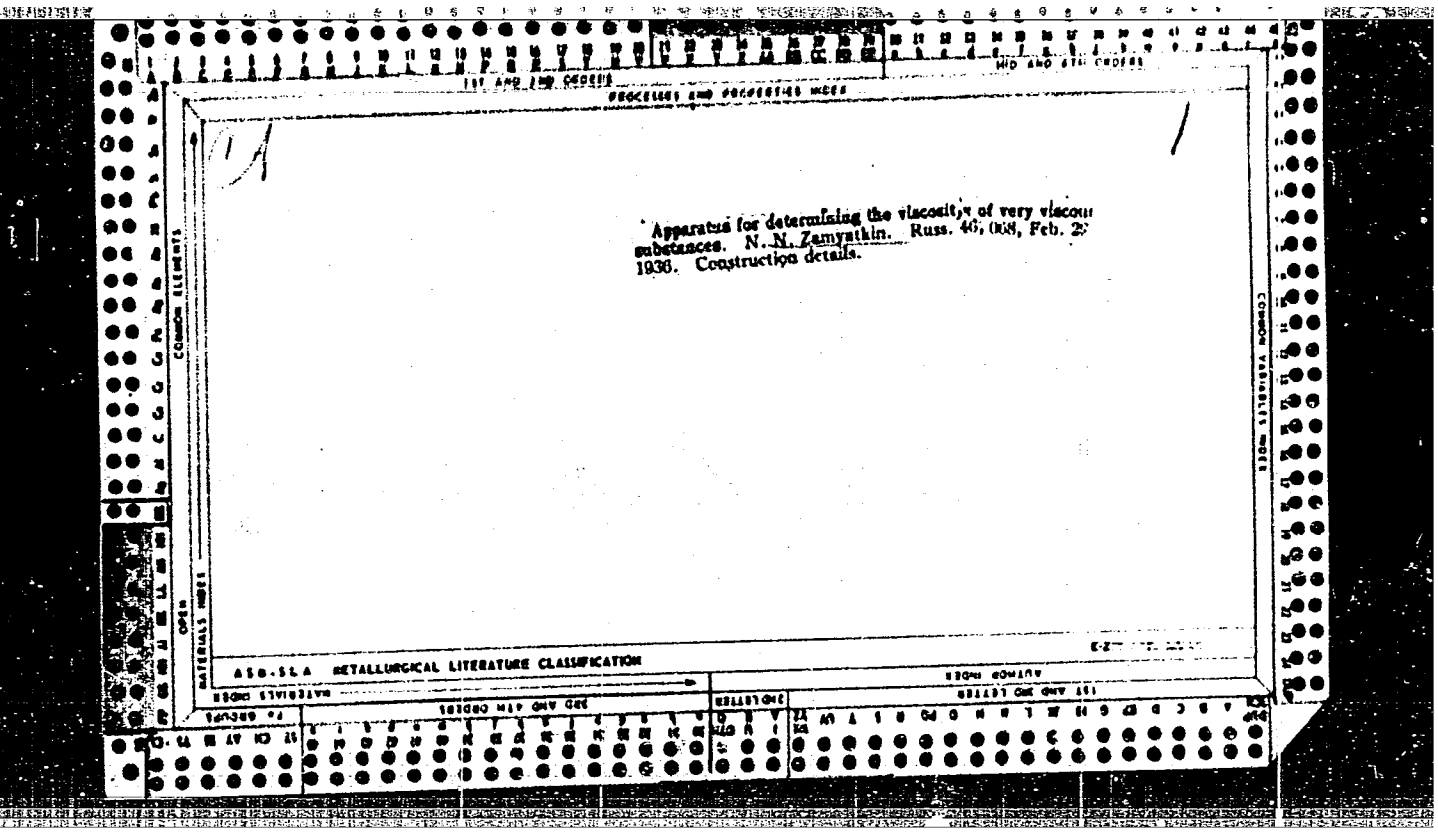
ZAMYATINA, Z.V., nauchnyy sotrudnik.

Result of a microscopic examination of cervical secretions in diagnosis of cancer. Vop.onk. 1 no.2:96-98 '55 (MLRA 8:10)

1. Iz Voronezhskogo rentgeno-radiologicheskogo i onkologicheskogo instituta(dir. kand.med.nauk M.P.Abakumov)
(CERVIX, UTERINE, neoplasms, diag., cytol.)
(VAGINAL SMEARS, in various diseases, cancer of cervix)



Apparatus for determining the viscosity of very viscous substances. N. N. Zamyatkin. Russ. 46, 068, Feb. 29, 1936. Construction details.

ZAMYATKIN, P., inzhener; KARAS', V., inzhener.

New KS-2 cutter-loader. Mast.ugl. 3 no.1:11-12 Ja '54. (MLRA 7:1)
(Coal-mining machinery)

LUKASHEV, K.I. [Lukashou, K.I.]; ZHUKHOVITSKAYA, A.L. [Zhukhavitskaia, A.I.] Zamyatkina, A.A.

Hydrogeochemical characteristics of the internal waters of the Pripet fault depending on the lithological composition of enclosing rocks. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:64-71 '62. (MIRA 18:4)

LUKASHEV, K.I.; MARKOVA, A.P.; ZAMYATKINA, A.A.

Hydrochemistry of natural waters of the Novogrudok-Korelichi area in White Russia. Dokl. AN BSSR 3 no.5:213-216 My '59. (MIRA 12:10)
(White Russia--Water--Composition)

LUKASHEV, K.I.; ZHUKHOVITSKAYA, A.L.; ZAMYATKINA, A.A.

Some features of the formation of the chemical composition of river waters of the Polesye lowland in the White Russian S.S.R. Dokl. AN BSSR 7 no.7:470-473 Jl '63. (MIRA 16:10)

1. Institut geologicheskikh nauk AN BSSR.

ZAMYATKINA, O.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Biological Chemistry

Metabolism of phosphorus compounds in white-rat livers in relation to protein-deficient diets. S. Ya. Kaplanskii, R. M. Khesin, and O. Zamyatkina (Acad. Med. Sci. U.S.S.R., Moscow). *Ukrain. Biokhim. Zhur.* 22, 400-9 (1950)(in Russian); cf. *C.A.* 46, 10331a.—The subcutaneous injection of P^{32} into rats results in a 70% higher P level in the plasma of rats on a protein-deficient diet than in normal rats. The increased P^{32} level in the blood of rats on a protein-deficient diet conditions the greater incorporation of P^{32} into the various P compds. of the liver; this can lead to an erroneous conclusion that P metabolism in the liver is increased. The increased incorporation of P^{32} into P compds. may also be conditioned by a considerable decrease in the wt. of the liver when the vascular system of the liver and capillary permeability are relatively unchanged. The functions of the enzyme system which condition phosphorylation reactions in the livers of rats on low-protein diet are inhibited. Clayton F. Holoway. No. 4.

ZAMYATKINA, O.G.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

(3)

Influence of protein deficiency on the metabolic rate of phosphoric compounds in animal organisms. S. Ya. Kaplanskii, O. G. Zamyatkina, and R. V. Khesin. *Biokhimiya* 18, 502-8(1953).—The blood vol. of rats fed a protein-deficient diet is reduced in proportion to loss in weight. The increase in the concn. of subcutaneously introduced P^{32} (on the basis of body weight) cannot be regarded as due to loss in blood vol. In such rats there is observed a sharp retardation in the P^{32} migration into the bones causing an increase in the P^{32} concn. in the blood, which in turn leads to an increase in the rate of P compds. in the liver and other organs (except the bones). Upon returning the animals to normal diets, the P^{32} concn. in the blood comes to normal levels, and the formation of P compds. in the liver due to the exptl. introduction of P^{32} is reduced. B. S. Levine

T

Country : USSR
Category: Human and Animal Physiology. Blood. Blood Chemistry.

Abs Jour: RZhBiol., No 19, 1958, 88636

Author : Rodionov, V.M.; Uspenskaya, V.D.; Zaryatkina, O.G.
Inst : -
Title : Restoration of Plasma Proteins Following Severe Blood Loss in Dogs

Orig Pub: Vopr. med. khimii, 1957, 3, No. 4, 255-268

Abstract: No less than 50% of the blood volume was removed in dogs and replaced with Ringer's solution. For a period of 20 days changes of the plasma volume were investigated and the albumins, α_1-, α_2-, α_3-, α_4-, β_1-, (β_2 + γ)-, and the γ-globulins of the plasma were determined by

Card : 1/3

Country : USSR
Category: Human and Animal Physiology. Blood.
Blood Chemistry.

T

Abs Jour: RZhBiol., No 19, 1958, 88636

electrophoresis. At the end of 2-3 days the volume of the circulating plasma increased above the original level, and the protein concentration reached 80-90%; the albumins and most of the globulin content increased rapidly. Following this, a decrease or a slower secondary increase was noted. The excessive increase of the proteins took place mainly in the values of the α_1-, α_2-, (β_2 + γ)-globulins; their value reached 200-230% of the original values. The γ- - and β_2 -globulins of the serum were restored much slower. The albumin content reached original values within 48 hours. It is apparent that the inflow of albumins into the blood

Card : 2/3

RODIONOV, V.M., USPENSKAYA, V.D., ZAMYATKINA, O.G., GRUNT, T.A., POLYAKOVA, V.E

Effect of total-body x-irridiation on the restoration of serum proteins following blood loss in dogs [with summary in English]. Vop.med.khim. 4 no.5:327-338 S-O '58. (MIRA 11:11)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

(BLOOD PROTEINS,
restoration after exper. hemorrh., eff. of total body x-irradiation (Rus))
(ROENTGEN RAYS, effects,
total body, on blood protein restoration after exper. hemorrh. (Rus))
(HEMORRHAGE, exper.
eff. of total body x-irradiation on restoration of blood proteins (Rus))

ZAMYATKINA, O.G.; RODIONOV, V.M.

Investigation of the causes of disorders in the restoration of blood proteins in irradiated dogs after blood loss. Report No.1: Assimilability of nitrogen and the quantity of consumed food. Vop.med.khim. 5 no.4:293-298 Jl-Ag '59. (MIRA 12:12)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.
(RADIATION EFFECTS)
(HEMORRHAGE exper.)
(NITROGEN metab.)

L 13680-63 EWT(l)/EWT(m)/BDS/ES(b) AMD/ASD/AFFTC AR/K

ACCESSION NR: AP3003924 S/0205/63/003/004/0508/0513

AUTHOR: Zamyatkina, O. G.

TITLE: Peculiarities of synthesis of serum albumin in chicks during acute radiation sickness 19

SOURCE: Radiobiologiya, v. 3, no. 4, 1963, 508-513

TOPIC TAGS: serum albumin, albumin synthesis, radiation sickness, chicken

ABSTRACT: Experiments were performed to determine the effect of lethal dosages of x-rays on the synthesis of SA(serum albumin) in the livers of chicks 4 to 8 weeks old. Synthesis of SA was determined by Severina's method; albumins in deposits were determined by Lowry's method. RUM-3 equipment was used to irradiate the chicks under the following conditions: 195 kv, 15 mamp, 0.5-mm Cu filter and 1.0-mm Al filter at a distance of 60—30 cm. The intensity of irradiation was varied: 500 r at 60 r/min, 900 r at 10 r/min, and 1000 r at 14 r/min. Chicks were killed 15 min, 1, 3, 5 1/2 hours, 1—24 hours, and 2—8 days after irradiation. A reduction of synthesis of SA in liver sections of chicks 5—6 days after irradiation with various dosages was observed only in chicken which at that time

Card 1/2

L 13680-63

ACCESSION NR: AP3003924

were in a state of shock. Chicks which survived a state of shock after a 1000-r dose or those which were not in a state of shock after exposure to a 500-r dose showed a reduction of SA synthesis only during pronounced signs of radiation sickness occurring on the 3rd to the 12th day. After disruption of SA synthesis in the liver, the SA content in the blood of irradiated chicks diminishes. Loss of appetite during radiation sickness does not diminish SA synthesis in the liver. Diminution of SA synthesis in starved nonirradiated chicks does not diminish its concentration in the blood. Orig. art. has: 2 tables.

