of the stage of pregnancy; manual for physicians]
Opredelenie sroka beremennosti; posobie dlia vrachei. Moskva,
Gos. izd-vo med. lit-ry, 1955. 87 p. (MLRA 8:7)
(Pregnancy)

LEBEDEV, A. A.; MEN'SHUTINA, N.A.

Method of decreasing blood loss in the placental stage and shortening its duration. Akush. i gin. no.2:81-84 Mr-Ap '55. (MLRA 8:7)

1. Iz kafedry akusherstva i ginekologii (zav. -prof. A.A.Lebedev) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni I.V.Stalina i roditel'nogo doma No.7 imeni Grauermana (glavnyy vrach - zasluzhennyy vrach Ye.A.Botoyeva)

(LABOR,

third stage, decrease of blood loss in placental stage by shortening of duration)

(HEMORRHAGE,

uterus, in third stage, decrease of blood loss by shortening duration of third stage)

(UTERUS, hemorrhage,

in third stage, decrease of blood loss by shortening duration of third stage)

LEBEDEV, A. A., professor (Moskva)

Present trend in the prevention and treatment of pregnancy
toxemias. Sovet. med. 19 no.5:14-20 My '55. (MLRA 8:8)
(PREGNANCY TOXEMIAS, prev. and control)

in the name of the Ministry of Health
LEBEDEV, Anatoliy Alekseyevich; doktor med.nauk, prof.; USPENSKAYA,
N.V., red.; GUBIN, M.I., tekhn.red.

[Woman's health and maternity] Zdorov'e zhenshchiny i materinstvo.
Moskva, Izd-vo "Znanie," 1957. 47 p. (Vsesoiuznoe obshchestvo po
rasprostraneniu politicheskikh i nauchnykh znani. Ser.8,
nos.50/51) (MIRA 11:1)

(WOMEN==HEALTH AND HYGIENE)

LEBEDEV, A.A.

[Vomiting in pregnancy] Rvota beremennykh. Moskva, Medits, 1957.
172 p. (MIRA 11:4)
(PREGNANCY) (VOMITING)

LEBEDEV, A.A., prof.; SINITSYNA, M.A.; PAVLOVA, I.I.

Medical gymnastics in obstetrics. Akush. i gin. 35 no.3:20-
26 My-Je '59. (MIRA 12:8)

1. Iz kafedry akusherstva i ginekologii (zav. - prof.A.A.Lebedev)
pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta
imeni Pirogova.

(PREGNANCY

exercise ther., evaluation (Rus))

LEBEDEV, Anatoliy Alekseyevich, red.

[Clinical, morphological, and hormonal parallels in dysfunctional uterine hemorrhages] Kliniko-morfologo-gormonal'nye paralleli pri disfunktsional'nykh matochnykh krovotecheniakh. Moskva, 1960.
209 p. (MIRA 14:7)

(HEMORRHAGE, UTERINE)

LEBEDEV, A.A. (MOSCOW, USSR)

Klinisch-morphologisch-hormale Bedingungen zur Motivierung konservativer Operationem des Myoma uteri.

Report submitted for the 3rd World Congress, Intl Federation of Gyneology and Obstetrics, Vienna, Austria, 3-9 Sep 1961.

LEBEDEV, Anatoliy Alekseyevich, prof.; KOZHANOVA, Lidiya Savel'yevna;
RYKUNOV, Yerminingel'd Ivanovich; SINITSYNA, Mariya Andreyevna;
CHEKANOVA, V.I., red.; VORONINA, R.K., tekhn. red.

[Physiological bases for the prevention of complications in antenatal fetal development; a manual on the overall preparation of pregnant women for labor] Fiziologicheskie osnovy profilaktiki oslozhenii antenatal'nogo razvitiia ploda; posobie po kompleksnoi podgotovke beremennykh k rodam. Moskva, Vysshaya shkola, 1962. 81 p.

(MIRA 15:7)

(PRENATAL CARE)

LEBEDEV, A.A., prof.; RYKUNOV, Ye.I.; SINITSYNA, M.A.; PRIBYLOV,
K.N.; BYLIONOK, V.K.; PAVLOVA, I.I.; GOTOVTSEV, P.I., red.;
YAKOVLEVA, N.A., tekhn. red.

[Exercise therapy in obstetrics and gynecology] Lechebnaia fiz-
kul'tura v akusherstve i ginekologii; posobie dlia vrachei
zhenskikh konsul'tatsii i rodil'nykh domov. Moskva, Medgiz,
1962. 173 p. (MIRA 15:12)

(EXERCISE THERAPY)
(OBSTETRICS) (GYNECOLOGY)

LEBEDEV, A. A., prof.

