

PROCESSES AND PROPERTIES INDEX

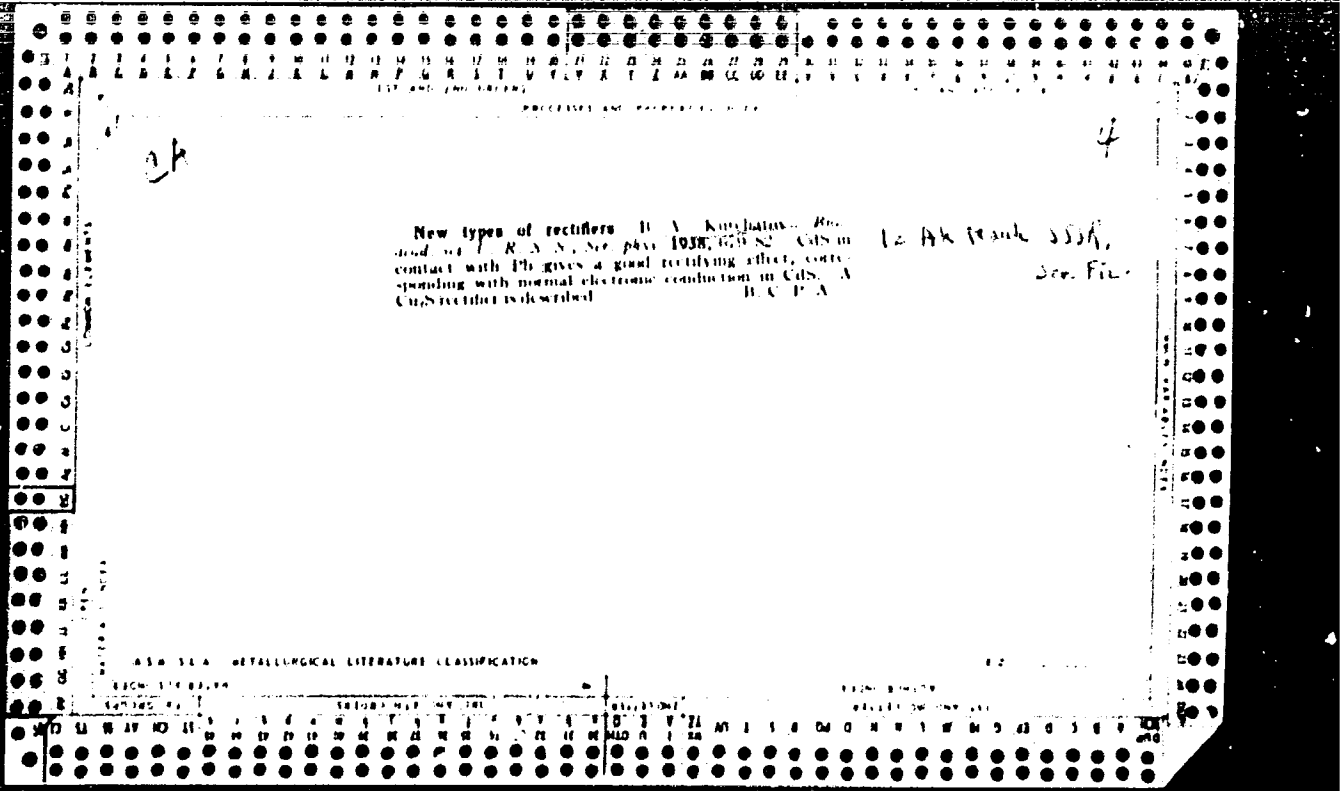
2

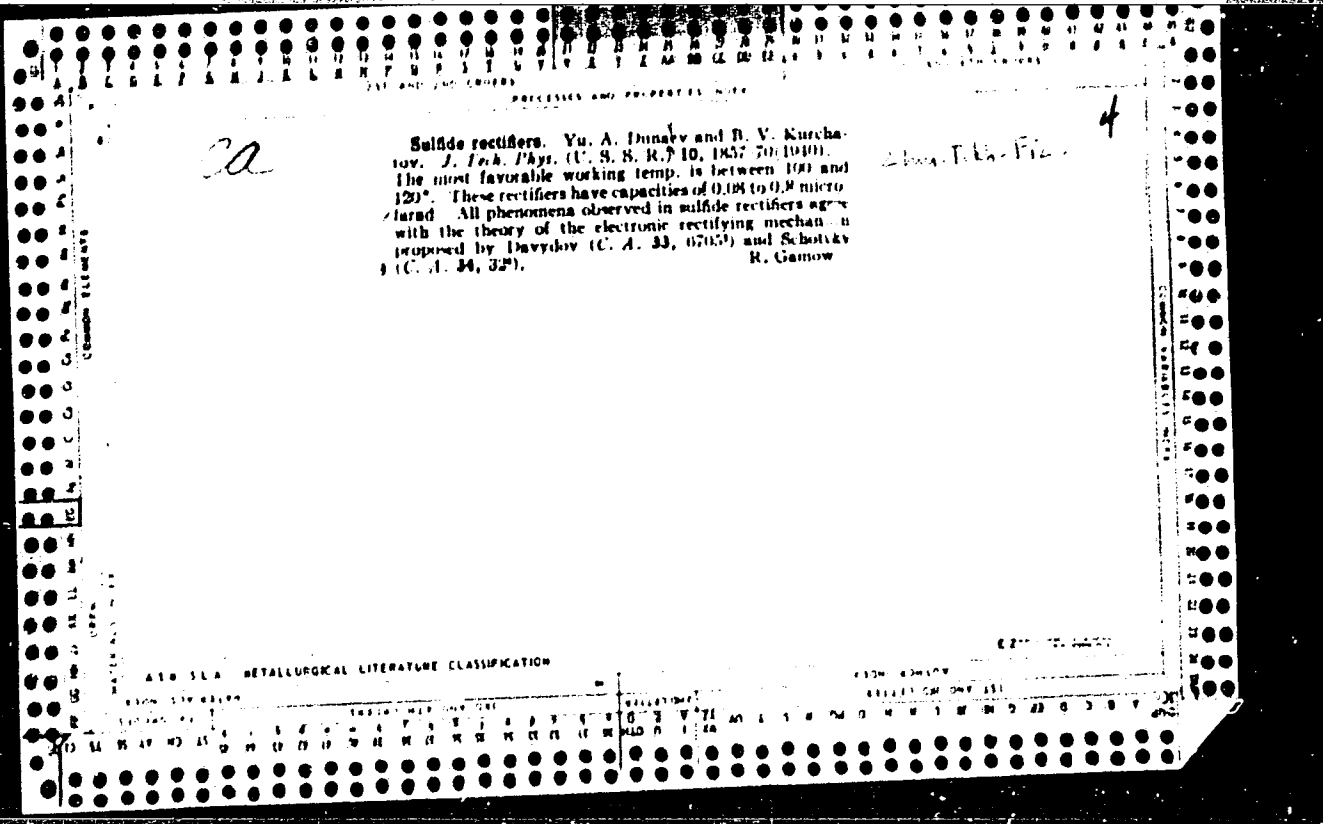
CR

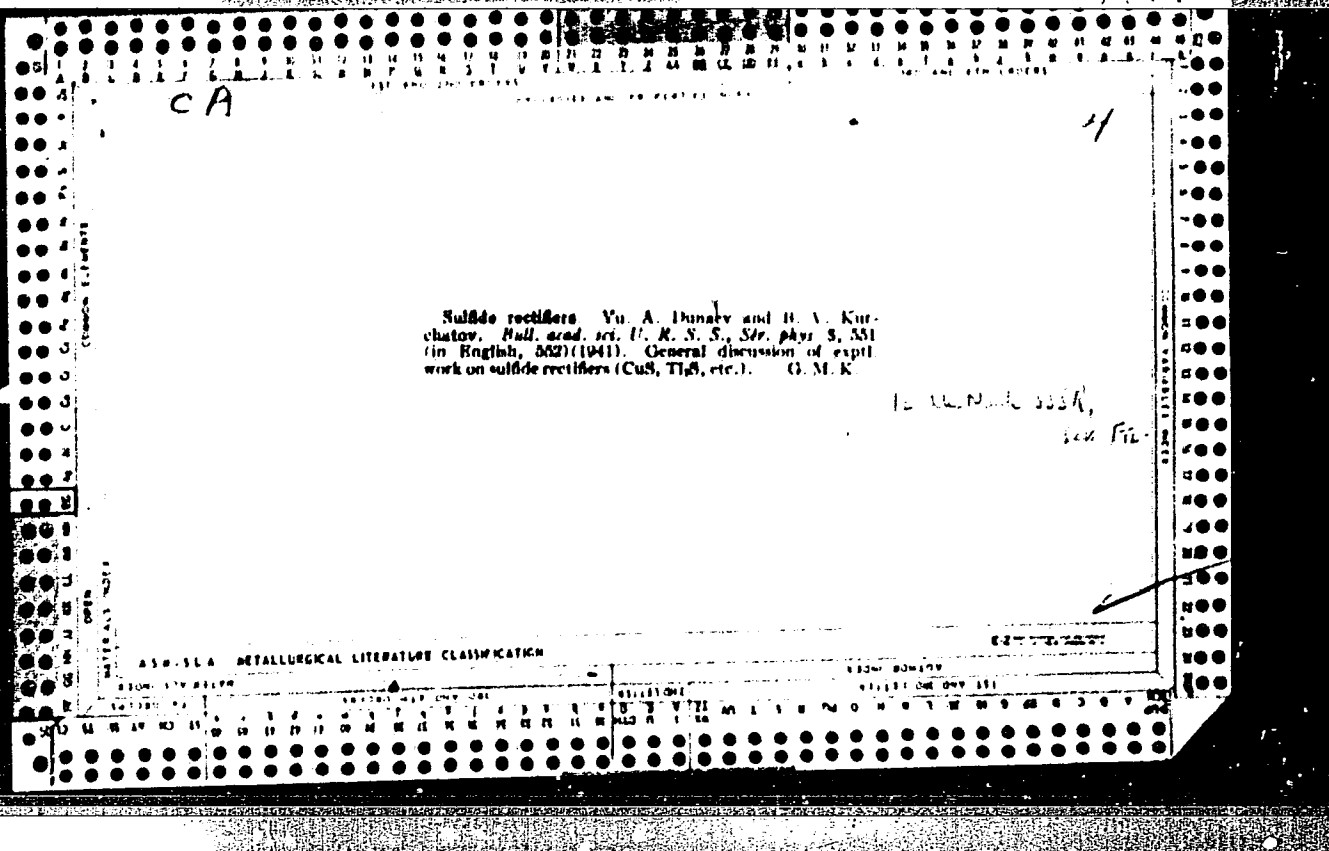
The electrical properties of isomorphous mixtures of Rochelle salt. B. V. Kurchatov. *J. Exptl. Theoret. Phys. (U. S. S. R.)* 4, 221-2 (1934).--The temp. dependence of the dielec. const. is shown graphically for mixts. of $\text{NaKC}_4\text{H}_4\text{O}_6 \cdot 4\text{H}_2\text{O}$ with 13.0, 10.0, 19.0, 19.8, 0.3 and 21.3 moles % of the NH_4Na salt from 80° to 290°K. These curves show max. at 240°, 205°, 190°K., resp., while the last 2, with a ratio less than 4 moles to 1, show the seignetto-elec. effect ("infinite" max. at below 75°K.). Triple mixts. of Rochelle, Na NH_4 , and Na TI salts also show this effect. The 75:20:3 mixt. shows no max., the value being small but increasing with decreasing temp.; the 70:2:12.3:1.5 shows a max. at 190°, the 8:21.5:0.5 at 190°. The mixts. 79:21.0, 55:45:0 and 0:40:1 show the seignetto-elec. effect, being displaced more to the low-temp. side by 20° and 10° intervals. The TI salt reduces the seignetto-elec. tendency.