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii AMN SSSR (Institute of Biological and Medical Chemistry AMN SSSR)

SUBMITTED: 01Sep62 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: AM NO REF SOV: 009 OTHER: 011

Card 2/2

ACCESSION NR: AP5005989 S/0301/64/010/004/0362/0366

[illegible]

TITLE: [illegible] in rat liver [illegible]

SOURCE: Voprosy meditsinskoy khimii, v. 10, no. 4, 362-366

TOPIC TAGS: medical experiment, radiation biologic effect, radiation sickness, endocrinology

[illegible] it has been established that in rats subjected to x-ray irradia- [illegible] decrease in the concentration of SAS in the blood. In order to determine [illegible] irradiation [illegible] dose [illegible] experiments on [illegible] rats weighing [illegible] were irradiated [illegible] dose [illegible]. They were kept [illegible] The controls [illegible] were weighed daily. Incubation of liver slices in vitro in a salt medium to which 0.15% of

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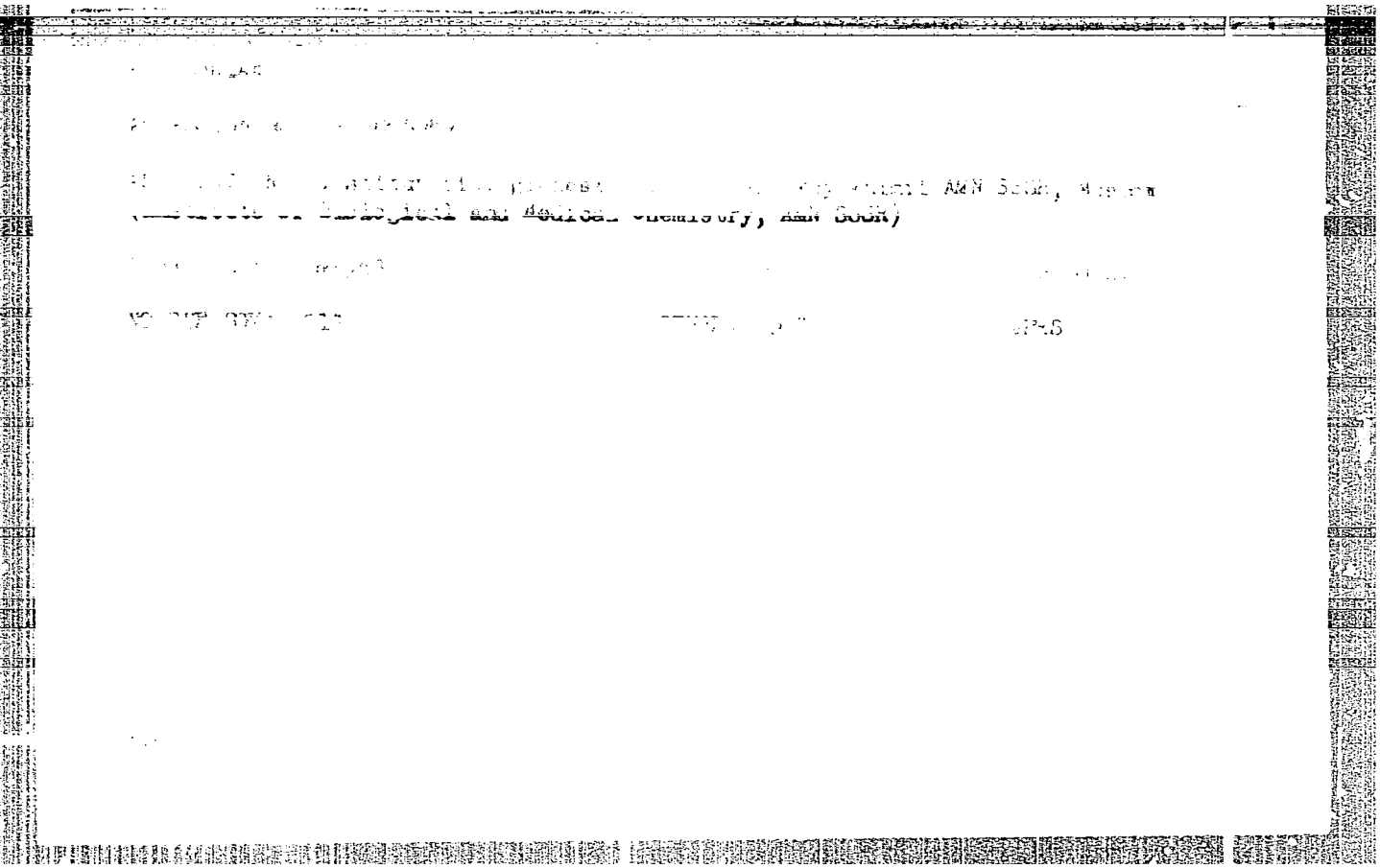
glucose solution was added and determination of SAS was performed on both

addition of an amino acid mixture into the incubation medium in these experiments increased serum albumin biosynthesis. "The author expresses his thanks to Mr. V. M. Rodionov for his supervision in the work." Orig. art. has 3 figures.

Card 2/3



ZAMYATKINA, O.G.

Characteristics of serum albumin synthesis in chicks with acute radiation sickness. Radiobiologiia 3 no.4:508-513 '63. (MIRA 17:2)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

ZAMYATINA, Z. I.

Hemorrhage, Uterine

Hemorrhage during the placental period and the first hours of the postpartum period. Docent Fel'd. i akush, No. 8, 1952.

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

1. ZAMYATNIN, B. N.

2. USSR (600)

4. Cyclamen

7. Biology of the Iberian cyclamen (Cyclamen ibericum Stev.). Trudy Bot. inst. AN SSSR. Ser. 6, no. 2, 1952.

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

ZAMYATNIN, B.N.

Composite catalog of plants in U.S.S.R. botanical gardens. Biul. Glav.bot.sada no.15:82-84 '53. (MLRA 9:1)

1.Botanicheskiy institut imeni V.L. Komarova Akademii nauk SSSR. (Botanical gardens)

ARTYUSHENKO, Z.T.; ZAMYATNIN, B.N.; SOKOLOV, S.Ya.

Alder-like branch of birch. Bot.zhur. 38 no.3:414-418 '53. (MLRA 6:5)

1. Botanicheskiy institut im. V.L.Komorova Akademii Nauk SSSR, Leningrad.
(Botany - Curiosa and miscellany) (Trees)

ZAMYATNIN, B. N.

USSR/Miscellaneous - Botany

Card 1/1

Author : Zamyatnin, B. N.

Title : Theory and Methods for Acclimatization of Plants.

Periodical : Vest. AN SSSR, Ed. 2, 92-95, Feb/1954

Abstract : General information on the studies conducted by V. L. Komarov's Botanical Institute concerning the introduction and acclimatization of plants in the various geographical regions of the USSR. The editorial also mentions the literature pertaining to the physiology and biochemistry of plants, analysis of flora and conducting of experiments on plants' acclimatization.

Institution : .....

Submitted : .....

ZAMYATNIN, B.N.

Defining more precisely the characteristics of Microbiota decussata Kom. Bot. mat. Gerb. 22:43-50 '63. (MIRA 17:2)

ZAMYATNIN, B.N.

"Results of the introduction of trees and shrubs by the Forest Steppe Experimental Breeding Station during the last 15 years" by N.G. Akimochkin. Reviewed by B.N. Zamiatnin. Bot. zhur. 48 no.7:1065-1067 Jl '63. (MIRA 16:9)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad. (Plant introduction) (Woody plants) (Akimochkin, N.G.)

ARTYUSHENKO, Z.T.; GUSEV, Yu.D., kand.biolog.nauk; ZAYTSEV, G.N.; ZAMYATNIN, B.N.; KNORRING-NEUSTRUYEVA, O.E.; PIDOTTI, O.A.; PILIPENKO, F.S.; POLYAKOV, P.P.; RODIONENKO, G.I.; SELIVANOVA-GORODKOVA, Ye.A.; SOKOLOV, S.Ya., prof., doktor biolog.nauk; SMIRNOVA, A.V., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild and cultivated, and the prospects for introduction] Derev'ia i kustarniki SSSR; dikorastushchie, kul'tiviruemye i perspektivnye dlia introduktsii. Moskva, Izd-vo Akad.nauk. Vol.6. [Angiosperms: Loganiceae-Compositae] Pokrytosemennye semeistva, Loganievye - Slozhnotsvetnye. 1962. (MIRA 15:5)
378 p.
1. Akademiya nauk SSSR. Botanicheskiy institut.
(Trees) (Shrubs)

GOLOVACH, A.G.; GRUBOV, V.I.; ZAMYATNIN, B.N.; LINCHEVSKIY, I.A.; PETYAYEV, S.I.; PIDOTTI, O.A.; PILIPENKO, F.S.; POLETIKO, O.M.; RODIONENKO, G.I.; SAAKOV, S.G.; SELIVANOVA-GORODKOVA, Ye.A.; SOKOLOV, S.Ya., prof., doktor biolog.nauk; SHIPCHINSKIY, N.V. [deceased]; BELKINA, M.A., red.izd-va; BLEYKH, E.Yu., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild and cultivated species and plants considered for prospective introduction] Derev'ia i kustarniki SSSR; dikorastushchie, kul'tiviruemye i perspektivnye dlia introduktsii. Moskva, Vol.5. [Angiosperms: myrtle and olive families] Pokrytosemennye: Semeistva mirtovye-maslinovye. 1960. 543 p. (MIRA 13:12)

1. Akademiya nauk SSSR. Botanicheskiy institut.
(Myrtle) (Olive) (Plant introduction)

ZAMYATNIN, B.N.

Raising metasequoia in open ground. Biul. Glav. bot. sada (MIRA 12:5)
no.31:116-117 '58.

1.Banicheskiy institut im. V.L. Komarova AN SSSR.
(Sequoia)

Zamyatnin, B.N.

ARTYUSHENKO, Z.T.; VASIL'YEV, I.V.; GZYRYAN, M.S.; GOLOVACH, A.G.; GRUBOV, V.I.; ZAMYATNIN, B.N.; PIDOTTI, O.A.; PILIPENKO, F.S.; POLETIKO, O.M., kand.biolog.nauk; RODIONENKO, G.I.; RUSANOV, F.N.; SAAKOV, S.G.; SOKOLOV, S.Ya., prof., doktor biolog.nauk, red.; FEDOROV, Al.A.; SHIPCHINSKIY, N.V. [deceased]; SHUL'GINA, V.V.; SHUKHOBODSKIY, B.A.; GOLOVNIN, M.I., red. izd-va; KRUGLIKOVA, N.A., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild, cultivated, and promising exotic trees and shrubs] Derev'ia i kustarniki SSSR; dikorastushchie, kul'tiviruemye i perspektivnye dlia introduktsii. Moskva. [Vol.4. Angiosperms: Leguminosae - Punicaceae] Pokrytosemennye: Semeistva bobovye-granatovye. 1958. 973 p. (MIRA 11:12)

1. AN SSSR. Botanicheskiy institut.
(Angiosperms) (Trees) (Shrubs)

ZAMYATNIN, B.N.

"Manual of succulent plants" [in German] by Hermann Jacobsen. Bot. zhur. 43 no.3:450-451 Mr '58. (MIRA 11:5)

1. Botanicheskiy institut im. V.L. Komarova AN SSSR, Leningrad.
(Succulent plants) (Jacobsen, Hermann)

(A)

SOURCE CODE: UR/2563/66/000/262/0056/0064

ACC NR: AT7002005

AUTHOR: Zamyatin, I. P.

ORG: none

TITLE: Effect of plastic deformation in the process of welding on the strength of welded butt joints

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 262, 1966. Svarochnoye proizovdstvo (Welding), 56-64

TOPIC TAGS: TIG welding, ~~super-strength steel~~ metal welding, high strength steel, ~~weld~~ thermomechanical treatment, weld property/SP43 steel

ABSTRACT:

The effect of high-temperature thermomechanical treatment, with plastic deformation applied in the process of welding, on the mechanical properties of SP43 superstrength steel welds has been investigated. Steel sheet specimens 2.5 mm thick were automatically welded without filler wire and welds were deformed with 3—25% reduction, achieved either by a rigid or semi-rigid clamping or by prestressing of the specimens, or by a pressure applied in the direction perpendicular to the direction of welding. Three temperature ranges of the deformation were used: from melting temperature to 1000C, from 1350 to 830C, and from 840 to 720C. The best combination of

UDC: none

1/2

ACC NR: AT7002005

mechanical properties, a tensile strength of 189.5—198.8 kg/mm^2 approaching that of the parent metal (200 kg/mm^2) at an elongation of 2.5%, was produced by a deformation with a reduction of 15% at a weld metal temperature of 720—840C. The welds made in unclamped specimens had a tensile strength of 113.1—128.1 kg/mm^2 at zero elongation. For practical application of the observed results, further research is recommended. Dr. of Technical Sciences, Professor N. O. Okerblom directed the work. Orig. art. has: 5 figures and 3 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 005/ ATD PRESS: 5112

2/2

ZAMYATNIN, I. S.