Fetopathies and their significance for the pathogenesis of some
gynecological diseases. Akush. i gin. no.2:49-54. '62.

(MIRA 15:6)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A. A.
Lebedev) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo
instituta imeni N. I. Pirogova.

(FETUS—DISEASES) (GYNECOLOGY)

LEBEDEV, Aleksey Andreyevich, kand.tekhn.nauk

Determination of the ellipticity coefficient of the magnetic field of the massive rotor of an electric machine. Izv.vys. ucheb.zav.; elektromekh. 4 no.8:18-21 '61. (MIRA 14:8)
(Electric machinery) (Magnetic fields) (Armatures)

LEBEDEV, Aleksey Andreyevich, kand.tekhn.nauk

Circle diagram of a quick-acting electric motor. Izv. vys. uchet.
zav.; elektromekh. 4 no.12:87-90 '61. (MIRA 15:1)
(Automatic control--Electric equipment) (Electric motors)

SYROMYATNIKOV, I.A.; NEKRASOV, A.M.; LEBEDEV, A.A.; KOSTENKO, M.P.;
NEYMAN, L.R.; VASIL'YEV, D.V.; KAMENSKIY, M.D.; USOV, S.V.;
POSSE, A.V.; UL'YANOV, S.A.; FAZYLOV, Kh.P.

Professor N.N. Shchedrin; on his seventieth birthday and fortieth
anniversary of his educational work. Elektrichestvo no.1:94-
95 Ja '62. (MIRA 14:12)

(Shchedrin, Nikolai Nikolaevich, 1891-)

BOGORODITSKIY, N.P.; VINOKUROV, V.I.; YERMOLIN, N.P.; LEBEDEV, A.A.; POTSAR, A.A.;
TERENIN, A.N.; FREMKE, A.V.

Professor Boris Pavlovich Kozyrev, 1895- ; on his 70th birthday.
Elektrichestvo no.9:89 S '65. (MIRA 18:10)

BESSONOV, L.A.; DOMANSKIY, B.I.; DROZDOV, N.G.; D'YACHENKO, N.Kh.;
ZHEKULIN, L.A.; ZAYTSEV, I.A.; ZALESSKIY, A.M.; KAMENSKIY, M.D.;
KOSTENKO, M.P.; LEBEDEV, A.A.; LOMONOSOV, V.Yu.; MITKEVICH, A.V.;
SMIRNOV, V.S.; TOLSTOV, Yu.G.; USOV, S.V.; SHRAMKOV, Ye.G.

L.R. Neiman; on his 60th birthday and the 35th anniversary of
his educational work. Elektrichestvo no.6:93-94 Je '62. (MIRA 15:6)
(Neiman, Leonid Robertovich, 1902-)

L 02405-67

ACC NR: AP6015402

(N)

SOURCE CODE: UR/0375/65/000/012/0046/0048

AUTHOR: Lebedev, A. A. (Engineer, Colonel); Kosarev, V. V. (Commander); Gaziyev, A. A. (Engineer, Lieutenant commander)

ORG: none

28
P

TITLE: How to simplify the development of course programs

SOURCE: Morskoy sbornik, no. 12, 1965, 46-48

TOPIC TAGS: programmed teaching, learning mechanism, *EDUCATION*

ABSTRACT: The use of linear and circular graphs in setting up course programs is discussed. A specific illustration in the development of a course of study on radio engineering equipment is given. The circular graph indicates the number of hours to be denoted to lectures, practical exercises and laboratory work for specialized and general courses within a given discipline. The linear graph indicates specific topics and states specifically what the student should know about a given topic. The authors conclude that with the aid of these graphs and diagrams, the course compiler can eliminate duplication of course material, more easily decide on the number of hours to be assigned to the study of various materials, choose the optimal sequence for presenting the material, and obtain a clear picture as to the actual volume of material to be studied. Orig. art. has: 2 figures.

SUB CODE: 05/

SUBM DATE: none

Card 1/1

L 02442-67 EWT(1) GW

ACC NR: AT6006571

(N)

SOURCE CODE: UR/2546/65/000/142/0028/0032

AUTHOR: Lebedev, A. A.

