

Problems in Long-distance (Cont.)

SOV/1476

is the basis for self-excitation which the author calls "re-active-synchronous." The second is the basis for asynchronous self-excitation. The author proceeds to a study of two cases of capacitive self-excitation: 1) in the simplest case of an induction machine and 2) in a generator with salient poles, with a longitudinal excitation winding and no damping coils on the rotor. The author concludes with a short review of methods of combating underirritable self-excitation and finds that there is no universal method which is at the same time effective and economical. There are 19 references, of which 18 are Soviet (including 2 translations), and 1 English. The article contains 9 diagrams.

Shchedrin, N.N., Corresponding Member, Academy of Sciences, Uzbek SSR.
Some Methods of Calculating the Limits of Self-excitation of Induction and Synchronous Machines 47

The author is of the opinion that experimental methods of determining the limits of self-excitation are difficult and there is no possibility of obtaining operational data from existing power systems. The development of sufficiently simple and exact methods of calculating these limits is therefore important for the design of certain electric power systems. In practice, the problem is reduced to finding
Card 3/7

Soviet Union, U.S.S.R.

FILE NUMBER: 507/1130

Leningrad. Politekhnikheskiy Institut

Teorika vysokikh napryazheniy (High-Voltage Technique) Moscow, Gosenergoizdat, 1958. 66 p. (Series: Nauchnyy, No. 195) 5,000 copies printed.

Eds.: Kostenko, M.V., Doctor of Technical Sciences, Professor; Palf, Ye.A., Tech. Ed.; Voronetskaya, L.V., Resc. Ed. of Series: Smirnov, V.S., Doctor of Technical Sciences, Professor.

PURPOSE: This book is addressed to electrical engineers, specifically to those interested in the field of high-voltage technique.

COVERAGE: This collection of articles sums up the principal results of investigations and studies made by Professor A.A. Jora, Doctor of Technical Sciences, and his staff in the field of high-voltage phenomena and techniques at LPI (Leningrad Polytechnical Institute). It was at this institute

and by

High-voltage Technique (Soviet)

SOV/1130

that Professor Gorev completed his higher scientific education and then taught and worked on his investigations in the field until his death in 1951. In 1953, by order of the Minister of Higher Education, the high-voltage laboratory at IPI was named after A.A. Gorev. Numerous references appear throughout the book.

TABLE OF CONTENTS.

SECTION I. ALEXANDER ALEXANDROVICH GOREV

Loshtanko, M.V. Life and Work of Alexander Aleksandrovich Gorev	2
<u>Sachelrin, M.N. A.A. Gorev and Problems of Stability of Electrical Systems</u>	6
M. Golubov, M.N. In Memory of Alexander Aleksandrovich Gorev	9

Cont. 2 12

High-voltage Technique (Cont.)	SOV/1130	
Levinshteyn, M.L., Piryazeva, A.I., and Ryabov, B.M. Works of A.A. Gorev		13
Isachenko, A.I. List of Professor A.A. Gorev's Works and Literature About Him		23
Stefanov, K.S. Activities of the Faculty and Laboratory of High-voltage Technique of the Leningrad Politechnic Institute imeni M.I. Kalinin During the Period 1938-1953		34
SECTION II. STABILITY IN LONG-DISTANCE TRANSMISSION OF ELECTRIC POWER		
Gorev, A.A. Boundary Operating Conditions in Long-distance Electric Power Transmission Determinable From Steady-state Equations		45
Levinshteyn, M.L., and Sheherbachev, O.V. Using Static Models of Electric Systems in Calculating Static Stability With Consideration For Frequency Change		65
Card 3/12		

High-voltage Technique (Cont.)	SOV/1130	
Bronfman, I.A. Zones of Static Stability of a System Consisting of Two Synchronous Machines Operating on a Common Load With Given Characteristics		74
Al'bertinskiy, B.I. Self-oscillation of an Overregulated Synchronous Machine		86
Abramyan, Sh.G., Gruzdev, I.A., and Levinshteyn, M.L. Operating Conditions of a System for Controlling Excitation of Generators for Long-distance Transmission		102
Abramyan, Sh.G., Gruzdev, I.A., Levinshteyn, M.L., and Shcherbachev, O.V. Effect of Automatic Control of Generator Excitation on Dynamic Stability of Long-distance Transmission		120
Vazhnov, A.I. Rotor Movement of a Synchronous Generator During Sudden Short-circuiting		158

Card 4/12

KOSTENKO, M.P., akademik; ZAVALISHIN, D.A., prof.; SHCHEDRIN, N.N., doktor tekhn. nauk; SALITA, P.Z., inzh.; VAZHNOV, A.I., kand. tekhn. nauk, dots.; ROZOVSKIY, Yu.A., kand. tekhn. nauk; MARCHENKO, Ye.A., kand. tekhn. nauk.; POLYAK, G.I., inzh; VENIKOV, V.A., doktor tekhn. nauk, prof.

Dynamic models of power systems. Elektrichestvo no.2:78-85 F '58.

(MIRA 11:2)

1. Nauchno-issledovatel'skiy institut postoyannogo toka (for Schedrin, Salita, Vazhnov, Rozovskiy, Marchenko, Polyak). 2. Chlen-korrespondent AN Uzbekskoy SSR (for Shchedrin). 3. Moskovskiy energeticheskiy institut (for Venikov).

(Electric networks)

AUTHORS: 1) Shchedrin, N. N., Doctor of Technical Sciences, Corresponding Member, Academy of Sciences, AS Uzbek SSR,
2) Ruzin, Ya.L., Docent, Candidate of Technical Sciences,
3) Shabadash, B. I., Docent

TITLE: G.I. Atabekov: "Theoretical Foundations of Relay Protection in High-Voltage Networks" (G.I. Atabekov. Teoreticheskiye osnovy releynoy zashchity vysokovol'tnykh setey)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 95 - 96 (USSR)

ABSTRACT: 344 pages. Price 19.80 Roubles. Gosenergoizdat Publishing House, 1957. This is a book review. The volume under review is a revised edition of the author's book published in 1949. The book corresponds to a sufficiently high scientific-technical standard and may be considered as the first part of a work on the theory of relay protection. Two disciplines are combined in a corresponding manner: relay protection engineering and the theory for the calculation of short-circuits. Chapter 1: construction and application of complex equivalent circuits. Chapter 2: method of loci, applied to the investigation of the mode of operation of electric transmission lines. Chapter 3: method for the calculation of transient processes in high-voltage networks. Chap-

Card 1/3

G.I. Atabekov. "Theoretical Foundations of Relay
Protection in High-Voltage Networks"

SOV/105-58-7-32/32

ter 4: filters for the symmetrical component. Chapter 5: types of the foundations of the theory of the power control equipment. Chapter 6: distance protection. Chapter 7: high-frequency protection. Chapter 8: devices for the detection of the defective phase in systems with automatic single phase repeater connection. Chapter 9: differential current protection and directed differential protection (lines and bus bars). Chapter 10: devices which prevent an incorrect operation of the protection in the case of oscillations of the alternators and disturbances in the secondary circuits of the transformers. The book does not comprise all fields of relay protection engineering, but treats in a general form a series of important problems. Certain unclear facts and errors are pointed out. There is 1 Soviet reference.

