

17(1)

AUTHORS:

Belikov, P. S., Motorina, M. V.

SOV/20-123-1-50/56

TITLE:

On the Day and Night Rhythm in Photosynthesis (O sutochnykh ritmakh fotosinteza)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 185 - 188 (USSR)

ABSTRACT:

30 years ago, simultaneously and independently from each other, the leningradskaya and the kiyevskaya Schools proved that the diurnal course of photosynthesis does not always follow the intensity of meteorological factors. Thus in the complex of conditions which determine the diurnal dynamics of photosynthesis, certain inherent conditions must play an important part; they entered the literature as the "plasmatic factor". In the course of the past 30 years not only the nature of this "plasmatic" factor has been revealed, but the observations mentioned have also been revised (Refs 9, 12 - 14). Therefore, the authors feel justified to describe their test results which point to a rhythm in photosynthesis, without, however, trying to interpret the nature of the facts observed. Bean plants of the fiberless Saksa kind were selected for the tests, which grow well in artificial light

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and show very distinct day and night rhythms in their leaf movements (Refs 3, 5, 11). CO<sub>2</sub> absorption was always measured by means of Rikhter (Richter) absorbers which were combined into an aggregate following the arrangement of Nichiporovich and Vasil'yeva (Ref 6). From the results obtained, the authors deducted the following conclusions: 1) The day and night round of photosynthesis is irregular under any kind of test conditions. This holds of the entire period of vegetation also under constant conditions in the environment. A certain repetitiveness (povtoryayemost') was observed as to the moments when maxima and minima would occur. The day and night round of photosynthesis is to be studied with consideration to the endogenous rhythms. 2) Plants which were grown under the usual change of light and darkness showed the following periods of photosynthesis after being transferred to conditions of constant factors: the maximum roughly corresponded to the astronomic noon hours, the minimum to the night hours. 3) Plants which were grown in light continuous throughout 24 hours showed a rhythm in the day and night round of photosynthesis. Its increases and depressions

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followed each other more often. This caused "feverish" curves of photosynthesis (a term employed by A. S. Okanenko, Ref 7). 4) All this suggests that in the day and night round of photosynthesis rhythms are effective which are determined by heredity. But new rhythms may also be adopted by the plants. There are 2 figures and 14 references, 8 of which are Soviet.

ASSOCIATION: Moskovskaya sel'skokhozyaystvennaya akademiya im. K. A. Timiryazeva (Moscow Academy of Agriculture imeni K. A. Timiryazev)

PRESENTED: June 5, 1958, by A. L. Kursanov, Academician

SUBMITTED: June 4, 1958

Card 3/3

BELIKOV, P.S., doktor biologicheskikh nauk, prof.; MOTORINA, M.V., kand.  
biologicheskikh nauk; KURKOVA, Ye.B., laborantka.

Using the GIP-5 infrared gas analyser for determining the intensiveness of photosynthesis. Izv. TSKhA no.3:30-39 '60.  
(MIRA 14:4)

(Photosynthesis) (Infrared rays)

BELIKOV, P.S., doktor biologicheskikh nauk, prof.; MOTORINA, M.V.,  
kand.biologicheskikh nauk; KURKOVA, Ye.B., laborant

Intensity of photosynthesis in various Triticum species.  
Izv. TSKhA no.5:44-54 '61. (MIRA 14:12)

(Photosynthesis)

BELIKOV, P.S., prof. doktor biol. nauk; MOTORINA, E.V., staryiy nauchnyy sotrudnik; KAWSKAYA, R.I., kand. biol. nauk

Nature of short time activation of photosynthesis. Izv. TSKhA  
no.6:28-36 '64 (1964, 18:1)

1. Kafedra fiziologii rasteniy i laboratoriya izmeneniya klimata Moskovskoy ordena Lenina sel'skokhozyaystvennoy akademii imeni K.A.Timiryazeva.

L 44277-66 ENT(1) SCTB DD

ACC NR: AR6011859

SOURCE CODE: UR/0299/65/000/020/G001/G001

AUTHOR: Belikov, P. S.; Motorina, M. V.; Nevskaya, R. I.