ORG: none

25
Bt 1

TITLE: Year to year changes in ice and thermal conditions of North Atlantic waters and adjacent seas

SOURCE: Moscow. Tsentral'nyy institut prognozov. Trudy, no. 142, 1965. Morskiye prognozy i raschety (Marine forecasts and calculations); materialy Vsesoyuznogo soveshchaniya, noyabr' 1963 g., 28-32

TOPIC TAGS: sea ice, hydrology, synoptic meteorology, *ATMOSPHERIC TEMPERATURE / NORTH ATLANTIC OCEAN, BARENTS SEA*

ABSTRACT: The relation of thermal and ice conditions in the North Atlantic and the relation temperature of water masses of the North Atlantic and the Barents Sea were investigated on the basis of observations made in 1900-1955. Calculations were made using the formula

$$\Pi = \frac{k_1 - k_2}{H}$$

where Π is the relation indicator, k_1 is the number of coincidences of anomaly of the same sign, k_2 is the number of coincidences of anomaly of different sign, and H is the

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L 02442-67

ACC NR: AT6006571

total number of coincidences (years). The data show that 1) the relation coefficient from year to year is of insignificant value; 2) the relation coefficient for extreme ice conditions is rather significant; 3) the mean yearly temperature anomalies of three selected large regions of the North Atlantic show a pronounced relation and no coupling with the mean temperature anomalies of the Barents Sea; 4) there is no congruence between the Labrador and North Cape currents; and 5) year to year changes in ice and thermal conditions in the North Atlantic and adjacent seas are closely connected with the interaction of the hydrosphere and atmosphere which lead often to the divergence of macrosynoptic and hydrological processes on both sides of the North Atlantic. Orig. art. has: 3 figures, 4 tables.

SUB CODE: 04,08/

SUBM DATE: none

Card 2/2 *gd*

OSTOVLAVSKII, I.V., and A.A. LEBEDEV

O raschete pod''ema skorostnogo samoleta. (Tekhnika vozdushnogo flota, 1946, no. 8/9, p. 21-27, diagrs.)

Title tr.: Performance calculations for high-speed aircraft in climb.

TI504.T4 1946

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

LEBEDEV, A. A., Engr. Cand. Tech. Sci.

Dissertation: "Certain Problems of the Aerodynamics of a Wing in a Supersonic Flow."
Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze, 22 May 47.

SO: Vechernyaya Moskva, May, 1947 (Project #17836)

USSR/Mathematics - Stability

Card 1/1

Author : Lebedev, A. A.

Title : The problem of stability of motion in a finite time interval

Periodical : Prikl. mat. i mekh., 18, 75-94, Jan/Feb 1954

Abstract : Employs the method of G. V. Kamenkov for the use of equations of the first approximation to determine the conditions of stability of non-stationary motion for finite initial and constantly acting disturbances. Gives a method for the definition of the time interval during which undisturbed motion is stable.

Institution :

Submitted : September 21, 1953

LEBEDEV, A. A.

USSR/Mathematics - Stability of Motion

FD-647

Card 1/1 : Pub. 85-2/20

Author : Lebedev, A. A. (Moscow)

Title : Stability of motion in a given interval of time

Periodical : Prikl. mat. i mekh., 18, 139-148, Mar/Apr 1954

Abstract : Considers the problem of the stability of motion on a given interval of time, finite or infinite, for the general case of nonstationary motion. The basic method for solving this problem is Lyapunov's second method (A. M. Lyapunov, Obshchaya Zadacha ob ustoychivosti dvizheniya [General Problem of the Stability of Motion], GITTL, 1950). In setting up this problem the author uses here a work of N. G. Chetayev ("An idea of Poincare," Sbornik nauchin. tr. Kazansk. aviats. Instituta [Collection of Scientific Works of the Kazan Aviation Institution], No 3, 1935) and a work of G. V. Kamenkov ("Stability of motion in a finite interval of time," PMM, 17, No 5, 1953).

Institution : --

Submitted : December 15, 1953

LEBEDEV, A. A.

FD-849

USSR/Mathematics - Stability of motion

Card 1/1 : Pub. 85 - 14/14

Author : Kamenkov, G. V., and Lebedev, A. A.

Title : Remarks concerning an article on stability in a finite interval of time

Periodical : Prikl. mat. i mekh., 18, 512, Jul/Aug 1954

Abstract : The authors make more precise the definition of stability in a finite interval of time (G. V. Kamenkov, "Stability of motion in a finite interval of time," PMM, 17, No. 5, 1953. A. A. Lebedev, "Stability of motion in a given interval of time," PMM, 18, No. 2, 1954).

