

56
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L 16604-63

EWP(q)/EWT(m)/BDS AFFTC/ASD JD

S/075/63/018/004/013/015

AUTHOR: Rakovskiy, E. Ye. and Petrukhin, O. M.

TITLE: The separation of tin and antimony with n-benzoylphenylhydroxylamine

PERIODICAL: Zhurnal analiticheskoy khimii, v. 18, no. 4, April 1963, 539-541

TEXT: The authors study the extraction of tin (IV), antimony (III) and indium n-benzoylphenylhydroxylaminates from HCl and H₂SO₄ solutions. They have been able to separate indium from large amounts of antimony and tin by means of extracting tin (IV) and antimony (III) from a 10 N H₂SO₄ solution. They studied also the extraction of antimony sulfate from concentrated H₂SO₄ solution with use of chloroform. There are 2 figures and 2 tables. The English-language references read as follows: Ryan, D. T., Lutwich, G. D., Canad. J. Chem., 31, 9 (1953); 32, 949 (1954); Nervik, W. E., The Radiochemistry of Tin, Nat. Acad. Sci., Nucl. Sci. Ser. 3023, Washington, 1950.

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L 16604-63

S/075/63/018/004/013/015

The separation of tin

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo
AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemis-
try im. V. I. Vernadskiy, Academy of Sciences USSR, Moscow)

SUBMITTED: September 10, 1962

Card 2/2

21489

S/020/61/137/004/013/031
B104/B206

24.6600 (1138, 1098)

AUTHORS: Lavrukina, A. K., Rakovskiy, E. Ye., Su Hung-kuei, and
Khoynatskiy, S.

TITLE: Fast-proton induced fission of antimony nuclei

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 4, 1961, 826-829

TEXT: The difficulties in the experiments described here mainly consisted in that the fission fragments of antimony nuclei possess very small yields as compared with those of the disintegration products. 10^{-3} % of impurities lead to strong deviations from the correct results. High-purity targets had therefore to be used. The targets were irradiated in the synchrocyclotron of the Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research) with 660 Mev protons: the products were chemically separated ($Z = 11 - 37$). Great difficulties occurred here too, since antimony fission products are often identical with antimony disintegration products. The isotope production cross sections were calculated by conventional methods. The results are compiled in Table 1. As can be seen from the diagram in Fig. 1, the fission of Sb takes place in a much

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S/020/61/137/004/013/031
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Fast-proton induced fission of...

wider interval of the ratio n/p as is the case for heavy nuclei. With it, however, the share of neutron-deficient nuclei is also greater than for heavy nuclei. Most of the nuclei identified by the authors are "protected" (zashchishchenny) isobars, which makes it possible to determine the little known distribution of the nuclear charge on the fission of Sb. The distribution of the isobaric output is shown in Fig. 2. The half-widths of the curves for the individual isobars are 3-4 unit charges, while the same half-widths amount to 2-3 unit charges for the fission of heavy nuclei. The line which connects the most probable nuclear charges of the fragments lies close to the line of nuclear stability. The fact is also mentioned that the Sb fission takes place symmetrically (Fig. 2), which is similar to the fission of Ag. With a reduction of the proton energies to 220 Mev, the portion of asymmetric fission products is reduced. As it turned out, the fission of Sb is accompanied by an average emission of 7 protons. From Table 2 it can be seen that the fission cross section increases with increasing Z of the target nucleus. The total fission cross section for Sb with 660 Mev-protons is 0.25 millibarn. This value almost equals that determined on Ag for the same proton energies. (0.32 millibarn). The authors thank V. N. Mekhedov, L. D. Revina and L. P. Moskaleva for advice

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S/020/51/137/004/013/031
B104/3206

Fast-proton induced fission of...

and assistance. There are 3 figures, 2 tables, and 13 references:
9 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo
Akademii nauk SSSR (Institute of Geochemistry and Analytical
Chemistry imeni V. I. Vernadskiy of the Academy of Sciences
USSR)

PRESENTED: October 10, 1960, by A. P. Vinogradov, Academician

SUBMITTED: September 23, 1960.

X

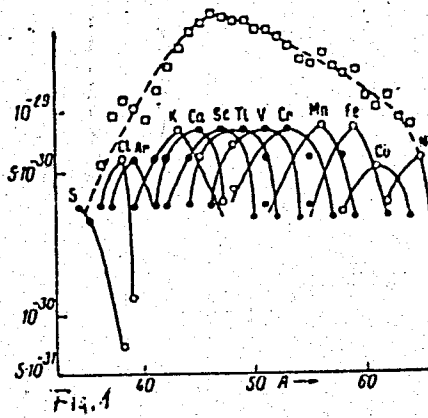
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S/020/61/137/004/013/031
B104/3206

Fast-proton induced fission of...

Legend to Fig. 1: Distribution of the antimony fission fragment outputs



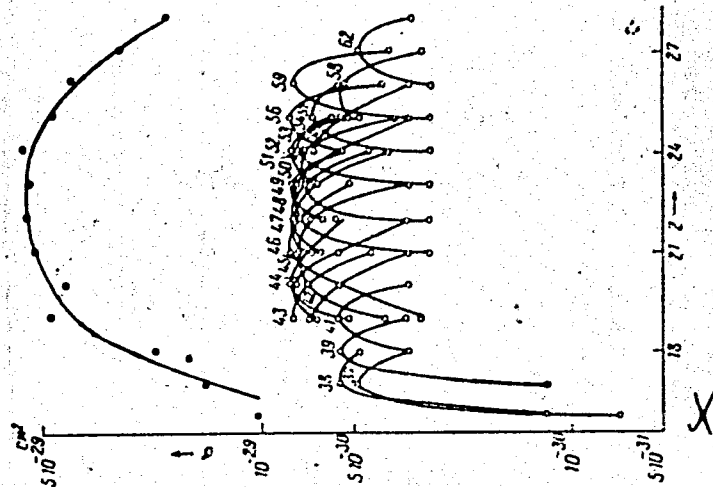
Card 1/7

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S/020/61/137/004/013/031
B104/B206

Fast-proton induced fission of...

Legend to Fig. 2:
Distribution of
the isobar output
for the antimony fission



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S/020/61/137/004/013/031
B104/B206

Fast-proton induced fission of...

Legend to Table 1: Identified fission products of antimony (660 Mev protons). 1) Elements; 2) mass number of the isotopes; 3) decay type; 4) $T_{1/2}$ experimentally; 5) $T_{1/2}$ tabulated; 6) σ_{mean} , 10^{-30} cm².

Эле- мент	1) Массовое число изотопа	Тип распада	3)	$T_{1/2}$ эксп. 4)	$T_{1/2}$ табл. 5)	σ средн. 10 ⁻³⁰ см ²
¹⁰⁵ S	38	β-		~3 час.	2,9 час.	0,7±0,4
¹¹⁷ Cl	38	β-		~34 мин.	37,3 мин.	5,7±2,6
	39	β-		58 мин.	55,5 мин.	1,2±0,4
¹¹⁸ K	43	β-		~1 день	22,4 час.	8,0±4,7
¹³⁴ Ca	47	β-		~0 дн.	~5 дн.	3,5±2,3
¹³⁶ Tl	45	β+, электрон. захват		3,2 час.	3,1 часа	5,8±4,0
¹³⁷ V	48	β+, электрон. захват		10,7 дн.	10,0 дн.	6,8±2,4
¹⁴⁴ Cr	48	Электрон. захват		23,5 час.	23 час.	4,0±1,8
¹⁵¹ Mn	50	β-		2,5 час.	2,6 час.	8,3±4,1
¹⁵⁴ Fe	59	β-		~40 дн.	45,1 дн.	8,0±3,0
¹⁵⁸ Co	58 ^m	Изомерн. переход		0,8 час.	9 час.	3,1±0,9
	61	β-		~120 мин.	90-110 мин.	5,1±0,8
¹⁵⁸ Ni	65	β-		2,7 час.	2,6 час.	5,5±1,5
	66	β-		~60 час.	55 час.	2,2±0,4

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S/020/61/137/004/013/031
B104/B206

Fast-proton induced fission of...

Legend to Table 2: Some characteristics of the fission process of nuclei by high-energy protons. 1) Bombarded nucleus; 2) proton energy, Mev; 3) σ_{fission} , mb; 4) $\sigma_{\text{fission}}/\sigma_{\text{geom}}$; 5) relative contribution of neutron-deficient isotopes and neutron-surplus isotopes; 6) $\sigma_{\text{sym fis}}/\sigma_{\text{fis}}$; 7) ΔZ half-width for $\sigma = \sigma_{\text{max}}/2$; 8) number of emitted protons; 9) number of emitted neutrons.