P. H. Rathmann

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION







KURCHATOV, B. V., GREENSHCHIKOVA, V. I., CHERNYAVSKAYA, N. B., and YAKOVLEV, G. N.

"The Sulphate Method of Separating Plutonium and Neptunium," a paper
presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

100-114 01, B, V.

*600-8
1200-8*

4104 AEC-42-2435 (Pt. 2) (p. 79-80)
RADIOCHEMICAL INVESTIGATION OF THE FISSION OF *Uranium*

TUNGSTEN WITH 250-MEV DEUTERONS. B. V. Kurchatov
V. B. Kuznetsov, M. Ya. Kuznetsov, and L. N. Kuznetsov. *4*

p. 79-81 of CONFERENCE OF THE ACADEMY OF
SCIENCES OF THE USSR ON THE PEACEFUL USES OF
ATOMIC ENERGY, JULY 1-6, 1955. SESSION OF THE

DIVISION OF CHEMICAL SCIENCE. (Translation). 6p.
0mL 01/1
This paper was originally abstracted from the Russian
and appeared in Nuclear Science Abstracts as NSA 9-7937.

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

KURCHATOV, B.V., starshiy nauchnyy sotrudnik-khimik; GREBENSHCHIKOVA,
V.I., starshiy nauchnyy sotrudnik; CHERNYAVSKAYA, N.B.,
nauchnyy sotrudnik; YAKOVLEV, G.N., nauchnyy sotrudnik

[Sulfate method for isolating plutonium and neptunium] Sul'fatnyi
metod vydeleniia plutonia i neptunia. Moskva, 1955. 7 p.
(Plutonium) (Neptunium) (MIRA 14:6)

AUTHORS: Kurchatov, B. V., Mekhedov, V. N., SO7/56-35-1-7/59
Christyakov, L. V., Kuznetsova, M. Ya., Borisova, N. I.,
Solov'yev, V. G.

TITLE: Secondary Nuclear Reactions in Bismuth and Lead During
Bombardment by Protons of High Energy (Vtorichnyye yadernyye
reaktsii na vismute i svintse pri bombardirovke protonami
vysokikh energiy)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
Vol 35, Nr 1, pp 56 - 63 (USSR)

ABSTRACT: In the present paper experiments are described which had
already been carried out in 1951 - 1952, the results
and evaluations of which are, however, published only
now. Bi(Z=83) and Pb(Z=82) was bombarded with protons
of energies of from 180 to 480 MeV, and astatine isotopes
(Z=85) were obtained, the production of which was inves-
tigated by a radiochemical method. With the exception
of At²¹¹, which was also obtained from lead, -
Pb²⁰⁸(Li,kn)At²¹¹ -, it was possible to obtain all
astatine isotopes from bismuth. $\sigma(\text{At}^{211}) = 6.10^{-29} \text{cm}^2$,

Card 1/3

Secondary Nuclear Reactions in Bismuth and Lead During SOV/56-35-1-7/59
Bombardment by Protons of High Energy

$\sigma(A^{210}) = 2 \cdot 10^{-29} \text{ cm}^2$. The At-isotopes found are nearly all α -active. At²⁰³(α, K): T = 7 min, At²⁰⁴(K): T = 25 min; At²⁰⁵(α, K): T = 25 min; At²⁰⁶(K): T = 2,5 h; At²⁰⁷(α, K 90%): T = 2 h; At²⁰⁸(K): T = 6,3 h; At²⁰⁹(α, K 95%): T = 5,5 h; At²¹⁰(K): T = 8,3 h; (For the α -activity of Po²¹⁰ T = 140 d); At²¹¹(α, K 60%): T = 7,5 h. The production cross section of At²¹¹ in lead was $\sim 10^{-31} \text{ cm}^2$. The authors endeavored to explain the phenomena observed by assuming them to be the result of a secondary reaction of the capture of fission products (α -particles or Li-nuclei). The production of light astatine isotopes might be explained by the capture of high-energy protons with a following emission of π^- -mesons and several neutrons. The cross section for the production of α -particles with $E > 20 \text{ MeV}$ from bismuth irradiated with 480 MeV protons is determined from the astatine yield as amounting to (5 to 6) $\cdot 10^{-25} \text{ cm}^2$. (Perfilov and Ostroumov (Ref 11) obtained $(1,5 \div 1,6) \cdot 10^{-25} \text{ cm}^2$.) In conclusion Professors B.M. Pontekorvo and I.Ya.

Card 2/3

Secondary Nuclear Reactions in Bismuth and Lead During SOY/56-35-1-7/59
Bombardment by Protons of High Energy

Pomeranchuk are thanked for their advice and discussions.
There are 2 figures, 4 tables, and 12 references, 2 of
which are Soviet.

SUBMITTED: February 20, 1958

Card 3/3

RESEARCH, N. I., V. I. BOVINSKOYEVA, V. A. POHELIN, V. M. SHUKKO, N. I. KORISOVA and
P. M. CHULKOV

"Research on the Content of Radioactive Strontium in the Atmosphere, Soil, Food
Products, and Human Bones."

Soviet Scientists Concerning the Dangers of Nuclear-Weapon Test, p. 62,
Publishing House of the Main Administration for the Use of Atomic Power
Council of Ministers USSR, Moscow 1959.

S/824/62/000/000/002/004
B183/B102

AUTHORS: Borisova, N. I., ~~Kurchatov, B. Y.~~, Novgorodtseva, V. I.,
Pchelín, V. A., Chistyakov, L. V., Shubko, V. M.

TITLE: The radiochemical study of Am^{241} fission by neutrons of
various energies

SOURCE: Fizika deleniya atomnykh yader. Ed. by N. A. Perfilov and
V. P. Eysmont. Moscow, Gosatomizdat, 1962, 48 - 53

TEXT: Even-odd nuclei can be fissioned at different resonance energies according to which of the two possible spin states is present. This effect was observed in the neutron-induced fission of Am^{241} . Because of the relatively low fission cross section of Am^{241} the study was made with a filtered beam of rays, despite certain disadvantages of this as compared with monochromatic neutron beams. The irradiation was done in the MPT (IRT) reactor under a neutron flux of $5 \cdot 10^{12}$ neutrons/cm²·sec lasting one hour without and several hours with the filter. The filters were of aluminum-alloyed gadolinium, cadmium, rhodium, and erbium oxides. The

Card 1/2

The radiochemical study of...

S/824/62/000/000/002/004
B183/0102

Am^{241} was extracted from plutonium, thoroughly purified and then electro-deposited upon platinum disks to give a thickness 0.15 - 0.5 mg/cm^2 . The fission products emitted from this layer on irradiation were collected on filter paper and subjected to radiochemical analysis. The counting was made on a methane flow counter with an approximate 4π -geometry. The yield of the different products, as referred to the yield in Mo^{99} , increases with increasing neutron energy when the yield of Ba^{140} is neglected. Comparative calculations showed that within experimental limits of error thermal neutrons and neutrons of the first resonance cause the same mass yields in the fission of Am^{241} . The effect is too weak to allow of estimates in the regions of the second and third resonances. There are 1 figure and 2 tables.

Card 2/2

43464

S/089/62/013/006/009/027
B102/B186

AUTHORS: Kurchatov, B. V., Lavrenchik, V. N., Shubko, V. M.

TITLE: Radioactive tungsten in the atmosphere

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 576 - 580

TEXT: In the months following July 1958 a new activity of about 60 keV was detected in gamma spectrograms of air samples from the western part of the USSR. The fact that Ce^{141} , Ce^{144} , Ru^{103} , Ru^{106} , Zr^{95} , and Nb^{95} were present in the samples and contributed to this peak made it difficult to identify. From a radiochemical analysis it was possible to obtain a preparation whose specific activity corresponded to β -radiation of W^{185} . The isotope composition of the radiotungsten was determined by measuring the half-lives of β and γ -active substances and the radiation energies.