TITLE: Nature of short duration activation of photosynthesis

SOURCE: Ref. zh. Biologiya, Abs. 20G2

REF SOURCE: Izv. Timiryazevsk. s.-kh. akad., no. 6, 1964, 28-36

TOPIC TAGS: photosynthesis, light biologic effect, gas analyzer, IR

*analysis*  
ABSTRACT: An infrared gas analyzer was used to study the photosynthesis rate of 17 to 20 day old leaves of Kustovaya beans with an NaCl solution (1 M) acting on the roots as a stimulant for 2 min. The plants were grown under different lighting conditions: fluorescent lamp or a DRL lamp at 9000 lux and a DRL lamp at 18,000 lux. In the first case the photosynthesis rate was studied at 5,000 lux (ascending part of light curve) and at 11,000 lux (zone of light saturation). In the second case, experiments were conducted at 5,000 and 20,000 lux. At the same time the state of the stomatal apparatus of the bean leaf (lower epidermis) was studied. Under light saturation conditions temporary activation of photosynthesis in response to submersion of roots in a plasmolytic solution lasted longer and displayed a higher value. Short duration

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UDC: 581.18/581.132

L 44277-66

ACC NR: AR6011859

activation was also observed in the linear section of the light curve. A hypothesis is suggested stating that the photosynthesis activation process starts with the light stage. The photosynthesis rate does not coincide in time with stomate movements as increased photosynthesis prevents widening of stomate openings; the general appearance of the curves is the same. During the activation period of both processes, strands considered as proof of an excited state of the leaf appear in the surrounding stoma of the epidermal cells and then disappear. It is assumed that any stimulus acting on the roots can induce propagation of excitement which is transmitted to the leaf and causes activation of one or the other physiological function. Bibliography of 32 titles.  
L. Avakimova. [Translation of abstract].

SUB CODE: 06,20

Card 2/2 mjs



MOTORINA, M.V.

Development of ~~hypothalamocortical~~ relationships in reptiles. Zhur. evol.  
biokhim. i fiziol. 1 no.3:262-268 My-Je '65. (MIRA 18:7)

1. Laboratoriya sravnitel'noy fiziologii tsentral'noy nervnoy sistemy  
Instituta evolyutsionnoy fiziologii i biokhimi imeni Sechenova AN  
SSSR, Leningrad.

BENENSON, Nata Moysseyevna; DMITRIYEVSKAYA, Anna Aleksandrovna; MONCHAK, Marat Lyudvigovich; MOTORINA, Nina Leonidovna; SEVEROV, Anatoliy Konstantinovich; UCHITEL', Moyssey Yakovlevich; STRASHUN, N.Z., red.; FOMICHEV, A.G., red.izd-va; BELOGUROVA, I.S., tekhn.red.

[Use of P-68 resin in the manufacture of radio apparatus] Opyt primeneniia smoly P-68 v izdeliakh radiotekhnicheskoi apparatury. Leningrad, 1962. 10 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovyy opytom. Seriya: Sinteticheskie materialy, no.5)

(MIRA 15:12)

(Radio--Equipment and supplies)

(Electric relays) (Resins, Synthetic)

MOTORINA, N. N.

Chem

2

8000

Chromatographic study of complex formation by the liquid-column method. I. The absorption bands and the ionic-exchange isotherms of  $Co^{2+}$  and  $Fe^{2+}$  cations. S. Ye. Slovich and N. N. Motorina (Inst. Phys. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Fiz. Khim.* 39, 88-74 (1965).

The chromatographic separ. of Fe and Co with citric and oxalic acids, with use of the  $Fe^{59}$  and  $Co^{60}$  isotopes, was studied to investigate chromatographic separ. of 2 closely related substances. The separ. can be considered as consisting of cation diffusion to the adsorption site (outer and inner diffusion), the ionic-exchange adsorption, the formation and decompos. of complex ions in situ, at a given pH, and the ion movement in the column. The general equal principles of ionic exchange in stages is discussed, and the ionic adsorption isotherms of  $Co^{2+}-H^+$ ,  $Fe^{2+}-H^+$ , and  $Co^{2+}-NH_4^+$  were detd. The exchange consta. of  $Fe^{2+}$  and  $Co^{2+}$  for  $H^+$  are 1.41 and 1.66, resp., in agreement with the small differences in the ionic radii (4.81 and 4.80 Å).