1) Бом-бардируемое ядро	2) E _p , Мэв	3) σ _{дел.} , мб	4) σ _{дел.} /σ _{геом.}	5) Отн. вкладов нейтронно-дефицитных и нейтронно-избыточн. изотопов	6) σ _{сим. дел.} /σ _{дел.}	7) ΔZ — полуширина для σ = σ _{max} /2	8) Число вылетающих протонов	9) Число вылетающих нейтронов	Лит. источник
⁹² U	480	1650	0,73	11:21:58	0,32	19	—	19	(*)
⁸³ Bi	480	100	4,8·10 ⁻³	12:28:80	0,45	13	—	15	(*)
⁸⁷ Ho	450	2	1,1·10 ⁻⁸	—	0,71	10	4	18	(*)
⁵¹ Sb	660	0,25	1,7·10 ⁻⁴	20:35:45	0,73	9	7	16	Дан. авторов

Card 7/7

RAKOVSKIY, E.Ye.; SMAKHTIN, L.A.; YAKOVLEV, Yu.V.

Determination of microimpurities in high purity antimony by the
radioactivation analysis method. Zav.lab. 26 no.11:1199-1200 '60.
(MIRA 13:11)

1. Institut geokhimii i analiticheskoy khimii Akademii nauk SSSR
im. V. I. Vernadskogo.
(Antimony--Analysis) (Radioactivity)

S/032/60/026/011/001/035
B015/B066

AUTHORS: Rakovskiy, E. Ye., Smakhtin, L. A., and Yakovlev, Yu. V.

TITLE: Determination of Microimpurities in High-purity Antimony 27
by Means of Radioactivation Analysis 19

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11, pp. 1199-1200 ✓

TEXT: The radioactivation analysis of antimony according to A. Kulak (Ref. 4) cannot be applied to determine impurities in light elements. The authors describe such a method for the determination of phosphorus, chromium, manganese, copper, zinc, gallium, and arsenic impurities in high-purity samples of antimony. The method consisted of a comparison with standard samples. The sample and the standard were exposed to a neutron flux ($8.7 \cdot 10^{12}$ n/cm²·sec) for 20-48 h. The elements to be determined were divided into two groups, i.e. Mn, Cr, Zn and Ga on the one hand, and P, Cu, and As on the other. To analyze the former group, the sample is dissolved in aqua regia after irradiation, evaporated, antimony is precipitated with H₂S, the solution is evaporated to dryness

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Determination of Microimpurities in
High-purity Antimony by Means of
Radioactivation Analysis

S/032/60/026/011/001/035
B015/B066

taken up in hydrochloric acid, and the resulting solution is passed through a column with the Dowex 1-X8 anion exchanger which absorbs Ga and Zn. Ga is then eluted with 1-2 N HCl, Zn with water. Mn and Cr which are not absorbed by the exchanger are precipitated with H_2S in ammoniacal medium as sulfide and hydroxide, respectively, and finally isolated: Mn in the form of $MnNH_4PC_4$, and Cr as barium chromate. In the test for Cu, P, and As, after dissolution of the irradiated sample As is isolated as arsenic bromide, Cu is separated as $CuCNS$, and the phosphate is isolated as magnesium ammonium phosphate after purification on the KY-2 (KU-2) cation exchanger. The test samples as well as the standard samples were measured by means of a CM-2B (SI-2B) Geiger counter with an accuracy of about $\pm 5\%$. The following determination accuracies were found:

$3 \cdot 10^{-6}\%$ Mn, $3.5 \cdot 10^{-6}\%$ Cu, $\leq 8 \cdot 10^{-7}\%$ Zn, $4 \cdot 10^{-5}\%$ As, $\leq 8 \cdot 10^{-6}\%$ P,

$\leq 5 \cdot 10^{-4}\%$ Cr and $\leq 3 \cdot 10^{-7}\%$ Ga. With the separation scheme described, radiochemically pure preparations can thus be obtained. There are 4 references: 3 Soviet and 1 British.

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Determination of Microimpurities in
High-purity Antimony by Means of
Radioactivation Analysis

S/032/60/026/011/001/035
B015/B066

ASSOCIATION: Institut geokhimii i analiticheskoy khimii Akademii nauk
SSSR im. V. I. Vernadskogo (Institute of Geochemistry and
Analytical Chemistry imeni V. I. Vernadskiy of the Academy
of Sciences USSR) ✓

Card 3/3

21 (8)

AUTHORS:

Lavrukhina, A. K., Revina, L. D.,
Rakovskiy, E. Ye.

SOV/20-125-3-18/63

TITLE:

The Functions of the Excitation of Fragments of the Fission
of Lanthanum (Funktsii vozbuzhdeniya oskolkov deleniya
lantana)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3,
pp 532-534 (USSR)

ABSTRACT:

In the present paper the authors try to investigate the
excitation functions of the fission fragments
 P^{32} , Ni^{66} , and Se^{73} of lanthanum in the energy range
140 - 660 Mev of the bombarding protons. The investigations
were carried out by means of the synchrocyclotron of the
Ob'yedinennyi institut yadernykh issledovaniy (United
Institute of Nuclear Research). Powders of lanthanum oxide
(covered by an aluminum foil) were irradiated for 0.5 - 1
hour. After the irradiation, the lanthanum oxide was
dissolved in concentrated hydrochloric acid, and the
radioactive isotopes of nickel, selenium, and phosphorus were
removed on isotope carriers. The removal of Se, Ni, and P is

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The Functions of the Excitation of Fragments of the Fission of Lanthanum SOV/20-125-B-10/63

discussed in detail. The results of these experiments are shown in two diagrams which show the excitation functions of the fragments Se^{73} , Ni^{66} , and P^{32} of the fission of lanthanum in the energy range 100 - 220 Mev of the incident protons. These results are the average values of 2 - 3 parallel experiments. For Se^{73} at $E_p = 140$ Mev and for P^{32} at $E_p = 220$ Mev only a very low activity (~ 5 pulses/min) was observed, which permits the determination of the production thresholds of these nuclei ($E_{thresh} \sim 100$ Mev for Se^{73} and $E_{thresh} \sim 200$ Mev for P^{32}). The nuclei investigated by the authors are interesting since 2 of them have a neutron excess (P^{32} and Ni^{66}) and the nucleus Se^{73} has a neutron deficit. The characteristic sharp ascent of the curves $\sigma = f(E_p)$ for P^{32} and Se^{73} beyond the threshold of their production (if the energy of the protons increases)

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The Functions of the Excitation of Fragments of
the Fission of Lanthanum

007/20-125-3-16/63

is indicative of a significant increase of the probability of the asymmetric fission of lanthanum nuclei in the investigated energy range. The excitation function of Ni^{66} has a somewhat different character. The cross section of the production of Ni^{66} varies by 10 times if E_p rises from 140 to 660 Mev. The probability of the symmetric fission of lanthanum nuclei in a lower degree depends on the energy of the incident protons. This fact explains also the constancy of the cross section of the fission of silver in the interval $E_p \sim 300 - 600$ Mev.

The method of the thick-layer photo-plates applied in the present paper does not permit the recording of the products of a strongly asymmetric fission. A further investigation of the excitation functions of the fission of the nuclei of the middle part of the periodical system is very important for the explanation of the fission mechanism. The authors thank L. P. Moskaleva and M. I. Bolkina for their help in the carrying out of the present investigation. There are 2 figures and 14 references, 5 of which are Soviet.