Institution : --

Submitted : --

LEBEDEV, Aleksandr Aleksandrovich

Academic degree of Doctor of Technical Sci, based on his defense, 23 May 1955, in the Council of Moscow Order of Lenin Aviation Inst imeni Ordzhonikidze, of his dissertation entitled: "Stability of Irregular Neustavivshegosya Movement at the Final Time Interval."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 1, 7 Jan 56, Byulleten' MVO SSR, Uncl.
JPRS/NY-548

LEBEDEV, H-A

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 762 - X

BOOK

Call No.: AF684925

Authors: LEBEDEV, A. A., STRAZHEVA, I. V. and SAKHAROV, G. I.

Full Title: Aeromechanics of Aircraft

Transliterated Title: Aeromekhanika samoleta (Aircraft Fluid Mechanics)

PUBLISHING DATA

Originating Agency:

Publishing House: Gosudarstvenove izdatel'stvo oboronnoy promyshlennosti.
Moscow.

Date: 1955

No. pp.: 472

No. of copies:

Editorial Staff: None

Others: Gratitude for cooperation is expressed to: Profs.
Ostoslavskiy, I. V., Burago, G. F., Martynov, A. K. and
Zhuravchenko, A. N.

PURPOSE AND EVALUATION: This is a textbook for courses in aviation institutions of higher learning in which aeromechanics is taught in abbreviated form. The interest of the book consists in the quantity of material it presents in a comparatively small volume. It shows also how aerodynamics and aircraft mechanics is taught in the USSR and what is the general approach to problems of the design and calculation of aircraft. The works of Zhukovskiy and other Russian scientists are often mentioned as a basis for future developments. However, the basic approach to theoretical

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Aeromekhanika samoleta

AID 762 - X

and practical problems of subsonic and supersonic aerodynamics and aeromechanics does not differ from the American approach. The book consists of two parts and seven chapters. It is provided with 352 clear diagrams.

TEXT DATA

Coverage: This textbook is intended to: 1) give the student the indispensable information on the basic laws of the flow of fluids and the flow over bodies at various speeds, 2) acquaint the reader with contemporary methods of experimental research in aerodynamics and with apparatus used in aerodynamic laboratories, 3) generalize basic information about methods of aerodynamic calculation of aircraft for stability and maneuverability.

Table of Contents

Pages

Preface and Introduction

The purpose of the book is explained and definitions of basic terms are given.

Part One. Fundamentals of Aerodynamics

Chapter I. Basic Laws of the Flow of Gases

3-6

The author reviews the properties of fluids, basic laws of kinetics, fundamental equations of one-dimensional flow, and other phenomena of one-

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Aeromekhanika samoleta

AID 762 - X
Pages

dimensional flow for subsonic and supersonic speeds.

Chapter II. Methods of Experimental Research

69-132

The author gives basic information on aerodynamic forces and moments acting on the aircraft, on the adaptation of the theory of similarity in aerodynamics, on the methods of aerodynamic experimentation and on the methods of measurement of pressure and the determination of the speed of the flow of the air. He discusses criteria of similarity taking into account: 1) viscosity, 2) compressibility, 3) periodicity of phenomena, 4) initial turbulence of the flow. He gives the history of the development of wind tunnels in the USSR, cites names of prominent scientists in this field, and describes Russian-built wind tunnels of the Moscow Aerodynamic Institute (pp. 93, 95, 102). He describes methods of study of the physical picture of the flow over bodies and gives photos and diagrams of Russian-built apparatus (pp. 107-110). He mentions briefly flight experiments and gives names of prominent test pilots

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Aeromekhanika samoleta

AID 762 - X
Pages

(p. 113). At the end of this chapter the author describes methods of measurement of pressure and determination of the speed of the flow of air, in particular the measurement of the normal flow by means of static pressure, pressure receptacles, pressure drop and thermoanemometers. He gives also methods of measurement of flows of sonic speed. A Russian-built pressure measuring device is described (p. 129).

Chapter IV. Aerodynamic Forces at Above Critical M Numbers

236-268

In this chapter the author discusses the supersonic flow of gases, the drag of bodies immersed in this flow, shock waves, wave resistance, and shock wave polar curve. He describes aerodynamic characteristics of wings of supersonic aircraft, distribution of pressure on the airfoil, flow over obtuse and convex angles, and the behaviour of wings of finite span in an supersonic flow.

Chapter V. Propellers

269-295

The author gives the geometric and kinematic

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Aeromekhanika samoleta

AID 762 - X
Pages

characteristics of propellers and mentions Russian scientists in this field (p. 281). He develops the theory of the propeller, of an element of propeller blade and of the theory of similarity applied to propellers. He gives aerodynamic coefficients of propellers and describes the influence of the compressibility of air on their operation. At the end of this chapter, the author gives the basic types of propellers and their characteristics. He mentions the following propellers: fixed pitch, variable pitch, feathering, reversible pitch or braking, differential reversing, and coaxial.

