"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

TABLE OF CONTENTS:

From the Editors 3

Vinogradov, A. P. Problem of the Purity of Materials 5

Sazhin, N. P. Industrial Quality Requirements of High Purity Metals and Materials for Semiconductor Technology 11

Poluektov, N. S., and V. T. Mishchenko. The Present State of the Analytical Chemistry of Lithium, Rubidium, and Cesium 37

Goryushina, V. G. Present State of the Analytical Chemistry of Beryllium 79

Poluektov, N. S., and V. T. Mishchenko. Present State of the Analytical Chemistry of Strontium 108

Ryabchikov, D. I., and V. A. Ryabukhin. Present State of the

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

PANCHENKOV, G.M.; YAKOVLEV, V.I.; KOZLOV, L.L.; ZHURAVLEV, G.I.; GOL'DIN, V.A.; RYABUKHIN, Yu.

Radio-thermal cracking of gas oil of Romashkino petroleum. Izv. vys. ucheb. zav.; neft' i gaz 4 no.12:99-101 '61. (MIRA 16:12)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ANDRUNAKIYEVICH, V.A., akademik; RYABUKHIN, Yu.M.

Imbedding of moduli. Dokl. AN SSSR 153 no.3:507-509 N '63. (MIRA 17:1)

1. Institut fiziki i matematiki AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Andrunakiyevich).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

UKSHE, Ye.A. (Berezniki); RYABUKHIN, Yu.M. (Berezniki)

Regularities of diffusion and viscous flow in fused chlorides. Izv. AN SSSR, Met. i gor. delo no.5:84-88 S-O '63. (MIRA 16:11)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ANDRUNAKIYEVICH, V. A., akademik; RYABUKHIN, Yu. M.

Special moduli and special radicals. Dokl. AN SSSR 147 no.6: 1274-1277 D '62. (MIRA 16:1)

1. AN Moldavskoy SSR (for Andrunakiyevich).

(Rings(Algebra))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu. M.

Effect of convection on the transition time in chronopotentiometry. Zhur. fiz. khim. 37 no. 3:694-695 Mr '63. (MIRA 17:5)

1. Vsesoyuznyy alyuminiyevo-magniyevyy institut, Bereznikovskiy filial.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ANDRUNAKIYEVICH, V.A., akademik; RYABUKHIN, Yu.M.

Moduli and radicals. Dokl. AN SSSR 156 no. 5:991-994 Je '64. (MIRA 17:6)

1. Institut fiziki i matematiki AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Andrunakiyevich).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.M.

Rings with unique multiplication. Izv. AN Mold. SSR no.1: 77-78 '63. (MIRA 18:3)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ANDRUNAKIYEVICH, V.A., akademik; RYABUKHIN, Yu.M.

Primary ideals in noncommutative rings. Dokl. AN SSSR 165 no.1:13-16 N '65. (MIRA 18:10)

1. Institut matematiki s vychislitel'nym tsentrom AN Moldavskoy SSR.
2. AN Moldavskoy SSR (for Andrunakiyevich).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ANDRUNAKIYEVICH, V.A., akademik; RYABUKHIN, Yu.M.

Bound rings. Dokl. AN SSSR 162 no.6:1219-1222 Je '65. (MIRA 18:7)

1. Institut matematiki s vychislitel'nym tsentrom AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Andrunakiyevich).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

UKSHE, Ye.A. (Berezniki); RYABUKHIN, Yu.M. (Berezniki); VOLKOVA, S.V. (Berezniki)

Coefficients of the diffusion of lead and silver ions in fused salts. Izv. AN SSSR. Met. no.4:89-91 Jl-Ag '65. (MIRA 18:8)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.M.

Solubility of chlorine in molten chlorides. Zhur.neorg.khim. 7 no.5:1101-1104 My '62. (MIRA 15:7)

1. Bereznikovskiy filial Vsesoyuznogo alyuminiyevo-magniyevogo instituta.

(Chlorine) (Chlorides)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, YU. S.

31546

27.2400 2220
21.5250

S/081/61/000/022/004/076
B102/B108

AUTHORS: Breger, A. Kh., Vaynshteyn, B. I., Guzey, L. S., Ryabukhin, Yu. S., Syrkus, N. P.

TITLE: Gamma-radiation absorption in macrosystems

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 37, abstract 22B254 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii. Tashkent, AN UzSSR, v. 2, 1960, 123-132)

TEXT: The gamma radiation energy absorbed by an object is determined as the difference between the γ-radiation energy flux from the source and γ-energy flux passing through the object's surface. An accumulation factor for the energy flux and a useful coefficient of the source with respect to γ-radiation are defined. The energy from Co^{60}(~2 g-equ. Ra) absorbed by the object was measured by means of a chemical dosimeter - a ferrosulfate solution filled into volumes of various shapes. The γ-radiation energy flux was also measured by the ferrosulfate method. It was shown that if the source was placed in the center of a cylinder the absorbed energy is twice as high as that when the source is located at the

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

31546
S/081/61/000/022/004/076
B102/B108

Gamma-radiation absorption ...

bottom plane of a cylinder which is half as high. The accumulation factors were calculated by comparing the experimental and theoretical results without taking multiple scattering into account. γ-radiation absorption in volumes of complex shape was studied at various positions of the sources. [Abstracter's note: Complete translation.]

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

L 06981-67 EWT(m)/EWP(t)/ETI JD/WW/JG/JR

ACC NR: AP6018357 (A) SOURCE CODE: UR/0089/66/020/005/0426/0427

AUTHOR: Dubrovskiy, V. B.; Ryabukhin, Yu. S.; Mirenkov, A. F.; Solov'yev, V. N. 35 B

ORG: none

TITLE: Passage of gamma radiation through seams of assembled concrete 15 shields

SOURCE: Atomnaya energiya, v. 20, no. 5, 1966, 426-427 19

TOPIC TAGS: reactor shielding, gamma radiation, radiation dosimetry/SBM-10 gamma counter 18

ABSTRACT: This is an abstract of article no. 81/3550, submitted to the editor and filed, but not published in full. In view of lack of data on the shielding properties of assembled shields, and in view of the lack of well founded methods of calculating the passage of gamma rays through screens, the authors propose as a basic criterion for estimating the shielding efficiency a coefficient equal to the ratio of the integral or maximal dose intensities behind the assembled screen and an equivalent monolithic shield. An expression is proposed for this coefficient and its validity was tested with a cobalt source of activity 500 gram equivalent of radium in two source geometries (collimated and isotropic source. The

Card 1/2 UDC: 621.039.538.7

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

L 06981-67
ACC NR: AP6018357

counter used (SBM-10) had a much smaller diameter (0.6 cm) than the width of the seam, so that it could be regarded as pointlike. The experiments have demonstrated that the use of assembled shields does not lead to an appreciable local rise of the dose intensity behind the screen. The passage of the gamma radiation through the seams is described sufficiently well by the proposed formula. The effect of the seam can be compensated by increasing the shield thickness or by decreasing the seam length through the use of an assembly consisting of several layers. Orig. art. has: 2 formulas.

SUB CODE: 18 SUBM DATE: 18Dec65/

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.S.; VASIL'YEV, A.G.; BELYAKOV, A.N.

Uniform irradiation of surfaces of objects by a pulse electron beam. Atom. energ. 19 no.6:535-537 D '65. (MIRA 19:1)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

82735

S/089/60/009/002/006/015
B006/B056

21.1940

AUTHORS: Ryabukhin, Yu. S., Breger, A. Kh.