Np^{237} , which has an intense peak at 59.7 keV, was taken as reference emitter. Thus the energy was found to be (58 ± 1) keV and the half-life was 140 days, corresponding to W^{181} which goes over by radiative electron

Card 1/2

Radioactive tungsten...

S/089/62/013/006/009/027
B102/B186

capture into Ta¹⁸¹. The isotopes W¹⁸¹ and W¹⁸⁵ are most probably produced in (n,2n) reactions from W¹⁸² and W¹⁸⁶, having a cross section greater than that of (n,γ) reactions by a factor of 10³, which also are possible. If the growth in β and γ-activities between July and November are confronted with the natural W isotope composition and the half-life data it can be concluded that the atmospheric tungsten was caused by the US thermonuclear test series performed on the Marshall Islands during May - July 1958. The geographical and seasonal fluctuations of the tungsten atmospheric pollution were studied in detail. In contrast to Sr⁹⁰ which remained almost constant between July and November 1958, the W¹⁸⁵ content increased steadily from 0.12 to 6.8 mCu/km² (determined in the rainwater). On W¹⁸¹ a concentration maximum was also observed in spring 1959 which is attributed to meteorological causes. The latitude dependence of the atmospheric tungsten activity measured in December 1958 shows an Atlantic peak between 20 and 30° n.l. and measured in November 1959 a Pacific peak at about 40° n.l. There are 2 figures and 3 tables.

SUBMITTED: April 18, 1962
Card 2/2

KURCHATOV, B.V.; RUDENKO, N.V.; PASTERKHOVA, Z.V.

Study of the reaction (d, α) on cadmium isotopes. Vest. Mosk.
un. Ser. 2: Khim. 20 no.6:17-23 N-D '65. (MIRA 19:1)

1. laboratoriya radiokhimii Nauchno-issledovatel'skogo instituta
yadernoy fiziki Moskovskogo universiteta. Submitted May 29, 1965.

KURCHATOV, G.N.; GRANIN, G.I.

The Lena River steam navigation is one hundred years old.
Rech.transp. 15 no.8:1-3 Ag.'56. (MLRA 9:11)
(Lena River--Steam navigation)

KURCHATOV, I.V.

Problems affecting the development of atomic power engineering
in the U.S.S.R. Dos. such. fiz. no.5:3-12 '57. (MIRA 16:6)

(Russia—Nuclear engineering)

KURCHATOV, I.V.

Feasibility of thermonuclear reactions in a gas discharge.
Dok. such. fiz. no.5:82-94 '57. (MIRA 16:6)

(Thermonuclear reactions)

SOURCE: Atomnaya energiya, v. 17, no. 6, 1964, 463-474

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

EE

I 30155-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6020620

SOURCE CODE: BU/0011/65/018/003/0227/0230

AUTHOR: Kurchatov, M.; Yanakiyev, N.

113
B

ORG: Institute of General and Inorganic Chemistry, BAN

TITLE: Study of iron oxide reduction by solid carbon using methods for the simultaneous observation of the kinetic and temperature curves

SOURCE: Bulgarska akademiya na naukite. Doklady, v.18, no.3, 1965, 227-230

TOPIC TAGS: chemical reduction, thermal analysis, chemical kinetics, iron oxide, carbon

ABSTRACT: ⁶ Although several researchers studied the reduction of iron oxides ²¹ by solid carbon (see, e.g., A. K. Ashin, S. T. Rostovtsev, Izv. vysshikh uchebnykh zavedeniy, Kh. M., 1964, No 4, 11), The kinetics and the mechanism of this process are still subject to differing interpretations. The majority of the approaches does not take into account the real temperature of the reduced sample although the reaction proceeds with a considerable endothermic effect. Consequently, the authors carried out a simultaneous determination of the reduction rate by the amount and composition of the outgoing gases, and of the thermal effects by a modified method of differential thermal analysis. Results are shown in graphic form. This article was presented by Academician D. Ivanov on 30 October 1964. [Orig.

art. in Russian] [JFRS]
SUB CODE: 07 / SUBM DATE: 30Oct64 / ORIG REF: 005 / OTH REF: 001 / SOV REF: 005
Card 1/1 *tm*

LAMBIEV, D.; KOURCHATOV, M. [Kurchatov, M.]

Method of studying metal oxide reduction with carbon
oxide permitting automatic plotting of kinetic curves.
Doklady BAN 17 no.2:129-132 '64.

1. Institute of General and Inorganic Chemistry at the
Bulgarian Academy of Sciences. Submitted by Academician
D.Ivanoff [Ivanov, D.], Member of the Board of Editors,
"Doklady Bolgarskoy akademii nauk".

KURCHATOV, M.; YANAKIYEV, N. [IAnakiev, N.]

Apparatus for the determination of reducing power in iron ores and reactivity of solid fuel. Doklady BAN 15 no.8:833-836 '62.

1. Institut obshchey i neorganicheskoy khimii Bolgarskoy Akademii nauk. Predstavleno akad. D. Ivanovym, chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy akademii nauk".

LAMBIYEV, D. [Lambiev, D.]; KURCHATOV, M.

A method of studying the rate of metallic oxide reduction
by carbon. Doklady BAN 16 no.2:165-168 '63.

1. Institut po obshchey i neorganicheskoj khimii Bolgarskoj
Akademii nauk. Predstavleno akad. D. Ivanovym.

TOTSEV, D.; KURCHATOV, M.

Tests for the obtainment of ferrocoke on the basis of domestic raw materials in Bulgaria. Izv Inst khim BAN no.8:123-146 '61.

SECRET

... (NH)₄CO₃ with periodic addn. of dry (NH)₄CO₃ to maintain
the high concn. The fuel was washed with hot water after fil-
tering and dried as above, as well as with fresh ...

V 2

A rational analysis of the ash of solid fuels. *M. S. Kuchatov, Annuaire fac. des phys. et math. (Soviet), Chemie 47: 143-67 (1952) (Russian summary)* - The usual method of fusion with Na_2CO_3 has shortcomings, among them the fact that a foreign substance is introduced in an amount greater than the substance being analyzed. K. has attempted to develop a method predicated on the following conditions: that the ash to be analyzed be present in such a manner as to insure const. compn., that the fuel be finely ashed in units not exceeding 1 g., that the fuel be finely powdered with added oxidants such as NH_4NO_3 and oxalate, that the ash be treated with acids or fused with Na_2CO_3 , that nitrate-oxalate mixt. instead of by fusion with Na_2CO_3 , that detn. of separate components be carried out individually, the detn. being carried out without introducing reagents that cannot later be removed by the usual analytical procedures of evapn. and reagent, that different procedures be used according to the type of fuel involved. A procedure involving standard methods of sepn. (procedure 1) is to be preferred for brown coals and peat low in CaSO_4 . A more versatile procedure, (2) uses ammonium oxalate to ppt. Ca, transforming sulfates at the same time to the sol. form. Procedure 3 uses 8-quinolinol as a group pptg. agent to obtain sesquioxide metals in convenient form for filtration. In procedure 4, pptn. is practically avoided in the individual detns. Advantages of K.'s approach are that the ash for analysis, being of const. compn., gives better agreement between duplicates, that detn. of both alkali metals and P is possible on one weighed sample, and that the absence of foreign substances permits more accurate and convenient carrying out of pptn. Complete conversion of sesquioxides in soln. is avoided, and thus bulky pptn. of Al and Fe hydroxides difficult to wash are avoided. By K.'s methods, the sum of the constituents never exceeds 100%. The 4 procedures indicated cannot be used in all situations, e.g. when Ba is present. When the procedures are not followed carefully, and Ca silicate is formed, which is rare, erroneous results will then be obtained. Careful work and very pure reagents are necessary to insure accurate detn. of the alkali metals. The P detn. is long and involved. Improvements can be made. Clayton F. Holway