ASSOCIATION: 2) Leningradskiy politekhnicheskii institut (Leningrad Polytechnical Institute) 3) Sredne-Aziatskiy politekhnicheskii institut (Central Asia Polytechnical Institute)

Card 2/3

G.I. Atabekov, "Theoretical Foundations of Relay
Protection in High-Voltage Networks"

SOY 05-58-7-32/32

1. Electrical networks--Theory

Card 3/3

SHCHEDRIN, N.N., prof., doktor tekhn.nauk; ROZOVSKIY, Yu.A., kand.
tekhn.nauk

Utilization of synchronous strut compensators. Izv.vys.ucheb.
zav.; energ. 2 no.4:1-7 Ap '59. (MIRA 12:9)

1. Nauchno-issledovatel'skiy institut postoyannogo toka.
2. Chlen-korrespondent AN UzSSR (for Shchedrin).
(Electric power distribution)

POLOTOVSKIY, Lev Solomonovich; SHCHEDRIN, N.N., prof., retsenezent;
KAPLYANSKIY, A.Ye., prof., red.; ZHITNIKOVA, O.S., tekhn.red.

[High-voltage d.c. capacitance machinery] *Emkostnye mashiny*
postoiannogo toka vysokogo napriazheniia. Moskva, Gos.energ.
izd-vo, 1960. 146 p. (MIRA 14:3)
(Electric machinery--Direct current)

VAZHNOV, Aleksandr Ivanovich; SHCHEDRIN, N.N., .retsenzent; LEVINSHTEYN,
M.L., .red.; SOBOLEVA, Ye.M., tekhn.red.

[Fundamentals of the theory of transient processes in synchronous
machines] Osnovy teorii perekhodnykh protsessov sinkhronnoi
mashiny. Moskva, Gos.energ.izd-vo, 1960. 312 p.

(MIRA 13:12)

(Electric machinery, Synchronous)

(Transients (Electricity))

ROZOVSKIY, Yu.A.; SHCHEDRIN, N.N.

Concerning the use of supporting synchronous compensators. Izv.
NIIPT no.5:247-254 '60. (MIRA 14:1)
(Interconnected electric utility systems)
(Electric power distribution)

NEYMAN, L.R.; POSSE, A.V.; SHCHEDRIN, N.H.

Technological characteristics of d.c. power transmission systems.
Izv. NIPT no.6:10-62 '60. (MIRA 14:7)
(Electric power distribution--Direct current)

SHCHERIN, K.N.

V.A. Tolvinskii, one of the most eminent electric power engineers
in the U.S.S.R. Trudy LPI no. 209:11-14 '60. (MIPA 14:2)
(Tolvinskii, Vatslav Aleksandrovich, 1887-1952)

SHABADASH, B.I., kand.tekhn.nauk; SHCHEDRIN, N.H., doktor tekhn.nauk

"Automatic control systems" by A.B. Barzam. Reviewed by
B.I. Shabadash, N.N. Shchedrin. Elek. sta. 31 no.9:94-95
S '60. (MIRA 14:10)

(Electric power distribution)
(Automatic control)
(Barzam, A.B.)

ALEKSEYEV, A.Ye.; BULGAKOV, K.V.; ZILITINKEVICH, S.I.; IVANOV, V.I.;
PETROV, E.I.; RYKHOV, P.I.; SYROMYATNIKOV, I.A.; TIMOFEEV, V.A.,
SHCHEDRIN, E.N.; PATEYEV, A.V.

Sixtieth anniversary of the birth of Dmitrii Vasil'evich Vasil'ev.
Elektrichestvo no. 3:93 Mr 1962. (MIRA 15.2)
(Vasil'ev, Dmitrii Vasil'evich, 1901-)

KOSTENKO, M.V.; NEYMAN, L.R.; MELENT'YEV, L.A.; KAMENSKIY, M.D.; BOLOTOV,
V.V.; ZALESSKIY, A.M.; USOV, S.V.; SHCHEDRIN, N.N.; GERASIMOV, V.N.;
DUBINSKIY, L.A.

B.L.Aizenberg; on his 60th birthday. Elektrichestvo no.11:94
N '62. (MIRA 15:11)

(Aizenberg, Boris L'vovich, 1902-)

ARTEN'YEV, Dmitriy Yegorovich; TIKHODEYEV, Nikolay Nikolayevich;
SHUK, Solomon Saulovich; SHCHEDRIN, N.N., nauchn. red.

[Statistical principles of the selection of the insula-
tion of power transmission lines with potentials of a
high order; switching surges and electrical character-
istics of insulation] Statisticheskie osnovy vybora izo-
liatsii liniy elektroperedachi vysshikh klassov napria-
zheniia; kommutatsionnye perenapriazheniia i elektriche-
skie kharakteristiki izoliatsii. Moskva, Energiia,
1965. 375 p. (MIRA 18:5)

ATABEKOV, G.I.; BASHA'IN, A.V.; BOGORODITSKIY, N.I.; BULGAKOV, E.M.;
VASIL'YEV, B.S.; YEGHAYANOV, I.V.; YEREMLIN, N.I.; KOSTINHOV, B.I.;
MATKHANOV, P.N.; NOVASH, V.I.; NORNENSKIY, E.I.; RITSKIY, A.I.;
RYZHOV, P.I.; SGILOV'YEV, I.I.; SIKONIKHOV, G.S.; SLEPYAN, Ya.Ya.;
SMUROV, N.V.; TINYAKOV, N.A.; FATBYEV, A.V.; FEROSHYAN, A.Ya.;
SHABALASH, B.I.; SHCHEBEIN, N.N.

Viktor Ivanovich Ivanov, 1900-1964: obituary. Izv. vys. shkoly.
Muz. energ. & no.1:122-123 Ja '65.

(MIRA 1965)

ANDON'YEV, S.M., laureat Stalinskoy premii, kandidat tekhnicheskikh nauk;
LEONIDOV, N.K., redaktor; SHCHEDRIN, V.M., redaktor; MIKHAYLOVA,
V.V., tekhnicheskii redaktor

[Water cooling of blast furnaces] Voprosy vodianogo okhlazhdeniia
domennykh pechei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po
chernoii i tsvetnoi metallurgii, 1952. 60 p. [Microfilm]
(Blast furnaces) (Cooling) (MLRA 7:10)

307 0000, 11. 11.

"The Kinetics of the Process of Blast Furnace Smelting Under
Pressure." Dokl. Akad. Nauk SSSR, Inst. of Metallurgy Acad. Academician
A. A. Topolov, Acad. Sci. USSR, Moscow, 1957. (HL, 6-11, Mar 57)

SO: Ser. 11. 175, 22 Ser. 11-Survey of Scientific and Technical
Dissemination of the USSR. Higher Scientific Institutions(17)

Shchedrin, V. M.

18
Coke economies in blast-furnace operation under increased gas pressure. V. M. Shchedrin. *Trudy Sverdlovskoye Inst. Met. Ural. Filiala Akad. Nauk S.S.S.R. i Magnitogorsk. Met. Kombinat.*, 1955, 288-97 (Pub. 1958). The rate of reduction of an iron ore contg. 85.85% Fe₂O₃ (particle size 2-3 mm.) by moist and dry H at 500°, by CO at 900°, and by CO + N 80% at 800-1100° in the range of 1-5 atm. pressure was detd. by the change in wt. of a sample suspended in a vertical furnace observed by the deflection of a mirror. The rate of reduction with H was only slightly affected by the pressure. It was greater with CO + N, decreasing at higher temps. The rate of reduction with CO was higher than with CO + N but the formation of C black (10-12%) distorted the results. —I. B.