TITLE: A "Radiating" Nuclear Reactor 19

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 2, pp. 132-133

TEXT: The authors used the term "radiating" reactor for such reactors whose coolant- or fuel circuit may be used as gamma-radiation source. A disadvantage of reactors with circulating fuel is the occurrence of retarded neutrons and comparatively low specific radiation power; reactors with sodium coolants also have a low specific radiation power, and a further disadvantage is the high chemical activity of sodium. A uranium reactor with a graphite (or beryllium) moderator, enriched to 10 - 25%, would not have these disadvantages. A liquid indium-gallium alloy might be used as coolant, which would, at the same time, be a carrier of the gamma activity. The main radiation power is supplied by indium, and gallium serves the purpose of reducing the melting point of the alloy (at 16.5 at% In it is about 16°C). The specific radiation power of this alloy in a flux of 10^{13} n/cm^2·sec is 1,200 w/l. The authors theoretically investigated such a reactor already in an earlier paper (Ref. 1), and carried out estimations of the neutron-

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

82735

A "Radiating" Nuclear Reactor

S/089/60/009/002/006/015
B006/B056

and thermal equilibrium and the radiation power of the circuit. Thus, 40 l of a coolant of the aforementioned composition with a temperature of 50 - 300°C suffice for a heterogeneous uranium-graphite reactor with a 20% enrichment and a heat output of 20 Mw. The optimum radiation power of an ideal group is ~40 kw (equivalent to 4.10^6 g Ra). The radiation power of such a reactor might, for instance, be used for the polymerization of 4,400 tons of polyethylene per annum; the costs of such a production would amount to 200 million rubles. The maximum gamma-radiation energy is 1.5% of the fission energy (in the case of an ideal loop). The authors finally thank Academician A. P. Aleksandrov, V. L. Karpov, S. M. Feynberg, Yu. F. Chernilin, and Ye. P. Kunegin for discussions. There are 9 references: 3 Soviet, 5 US, and 1 Canadian.

SUBMITTED: April 22, 1959

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh.; Prinimali uchastiye: KARPOV, V.L., kand.khim.nauk; BELYNSKIY, V.A.; OSIPOV, V.B., PROKUDIN, S.D.; TYURIKOV, G.S., kand.khim.nauk; GOL'DIN, V.A.; RYABUKHIN, Yu.S.; KOROLEV, G.N.; AFONIN, V.P.; POKROVSKIY, V.S.; KULAKOV, S.I.; LEKAREV, P.V.; FEDOROVA, T.P.; KOROTKOVA, M.A.; KHARLAMOV, M.T.; NIKOLENKO, G.D.; LOPUKHIN, A.F.; YEVDOKUNIN, T.F.; KASATKIN, V.M.; RATOV, A.V.

Nuclear radiation sources for radiational-chemical studies. Probl.fiz.khim. no.1:61-72 '58. (MIRA 15:11)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. Karpova.
(Radiochemistry) (Radioisotopes)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh.; RYABUKHIN, Yu.S.; TUL'KES, S.G.; VOLKOV, Ye.N.

Indium-gallium circulation loop of an IRT nuclear reactor.
Trudy Inst.fiz.AN Gruz.SSR 8:51-58 '62. (MIRA 16:2)
(Nuclear reactors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.S.; BREGER, A.Kh.

"Radiation" type nuclear reactors. Trudy Inst.fiz.AN Gruz.SSR 8:59-62 '62. (MIRA 16:2)

(Nuclear reactors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

TERENT'YEV, B.M.; EL'TEKOV, V.A.; RYABUKHIN, Yu.S.

Absorption of gamma rays in infinite lattice systems. Atom. energ. 13 no.6:568-571 D '62. (MIRA 15:12)
(Gamma rays) (Crystal lattices)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

flüssigenden Wasserstoffs. Sie wurde als Summe der im Sammelgefäß anfallenden und der aus ihm verdampfenden Wasserstoffmenge bestimmt. Letztere Größe ergab sich auf Grund der Verdampfungswärme des flüssigen Wasserstoffs und der Wärmebelastung. Die Kurve 2 charakterisiert somit das Kälteleistungsvermögen des Verflüssigers.

Praktische Bedeutung kommt nur dem Teil der Kurve zu, der Wärmebelastungen unter 13 W entspricht, bei denen bereits keine Ansammlung von flüssigem Wasserstoff im Sammelgefäß mehr eintritt. Somit beträgt die maximale Kälteleistung des Verflüssigers bei einem Druck von 60 at etwa 4 l flüssigen Wasserstoff je h, bei Umrechnung auf den Betrieb mit einem Kompressor von 10 m³/h Fördertleistung dagegen 2,5 l Flüssigkeit/h. Die maximale Verdampfungsgeschwindigkeit der Anlage beträgt, wie oben erwähnt, 2 l/h. Demzufolge reicht zu ihrer Versorgung ein Kompressor mit einer Leistung von 10 m³/h bei 60 at aus. Der typisierte Luftkompressor KH3/L der nicht größer als die Vorvakuumpumpe BH1-1 ist und der bei geringer Abänderung zur Kompression von Wasserstoff eingesetzt werden kann, weist diese gewünschten Daten auf.

Zusammenfassung

Die Gesamtleistung aller Aggregate der beschriebenen Pumpe mit einer Sauggeschwindigkeit von $3{,}7 \cdot 10^4$ l/s und der für den Betrieb des Verflüssigers bei der Stickstoffverflüssigung erforderliche Elektroenergieverbrauch beträgt ≈13 kW, unter Berücksichtigung des zur Kühlung des Schlems benötigten Stickstoffs dagegen 17 kW. Sie ist geringer als die von Öldiffusionspumpen entsprechender Sauggeschwindigkeit benötigte Leistung.

Einen gewissen Mangel der Kondensationspumpen bildet einstweilen die relative Kompliziertheit ihrer Wartung, da man die Arbeitsweise des Verflüssigers und Kompressors ständig beobachten muß.

Zum Schluß danken die Verfasser B. P. Batarkin und V. I. Sinoviev für ihre Unterstützung bei den Messungen.

Eingegangen am 12. 2. 1956

Literatur

[1] B. G. Lazarev, E. S. Borovik, M. F. Fainova, N. M. Cro, Ukr. fiz. J. 1 (1957), H. 2, S. 135.

[2] E. S. Borovik, B. G. Lazarev, M. F. Fainova, N. M. Cro, Ukr. fiz. J. 1 (1957), H. 1, S. 88.

(Übersetzt und bearbeitet von Dipl.-Math. H. Rüdenauer, Leipzig)

Bestrahlungskreisläufe mit einem Kernreaktor als Strahlenquelle[1])

J. S. Rjabuchin, A. Ch. Bazys

Das in [1] behandelte Problem des Bestrahlungskreislaufs mit einem Radioisotop im Arbeitsstoff wird auf den Fall mehrerer radioaktiver Isotope mit aktiven Folgeprodukten verallgemeinert. Bei der Untersuchung der höchstmöglichen Dosisleistung des Kreislaufs und der je Dosisleistungseinheit notwendigen Neutronen für verschiedene, als Arbeitsstoffe geeignete Elemente erweisen sich Indium und seine Legierungen als relativ günstig.

Insbesondere ergab sich für einen Bestrahlungskreislauf mit einem spaltbaren Isotop als Arbeitsstoff (sogenannter „Urankreislauf") bei im übrigen gleichen Bedingungen eine wesentlich geringere spezifische Leistung als für den Kreislauf mit metallischem Indium oder seinen Legierungen. Als Spezialfall des „Urankreislaufs" wird die Verwendung von nicht vollständig angereicherten Brennstoffelementen für Bestrahlungszwecke untersucht. Dabei wird festgestellt, daß die Dosisleistung der Anlage 2-mal größer als die einer Bestrahlungsanlage mit einmaliger Anwendung vollständig angereicherter Brennstoffelemente sein kann.

Einleitung

In der Arbeit [1] wurde ein Bestrahlungskreislauf mit einem Arbeitsstoff untersucht, in dem sich nur ein radioaktives Isotop ohne aktive Folgeprodukte bilden konnte.[2]) Es sind jedoch allgemeinere Fälle denkbar. Zunächst können sich bei der Bestrahlung mehrere Radioisotope bilden. Zweitens können die Folgeprodukte dieser primären Radioisotope wiederum radioaktiv sein. Drittens können sowohl die primären Radioisotope als auch die radioaktiven und stabilen Zerfallsprodukte aktiviert werden und damit neue Radioisotope entstehen. Schließlich kann sich im Arbeitsstoff insbesondere ein spaltbares Isotop befinden (sogenannter „Urankreislauf").