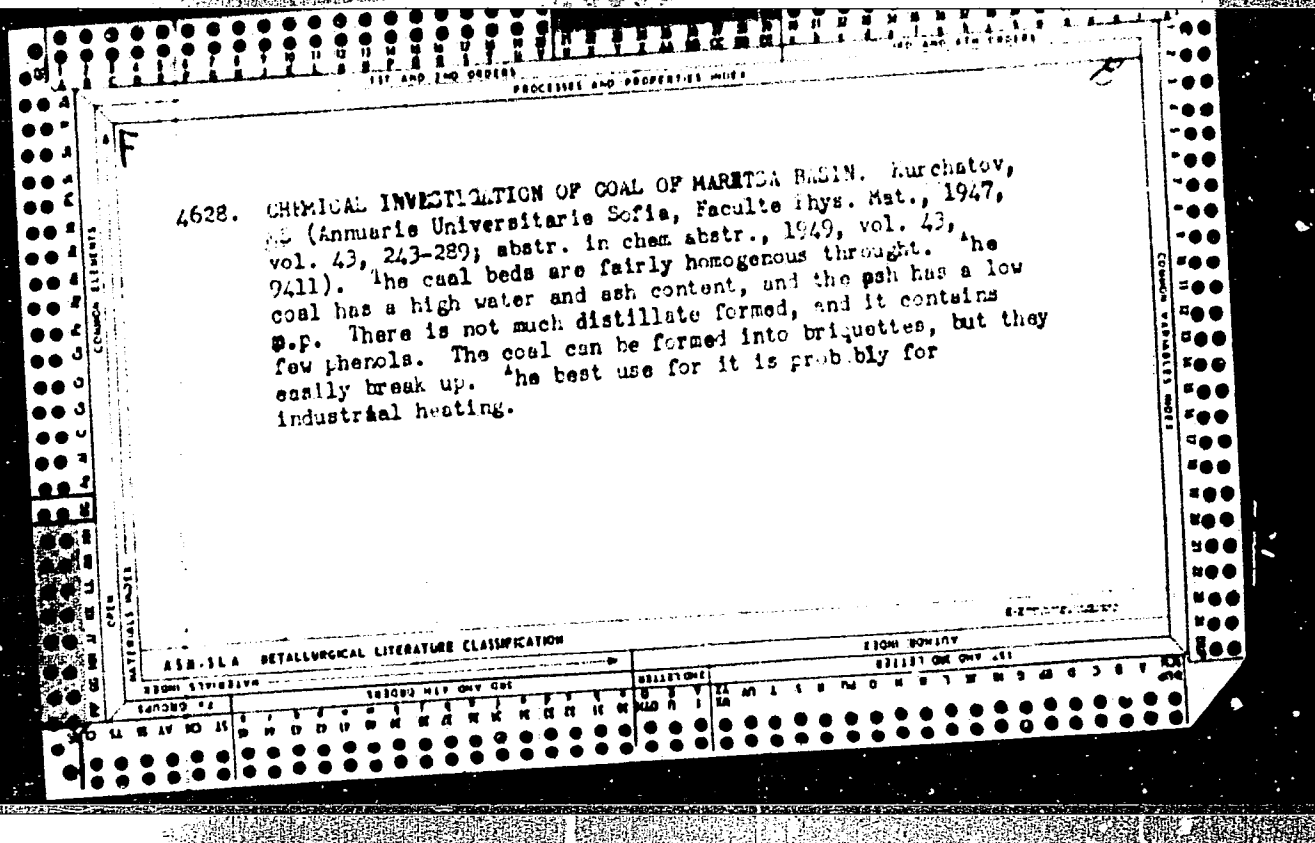
CA

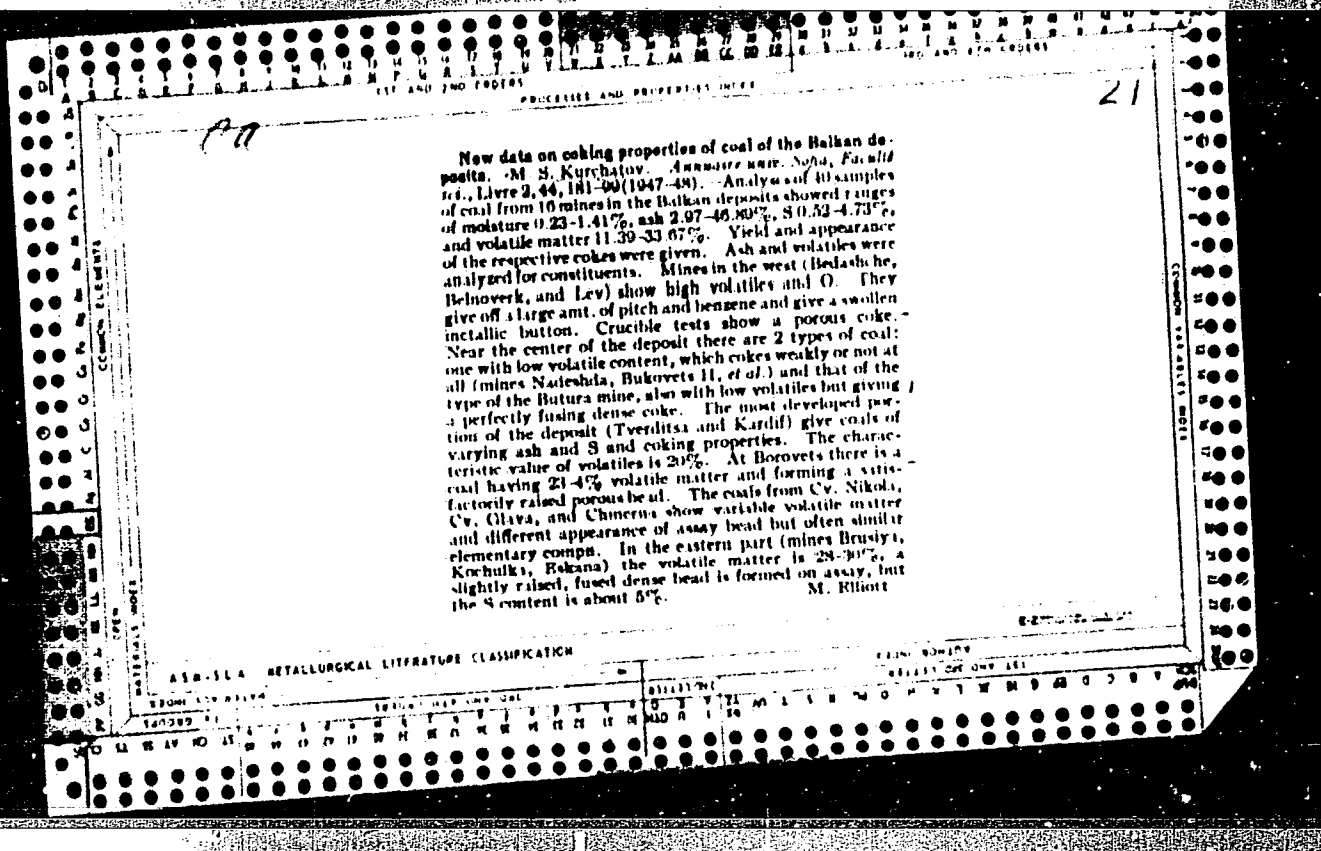
A new method for the determination of the inorganic (ash) sulfur in coal and coke. M. S. Kurchatov. *Annuaire chim. Sofia, Faculté phys.-mat.* 43, Livre 2, 220-24 (1946-1947) (German summary). Samples of ash (15 g.) were placed in a 250-cc. Erlenmeyer flask, then mixed with 20 cc. of 3% H₂O₂ and heated a few min. with a low flame. Concd. HCl (1 cc.) was then added to the mixt. and heating continued a few min. The mixt. was dil. with 40 cc. H₂O and 6 g. (NH₄)₂CO₃ added. The flask was then covered with a watch glass or preferably with a glass stopper drawn out to a capillary. The flask was again heated until the (NH₄)₂CO₃ was completely decompd. The contents of the flask were dil. with 100 cc. boiling H₂O, filtered, and washed. The filtrate which contained (NH₄)₂SO₄ was neutralized with HCl, decompd. with 4-5 cc. concd. HCl, and pptd. at boiling temp. with 10 cc. 10% BaCl₂; BaSO₄ was obtained as a ppt. This method can be used without special app. No foul smelling or dangerous gases are evolved. Hard coal, lignite, coke, and mixts. of ash from various sources were analyzed by this method. Results were in good agreement with previous methods. Samples of ash to which the method was applied ranged from less than 1/10 to 9% S content. Cf. following abstr. Nellie M. Payne