2
1. etc

11
B

OSTROUKHOV, Mark Yakovlevich; SHCHEDRIN, V.M., redaktor; SHPAK, Ye.G.,
tekhnicheskiiy redaktor

[Forcing of blast furnace smelting] Forsirovanie domennoi plavki.
Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, 1956. 220 p. (MLRA 9:7)
(Blast furnaces)

AUTHORS: Bardin, I. P. and Shchedrin, V.M. (Moscow) 24-11-4/31

TITLE: Reduction of silicon by means of carbon in the case of a variable pressure of the gas phase. (Vosstanovleniye kremniya uglerodom pri peremennom davlenii gazovoy fazy)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.11, pp. 27-43 + 1 plate (USSR)

ABSTRACT: The partial pressure p_{CO} affects appreciably the temperature of the beginning of the carbon-thermal reduction of elementary silicon. The mechanism of the carbon-thermal silicon reduction consists of the gaseous reduction of SiO_2 to SiO , subsequent regeneration of the CO by the carbon and decomposition of the SiO at the carbon surface accompanied by the formation of free silicon. The equilibrium silicon concentration during its reduction into solution depends appreciably on the p_{CO} . The coefficient of activity of silicon in the carbon saturated iron is directly proportional to the atomic fraction of silicon in the alloy and increases with increasing temperature. The dependence of the processes of interaction of SiO_2 with C on the pressure of the gaseous phase is due to the increase of the volume of the system involved in the reaction caused by the formation of the gaseous products,

Card 1/6

24-11-4/31

Reduction of silicon by means of carbon in the case of a variable pressure of the gas phase.

CO and SiO. The character of this dependence is to a certain extent determined by the mechanism of the process and, therefore, the authors considered it necessary to investigate this mechanism in greater detail. The results of calculation were subjected to experimental verification by reducing silicon with carbon at various CO pressures and the obtained results were used simultaneously for verifying the thermo-chemical data used for the calculations and entered in Table 1, p.28. The graph, Fig.3, shows the results of experimental verification of the dependence of the initial temperature of reduction of the silicon by carbon. The obtained results lead to the following conclusions: theoretically elementary silicon can form in the mixture $\text{SiO}_2 + \text{C}$ from 710°C onwards provided that the partial CO pressure in the system is reduced to 10^{-8} atm gauge by vacuum treatment or by displacement with inert gas. However, the speed of such a process is extremely small since as a result of the smallness of the partial pressures of the components as well as as a result of the slow regeneration of CO by means of the reaction

Card 2/6 $\text{C}_\beta\text{-graphite} + \text{CO}_2 = 2\text{CO}$. At a lower temperature obtaining

24-11-4/31

Reduction of silicon by means of carbon in the case of a variable pressure of the gas phase.

silicon from the mixture SiO_2 is impossible in principle since for this the condition $p_{\text{CO}} < p_{\text{SiO}}$ has to be fulfilled. However, at temperatures above 710°C the equilibrium ratio $p_{\text{CO}}/p_{\text{SiO}}$ above the mixture $\text{SiO}_2 + \text{C}$ is always higher than 1 so that the reduction proceeds until elementary silicon is obtained even in presence of certain excess quantities of CO of an origin different from that of the reaction $\text{SiO}_2 + \text{C} = \text{SiO} + \text{CO}$. Tests with a stoichiometric mixture of quartz glass and charcoal first annealed at 1800°C (for eliminating the volatile substances), the results of which are entered in the Table, p.36, confirm the conception expounded by the authors. For determining the silicon equilibrium concentration in iron as a function of the partial CO pressure, 5 to 7 g samples of the ternary mixture quartz glass-charcoal-electrolytic iron (preliminarily deoxidized by annealing in a stream of dry hydrogen) were heated up to 1300 , 1400 and 1500°C inside a CO atmosphere under a given pressure observing the loss in weight; the fact of reaching the equilibrium was judged by the stoppage of the loss in weight. After isothermal

Card 3/6

24-11-4/31

Reduction of silicon by means of carbon in the case of a variable pressure of the gas phase.

annealing the specimens were hardened directly from the respective parameters; it was found that cooling in the furnace is accompanied by reversible oxidation of up to half of the silicon content of the iron. The average results of the analysis of these samples are given in the graph, Fig.6. The relation between the coefficient of activity of silicon and its concentration in iron, which is saturated with carbon, is plotted in Fig.7 for 1300, 1400 and 1500°C. It can be seen that this coefficient is approximately proportional to the first degree atomic fraction of the silicon, γ_{Si}^C . Increase of γ_{Si}^C is attributed to the fact that whilst the activity of the silicon in the alloy is inversely proportional to the square of p_{CO} , its equilibrium concentration is inversely proportional to p_{CO} only with a power 0.7 to 1.0. The here obtained γ_{Si}^C values are about ten times as high as those obtained by Chipman and Fulton (Ref.35); the authors of this paper determined the activity of the silicon in chemical equilibrium with the gaseous phase with definite parameters, whilst Chipman and his team Card 4/6 studied the phase equilibrium of the solution in iron of

24-11-4/31

Reduction of silicon by means of carbon in the case of a variable pressure of the gas phase.

production of open hearth pig iron with reduced contents of silicon and sulphur which would yield considerable economies in the open hearth furnace. The obtained theoretical and experimental results are compared with statistical data obtained in normal blast furnace operation. The observed reduced silicon content in the open hearth pig iron is not accompanied by any appreciable increase in the sulphur content. The results show that it is possible to smelt low silicon open hearth pig iron in blast furnaces by increasing the gas pressure without reducing the heating. Acknowledgments are made to I. S. Kulikov for his assistance in carrying out the thermodynamic calculations relating to the coefficient of activity of the silicon in the solution and to A. V. Rudnev for analysing the micro-cuts. There are 8 figures, 2 tables and 41 references, 13 of which

Card 6/6 are Slavic.

SUBMITTED: July 10, 1957.

AVAILABLE: Library of Congress.

SECRET

18(0) PHASE I BOOK EXPLANATION SOV/1728

Академия наук СССР. Институт металлургии
Современные проблемы металлургии (Modern Problems in Metallurgy)
Москва, Изд-во АН СССР, 1956. 640 p. 3,000 copies printed.
Resp. Ed.: A. M. Semarin, Corresponding Member, USSR Academy of
Sciences; Eds. of Publishing House: V. S. Shcharnikov, and
A. E. Derzov; Tech. Ed.: T. V. Polyakova.

FRONTIS: This book is intended for scientific and technical per-
sonnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of
Soviet metallurgy. The book is dedicated to Academician
Ivan Pavlovich Bardin on the occasion of his 75th birthday. The
book is divided into seven parts. The first part consists of
two articles presenting a brief account of the biography and
professional activity of the Soviet metallurgist. It includes an
article by Leon Chupman, Academician, and M. M. Klotov (R.iff,
Kliff), describing the meeting with Bardin at Moscow and his
visit to the United States. The second part consists of two
articles and a summary with an introduction by the author
of the book. The third part represents the major
portion of the book. It consists of 25 articles dealing with
the various aspects of the metallurgy of pig iron and steel.
The fourth part consists of two articles treating the metal-
lurgy of nonferrous metals. The fifth part consists of three
articles on the forming of metals. The sixth part consists of
eight articles discussing certain aspects of physical metal-
lurgy. The last part deals with general problems in the field
of metallurgy. References are given after each article. No
personnel are mentioned.