W. M. Sternberg

PM

Motolina, N. N.

✓ Complex-formation chromatography with tagged atoms.  
 II. The physicochemical investigation of the citrate and oxalate complexes of iron(II) and cobalt(II) by the ion-exchange method. S. Yu. Elovich and N. N. Motolina (Inst. Phys. Chem., Acad. Sci. U.S.S.R., Moscow). Zhur. Fiz. Khim. 30, 383-90 (1956); cf. C.A. 50, 10470c. The instability consts. and acidolysis consts. of the  $Fe^{++}$  and  $Co^{++}$  citrate and oxalate complexes were detd. by use of  $Fe^{59}$  and  $Co^{60}$  isotopes. The compns. of the complexes in the pH range of 1.8-3.7 were established from the data on ion-exchange equil. and the acidolysis consts., by use of an org. resin contg.  $H_2SO_4$  as the functional group. The equil. consts. of  $(FeCit.)^{-}$ ,  $(CoCit.)^{-}$ ,  $FeC_2O_4(H_2O)_2$  and  $CoC_2O_4(H_2O)_2$  remain const. in the pH range investigated. The  $Fe(II)$  complexes were found to be more stable than the  $Co(II)$  complexes.

2

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chem

W. M. Sternberg

MOTORINA, V.V.

Vitamin B<sub>1</sub> metabolism and pyruvic acid in patients with various  
forms of tuberculosis. Sbor. trud. Uz. nauch.-issl. tub. inst.  
3:157-161 '57. (MIRA 14:5)  
(THIAMINE) (PYRUVIC ACID) (TUBERCULOSIS)

KHALILOV, A.G.; MOTORINA, V.V.

Vitamin B<sub>1</sub> metabolism in healthy subjects under the conditions of  
Tashkent in relation to the period of the year. Sbor. trud. Uz.  
nauch.-issl. tub. inst. 3:161-165 '57. (MIRA 14:5)  
(TASHKENT—THIAMINE) (PYRUVIC ACID)

MOTORINA, Z.M.

First All-Union Conference on the Geology and Metallogeny of the  
Pacific Ore Belt. Geokhimiia no. 3:279-280 '61. (MIRA 14:4)  
(Pacific Area—Ore deposits—Congresses)

NOTORKINA, R. K.

DECEASED

1964

ANALYTICAL CHEM.

c. '62



BELILOVSKIY, Ya.Ye.; MOTORKINA, Ye.G.

Refractometric method of determination of the amount of component  
in pharmaceutical preparations. Jt. de. o. 11 no. 5:64-66 1962.

1. Bryanskaya kontrol'no-analiticheskaya laboratoriya.

MOTOMA, T.

Utilize all resources to cut building costs. S11'. bud. 12  
no.5:19-20 My '62. (MIRA 16:4)

1. Kreditnyy inspektor Kirovogradskoy oblastnoy kontory  
Gosbanka SSSR.  
(Kirov Province—Farm buildings—Costs)

MOTORNA, T.

Let's make more effective use of capital investment in construction  
by collective farms. S11'. bud. 12 no.1:17-18 Ja '62.  
(MIRA 16:12)

1. Kreditnyy inspektor Kirovogradskoy oblastnoy kontory  
Gosbanka SSSR.

KUZHAKHMETOV, E.I.; MOTORNAYA, G.A.; ABDULIN, P.A.; FRIMBETOV, G.I.;  
FRIMBETOV, M.D.

Chloride sublimation as applied to processing from the Melayevska  
ore deposit. Izv. Akad. Nauk SSSR 14:66-74 '63.

(MIRA 16:9)

(Nonferrous metals--Metallurgy)  
(Sublimation (Physical sciences))

USSR/Farm Animals. - Swine

Q-5

Abstr Jour : Ref Zhur - Biol., No 6, 1958, No 26202

Author : Motornaya I.

Inst : ~~Not Given~~

Title : The Results of the Qualitative Evaluation of Swine of the  
Moldavian Black Breed Group for the year 1956 (Itogi bonitirovki  
svinoy Moldavskoy chernoy porodnoy gruppy za 1956 god)

Orig Pub : Zemledeliye i zhivotnovodstvo Moldavii, 1957, No 6, 42-44

Abstract : No abstract

Card : 1/1

MOTORNAYA, V.P.