Demnach kann durch die Aktivierung im Reaktor ein recht kompliziertes Isotopengemisch entstehen, dessen Komponenten entweder voneinander unabhängig sind oder genealogisch miteinander zusammenhängen. Die Berechnung eines derartigen Kreislaufes mit von Zyklus zu Zyklus verschiedenen f_g, f_n und f_z ist schwierig und kaum zweckmäßig.[3]) Wir beschränken uns deshalb hier auf die Untersuchung von Kreisläufen mit konstanten f_g, f_n und f_z.

Kreislauf mit konstanten f_g, f_n und f_z

Offenbar ist die Gesamtdosisleistung eines solchen Kreislaufs gleich der Summe der den einzelnen γ-Strahlern entsprechenden Dosisleistungen.

Liegt eine radioaktive Familie (Zerfallsreihe) vor, so wird die dem n-ten Isotop der Reihe entsprechende

[1]) Bd. G. Podyasov, A. N. Sperov, Ukrain. [illegible] [illegible] [illegible], A. 17 (1956), H. 2, S. 129.

[2]) Während sich Arbeit [1] im Druck befand, wurde uns ein Bericht von B. Gramers („Projekt eines Bestrahlungskreislaufs") auf der Konferenz für Kernforschung und Kernreaktoren, Chicago, März 1956, bekannt, in dem ein Teil der von uns in [1] behandelten Fragen untersucht wird. Die Resultate Gramers stimmen mit den Resultaten der entsprechenden Teile unserer Arbeit [1] überein.

[3]) Zu den Berechnungen vgl. [1].

Eingg 25. Jul 56

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

EL'TEKOV, V.A.; RYABUKHIN, Yu.S.

Absorption of neutrons emitted from a fast neutron source by cadmium and indium plates immersed in an aqueous medium. Atom. energ. 13 no.3:266-269 S '62. (MIRA 15:9)
(Neutrons—Capture) (Cadmium) (Indium)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.S., starshiy nauchnyy sotrudnik; TUL'KES, S.G., nauchnyy sotrudnik

Radiation circuit, a new source of gamma rays. Nauka i zhizn' 29 no.5:61-64 My '62. (MIRA 15:11)
(Gamma rays)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, YU.S.

"Reactor radiation loops as large gamma sources."

Report submitted to the Conference on the Application of Large Radiation Sources in Industry, Salzburg, Austira 27-31 May 1963

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/020/61/136/003/026/027
B016/B052

AUTHORS: Breger, A. Kh., Ryabukhin, Yu. S., and Makhlis, F. A.

TITLE: The Effective Utilization of Fuel Elements of Nuclear Reactors as Sources of γ-Radiation in Radiochemical Equipment

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 3, pp. 671-674

TEXT: The authors made a theoretical study to determine the possibilities of utilizing industrial atomic waste, especially nuclear reactor fuel elements as sources of γ-radiation in equipment used for radiochemical processes. The data of Refs. 5-9 on the radiation intensity of fission fragment mixtures (γ or β+γ) offer no possibilities of calculating the efficiency of various applicabilities of fuel elements. For this, it would be necessary to know the average specific γ-radiation power K released in the equipment during the whole operation period of the reactor body:

$$\bar{P} = \sum_{i=1}^{n} E_i^y/K = \bar{P}\ (t_p,\ t_y,\ t_B,\ n)\ \text{(I)},$$ where $\sum_{i=1}^{n} E_i^y$ denotes the

Card 1/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

γ-radiation power of the fragments released in the equipment during the operation of the fuel element in cycle i, t_p and t_y the operation period of the fuel element in the reactor and the equipment, respectively, during one cycle; $t_B = t_{py} + t_{yp}$; t_{py} and t_{yp} denote the periods necessary for the transport of one fuel element from the reactor to the equipment and vice versa; n denotes the number of cycles. The authors also introduce a parameter, namely the coefficient of the loss of the γ-radiation energy of fission fragments in the equipment:

$$\eta_\gamma = \sum_{i=1}^{n} E_i^y \Big/ \sum_{i=1}^{n} E_i^B = (t_p, t_y, t_B, n) \quad (2),$$

where E_i^B denotes the γ-radiation energy of the fission fragments released in the whole equipment body in cycle i. In Ref. 10 it is proven that during the circulation of fuel elements not completely burned out, $\bar{P}$ can be increased by a multiple as compared to the burned out fuel elements used

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

only once. The maximum value of $\bar{P}$ is reached at $t_y = t_p$. In some cases, however, the ratio $t_y > t_p$ may be more suitable. From their calculations, the authors conclude that t_p should be as small as possible for the ranges of the values t_p, t_y/t_p, t_B/t_p. According to the authors, the results obtained in the present paper may be used for the calculation of any radiation equipment in which fuel elements of nuclear reactors operated with thermal neutrons, are used as source of γ-radiation. The authors thank M. G. Yefimov for discussing the paper, and S. I. Berestetskaya for drawing the diagrams. There are 3 figures, 4 tables, and 12 references: 7 Soviet, 1 US, 1 British, and 2 Polish.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov). Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

The Effective Utilization of Fuel Elements of Nuclear Reactors as Sources of γ-Radiation in Radiochemical Equipment

S/020/61/136/003/026/027
B016/B052

PRESENTED: July 29, 1960, by V. A. Kargin, Academician

SUBMITTED: July 11, 1960

Card 4/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu. S.

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. M. Lobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UzSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan 7

Taksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes 9

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

12

Transactions of the Tashkent (Cont.) SOV/5410

Breger, A. Kh., V. B. Osipov, and V. A. Gol'din [Fiziko-khimicheskiy institut im. L. Ya. Karpova - Physicochemical Institute imeni L. Ya. Karpov]. Universal Plant With Source of Gamma-Radiation Co^{60} With an Activity of 60,000 g-equiv. of Radium for Simulating Radiation-Chemical Apparatus and Conducting Investigations (K--60,000) 100

Breger, A. Kh. [Physicochemical Institute imeni L. Ya. Karpov]. Scientific and Technical Principles in Developing Radiation-Chemical Apparatus 107

Arifov, U. A., S. V. Starodubtsev, Ye. N. Lobanov, G. A. Kleyn, and S. Z. Pashinskiy [Institute of Nuclear Physics AS UzSSR]. Plants of the Academy of Sciences of the Uzbekskaya SSR for Various Gamma-Radiation Studies and Semi-Industrial Experiments 120

Breger, A. Kh., B. I. Vaynshteyn, L. S. Guzey, Yu. S. Ryabukhin, and N. P. Syrkus [Physicochemical Institute imeni L. Ya. Karpov]. Absorption of Gamma-Radiation in Macrosystems 123

Card 8/20

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu. S.

2

30690
S/152/61/000/012/002/002
B126/B101

11.0130

AUTHORS: Panchenkov, G. M., Yakovlev, V. I., Kozlov, L. L., Zhuravlev, G. I., Gol'din, V. A., Ryabukhin, Yu. S.

TITLE: Radiation thermal cracking of gas-oil from Romashki petroleum

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 12, 1961, 99 - 101

TEXT: The effect of gamma radiation on the cracking of gas-oil, P. B. P. 300 - 345°C, from Romashki petroleum has been studied. For the experiments a gamma unit, K-18000 (K-18000), was used, and the dose was maintained constant at 100 r/sec.; the temperatures were 400 and 425°C, the maximum dose was 5 Mr, and the experiment took 14 hr. It was established that Co^{60} gamma rays intensifies the cracking process considerably, and that the feed is converted twice as rapidly as in thermal cracking. The yield of the lightest fraction, I. B. P 200°C, exceeds that of all other fractions from a dose of 3.5 Mr upward and reaches 30 to 35% of the feed at a dose of 5 Mr. However, the olefin content of this fraction is lower than that of the corresponding fraction in thermal cracking. There are 6 figures and

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

30690
S/152/61/000/012/002/002
Radiation thermal crackingof gas-oil ... B126/B101

5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Lucchesi P. J., Tarmy B. L., Long R. B., Baeder D. L., Longwell J. P., "Ind. Eng. Chem". 50 no. 6, 876. 1958; Pat. USA no. 2516848, 1950.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I. M. Gubkina (Moscow Institute of the Petrochemical and Gas Industry imeni Academician I. M. Gubkin)

SUBMITTED: August 14, 1961

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

40264

24.6700
26.2243

S/089/62/013/003/003/007
B102/B104

AUTHORS: El'tekov, V. A., Ryabukhin, Yu. S.