TABLE OF CONTENTS:

Veskobeynikov, V. G. [Doctor of Technical Sciences], and I. A. Blepshchikov [Candidate of Technical Sciences, Central Scientific Research Institute of Ferrous Metallurgy]. The Performance of Blast Furnaces With Increased Gas Pressure	222
Shchegolev, V. N. [Candidate of Technical Sciences, Metallurgical Institute, Leningrad]. Blast Furnace Smelting Under Pressure and the Problem of Efficient Furnace Shaps	238
Shchegolev, V. N. [Engineer, Magnitogorsk Metallurgical Kombinat]. Efficient Method of Munitifying Blast Furnace Blast	247

Card 6/12

24(8) PHASE I BOOK EXPLOITATION SOV/2117

Soveshchaniye po eksperimental'noy tekhnike i metodam vysokotemperaturnykh issledovaniy, 1956

Experimental'naya tekhnika i metody issledovaniy pri vysokikh temperaturakh; trudy soveshchaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 P. (Series: Akademiya nauk SSSR. Institut metallurgii. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.I. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) constitution diagram studies 3) physical properties of liquid metals and slags 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverage, see Table of Contents.

Experimental Techniques and Methods (Cont.) SOV/2117

Pilipov, S.I. A Study of the Kinetics of the Decarburization of Steel. Description is given of methods and equipment for studying the kinetics of slag-metal reactions, especially desulfurization and dephosphorization. Use is made of the isotopes ³⁵S, ³³S, ³²S, ³¹S, and others. 108

Chou, Yang-shih. Thermodynamics of Liquid Blast-furnace Slags 113 Shikhov, V.M., and O.A. Yasin. Methods of Using Radioactive Isotopes for Studying the Kinetics of Metal-Slag Reactions 123

Shchedrin, V.M. Stand for Studying High-temperature Reduction Processes Under Pressure 131

Nyabov, R.A., and P.V. Gal'd. Rate of Hydrogen Diffusion in Steels at High Temperatures. A given temperature was determined the rate of diffusion of hydrogen diffusing per unit time through a unit section of fixed thickness, as measured by the drop in pressure. The effect of alloying elements (carbon, chromium, vanadium, silicon, manganese, and nickel), decomposition of austenite, and pressure on the rate of diffusion were studied. 147

1117 113 P 24245

SHCHEDRIN, Vladimir Mikhaylovich; SHAROPIN, V.D., red.; PTITSYNA, V.I.,
red.; izdava; KARASEV, A.I., tekhn. red.

[Theory of blast furnace operation under pressure] Teoriia dumen-
noi plavki pod davleniem. Moskva, Metallurgizdat. 1962. 454 p.
(MIRA 15:12)

(Blast furnaces)

SHCHEDRIN, V.M. (Moskva)

Chemical equilibrium of pig iron and blast furnace slag
under the effect of a variable gaseous phase pressure.
Izv. AN SSSR. Otd. tekhnauk. Met. i topl. no.1:23-35
Jan-F '62. (MIRA 15:2)

(Vapor-liquid equilibrium)
(Blast furnaces)

...tain, etc.

law of active masses as applicable to the kinetics of metal
reduction by carbon. Ind. Eng. Chem. Anal. Ed. 14:13-21 (1942)

SHCHEDRIN, V.M.

Calculating gas transit time through shaft furnaces. Trudy
Inst. met. no.12:20-28 '63. (MIRA 16:6)

(Blast furnaces)

KOROBov, L.N.; TSYLEV, L.M.; SHCHEBRIN, V.M.

Problems of the methods of investigating the kinetics of iron
reduction from its oxides in molten ores by reducing gases.
Stal' 25 no.8:867-871 S '65. (MIRA 18:9)

DEMITRENKO, Petr Alekseyevich [Dmytrenko, P.O.]; SHCHERBIN, V.V.,
rei.

[Keys to fertility; ways for the effective use of mineral
fertilizers in the Ukraine] Kluchki do rosluchosti; shliaky
efektyvnoho zastosuvannya mineral'nykh tsibryv na Ukraini.
Kyiv, 1966. 45 p. (Izvyastyvo "Zharnia" Ukrain's'koi RSL.
Seria VIII, no.9) (SIRA 17:9)

1. Chlen-korrespondent A. Ukr. S. (for citation).

ACC NR: AP6036886

(A)

SOURCE CODE: UR/0122/66/000/011/0046/0047

AUTHOR: Matveyev, B. I. (Candidate of technical sciences); Yegorov, B. G. (Engineer); Shchedrin, Ye. I. (Engineer); Vlasova, P. T. (Engineer)

ORG: none

TITLE: High-speed engine pistons from sintered aluminum alloy powder (SAP)

SOURCE: Vestnik mashinostroyeniya, no. 11, 1966, 46-47

TOPIC TAGS: *Piston engine, engine piston,* high speed engine, piston, piston fabrication, sintered aluminum alloy powder, sintered alloy piston, piston forging, piston property/SAP-1 alloy, SAP-2 alloy

ABSTRACT: Since the AK4 wrought aluminum alloy is not sufficiently heat resistant to be used as material for pistons in high-speed engines, the SAP-1 (6-11% Al₂O₃) and SAP-2 (10% Al₂O₃) alloys were tested. The pistons were forged from sintered compacts or extruded bars and preheated up to 540 ± 10C for 3 hr. The pistons were found to have good quality and a fine-grained structure without visible defects. At room temperature the pistons made from compacts had a tensile strength of 34-36 kg/mm² and an elongation of 2-4.5%, and those made from extruded bars had a tensile strength of 25-28 kg/mm² and an elongation of 9-10%. At 500C, the pistons made from compacts had a tensile strength of 8-8.5 kg/mm² and an elongation of 1.5-2%, and those made from extruded bars had a tensile strength of

UDC: 621.762.5:669.71]:621.43-242

Card 1/2

ACC NR: AP6036886

7—8 kg/mm² and an elongation of 4%. The mechanical properties were not affected by a test run for 300 hr at the temperature of operation. Orig. art. has: 2 figures and 3 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001/
ATD PRESS: 5108

Card 2/2

GORELIK, S.S., dotsent, kand.tekhn.nauk; ROMAHOV, V.M., inzh.;
SHCHEDRIN, Ye.I., inzh.

Effect of dedormation distortions and aging on the rate
of diffusion in nickel-base alloys. Sbr.Inst.stali no.39:
381-399 '60. (MIRA 13:7)

1. Kafedra fiziki metallov i rentgenografii Moskovskogo ordena
Trudovogo Krasnogo Znameni instituta stali im. I.V.Stalina.
(Nickel-chromium alloys—Cold working)
(Diffusion)

ACCESSION NR: AT4012719

S/2981/63/000/002/0098/0104

AUTHOR: Matveyev, B. I.; Khanova, I. R. Shchedrin, Ye. I.