Effectiveness of various methods of vaccination against tularemia.  
Zhur. mikrobiol., epid. i imm. 41 no. 2:43-48 F '64. (MIRA 17:9)

GOLDAEV, I.P.; POLEVICHEK, Ye.P.; POPOV, N.N.; MOTORNENKO, A.P.; SEROGODSKIY,

Thermal drilling of frozen grounds. *Biul. tekhn. ekon. inform.*  
no.9:9-11 '59. (MIRA 13:3)

(Boring--Cold weather operation)

GOLDA YEV, I.P., kand.tekhn.nauk; POLEVICHEK, Ye.P., inzh.; POPOV, M.N.,  
inzh.; MOTORHENKO, A.P., inzh.; SEROGODSKIY, A.V., inzh.

Using reaction burners in working frozen ground. Mekh.stroi.  
16 no.11:21-23 N '59. (MIRA 13:5)  
(Earthmoving machinery--Cold weather operation)



GOLDAEV, Ivan Prokhorovich; POLEVICHEK, Yevgeniy Pavlovich; POPOV, Nikolay Nikolayevich; MOTORNENKO, Aleksey Petrovich; SEROGODSKIY, Al'bert Viktorovich; YAKHONTOV, A.D., otv.red.; SMOLDYREV, A.Ye., red.izd-va; LOMILINA, L.N., tekhn.red.; SHELYAR, S.Ya., tekhn.red.

[Using thermal methods in working frozen ground] Razrabotka  
merzlykh gruntov termicheskim sposobom. Moskva, Gos.nauchno-tekhn.  
izd-vo lit-ry po gornomu delu, 1960. 46 p. (MIRA 13:4)  
(Frozen ground) (Boring)

GOLDAYEV, I.P., kand.tekhn.nauk, inzh.; KOTCHENKO, A.P., inzh.

Thermal method of boring holes in frozen ground. Strof. 1  
dor. mash. 6 no.10:27-29 G '61. (MIRA 14:10)  
(Boring machinery)  
(Frozen ground)

MOTORNENKO, A.

"Fire" boring in frozen ground. Stroitel' 9 no.2:3-4,9  
F '63. (Boring machinery) (Frozen ground) (MIRA 16:2)

L 12900-65 EWT(1)/EWG(k)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/EWA(m)-2 Pz-6  
 Po-11/Pab-10/P1-4 IJP(c)/AFWL/AEDC(a)/SSD/AS(mp)-2/ESD/ESD(gs)/ESD(t) AT  
 ACCESSION NR: AP4047185 8/0051/64/017/004/0628/0630

AUTHORS: Motornenko, A. P.; Truten', I. D.

TITLE: On certain features of a microwave gas discharge *pl*

SOURCE: Optika i spektroskopiya, v. 17, no. 4, 1964, 628-630

TOPIC TAGS: gas discharge, microwave spectroscopy, spectrum emission analysis, excitation potential

ABSTRACT: The purpose of this paper is to report on some comparisons of the optical emission spectra of a discharge in the millimeter wavelength band with spectra obtained in direct current and in the meter band. The experimental set-up was as follows: the direct voltage and the high-frequency voltage (25 Mcs) or the microwave voltage (45 Gc, pulsed mode) were applied to a discharge tube, the discharge was ignited, and the emission of the latter was analyzed with the aid of an ISP-28 quartz spectrograph. Several discharge

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B

L 12900-65

ACCESSION NR: AP4047185

lamps filled with mercury, neon, and hydrogen were used. The integral intensity of the discharge radiation striking the spectrograph slit was maintained approximately constant by monitoring with a photoresistance. The results showed no difference between the DC and high-frequency spectra, but excitation of the gas discharge with a microwave electromagnetic field results in preferred excitation of the spectral lines with higher excitation potential. The spectral lines with lower excitation potential have at microwave frequencies lower intensities than with direct current. It is suggested that the choice of frequency may be useful in controlling the intensity of a given section of the spectrum. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 13Jan64

ENCL: 00

SUB CODE: OP

NR REF SOV: 003

OTHER: 003

Card 2/2

MOTORNENKO, A.P.