Word 3/4

TO: Functions of the Excitation of Fragments of the ...
Emission of Lanthanum

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I.
Vernadskogo Akademii nauk SSSR (Institute of Geochemistry
and Analytical Chemistry imeni V. I. Vernadskiy of the
Academy of Sciences USSR)

PRESENTED: December 10, 1958, by A. P. Vinogradov, Academician

DATE: December 5, 1958

Card 4/1

AUTHOR: Rakovskiy, E.Ye. 32-24-4-63/67

TITLE: ~~CONFERENCE ON THE APPLICATION OF RADIOACTIVE ISOTOPES IN~~
A Conference on the Application of Radioactive Isotopes in
Analytical Chemistry (Soveshchaniye po primeneniya radioaktivnykh
izotopov v analiticheskoy khimii)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 505-507 (USSR)

ABSTRACT: The conference was called by the department of Chemical Sciences
AS USSR and by the Commission for Analytical Chemistry at the In-
stitute for Geochemistry and Analytical Chemistry imeni
V.I. Vernadskiy and took place at Moscow from December 2 to December
4, 1957. Among the 500 delegates, besides Soviet scientists, there
were guests like I.Kolthoff (USA), H.Irwing (England), R.Prshibl
(Czechoslovakia), L.Erdel (Hungary) and other from China, Poland,
Rumania, Hungary, Czechoslovakia, the German Democratic Republic
and Yugoslavia. 30 contributions were made within the field of the
application of "marked" atoms in chemical analysis. The contribu-
tion made by A.V. Nikolayev and collaborators (Institute for
General and Inorganic Chemistry AS USSR) dealt with the fraction-
ing of precipitates of rare earths by the ammonia method.
A.G.Samartseva developed the method of the quantitative electro-

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A Conference on the Application of Radioactive
Isotopes in Analytical Chemistry

32-24-4-63/67

lytic separation of some elements of rare earths from acid solutions. A.N. Yermakov, V.K. Belyayeva and I.N. Marov developed the chromatographic method for the investigation of complex compounds of zirconium and hafnium with oxalation. Ye.I. Il'yenko, B.P. Nikol'skiy and A.M. Trofimov investigated the adsorption on ion exchange resins. Problems of the analytical chemistry of francium were investigated by A.K. Lavrukina and S.S. Rodin. V.I. Kuznetsov and I.V. Tararaya delivered, among other things, several interesting reports dealing with this field. The contribution made by Yu.I. Bykovskaya (Institute for Metallurgy AS USSR imeni A.A. Baykov) dealt with problems of niobium determination. I.P. Alimarin and G.N. Bilimovich used organic means of precipitation for the determination of Nb, Ta and Zr. M.B. Neyman and his collaborators (Institute for Chemical Physics AS USSR) employed the last-mentioned method for the determination of low-valent alcohols. G.S. Rozhavskiy and I.Ye. Zimakov (State Institute for Nonferrous Metals) developed a method of multiple radioactive dilution for the determination of small quantities of admixtures. K.B. Yatsimirskiy and Ye.N. Roslyagova (Technological Institute, Ivanovo) used the radioisotope Co^{60} for the radiometric titration of phosphate-, sulfate- and molybdate ions. I.M. Korzman and

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A Conference on the Application of Radioactive
Isotopes in Analytical Chemistry

32-24-4-63/67

F.R. Sheyanova (Gor'kiy University) delivered a report on the application of non-isotopic carriers in radiometric titration. A.I. Kuliak (Institute for Chemical Technology imeni Mendeleev, Moscow) gave a report on the separation of a number of nuclei (Co, Cu, As, Sb, Te) from iron oxide obtained by thermal neutrons. V.B. Gaydajymov and L.I. Il'ina analyzed tantalum-niobium alloys by the method of the dispersion of reflected γ -radiations. A.K. Lavrukina spoke about some particular features of radio-chemical analysis. In the report delivered by V.P. Svedov and L.M. Ivanova the separation of some isotopes (Mo^{96} , Ag^{111} , Cd^{115} , Ba^{140}) is described. M.M. Senyavin used radioindicators for the investigation of the chromatographic distribution of micro- and ultramicro quantities of elements. For the determination of uranium in seawater V.I. Kuznetsov and T.G. Akimova used rhodanide methyl violet as a precipitant. A.K. Babko and P.V. Marchenko (Institute for General and Inorganic Chemistry AS Ukrainian SSR) gave a report on the investigation of the solubility of three-component compounds. Yu. V. Morachevskiy

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A Conference on the Application of Radioactive
Isotopes in Analytical Chemistry

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and A.I. Novikov (Leningrad University) investigated the precipitation of a number of elements in microconcentrations. I.Ye. Starik and his collaborators used the isotope U^{233} for the development of a method of separating uranium and iron. N.A. Izmaylov and V.S. Chernyy (Khar'kov State University) investigated the influence exercised by non-aqueous solvents upon the solubility of Ag and Cs chlorides. D.M. Zir and I.A. Efros used Po^{210} and La^{140} for the determination of the solubility of polonium and lanthanum hydroxides. The following reports dealing with the application of isotopes in industry were delivered: M.I. Tsekhan'skiy and collaborator (Uralskibiuro für Ferrus Metallurgy) spoke about the use of Ca^{45} for the determination of metallic inclusions in steels; K.I. Karasov (Scientific Research Institute for Synthetic Alcohols and Organic Products) used C^{14} for the determination of the fractionating effect of gaseous hydrocarbons; A.A. Grizik and N.I. Marinina, by using Nb^{95} and Ta^{182} , determined the content of these elements during works control. Among the foreign guests it was Professor I. Kolthoff who gave a report on the investigation of the aging process of precipitations, and H. Irving spoke about the

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A Conference on the Application of Radioactive
Isotopes in Analytical Chemistry

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determination of indium in rocks. A.P. Vinogradov closed the conference and pointed out that the method of radioactive indicators is being used with success by Soviet scientists.

1. Chemical analysis
2. Radioisotopes--Applications

Card 5/5

26-53-4-12/43

AUTHORS: Rakovskiy, E.Ye., and Khotin, B.A. (Moscow)

TITLE: On the Use of Radioactive Isotopes in Analytical Chemistry
(O primeneni radioaktivnykh izotopov v analiticheskoy khimii)

PERIODICAL: Priroda, 1958, Nr 4, pp 57-58 (USSR)

ABSTRACT: The article gives an account of the Conference on the Application on Radio-Isotopes which was convened by the Otdeleniye khimicheskikh nauk AN SSSR (Department of Chemical Sciences of the AS, USSR) and the Komissiya po analiticheskoy khimii pri institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR (Board of Analytical Chemistry with the Institute of Geochemistry and Analytical Chemistry imeni V.I. Vernadskiy of the AS, USSR) in Moscow in December 1957. About 500 delegates from Communist and Capitalist countries participated. During the three day session, 30 lectures were delivered on the use of "marked" atoms in analytical chemistry. Two principal tendencies can be noted in the development of research in this particular field: The use of radioactive indicators when analyzing rare or scattered elements, and the application of new

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25-90-4-22/45

On the Use of Radioactive Isotopes in Analytical Chemistry

methods, mainly based on the phenomena of radioactivity, such as methods of radiochemical and radioactivational analysis, of radiometric analysis by titration, of isotopic dilution, and others. The following Soviet scientists delivered lectures on the above mentioned subjects: A.V. Nikolayev, I.P. Alimarin, G.N. Bilimovich, V.B. Gaydadyov, L.N. Il'ina, A.A. Grizik, N.I. Marunina, K.B. Yatsimirskiy, E.N. Roslyakova, I.M. Korenman, F.R. Sheyanova, A.K. Lavrukhnina, V.P. Shvedov, L.M. Ivanova, A.I. Kulak, S.S. Rodin, V.I. Kuznetsov, T.G. Akimova, and Academician A.P. Vinogradov, who in his concluding speech pointed out that Soviet scientists successfully apply the method of "marked" atoms in their research work.

AVAILABLE: Library of Congress

Card 2/2 1. Isotopes (Radioactive)-Applications 2. Radiochemistry-USSR
3. Chemistry-USSR

RAKOVSKIY, E.Ye.

Conference on the application of radioisotopes in analytical
chemistry. Zav.lab. 24 no.4:505-507 '59. (MIRA 11:4)
(Radiochemistry)

RAKOVSKIY, E.Ye.; POZDNYAKOV, A.A.

Conference on the methods of concentration of elements in
analytical chemistry. Zhur. VKHO 9 no. 3:335-336 '64.
(MIRA 17:9)

RAKOVSKIY, Ivan.

Zool'ogiiia Zoology Kyiv, Vernigora, 1919. 140 p.

120-3-22/40

AUTHORS: Rakovskiy, I.I. and Filippov, M.M.

TITLE: A Broad-Band Oscillator Using a Lighthouse Triode.
(Shirokodiapazonnyy generator na mayachkovom triode)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, Nr 3, pp.80-81
(USSR)

ABSTRACT: A decimeter-band oscillator using a lighthouse triode 6C5A is described. The oscillator can be tuned over the 12-60 cm band with sufficient power output for experimental work. The arrangement is shown in Fig.1. The two-conductor line consists of two lengths of copper wire 3 mm dia and 20-30 cm (or more) long, connected to the anode and grid discs respectively. A capacitor C_1 (tens of pFs) is connected by sliding contacts across the lines and its position can be changed to suit a particular frequency. The remaining part of the line has similar capacitors across it, separated from each other by $\lambda/2$. The metallic base of the tube is completely enclosed in a brass cylinder, 1, the height of which is several mm greater than the height of the base. Between this cylinder and the grid disc is connected a loop, 2, made of thick foil or wire, which makes DC contact between the grid and the cathode. The distributed capacity of this loop and the distributed capacity and

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120-3-22/40

A Broad-Band Oscillator Using a Lighthouse Triode.

inductance of the cylinder form the grid resonant circuit. Connection of the loop also alters the inter-electrode capacity forming the feedback path. Altering the dimensions of the loop alters the frequency of oscillation. The energy is taken off by a coupling element or by an antenna. By selecting the second harmonic waves down to $\lambda = 12$ cm can be obtained. There is 1 figure and no references.