PANOV, Andrey Dmitriyevich, kand. tekhn. nauk,; TISHCHENKO, Nikolay Andreyevich,; ZAMYATNIN, Ivan Stepanovich,; SHAVRINA, Raisa Fedorovna,; PAVLYUCHENKO, Dmitriy Nikolayevich,; GRIGOR'YEV, Vladimir Leonidovich,; pri uchastii: Adamidze, D.I.; Krasnikova, Yu. D.; Cherkasheninova, V.I.; Chukayevcy, Ye. V. ; SOSNOV, V.D., otv. red.; RATNIKOVA, A.P., red. izd-va,; PROZOROVSKAYA, V.L., tekhn. red.

[Narrow-gauge mining of coal in thin and medium seams] Uzkozakhvatnaia vyemka uglia na plastakh tonkikh i srednei moshchnosti. Moskva, Ugletekhizdat, 1958. 321 p. (MIRA 11:12)
(Coal mines and mining)

ZAMYATNIN, L. S.

5195. PRACTICAL EXPERIENCE WITH A DU-1 COMBINATION GIVING A NARROW CUT. Zamyatnin, L.S. and Kresnikov, Yu.D. (Mekhan. Trud. tyazhel. Rabot (Mech. [illegible]

ZAMYATNIN, I. S., inzh.; KARNYSHEV, A. D., inzh.; KOLYSHKIN, O. M., kand. tekhn. nauk

Study of coal mining with a USB-1 high-speed plow in Voikov Mine No. 1-2 in the Donets Basin. Mekh. i avtom. v gornoi prom. no.2: 69-95 '62. (MIRA 16:1)

(Donets Basin—Coal mining machinery)

ZAMYATNIN, I.S., inzhener.; KRASNIKOV, Yu. D., inzhener.

Operation of the DU-1 narrow grab unit. Mekh. trud. rab. 11 no.2: 10-14 F '57. (MIRA 10:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut.
(Coal mining machinery)

ACC NR: AP6015683 SOURCE CODE: UR/0413/66/000/009/0083/0083

INVENTOR: Zamyatnin, K. I.

ORG: None

TITLE: A method for inspecton of circular glass dials. Class 42, No. 181316 [announced by the Leningrad Opticomechanical Society (Leningradskoye optiko-mekhanicheskoye ob"yedineniye)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 83

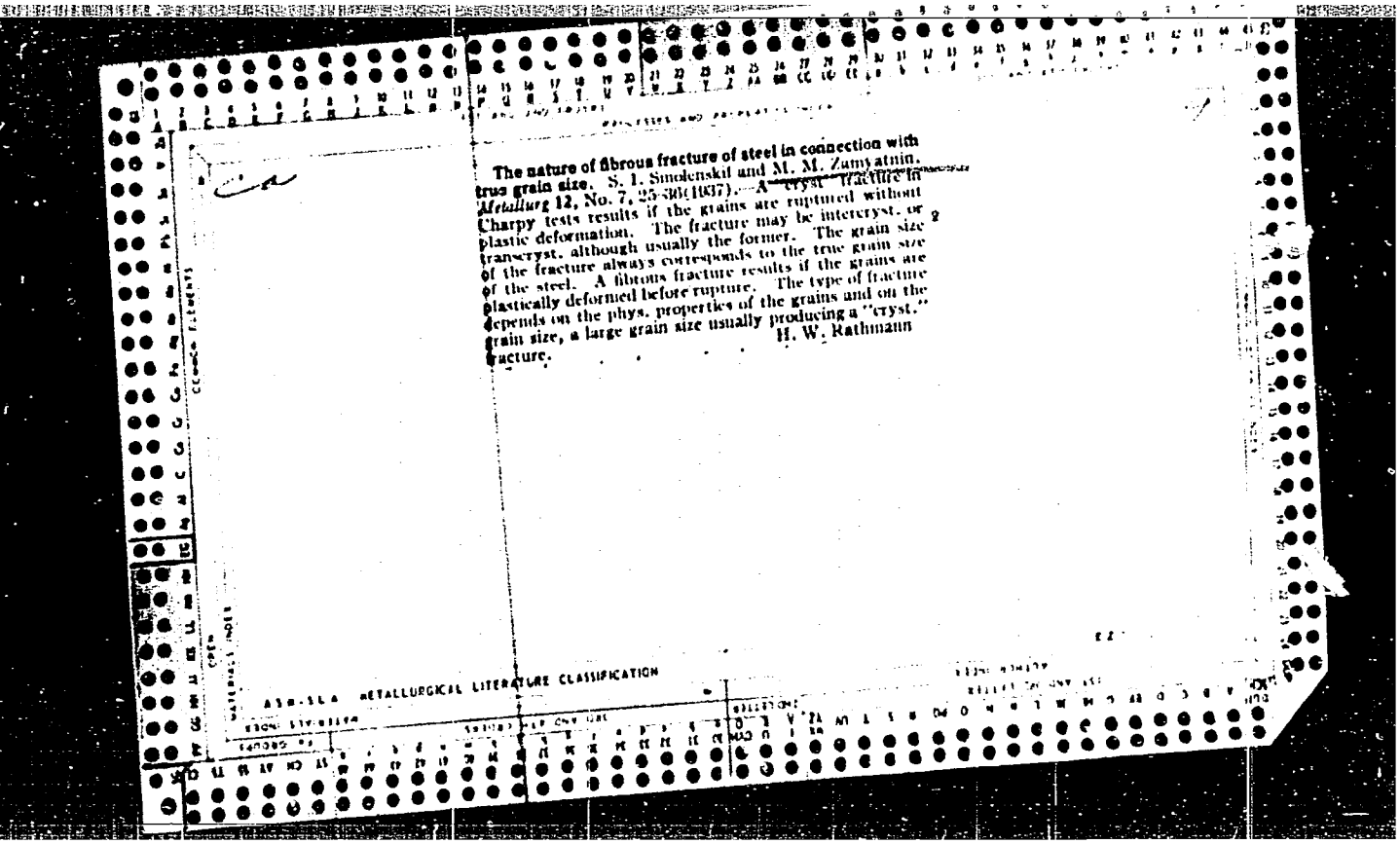
TOPIC TAGS: optic system , measuring apparatus, optic reticle

ABSTRACT: This Authors Certificate introduces a method for inspecting circular glass dials. The method consists of illuminating the dial to be checked simultaneously with a master dial, using independent optical systems to transfer the images of the graduations on these dials to a measurement plane where the positions of the given images are measured. In order to speed up the inspection process, the quality of the dial being inspected is judged from the spatial position of the images of graduations on both dials with respect to a stereoscopic mark applied to the ocular reticles in measurement microscopes with parallel optical axes.

SUB CODE: 17/ SUBM DATE: 25Mar65

UDC: 53.085.42

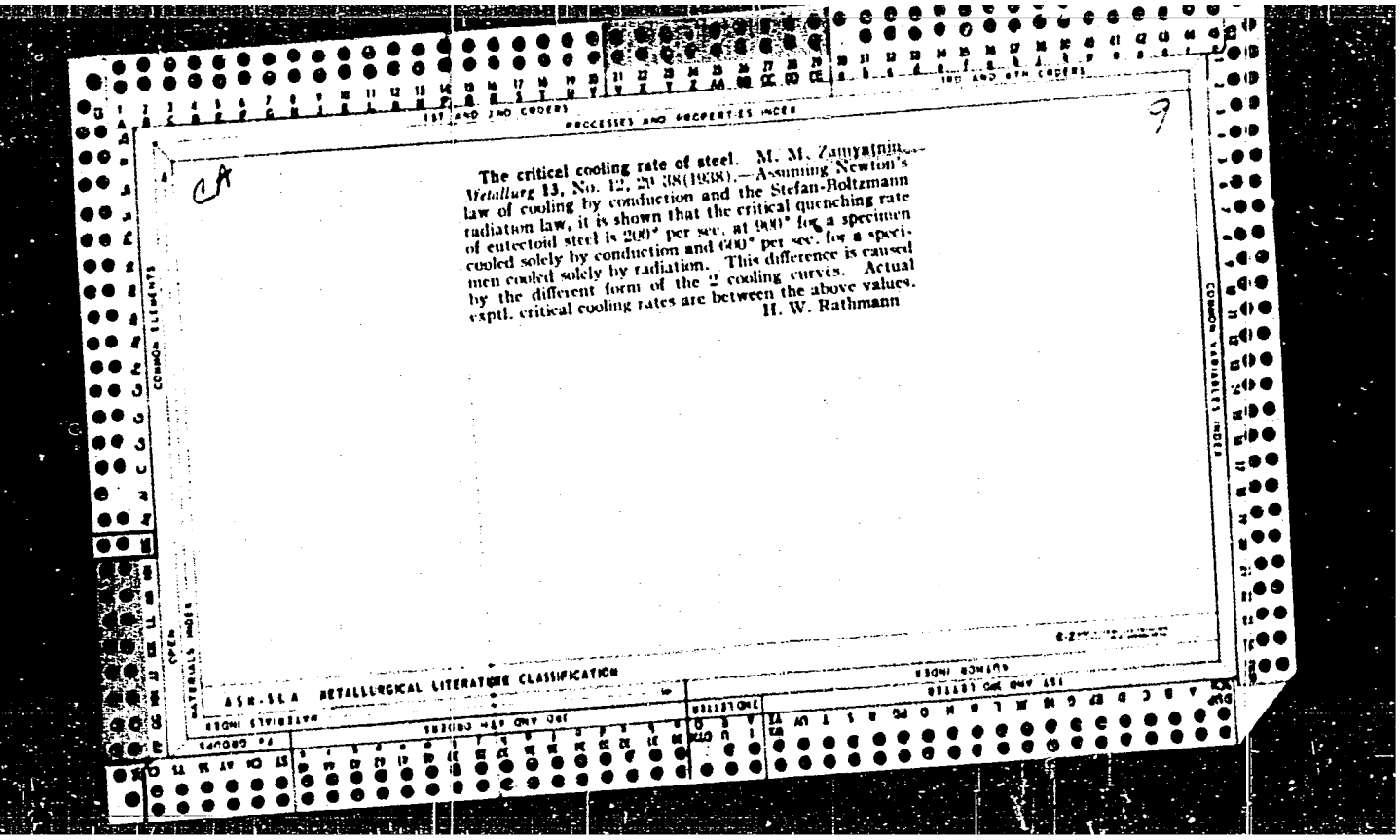
Card 1/1



The nature of fibrous fracture of steel in connection with true grain size. S. I. Smolenskii and M. M. Zamyatnin. *Metallurg* **12**, No. 7, 25-30(1937).—A cryst. fracture in Charpy tests results if the grains are ruptured without plastic deformation. The fracture may be intercryst. or transcryst. although usually the former. The grain size of the fracture always corresponds to the true grain size of the steel. A fibrous fracture results if the grains are plastically deformed before rupture. The type of fracture depends on the phys. properties of the grains and on the grain size, a large grain size usually producing a "cryst." fracture.