Some optical properties of a super-high frequency gas discharge.  
Opt. i spektr. 18 no.6:1074-1076 Je '65. (MIRA 1:1)

MOTORNIK, M.

Heat treatment using high-frequency current for surface hardening in producing spare parts for the M-20 Warszawa automobile. p. 46. (TECHNIKA MOTORYZACYJNA, Vol. 4, No. 2, Feb. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

PREDEL', A.R.; BISKER, I.M.; MOTORNYI, I.A.; KRASIL'SHCHIKOV, A.M.;  
KORENCHIEVSKAYA, G.A.

Blood-sucking Diptera of the subfamily Culicinae in the Moldavian  
S.S.R. and neighboring districts in the Ukraine. Med.paraz. i paraz.  
bol.supplement to no.1:56-57 '57. (MIRA 10:1)

1. Iz Odesskogo universiteta imeni Mechnikova i Moldavskoy respubli-  
kanskoy protivomalyariynoy stantsii.  
(MOLDAVIA--MOSQUITOES) (UKRAINE--MOSQUITOES)



MOTORNYY, I. A.

BISKER, I.M., MOTORNYY, I.A., KRASIL'SHCHIKOV, A.M., BASYUL, N.K.

Effect of low temperatures on the quality of concentrated emulsions of DDT and benzene hexachloride. I.M. Bisker and others. Med. paraz. i paraz. bol. 27 no.2:228 Mr-Apr '58 (MIRA 11:5)

1. Iz Respublikanskoy protivomalyariynoy stantsii Moldavskoy SSR (glavnyy vrach I.M. Bisker)  
(INSECTICIDES)

BLANK, Ya.P.; MOTORNYI, L.T.

Translation surfaces of an elliptic space carrying two  
translation nets. *Usp.mat.nauk* 19 no. 1:139-142 Ja-3  
'64. (MIRA 17:6)

BLANK, Ya.P.; MOTORNYI, L.T.

W. Blaschke's problem concerning quasi-translation surfaces.  
Dokl. AN SSSR 160 no. 2. 1231-1238. 1964.

(Ukrainian)

1. Khark'kovskiy gosudarstvennyy universitet im. S.M. Vor'zhogo.  
Submitted September 30, 1964.



DOBRIH, H.; MOTORNYI, O.

The millionaire. Znan.ta pratsia no.3:23 Nr '60.  
(MIRA 13:6)  
(Construction industry--Technological innovations)

*MOTORNY, S.P.*

YAROVENKO, N.N.; MOTORNY, S.P.; KIRENSKAYA, L.I.; VASIL'YEVA, A.S.

Reaction of halide anhydrides of fluorinated carboxylic and  
thiocarboxylic acids with sodium azides. Zhur. ob. khim. 27  
no.8:2243-2246 Ag '57. (MLRA 10:9)  
(Sodium azide) (Acids, Fatty)

*MOTORNYI S.P.*  
YAROVENKO, N.N.; MOTORNYI, S.P.; KIRENSKAYA, L.I.

Formation of difluoroketene and its ploymer. Zhur.ob.khim. 27  
no.10:2796-2799 0 '57. (MIRA 11:4)  
(Ketene) (Polymerization)

YAROVENKO, M.M.; MOTORNYI, S.P.

Preparation of N-trifluoromethylthiocarbamic acid esters. Zbir.ob.  
khim. 28 no.9:2504-2505 S '58. (MIRA 11:11)  
(Carbamic acid)



DUKEL'SKAYA, N.M.; ZOLOTAREV, Ye.Kh.; MOTORNYI, S.P.

Use of ethylene fluorohydrin in simultaneous control of rodents  
and their ectoparasites. Vest.Mosk.un.Ser.biol., pochv., geol.,  
geog. 14 no.1:65-71 '59. (MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet, Kompleksnaya zoologo-  
etnomologicheskaya laboratoriya.  
(Rodenticides) (Insecticides) (Fluorine organic compounds)

5(3)  
AUTHORS:SOV/79-29-7-12/83  
Motornyy, S. P., Kirenskaya, L. I., Yarovenko, K. N.