TITLE: Absorption of neutrons from a fast-neutron source by cadmium and indium plates in water

PERIODICAL: Atomnaya energiya, v. 13, no. 3, 1962, 266-269

TEXT: More precise calculations are given in two-group approximation, related to earlier estimates of the activation of the indium-gallium radiation loop in the ИРТ(IRT) reactor, (Ref. 1: A. Kh. Breger et al, International Conference on Powerful Radiation Sources, Warsaw, 1959; Paper no. 80). The model considered is much simplified. Assume an infinitely large plane isotropic fast-neutron source of uniform density situated at x = 0 in an infinite uniform homogeneous medium. Parallel to this at a distance ξ assume a plate which is penetrable to fast neutrons but black to slow neutrons. The probability Q of a neutron being absorbed in the plate is calculated. The formula obtained for Q was verified by carrying out measurements in a trough containing an aqueous solution of 12% $MnSO_4$, using Ra-α-Be or Po-α-Be in a steel cylinder filled with

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

paraffin as a neutron source and with absorbing plates made from 1 mm Cd sheets either alone or plus 0.15 mm In foil. Q was calculated from the saturation activity induced in the Mn as measured with and without the absorbing plates. The $Q(\xi)$ lines plotted experimentally were compared with those calculated. In both cases these lines slope gradually downward; the theoretical lines rather less steeply than the experimental so that they intersect at $7 < \xi < 8$ cm. The principal parameters of the fast and slow neutron groups are given. The deviation of the two $Q(\xi)$ curves is due to the ideality of the model. The results are compared with those obtained by another method and the specific γ-dose rate of the irradiator of the PK-1 (RK-1) reactor loop is estimated numerically. The results coincide with the estimates in Ref. 1. There is 1 figure.

SUBMITTED: April 3, 1961

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

2

5.4500(B)
24.6800

80084
S/020/60/131/06/22/071
B014/B007

AUTHORS: Breger, A. Kh., Vaynshteyn, B. I., Guzey, L. S., Ryabukhin, Yu. S., Syrkus, N. P.

TITLE: The Absorption of Gamma-emission in Macrosystems From a Point Source

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6, pp. 1308 - 1311

TEXT: The authors define the absorbed power of γ-emission with $Q_a = \Phi_o - (\Phi_{surf} + \Phi_{scatt})$, where Φ_o is the total power of the energy flux of the γ-emission of the source, and Φ_{surf} - the power of the flux leaving the absorbing body, and Φ_{scatt} - the power of the scattered flux. The factor of the accumulation B_Φ of the integral energy flux of the γ-emission is defined by $B_\Phi = 1 + \Phi_{scatt}/\Phi_{surf}$ and by the notations $Q_a/\Phi_o = \eta$; $\Phi_{surf}/\Phi_o = \varphi_{surf}$ is obtained for the efficiency $\eta = 1 - B_\Phi \varphi_{surf}$. For a spherical absorbing body in the center of which the source is located, η may easily be written down. For a cylindrical body (Fig. 1) the

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

authors derive formula (4) for φ_{surf}. Determination of B_{Φ} was carried out in a test series, in which dosimetric solutions were located in cylindrical containers with different radii. In a copper tube, which was fitted to the cylinder axis, the γ-source could be moved from without. Measured values for five different cylinder diameters within the range of from 3 to 12 cm are graphically represented in Fig. 3. It is found that the relation $B_{\Phi} = F(h/r, \mu r)$ holds, where h denotes the height of the cylinder calculated from the source, r - the radius of the cylinder, and μ the coefficient of the linear weakening of the γ-emission in the substance (Fig. 3). In this way it was possible to determine not only the amount of the absorbed energy, but also the above introduced factor of the accumulation of the integral energy flux. This factor may be used also in investigations of the absorbed energy which are carried out with other configurations of the source or of the absorbing object. The authors thank N. A. Krasnoshchekova and Ye. D. Kalmykova for their help in performing this work. There are 4 figures and 12 references, 9 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of Physics and

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

80084

The Absorption of Gamma-emission in Macrosystems From a Point Source S/020/60/131/06/22/071
B014/B007

Chemistry imeni L. Ya. Karpov)

PRESENTED: December 17, 1959, by V. A. Kargin, Academician

SUBMITTED: December 16, 1959

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu.S.; BREGER, A.Kh.

"Radiation source" nuclear reactor. Atom. energ. 9 no.2:132-133 Ag '60. (MIRA 13:8)

(Nuclear reactors)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh.; DEMBROVSKIY, M.A.; DMITRIYEV, L.A.; SUNITSA, L.L.; RYABUKHIN, Yu.S.

Dose rate field of a cylindrical irradiator containing Co^{60} a powerful source of γ-radiation. Probl.fiz.khim. no.2: 132-145 '59. (MIRA 13:7)
(Radiation--Dosage) (Cobalt--Isotopes)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Ryabukhin, Yu. S.

PHASE I BOOK EXPLOITATION SOV/4386

Moscow. Fiziko-khimicheskiy institut

Problemy fizicheskoy khimii; trudy, vyp. 2 (Problems in Physical Chemistry; Transactions of the Institute, no. 2). Moscow, Goskhimizdat, 1959. 202 p. 1,000 copies printed.

Editorial Board: Ya. M. Varshavskiy, Doctor of Chemical Sciences; G. S. Zhdanov, Doctor of Chemical Sciences; V. A. Kargin, Academician; Ya. M. Kolotyrkin, Doctor of Chemical Sciences (Resp. Ed.); S. S. Medvedev, Academician; S. Ya. Pshenzhetskiy, Doctor of Chemical Sciences; V. M. Cherednichenko, Candidate of Chemical Sciences; V. S. Chesalova (Editorial Secretary), Candidate of Chemical Sciences; Ed.: I. A. Myasnikov; Tech. Ed.: Ye. G. Shpak.

PURPOSE: This collection of articles is intended for physical chemists.

COVERAGE: The collection is the second issue of the Transactions of the Scientific Research Institute of Physical Chemistry imeni L. Ya. Karpov. It contains 17 articles which review

Card 1/5

Temkin, M. I., N. M. Morozov, V. M. Pyzhev (Deceased), L. O. Apel'baum, L. I. Luk'yanova, and V. A. Demidkin. The Oxidation of Ammonia Over a Nonplatinum Catalyst 14

Pshezhetskiy, S. Ya., S. A. Kamenetskaya, Ye. I. Gribova, A. V. Pankratov, N. M. Morozov, I. N. Pospelova, A. Ya. Apin, V. N. Siryatskaya, N. A. Slavinskaya, and V. M. Cherednichenko. Kinetics of Decomposition, and the Explosion of Ozone 27

Horiuchi, Juro (Japan). How to Find the Kinetic Equation of a Reversible Reaction 39

Kolotyrkin, Ya. M. The Effect of the Specific Adsorption of Anions on the Kinetics of Hydrogen Evolution and the Structure of the Metal-Solution Boundary 50

Varshavskiy, Ya. M. The Nature and Mechanism of Electrophilic Hydrogen Exchange 61

Zvonkova, Z. V. Crystallochemical Data on the Nature of the Mutual Effect of Atoms 97

Romantsova, G. I. Investigation of the Effect of Intermolecular Interaction on the Ultraviolet Absorption Spectra of Aromatic Compounds 107

Smagina, Ye. I., V. S. Kutsev and B. F. Ormont. Investigation of Equilibrium in the System Zirconium-Nitrogen at High Temperatures and the Dependence of the Free Energy of ZrN_x Formation on Its Composition and Structure 118