ASSOCIATION: Leningrad State University im. A.A.Zhdanov.
(Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova)

SUBMITTED: January 16, 1957.

AVAILABLE: Library of Congress.

Card 2/2 1. Oscillators-Operation 2. Triode-Applications

RAKOVSKIY, I.I.; DUBOV, N.M.

Broad-band oscillators with lighthouse triodes. Prib. i tekhn. eksp.
no. 3: 90-91. No. 157. (MLRA 10:9)

Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.
(Oscillators, Electron-tube)

KOSTENKO, Vladimir Pliyevktovich, korabel'nyy inzhener; RAKOVSKIY, L.I.,
redaktor; KONTOROVICH, A.I., tekhnicheskiiy redaktor

[On board the "Orel" at Tsushima; recollections of a participant in
the Russo-Japanese war at sea during 1904-1905] Na "Orle" v Tsusime;
vospominaniia uchestnika rusko-iaponskoi voiny na more v 1904-1905
g.g. Leningrad, Gos.soiuznoe izd-vo sudostroitel'noi promyshl., 1955.
542 p. (MLRA 9:1)

(Tsushima, Battle of, 1905)

RAKOVSKIY, L.A.

With the Lvov machinery manufacturers. Zashch.past. ot vrad. i bol.
9 no.11:9-11 '64. (MIRA 18:2)

1. Nachal'nik tsekha L'vovskogo zavoda sel'skokhozyaystvennogo
mashinostroyeniya.

MOVSEVA, Irina Nikolayevna; RAKOVSKIY, L.I., redaktor; FEDOROV, S.S.,
tekhnicheskiy redaktor

[Taurida; historical sketches and stories] Tavrida; istoricheskie
ocherki i rasskazy. [Leningrad] Lenizdat, 1956. 441 p. (MIRA 9:9)
(Crimea--History)

SOV/112-57-5-10855

Translation from: Referativnyy zhurnal. Elektrotehnika, 1957, Nr 5, p 182 (USSR)

AUTHOR: Klimenko, K., Rakovskiy, M.

TITLE: Engineering and Economic Problems of Production Automation in the USSR
(Tekhniko-ekonomicheskiye problemy avtomatizatsii proizvodstva v SSSR)

PERIODICAL: Kommunist, 1956, Nr 16, pp 49-62

ABSTRACT: Bibliographic entry.

Card 1/1

RAKOVSKIY, M.

Aesthetics and industrial production. NTO 5 no.5:40-43 My '63.
(MIRA 16:7)

1. Predsedatel' organizatsionnogo komiteta Vsesoyuznogo nauchno-tekhnicheskogo soveshchaniya po kul'ture proizvodstva.
(Art and industry)

KARPINSKIY, A. [Karpinski, Andrzej]; RAKOVSKIY, M. [Rakowski, Mieczyslaw];
SOKOLOVSKIY, V.I. [translator]; SHALASHOVA, V.F. [translator]; MA-
KARENKO, Ya.I., red.; SHAGALOV, G., red.; KHOMYAKOV, A.D., tekhn.
red.

[Poland against the background of the world economy] Pol'sha na fone
mirovoi ekonomiki. Pod obshechi red. IA.I.Makarenko. Moskva, Izd-vo
inostr. lit-ry, 1961. 221 p. Translated from the Polish. (MIRA 14:11)
(Poland--Economic conditions) (Economic conditions)

RAISOVSKIY, M. A.

BC

Heteropoly-compounds. IV. Boro- and meta-
tungstates. M. A. RAISOVSKIY and A. V. BABAYVA
 (J. Gen. Chem. Russ., 1952, 2, 80-84).—Titrimetric
 determination indicates that $B_2O_3 \cdot H_2O \cdot 24WO_3$ has
 two hydrates, one with $22.23-24.77H_2O$, and the
 other with $22.00-22.80H_2O$; the corresponding K
 salt forms only one well-defined hydrate, with $33.9-
 35.0H_2O$. The hydrates of $H_2O \cdot 4WO_3$ have $9.20-
 9.80$ and $6.00-7.10H_2O$. K, Na, and Ba boro- and
 meta-tungstates are not isomorphous. The limiting
 viscosity of solutions giving turbidity with various
 tungstates are: para- $1/16,000$, meta- $1/43,000$,
 phospho- $1/120,000$, boro- $1/142,000$, and meta-
 tungstate $1/285,700$. R. T.

ASB 51 A METALLURGICAL LITERATURE CLASSIFICATION

RAKOVSKIY, M. K.

"The Mechanization of the Petroleum Industry and the Economy of Petroleum Products,"
Sel'khozgiz, 1940

RAKOVSKIY, M. YE.
Co

Conversion of hydrocarbons heavier than methane
M. E. Rakovskiy. *Neftyanoe Khozho* 1938, No. 4,
51-53. A propane-butane mixt. was passed through a
conversion app. heated to different temps. and charged
with a metal catalyst prepd. from Ni and other metal, not
(closed) nitrates and ppd. on refractory clay. The
process temp. fluctuated from 400° to 700° and the amt.
of gas fed per hr. was 100-125 l. in addn. to steam. The
final product was composed of CO, 19.5, C₂H₄, 0.9, C₃H₈
4.7, O₂, 0.0, CH₄ up to 0.4, H₂, 7.4 and N₂, 0.6%. The high-
est H₂ yield (5200 cu. m. from one ton of gas) was ob-
tained from C₃H₈ + 4H₂O → 2CO₂ + 7H₂. The process
is described in detail. A. A. Bakhitkh

10

ASB-3LA METALLOGICAL LITERATURE CLASSIFICATION

KUZ'MIN, Petr Ivanovich; RAKOVSKIY, M.Ye., redaktor; VORONIN, K.P.,
tekhnikheskiy redaktor

[Selection and calculation of throttles for control units] Vybór
i raschet drossel'nykh reguliruiushchikh organov. Moskva, Gos.
energ. izd-vo, 1956. 111 p. (MIRA 9:9)
(Heat engineering) (Automatic control)

MEYZEL', Maks Mikhaylovich, professor, doktor tekhnicheskikh nauk;
RAKOVSKIY, M.Ye., kandidat tekhnicheskikh nauk, retsenzent; KOZLOV,
B.P., kandidat tekhnicheskikh nauk, retsenzent; VARSHAVSKAYA, L.S.,
redaktor; MEDVEDEV, L.Ya., tekhnicheskiiy redaktor

[Principles of automatic and remote control] Osnovy avtomatiki i
telemekhaniki. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva legkoi
promyshlennosti SSSR, 1956. 402 p. (MLRA 9:12)
(Automatic control) (Remote control)

Rakovskiy, M. Ye.

USSR/Processes and Equipment for Chemical Industries-- K-2
Control and measuring devices. Automatic regulation.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10648

Author : Rakovskiy, M. Ye.
Inst : Not given
Title : Fundamental Principles of the Design of Automatic
Controls for Continuous Industrial Processes

Orig Pub: Priborostroyeniye, 1956, No 6, 1-6

Abstract: The author discusses the basic principles of the design
of complex automatic control systems for technological
processes and the order of their introduction.

Card 1/1

RAKOVSKIY, M.Ye.; VEKSLER, B.A.; EPSHEYN, A.L.

Over-all automatization of stem electric power plants. Priboro-
stroenie no.10:1-5 0 '56. (MLRA 9:12)
(Automatic control) (Electric power plants)

MITROFANOV, Vladimir Pavlovich; RUDZITSKIY, Aleksandr Abramovich; LOSSIYEVSKIY,
V.L., prof., rensent; RAKOVSKIY, M.Ye., dots., rensent; KULIK,
M.I., inzh., rensent; IVANOV, A.S., inzh., spetsred.; KRUGLOVA,
G.I., red.; DOBUZHINSKAYA, L.V., tekhn. red.

[Automatic control in the manufacture of beet sugar] Avtomatizatsia
sveklosakharnogo proizvodstva. Moskva, Pishchepromizdat, 1958.
299 p. (MIRA 11:9)

(Sugar manufacture)
(Automatic control)

AUTHORS: Rakovskiy, M.Ye., Svecharnik, D.V. 119-53-5-2/11

TITLE: Problems of Technical Policy and the Main Directions in the Extension of Machine Building and Means of Automation (Voproay tekhnicheskoy politiki i osnovnyye napravleniya v razvitii priborostroyeniya i sredstv avtomatizatsii)

PERIODICAL: Priborostroyeniye, 1958, Nr 5, pp 5-7 (USSR)

ABSTRACT: Solving the task of mechanization and automation in industry cannot be attained by an increase of the number of construction offices and new factories which produce the parts necessary for automation. It is, however, of decisive importance that in Soviet production a sudden improvement of the quality of the devices for automation will have to take place. It cannot be explained, for instance, why the number of pH-meters produced is so small that they are not available in large numbers for agriculture, although their extensive use would increase soil productivity considerably. Investigation of the various branches of the instrument-producing industry makes it clear that, if instruments are built at all, unification cannot be found to exist anywhere.