H. W. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

9

CA

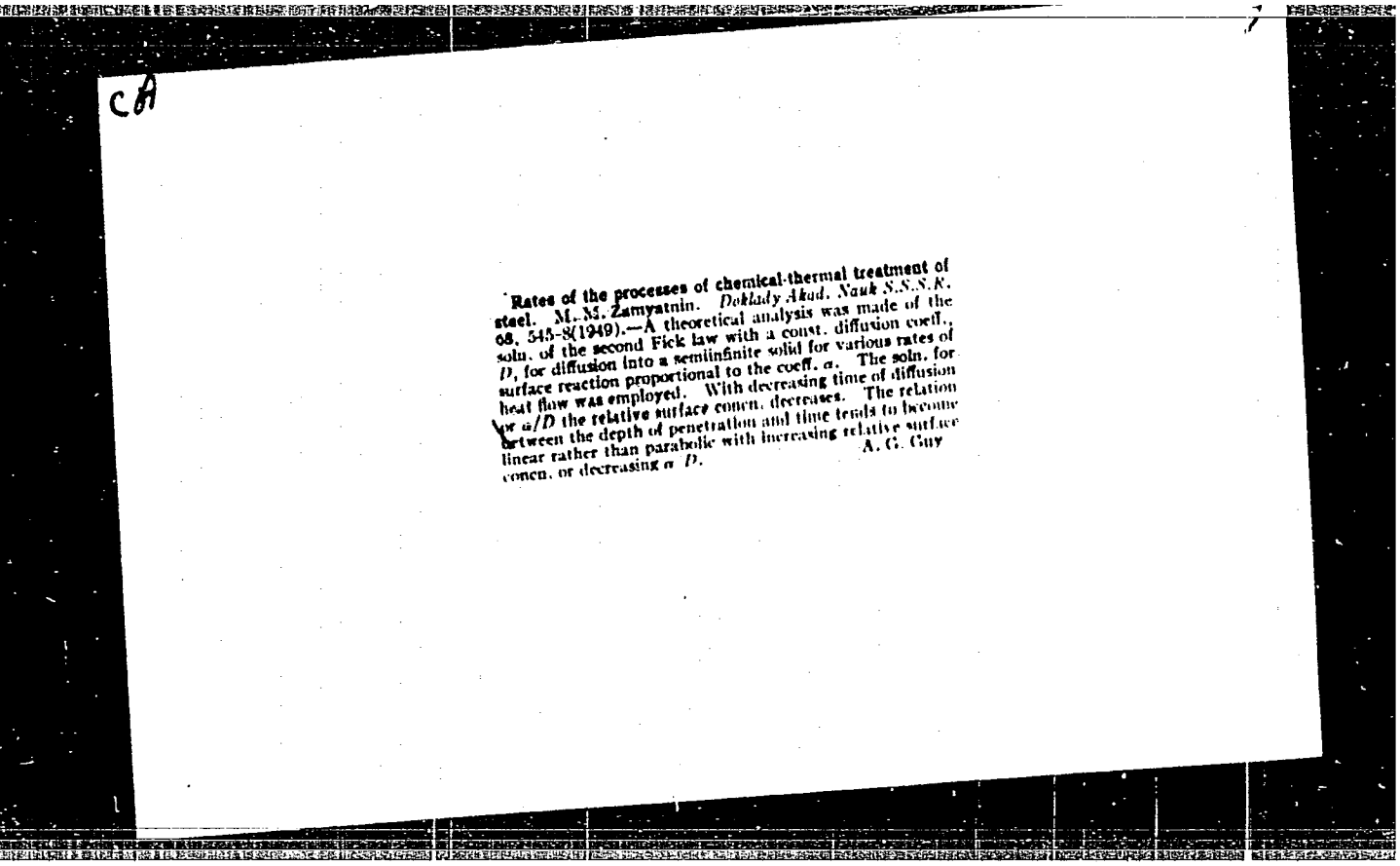
The critical cooling rate of steel. M. M. Zamyatnin. *Metallurg* **13**, No. 12, 29-38(1938).—Assuming Newton's law of cooling by conduction and the Stefan-Boltzmann radiation law, it is shown that the critical quenching rate of eutectoid steel is 200° per sec. at 900° for a specimen cooled solely by conduction and 440° per sec. for a specimen cooled solely by radiation. This difference is caused by the different form of the $\frac{1}{2}$ cooling curves. Actual exptl. critical cooling rates are between the above values.
H. W. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAMYATNIN, M. M.

Zamyatnin, M. M. - "The application of diffusion laws in the study of the case-hardening process of steel by carbon in a hard carburizer," Sbornik nauch.-tekhn. o-vo metallurgov, Leningr. otd-niye), Issue 1, 1949, p. 138-45, - Bibliog: 10 items

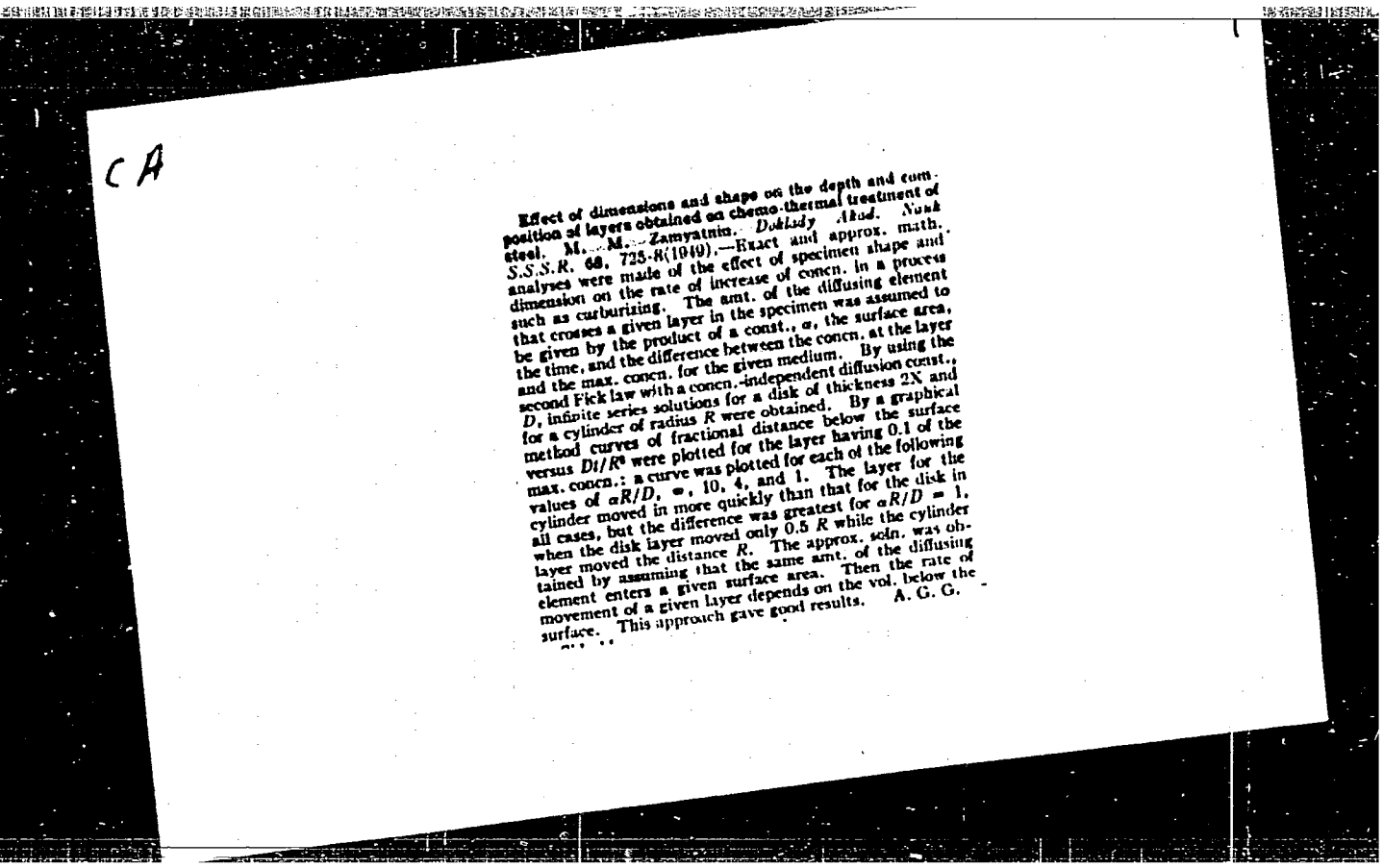
SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).



CA

Rates of the processes of chemical-thermal treatment of steel. M. M. Zamyatnin. *Doklady Akad. Nauk S.S.S.R.* 68, 545–8(1949).—A theoretical analysis was made of the soln. of the second Fick law with a const. diffusion coeff., D, for diffusion into a semiinfinite solid for various rates of surface reaction proportional to the coeff. a. The soln. for heat flow was employed. With decreasing time of diffusion or a/D the relative surface concn. decreases. The relation between the depth of penetration and time tends to become linear rather than parabolic with increasing relative surface concn. or decreasing a or D.

A. G. Guy



CA

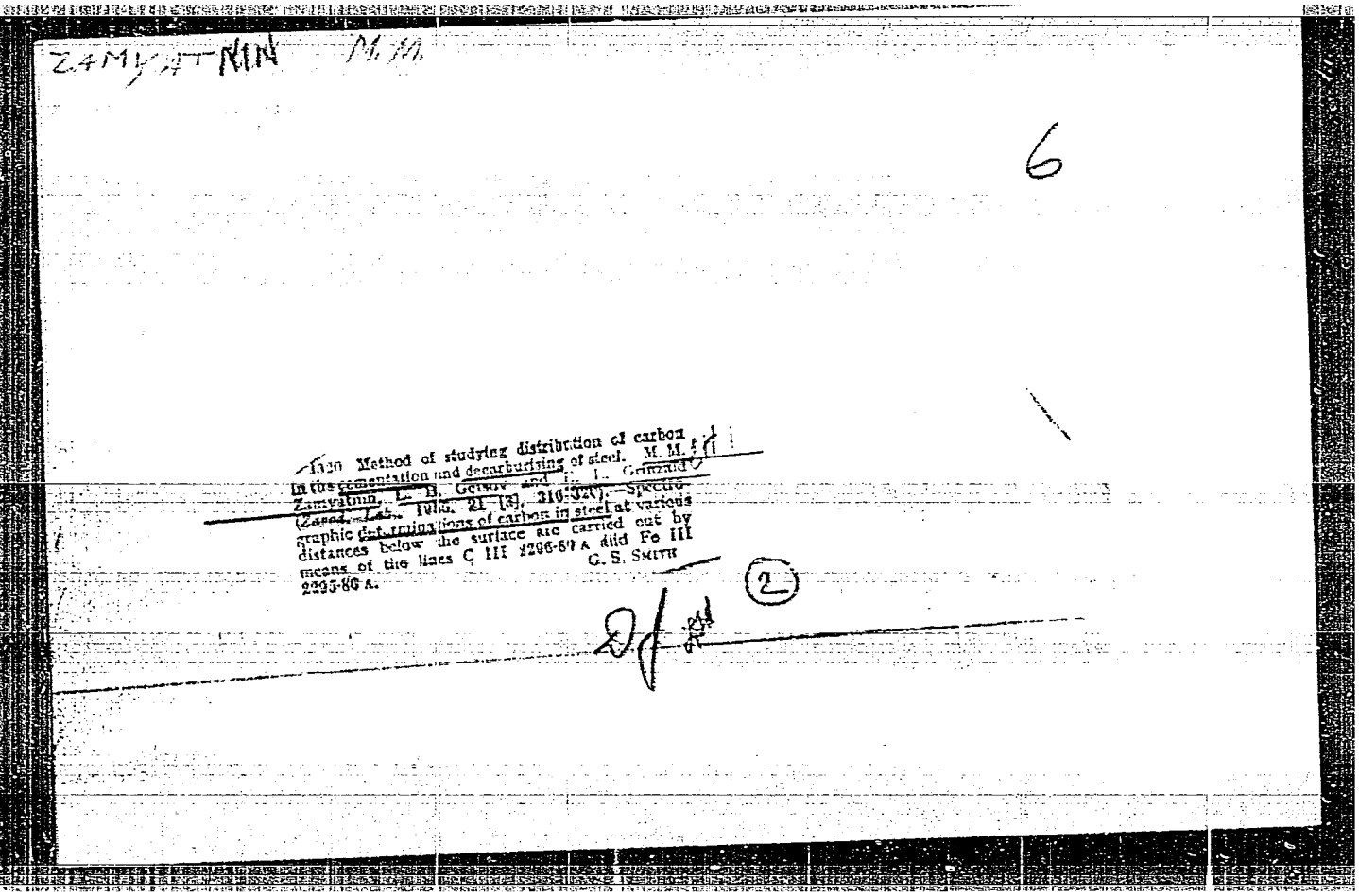
Effect of dimensions and shape on the depth and composition of layers obtained on chemo-thermal treatment of steel. M. M. Zamyatnin. *Doklady Akad. Nauk S.S.S.R.* 68, 725-8(1949).—Exact and approx. math. analyses were made of the effect of specimen shape and dimension on the rate of increase of concn. in a process such as carburizing. The amt. of the diffusing element that crosses a given layer in the specimen was assumed to be given by the product of a const., α, the surface area, the time, and the difference between the concn. at the layer and the max. concn. for the given medium. By using the second Fick law with a concn.-independent diffusion const., D, infinite series solutions for a disk of thickness $2X$ and for a cylinder of radius R were obtained. By a graphical method curves of fractional distance below the surface versus Dt/R^2 were plotted for the layer having 0.1 of the max. concn.; a curve was plotted for each of the following values of $\alpha R/D$, ∞, 10, 4, and 1. The layer for the cylinder moved in more quickly than that for the disk in all cases, but the difference was greatest for $\alpha R/D = 1$, when the disk layer moved only 0.5 R while the cylinder layer moved the distance R. The approx. soln. was obtained by assuming that the same amt. of the diffusing element enters a given surface area. Then the rate of movement of a given layer depends on the vol. below the surface. This approach gave good results. A. G. G.