TITLE: Techniques for stamping parts from SAP

SOURCE: Alyuminiyevyye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*. Moscow, 1963, 98-104

TOPIC TAGS: powder metallurgy, sintered aluminum powder, sintered aluminum, aluminum powder, SAP, SAP pressing, SAP stamping, SAP forging

ABSTRACT: In comparison with the common stressed aluminum alloys, SAP has lower plasticity at room temperature. At 450-570C, however, it is quite suitable for pressure working. The present authors therefore investigated the possibility of both hammer forging and high temperature pressing for the manufacture of SAP parts of various types. Pistons were made on a hammer forge from either briquets, sintered blanks or pressed rods (all made from aluminum powder containing 7-10% Al₂O₃) and tested for their structure and mechanical properties. The best results were obtained with pressed rods. Briquets should not be used since, due to their low plasticity, it is impossible to obtain high-quality parts in open dies even if an aluminum shell is used. Parts made of sintered blanks containing not over 9% Al₂O₃ had the best mechanical properties. The successful manufacture of

Card 1/2

SUBMITTED: 00

DATE ACQ: 13Feb64

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001548730009-4

Card 2/2

SHCHEDRIN, Z. G.

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

SC: ■ 644015

L 31331-66 EWT(1)/I K

ACC NR: AP6022580

(A, H)

SOURCE CODE: UR/0346/66/000/001/0016/0018

AUTHOR: Kuznetsova, S. V.; Syusyukina, M. S.; Shchedrin, Ye. L.; Kuznetsov, V. N.ORG: All-Union Scientific Research Foot-and-Mouth Disease Institute (Vsesoyuznyy nauchno-issledovatel'skiy yashchurnyy institut) 28
BTITLE: Biochemical indices in cultivation of foot-and-mouth disease virus

SOURCE: Veterinariya, no. 1, 1966, 16-18

TOPIC TAGS: foot and mouth disease, virus, virology, amino acid

ABSTRACT: Research was carried out to study the dynamics of nitrogen and phosphorus metabolism and the pH of the medium for cultivating the foot-and-mouth disease virus in a suspension of cattle kidney cells. It was found that marked shifts occurred in the indices of nitrogen and phosphorus metabolism. The content of amino nitrogen in the inoculated suspension reached a maximum after 24 hours of cultivation of the virus, increasing more than 23% over the initial value. The amount of residual nitrogen in the same interval increased more than 24% over the initial value. There was a sharp increase in the amount of alanine (from 0.041 to 0.167 mg%) and glutamic acid (from 0.051 to 0.093 mg%), while the content of tyrosine, threonine and leucine declined; this can be considered a reflection of the processes of re-synthesis during reproduction of the virus. The amount of inorganic phosphorus in the inoculated suspension increased 31.3% over the initial value, while

Card 1/2

UDC: 619.616.988.43-093.35

0915

2596

L 31331-66

ACC NR: AP6022580

at the same time it increased 16.4% in the control suspension. Shifts in the pH of the medium to acid were more marked in the control than in the inoculated suspension. This depends on the concentration of live cells and might reflect the intensity of their metabolism. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 009

Card 2/29

SHCHERBINA, A.P.; OBNINA, M.I.

System $\text{FeCl}_2 - \text{ZnCl}_2 - \text{H}_2\text{O}$ at 15°C . Zhur. neorg. khim. 10
no.6:1504-1505. Je '65. (MIRA 12:6)

OZEROVA M.I.; SHCHEDRINA, A.P.

Solubility in the system

$(\text{NH}_4)_2\text{Mn}(\text{SO}_4)_2 - (\text{NH}_4)_2\text{Mg}(\text{SO}_4)_2 - \text{H}_2\text{O}$ at 25, 40, and 45° .

Zhur. neorg. khim. 8 no.11:2608-2610 N '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet, kafedra obshchey khimii.

SHCHEDRINA, A.P.; OZEROVA, M.I.; KHOMYAKOV, K.G.

Solubility in the system $\text{FeCl}_2 - \text{NiCl}_2 - \text{H}_2\text{O}$. Vest.Mosk.un.
Ser.2:Khim. 13 no.6:62-64 N-D '63. (MIRA 17:4)

1. Kafedra obshchey khimii Moskovskogo universiteta.

SHCHEDRINA, A.P.; OZBEROVA, M.I.; KOPCHENOV, I.G.

System $\text{FeCl}_2 - \text{MgCl}_2 - \text{H}_2\text{O}$ at 15° . Empr. georg. khim.
no.3:724-725 Mr '64. (MIRA 17:0)

1. Kafedra obshchey khimii Khimicheskogo fakulteta
Moskovskogo gosudarstvennogo universiteta.

SHCHEDRINA, A.P.; OZEROVA, M.I.; KHOMYAAOV, K.G.

Solubility in the system $\text{FeCl}_2 - \text{MnCl}_2 - \text{H}_2\text{O}$. Vest. Mosk. un.
Ser. 2:Khim. 19 no.1:51-52 Ja-F '64. (MIRA 17:6)

1. Kafedra obshchey khimii Moskovskogo universiteta.

RAZUMOV, I.M.; PERLIN, I.L.; PRIYMAK, I.A., retsenzent; KAZAKEVICH, I.E.,
retsenzent; SHUKHGAL'TER, L.Yu., redaktor; SHCHEDRINA, I.P.,
tekhnicheskiiy redaktor.

[Production norms in the non-ferrous metal industry] Tekhnicheskoe
normirovanie v tsvetnoi metalloobrabatyvaiushchei promyshlennosti.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, 1951. 201 p. (MLRA 8:2)

(Efficiency, Industrial) (Metal industries)

ZAPESOCHNAYA, G. G.; LESHCHINER, A. S.; SHCHEDRINA, M. M.; RUBTSOV, I. A.;
PRECPRAZHENSKIY, N. A.

Lipides. Part 15: Synthesis of some triglycerides from cocoa
butter. Zhur. ob. khim. 32 no.12:3901-3906 D '62.
(MIRA 16:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M. V. Lomonosova.

(Glycerides) (Cacao butter)

RUECL'PI, T.A.; SHCHEDRINA, M.M.; KOKHMANSKIY, A.V.

Analysis of isomers of menthol and menthone by the method of gas-
liquid chromatography and infrared spectroscopy. Trudy VNIISNDV
no.6:104-111 '63. (MIRA 17:4)

AVAKOVA, L.S.; KUSTOVA, S.D.; RUDOL'FI, T.A.; SEVERTSEV, V.A.; TITOVA, N.B.;
CHERKAYEV, V.G.; SHCHEDRINA, M.M.

Increasing the menthol content of low menthol peppermint oil.
Trudy VNIISNDV no.6:164-166 '63. (MIRA 17:4)

RUDOL'FI, T.A.; SHCHEDRINA, M.M.; LUSCHIK, V.I.; LASKINA, Ye.D.

Gas-liquid chromatography and infrared spectra of isomeric allyl guetols and allyl guaiacols. Zhur. anal. khim. 19 no.5: 619-621 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv, Moskva.

LASKINA, Y.I.; BUKHARIN, A.V. [et al.]; KUMAR'FI, I.A.; IROKHEDINA, M.M.

Chemical rearrangement. J. Chem. Phys. 30:1, 1959, 18-20. D 181
(MIRA 18:1)

1. "Issledovaniya po khimicheskim i biologicheskim aspektam sinteticheskikh i natural'nykh detsitinykh veshchestv".

BOLEBOLOVA, N.Ye.; KHIVITS, L.A.; SHCHEDRINA, M.M.; YEPIKHINA, A.A.

Stereo course of thymol hydrogenation. Zhur. prikl. khim. 36
no.12:2740-2745 D'63. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh
i natural'nykh dushistykh veshchestv.

L 31344-65 EWT(m)/EWP(j) Pc-4 RM

ACCESSION NR: AP5005998

S/0217/65/010/001/0105/0109

AUTHOR: Lystsov, V. N.; Frank-Kamenetskiy, D. A.; Shchedrina, M. V.