Card 1/2

Problems of Technical Policy and the Main Directions
in the Extension of Machine Building and Means of
Automation

119-58-5-2/11

It is obvious that standardization of the automation projects and unification of the means for automation are equally effective for the entire political economy as standardization of the projects and unification of the elements in building. One point has still to be stressed: It must be the aim of all improvements considerably to increase the average life of a instrument, which causes an increase of production capacity.

AVAILABLE: Library of Congress

1. Industry--USSR
2. Industry--Automation

Card 2/2

MAYZEL', Maks Mikhaylovich; KOZULIN, N.A., prof., doktor tekhn.nauk, retsenzent; GUREVICH, A.L., dotsent, kand.tekhn.nauk, retsenzent; RAKOVSKIY, M.Ye., dotsent, kand.tekhn.nauk, retsenzent; MINAYEVA, T.M., red.; PLEMIANNIKOV, M.N., red.; KNAKNIN, M.T., tekhn.red.

[Principles of automatic control of industrial processes] Osnovy avtomatizatsii tekhnologicheskikh protsessov. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 877 p. (MIRA 13:9)
(Automatic control)

RAKOVSKIY, Mikhail Yevgen'yevich; RODOV, A.B., red.; KANTER, A.I.,
red.; NAZAROVA, A.S., tekhn. red.

[Top priority] Napravlenie nomer odin. Pod obshchei red. A.B.
Rodova. Moskva, Izd-vo "Znanie," 1962. 47 p. (Narodnyi univer-
sitet kul'tury: Tekhniko-ekonomicheskii fakul'tet, no.7)
(MIRA 15:9)

(Automation)

Handwritten: 1. 11. 1972

BERG, A.I., glav. red.; TRAFERNIKOV, V.A., glav. red.; BELONICH, L.A.,
zaml glav. red.; LEBEDEV, A.Ya., doktor tekhn. nauk, prof.,
zam. glav. red.; AVEN, O.I., red.; AGEKIN, D.I., red.; kand.
tekhn. nauk, dots., red.; AYZERMAN, M.A., red.; VENIKOV, V.A.,
doktor tekhn. nauk, prof., red.; VORONOV, A.A., doktor tekhn.
nauk, prof., red.; GAVRILOV, M.A., doktor tekhn. nauk, prof.,
red.; ZERNOV, D.V., red.; IL'IN, V.A., doktor tekhn. nauk,
prof., red.; KITOV, A.I., kand. tekhn. nauk, red.; KOGAN, B.Ya.,
doktor tekhn. nauk, red.; KOSTOUSOV, A.I., red.; KHEINITSKIY,
N.A., kand. fiz.-mat. nauk red.; LEVIN, G.A., prof. red.;
LOZINSKIY, M.G., doktor tekhn. nauk, red.; IUSHIYEVSKIY, V.I.,
red.; MAKSAREV, Yu.Ye., red.; MASLOV, A.A., dots., red.; POPOV, A.A., red.;
RAKOVSKIY, M.Ye., red.; ROZENBERG, L.D., doktor tekhn. nauk,
prof., red.; SOTSKOV, B.S., red.; TIMOFEYEV, P.V., red.;
USHAKOV, V.B., doktor tekhn. nauk, red.; FEL'DBAUM, A.A.,
doktor tekhn. nauk, prof., red.; FROLOV, V.S., red.;
KHARKEVICH, A.A., red.; KHRAMOV, A.V., kand. tekhn. nauk, red.;
TSYPKIN, Ya.Z., doktor tekhn. nauk, prof., red.; CHELYUSTEIN,
A.B., kand. tekhn. nauk, red.; SHREYDER, Yu.A., kand. fiz.-
mat. nauk, dots., red.; BOCHAROVA, M.D., kand. tekhn. nauk,
starshiy nauchnyy red.; DELONE, N.N., inzh., nauchnyy red.;
BARANOV, V.I., nauchnyy red.; PAVLOVA, T.I., tekhn. red.
(Continued on next card)

BERG, A.I.--- (continued). Card 2.

[Industrial electronics and automation of production processes] Avtomatizatsiia proizvodstva i promyshlennaia elektronika. Glav. red. A.I.Berg i V.A.Trapeznikov. Moskva, Gos.nauchn. izd-vo "Sovetskaia Entsiklopediia." Vol.1. A - I. 1962. 524 p.
(MIRA 15:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Sotskov, Kharkevich, Zernov, Timofeyev, Popkov).
(Automatic control) (Electronic control)

ORSHANSKIY, D.L., gl. red. ARUTYUNOV, K.B., red.; VOBOMOV, A.A., red.;
KARANDEYEV, K.B., red.; KARIBSKIY, V.V., red.; KRASIVSKIY,
S.P., red.; KULEBAKIN, V.S., red.; LOGINOV, L.I., red.;
LUKIN, V.I., red.; MALOV, V.S., red.; PAVLENKO, V.A., red.;
PETROV, B.N., red.; RAKOVSKIY, M.Ye., red.; SMAGLY, L.V.,
red.; SMIRNOV, A.D., red.; SOTSKOV, B.S., red.; STEFANI,
Ye.P., red.; TRAPEZNIKOV, V.A., red.; TSAREVSKIY, Ye.N.,
red.; LEONOVA, Ye.I., tekhn. red.

[EIKA; encyclopedia of measurements, control and automa-
tion] EIKA; entsiklopedia izmerenii kontrolya i avtomati-
zatsii. Moskva, Gosenergoizdat. No.1. 1962. 243 p.

(MIRA 16:3)

(Instruments) (Automation) (Mensuration)

RAKOVSKIY, M. Ye.

Progressive series of machine parts and units. Vest. mashinostr.
42 no.12:3-6 D '62. (MIRA 16:1)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta Soveta
Ministrov SSSR po avtomatizatsii i mashinostroyeniyu.

(Machinery--Design)

L 50185-55 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) Po-4/Pq-4/Pf-4/Pg-4/Pk-4/ 7
Pl-4 IJP(c) BC

AM5015052

Rock Exploitation
IZVODSKIY VEG.
Ageyev, V. M. (Engineer), and others [EDITORS ?]

URI
57
43
B+1

Instrument manufacture and automatic control devices; handbook in five volumes. v. 4: Automatic control and automatic devices (Priborostroyeniye i sredstva avtomatiki; spravochnik v pyati tomakh. t. 4: Avtomaticheskoye regulirovaniye i sredstva avtomatiki). Moscow, Izd-vo "Mashinostroyeniye", 1965. 716 p. illus., biblio., index. Errata slip inserted. 24,700 copies printed.

TOPIC TAGS: automation, automatic control systems, automatic controller classification, static linearization, designing complex automation

PURPOSE AND COVERAGE: This is the fourth volume of the handbook: "Instrument manufacture and automatic control devices." It consists of two parts. Part one presents the fundamentals and definitions of the theory of automatic control, modern methods of mathematical analysis and synthesis of linear and nonlinear systems, and the methods of their dynamic computation. The second part of

Card 1/4

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the volume contains descriptions of typical electrically, pneu-¹⁴-
matically, and hydraulically operated controllers, actuating
mechanisms, and control systems. It also gives basic technical
characteristics of electronic computational techniques applied
in automation, and elucidates problems of the organization and
planning of the most widely used systems of automatic control. 5

TABLE OF CONTENTS [Abridged]:

- Part I. Theory and methods of designing automatic control systems
1. Fundamental principles, structure of systems, and a definition of the theory of automatic control (Ye. G. Izvol'skiy, L. G. Novogranova, and V. V. Glukhov) -- 1-18
 2. Objects of automatic control (Yu. Ye. Russkiy) -- 23-54
 3. Elements of automatic controllers -- 58-132
 4. Automatic controllers (Yu. Ye. Russkiy) -- 145-176
 5. Methods for calculating the dynamics and the statics of SAR (system of automatic regulation), the SAC (system of automatic control) and servosystems (L. G. Negranova and V. V. Glukhov) -- 176-230

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L 50185-65
AM5015052

8

6. Nonlinear characteristics and methods of designing SAR and servomechanisms -- 230-294
7. Static linearization (G. M. Ulanov, and K. A. Pupkov) -- 294-344
8. Variational methods and the theory of accumulative errors -- 344-361
9. Methods for experimental testing of automatic control systems -- 361-387
10. Problems of the theory of automatic control -- 387-419
11. Principles of designing systems of complex automation by

- Part II. The means of automation applying control computers (A. S. Uskov) -- 419-437
12. Classification of the means of automation (M. Ye. Rakovskiy) -- 437-443
 13. Electrical and electronic controllers (V. A. Bodner) -- 443-497
 14. Means for automatic regulation and control of electrical drives (T. Z. Portnoy) -- 497-525
 15. Electronic computer technology for automatic control and regulation (B. M. Yakubaon) -- 525-575
 16. Pneumatic controllers and schemes of typical pneumatic SAR (V. S. Pruzenko) -- 575-618

Card 3/4

L 50185-55
AM5015052

17. Hydraulic and electrical-hydraulic means of automation and auxiliary devices -- 618-645
18. Designing systems for control and automatic regulation (A. B. Rodov) -- 645-694

SUB CODE: IE

SUBMITTED: 05Feb65

NO REF SOV: 344

OTHER: 051

me
Card 4/4

ERKOVSKI, M. Ye.