ZAMYATNIN, M.M.

GOLOVIN, G.F.; FOGEL', A.A., kandidat tekhnicheskikh nauk, redaktor; ZAMYATNIN, M.M., kandidat tekhnicheskikh nauk, retsenzent; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Structure and properties of steel products tempered by high frequency heating] Struktura i svoistva stal'nykh izdelii, zakalennykh pri vysokochastotnom nagreve Pod red. A.A.Fogelia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroi. lit-ry, 1954. 34 p. (Bibliotechka vysokochastotnika-termista, no. 4) (MLRA 7:11)

(Induction heating) (Steel--Metallography)



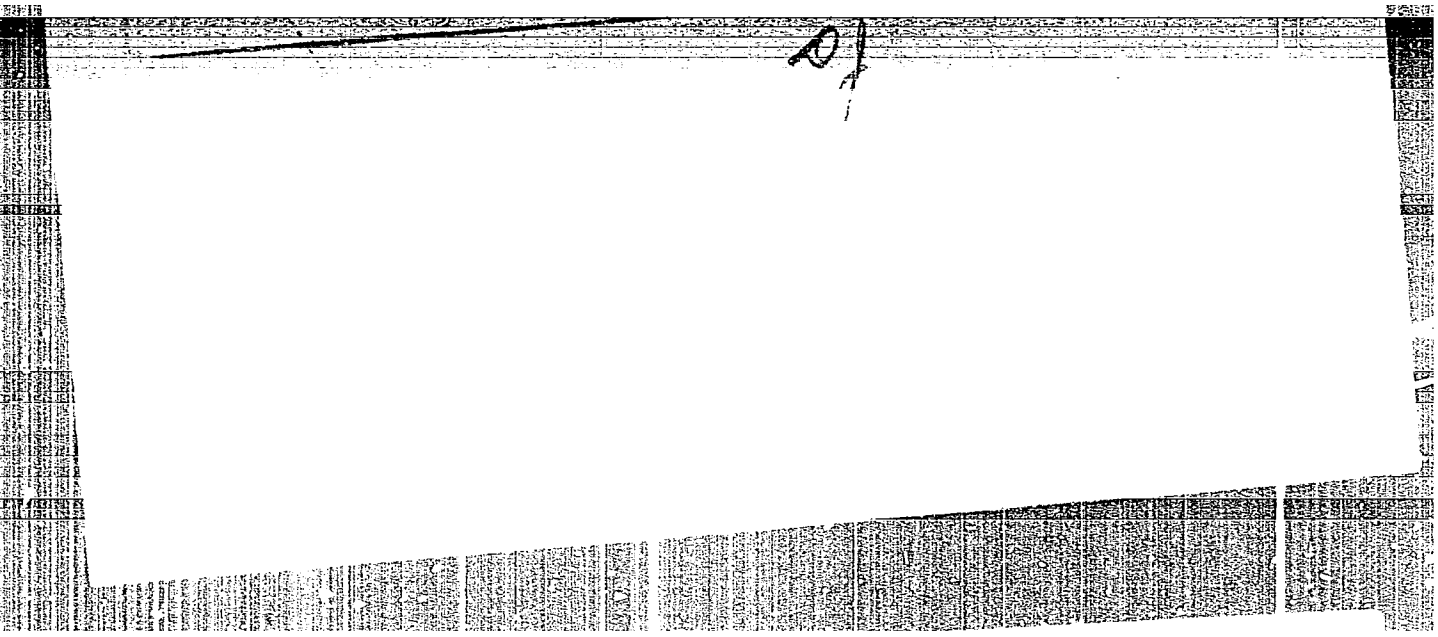
Z4MY4TMN M.M.

6

1320 Method of studying distribution of carbon in the cementation and decarburizing of steel. M. M. Zamyatina, L. B. Getsov and [illegible] L. Grinaval'. (Zavod. Lab., 1955, 21 [3], 316-324). Spectrographic determinations of carbon in steel at various distances below the surface are carried out by means of the lines C III 2296-8Å and Fe III 2295-8Å.

G. S. Smirn

(2)



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001963720020-1"

ACC NR: AT7001521

are given for different initial heat treatments of each type of steel, for furnace heating, and also for total austenization periods of 10, 3, and 1 seconds. Orig. art. has: 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002

Card 2/2

ZAMYATNIN, M.M.; ZHOLOBOV, V.V.; TOMILOV, M.Ye.; SHUTOV, I.A.

Effect of low temperatures on the mechanical properties of titanium and its alloys. Izv. vys. ucheb. zav.; chern. met. 6 no.6:153-155 '63. (MIRA 16:8)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti i Vsesoyuznyy alyuminiyevo-magniyevyy institut.
(Titanium--Testing) (Metals at low temperatures)

ZAMYATNIN, M.M.; TSUKANOV, V.A.; TOMILOV, M.Ye.; SHUTOV, I.A.

Effect of low temperatures on the mechanical properties of VT3, VT5 alloys and 40KhS steel. Izv. vys. ucheb. zav.; tsvet. met. 5 no.4:152-156 '62. (MIRA 16:5)

1. Leningradskiy tekhnologicheskiy institut khoodil'noy promyshlennosti i Severo-Zapadnyy zaochnyy politekhnicheskiy institut.
(Titanium alloys) (Chromium steel) (Metals, Effect of temperature on)

S/810/62/000/000/004/013

AUTHORS: Zamyatnin, M.M., Baluyeva, T.A.

TITLE: The use of high-frequency heating for high-temperature chemical treatment.

SOURCE: Metallovedeniye i termicheskaya obrabotka; materialy konferentsii po metallovedeniyu i termicheskoy obrabotke, sost. v g. Odesse v 1960 g. Moscow, Metallurgizdat, 1962, 177-183.

TEXT: The paper reports results of an investigation on the use of HF heating for cementation, cyanidation, and nitration performed at the NIITVCh (Scientific Research Institute for High-Frequency Currents) imeni V. P. Vologdin. Advantages of HF heating: (a) acceleration of heating and cooling cycles, (b) attainability of higher temperatures and more intensive supply of saturating materials, (c) reduction of plant-space requirements, (d) ready mechanizability and automatability of the process. Disadvantages: (a) Equipment-outlay requirements are greater, (b) difficulties in temperature (T) control, (c) need for high-strength ceramics for the retorts and other equipments, and (d) the high cost of electric energy. HF cementation: Immediate objective was the development of simple and universal equipments with cyclic action and the use of liquid carburizers (benzol, pyrobenzol, and predominantly-kerosene). One of the prime problems is the achievement of

Card 1/3

uniform heating of the billet both in height and cross-section (equipment shown schematically). Tests were made on packs of gears made of 18XГT (18KhGT), 138-mm diam and 30 mm high. Heating was done in an inductor with a 2.5 kcps current fed by a 100-kw rotary generator. An inductor with uniform coil spacing produced an appreciable drop-off in T toward the ends of the cylindrical gear pack, and it became necessary to crowd the coils toward the ends to attain a uniform T. Maintenance of uniform T was especially difficult during long-term soaking with reduced current flow. The latter can be achieved only through suitable design of the heat-insulating material surrounding the inductor. Uniform wetting of the billet surface by the carburizing gas is difficult to achieve. Cementation comes almost to a standstill at points where the gas stagnates. Yet, the use of ventilators does not produce the desired result, because colder gases are then drawn in from the space outside of the inductor. Best results were attained with the introduction of kerosene at the bottom and removal of the gases and the products of pyrolysis at the top of the equipment. Tests at 1,050°C produced a carburized layer 0.9-1.2 mm in 60 min of soaking, following 15 min of warm-up. However, C saturation at the surface was excessive, and a cementite network was formed. Reduction of carburized feed and sealing off of the entire equipment against possible intrusion of water vapor solved this problem. The variation of C content with depth in the first 2 mm is shown graphically. HF nitrocementation: Specimens 80-mm diam and 15-mm high of steels 18KhGT and 30KhGT were nitrocemented in an 8-kcps, 100 kw, equipment (cross-

section shown). Kerosene and ammonia were used as nitrocementing agents in an amount of 30-60% of the total gas admitted. Uniform C and N saturation in a layer 1.2-1.3-mm thick was achieved, with N concentration of 0.2% in a thin surface layer and a C content of 1.4-1.5%. The coagulation effect produced by the N on the cementite network resulted in a better structure after nitrocementation and quench hardening (QH) than after carburizing cementation and (QH). HF nitriding: Tests were made primarily on plunger pairs made of 25X5MA (25Kh5MA) steel. HF nitriding was performed in an equipment (cross-section shown) heated at 10 kcps and 10 kw and also at 8 kcps and 100 kw. Tests were made with a soaking period of 3 hr and an ammonia feed of 1.25-3.25 liters/min. This compares with the ordinary furnace process requiring 54 hrs for an 0.2-0.4-mm nitrided surface layer. The HF test yielded a nitrided layer 0.2-0.25-mm thick and an 0.1-mm of elevated hardness (H$_{\text{v}}$ 900-1, 00) in 3 hrs. The reasons for this acceleration are not as yet fully understood. It is hypothesized that it may be attributable to the relative coolness of the inductor ambient, while the part itself is being heated to 550°C, so that only weakly-dissociated ammonia is in continuous plentiful supply from the outside. There are 6 figures and 3 Russian-language Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut tokov vysokoy chastoty im. V. P. Vologdina (Scientific Research Institute for High-Frequency Currents imeni V. P. Vologdin).

L 10754-63 EPR/EPF(c)/EWT(l)/EWP(q)/EWT(m)/BDS—AFFTC/ASD—Ps-4/ 10
Pr-4—RM/JD S/0148/63/000/006/0153/0155 68
ACCESSION NR: AP3002902

AUTHOR: Zamyatnin, M. M.: Zholobov, V. V.: Tomilov, M. Ye: Shutov I. A.

TITLE: Effect of low temperature on mechanical properties of titanium and its alloys

SOURCE: IVUZ. Chernaya metallurgiya, no. 6, 1963, 153-155

TOPIC TAGS: titanium, titanium alloys, mechanical properties, subzero temperatures

ABSTRACT: Because of insufficiency of available data, an investigation was made of the mechanical properties of the VTl-1 and VTl-2 commercial-grade titanium and titanium alloys VT3-1(1.0—2.0% Mo, 1.50—2.50% Cr, 4.5—6.2% Al), VT5 (4—5.5% Al), OT4 (1.0—2.0% Mn, 2.0—5.5% Al) at temperatures ranging from 20 down to -196C. Results of the tests are shown in Table 1 of the Enclosure. Orig. art. has: 2 tables.

ASS: Leningrad Technological Inst. of the Refraction Industry. All-Union Aluminum-Magnesium Institute

Card 1/3

39933
S/149/62/000/004/003/003
A006/A101

18 1255

AUTHORS: Zamyatnin, M. M., Tsukanov, V. A., Tomilov, M. Ye., Shutov, I. A.

TITLE: The effect of low temperatures upon the mechanical properties of alloys BT 3 (VT3), BT 5 (VT5), and grade 40 XC (40KhS) steel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 4, 1962, 152 - 156

TEXT: The mechanical properties of titanium alloys and improved alloyed steel were investigated by comparison tests at temperatures from +20 to -60°C, in order to reveal the possibility of replacing high-strength steels by titanium alloys. Smooth and notched specimens were subjected to static tensile and bending tests, skew and impact tests. It was found that the properties of VT5 and, in particular, VT3 titanium alloys approach those of 40 KhS steel at all the test temperatures. The proneness of titanium alloys to reduced ductility and plasticity at low temperatures is somewhat greater than for improved steel; it is lower in impact tests. The results obtained show that titanium alloy parts can be successfully used at temperatures down to -60°C. There are 4 figures and 2 tables.

Card 1/2

S/149/62/000/004/003/003
A006/A101

The effect of low temperatures upon the...

ASSOCIATION: Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti (Leningrad Technological Institute of the Refrigeration Industry)
Severo-Zapadnyy zaochnyy politekhnicheskiy institut (North-West Correspondence Polytechnic Institute)

SUBMITTED: January 22, 1962

X

Card 2/2

S/137/62/000/003/158/191
A052/A101

1,1800

AUTHORS: Zamyatnin, M. M., Bulayeva, T. A.