37
36
B

TITLE: The effect of centimeter radio waves on vegetative cells, spores, and DNA transformation

SOURCE: Biofizika, v. 10, no. 1, 1965, 105-109

TOPIC TAGS: microwave, SHF, biological effect, mutagenesis, bacteria, DNA transformation, thermal effect

ABSTRACT: The authors investigated the effects of SHF on cooled (-196C) and normal-temperature molecular and cellular preparations. The purpose of the experiment was to observe how SHF affected DNA transformation and the condition of cells and bacterial spores. Samples were placed in test tubes located in the horn of a magnetron generator antenna. The pulsed radiation had the following characteristics: $\nu = 9370$ Mc, $R_{imp} = 17$ kw, $\tau_{imp} = 10$ sec, $F = 500$ /cps, $E_{ant} = 600$ v/cm. Liquid nitrogen (-196C) flowed through a foam-polystyrene holder. The method of cooling the samples, which never varied, involved inserting the test tubes into the holder. The maintenance of -196C throughout an entire radiation session was judged as a function of the condensed liquid nitrogen which accumulated in the test tubes above the samples. In some tests, samples were irradiated without cooling. In these

Card 1/3

L 31344-65

ACCESSION NR: AP5005998

cases, the temperature of the test-tube liquid was measured with a thermocouple. A figure in the original article shows how the test-tube temperature depended upon the duration of SHF irradiation. Heating of samples took place in a bath where the water was vigorously circulated. In spite of the fact that a high-powered, pulsed SHF field was used, the authors could not detect a specific (nonthermal) or mutagenic effect. Frozen bacterial preparations exposed to SHF showed a slightly higher survival percentage than their control. This increase in survival, which sometimes surpassed that of the control samples, could be explained either as a function of the destruction of bacterial aggregates by SHF, or, less likely, as a manifestation of the stimulating effect of SHF, observed in previous experiments. Although the fundamental effect of SHF on nonfrozen suspensions was thermal, there was a complete inactivation by SHF of metabolizing vegetative cells in contrast to nonmetabolizing spores. This is in agreement with another investigator's findings that ultra-shortwave irradiation deactivated enzymes. Consequently, it is possible to conclude that high-amplitude, high-frequency, electromagnetic fields do not evoke a specific (nonthermal) effect on the genetic mechanism of cells. However, such fields may directly affect metabolic and enzymatic processes. Orig. art. has: 2 figures and 1 table. [CD]

ASSOCIATION: Institut atomnoy energii imeni I. V. Kurchatova, Moscow (Institute of Atomic Energy)

Card 2/3

L 31344-65

ACCESSION NR: AP5005998

SUBMITTED: 26Mar64

NO REF SOV: 007

ENCL: 00

OTHER: 009

SUB CODE: LS, EC

ATD PRESS: 320 1

Card 3/3

GOL'DSHTEYN, Mark Yul'yevich; KOROTKOV, Vladimir Stepanovich;
BODERSKOVA, N.N., red.; ~~SHCHEDRINA, N.L.~~

[Work and rest time of workers and employees in the U.S.S.R.]
Rabochee vremia i vremia otdykha rabochikh i sluzhashchikh v
SSSR. Moskva, Gos.izd-vo iurid.lit-ry, 1959. 84 p. (MIRA 12:11)

(Hours of labor)

(Vacations, Employee)

SHCHEDRINA, N.S., nauchnyy sotrudnik.

Biomycin in necrobacillosis in reindeer. Veterinariia 33 no.4:
50 Ap '56. (MIRA 9:7)

1. Salekhardskaya nauchno-issledovatel'skaya veterinarnaya opyt'naya
stantsiya.
(Aureomycin) (Reindeer--Diseases) (Actinomycosis)

SHCHEDRINA, R.N.

Changes in corn pollen caused by different pollination methods
[with summary in English]. Zhur.ob.biol. 19 no.3:240-245 My-Je '58.
(MIRA 11:6)

1. Institut genetiki AN SSSR.
(CORN BREEDING) (POLLEN)

SHCHEDRINA, R.N.

Studying the fertilization process of corn under various
pollination methods. Agrobiologiya no.2:193-197 Mr-Apr '59.
(MIRA 12:6)

1. Institut genetiki Akademii nauk SSSR.
(Corn (Maize)) (Fertilization of plants)

SWIDERSKI, S. H., and Hol Sol (Hes) - "The effect of various pollination methods on the course of fruiting and the initial phases of the development of the embryo and endosperm of corn". Moscow, 1960. 17 pp (Acad Sci USSR, Inst of Genetics). 200 copies (KI, No 14, 1960, 131)

USTINOVA, Ye.I.; D'YAKOVA, M.I.; SHCHEDRINA, R.N.

Development of the embryo and endosperm in *Mirabilis jalapa* L.
under conditions of restricted pollination. Nauch. dokl. vys.
shkoly; biol. nauki no.3:173-179 '61. (MIRA 14:7)

1. Rekomendovana kafedroy genetiki i selektsii Moskovskogo gosudar-
stvennogo universiteta im. M.V.Lomonosova.
(FERTILIZATION OF PLANTS)

GRANTOR: [REDACTED]

For information on the address of the grantor, contact the address
of the grantor, [REDACTED] (MIRA 1011)

NUZHDIK, N.I.; NECHAYEV, I.A.; GRAYEVSKAYA, B.M.; SHCHEDRINA, R.N.

Some physiological and biochemical characteristics of mice
with different natural radiosensitivity. Dokl. AN SSSR 143
no.4:997-1000 Ap '62. (MIRA 15:3)

1. Chlen-korrespondent AN SSSR (for Nuzhdin).
(X RAYS--PHYSIOLOGICAL EFFECT) (ADRENOCORTICAL HORMONES)
(LIVER--GLYCOGENIC FUNCTION)

L 17045-63

EWT(m)/BDS AFFTC/ASD/AFWL

S/205/63/003/002/003/024

AR/K

AUTHORS: Grayevskaya, B. M., and Shohedrina, R. N.

56

55

TITLE: The nature of X-ray effect on the tissue proteinases

PERIODICAL: Radiobiologiya, v. 3, no. 2, 1963, 168-173

TEXT: The article makes an attempt to clarify whether the radioactivation of proteolysis can really be the cause of cell destruction in radioactivity-sensitive systems. A comparative study has been carried out on the effect of x-rays on the activity of proteinases in radiation-sensitive (spleen) and relatively more resistant organs (liver). The nature of the occurring changes and their connection to necrobiotic processes. The experiments were conducted with white male mice 8-9 months old weighing 22-27 g. The extracts from spleen and liver homogenate totally irradiated in the dose of 600 r show increased fermentative activity (on splitting casein) which reaches maximum in spleen after 24 hours and in liver 4 days after irradiation. The indicated increase in proteolytic processes was observed only after general irradiation of the animal. It is absent during local irradiation of the spleen or in the case of its screening and irradiation of the remaining parts of the body. Thus in the development of this process, distant effects play a significant role. Radiation increase of proteolytic processes is not related directly to mass destruction

Card 1/2

L 17045-63

The nature of x-ray

S/205/63/003/002/003/024

of cells. These processes do not coincide in time and activation of proteolysis in tissues occurs independently of neobiotectic changes. The article contains 2 tables, 2 figures and a 5-item bibliography.