Breger, A. Kh., M. A. Dembrovskiy, L. A. Dmitriyev, L. L. Sunitsa and Yu. S. Ryabukhin. Study of the Field of Forces of Dosages From a Cylindrical Irradiator With Co^{60} as a Powerful Source of Y Radiation 132

Potapov, V. K., B. G. Vasil'yev and N. N. Tunitskiy. Study of the Ionization and Dissociation of n-Octane and n-Nonane Molecules by the Method of Bombardment With "Quasi-Monokinetic" Electrons 146

Pshezhetskiy, A. S. Radiation-Chemical Effects in Solid Inorganic Salts 163

Makaimov, M. P., A. V. Zinin, and R. V. Dzhagatspanyan. Radiation-Chemical Chlorination of Benzene 169

Proskurnin, M. A., Ye. V. Barelko, and L. I. Kartasheva. Course of the Process of Benzene Oxidation in an Aqueous Solution Under the Action of Radiation 177

Kucera, J. (Czechoslovakia), Ye. V. Barelko, L. I. Kartasheva, P. N. Komarov, and M. A. Proskurnin. Decomposition Products of Phenol Formed During the Radiolysis of Benzene in an Aqueous Solution 183

Sharpatyy, V. A., and G. A. Gol'der. The Problem of the Phase Composition of the System H_2O-$NaNO_3$-NaOH at Low Temperatures 189

Orekhov, V. D., and A. A. Zansokhova. Sensitization of the Radiolytic Oxidation of Leucoform Dyes 194

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh.: Prinimali uchastiye: VAYNSHTEYN, B.I.; SYRKUS, N.P.; RYABUKHIN, Yu.S.; KOZLOV, V.A.; KARPOV, V.L., red.; TARAKHOVSKAYA, N.K., red.; YAZLOVSKAYA, E., tekhn.red.

[Nuclear radiation sources and their application to radiochemical processes] Istochniki iadernykh izluchenii i ikh primenenie v radiatsionno-khimicheskikh protsessakh. Pod red. V.L. Karpova. Moskva, Vses.in-t nauchn.i tekhn.informatsii, 1960. 128 p. (MIRA 13:10)

(Radiation) (Radiochemistry)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh.; RYABUKHIN, Yu.S.; MAKHLIS, F.A.

Effective use of the heat-producing elements of nuclear reactors as sources of gamma radiation in radiation-chemical instruments. Dokl. AN SSSR 136 no. 3:671-674 Ja '61. (MIRA 14:2)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova i Moskovskiy institut khimicheskogo mashinostroyeniya. Predstavleno akademikom V.A. Karginym.
(Gamma rays) (Radiochemistry)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

21(9) SOV/89-7-2-5/24

AUTHORS: Ryabukhin, Yu. S., Breger, A. Kh.

TITLE: The Circulation System of a Nuclear Reactor as a Source of Radiation (Tsirkulyatsionnyy kontur yadernogo reaktora kak istochnik izlucheniy)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 129 - 137 (USSR)

ABSTRACT: The task described in reference 1, i. e. consideration of a circulation loop containing one single isotope, as a radiation source and computing the strength of this source, was extended for such cases when several isotopes form in the substance to be activated and these isotopes have a series of radioactive decay products. The absolute maximum output of such a circulation system and the neutron consumption per output unit was theoretically calculated for the following elements: Na, Sc, Mn, Ga, Br, In, Sb, La, Ir which can be considered as materials to be activated in the circulation. It was found that In and its alloys can be best utilized. A circulation was separately examined in which the substance to be activated contained fissile isotopes (uranium circulation). It was proved that the specific capacity of this kind of circulation under the same conditions

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

is less than that of a circulation in which metal Indium or its alloys are being irradiated. As a special case they examined in an irradiation apparatus the uranium circulation of fuel not completely burned out in a reactor. The authors show that in this case the capacity can be increased 2-4 times in comparison with a device in which fully burned out fuel elements are used only once. The theoretically developed formulas for the specific capacity of circulations are separately derived in an annex. There are 3 figures, 2 tables, and 16 references, 6 of which are Soviet.

SUBMITTED: July 25, 1958

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

TRUSOVA, V.P.; RYABUKHIN, Yu.S.

Iron-sulfate method of dosimetry in metal vessels. Atom. energ. 15 no.6:526 D '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

PANCHENKOV, G.M.; KOZLOV, L.L.; YAKOVLEV, V.I.; KATSOBASHVILI, V.Ya.; VASIL'YEV, L.A.; RYABUKHIN, Yu.S.

Polymerization of amylenes under the action of high-energy electrons. Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:57-58 '62. (MIRA 16:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BREGER, A.Kh. and RYABUKHIN, Yu.S.

"Miniature-scale Preparatory Work on Possible Industrial Apparatus for Carrying out Radiation-induced Reactions with the Aid of Isotopic Sources of Radiation."

paper presented at the First All-Union Conference on Radiation Chemistry, Mar 25-Apr 2, '57

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHIN, Yu. S. AND BREGER, A. Kh.

"Modeling Isotope Sources of Radiation for Potential Industrial Radiation-chemical Installations I. Investigation of Dosage Fields in the Opperation Chamber of Apparatus K-1400"

Truly Transactions of the First Conference on Radioaction Chemistry, Moscow, Izd-vo AN SSSR, 1958. 330pp.
Conference -25-30 March 1957, Moscow

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

SOV/89-5-5-4/27

21(9)

AUTHORS: Ryabukhin, Yu. S., Breger, A. Kh.

TITLE: The Circulation Loop of a Nuclear Reactor as a Radiation Source, Especially for Radiation Chemistry (Tsirkulyatsionnyy kontur yadernogo reaktora kak istochnik izlucheniy, v chastnosti dlya radiatsionnoy khimii)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 5, pp 533-541 (USSR)

ABSTRACT: A substance to be activated is sent through a loop which passes through the reactor and is connected with a radiation chamber. The γ-radiation emitted by the substance is used in a radiation chamber (e.g. for radiation-chemical work). The problem to be solved is to determine by calculation the optimum duration of time during which the substance to be activated should remain in the reactor, in the radiation chamber, and in the connecting tubes. For this purpose it is necessary that with a given neutron flux, with given activation properties of the substances, and an assumed time of operation of the loop, the average energy of γ-radiation emitted per second in the radiation chamber per liter of the activated substance must be a maximum. The problem is solved

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

SOV/89-5-5-4/27

The Circulation Loop of a Nuclear Reactor as a Radiation Source, Especially for Radiation Chemistry

only for an isotope, which is not a radioactive product produced during activation. The corresponding formulae and families of curves are given.
The calculation of a loop in which liquid indium circulates is particularly instructive. The neutron flux is assumed to be 10^{13}n/cm^2.sec, the volume to be activated in the reactor - 1 l, duration of the circulation of the loop - 50 days, length of connecting tubes - 20 m, the smallest permissible cross section in the connecting tubes - 0,5 cm^2, with a maximum velocity of flow amounting to 0,1 m/sec. From these data it follows that the average energy of γ-radiation amounts to 2 700 W/l, which corresponds to a preparation with an activity of $2,7 \cdot 10^5$ gram equivalent Ra in one liter.
In the case of optimum working conditions the energy of γ-radiation can be increased to 4 900 W/l.
Professor V. I. Veselovskiy gave general directives with respect to the investigations to be carried out, and results were discussed with V. L. Karpov.
The mathematical derivation of the principal formula is

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

SOV/89-5-5-4/27

The Circulation Loop of a Nuclear Reactor as a Radiation Source, Especially for Radiation Chemistry

described in an appendix. There are 4 figures, 1 table, and 10 references, 1 of which is Soviet.

SUBMITTED: March 15, 1958

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/057/61/031/007/013/021
B104/B206

AUTHORS: Terent'yev, B. M., and Ryabukhin, Yu. S.