TITLE: Nitriding steel products at high-frequency heating

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 101, abstract 3I65k (V sb. "Prom. primeneniye tokov vysokoy chastoty v elektrotermii". Moscow-Leningrad, Mashgiz, 1961, 109-117)

TEXT: The experiments on nitriding steel products at high-frequency heating with the purpose to reduce the duration of the process of nitriding bushings, piston pairs of 25X5MA (25Kh5MA) steel and samples of 38XMIOA (38KhMYuA), 40X (40Kh) and 4X13 (4Kh13) steel were carried out at heating from a control generator with a frequency of 8,000 cycles/sec and a power of 100 kw up to 500, 550, 600 and 650°C with a 3 hours' exposure. NH_3 gas for nitriding was supplied after drying. The experiments have shown that the most suitable temperature of nitriding with high-frequency heating is 550°C which secures the production of 0.2 - 0.25 mm layers on 25Kh5MA bushings and pistons in 3 - 4 hours. The thickness of a layer with $H_v > 820$ is 0.08 - 0.12 mm. 38KhMYuA and 40Kh steels under equal conditions give almost the same layer thickness and 4Kh13 steel a considerably

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S/137/62/000/003/158/191
A052/A101

Nitriding steel products ...

lesser thickness (0.06 - 0.09 mm in 3 hours at 550°C). The nitriding in liquid (NH_3 solution) has not given positive results.

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

ZAMYATNIN, M.M.; SHUTOV, I.A.

Effect of heat treatment on the behavior of 3 kp steel at temperatures below 0°. Izv. vys. ucheb. zav.; chern. met. 4 no.7:142-148 '61. (MIRA 14:8)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti.
(Steel—Heat treatment)
(Metals at low temperatures)

28068
S/148/61/000/007/009/012
E193/E380

18.8200

AUTHORS: Zamyatnin, M.M. and Shutov, I.A.

TITLE: The effect of heat treatment on the behaviour of steel 3кп (3kp) at sub-zero temperatures

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 7, 1961, pp. 142 - 148

TEXT: Hot-rolled steel 3kp is a useful constructional material owing to its high ductility, good weldability and relatively low price. The field of application of this material, however, is limited by its relatively low static and impact strength at sub-zero temperatures and by its tendency to age-harden and fail by brittle fracture. This often necessitates its replacement by a more expensive low-alloy constructional steel and the object of the present investigation was to establish whether the desirable combination of properties can be imparted to steel 3kp by a suitable heat-treatment. To this end, tensile tests were carried out on both standard and notched test pieces, as well as transverse bending tests on notched bars and impact strength tests at temperatures ranging

The effect of heat treatment ....

from +20 to -200 °C on small (6 mm in diameter) specimens (1) in the hot-rolled condition, (2) quenched from 900 °C and tempered for 45 minutes at 600 °C, and (3) quenched from 900 °C and tempered for 45 minutes at 200 °C (the condition of specimens is described by these numerals in Figs. 1, 2 and 5). The steel studied contained 0.15% C, 0.42% Mn and traces of Si. When notched bars were used, the notch (60°, 0.5 mm deep, 0.1 mm root radius) was situated either in the centre of the test piece or near its head. In some cases, the tensile load was applied to notched test pieces not axially but at an angle of 12°. Benzene (cooled by solid CO_2 or liquid nitrogen) or liquid nitrogen was used as the cooling media. The results are reproduced graphically. In Fig. 1, the UTS (σ_B, kg/mm^2, continuous curve) and yield point (σ_T, kg/mm^2, broken curve) are plotted against the test temperature (°C) - in Fig. 2, elongation (δ, % - continuous curves) and reduction of area (ψ, %, broken curves) are plotted against the test temperature (°C). The

The effect of heat treatment ....

breaking load (P, kg, lefthand scale, broken curves) and deflection (F, mm, righthand scale, continuous curves) in transverse bending, are plotted against the temperature (^{o}C) in Fig. 5. The results obtained can be summarised as follows. The UTS and the yield point of steel 3kp both in the hot-rolled and heat-treated condition, determined on standard test pieces, increased rapidly with decreasing temperature. The difference between the strength of hot-rolled and heat-treatment material remains practically the same throughout the temperature range studied. Elongation and reduction in area remain practically constant down to -120 ^{o}C, after which they gradually decrease. Whereas, however, in the case of hot-rolled material both δ and Ψ decrease almost to zero at -196 ^{o}C, the heat-treated steel (quenched from 900 ^{o}C and tempered at 600 ^{o}C) still retains at this temperature a certain degree of ductility, characterised by δ = 14% and Ψ = 45%. The notched test pieces, inclined at 12^{o} to the direction of the applied load, lose their ductility at relatively higher temperatures, the decrease in δ and UTS beginning at -60 and -120 ^{o}C, respectively. The

bending tests yielded similar result. The marked decrease in the transverse bending strength found on hot-rolled material at -60 °C was not observed in the heat-treated specimens until a temperature of -100 °C was reached. The effect of heat-treatment was, however, most striking in the impact tests. Whereas the impact strength of hot-rolled material decreased rapidly in the +10 to -30 °C range, the heat-treated specimens had a considerable impact strength (4.5-7.5 kgm/cm^2) even at -60 °C. It was concluded that heat-treated steel 3kp can be used as a material of construction for critical parts, operating at sub-zero temperatures and under complex stress conditions.
I.V. Kudryavtsev, M.V. Pridantsev and K.V. Popov are mentioned in the article.
There are 5 figures, 1 table and 4 Soviet references.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti (Leningrad Technological Institute of the Refrigeration Industry)

SUBMITTED: October 27, 1960

PETRASH, Leonid Vasil'yevich; VYAZHIKOV, M.F., kand.tekhn.nauk, retsenzent; ZAMYATHIN, M.M., kand.tekhn.nauk, red.; BOROIMULINA, I.A., red.izd-va; SHCHETININA, L.V., tekhn.red.

[Tempering agents] Zakalochnye sredy. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1959. 111 p. (MIRA 12:7)
(Tempering)

ZAMYATNIN, M. M.

25(1) PHASE I BOOK EXPLOITATION SOV/2237

Golovich, Georgiy Fedorovich, and Mikhail Mikhaylovich Zamyatnin

Vysokochastotnaya termicheskaya obrabotka; voprosy metallovedeniya i tekhnologii (High-frequency Heat Treatment; Problems of Physical Metallurgy and Technology) Moscow, Mashgiz, 1959. 185 p. Errata slip inserted. 6,000 copies printed.

Reviewer: Ye. Ye. Levin, Candidate of Technical Sciences; Ed.: F.B. Mikhaylov-Mikheyev, Doctor of Technical Sciences; Ed. of Publishing House: V.P. Vasil'yeva; Tech. Ed.: R.G. Pol'skaya; Managing Ed. for Literature on the Design and Operation of Machines (Leningrad Division, Mashgiz): F.I. Fetisov, Engineer.

PURPOSE: This book is intended for personnel of machine-building and metallurgical plants and scientific research institutes. It may also be used by students of higher educational institutions.

COVERAGE: The book deals with problems of physical metallurgy and methods of high-frequency heat treatment of machine parts. Phase transformation and changes in structure and properties of carbon

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High-frequency Heat Treatment (Cont.) SOV/2237

and alloy steels during rapid high-frequency heating are described. Data on the processes and characteristics of high-frequency heat treatment of steel and cast iron parts (crankshafts, rolls, gears, cylinder liners, rails etc.) are presented. The book is based on the results of numerous Soviet scientific research projects including material compiled by the staff of the NIITVCh imeni Professor V.P. Vologdin. There are 75 references: 73 Soviet and 2 German.

TABLE OF CONTENTS:

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High-frequency Heat Treatment (Cont.)

AVAILABLE: Library of Congress

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GOLOVIN, Georgiy Fedorovich; ZAMYATNIN, Mikhail Mikhaylovich; LEVIN, Ye.Ye., kand.tekhn.nauk, retsenzent; MIKHAYLOV-MIKHEYEV, P.B., doktor tekhn.nauk, red.; VASIL'YEVA, V.P., red.izd-va; POL'SKAYA, R.G., tekhn.red.

[High-frequency heat treatment; metals and the technology of heat treatment] Vysokochastotnaia termicheskaia obrabotka; voprosy metallovedeniia i tekhnologii. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 185 p. (MIRA 12:5)
(Steel--Heat treatment) (Induction heating)

SOV/137-58-12-25234

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 170 (USSR)

AUTHORS: Zamyatnin, M. M., Yevangulova, Ye. P.

TITLE: Properties of Bearing Steel Quench-Hardened Upon Heating by a High-frequency Current (Svoystva podshipnikovoy stali, zakalennoy s nagrevom tokom vysokoy chastoty)

PERIODICAL: V sb.. Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp 134-144

ABSTRACT: Comparative investigation of the effect of through hardening of a specimen with high-frequency current (HH) at 8 kcycles on the mechanical properties of ball-bearing steels of ShKh15 and ShKh15 SG grades. R_c as well as σ_{bsf}, σ_{piz}, σ_{biz}, the ultimate strength in torsion τ_b, the torsional angle during failure ϕ, a_k (on cylindrical specimens 12 mm in diam without notching) and fretting fatigue were studied. The main characteristics of the HH process are the rate of heating to above T_c and the heating temperature. All specimens were quenched in transformer oil. The specimens were subjected to HH from 910-920, 940-950, and 970-980° temperatures. It is shown that HH produces structures and mechanical properties slightly

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Properties of Bearing Steel Quench-Hardened Upon Heating by a High-frequency (cont.)

different from those existing after the usual quench-hardening. An appreciable increase in the heating temperature is required to attain optimum results from HH. With an initial structure of fine-grain pearlite and a rate of heating of ~ 10°C/sec the best results for both grades of steel are obtained upon heating to 940 - 960° instead of to 830 - 850° when heating is done in a furnace. Bibliography: 5 references.

L. F.

SOV/137-58-10-21267

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 118 (USSR)

AUTHORS: Zamyatnin, M. M., Baluyeva, T. A.

TITLE: High-temperature Gas Carburization With the Products of Decomposition of Liquid Hydrocarbons (Vysokotemperaturnaya gazovaya tsementatsiya produktami razlozheniya zhidkikh uglevodorodov)

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp 165-174

ABSTRACT: An investigation of the feasibility of carrying out high-temperature carburization (C) of 20KhA, 18KhGT, 30 KhGT, and other grades of steel in the products of the pyrolysis of liquid hydrocarbons (pyrobenzol and kerosene) with heating by a high-frequency current. The energy was supplied by a 100 kw and 8000 cps rotating-type high-frequency generator. The specimens were heated up to the required temperature within 10 - 15 min. The introduction of the carburizing fluid began at 850 - 900°C. The pressure in the apparatus was 5 - 20 mm H_2O column. After a specific soaking period the current was switched off, the specimens were cooled to 900 - 800°, and the carburizer inflow was