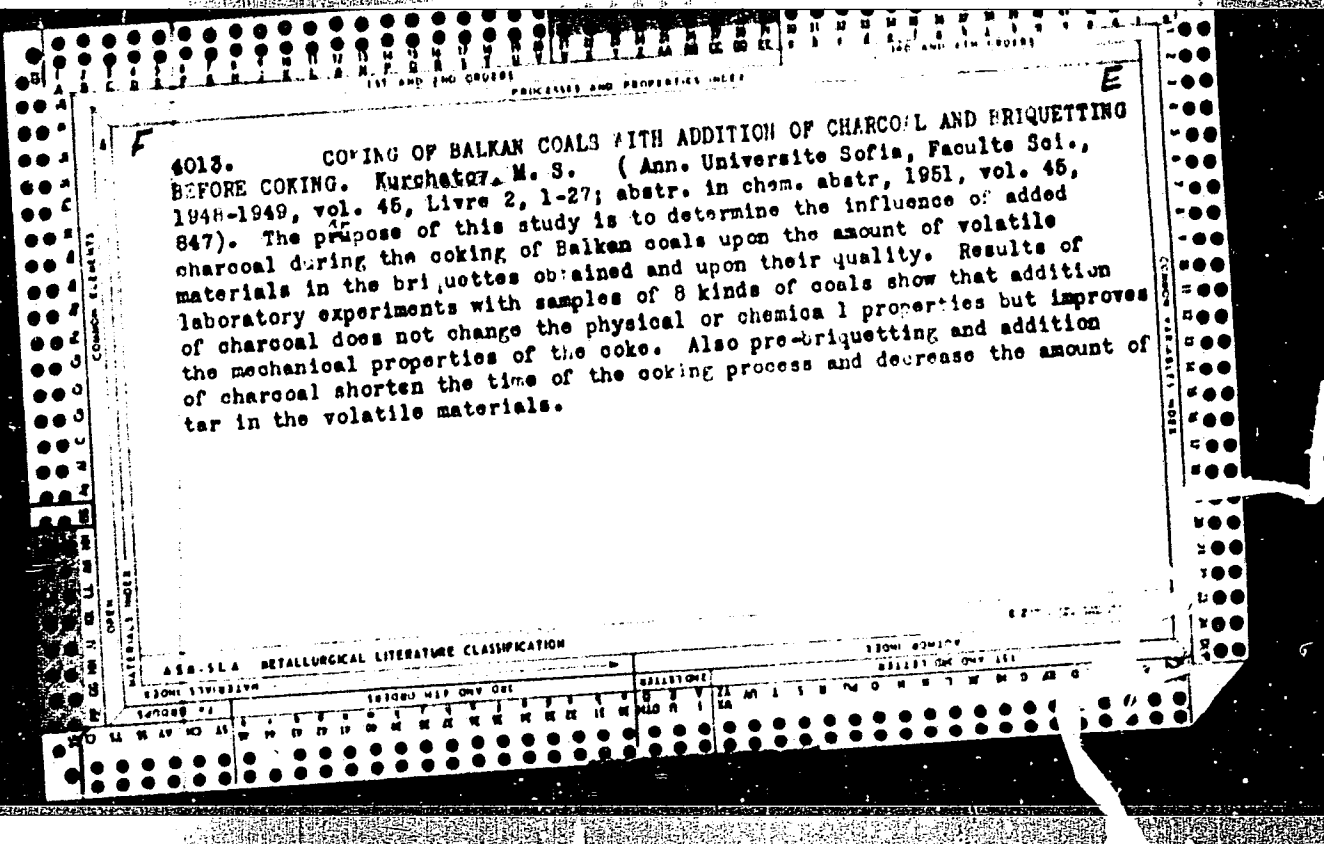
CA

22

A rapid method for the determination of inorganic (ash) sulfur in coal and coke. M. S. Kurchatov. *Annales univ. Sofia, Facult. phys.-mat.* 43, Livre 2, 215-42 (1946-1947) (German summary). - Samples of ash (from 0.2 to 0.5 g.) from coal or coke were well mixed with 1 g. Zn powder and 1 g. $HgCl_2$, then placed in a porcelain crucible, the mixt. was covered with Zn powder, the crucible covered, then heated 20-25 min. over a Bunsen burner. The crucible was cooled, then placed in a wide-neck flask where the contents of the crucible were decomposed with HCl in a stream of pure CO_2 . The flask contg. the crucible also contained H_2O to a level above the height of the crucible. The flask was heated thus driving off H_2S which was collected in a mixt. of solns. of $Cd(CH_3CO_2)_2$ and CH_3CO_2H . The $Cd(CH_3CO_2)_2$ soln. was titrated with I. Time required for analysis was 1.5 hrs. Max. difference between duplicate analyses was 2%. This method was applicable to ash contg. low or high S content and was suitable for hard coal, lignite, or coke with widely varying compn. Cf. preceding abstr. Nellie M. Payne







M. J. ... H. S.

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

KIRCHATOV, M.

KIRCHATOV, M. Production of pig iron and steel in blast furnaces. Pt. 2. Reduction of iron oxide and iron ore with solid carbon under special conditions. In Russian. p. 3-1 Vol. 3, 1955
IZVESTIYA. Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

KURCHATOV, M. S.

Obtaining cast iron and steel without the use of a blast furnace. III. New data on the reduction process of iron oxides and iron ores with solid carbon. M. S. Kurchatov. *Bulgar. Akad. Nauk Izv. Khim. Inst.*, 4, 143-212 (1958) (Russian and German summaries); cf. C.A. 51, 4000g. — If the mixt. to be reduced is prepd. with excess of fuel and reduction carried out under 1200°, the product is powdery. With decrease of solid C in the reaction mixt. it is possible to obtain an iron sponge, and even completely melted metal. The reactivity of the fuel det. the temp. of reduction. Fuels of comparatively low reactivity, such as coke and graphite, reduce Fe oxides and Fe ores at comparatively high temps. The reaction, however, is fast; conditions are unfavorable for the endothermic reduction of CO₂, the CO/CO₂ ratio is smaller; consequently, the product of reduction is in a more-melted condition. Fe ores such as magnetite and hematite, due to their phys. characteristics, are more difficultly reduced by CO. The time necessary to reach reaction temp. will influence the phys. appearance of the final product. The less such time is the more of the oxides will be reduced at the higher temp. and the more melted the final product will appear. Preliminary briquetting and mech. action during the reaction influences the rate favorably and leads to more-melted products. 63 references. Nicky Beredjick.

4
1

Distr: 4E2c

V/

KURCHATOV, M.

Problem of producing steel and cast-iron outside the blast furnace; new data on mechanism of reduction process of iron acidity and iron ore with hard carbon. In Russian.

p. 143 (Investia) Vol. 4, 1956. Sofia, Bulgaria.

SO: Monthly Index of East European Accessions (EEAI) IC, Vol. 7, No. 1, Jan. 1958

PURCHATOV, N.

Plan for new universal metallurgic furnace for production of steel and cast iron.
In Russian.

p. 641 (Izvestia) Vol. 4, 1956. Sofia, Bulgaria.

CO: Monthly Index of East European Accessions (MEEA) L3, Vol. 7, No. 1, Jan. 1958

KURCHIKOV, P.

KURCHIKOV, P. Problem in the production of cast iron and steel outside of blast furnaces. p. 10.

Vol. 5, No. 2, July/Aug. 1956.

TEKHNIKA

TEKHNIKA

Sofia, Bulgaria

See: East European Accession, Vol. 6, No. 2, Feb. 1957

KURCHATOV, M., LAMIEV, D.

New data on the kinetics and mechanism of a low-temperature reduction of cupric oxides by hydrogen. Doklady BAN 17 no. 7:629-632 '64.

1. Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Predstavleno akad. d. Ivanovym.

K B 7 2 1 1 1 M C

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

DISPATCH

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

KURCHATOV, M. S.

BULGARIA / Chemical Technology, Chemical Products and H
Their Application, Part 2. - Elements, Ox-
ides, Mineral Acids, Bases, Salts. - Other
Elements, Oxides, Mineral Acids, Bases, Salts.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61505.

Author : ~~M. S. Kurchatov.~~
Inst : Academy of Sciences of Bulgaria.
Title : Reduction of Iron Oxides and Iron Ores With
Solid Carbon of Various Description on Con-
dition That Heating Is Carried out Stepwise. III.

Orig Pub: Dokl. Bolg. AN, 1956, 9, No 4, 41 - 44.

Abstract: Stepwise heating of a mixture of Fe oxide with
solid reducing agents (carbon black, charcoal,
coke, graphite) was carried out; the separating
gases were sucked off and analyzed. The gas
separation discontinued at a certain tempera-

Card 1/3

BULGARIA / Chemical Technology, Chemical Products and H
Their Application, Part 2. - Elements, Ox-
ides, Mineral Acids, Bases, Salts. - Other
Elements, Oxides, Mineral Acids, Bases, Salts.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61505.

Abstract: ture characteristic of the given reducing agent
and oxide, and it resumed only at a somewhat
higher temperature. That process course and
the ratio CO to CO₂ at every process step al-
low to assume the following reduction mechanism:
at some temperature depending on the structure
of the reducing agent, an activated adsorption
of O₂ from the gaseous phase starts and accel-
erates the dissociation of the oxide. The dis-
sociation rate is determined by the structural
peculiarities of the reducing agent and the

Card 2/3

18

large-scale production in quantity

KURCHATOV, M.

"Concerning the possibility of producing sponge iron in periodically operated coketype compartment kilns."

p.321 (Izvestiia, Vol. 5, 1957, Sofia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 8, August 1958

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

making long checks in coke 0702 by page 1
and ed.

BULGARIA / Physical Chemistry. Kinetics. Combust- B-9
ion. Explosions. Topochemistry. Catalysis.

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 22571.

Author : Kurohatov, M. S.

Inst : Academy of Sciences of Bulgaria.

Title : Concerning the Reduction of Some Metal Oxides
With Solid Carbon and The Importance of the Re-
action of Oxide Dissociation in This Process.

Orig Pub: Dokl. Bolg. AN, 1957, 10, No 5, 367-370.

Abstract: The author shows that oxides, which do not prac-
tically dissociate at the temperature of reduc-
tion, may pass through the stage of preliminary
dissociation, when reduced with solid carbon.
The dissociation may take place in consequence
of local warming up of the surface of the oxide
by the exothermal reduction (for example, of

Card 1/2

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000927620019-5"

AUTHOR: KURCHATOV, Dr. M.S., Chemical Institute of the PA - 2391
Bulgarian Academy of Science. (Khimicheskiy institut Bolgarskoy
Akademii Nauk)

TITLE: Ferro-Coke and Ore-Coal Briquettes. (Zhelezo-koks i rudougol'nyye
brikety, Russian)

PERIODICAL: Stal', 1957, Vol 17, Nr 2, pp 103 - 105 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 5 / 1957

ABSTRACT: The present work was carried out because, until now, there is
still no sufficiently well-founded judgement of the usefulness
of the production and use of ferro-coke. The production of ferro-
coke first of all serves the purpose of binding the dustlike ore
with coke in order thus to obtain a product which, according to
its mechanic properties, is suitable for use in a blast furnace.
Earlier experiments carried out by the author showed that ferro-
coke of some sorts of coal is better for its mechanic properties
than coke which was produced of the same coal without addition of
ore. There are no difficulties in obtaining solid ferro-coke from
good coke-coals. Also the reaction of ferro-coke by reduction in
the blast furnace is decisive for its usefulness. Also after re-
duction it must have the required strength. Experiments showed
that the production of ferro-coke in coke furnaces and its use
in blast furnaces are not useful. Much more effective and more
useful are ore-coal briquettes produced in such a manner that the

Card 1/2

PA -2391

Ferro-Coke and Ore-Coal Briquettes.

quantity of fuel in the basic mixture is not greater than that necessary for the reduction of the ore. The best fuels for briquettes are coke and well coking coals. With such briquettes the temperature at the beginning of the reduction is noticeably closer to melting point so that the product goes over into liquid condition already in the case of low heat development and the processes of ore reduction and of smelting the product are approximated to each other. (1 table, 2 illustrations and 6 citations from publications in Slav languages).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.
Card 2/2

AUTHOR:

Kurchatov, M.S.
Kurchatov, M.S.