TITLE:

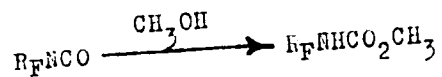
New N-Trifluoromethyl Carbaminates  
(Novyye efiry N-triflormetilkarbaminovoy kisloty)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2157-2159 (USSR)

ABSTRACT:

According to data from publications fluorinated alkyl isocyanates show a high reactivity (Ref 1). They enter especially easily reaction with alcohols and phenols to form esters of N-perfluoro alkyl carbamic acid, e.g.



In papers published earlier by the authors (Ref 2) the reactions of trifluoromethyl isocyanate with halogen hydracid and mercaptans were described. Since the investigation of the chemical properties of alkyl isocyanates and their fluorinated derivatives is of certain interest, the present paper deals with the synthesis of some new N-trifluoromethyl carbaminates. The constants and analytical data of the new compounds are tabulated.

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New N-Trifluoromethyl Carbamates

SOV/79-29-7-12/83

Trifluoromethyl isocyanate reacts with normal alcohols under strong heating. For this reason the reaction of the equimolecular amounts of trifluoromethyl isocyanate and alcohol was carried out in a closed glass ampoule with intense cooling. Yields were 55 to (in individual cases) 70-85 %. More details are given in the experimental part. There are 1 table and 2 Soviet references.

SUBMITTED: June 6, 1958

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SOV/79-29-7-14/83

## AUTHORS:

Yarovenko, N. N., Motornyy, S. P., Vasil'yeva, A. S.,  
Gershzon, T. P.

## TITLE:

Difluoro Chloromethyl Sulphene Chloride  
(Diftorkhlormetilsul'fenkhlord)

## PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2163-2165 (USSR)

## ABSTRACT:

The purpose of the present paper was the synthesis of the above compound. In contrast to trichloro methyl sulphene chloride, the product of its reaction with diethyl amine, trichloro methyl-(N-diethyl)-sulphene amide, reacts with antimony trifluoride in the presence of small amounts of  $SbCl_5$ , without separation of the C-S bond, to form fluorodichloro-, difluorochloro-, and probably trifluoromethyl-(N-diethyl)-sulphene amides. In this connection heating and its duration play an important part. Below  $65^\circ$  practically only fluoro dichloromethyl-(N-diethyl)-sulphene amide is formed. At  $67^\circ$  and after heating during 1 1/2 hours difluoro chloromethyl-(N-diethyl)-sulphene amide (25 %) is formed in the mixture with fluoro dichloro- and trichloro methyl-(N-diethyl)-sulphene amide. Since difluoro chloromethyl-(N-diethyl)-sulphene amide is very unstable, it is not necessary

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Difluoro Chloromethyl Sulphene Chloride

SOV/72-29-7-14/83

to separate it from the reaction mass. The liquid must only be separated from the solid, resinous reaction products and then saturated with dry HCl (Ref 4)(Scheme 3). The thus obtained mixture of trichloro-, difluoro chloro-, and fluorodichloro methyl sulphene chloride may easily be separated by distillation in a column. The effect of temperature and the duration of heating on the yield of difluorochloro- and fluorodichloromethyl sulphene chlorides may be seen from a table. There are 1 table and 4 references, 1 of which is Soviet.

SUBMITTED: June 6, 1958

Card 2/2

YAROVENKO, H.N.; MOTORNYI, S.P.

Methods of synthesizing fluorine analogues of dichloroformoxime.  
Zhur. ob khim. 30 no.12:4066-4069 D '60. (MIRA 13:12)  
(Formaldehyde)

MOTORNY, S.P.

New method of preparing N-perfluoroalkyl-N-methyl carbamates.  
Zhur.ob.khim. 33 no.10:3391-3392 0 '63. (MIRA 16.11)

MOTCRNYY, V. I., Engineer

"Investigation of Factors Affecting the Operation of Crank-Connecting Rod (Sliding) Bearings of Internal Combustion Engines. Sub 25 Jun 51, All-Union Correspondence Polytechnic Inst, Ministry of High Education USSR

Dissertations presented for science and engineering degrees in Moscow during 1951.

SC: Sum. No. 420, 9 May 55



MOTORNYI, V.P.