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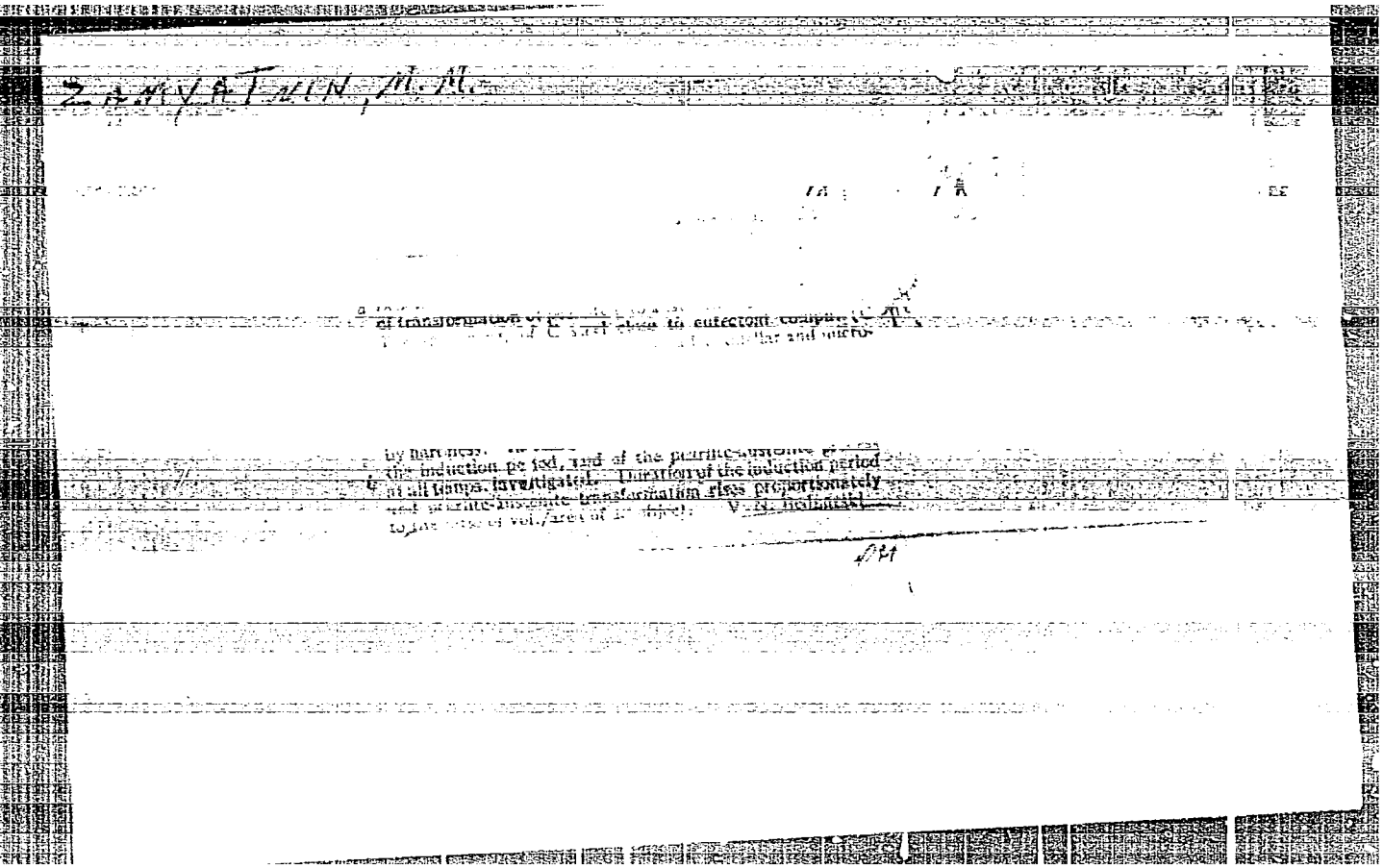
High-temperature Gas Carburization (cont.)

stopped. A uniform carburized layer (CL) was obtained by using pyrobenzol and kerosene in amounts of 180 - 250 cc/hour. Investigations established that C at 1050° and soaking for one hour produce a CL 0.8 - 1 mm thick. The macrostructure of CL in 20Kh and 18KhGT grades of steel after cooling consisted of sorbite-like pearlite and a cementite lattice. The carbon contents close to the surface attained 1.5 - 1.7%. Subsequent quenching from 800° (20Kh-grade steel) and 870° (18KhGT-grade steel) brings about a partial dissolution and coagulation of the lattice. The addition of NH_3 into the furnace in the role of dilutant in amounts of 1 to 4 ℓ/min produced some increases in the depth of the CL. 18KhGT and 30KhGT-grades of steel subjected to a high-temperature C (1050°) and immediate quenching with precooling to 900° can ensure the production of high mechanical properties of the core. Excessive precooling can cause a considerable decrease in strength, ductility, and resilience. The coarse structure of the core can be improved by a single quenching, normalization and quenching, or a double quenching.

1. Steel--Carbonization 2. Hydrocarbons--Decomposition I. B.
3. Hydrocarbons--Applications 4. Kerosene--Applications 5. Steel
--Heat treatment

Card 2/2



ZAMYATNIN, S.N.

Discoveries of interglacial fauna and chipped quartzites in the village of Shubnoye in Voronezh Province. Uch.zap.Mosk.un. no. 158:49-62 '52. (MLRA 8:8)
(Shubnoye--Stone implements) (Shubnoye--Paleontology)

ZAMYATNIN, Sergey Nikolayevich (1899-1955); BORISOVSKIY, P.I., otv. red.; VEKILOVA, Ye.A., otv. red.; SMIRNOVA, A.V., tekhn. red.

[Outline of the Paleolithic] Ocherki po paleolitu. Podgotovleno k pechati M.Z.Panichkinoi. Moskva, Izd-vo Akad.nauk SSSR, 1961. 175 p. (MIRA 15:1)

(Stone Age)

ZAMYATNIN, V.N., kandidat ekonomicheskikh nauk.

Book about a famous Russian revolutionary democrat ("Social, political, and philosophical views of N.V.Shelgunov." M.N.Peunova. Reviewed by V.N.Zamiatnin). Vest.AN SSSR 24 no.11:108-111 N '54. (MLRA 8:1)

(Peunova, M.N.) (Shelgunov, Nikolai Vasil'evich, 1824-1891)

ZAMYATNIN, V. N.

Chernyshevskiy, Nikolai Gavrilovich, 1828-1889.

"Economic views of N. G. Chernyshevskiy." Izv. AN SSSR. Otd. ekon. i prava, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress August 1952. UNCLASSIFIED.

1. ZAMYATNIN, V. N.

2. USSR 600

3. Pazhitnov, Konstantin Alekseevich, 1879-

7. Problems of handicraft guilds in the legislation of Russian absolutism, K. A. Pazhitnov, Reviewed by V. N. Zamyatnin, Sov. kniga, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ZAMYATNIN, V.N.

USSR/Miscellaneous - Book review

Card 1/1 : Pub. 124 - 23/24

Authors : Zamyatnin, V. N., Cand. of Econ. Sc.

Title : Critique and Bibliography

Periodical : Vest. AN SSSR 11, 108-111, November 1954

Abstract : Critical review of a book by M. N. Peunov entitled, "Social-Political and Philosophical Views of N. V. Shelgunov", is presented.

Institution : .....

Submitted : .....

ZAMYATNIN, V.N.

[Russian economic thought during the crisis in the feudal system and the serf emancipation period; study material for the course in the history of economic ideas] Russkaia ekonomicheskaia mysl' v period krizisa feodal'no-krepostnicheskoi sistemy i otmeny krepostnogo prava, 1825-1861 gg.; uchebnyi material po kursu Istoriia ekonomicheskikh uchenii. M, Vsesoiuznyi Zaochnyi finansovyi institut, 1958. 44 p. (MIRA 12:3)
(Economics)

ZAMYATNIN, V.N.

ABRAMOV, V.A.; ALEKSEYEV, A.M.; AL'TER, L.B.; ARAKELYAN, A.A.; BAKLANOV, G.I.; BASOVA, I.A.; BLYUMIN, I.G.; BOGOMOLOV, O.T.; BOR, M.Z.; BREGEL', E.Ya.; VEYTSMAN, N.R.; VIKENT'YEV, A.I.; GAL'TSOV, A.D.; GERTSOVSKAYA, B.R.; GLADKOV, I.A.; DVORKIN, I.N.; DRAGILEV, M.S.; YEFIMOV, A.N.; ZHAMIN, V.A.; ZHUK, I.N.; ZAMYATNIN, V.N.; IGNAT'YEV, D.I.; IL'IN, M.A.; IL'IN, S.S.; IOFFE, Ya.A.; KAYE, V.A.; KAMENITSER, S.Ye.; KATS, A.I.; KLIMOV, A.G.; KOZLOV, G.A.; KOLGANOV, M.V.; KONTOROVICH, V.G.; KRAYEV, M.A.; KRONROD, Ya.A.; LAKHMAN, I.L.; LIVANSKAYA, F.V.; LOGOVINSKAYA, R.L.; LYUBOSHITS, L.I.; MALYSH, A.I.; MENZHINSKIY, Ye.A.; MIKHAYLOVA, P.Ya.; MOISEYEV, M.I.; MOSKVIN, P.M.; NOTKIN, A.I.; PARTIGUL, S.P.; PERVUSHIN, S.P.; PETROV, A.I.; PETRUSHOV, A.M.; PODGORNOVA, V.M.; RABINOVICH, M.A.; RYVKIN, S.S.; RYNDINA, M.N.; SAKSAGANSKIY, T.D.; SAMSONOV, L.N.; SMEKHOV, B.M.; SOKOLIKHIN, S.I.; SOLLERTINSKAYA, Ye.I.; SUDARIKOV, A.A.; TATAR, S.K.; TERENT'YEV, P.V.; TYAGAY, Ye.Ya.; FEYGIN, Ya.G.; FIGURNOV, P.K.; FRUMKIN, A.B.; TSYRLIN, L.M.; SHAMBERG, V.M.; SHAPIRO, A.I.; SHCHENKOV, S.A.; EYDEL'MAN, B.I.; EKHIN, P.E.; MITROFANOVA, S., red.; TROYANOVSKAYA, N., tekhn.red.

[Concise dictionary of economics] Kratkii ekonomicheskii slovar'. Moskva, Gos.izd-vo polit.lit-ry, 1958. 391 p. (MIRA 11:7)
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ZAMYATNIN, YU. S.

"Analysis of the Cross Section of Fission by Fast Neutrons", a report presented at the Conferance on the Physics of Nuclear Fission, 19-21 January 1956, Aton Energ., No 1, 1956.

ZAMYATNIN, Yu.S.

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Fast neutron fission cross section. Atom.energ.supplement no.1:27-31 '57. (MIRA 10:10)
(Nuclear fission)

ZAMYATNIN, Yu.S.

"Cross Section of Nuclear Fission Induced by Fast Neutrons", Atomnaya Energiya, Vol 2, No I, Jan 57, p 100.

SUM, I322

ZAMYATNIN, Yu.S.

PA - 2717

AUTHOR BEZOTOSNIY, V.M., ZAMYATNIN, Yu.S.,

TITLE The Absolute Measurements of the Intensity of Neutron Sources. (Absolutnyye izmereniya intensi vnosti neutronnykh istochnikov-Russian)

PERIODICAL Atomnaia Energiia, 1957, Vol 2, Nr 4, pp 313-318 (U.S.S.R.)

Received 5/1957 Reviewed 6/1957

ABSTRACT The present paper contains a short report on the methods of gauging neutron sources used in various laboratories of the U.S.S.R. Existing methods for measuring the intensity of the neutron sources can be subdivided into the following main groups.

1) Methods based on measuringartificial radioactivity of the indecators.
2)Methods based on measuring the volume of the helium produced on the occasion of nuclear reactions.
3)Recording of the charged particles which accompany the emission of a neutron on the occasion of varios nuclear reactions.
4)Recording of recoil nuclei on the occasion of the elastic scattering of neutrons in substances containing hydrogen.
5)Methods based on measuring the modification of the neutron flux in the graphite prism of a reactor by alternatingly introducing the neutron source to be gauged and a neutron absorber into this graphite prism. On this occasion the neutron activity induced in the neutron absorber is measured. Some further methods of gauging neutron sources are based on the following. Measuring of the number of the photoprotons produced on the occasion of the photo fissioning of a deuteron,

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measuring of the number of charged He^3- and He^4- particles which accompany the emission of the neutrons on the occasion of the reactions $D(d,n)He^3$ and $T(d,n)He^4$, comparison of the neutron source to be gauged with a source of thermal neutrons. A target of pure gold introduced into the neutron field of a nuclear reactor served as such a source, measuring of the absolute β-activity of manganese caused by neutrons in a solution of $KMnO_4$ in water .Additionally, a method, based upon the principle developed by O'NEAL and G. SCHARF-GOLDHABER(Phys. Rev. 69, 368, 1946) is discussed. The results of measurements carried out in various laboratories of the U.S.S.R. by means of various methods of gauging agree within a limit of 10% with each other, with the exception of the method by PETRZHAK; As a temporary neutron standard of the U.S.S.R. the Ra-α-Be source N-23 was chosen at the Moscow Congress of Physicians (October 1952). (1 Table).

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Card 2/2

ZAMYATNIN, Yu.S.

89-8-3/26

AUTHOR: GORBACHEV, V.M., ZAMYATNIN, Yu. S.,

TITLE: The Intensity Determination of Very Short Pulses of Fast Neutrons. (Opredeleniye intensivnosti kratkovremennykh impul'sov bystrykh neytronov. Russian)

PERIODICAL: Atomnaya Energiya, 1957, Vol 3, Nr 8, pp 101 - 105 (U.S.S.R.)

ABSTRACT: With the so-called "contraction method", the neutron yield is measured by the γ-quanta, which form on the occasion of the capture of neutrons decelerated in paraffin.

On the Photocathode of a multiplier there is a crystal with ⌀ of 35 mm, H = 20 mm, which is surrounded by a cadmium hood on its upper part. The entire head of the multiplier is surrounded by a paraffin cylinder (⌀ = 130 mm, H = 150 mm), which, in turn, is enclosed by a thin lead cylinder.