Instrument manufacturers want to cooperate with standardizers.
Standartizatsiya 28 no.10:20-22 O '64. (NISA 17:12)

1. Predsedatel' Gosudarstvennogo komiteta po priborostroyeniyu
sredstv avtomatizatsii i sistemam upravleniya pri Gosplane SSSR.

AFANAS'YEVA, A.V.; RAZOVSKIY, N.I.; SELYUNIN, A.N.

Flow diagram of a test injection of liquefied gases into a reservoir in a sector of the Minnibayevo region. Nauch.-tekh.sbor. po dot.nefti. no. 14:76-82 '61. (MIRA 17:6)

ZABRODIN, P.I.; RAKOVSKIY, N.L.; ROZENBERG, M.D.

Investigation of petroleum displacement by solvents in a model
of great length. Nauch.-tekhn. sbor. po dob. nefti no.17:16-22
'62. (MIRA 17:8)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

BRVEDNINOV, N.K.; RAKOVSKIY, N.I.

Effect of the nonuniformity of reservoir permeability on the
solvent flooding process. Nauch.-tekhn.spor.pob.nefti no.18,
78-92 162. (MIRA 17:6)

AFANAS'YVA, A.V.; KROVCHIK, N.L.; SILEVICH, A.M.

Developing and introducing a method for injecting liquefied gases into one of the areas of the Romashkino oil field in order to increase oil reservoir production. Nauch.-tekhn. zhurn. po dok. nefti no.24:146-150 '64. (IRA 17:10)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

RAKOVSKIY, N.I.

Approximate hydrodynamic calculations of the linear flow of
mutually soluble fluids in a uniform porous medium. Trudy
VNI no.40:02-114 '63 (MIRA 17:7)

ZABRODIN, P.I.; RANOVSKIY, N.I.; RABINOVICH, P.I.

Motion of mutually soluble fluids of varying viscosities in
a linear model of a uniform layer. Trudy VNI no. 40853-77'63
(MIRA 1727)

PRAVEINIKOV, N.K.; RAKOVSKIY, N.L.; SERYUKIN, A.N.

Possibilities of injecting liquefied gases in different areas
of the Romashkino field with a view to increasing petroleum
recovery and the level of petroleum production. Trudy VNI
no. 0:241-256 '63 (MIRA 1963)

RAKOVSKIY, N.L. (Moskva)

Approximate hydrodynamic calculations of the flow of mutually
soluble fluids. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.3;
33-40 My-Je '63. (MIRA 16:8)

(Fluid dynamics)

RAKOVSKIY, N.L.

Determination of the changes in time of recovery after the
inrush of the displacing agent to the production line. Nauch.-
tekh. sbor. po dob. nefli no.15:64-69 '61. (MIRA 15:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Oil field flooding)

ZABRODIN, P.I. (Moskva); RAKOVSKIY, N.L. (Moskva); ROZENBERG, M.D. (Moskva)

Using radiation methods in investigating the flow of intersoluble liquids. Izv. AN SSSR. Otd. tekhn. nauk. Mekh. i mashinostr. no. 4: 43-47 J1-Ag '61. (MIRA 14:8)
(Hydrodynamics) (Radioisotopes--Industrial applications)

RAKOVSKIY, Pavel Semenovich[Rakov'skyi, P.S.]; LEYBIN, O.S.[Leibin,
O.S., kand. fiz.-mat. nauk, oty. red.; SIVOKIN, G.M.
[Sivokin', H.M.], red.; BIKHOVSKIY, M.Y.[Bykhovs'kyi, M.I.],
tekhn. red.

[Course in higher mathematics]Kurs vyshchoi matematyky. Kharkiv,
Vyd-vo Kharkivs'koho univ., 1960. 292 p. (MIRA 15:11)
(Mathematics)

STARODUBTSEV, S.V.; BEGZHANOV, R.B.; RAKOVITSKIY, S.L.

Nature of γ -transitions $In^{116} \rightarrow Sn^{116}$ in the hard energy region.
Izv. AN SSSR. Ser. fiz. 28 no.1:76-79 Ja '64. (MIRA 17:1)

1. Institut yadernoy fiziki AN UzSSR.

RAKOVSKIY, S.N.

With Chinese geographers. Vop.geog. no.44:83-95 '58.
(MIRA 12:5)

(China--Geography--Study and teaching)

RAKOVSKIY, S.N.

Some features of the geography of population in the Chinese People's
Republic. Uch.zap.MGPI vol. 121:3-26 '59. (MIRA 15:3)
(China--Population)

AUTHOR: Rakovskiy, S.N., Docent

WV/7-58-12-11/13

TITLE: Abroad (Za rubezhom) The Training of Teachers in People's China
Increases (Rastët podgotovka pedagogov v narodnom Kitaye)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 12, pp 80-82 (USSR)

ABSTRACT: One of the links uniting the Soviet Union with China is the Moscow State Pedagogical Institute imeni V.I. Lenin (MGPI). The Institute has trained scores of students and post-graduate students from China. Professor V.I. Samoylov (Geographic-Biological Faculty), Docent A.V. Mikheyev (Faculty of Natural Science), Candidate of Philosophical Sciences K.Ye. Morozov (Faculty of Philosophy), Candidate of Philosophical Sciences Ya.I. Roslovets (Historical-Philological Faculty) and other instructors have carried out pedagogical and consultation work in the higher educational institutions and scientific offices of China. In 1955 - 1957, the author was engaged in instructional and consultation work on economic and political geography of foreign countries at the Peking State Pedagogical Institute. He also visited other vuzes in Peking and several large pedagogical institutes in Shanghai, Tientsin, Kuang-Chou (Kanton), Nanking, Hangchow and the university of Sun-Yat-sen in Kuangchou. The Peking State Peda-

Card 1/2

SN/3-56-12-31/13

Abroad. The Training of Teachers in People's China Increases.

gogical Institute and two other leading pedagogical vuzes - the Huadun in Shanghai and the Dunbei in Ch'ang-Ch'un - have the status of pedagogical universities, but actually are pedagogical institutes. He deals with the question of teaching aids, libraries and instructional literature, and speaks of the contact maintained among the vuzes. Relations have been established between many Chinese and Soviet higher educational institutions. Docent V.G. Erdeli, Head of the Chair of Methods in Teaching Geography, has been conducting correspondence with Professor Van-Tszyun-khen, head of a similar chair for 2 years.

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni V.I. Lenina (Moscow State Pedagogical Institute imeni V.I. Lenin)

Card 2/2

RAKOVSKIY, S.M.

On southern Sakhalin. Geog. v shkole no.3:8-16 My-Je '47.
(Sakhalin--Description and travel) (MLRA 9:6)

RAKOVSKIY, Sergey Nikolayevich; GLUSHAKOV, P.I., otvetstvennyy red.;
BELEN'KIY, A.B., red.; CHIZHOV, N.H., red.; HOJINA, N.I., tekhn.red.

[Federal People's Republic of Yugoslavia; a geographical description]
Federativnaia Narodnaia Respublika IUGoslavia; geograficheskii ocherk.
Moskva, Gos. izd-vo geogr. lit-ry, 1958. 79 p. (MIRA 11:4)
(Yugoslavia--Geography)

RAKOV, Vitaliy Aleksandrovich; IVANOV, V.A., nauchnyy red.; ROGACHEV, P.V.,
red.; RAKOV, S.I., tekhn.red.