ASSOCIATION: Institut genetiki AN SSSR (Institute of Genetics, Academy of Sciences USSR), Moscow

SUBMITTED: July 7, 1962

Card 2/2

L 55945-65

ACCESSION NR: AP5018505

UR/0020/64/159/003/0693/0695

AUTHOR: Eskin, I. A.; Shchedrina, R. N.

TITLE: Specific characteristics of catecholamine metabolism in the central nervous system during a state of stress

SOURCE: AN SSSR. Doklady, v. 159, no. 3, 1964, 693-695

TOPIC TAGS: experiment animal, brain, encephalology, biochemistry, endocrinology

Abstract: Young rats in the first days of life after birth, which did not yet respond to stress consisting of exposure to cold (+ 2° for an hour) or surgical trauma, showed a content of noradrenaline in the hypothalamus and reticular formation that was much lower compared with adult rats. The content of noradrenaline in these divisions of the brain increased with age, as the capacity to react to stress developed. Former work by I. A. Eskin et al showed that old rats, which exhibited a weakened reaction to stress consisting of exposure to cold or a pain irritation (as indicated by the extent of decrease in the content of ascorbic acid in the suprarenals and eosinopenia), lacked noradrenaline in the hypothalamus and had a greatly reduced content of it in the reticular formation. In experiments on adult rats subjected to surgical trauma a two-phase stress reaction was observed with respect to changes

Card 1/2

L 55945-65

ACCESSION NR: AP5018505

in the content of catecholamine: in the first stage, the content of noradrenaline in the hypothalamus and reticular formation showed a pronounced drop, while its content in the suprarenals remained unchanged, whereas in the second stage the content of noradrenaline in these divisions of the brain increased, while its content in the suprarenals (and also to a marked extent that of adrenaline) decreased. Orig. art. has 2 figures.

ASSOCIATION: Vsesoyuznyy institut eksperimental'noy endokrinologii Ministerstva zdravookhraneniya SSSR (All-Union Institute of Experimental Endocrinology, Ministry of Health SSSR)

SUBMITTED: 28Apr64

ENCL: 00

SUB CODE: IS

NO REF SOV: 010

OTHER: 006

JPRS

SR
Card 2/2

AVAF GORGIS AVAD; "BROUEN", N.H.

Nature of the blocking action of desogestrelacetate on the adrenocorticotrophic function of the pituitary body.
Probl. endok. i gorm. il no.2:67-72 Mr-Apr '65. (MIRA 18:7)

I. Otdel eksperimental'noy biologii (nav. - prof. I.A.Eskin)
Vsesoyuznogo Instituta eksperimental'noy endokrinologii (di-
rektor - prof. Ya.A.Manyukova), Moskva.

L 8236-66 ENT(m) DIAAP

ACC NR: AT5024256

SOURCE CODE: UR/2670/65/000/032/0238/0243

AUTHOR: Grayevskaya, B. M.; Shchedrina, R. N.

ORG: Institute of Genetics, Academy of Sciences SSSR (Institut genetiki, Akademiya nauk SSSR)

TITLE: The functional state of the adrenal cortex under the influence of ionizing radiation

SOURCE: AN SSSR. Institut genetiki. Trudy. no. 32, 1965, Deystviye ioniziruyushchikh izlucheniyy na rastitel'nyy i zivotnyy organizmy (Effect of ionizing radiation on plant and animal organisms), 238-243

TOPIC TAGS: radiation biologic effect, mouse, adrenal gland, adrenal cortex, lipid

ABSTRACT: Experiments were conducted to determine the effect of irradiation in lethal and superlethal doses on the activity of the adrenal cortex in different periods after irradiation. Male white mice 8-10 weeks old were subjected to x-ray irradiation in doses of 600 and 2000 rad with dose power of 30-35 rad/min. With irradiation of 600 rad, mice were killed after 2 hr and 1, 2, 4, 8, and 30 days, and with a dose of 2000 rad, after 2, 24, and 72 hr. Experimental results showed that irradiation in a dose of 600 rad causes an increase in the weight and dimensions of the adrenal glands, accompanied by a gradual accumulation of lipids in the cortex (especially in the glomerular zone). Thirty days after irradiation, complete normalization of these changes

Card 1/2

L 8236-66

ACC NR: AT5024256

was not yet observed. Irradiation with 2000 rad, however, caused a decrease in the weight and dimensions of the adrenals, which is accompanied by a sharp increase in the lipid content in all three cortical zones. The observed changes in the weight and dimensions of the adrenal glands with a dose of 600 rad are probably connected with accumulation of lipids and excess water in the gland, whereas with a dose of 2000 rad, changes are probably associated with severe depletion of the cortical substance. Orig. art. has: 4 figures. [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 020/

30
Card 2/2

GRAYEVSKAYA, B.M.; SHCHEDRINA, R.N.

Effect of estrogens on catechol amine metabolism in the adrenal glands under normal conditions and following ionizing radiation. Trudy Inst. gen. no.32:223-228 '65.

Functional state of the adrenal cortex following ionizing irradiation. Ibid.:238-243 (MIRA 18:10)

S/020/62/143/004/027/027
B144/B138

27.12.20

AUTHORS: Nushdin, N. I., Corresponding Member AS USSR, Nechayev, I. A., Grayevskaya, B. M., and Shchedrina, R. N.

TITLE: Some physiological and biochemical peculiarities of mice with different congenital radiosensitivity

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 997-1000.

TEXT: The radiosensitivity of the following three strains was studied: CC₅₇-brown and BALB/c from the breeding station in Stolbovaya, CH₃ with 2 sublines from Stolbovaya near Moscow (m) and Rappolovo near Leningrad (1); and of a mixed population (MP) of mice from the breeding station at Kryukovo. The body weight, the weights of liver, spleen, suprarenal glands, thyroid, and testes, the catecholamine (CA) content in the suprarenal glands and the glycogen content in the liver were determined after whole-body irradiation with 350 ± 650 r. The LD_{50/30} was much higher for MP and CC₅₇ than for CH₃ and BALB/c. This was consistent with

Card 1/2

S/020/62/143/004/027/027
B144/B138

Some physiological and...

the significant weight increase of liver and spleen found in the former two groups, whose thyroids were equally heavier; whereas no relation could be established between the weight of suprarenal glands or testes and radiosensitivity. Histochemical and quantitative studies revealed that MP had the lowest CA content. CH₂ sublines m and l had different CA levels. Radiosensitivity changed in the same order. Although this parallelism is no proof of a direct interrelation between CA metabolism and radiosensitivity, it may be assumed that adrenalin is an important mediator between radiation perception and reaction. The glycogen level in the liver showed the reverse order and is probably dependent on the CA level in the suprarenal glands. There are 2 figures and 1 table.

SUBMITTED: January 5, 1962

X

Card 2/2

GRAYEVSKAYA, B.M.; SHCHEDRINA, R.N.

Nature of some structural changes in adrenal glands induced by
ionizing radiation. Dokl.AN SSSR 138 no.4:941-944 Je '61.
(MIRA 14:5)

1. Institut genetiki AN SSSR. Predstavleno akademikom T.D.Lysenko.
(ADRENAL GLANDS) (X RAY--PHYSIOLOGICAL EFFECT)

SHIMIZU, T., and TAKAHASHI, T., 1977

"Investigation of Disturbances Produced in the Airways
by Inhalation of Aerosols."