TITLE: Absorption of γ-radiation in infinite systems

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 7, 1961, 837 - 842

TEXT: The energy distribution in space of γ quanta in a homogeneous, unbounded medium, the quanta being emitted by a point source, was investigated by B. V. Novozhilov (ZhETF, 33, no. 5, 1287, 1957) using diffusion-age approximation. This approximation is only applicable if the condition $l\partial n/\partial s \ll n$ (1) is fulfilled. l is the mean free path of the quantum with the age τ; $\partial n/\partial s$ is the density gradient of quanta with this age at the distance r. It is shown that with sufficiently small energies this condition is not fulfilled in the case of a point source. But if γ sources are uniformly distributed in an unbounded, homogeneous medium, the distribution function does not depend on the space coordinates and the directions of motion of the quanta. Thus, (1) is fulfilled and an age approximation can be used instead of a diffusion-age approximation. Thus the system of equations

Card 1/5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

$$\frac{dq(\tau)}{d\tau} = -\varkappa(\tau)\, q(\tau), \qquad (2)$$

$$\tau(\lambda) = \frac{1}{3}\int_{\lambda_0}^{\lambda} d\lambda' \left[\mu_k(\lambda')\,\xi(\lambda')\right]^{-1},$$

$$\varkappa(\tau) = 3\mu_\phi(\lambda)\,\mu_k(\lambda)\,\xi(\lambda),$$

for the quanta density can be given. ξ is the mean change of the wavelength of the γ-quanta due to Compton scattering, $q(\tau)|_{\tau=0} = S\delta(\lambda - \lambda_0)$ the initial condition, S the power of the monoenergetic sources in quanta/cm^3·sec; λ_0 is the wavelength of the sources in Compton units ($\lambda = mc^2/h\nu$; $mc^2 = 0.51$ Mev; $h\nu$ is the quantum energy in Mev); $\mu_\phi(\lambda)$ and $\mu_k(\lambda)$ are linear coefficients of the photoelectric effect and Compton process. The solution of (2) can be easily given by

$$q(\tau) = q(\lambda) = S\exp\left\{-\int_{\lambda_0}^{\lambda} \frac{\mu_\phi(\lambda')}{\mu_k(\lambda')\,\xi(\lambda')}\, d\lambda'\right\} \qquad (3);$$

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/057/61/031/007/013/021
B104/B206

Absorption of γ-radiation...

the γ-quanta flux can be expressed by

$$F(\lambda) = cn(\lambda) = \frac{S}{\mu_{\text{п.}}(\lambda)\,\xi(\lambda)} \exp\left\{-\int_{\lambda}^{\lambda} \frac{\mu_{\text{ф.}}(\lambda')\,d\lambda'}{\mu_{\text{п.}}(\lambda')\,\xi(\lambda')}\right\}. \qquad (5)$$

Comparisons with results by U. Fano et al. (J. Res. of NBS, 59, 3, 207; 1957) showed that the solution (5) conforms with that by Fano. The authors obtain

$$E_{\text{погл.}} = S\frac{\gamma(h\nu_0)}{\mu(h\nu_0)}h\nu_0 + \int_{\lambda_0}^{\lambda_{\text{кон.}}} \gamma(\lambda)\,h\nu F(\lambda)\,d\lambda, \qquad (7)$$

for the energy absorbed by the unit volume of an unlimited, homogeneous medium. $F(\lambda)$ corresponds to (5); $\gamma(h\nu_0)$ is the energy transfer coefficient; $\mu(h\nu_0)$ is the linear total attenuation factor of γ radiation. The first expression in (7) describes the absorption of the original radiation, the second that of the repeatedly scattered radiation. After a short discus-

Card 3/5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

sion of the accuracy of (7), the authors deal with the main problem of their investigation. They study the absorption of γ radiation in complex systems consisting of radiation sources and irradiated volumes (e.g., a "tubular heat exchanger", where the tubes are the radiation sources). The authors investigated, as an example, the irradiator of an indium-gallium radiation cycle of the type "tubular heat exchanger". The volume concentration of the In-Ga alloy was 5%, that of the water 95%; the alloy contained 22 percent by volume In. The relative distribution of the γ radiation was determined. Under the assumption that the age approximation is applicable, it was possible to separate the energy absorbed in the alloy (source) from that absorbed in water (irradiator).

$$E_{\text{погл.}} = S\left(\frac{\gamma(h\nu_0)}{\mu(h\nu_0)}\right)_{\text{смеси}} h\nu_0 + Smc^2 \int_{\lambda_0}^{\lambda_{\text{кон.}}} \left[\frac{\gamma(\lambda)}{\lambda\mu_{\text{п.}}(\lambda)\,\xi(\lambda)}\right]_{\text{смеси}} \exp\left\{-\int_{\lambda_0}^{\lambda}\left(\frac{\mu_{\text{р.}}(\lambda)}{\mu_{\text{п.}}(\lambda)\,\xi(\lambda)}\right)_{\text{смеси}} d\lambda\right\} d\lambda. \quad (9)$$

was obtained, where for the respective component, $\{\gamma(\lambda)\}_{\text{смеси}}$ must be

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/057/61/031/007/013/021
B104/B206

Absorption of γ-radiation...

replaced by $\{\gamma \lambda\}_i$. Calculations for various lines, for which the initial energies of the sources were assumed to be differently strong, showed that with energy reduction of the initial radiation, an all the greater part of the γ radiation energy is absorbed in the substance of the source. There are 1 figure and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc. The references to English-language publications read as follows: H. Goldstein et al., Final Report, No. 10, 5075, 1954; P. R. Karr, Phys. Rev., 76, 1843, 1949.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Nauchno-issledovatel'skiy fiziko-khimicheskiy Institut im. L. Ya. Karpova ("Order of the Red Banner of Labor" Scientific Physicochemical Research Institute imem L. Ya. Karpov)

Card 5/5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHINA, O.A. [Riabukhina, O.O.]

Compatibility of papaverine hydrochloride with alkaline substances in liquid forms of drugs. Farmatsev. zhur. 17 no.6:48-54 '62. (MIRA 17:6)

1. Kafedra tekhnologii lekarstv i galenovykh preparatov Kiyevskogo instituta usovershenstvovaniya vrachey (zaveduyushchiy kafedroy prof. Vaysman, G.A.).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHINA, O.O.

Studying the compatibility of some alkaloids in medicinal mixtures. Farmatsev. zhur. 16 no.4:24-28 '61. (MIRA 17:6)

1. Kafedra tekhnologii lekarstv i galenovykh preparatov Kiyevskogo instituta usovershenstvovaniya vrachey (zaveduyushchiy kafedroy prof. Vaysman, G.A.).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M.

Using steel bracket-beam systems transformed into continuous.
Avt.dor. 28 no.11:27,29 N '65. (MIRA 18:11)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M., inzh.

Repairing bridge supports damaged by ice jams. Avt.dor. 22 [i.e.23] no.9:20-21 S '60. (MIRA 13:9)
(Bridges--Repairing) (Ice on rivers, lakes, etc.)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M., dotsent

Design of the footings of bridges across reservoirs. Trudy NIIZHT no.24:205-217 '61. (MIRA 16:5)
(Wu River, China—Bridges—Foundations and piers)
(Ice on rivers, lakes, etc.)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M., inzh.

Design of waterproof joints in steel sheet piling. Avt.dor. 22 no.8:15 Ag '59. (MIRA 12:11)
(Sheet piling) (Bridge construction)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M., inzhener

Laminated abutments. Tekh.zhel.dor.6 no.12:25-26 D'47. (MIRA 8:12)
(Bridges)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M., inzh.

Mounting metal span structures from river terraces. Avt.dor. 21 no.10:11-12 O '58. (MIRA 11:11)
(Bridges, Iron and steel)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABCKHO, A. M.

Designing reinforced concrete cantilever and ordinary massive retaining walls. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 234 p. (54-17209)

TA770.R5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHO, A.M.

[Designing reinforced concrete cantilever and ordinary massive retaining walls] Proektirovanie konsol'nykh zhelezobetonnykh i obyknovennykh massivnykh podpornykh sten. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 234 p. (MLRA 6:8)

(Retaining walls) (Reinforced concrete construction)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/137/62/000/001/012/237
A060/A101

AUTHOR: Ryabukhov, S. I.