[Electric locomotives and their maintenance] Ustroistvo i
obsluzhivanie elektrovoza. Moskva, Vses. uchebno-pedagog. izd-vo
Trudrezervizdat, 1958. 298 p. (MIRA 12:2)
(Electric locomotives)

18(5)

SOV/128-59-7-15/25

AUTHOR: Rakovskiy, V.E., Doctor of Technical Sciences and
~~Tkachenko, K.M.~~ and Rivkina, Zh. I., Candidates of
Technical Sciences and Senina, R.M., Engineer

TITLE: Peat Bitumens in Pattern Materials for Precision
Casting

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 7, pp 35-37 (USSR)

ABSTRACT: The propagation of the precision casting method with
flushed out patterns depends also on the existence
of cheap and available materials with the necessary
properties. In the USSR, a mixture of paraffine and
glyceric stearate is used which however does not have
all the necessary qualities. The authors have tried
to substitute the glyceric stearate by peat bitumen.
For industrial purposes only peat with the highest
contents of bitumen can be used. Of great importance
too is the solvent used. The authors suggest benzine
or benzole. In several tables the results of the

Card 1/2

SOV/128-59-7-15/85

Peat Bitumens in Pattern Materials for Precision

Casting

experiments at the laboratory of NIIT/Vtoprom are given. They have been made with a paraffine-bitumen mixture of 70 : 30 mix ratio. The foundry experiments had been executed by means of a pressure die casting machine, design M.I. Henkin. This machine proved not to be suitable for this work. The machine has been improved by increasing the number of revolutions from 135 rpm to 200 rpm. The authors have also made shop experiments at Krasnogorsk. They made the introduction of a new component necessary, i.e. ceresine and colophony (BPZK in a rate of 5:2:2:1 or BPZ in a rate of 5:3:1). Both mixes can be used for precision investment casting, even during summer and in areas with high temperatures. There are 7 tables and 1 diagram

Card 2/2

RAKOVSKIY, V., dotsent, kand.tekhn.nauk

Machine parts made of powders. NTO 3 no.2:40-42 F '61. (MIRA 14:3)

1. Predsedatel' Komiteta poroshkovoy metallurgii Tsentral'nogo pravleniya Nauchno-issledovatel'skogo obshchestva mashinostroitel'noy promyshlennosti.

(Powder metallurgy)

TERENT'YEV, V.M.; RAZVANYIY, V.D.

Effect of the moisture in peat soil on the assimilation of carbon dioxide by corn plants. Dokl. AN BSSR 5 no.9:401-404 S '61.
(MIRA 14:10)

1. Institut biologii AN BSSR.
(Peat soils)
(Corn(Haize))

RAKOVSKIY, V. E.

121. COMPOSITION OF PEATS OF THE WHITE RUSSIAN S.S.R. RAKOVSKIY, V. E. and POZNYAK, V. B. and CHAIKOV, V. D. (Izv. Akad. Nauk Belorussk. SSR (Bull. Acad. Sci. White Russ. S.S.R.), 1956, (3), 97-108; abstr. in Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1957, (11), 38623). A relationship is disclosed between the group composition of the most common White Russian peats and their botanical groups and degree of decomposition. The concentration of bitumens in upland peats is much higher (14-15%) for a given degree of decomposition than in lowland peats (1.86-6.6%). The concentration of easily hydrolysed matter is 13-34% in upland and 11-28% in lowland peats. The cellulose content of both upland and lowland peats decreases with increase in the degree of decomposition. The greatest concentration of humic acids was noted in reed peats (40-43%) at 40% decomposition and above. The lignin residue mainly increases with increase in decomposition. In reed peats, the sum of the humic acids and the non-hydrolysable residue increases regularly with increase in the degree of decomposition, which is an indication of an increase in the concentration of aromatic oxy-compounds.

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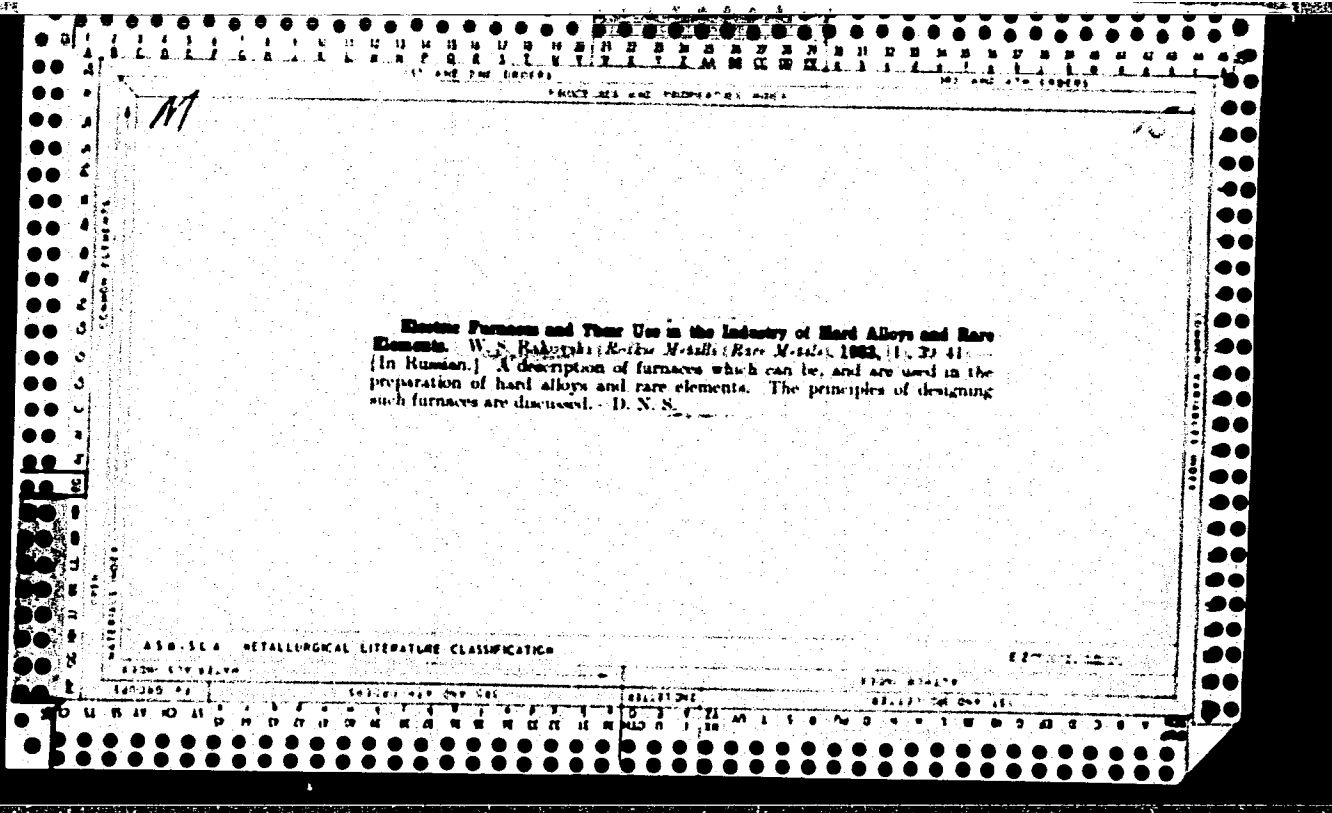
RAKOVSKIY, V.P., inzh.; LOGINOV, A.D., inzh.

Selenium rectifiers for feeding electromagnetic drives of
high-voltage switches. Energetik 10 no.11:29-32 N '62.
(MIRA 15:12)

(Electric current rectifiers)
(Electric switchgear)

RAKOVSKIY, V.P., starobly master

Electric spark silver-plating of contactors. Energetik no.9:30-31
S 16%. (MIRA 17:10)



RAKOVSKIY, V.S.

Principles of production of hard alloys Moskva, Glav. red. lit-ry po tsvetnoi metallurgii,
1935- (Mic 53-558)

Microfilm TJ-5

1. Alloys

RAKOVSKIY, V.S.

Rigid alloys, production and utilization. Textbook 2. perer. i dop. izd. Moskva, Red.
lit-ry po chernoi i tsvetnoi metallurgii, 1938. (Mic 53-296)

Microfilm TS-9

RAKOVSKIY, V.S., kand. tekhn. nauk; BAL'SHIN, M.Yu., kand. tekhn. nauk,
retsenzent; MALOV, A.N., kand. tekhn. nauk, red.; POPOV, S.M.,
tekhn. red.

[Powdered metals in the machinery industry] Metallokeramika, v mashi-
nostroenii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1948. 119 p. (MIRA 11:8)

(Powder metallurgy)

RAKOVSKIY, V. S.