Report prepared for the Intl. Biotechnology Program,
WHO, Geneva, 1977.

SHCHEDRINA, R. N.

(e)
Some Physiological and Biochemical Peculiarities of Mice with Differing Inborn Radiosensitivity

B. M. Ginyevskaya, N. I. Nuzhdin, I. A. Nychayev and R. N. Schedrina

Investigations on the radiosensitivity of different strains of animals do not, as a rule, involve the analysis of physiological, metabolic or anatomic peculiarities defining the given strains. In contrast, studies of physiological and biochemical differences between strains are generally carried out without relation to radiosensitivity.

A comparison was made of the body weight and weight of liver, spleen, suprarenal glands, thymus and testicles, and of the level of adrenal and carbohydrate metabolism, between three strains in a normal state (BALB/c, C₃H and CC₁-Br) and one population (albino) of mice characterized by differing radiosensitivity as defined by the LD 50/30 dose.

It has been shown that radioresistant strains of mice (CC₁-Br and albino population), as compared with radiosensitive ones (BALB/c and C₃H) have greater weights of liver, spleen and thymus, a higher content of catecholamines in the suprarenal glands, and a reduced glycogen level in the liver tissue. The latter phenomenon appears to be of a secondary order and depends to a considerable extent on the intensity of the catecholamine metabolism in the suprarenal glands.

Institute of Genetics, USSR Academy of Sciences, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

SECRETARIA, S. S.

SECRETARIA, S. S. "The general interest in the subject of the 'Secretaria' is
the general interest in the subject of the 'Secretaria' (the general interest in
the subject of the 'Secretaria' is the general interest in the subject of the
'Secretaria'), S. S. 70-10, - 715110: 20 items.

SO: 10/10, 10 August 53, (Leningrad Journal 'Izvestiya', 10/11, 1953).

SHCHEDRINA, Z.G.

Mbr., Inst. Zoology, Acad. Sci., 1946

"On the Distribution of Foraminifers in the Greenland Sea," Dok. AN, 55, No. 9, 1947

200 1/2, 1/2.

"The Distribution of the ... in Connection with the ... of ...,"
Vol. 1, No. 1, 1980.

SHCHEDRINA, Z.G.

Various forms of Foraminifera (*Rhabdammina abyssorum* Carpenter). Trudy
zool.inst. 12:7-24 '52. (MLRA 6:6)
(Foraminifera)

SHCEDRINA, Z.G.

New species of Foraminifera of the genus Rhabdammina M. Sars. *Trudy zool.*
inst. 12:25-33 '52. (MLRA 6:6)
(Foraminifera)

1. SHCHEDRINA, Ye. G.
2. USSR (600)
4. Japan Sea - Foraminifera
7. Distribution of Foraminifera in the Sea of Japan.
Dokl. AN SSSR 87 No. 3 1952.

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

SHCHEDRINA, Z.G.

New data on the Foraminifera of the Okhotsk Sea and their distribution.
Trudy Zool.inst. 13:12-32 '53. (MLRA 7:5)
(Okhotsk Sea--Foraminifera) (Foraminifera--Okhotsk Sea)

KON DRINA, . G.

"Study of Foraminifera of the Deep-Water Bottom Deposits of the Okhotsk Sea,"
Dokl. Ak Nauk USSR, Vol. 90, No. 2, pp. 227-229, 1953.

In 1949 an expedition from the Inst. of Oceanology obtained a core of bottom deposit to a depth of more than 27 meters, at a point in the Okhotsk Sea, 3,400 meters deep. From a number of pictures of various sections of this column the author studied the Foraminifera fauna and presents the results of his study.

Inst. Acad. Sci. USSR

AKUMUSHKIN, I.I.; BARANOVA, Z.I.; BRODSKIY, K.A.; VIRKISTIS, M.A.;
VOLODCHENKO, N.I.; GALKIN, Yu.I.; GUR'YANOVA, Ye.F.; DOGEL'
V.A.; D'YAKONOV, A.M.; ZEVINA, G.B.; IVANOV, A.V.; KIR'YANOVA,
Ye S.; KOPYAKOVA, Z.I.; KOLTUN, V.M.; KONZHUKOVA, Ye.D.;
KOROTKEVICH, V.S.; KLYUGE, G.A.; LOZINA-LOZINSKIY, L.K.;
LOZAKINA, N.B.; NAUMOV, D.V.; PERGAMENT, T.S.; RESHETNYAK,
V.V.; SAVIL'YEVA, T.S.; SKARLATO, O.A.; SOKOLOV, I.I.;
STRELKOV, A.A.; TARASOV, N.I.; USHAKOV, P.V.; SHCHEDRI NA, Z.G.
YAKOVLEVA, A.M.; USHAKOV, P.V., obshchiy rukovoditel';
PAVLOVSKIY, Ye.N., akademik, redaktor; STRELKOV, A.A. redaktor;
BRODSKIY, K.A., redaktor; ARONS, R.A., tekhnicheskii redaktor.

[Atlas of invertebrates of the Far East seas of the U.S.S.R.]
Atlas bespozvonochnykh dal'nevostochnykh morei SSSR. Moskva,
Izd-vo Akad.nauk SSSR, 1955. 240 p., 66 plates. (MLRA 8:10)

1. Akademiya nauk SSSR. Zoologicheskii institut.
(Soviet Far East--Invertebrates)

SHCHEDRINA, Z.G.

Two new genera of foraminifera from the family Trochamminidae.
Trudy Zool. inst. 18:5-9 '55. (MLRA 9:2)
(Foraminifera)

SHCHEDRINA, Z.G.

New species of Foraminifera from the Far Eastern seas. Trudy Zool.
inst. 21:79-93 '55. (MLBA 9:5)
(Pacific ocean--Foraminifera)

SHCHEDRINA, Z.G.

Results of the study of Foraminifera in U.S.S.R. seas.
Vop.mikropaleont. no.1:23-36 '56.

(MLRA 9:12)

1. Zoologicheskii institut Akademii nauk SSSR.
(Foraminifera)

SHCHEDRINA, Z.G.

Foraminifera of Far Eastern Seas of the Soviet Union. Trudy probl.1
tem.sov. no.6:65-71 '56. (MLBA 9:11)

1. Zoologicheskii institut AN SSSR.
(Soviet Far East--Foraminifera)

SHCHEDRINA, Z.G.

Studying the characteristics of distribution of living foraminifers
[with summary in English]. Trudy Len. ob-va est. 73 no.4:99-105
'57. (MIRA 11:6)

1. Zoologicheskiy institut AN SSSR.
(Foraminifera)

SHECHERINA, Z. G. (Leningrad University)

"The Dependence of the Distribution of Foraminifera in the Seas of the USSR on the Environmental Factors."

paper presented at XVth International Congress of Zoology, London, 16-23 July 1958.

Eval: B -3,112,162.

SHCHEDRINA, Z.G., kand.biol.nauk

Foraminifer fauna in the eastern sector of the Antarctic. Inform.
biul.Sov.antark.eksp. no.3:51-54 '58. (MIRA 12:4)

1. Zoologicheskii institut AN SSSR.
(Antarctic regions--Foraminifera)

SHCHEDRINA, Z.G.

Foraminifera in the waters of Eastern Murman. Trudy Murm. biol. sta.
4:118-129 '58. (MIRA 11:5)

1. Zoologicheskii institut AN SSSR.
(Murman Coast--Foraminifera)