By this arrangement time measurements of 100 - 300 μ s become necessary instead of the pulse times of 0,1 - 1,0 μ s, because the average life of slow neutrons in paraffin amounts to only about 200 μ s.

The pulses of the photomultiplier are led to an amplifier ($<3.10^6$ Hz) and from here to the cathode of the cathode ray oscillograph, the deviation of which on the screen gives a spiral-shaped image. By the pulse from the multiplier the deviation is interrupted, and the black spots

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The Intensity Determination of Very Short Pulses of Fast Neutrons

on the oscillogram then correspond to the number of neutrons.

The relative effectivity of the various crystals was measured and the following values were obtained:

Stilbs 1,00, naphtaline 1,16, NaI 2,60, CsI 4,12

If several of the systems described are connected in parallel, a sensitivity of 0,05 - 0,1 neutron per cm^2 can be attained. (With 1 table, 4 illustrations, and 2 Slavic references).

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Card 2/2

AUTHORS: Zamyatnin, Yu. S., Gutnikova. Ye.K., Ivanova, N. I., 89-12-8/29
Safina, I. N.,

TITLE: Secondary Neutron Spectra Developing in Connection with Neutrons Passing Through Layers of Various Materials (Spektry vtorichnykh neytronov obrazuyushchikhsya pri prokhozhdenii neytronov cherez sloi razlichnykh veshchestv)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 12, pp. 540-541 (USSR)

ABSTRACT: The $T(d,n)He^4$ reaction is used as source of neutrons. The core surrounded by a spheric layer of the material to be investigated (Thickness of layer about 100 λ). The source of neutrons is -thickness $\sim 1/3\lambda$: The photo plates are put up at a distance of $1 \approx 4R$ (R= exterior radius of the sphere) photo plates Ilford C-2 and NIKFI "K" are used as neutron detector. The parameter T from the energy distribution $F(E) = C.E.e^{-E/T}$ is given as measure for the inelastic interaction of 14 MeV neutrons with different cores.
The following values were measured:

Isotope	T	Isotope	T
Li^6	0,78±0,8	Cu^{65}	0,76±0,06
Li^7	0,80±0,08	Mo^{96}	0,65±0,06

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Secondary Neutron Spectra Developping in Connection with Neutrons Passing Through Layers of Various Materials. 89-12-8/29

	Be^9	$0,70 \pm 0,07$	Cd^{112}	$0,62 \pm 0,05$
	B^{11}	$0,75 \pm 0,10$	Sb^{122}	$0,60 \pm 0,06$
	C^{12}	$0,82 \pm 0,08$	W^{184}	$0,62 \pm 0,08$
	Mg^{24}	$0,98 \pm 0,08$	Hg^{201}	$0,60 \pm 0,05$
	Al^{27}	$1,13 \pm 0,08$	Pb^{207}	$0,73 \pm 0,05$
	Fe^{56}	$0,70 \pm 0,07$	Bi^{209}	$0,90 \pm 0,08$

There are 1 table, 2 figures and 6 references, 1 of which is Slavic.

SUBMITTED: July 20, 1957

AVAILABLE: Library of Congress

Card 2/2

ZAMYATNIN, Yu. S.

AUTHORS: Vasil'yev, Yu. A., Zamyatnin, Yu. S., Toropov, P. V., 89-12-9/29
Fomushkin, E. F.

TITLE: Measurement of the Neutron Spectrum in the Area below 0,5MeV by Means of the Time of Flight Method (Izmereniye spektrov neytronov v oblasti energiy nizhe 0,5 MeV metodom vremeni proleta)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3 , Nr 12, pp. 542-544 (USSR)

ABSTRACT: By applying an impulse source of neutrons the secondary neutron spectrum is measured, which develops, if 14 MeV neutrons pass through layers of uranium. A fission chamber, which was connected with a 50 channel analyzer, was used as a neutron detector. The distance between source and detector was 6 m.
The energy spectra for the following samples were shown by a graph:
a) U^{235} : 2,7 cm thick ($\sim 1/3\,\lambda$ in)
b) U^{238} : 2,5 cm thick ($\sim 1/3\,\lambda$ in)
c) U^{238} : 8 cm thick ($\sim$ in)
The spectra obtained from a) and b) originate from a simple interaction between 14 MeV neutrons and the uranium nuclei: It can be assumed that in the measured area of energy the development of the secondary neutrons originate from evaporization from

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the stimulated conditions of the compound core. For the case c) the development of a higher number of slow neutrons was ascertained. These are the consequence of a multiple-inelastic interaction which confirms the existence of low situated levels in the U^{238} nucleus. There are 3 figures and 3 references, 2 of which are Slavic.

SUBMITTED: July 2o, 1957

AVAILABLE: Library of Congress

89-4-4-1/28

AUTHORS: Zamyatnin, Yu.S., Safina, I.N., Gutnikova, Ye.K., Ivanova, N.I.

TITLE: A Neutron Spectrum Produced During the Passage of 14 MeV Neutrons Through a Layer of Fissionable Material. (Spektry neytronov, obrazuyushchikhsya pri prokhozhdenii neytronov s energiyey 14 Mev cherez sloi delyashchikhsya veshchestv)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 4, pp. 337-342 (USSR)

ABSTRACT: If 14 MeV-neutrons pass through thin layers of Th^{232}, U^{233}, U^{235}, U^{238} and Pu^{239}, secondary neutrons are formed. The energy spectrum of these neutrons is recorded on photo plates (Ilford C2 and NIKFI-K). A tritium-zirconium target, which was bombarded with 150 KeV-deuterons, served as a neutron source.
It was found that the spectra of secondary neutrons, which form in all isotopes investigated, consist of two components, viz. the fission neutrons and the spallation neutrons.
Furthermore, the following values were found:

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A Neutron Spectrum Produced During the Passage of 14 MeV Neutrons Through a Layer of Fissionable Material

89-4-4-1/23

Investigated isotope	Yield of fission neutrons (corrected)	Temperature of rest of nucleus in MeV	Temperature of the fission fragments in MeV
Th^{232}	0.23 ± 0.06	0,54 ± 0,05	1,2
U^{233}	0,76 ± 0,10	0,55 ± 0,10	1,20 ± 0,08
U^{235}	0,68 ± 0,06	0,40 ± 0,05	1,05 ± 0,06
U^{238}	0,49 ± 0,05	0,48 ± 0,05	1,25 ± 0,15
Pu^{239}	0,72 ± 0,10	0,53 ± 0,06	1,25 ± 0,08

There are 6 figures, 1 table, and 7 references, 3 of which are Soviet.

SUBMITTED: September 7, 1957

Card 2/2

1. Neutrons--Spectra 2. Neutrons--Sources

21(9)

SOV/89-6-4-10/27

AUTHORS: Zamyatnin, Yu. S., Ivanova, M. I., Safina, I. M.

TITLE: Neutron Spectra Forming During the Passage of Neutrons With an Energy of 14 Mev Through Thick Layers of Iron, Lead, and Uranium (Spektry neytronov, obrazuyushchikhsya pri prokhozhdenii neytronov s energiyey 14 Mev cherez tol'styye sloi zheleza, svintsa i urana)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 4, pp 466-468 (USSR)

ABSTRACT: The neutron source is surrounded by the material to be investigated (wall strengths Fe: 5, 10, 15 cm; Pb: 5, 10, 15, 18, 23, 28 cm; U: 5, 10, 20, 31.5 cm). At great distances herefrom the photographic plates Ilford S2 (100 μ emulsion thickness) and NIKFI-K (200 μ emulsion thickness) were placed. The traces of the scattered neutrons are measured and, in consideration of the background neutrons, the actual neutron spectrum is graphically plotted(for the measuring method and the apparatus see references 1 and 2). The effective neutron temperature T_{eff}, which corresponds to the gradient of the curve $\ln \frac{N(E)}{E}$, amounts to ~0.2 to 0.5 Mev within the neutron energy

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Neutron Spectra Forming During the Passage of Neutrons With an Energy of 14 Mev Through Thick Layers of Iron, Lead, and Uranium

range ~0.5 to 1.5 Mev. It is mainly determined by the neutrons which are only several times inelastically scattered. Within the range of high energy T_{eff} is considerably greater, because here multiple scattering is less. The low-energy-part of the spectrum is not accessible by the photo-plate method and must be obtained by extrapolation. After this has been done, all experimental curves are normalized. The following conclusions may be drawn from these curves: With increasing thickness of the casing the number of high-energy neutrons is reduced and the number of neutrons having an energy of < 1 Mev is increased. In the case of greater thicknesses, T_{eff} decreases and, within the range of 0.5 to 1.5 Mev, it attains 0.3 Mev for iron, 0.5 Mev for lead and 0.2 Mev for uranium. As uranium has a number of low levels, a decrease of neutron energy down to 0.1 - 0.6 Mev occurs with inelastic scattering, which decrease is not recorded by the photographic plates. The extrapolation carried out is shown by a table. A comparison of experimental curves for materials of equal thickness shows that moderation for lead is lower than for iron and uranium, and that the average neutron energy for lead

Neutron Spectra Forming During the Passage of Neutrons With an Energy of 14 Mev Through Thick Layers of Iron, Lead, and Uranium

is greater than for iron and uranium. This might be explained by the fact that, in scattering, the lead nucleus behaves like a light nucleus, because it has only few levels within the range of 1-4 Mev. The following persons assisted in irradiating plates: Yu. A. Vasil'yev, Ye. I. Sirotinin, N. S. Shvetsov, V. N. Shikin. Microscopic evaluation was carried out mainly by L. S. Andreyeva and N. F. Nikolayeva. Ye. K. Gutnikova also assisted in the work. There are 3 figures, 3 tables, and 6 references, 4 of which are Soviet.

SUBMITTED: November 25, 1958

BONYUSHKIN, Ye.K.; ZAMYATNIN, Yu.S.; KIRIN, I.S.; MARTYNOV, N.P.; SKVORTSOV, Ye.A.; USHATSKIY, V.N.;

[Yields of fragments of U^{235} and U^{238} fission by fast neutrons] Vykhody oskolkov deleniia U^{235} i U^{238} bystrymi neitronami. Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 19 p. (MIRA 17:3)

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B102/B212

26.2242

AUTHORS: Vasil'yev, Yu. A., Zamyatnin, Yu. S., Sirotinin, Ye. I., Fomushkin, E. F.

TITLE: Spectra of fission neutrons from U^{235} emitted at angles of 0, 45, and 90° to the direction of flight of the fragments

PERIODICAL: Atomnaya energiya, v. 9, no. 6, 1960, 449-454

TEXT: The results of previous measurements of spectra of fission neutrons and their angular distribution with respect to the direction of flight of the fragments agree well with theoretical data (based on an assumption of isotropic neutron evaporation and Maxwell neutron distribution); but this theory furnishes values for the mean kinetic energy of the fragments, which are somewhat too low, and, therefore, the correctness of above assumptions may be doubted. In order to check it the authors have measured again the neutron spectra, and this paper reports on the results. The spectra of the neutrons emitted at 0, 45, and 90° to the direction of flight of the fragments in 14.3-Mev neutron induced U^{235} fissions have been measured, and also their angular distribution has been determined. The

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Spectra of fission neutrons...

time-of-flight method was utilized, the distance of flight was 75 cm and the resolution time 7 μsec. A detailed description of this method and the equipment used is given in Ref. 9 (Yu.A.Vasil'yev i dr. Zh.eksperim. i teor.fiz. 38, 671 (1960)). However, the method employed here made use of a multi-layer fission chamber with fragment collimation as a fission-neutron source. A U^{235} layer had been deposited on both sides of an aluminum foil (having a thickness of 0.5 mm); the thickness of the layer was 6 mg/cm^2, and the total weight of the two layers amounted to 3.5 g. 0.75% of the fission taking place in the uranium have been recorded. The chamber was filled with a mixture of argon and carbon dioxide (10%) (pressure 760 mm Hg). The rise time of the pulses was about 0.1 μsec at a 1 kv electrode potential. Fig. 2 shows the experimental setup. Fig. 3 shows the neutron spectra $F(E_n)$ in arbitrary units measured at 0°, 45°, and 90°. Fig. 5 shows the spectra of neutrons emitted from the fission fragments. The angular distribution has been calculated by numerical integration with respect to the neutron energy (cf. Table). The angular distribution of the γ rays ($E_\gamma > 0.3$ Mev) produced during fission has also been calculated by assuming an isotropy relative to the direction of flight