TITLE: Modifying cast iron by low-silicon or low-manganese magnesium alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 31, abstract 1V225 (V sb. "Polucheniye izdeliy iz zhidk. met s uskoren. kristallizatsiyey". Moscow - Kiyev, Mashgiz, 1961, 140-146)

TEXT: Si-Mg alloys are used for obtaining cast iron modified with magnesium. According to the present methods of production their Si content is $>40\%$. To obtain mechanically strong and chemically homogeneous Mg-cast iron it is necessary to have an alloy with Si content $\leqslant 20\%$. For this purpose lean Fe-Si is used in producing the alloy. However, with such a Fe-Si the solubility of the Mg and the formation of the required Mg_2Si is sharply decreased. In order to raise the solubility, the author proposes to carry on the mixing of Mg with Fe-Si in a hermetically closed lined revolving drum. The inner space of the drum is divided into two sections by a lined partition whose height exceeds the drum radius. Mg and cryolite are placed in one section. The drum together with its contents is heated by mazut or gas up to 700°C. Then Fe-Si is poured into the

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

S/137/62/000/001/012/237
A060/A101

Modifying cast iron by low-silicon ...

other section, the drum is hermetically closed and set into rotation. The heat of the Fe-Si melts the magnesium, makes it mix partially with the former, and a certain part is evaporated. As the temperature decreases, the alloy obtained crystallizes. The remaining alloy is broken out of the drum and broken into pieces by hammer. The optimum smelting conditions are: Fe-Si 350kg, Mg 40 kg, cryolite 10 kg, the temperature of the Fe-Si 1,360°C, rotation of the drum for 60 min at a rate of 30 rpm. The alloy contains 18% Si and 10% Mg. At the present time work is being conducted on obtaining heavy Mg-alloy with 10% Mg and 20% Mn content. The specific weight of this alloy will exceed that of the cast iron and therefore it will be possible to utilize it without any special accessories for immersion in the crude iron.

A. Sergeyev

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYZHILOV, A.A.; ZAKHAROV, V.A.; LEBED', I.I.; RYABUKHOV, S.I.

Control of black spots on magnesium iron castings. Lit. proizv. no.6:10-11 Je '62. (MIRA 15:6)

(Cast iron—Defects)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Ryabukhov, S. I.

PHASE I BOOK EXPLOITATION SOV/4199

Leningrad. Politekhnicheskiy institut

Sovremennyye dostizheniya liteynogo proizvodstva; trudy mezhvuzovskoy nauchno-tekhnicheskoy konferentsii (Recent Achievements in Founding: Transactions of the Scientific and Technical Conference of Schools of Higher Education) Moscow, Mashgiz, 1960. 336 p. Errata slip inserted. 4,000 copies printed.

Resp. Ed.: Yu. A. Nekhendzi, Doctor of Technical Sciences, Professor; Eds.: N. G. Girshovich, Doctor of Technical Sciences, Professor, and K. F. Lebedev, Docent; Managing Ed. for Literature on Heavy Machine Building (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer; Tech. Eds.: Ye. A. Dlugokanskaya, and L. V. Shchetinina.

PURPOSE: This book is intended for the technical personnel of foundries. It may be used by students of the field.

COVERAGE: This collection of articles discusses problems in founding processes. Individual articles treat the melting of metals and their alloys, mechanization and automation of casting processes, aspects of the manufacture of steel, cast iron, and nonferrous metal castings. No personalities are mentioned. References accompany individual articles.

Recent Achievements in Founding (Cont.) SOV/4199

38. Klochnev, N. I. Achievements in the Field of Production of High Strength Cast Iron With Spheroidal Graphite 273

39. Ryabukhov, S. I. Improvement of Magnesium-Modified Cast Iron Production Methods 281

40. Bauman, B. V. Effect of Nitrogen on the Structure and Mechanical Properties of Gray Cast Iron 285

41. Khudokormov, D. N. Investigation of Graphitizing the Magnesium Modified High-Silicon Malleable Cast Iron 292

42. Girshovich, N. G., and A. Ya. Ioffe. Phosphide Eutectic, Characteristic Features of Its Structure, and Its Effect on Cast Iron Properties 299

VII. NONFERROUS METAL CASTINGS

43. Chursin, V. M. Problems of Grain Refining of Some Copper Alloys 309

Card 8/9

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S.I., inzhener.

Magnesium treatment of cast iron in pear-shaped ladles. Lit.proizv. no.3:26 Mr '56. (MLRA 9:7)
(Cast iron) (Magnesium founding)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Ryabukhov, S. I.

Treating cast iron with magnesium in a pear-shaped ladle. S. I. Ryabukhov. *Liteinoe Proizvodstvo* 1956, No. 3, 26.—In the lining of the bottom of a vessel resembling an eccentric Bessemer converter is provided a chamber in which Mg is placed. When the converter is in a horizontal position, this chamber is on the top and is connected with the melting space of the vessel with a slot. When the converter is righted, Mg vaporizes and escapes through this slot into the molten bath. An excessively large slot causes explosions and a too-narrow one wears to fast. J. D. Gat

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYZHIKOV, A.A.; RYABUKHOV, S.I.

Modifying cast iron by means of a liquid iron-magnesium addition agent. Lit. proizv. no.1:9-10 Ja '59. (MIRA 12:1)
(Cast iron--Metallurgy) (Magnesium alloys)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S.I.

Melting nodulized iron with a high-steel charge. S. I. Ryabukhov. *Liteinoe Proizvodstvo* 1956, No. 12, 60. High-frequency melting a charge of 90% steel scrap, 4-5% coke, 5% of 45% FeSi, and then treating the metal with Mg produced a casting with the usual structure and high-impact properties. I. D. Gat

5

1-4E2c

PG

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S. I., [redacted]hener.

Smelting magnesium cast-iron from a burden having an increased steel content. Lit. proizv. no.12:30 D '56. (MIRA 10:3)
(Cast iron)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S. I.

21

Distr: 4E2c

18

Treatment of Cast Iron with Magnesium in a Pear-Shape Ladle. S. I. Ryabukhov. (*Liteinoe Proizvodstvo*, 1956, (3), 26). [In Russian]. Experiments are briefly described in which the influence of various factors on the inoculation of cast iron with Mg were studied with the aid of a special 100-kg ladle. This was roughly the shape of a converter and was filled in the horizontal position. On tilting the ladle the iron found its way *via* a slit to a small chamber containing the magnesium. 1600 sq. mm was found to be the optimal cross-sectional area for the slit, a larger value leading to splashing and a lower value to quick erosion of the slit, although accompanied by more efficient inoculation.—S. Z.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Ryabukhov, S. I.

137-1957-12-23846

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 140 (USSR)

AUTHOR: Ryabukhov, S. I.

TITLE: Possible Alternatives in Magnesium Treatment of Cast Iron (Vozmozhnyye varianty obrabotki chuguna magniyem)

PERIODICAL: V sb.: Novoye v liteyn. proiz-ve. Nr 2. Gor'kiy, Knigoizdat, 1957, pp 116-123

ABSTRACT: Tests were made of methods for treating cast iron (CI) by means of powdered Mg blown through in a jet of N_2 and by introducing a Mg rod or Mg vapors. An industrial installation was designed for the production of Mg powder, as well as a special dipper device for blowing the powder by means of N_2 through the CI. Data are given for: a) The determination of the pressure of Mg needed for the blowing process; b) The adaptation of Mg 4; c) The amount of the residual Mg in the CI in accordance with the duration of the blowing process. It was found that the temperature of the CI was considerably lowered by the passage of large amounts of cold N_2 through it. The original installation for the vaporization of Mg and for the passage of its vapors through molten CI is described.

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

137-1957-12-23846

Possible Alternatives in Magnesium Treatment of Cast Iron

When the CI is treated with Mg vapor, the need for preheating the cupola CI is eliminated.

E. Sh.

1. Cast iron-Preparation 2. Magnesium-Applications

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S.I.