32-11-7/60

TITLE:

A Method of Detecting the Presence of Sulphur in Various Materials by Means of Regeneration by Zinc Vapors (Metod opredeleniya sery v razlichnykh materialakh vosstanovleniyem parami tsinka)

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol.23, Nr 11, pp. 1294-1296 (USSR)

ABSTRACT:

The method is based on the following experiment: The sulphur components contained in the solution are transformed into sulphur sulphates. The sulphates are then regenerated into sulphides under the action of zinc vapors; furthermore, the sulphides are decomposed by the action of hydrochloric acid, on which occasion hydrogen sulphide is determined iodometrically. It was found that zinc vapors form good regenerators in "Eshke" mixtures for the transformation of anorganic sulphurous compounds into the sulphides which are decomposed by acids. Here it was found that the zinc oxide, which is formed in this process, covers the reaction mixture with a thick layer and thus protects the sulphides against repeated oxidation. The use of zinc vapors therefore offers many possibilities of application. The experiment takes an hour and a half. Investigations can be carried out on larger as well as on semi-microdoses. The suggested method can be well applied

Card 1/2

A Method of Detecting the Presence of Sulphur in Various Materials by Means of
Regeneration by Zinc Vapors 32-11-7/60

in the case of various sulphurous anorganic substances such as ash, slag, ores, minerals, and rock, as well as for the purpose of determining the sulphur content in various steels and other alloys. There follows a description of such an analysis. In the same manner as described above the sulphur content in hard fuels can be determined. Also in this case it is necessary first to transform all sulphur components in the substance into sulphides. In the case of the content of theophene and its homologues previous heating of the substances to be investigated, which is to last until the volatile component is finally removed, is recommended. There are 1 figure, 2 tables, and 8 references, 6 of which are Slavic.

ASSOCIATION: Chemical Institute of the Bulgarian Ac.Sc. (Khimicheskiy Institut Bolgarskoy Akademii nauk)

AVAILABLE: Library of Congress

Card 2/2

KURCHATOV, MS.

✓ Reduction of the oxides of copper by solid carbon. M.
 S. Kurchatov. *Bulgar. Akad. Nauk. Ser. Khim. Nauk.*
 6, 65-68 (1953).—The redn. of pure CuO or Cu₂O with solid
 carbon (graphite or soot) was studied (1) with oxides and
 carbon well mixed, and (2) with the reaction components
 sepd. In both cases Cu oxides are reduced by the C.
 Redn. depends on the temp., pressure, kind of oxide, kind
 of solid C used, and the arrangement of reaction compon-
 ents. Four basic reactions are possible: (1) dissecn. of the
 oxide, (2) combustion of the C, (3) redn. of CO₂ (CO₂ +
 C = 2 CO), and (4) the autocatalytic reaction of the oxide
 w/ CO. In the redn. of Cu oxides by solid C, the dis-
 socn. of the oxides and the activation adsorption of O by
 C play the most important roles. The mechanism of solid
 carbon redn. is different in principle from redn. by gaseous
 reducing agents.

3
 HERE
 1-11-53

S. Pajukoff—

5(4)

AUTHOR:

Kurchatov, M. S. (Sofia)

SOV/76-32-11-20/32

TITLE:

On the Reduction of Copper Oxides by Carbon (O vosstanovlenii okislov medi uglerodom)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2586-2593 (USSR)

ABSTRACT:

In connection with the subject mentioned in the title data by G. I. Chufarov et al. (Ref 1) are explained and partly refuted. According to the obtained experimental results the reduction, contrary to the statements made in reference 1, also takes place if the reaction components do not have any contact in the solid phases (i.e., at increased temperature). The reduction of the copper oxides with solid carbon does not have the same reaction mechanism as the reduction with gaseous reducing agents. As assumed it does not only take place by way of CO formed by a reduction with C from CO₂. The present investigations were carried out on pure CuO and Cu₂O samples as well as on graphite and soot at different temperatures in high-vacuum. Two methods were employed: the one already de-

Card 1/3

On the Reduction of Copper Oxides by Carbon

SOV/76-32-11-20/32

scribed (Ref 5), and a method according to Chufarov (Ref 1). The reaction components in one case were in mutual contact, whereas in the other case they were at a distance from each other. It was found that CO_2 occurs as main reaction product; it is primarily formed in the combustion of carbon with the O_2 of the oxide. The following reactions are assumed to take place in the reduction of copper oxide with solid carbon: A dissociation of the oxides activated by an oxygen adsorption, a gasification of the fuels (reduction $CO_2 \rightarrow CO$), and an autocatalytic reduction of the oxide by CO. The experiments that took place without a contact of the reaction components had a sufficient amount of oxygen in the gaseous phase. This proves the fact that in this case the reaction $CO_2 + C = 2 CO$ cannot take place, and that also the oxidation of the carbon takes place relatively slowly. The reduction of copper oxide apparently takes place at temperatures below 800° by way of a dissociation of the oxide. There are 3 tables and 10 references, 9 of which are Soviet.

Card 2/3

On the Reduction of Copper Oxides by Carbon

SOV/76-32-11-20/32

ASSOCIATION: Bolgarskaya Akademiya nauk, Khimicheskiy institut (Bulgarian
Academy of Sciences, Institute of Chemistry)

SUBMITTED: May 27, 1957

Card 3/3

KURSHANOV, M.

Theory of coke production and some possible measures for improving the quality of coke. p.1

TEKHNIKA. (Suluz na nauchno-tekhnicheskite druzhestva v Bulgariia) Sofia, Bulgaria, Vol. 6, No. 5, 1959

Monthly List of East European Accessions (LEAI), IC, Vol. 6, No. 12, December 1959
Uncl.

IANAKIEV, N.; KURCHATOV, M.

Contribution to the study of the problem of the reduction of certain types of local iron-containing raw material with solid carbon under special conditions. Izv Inst khim BAN 7:85-104 '60.
(EEAI 10:9)

1. Khimicheski institut pri BAN.
(Iron) (Carbon)

KURCHATOV, M.S.

26

Sofia, Doklady Inzhenerov i Tekhnicheskoye Uchenye Obshchestvo, Vol. 14, no. 3, 1951.

1. "Distribution of Tangential Planes to Surfaces of the Cornucopia of Straight Lines in the Eyrubolic Space." A. BUKHARIN pp 235-237.
2. "Measuring the Activation Energy of Absorption Levels in Lead Sulfide." I.V. KAZOV and L. BUKHARIN pp 230-232 (English Summary)
3. "A New Precise Differential Kymometer for Laboratory Purposes." L. BOZHAROV and I. ZAROV pp 241-246.
4. "Microquantitative Determination of Chlorine and Iodine Ions." M. GURCHEV and K. KOEV pp 247-250.
5. "Comparative Amino Acid Content of the Masses of Some Fruit Stones." S.P. YANOV pp 251-254.
6. "One Method of Removing Sulfur from the Krasnokovo Limestone Ore." M. YANOV pp 255-257.
7. "Absorption of Nitrogen Oxides in the Vibration Fields of Sodium Hydroxide Solutions. Part 2." S. YANOV, M. YANOV, L. BOZHAROV and D. LUKASOV pp 258-262.
8. "On the Rate of Absorption of Pure Gases." D. YANOV, D. ILIYEV and C. KALAYEV (in English) pp 263-267.
9. "Effect of some Inorganic Additives on the Reduction of Carbon Dioxide by Carbon Dioxide at Low Temperatures." M.S. KURCHATOV pp 267-273.
10. "Baggite from the Zedka Mine, Panshchik Basin." T.G. ZAROVNA pp 271-274 (English Summary).
11. "Aluminum Saponite from Svetitsa, Arda Basin." T. TODOROVA pp 275-278 (English Summary).
12. "Regarding the Experimental Variability of *Zacharichia coli*." S. GILYOV pp 279-281.
13. "Studies on the Formation of Cepule by Certain Strains of *Sacillus anthracis* in vitro." G. G. BUKHARIN pp 283-285.
14. "Antibiotics and the Reticulo-Endothelial System Fixation Activity in Mice Treated with Limited Iron Saccharate." M. YANOV, G. KURCHATOVA and S. STOLAROV pp 287-290.
15. "Electron Microscopic Study of Lungs of Mice." H. KURCHATOV pp 291-294.
16. "Human Leptospirosis Due to *Leptospira* Subspecies in Bulgaria." I. KURCHATOV pp 295-299.

KURCHATOV, M.; TOTSEV, D.

Determining the coking capacity of coal with plastometer in
briquetting. Doklady BAN 14 no.4:361-364, '61.

1. Bolgarskaya Akademiya nauk, Institut obschey i neorganiche-
skoy khimii. Predstavleno akademikom D. Ivanovym.

- (3)
1. ...
 2. ...
 3. ...
 4. ...
 5. ...
 6. ...
 7. ...
 8. ...
 9. ...
 10. ...
 11. ...
 12. ...
 13. ...
 14. ...
 15. ...
 16. ...
 17. ...
 18. ...
 19. ...
 20. ...
 21. ...
 22. ...
 23. ...
 24. ...
 25. ...
 26. ...
 27. ...
 28. ...
 29. ...
 30. ...
 31. ...
 32. ...
 33. ...
 34. ...
 35. ...
 36. ...
 37. ...
 38. ...
 39. ...
 40. ...
 41. ...
 42. ...
 43. ...
 44. ...
 45. ...
 46. ...
 47. ...
 48. ...
 49. ...
 50. ...
 51. ...
 52. ...
 53. ...
 54. ...
 55. ...
 56. ...
 57. ...
 58. ...
 59. ...
 60. ...
 61. ...
 62. ...
 63. ...
 64. ...
 65. ...
 66. ...
 67. ...
 68. ...
 69. ...
 70. ...
 71. ...
 72. ...
 73. ...
 74. ...
 75. ...
 76. ...
 77. ...
 78. ...
 79. ...
 80. ...
 81. ...
 82. ...
 83. ...
 84. ...
 85. ...
 86. ...
 87. ...
 88. ...
 89. ...
 90. ...
 91. ...
 92. ...
 93. ...
 94. ...
 95. ...
 96. ...
 97. ...
 98. ...
 99. ...
 100. ...