Part Two. Aircraft Aeromechanics

Chapter VI. Determination of Basic Flying Characteristics of Aircraft

296-380

The author gives general equations of aircraft movement and describes the conception of overload, the curvilinear flight in various planes, takeoff, landing, diving and recovery, and the figures of advanced piloting. He explains how the initial data for aerodynamic calculations are obtained, describing basic types of power plants and jet and

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Aeromekhanika samoleta

during the disturbed side motion, and the influence of static coefficients on lateral stability. In the last paragraph, the author considers the maneuverability of aircraft. In particular, he discusses the diagrams of equilibrium, the effectiveness of rudders and ailerons, criteria of maneuverability with the connection of stresses on the control column and the rudder, lateral maneuverability in flight on larger angles of incidence, auto-rotation and the spin.

No. of References: Russian 22, 1933-1953, Other 1, 1949.
Facilities: Moscow Aviation Institute

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LEBEDEV, A.

X-ray detection of faults in engine spark plugs. Grazhd. av. 13
no.2:28 # '56. (MLRA 9:5)
(Spark plugs) (X rays--Industrial applications)

LEBEDEV, A.

84-11-19/36

AUTHOR: Lebedev, A., Ryasnov, L.

TITLE: A Plug-type Coupling (Shtepsel'nyy raz"yem)

PERIODICAL: Grazhdanskaya aviatsiya, 1957, Nr 11, p.20 (USSR)

ABSTRACT: About ten different types of couplings for connecting the aircraft power network to airport power mains are currently used in aircraft. The multiplicity of types complicates maintenance and requires many adapter sets in airports. At present, standardization of couplings is in process, the number of couplings being reduced to two types: the ShRAP-50 for d.c. and the ShRA-200 for a.c. A photograph shows the ShRAP-500 coupling.

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AUTHOR
TITLE

LEBEDEV, A.A.

On a Method for the Construction of LYAPUNOV Functions (Ob odnom metode postroyeniya funktsiy Lyapunova).
Prikladnaia Matematika i Mekhanika, 1957, Vol 21, Nr 1, pp 121-124
(U.S.S.R.)

PERIODICAL

Received 3/1957

Reviewed 5/1957

ABSTRACT

The present work develops the methods suggested by N.G.CHATEYEV (Prikl.Mat.i Mekh.,Vol 9,Nr 3, 1945) and in his monography on the "Steadiness of Motion"(Ustoycivost' Dvisheniya, Moscow 1946). For this purpose the linear system of the equations of the disturbed motion $dx_i/dt = p_{i1}(t)x_1 + \dots + p_{in}(t)x_n$ ($i = 1, \dots, n$). Here $p_{ij}(t)$ are real, pariodic, limited, and steady functions of the real variable t . When investigating the system by LYAPUNOV's direct method the quadratic form $B(t, x_1, \dots, x_n) = (1/2) \sum_{i,k} \beta_{ik}(t)x_i x_k$ can be used as a LYAPUNOV function. Also the derivation dB/dt is a quadratic form and their coefficients are given. Together with the above system, a system with the constant coefficients $dx_i/dt = p_{i1}x_1 + \dots + p_{in}x_n$ ($i = 1 \dots n$) is investigated. Here p_{ij} denote the values of the coefficients $p_{ij}(t)$ of the above system at any point of time t or the mean values for any interval of time. For the determination of the values β_{ik} a system of $n(n+1)/2$ equations is given. The "characteristic equation" is then investigated. By the methods investigated here for the construction of the LYAPUNOV functions it is not always possible to solve the problem of stability. However, the present work suggests a method of solving the sta-

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On a Method for the Construction of LYAPUNOV Functions.

bility problem also for these cases. Here the LYAPUNOV function $V = \varphi(t)B(t, x_1, \dots, x_n)$ is studied, where B denotes the aforementioned quadratic form and $\varphi(t)$ a periodic, limited, and steady differentiable function. For the investigation of the disturbed motion a quadratic form is assumed to be given. The undisturbed motion is stable if it is possible, for the given quadratic form B, to select the function φ in such a manner that $V = \varphi B$ satisfies LYAPUNOV's main theorems on stability. It is then possible to determine an upper and a lower limit for $\varphi(t)$ at every point of time. The properties of these limits are here discussed. The results obtained apply also in the case of any LYAPUNOV functions constructed in form of quadratic forms. (No illustrations)

ASSOCIATION Not given
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SUBMITTED 3. 1. 1956
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Card 2/2

SOV/147-58-1-2/22

AUTHOR: Lebedev, A.A.