RAKOVSKII, V. S. The utilization of welded hard alloys. Moskva, Gos.
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1948. 260 p. (51-20592)

TS227.R3

CA

7

Metalloceramic alloy steels. V. S. Rakovskii. *Stal* 6, 1119-21 (1948). Tests were made on producing shapes from powder alloy steels by powder metallurgy methods. The steels tested were a high-speed and a stainless steel. The steels were taken in the form of turnings; one of the steels was directly pulverized in a jet mill, the other was preliminarily reduced in an attrition mill. The powder left the jet mill in a cold worked state and could not be pressed. Annealing for 1.5-2.0 hrs. at 800-850° in an atm. of H₂ removed this condition. Powder fractions of 0.053-0.074 mm. were pressed at 6 tons/sq. cm. and then sintered for varying time periods at different temps. in an atm. of H₂. Sintering for 3 hrs. at 1250-1300° gave satisfactory results. The structure of the sintered high-speed steel comprised austenite, martensite, and carbides, and the structure of the stainless steel was austenite. The sintered steel had a porosity of 8-10%. Second compression (after sintering) at 620-700 under 5 tons/sq. cm. reduced the porosity to 2-3%. The phys. properties of the sintered steel compared favorably with those of cast steel. M. Hirsch.

RAKOVSKIY, V. S.

PA 19/49163

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USSR/Engineering
Metallurgy, Powder

Nov 48

"Review of B. A. Borok and I. I. Ol'khov's Book,
'Powder Metallurgy,'" V. S. Rakovskiy, Cand Tech
Sci, 1 p

"Stal'" No 11

Book is first of its kind in Russian language, and
superior to similar foreign products in several
respects. Published by Metallurgizdat, Moscow,
1948, 144 pp.

19/49163

RAKOVSKIY, V. S.

PA 18/49788

USSR/Metals
Alloys, Ferrous
Metallurgy, Powdered

Dec 48

"Metallic Alloy Steel," V. S. Rakovskiy, Cand
Tech Sci, 5½ pp

"Stal'" No 12

Investigates pressing and sintering of alloy-steel
powders. Describes technique of manufacturing
compact parts from scrap (turnings) of RF-1 and Ya-1
steels. Performance of these parts is almost equal
to parts made of cast forged steel.

18/49788

TSUKERMAN, S.A.; BAL'SHIN, M.Yu, otvetstvennyy redaktor; RAKOVSKIY, V.S.,
redaktor izdatel'stva; NEVRAYEVA, N.A., tekhnicheskiy redaktor

[Powder metallurgy and its industrial application] Poroshkovaya
metallurgiya i ee promyshlennoe primeneniye. Moskva, Izd-vo Akademii
nauk SSSR, 1949 87 p.
(Powder metallurgy) (MLRA 9:7)

RAKOVSKIY, V. S.

USSR/Metals - Powder Metallurgy

Mar 51

"Metal-Ceramic Products Out of the Waste of Ball-Bearing Steel," V. S. RAKOVSKIY, Cand Tech Sci, V. V. SAKLINA, I. N. SMIRNOVA, Engineers, Orskvotprom

"Litsey Proizvod" No 3, pp 25-27

Investigation to establish possibility of applying methods of powder metallurgy to use of waste materials obtained at ball-bearing plants in the form of very fine powder-like chips. Process was studied

19753

USSR/Metals - Powder Metallurgy (Contd) Mar 51

regarding manuf of bearing-nuts, porous anti-friction bushings and friction lining. Method proved considerably more efficient than use of waste by remelting.

19753

PA 195T53

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Sintered friction materials. V. V. Saklinski and V. S. Rakovskii. *Automob. i Frakts. Prom.* No. 6, 1344 (1951).—Mists. contg. 93.75% Cu powder, 5-25% SiO₂ powder, and 2% powd. asbestos were subjected to 2-6 tons/sq. cm. pressure (no lamination or cracking was observed) and then sintered in a H atm. at 850-970°. Results indicated that with increasing percentage of the nonmetallic components in the mist., there was a decrease in the d. of the product which explained the decreased plasticity of the mist. An increase in pressure and sintering temp. leads to increased hardness. The optimal mist. contained 78% Cu powder, 20% SiO₂ powder, and 2% powd. asbestos; this mist. was subjected to 4.0 tons/sq. cm. pressure and sintered for 1.5 hrs. at 850°; the coeff. of friction at 40° was 0.217 (measured on a T1-1 machine with 10 kg./sq. cm load and 7.4 m./sec. speed with oil lubrication) and the wear was 0.001-0.004 mm. after 1 hr. Thus, powder metallurgical techniques produced friction materials of good quality (coeff. of friction > 0.10) for use in automobiles.
Paul W. Howerton

RAKOVSKIY, V.

Dec 52

USSR/Metallurgy - Powder Metallurgy, Metal Conservation

"Powder Metallurgy as a Factor in Metal Conservation and Production-Cost Reduction,"
V. Rakovskiy, Cand Tech Sci

Za Ekon Materialov, No 5, pp 40-45

Discusses economical advantages of powder metallurgy, such as utilization of metals waste, sharp decrease in consumption of metal, and wt reduction of products, illustrating these factors by several examples. Describes condition of USSR powder metallurgy as follows: certain industrial establishments use methods of powder metallurgy for manufacturing hard alloys, high-melting metals, anti-friction products on Cu-base, contacts, magnets, etc.; in spite of enormous resources of raw materials and considerable experience accumulated in various institutes in manufacture of metal-ceramic products, there is still no production of iron powder on industrial scale.

Evaluation B-66181

Source #264T56

RAKOVSKIY, V. S.

SILAYEV, A.F.; PROSVIRIN, V.I., professor, doktor tekhnicheskikh nauk;
RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk.

Production of iron, steel and iron alloy powders by pulverization.
[Trudy] TSMITMASH no.56:124-147 '53. (MLRA 7:6)
(Powder metallurgy)

RAKOVSKIY, V. S.

18 3

Utilization of by-product ball-bearing steel for preparation of metalceramic products. V. S. RAKOVSKIY. *Perashkovaya Met., Sbornik* (Moscow: Metallurgizdat) 1954, 130-4; *Referat. Zhur. Met.* 1956, No. 1248. — The by-product was reduced in H₂ atm. or dissoed. NH₃ at 800-850° yielding powder contg. Fe 96.5, C 0.28, Cr 0.58%. Compacted products were prepd. by pressing at 6-7 tons/sq. cm. and sintering at 1250-1300° for 2-3 hrs. Antifriction products were prepd. by addn. of graphite to the reduced powder, pressing at < 8 tons/sq. cm. giving a coeff. of friction of 0.035-0.045. Under industrial conditions metalceramic separators showed much greater wear resistance than brass. Wear of rollers and roller bearings under lab. investigation of brass and metalceramic separators was the same.

V. N. Bednarski

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RAKOVSKIY, V. S.

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TVERDYE SPLAVY V MASHINOSTROYENII

Hard cutting alloys in engineering production

By V. S. Rakovskiy, F. F. Smirnov, L. A. Rozhdestvenskiy, I. I. Kryukov

Reference book edited by V. S. Rakovskiy
Mashgiz, 1955

*Met
Start*

Signed for print: February 22, 1955
Published in 8500 copies

In the first part of the book carbide and similar hard cutting materials are briefly surveyed. After a classification of the field, sintered carbides, cast carbides, stellites and their derivatives deposited by fusion welding, and inspection methods for all these materials are separately discussed.

In the second part of the book, the application of hard tips in metal cutting is presented in the form of tables of tool geometry for all types of cutting edges and dimensional drawings and tables of every form of carbide tipped tool. Detailed instructions for manufacture, attachment, heat treatment and sharpening of such tools are given with full illustration of equipment, machinery and inspection gauges. Special attention is given to the Kolesov method of cutting large chip cross-sections

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Hard Cutting Alloys in Engineering Production

and to the determination of standard cutting rates. The design of all common and special forms of milling cutters is discussed in a separate chapter, together with cutter manufacturing procedure, and standard milling rates and conditions. Another chapter presents the special features of screw cutting followed by a chapter on drilling and the manufacture of drills including deep hole drilling and a great variety of counterboring tools. The same abundance of illustrated dimensional information is devoted to reaming and all types of reamers, followed by a separate discussion of wire drawing dies for all sizes and material commonly drawn and including die making methods. Another press-forming process so presented with details of tool forms is the cold heading of metallic components.

The application of hard alloys deposited by fusion is discussed with numerous instructions and numerical tables applicable to the depositing process. The repair of machine components by hard facing, the machining of hard-faced components, with its common faults and their remedies, and the equipment needed for hard facing make up the third part of the book.

An appendix gives detailed instructions for the hard facing of gear tooth flanks, and the characteristics of hard faced components.

The book contains 383 pages, 211 illustrations, 288 tables and 45 references (all Russian).

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