KULCHIKOV, M. S.

KURCHATOV, M.S.

New data on the reduction of copper oxides by gaseous reducing agents at low temperatures ($< 100^\circ$). Dokl. AN SSSR 141 no.6: 1376-1379 D '61. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii Bolgarskoy Akademii nauk. Predstavleno akademikom A.N.Frumkinym.
(Copper oxide) (Reduction, Chemical)

KURCHATOV, M.

Influence of aluminum sulfate on the formation of soot carbon and the derivation of metallic iron at the reduction of ferric oxides and iron ores with carbon monoxide. Doklady BAN 15 no.1:45-48 '62.

1. Institut po obshchey i neorganicheskoy khimii Bolgarskoy Akademii nauk. Predstavleno akad. D. Ivanovym [D. Ivanov].

KURCHATOV, M.

Mechanism of the reduction of ferric oxides by carbon monoxide,
and influence of some inorganic substances on that process.
Doklady BAN 15 no.3:269-272 '62.

1. Institut obshchey i neorganicheskoy khimii. Predstavleno
akad. D. Ivanovym [Ivanov, D.], chlen Redaktsionnoy kollegii,
"Doklady Bolgarskoy Akademii Nauk."

KURCHATOV, M.S., d-r

Metallurgic coke. Tekhnika Bulg 3 no.2:8-12 F '54.

1. St. nauchen sutrudnik pri BAN.

KURCHATOV, M.S., d-r

Problem of the development of the coke industry in Bulgaria.
Tekhnika Bulg 2 no.4:3-6 Ap '53.

KURCHATOV, M.S.

Low-temperature reduction of copper oxides by carbon monoxide.
Zhur.fiz.khim. 36 no.10:2138-2147 0 '62. (MIRA 17:4)

1. Bolgarskaya Akademiya nauk, Institut po obshchey i neorganicheskoy khimii.

KURCHATOV, M.S.

Laboratory equipment to determine the reducibility of metal
oxides and ores. Stal' 23 no. 3:212-213 Mr '64. (MIRA 17:5)

1. Institut po obshchey i neorganicheskoy khimii Bolgarskoy Akademii
nauk.

AMBIEV, O.; KUMAROV, N.S.

Influence of halogenation on the reduction velocity of cupric
salts by carbon monoxide and hydrogen at low temperatures.
Doklady BAN 17 no. 6: 571-576, 1964.

Institute of General and Inorganic Chemistry, Bulgarian
Academy of Sciences, Sofia, Bulgaria.

LAMBIVEV, D. [Lambiev, D.]; KURCHATOV, M.S.

Thermogravimetric study of the reduction of cupric oxides by carbon monoxide or hydrogen. Doklady BAN 17 no. 3:729-732 '64.

1. Institute of General and Inorganic Chemistry of the Bulgarian Academy of Sciences, Sofia. Predstavleno akad. D. Ivanovym.

L 32217-66 EWP(t)/ETI IJP(c) JD
ACC NR: AP6020814 SOURCE CODE: BU/0011/65/018/006/0541/0544
AUTHOR: Kurchatov, M. S.; Lambiyev, D.; Yanakiyev, N.
ORG: Institute of General and Inorganic Chemistry, BAN
TITLE: Influence of thermal effects of reactions on the course of carbon reduction
of iron oxides. 21
SOURCE: Bulgarska akademiya na naukite.. Doklady, v. 18, no. 6, 1965, 541-544
TOPIC TAGS: thermal effect, iron oxide, thermogravimetric analysis, chemical
reduction, carbon, reaction temperature 49
ABSTRACT: Correct conclusions concerning the kinetics and
mechanisms of chemical processes may be extracted from experimental data only
if the experiments are carried out at constant temperature and concentration.
This is an admittedly difficult task. In one of their earlier papers, two
of the authors (Lambiyev, Kurchatov, Dokl. BAN, 17, 1964, No 8, 729) showed
during thermogravimetric studies of reduction of copper oxides by carbon
oxide and hydrogen that the actual temperature of the sample may rise by
several hundreds of degrees during the reduction process. It became perfectly
clear that the S shaped appearance of the kinetic curves is basically caused
by self-heating. The present paper describes similar tests involving iron
oxides and solid carbon. After a preliminary work using the same equipment
as the one described in the reference, the authors developed a new instrument -
oven described in a separate article (Kurchatov, Stal', 23, 1964, No 3, 212).
A comprehensive presentation of the results is followed by a discussion of the
possible explanations. Results indicate that the course of reduction is significantly
affected by the heat effects of the reaction, the mass of the reacting mixture, and
the heating rate. This paper was presented by Academician D. Ivanov on 19 February
1965. Orig. art. has: 1 figure. [JPRS/
SUB CODE: 07, 20/SUBM DATE: 19Feb65/ ORIG REF: 002/ SOV REF: 001
Card 1/1

L 43870-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6032575

SOURCE CODE: BU/0011/65/018/012/1133/1136

AUTHOR: Kurchatov, M. S.; Lambiyev, D.; Pangarova, V.

ORG: Institute of General and Inorganic Chemistry, BAN

TITLE: Contactless reduction of iron oxide by solid carbon

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 12, 1965, 1133-1136

TOPIC TAGS: chemical reduction, iron oxide, carbon, carbon monoxide

ABSTRACT: The most widespread theory of direct reduction of metal oxides by solid carbon assumes that there occurs a simultaneous indirect reduction and regeneration of carbon monoxide by the carbon of the fuel. To investigate all the details of such a process, the authors designed a special device for the contactless reduction of iron oxide by solid carbon. Results for the degree of reduction as function of time are obtained for charcoal, coke, soot, and graphite and compared with those obtained during direct (with contact) reduction by means of the same substances. The article concludes with a discussion of the possible explanation of the reduction process. This paper was presented by Academician D. Ivanov on 4 September 1965. Orig. art. has: 2 figures. [Orig. art. in Russian.] [JPRS: 36,464]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 003

Card 1/1 *efk*

B
27

0919 2427

L 00910-07 =#P(e)/=NP(t)/EII IJP(c) NH.JL/WA

ACC NR: AP603544Z

SOURCE CODE: BU/0011/66/019/001/0033/0036

KURCHATOV, M. S., LAMDIYEV, D., PANGAROVA, V., Institute of General and
Inorganic Chemistry, Bulgarian Academy of Sciences

"Influence of Potassium and Sodium Carbonate Admixtures on the Rate of
the Process of Contactless Reduction of Iron Oxide by Graphite" ✓

Sofia, Doklady Bolgarskoy Akademii Nauk, Vol 19, No 1, 1966, pp 33-36

Abstract: [Russian article] During the reduction of metallic oxides by carbon it is very difficult to decide which of the two solid phases, oxide or carbon is affected by admixtures. Consequently, the authors applied the method of contactless reduction described earlier (Dokl. BAN, 10, 1965, No 12) in which the reacting components are spatially separated. Potassium and sodium carbonates in amounts of 2, 8, and 15% served as admixtures during graphite reduction. An analysis of the results, presented in the paper, shows that 1) until a reduction level of 30% is achieved, the admixtures accelerated the process equally irrespective of their location; 2) in general, all kinetic curves seem to depend on two kinetic constants; 3) the difference in action of the potassium and sodium compound admixtures is negligible; and 4) the admixture efficiency depends very strongly on the way in which it is added to graphite. This paper was presented by Academician D. Ivanov on 24 September 1965.

Orig art. has: 2 figures. [JPRS: 36,867]

TOPIC TAGS: iron oxide, metal extraction, chemical reduction, carbonate, graphite

Card 1/1 hs SUB CODE: 11.07 / SUBM DATE: 24 Sep 65 / ORIG REF: 002 / SOV REF: 005

TKACHENKO, Sergey Dmitriyevich; KURCHATOV, Vladimir Ivanovich;
KOLOTUSHKIN, Nikolay Mikhaylovich; SVET, Ye.B., red.; KOLBICHEV,
V.I., tekhn. red.

[Automatic machine for drilling piston pins]Avtomat dlia sverle-
niia porshnevykh pal'tsev. Cheliabinsk, Cheliabinskoe knizhnoe
izd-vo, 1961. 12 p. (MIRA 15:12)
(Drilling and boring machinery)

DĚGTYAREV, L.M.; IVANGV, V.A.; KURCHATOV, V.I.; LYUBIMOVA, E.I.

New loading device for holding furnaces. Kuz.-shtam. proizv.
3 no.8:40 Ag '61. (MIRA 14:8)
(Forge shops--Equipment and supplies)

KURCHATOV, V. I.

MARKOV, A. A. (Professor)

GIL'DENBLAT, A. A. (Candidate of Veterinary Sciences).

KURCHATOV, V. I. (Candidate of Veterinary Sciences).

BLUMIN, F. A. (All-Union Institute of Experimental Veterinary Medicine).

A new transferrer of the agent of cattle theileriasis
(the tick *Hyalomma scupense* P. Sch.).

Source: Veterinariya; 25; 9; September 1948; uncl
TABCCN

KURCHATOV, V. I.

PA 63/49T95

USSR/Medicine - Ixodian Ticks
Medicine - Therapeutics

Mar 49

"Measures in the Fight Against Ixodian Ticks,"
Prof A. A. Markov, Hon Sci, V. I. Kurchatov, 2 pp

"Veterinariya" No 3

Ticks have been proved to be carriers of spirochetosis, brucellosis, tularemia, rabies, encephalitis, various rickettsioses, plague, etc. At least 20 forms of ticks are carriers of hemospordium. Most preparations used against ticks are liquid compounds, i.e., aqueous solutions of sodium arsenite, suspensions of pyrethrum powders, emulsions containing

63/49T95

USSR/Medicine - Ixodian Ticks (Contd) Mar 49

solvent, lysol, kerosene, and creolin, DDT, hexachlorane, and "SK-9", but occasionally, in cold weather, or in a water shortage, oily compounds and powders are used. Hexachlorane liniments and powders seem to be most effective. Veterinary workers are criticized because, while a great deal of work in tick extermination is done in hot weather, almost none is done in autumn, winter, and early spring.