TITLE: On the Application of the Method of "Fixed Coefficients" in the Investigation of the Stability of Unestablished Motion (O primeneniі metoda "zamorozhennykh koeffitsiyentov" dlya issledovaniya ustoychivosti neustanovivshegosya dvizheniya)

PERIODICAL: Izvestiya Vysshikh Uchebnykh. Zavedeniy, Aviatsionnaya Tekhnika, 1958, Nr 1, pp 11 - 13 (USSR).

ABSTRACT: Let the disturbed motion of a dynamical system be described by a linear homogeneous set of differential equations in which the coefficients of the variables x_1, \dots, x_n are continuous and bounded functions of the time t . The method of the title consists in replacing the given system by the set of all systems with constant coefficients for fixed moments t in the required interval of time. It is supposed that the zero solution of the given system is stable if the real parts of the roots of the characteristic equation are negative for all values of t in the range under discussion. Stability under a constantly acting force in a finite interval of time is defined. In the general case of unestablished motion, the stability depends on the choice of the time origin.

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On the Application of the Method of "Fixed Coefficients" in the Investigation of the Stability of Unestablished Motion

Unestablished motion is uniformly stable in $t_1 \leq t \leq t_2$, if it is stable in $t_0 \leq t \leq t_2$ where $t_1 \leq t < t_2$. The conditions are given which the roots of the characteristic equation must satisfy in the finite interval $t_1 \leq t \leq t_2$ in order that unestablished motion may be uniformly stable in that interval for a constantly acting disturbance. The general theory is applied to a second order system describing the free oscillations of a V-2 type rocket. There are 2 figures, 1 table and 3 Soviet references.

ASSOCIATION: Kafedra aeromekhaniki samoleta, Moskovskiy aviatsionnyy institut (Chair of Aircraft Aeromechanics, Moscow Aviation Institute)

SUBMITTED: November 18, 1957

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1. Rockets--Oscillations
2. Oscillations--Mathematical analysis
3. Differential equations--Applications

LEBEDEV, H. D.

SOV 1997
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PHASE I BOOK EXPLANATION

Маслов, Анатолий Иванович Искусство управления автоматическими системами. (Title page); B.N. Petrov, Corresponding Member USSR Academy of Sciences, Professor; Ed. (inside book): V.S. Chichkanava; Tech. Ed.: M.V. Erastova.

ПРЕДИСЛОВИЕ: This collection of articles is intended for specialists in scientific research institutes and special design bureaus and is concerned with problems of automatic regulation. It may also be useful to students and teachers in schools of higher education.

СОДЕРЖАНИЕ: This collection of articles presents original works in the field of analysis and synthesis of nonlinear systems of automatic regulation and of linear systems with variable parameters. Some problems of calculating individual components of automatic systems are also discussed. References are listed after most of the papers.

Левбедев, Н.Д., Candidate of Technical Sciences. Obtaining Optimal Processes in Certain Relay Regulation Systems 2

The author defines as "optimal" the shortest aperiodical transient process (at a given amplification factor of the relay component) without overcorrection with respect to the regulated quantity. He investigates a relay regulation system affected by an external disturbance. The author attempts to determine the auxiliary signal necessary for obtaining optimal conditions.

Библиография 5

Левбедев, Н.Д., Candidate of Technical Sciences. Regulation of a Mechanical Object by Bang an Astatic Regulator with a Nonlinear Correction 5

The author discusses a method of regulating a neutral object by an astatic regulator with proportional velocity and the large correction, which permits obtaining the maximum time interval of the regulation. The author would like to know in the first amplitude and the maximum time interval for given initial disturbances and given constant equation coefficients of the object and of the regulator. Both the object and the regulator are described by equations of the first order. The author makes a qualitative investigation of such a system and reveals all possible kinds of movement occurring after arbitrary initial disturbances. He establishes relationships between parameters which determine the dynamic indices of the system.

Библиография 15

Левбедев, Н.Д., Doctor of Technical Sciences. Motion Stability in the Final Interval of a Control Process 16

The author investigates disturbed motion in the final time interval by using the direct method of Lyapunov. As an example, he determines the maximum time interval in a problem presented by G.V. Kuznetsov.