Equipment for introducing magnesium into cast iron. S. I. Ryabukhov. *Liteinoe Proizvodstvo* 1957, No. 5, 14-16; cf. *C.A.* 50, 8422f.—A vessel similar to the side-blown Bessemer converter is mounted on trunnions near its center of gravity and is provided with a chamber near its bottom in the top right-hand corner when brought in a horizontal position, thus being above the level of molten iron. This chamber is filled with Mg before pouring in the iron, after which the vessel is straightened and Mg is allowed to react.

J. D. Gat

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

Ryabukhov, S. I.

Modification of iron. S. F. Lavrent'ev and S. I. Ryabukhov. U.S.S.R. 104,976, Mar. 26, 1957. To molten Fe with Mg, powd. Mg is introduced into the Fe by means of a compressed, inert gas blown through the liquid Fe.
M. Hosch

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKHOV, S.I., inzhener.

Device for adding magnesium to cast iron. Lit. proizv. no.5:14-15 My '57. (MIRA 10:6)

(Cast iron--Metallurgy) (Magnesium alloys)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

BRUNSHTEYN, B.A.; KLIMENKO, V.L.; RYABUKHOVA, S.F.

Improve the technical and economic indices of the production of synthetic fatty acids. Masl.-zhir.prom. 29 no.9:31-34 S '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ACCESSION NR: AR3000208 S/0081/63/000/006/0475/0475

SOURCE: RZh. Khimiya, Abs. 6N27 P

AUTHOR: Klimenko, V. L.; Rudkovskiy, D. M.; Ryabukhova, S. F.

TITLE: Methods of production of higher fatty alcohols C sub 7 - C sub 10 and their technical and economic evaluation

CITED SOURCE: Ekon. effektivnost' neftekhim. protsessov. L., Gostoptekhizdat, 1961, 84-93

TOPIC TAGS: Chemical production, fatty alcohols, polyvinnyl chloride

TRANSLATION: Methods of production of C sub 7 - C sub 10 fatty alcohols used in the manufacture of plasticizers are considered [hydrogenation of fatty acid esters; oxo synthesis applied to thermal cracking gasoline, copolymers of propylene and butylene, propylene trimers, alpha-olefins and butylenes; production of 2-ethylhexanol (I) from n-butyraldehyde (II) and from n-butyl alcohol]. Extent of process development, raw material supp-

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

ACCESSION NR: AR3000208

lies, product quality, technical and economic indicators of the process are taken in consideration. It is shown that the most efficient is the method of oxo synthesis utilizing thermal cracking gasoline distillates and paraffin-cracking products. The alcohols produced by this procedure can be used in the manufacture of polyvinyl chloride items (frost resistance to - 30°). Of promising nature is the production of I from II, with the view of utilizing the plasticizer in items having a frost resistance from -40 to -50°. See RZhKhim, 1962, 13L19. Yu.P.

DATE ACQ: 16May63 ENCL: 00 SUB CODE: 00

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUKIN, G. YE.

USSR/Geology - Mapping Sep/Oct 53

"Review of V. A. Aprodov's book 'Geological Mapping,'" (Acad V. A. Obruchev, G. Ye. Ryabukin, and A. A. Malakhov, reviewers)

Iz Ak Nauk SSSR, Ser Geol, No 5, pp 141-145

Favorable review of Aprodov's book "Geologicheskoye Kartirovaniye," Gos Izd-vo geol lit-ry (State Publishing House of Geological Literature), Mowcow, 1952, 373 pp, 152 illustrations, 8 maps. The book is recommended for geology students at state universities.

265T76

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHIN, P.; MAL'KO, B.

Wood - Preservation

House fungi and insects, destroyers of wood, and the fight against them. Sel. 'stroi, no. 3 (44)(1952)

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

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHA, V.K.; KACHANOVSKIY, S.F.

Improving the production of effective ceramics. Stroi.mat. 5 no.2:29-31 F '59. (MIRA 12:2)

1. Glavnyy inzh.Novgorodskogo kirpichnogo zavoda (for Ryabusha).
2. Nachal'nik planovogo otdela Novgorodskogo kirpichnogo zavoda (for Kachanovskiy).
(Novgorod--Ceramics)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

TARAKANOVA, Ye.N., inzhener; RYABUSHKIN, I.I., inzhener; GORDIN, A.M., inzhener

Portable installation of capacitors for improvement of cos φ. Energetik 3 no.6:26-27 Je '55. (MLRA 8:9)
(Condensers (Electricity))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHKIN, I. I.

AID P - 3002

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 17/28

Authors : Tarakanova, Ye. N., I. I. Ryabushkin, and A. M. Gordin, Engs.

Title : Movable installations of power capacitors

Periodical : Energetik, 6, 26-27, Je 1955

Abstract : A major work was done at the establishments of the Karaganda Coal Combine in order to raise the power factor. The basic measure consisted in introducing synchronous motors in ventilating and compressor installations and also synchronous convertors and static capacitors at the central substations of the combine. The author describes the details of these installations. Three diagrams, one table.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

KRAAK, E.; GUL'YEV, P.K.; LEBEDINSKIY, I.S., assistent; BELOKHVOSTOV, S.D.; PASYUKOV, V.M.; RYABUSHKIN, K.V.; SUVOROV, V.S.; BOCHAROV, A.P.

Sanitation, veterinary hygiene, and disinfection. Veterinariia 38 no.7:75-79 Jl '61. (MIRA 16:8)

1. Institut pitaniya Potsdam-Rebryuke, Germanskaya Demokraticheskaya Respublika (for Kraak). 2. Direktor Chuvashskoy respublikanskoy veterinarno-bakteriologicheskoy laboratorii (for Gul'yev). 3. Khar'kovskiy zooveterinarnyy institut (for Lebedinskiy).

(Veterinary hygiene)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHKIN, K. V., SUVOROV, V. S., BOCHAROV, A. P., BELOKHVOSTOV, S. D., PASYUKOV, V. M.,

On the disinfection of the environment against anthrax spores.

Veterinariya vol. 38, no. 7, July 1961 p. 78.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHKIN, N.V.

EPF
.R92947

I.V. STALIN; O NEODOLIMOSTI NOVOGO V RAZVITII. MOSKVA, IZD-VO ZNANIYE, 1952. 31 P. (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTHANENIYU POLITICHESKIKH I NAUCHNYKH ZNANIY. 1952, SERIYA I, NO. 76)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHKIN, N. V.
USSR/Miscellaneous

Card 1/1

Author : Ryabushkin, N. V., Cand. in Phil. Sci., Doc. Ivanskiy Ped. Inst.

Title : Innovation in Science

Periodical : Nauka i Zhizn' 21/3,1-4, Mar/1954

Abstract : Science is innovation. With passing reference to real scientists, work of leading communists is advanced as science. Science arises from practical needs of society. Imperialism is enemy of real science.

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

1ST AND 2ND ORDERS 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

11N

Biological activity of a new antibiotic procyanine. N. S. Kharchenko, E. O. Ryabushko, and O. I. Petukhova (Ukrain. Exptl. Endocrinol. Inst., Kharkov). *Vrachebnoe Delo* **27**, 19-24(1947).—Frogs showed some depression of reflex activity on administration of 0.3-0.5 mg. of the drug, but even at 1 mg. no fatal cases occurred. Subcutaneous injection of up to 1 mg. into mice gave temporary excitation; intravenous injections were safe up to 0.4 mg. The drug is a powerful vasoconstrictor at 1:10,000 diln. It does not appreciably affect the isolated frog heart action until 1:25,000 concn. is reached, when the activity is enhanced. Blood pressure is little affected. Respiratory movement is speeded up by as little as 0.1 mg./kg. in rabbits. Smooth muscle (isolated rabbit intestine) is essentially unaffected by up to 1:10,000 concn. used.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9

RYABUSHKIN, P., prof.

V.I. Lenin and statistics of the socialist state. Plan. khoz. 41 no.1:82-85 Ja'64. (MIRA 17:2)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446320002-9"