63/49T95

KURCHATOV, V. I., Doctor of Biological Sciences

"Experiment with the Use of Pentachlorine and Hexachloran in the Fight against Ixodidae and Mange Ticks" — a report given at a scientific conference on the problems of protozoology which was held from 28 Feb to 4 Mar 1950 at the Leningrad Veterinary Inst, and dedicated to the 80th birthday of Prof, Honored Scientist of the RSFSR Vasilii Larionovich Yakimov.

SOURCE: Veterinariya, 27, No 6, pp 62-63, June 1950

KURCHATOV, V. I.

USSR/Biology - Extermination of Pests May 51

"Aerosol Method for the Extermination of Ecto-parasites," V. I. Kurchatov, F. A. Petunin, V. M. Romanov, D. K. Nechnenny

"Veterinariya" Vol XXVIII, No 5, pp 45-47

Describes cons'x of AAG appliance (automobile aerosol generator) which is portable and consists of a tank, siphon tube, and nozzle-equipped bent tube which serves for spraying and is attached to automobile exhaust tube in operation. Automobile exhaust gases disperse oil soln of DDT or hexa-chlorocyclohexane. Refers to larger and more

LC 18272

USSR/BIOLOGY - Extermination of Pests May 51
(Contd)

powerful aerosol sprayer and describes experience obtained with method and its possibilities in farm and vet practice.

LC 18272

PA 190782

USSR/Medicine (Veterinary) - Carriers
of Infectious Diseases Nov 51

"Experience in the Fight Against Ectoparasites of Farm Animals During the Period When They Are Kept in Stalls," V. I. Kurchatov, Dr Vet Sci, D. K. Nechnenny, Cand Vet Sci, Chief Vet Div, Crimea Oblast Agr Adm, V. M. Romanov

"Veterinariya" Vol XXVIII, No 11, pp 45, 46

Describes experience in use of hexachlorane and DDT on animals in the Crimea kept during the winter in stalls and suffering from tick infestation. The ticks include H. scupense (transmits blood parasites

190782

USSR/Medicine (Veterinary) - Carriers
of Infectious Diseases (Contd) Nov 51

M. equi and Th. annulata causing nuttalliosis and theileriasis in the spring), Ripicephalus bursa, Dermacentor marginatus, Hemaphysalis punctata, Hemaphysalis otophila, and Dermantissus.

190782

KURCHATOV, V. I.

1. KURCHATOV, V. I.
 2. USSR (600)
 4. Parasites - Domestic Animals
 7. Mechanization of the control of ticks and insects parasitic on farm animals. Dost. sel'khoz. no. 5, 1952
-
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KURCHATOV, V. I.

USSR/Medicine (Veterinary) - Infectious Diseases Apr 52

"Fight Against Ixodes Ticks in Pastures," V. I. Kurchatov, Dr Biol Sci, All-Union Inst of Exptl Vet Med

"Veterinariya" Vol XXIX, No 4, pp 42-44

Found that spraying of pastures with DDT dust from a plane or with an aerosol of a 4% soln of hexachlorocyclohexane in solar oil dispersed by an AAG app (designed by G.I. Korotkikh and V.F. Stepanov) installed on a GAZ-51 car exterminated Boophilus calcaratus ticks, which act as transmitters of piroplasmosis, franciellosis, and anaplasmosis of cattle.

207715

KURCHATOV, V. I., Dr. Biology, Senior Scientific Associate of the All-Union
Institute of Experimental Veterinary Science

"Application of Aerosols in the Control of Parasites of Agricultural
Animals," "The Advantage of the Aerosol Method of Application of Poison
Chemicals," and "Precautionary Measures in Working with Aerosols,"
are sections of the book Aerosols, Their Application for the Control
of Pests of Grain Products and Parasites of Farm Animals, by A. M. Nikiforov,
Moscow, 1954.

U-3,054,664

KURCHATOV, V.I., doktor biol.nauk; NECHINENNY, D.K., kand.vet.nauk;
ROMANOV, V.M.

Eradication of parasitic diseases of livestock and poultry in the
Crimea. Veterinariia 36 no.5:16-17 M^y '59. (MIRA 12:7)

1. Krymskoiya nauchno-issledovatel'skaya veterinarnaya stantsiya
(for Kurchatov, Nechinenny). 2. Nachal'nik veterinarnogo otdela
Krymskogo oblastnogo upravleniya sel'skogo khozyaystva (for Romanov).
(Crimea--Ticks as carriers of disease)

KURCHATOV, V.I.

Mechanized control of bloodsucking insects and ticks. Trudy
Inst.zool.AN Kazakh.SSR 12:245-251 '60. (MIRA 13:7)
(Insects, Injurious and beneficial)
(Spraying and dusting)

Л. А. БАТОВА, Е. М.

of light nuclei was believed to be the result of processes in which alpha particles from an excited level predominated.

1816

✓ Radichemical study of the fission of uranyl with 250-keV
 D_2O in D_2O solution. B. V. Kuznetsov, V. A. Mikhlin, and
L. M. Kuznetsova, and L. M. Kuznetsova. Soviet
Journal of Nuclear Energy, Part C, Plasma Physics, 1964, Vol. 5, No. 1, p. 105-110.
 The authors have studied the fission of U^{235} in D_2O solution with 250-keV γ -rays. The results of the study are compared with the results of the study of the fission of U^{235} in H_2O solution. The authors have shown that the fission of U^{235} in D_2O solution is accompanied by the formation of a number of fragments in the D_2O solution. The fission of U^{235} in D_2O solution is accompanied by the formation of a number of fragments in the D_2O solution. The experimental results are interpreted in the context of the theory of the fission of U^{235} in D_2O solution with preliminary emission of a sufficient number of neutrons and fission from an excited level.

KURCHATOVA, L. N.

CHULKOV, P.M.; KURCHATOVA, L.N.; YUZVUK, N.N.; VADKOVSKAYA, O.A.

Strontium-90 in soils and vegetables of the vicinity of Moscow [with
summary in English]. Pochvovedenie no.4:28-34 Ap '57. (MLRA 10:7)

(Strontium)

(Moscow Province--Minerals in soils)

(Moscow Province--Minerals in plants)

21(7)

AUTHORS:

SOV/56-37-2-6/56

Borisova, N. I., Kuznetsova, M. Ya., Kurchatova, L. N.,
Mekhedov, V. N., Chistyakov, L. V.

TITLE:

Recoil Nuclei in the Disintegration of Silver by Fast Protons

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 37, Nr 2(8), pp 366-373 (USSR)

ABSTRACT:

In the present paper several experiments carried out in the years 1951/52 were at first discussed, which aimed at the direct determination of the ranges and angular distributions of the recoil nuclei of some disintegration products of silver (cf. Ref 7). Figure 1 shows the special containers used for the investigation of angular and energy distribution. The targets used were silver foils (0.5 mg/cm^2 , impurities: Mg, Si, Fe, Al, Pb $< 10^{-3}\%$, Au $< 10^{-3}\%$) which were irradiated by protons (particle current $\sim 0.1 \mu\text{a}$). The following was investigated: Ag¹⁰³ + Ag¹⁰⁴(β^+ ,K), T = 70 min; Ar¹⁰⁶(K), T = 0 d; Zr⁸⁹(β^+ ,K), T = 80 h; Nb⁹⁰(β^+ ,K), T = 16 h; Rb⁸¹ + Rb⁸²(β^+ ,K), T = 6 h, and

Card 1/3

SOV/56-37-2-6/56

Recoil Nuclei in the Disintegration of Silver by Fast Protons

$\text{Se}^{73}(\beta^+, \text{K})$, $T = 6.7 \text{ h.}$ The angular distribution of the products was investigated with the exception of selenium for the three directions: forward, backward, and at 90° to the proton beam (forward: $5 \leq \theta \leq 58^\circ$, backward: $122 \leq \theta \leq 175^\circ$); the results obtained are shown in table 1. The result of the investigation of the angular distribution of the observed activities is shown by table 2; figure 2 shows the variation of the ratio of activities, stopped in the first and in the second film with θ . (Weak exponential increase with growing θ .) In the following, investigations of the energy distribution of the reaction products are described. The same isotopes and also Se^{73} for the angle $90 \pm 40^\circ$ were investigated. The directly measured number of nuclei of each element in % for various ranges is shown by figure 3. The errors in range-values may be explained by the thickness of the polystyrene film. With an increase of the range, the number of recoil nuclei decreases in the case of all elements; with a decreasing Z the range increases. In figure 4 the range - energy curve is given for polystyrene and silver; the polystyrene curve is considerably higher and has a steeper

Card 2/3

SOV/56-37-2-6/56
Recoil Nuclei in the Disintegration of Silver by Fast Protons

slope than the silver curve. Figure 5 finally shows the energy distribution of the recoil nuclei at $90 \pm 40^\circ$. Finally, there follows a discussion of the results with respect to a qualitative explanation of the distribution laws found. The results seem to confirm the mechanism of the Se, Rb, Zr, and Nb formation by evaporation of α -particles, protons and neutrons. In this connection table 3 is of great value, which gives the measured and calculated energies and particle numbers ($\bar{E}(n,p)$, $\bar{E}(n,p,\alpha)$; $\alpha:p:n$, etc.) for these isotopes. The authors finally thank B. V. Kurchatov and Professor B. T. Geylikman for their help and valuable remarks. There are 5 figures, 3 tables, and 21 references, 8 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 4, 1959

Card 3/3