Библиография 113

Левбедев, Н.Д., Candidate of Technical Sciences. Critical Temperature Fluctuation in Ratings of Regulator Electrical Components 114

The author investigates this problem in the case of a dc winding at a constant voltage, and finds an expression for the critical temperature.

Библиография 130

Левбедев, Н.Д., Engineer. Semiconductor Thermistors in Relay Circuits 131

The author constructed a time relay equipped with a semiconductor thermostat and supplied from an ac network at commercial frequency. He investigated the stability of its operation with fluctuations in the voltage and determined the sufficient range of the delay and of operating conditions.

ПРИЛОЖЕНИЕ: Library of Congress Card

SOV/144-59-5-3/14

AUTHOR: Lebedev, A.A., Associate, Engineer-Major

TITLE: The Magnetic Field in the Air Gap of an Induction Motor with Arc-Shaped Stator, Excited by the Primary Winding

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 5, pp 14 - 23 (USSR)

ABSTRACT: Induction motors in which the stator covers only an arc and not a complete circle require special types of stator winding to avoid serious edge-effects at the end of the stator. A special feature of a new type of stator winding designed for such machines is that the loading on the stator tapers off towards the ends. The use of such windings considerably increases the efficiency of motors with arc-type stators and solid rotors. Professor G.I. Shturman in an article in Elektrichestvo Nr 10, 1946, studied the excitation of magnetic fields in arc-type stators but his formulae are not applicable to machines

Card 1/4 with the new type of stator winding. This article is

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accordingly concerned with the evaluation of magnetic fields in the air gap of a stator with the new type of winding. The simplifying assumptions adopted in the work are enumerated and explained. The arc-type stator may be considered as consisting of five sections: in the two outermost sections there are no windings; in the two inner ones the linear loading increases from zero to a maximum value in the direction of the centre; and in the central section the linear loading is constant. For the purpose of analysis, the origin of coordinates is located at the centre of the rotor and the zero line passes through the middle of the stator. Then the instantaneous value of the complete current over the length of the arc-type stator is given by Eq (1). Current equations are then derived in turn for the three main sub-divisions of the stator described above. The method of finding the constants of integration is explained from formulae (23) - (28) inclusive. Finally, Eqs (34), (35) and (36) are obtained for the induction under the different sections of the stator.

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Analysis of these equations shows that the magnetic field

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contains a component, stationary in space but pulsating in time, whose amplitude is greatest at the boundary between the outer and inner sections where the winding starts and ends. Curves of the induction in the air gap of a four-pole machine at various instants of time calculated by formula (35) are given in Figure 2. The illustration also shows an experimental curve of amplitudes of induction in the gap. The winding diagram of the arc-type stator is shown in Figure 3a; the rotor diameter was 100 mm and the stator covered an angle of 230 degrees. Comparison shows that the theoretical formulae closely describe the phenomena occurring in the machine. Such differences as occur arise partly from the assumptions made in deriving the formulae and also from the fact that the change in linear load at the ends of the stator was not strictly sinusoidal, see Figure 3b. Calculated curves of induction

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without allowance for the pulsating component are shown in Figure 4, which also includes an experimental curve. On comparing the curves of Figures 2 and 4 it will be seen that the amplitudes of the fields differ little from that of the main field, and that for practical purposes the calculations on machines with the new type of winding may be simplified. The above method is then applied to derive a formula for the induction in the air gap of a machine with arc-type stator having a constant value of linear load over the entire arc length, and the advantages over Shturman's formula are explained.

where are 4 figures and 2 Soviet references
ASSOCIATION: Leningradskaya Krasnoznamennaya Voenno-Vozdushnaya
Akademiya imeni A.F. Mozhayskogo (Leningrad Red Banner
Air Force Academy imeni A. F. Mozhayskiy)

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AUTHOR:

Lebedev, A.A. Engineer

SOV/84-60-1-60/76

TITLE:

Checking the Fuses on an Aircraft

PERIODICAL:

Grazhdanskaya aviatsiya, 1960, Nr 1, p 29 (USSR)

ABSTRACT:

The author states that G. Rogov, V. Bobrov and V. Aleksandrov have designed a miniature device (the PPP-1) for testing fuses in the electrical systems of aircraft. Soviet aircraft are fitted with AZS automatic safety devices, one employing a TT-1 were formerly 2 test methods, IP and TP fuses. There the other requiring removal of the fuses and ohmmeter and necessitating extraction. The use of micro-ohmmeter without fuse extraction. The use of micro-ohmmeters, under operational conditions is complicated by the fact that they weigh some 18 kg and need a heavy power-source. The PPP-1 operates as follows:

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Checking the Fuses on an Aircraft

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Current flows to the terminals in contact with those of the sound fuse and the bulb lights and burns until the RP-4 relay circuit opens or the source is switched off. Current can be switched through the secondary RP-4 polarized relay winding. There is 1 circuit-diagram. ✓

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S/144/60/000/01/007/019
E194/E155

AUTHOR: Lebedev, A.A., Engineer Major

TITLE: An Asynchronous Motor with Solid Spherical Rotor

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Elektromekhanika, 1960, Nr 1, pp 48-60 (USSR)

ABSTRACT: The development of spherical-rotor variable-speed induction motors is briefly reviewed. The use of a solid spherical rotor makes it possible to control the speed over wide limits by turning the axis of rotation of the magnetic field of the stator relative to the axis of rotation of the rotor. The angle of rotation of the stator, and consequently the limits of control, depend upon the dimensions of the rotor axis and the length of the stator and end windings, as will be seen from the diagram, Fig 1. It is possible to effect smooth speed control from zero to maximum speed in both directions by using an arc-shaped stator. The length of the stator arc is limited only by the dimensions of the rotor shaft. In this case the spherical rotor overhangs the bearing and the stator enfolds it, as illustrated diagrammatically in Fig 2. The solid spherical rotor is used in certain kinds of gyroscope. This article is a first attempt to

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An Asynchronous Motor with Solid Spherical Rotor

develop the theory and method of design of a motor with solid spherical rotor. It does not pretend to completeness and may contain various inaccuracies and approximations. The problem is to determine the characteristics of such an induction motor, given its dimensions and the physical properties of the material. The simplifying assumptions adopted are described. They are mainly concerned with the penetration of current into the rotor, and they make it possible to use the established relationships for the skin effect when deriving the main equations. The general equation for the electromagnetic power of an ordinary induction motor is given. Besides a term proportional to the slip, it includes the hysteresis and eddy-current losses in the rotor. In the solid-rotor motor the first and last of these terms are united, because the rotor eddy-current losses are the rotor winding currents. Some authors in analysing the operation of motors with solid cylindrical rotors have neglected the hysteresis torque. As this is not permissible when the rotor is made of magnetically-

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hard steel, the equivalent circuit should resemble that of a hysteresis motor, to allow for the influence of eddy currents. Such an equivalent circuit has already been suggested by workers of the Moscow Power Institute and is reproduced in Fig 4. However, the present author prefers the circuit of Fig 5, as it is simpler and more convenient for analysis of the motor operation. The parameters of the equivalent circuit related to the stator winding are determined in the usual way and are not discussed here, but the eddy current and hysteresis terms are considered separately. The power loss per unit surface area of rotor is given by expression (1) and the effective current density as a function of the distance from the rotor surface by expression (2). Expression (11) is derived for the total electrical impedance of a solid ferromagnetic rotor without allowance for the hysteresis loss. For a two-pole machine the coefficient that allows for the end-winding resistance may be determined from formula (12). For multi-pole

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machines, where this formula is not valid, expression (13) should be used. When the slip is small, the rotor current is small and the end-winding field is weak. It is shown that as a consequence the effective depth of penetration of the field near the end-winding is 1.4 times deeper than in the active zone of strong fields. As the rotor slip increases, the rotor currents increase and the end winding field becomes stronger. The depth of field penetration both under the end-windings and in the active parts of the rotor then become about the same. The method of determining the parameters of the hysteresis circuit are then considered, its reactance being given by expression (14). The magnetising component of the rotor current is determined from expression (17), which embodies a coefficient given by expression (18). The various equations necessary for drawing up the equivalent circuit are then derived and the corresponding vector diagram of the induction motor with solid steel rotor is given in Fig 6. An expression (28) is then derived ✓

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for the motor torque. It consists of two components, one corresponding to the eddy currents, which is given by expression (36), and one corresponding to the hysteresis torque, which is given by expression (38). The formulae that have been derived were in good agreement with experimental results. For example, Fig 7 gives a comparison of the calculated and experimental curves for one type of motor with a solid spherical rotor made of steel grade ShKh-15, of 60 - 65 Rockwell hardness units. The calculated torque is somewhat higher than the experimental because the calculation does not allow for higher harmonics, which particularly influence the operation of a solid-rotor machine. A formula derived by Sharov in an article published in Elektrichestvo, 1959, Nr 4, may be used to determine the relationship between the permeability at the rotor surface and the slip. A minor error in Sharov's formula is pointed out. Except for the aspects mentioned, the design of a solid

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