Best approximation of functions of two variables by function  
of the type  $\varphi(x) + \psi(y)$ . Izv. AN SSSR. Ser. mat. 27 no.6:1210-  
1214 N-D '63. (MIRA 17:1)

MOTCRNYY, V.Ye.

Manufacture of prestressed keramzit concrete slabs.

Transp. stroi. ll no.7:31-32 J1 '61.

(MIRA 14:7)

1. Glavnyy inzh. zavoda "Stroydetal'" tresta Sevkvatransstroy.  
(Lightweight concrete) (Prestressed concrete)

MOTORNY, V.Ye.

Insulated prestressed keramzit concrete slabs. Transp. stroi.  
12 no.8:49-50 Ag '62. (MIRA 15:9)

1. Glavnyy inzh. Krasnodarskogo zavoda "Stroydetal'" tresta  
Sevkavtransstroy.  
(Lightweight concrete) (Concrete slabs)

KOZYREV, V. Z.; MOTORNYI, V. Ye.

Manufacture of foundations for metal contact network poles.  
Transp. stroi. 13 no.3:11-12 Mr '63. (MIRA 16:4)

1. Direktor Krasnodarskogo zavoda Sevkavtransstroya (for Kozyrev).
2. Glavny inzhener Krasnodarskogo zavoda Sevkavtransstroya (for Motornyy).

(Foundations) (Precast concrete)

ACC NR: AF7000794

(A,N)

SOURCE CODE: UR/0089/66/021/05/0305/0385

AUTHOR: Mitenkov, F. M.; Motorov, B. I.; Motorova, E. A.

ORG: none

TITLE: Simplest mathematical model for the investigation of the dynamics of water-water reactors in the self-regulation regime

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 385

TOPIC TAGS: nuclear reactor control, nuclear reactor characteristic, mathematic model, reactor neutron flux, kinetic equation

ABSTRACT: This is a summary of article no. 111/3464, submitted to the journal and filed but not published in full. A mathematical model is derived for the investigation of the stability of an isolated reactor in the self-regulation regime. This model can be used to investigate the dynamics of the reactor at sufficiently high frequencies, since the time constants characterizing the processes of heat exchange in the active zone are as a rule much smaller than the period of the circulation of the coolant. To prove the validity of this model, the influence of various factors is analyzed, namely the presence of spaces between the channels, the different number of groups of delayed neutrons, the lifetimes of the prompt neutrons, the distribution of the parameters along the length of the channel, the temperature effect of reactivity of the fuel, the nonlinearity of the kinetic equations, and the thermal inertia of the fuel element cladding. The effects of the different factors are discussed briefly individually. Orig. art. has: 1 formula.

Card 1/1

SUB CODE: 18/

SUBM DATE: 24Sep65

UDC: 621.039.514

ACC NR: AP7006794

(A,N)

SOURCE CODE: UR/0089/66/022 5/0305/0385

AUTHOR: Mitenkov, F. M.; Motorov, B. I.; Motorova, E. A.

ORG: none

TITLE: Simplest mathematical model for the investigation of the dynamic of water-water reactors in the self-regulation regime

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 385

TOPIC TAGS: nuclear reactor control, nuclear reactor characteristic, automatic model, reactor neutron flux, kinetic equation

ABSTRACT: This is a summary of article no. 111/3464, submitted to the journal and filed but not published in full. A mathematical model is derived for the investigation of the stability of an isolated reactor in the self-regulation regime. This model can be used to investigate the dynamics of the reactor at sufficiently high frequencies, since the time constants characterizing the processes of heat exchange in the active zone are as a rule much smaller than the period of the circulation of the coolant. To prove the validity of this model, the influence of various factors is analyzed, namely the presence of spaces between the channels, the different number of groups of delayed neutrons, the lifetimes of the prompt neutrons, the distribution of the parameters along the length of the channel, the temperature effect of reactivity of the fuel, the nonlinearity of the kinetic equations, and the thermal inertia of the fuel element cladding. The effects of the different factors are discussed briefly individually. Orig. art. has: 1 formula.

Card 1/1 SUB CODE: 18/ SUBM DATE: 24Sep65

UDC: 621.039.514

MOTOROVA, Ye., snenny master; ALDUKHOVA, A., brakovshchitsa; IL'YUKHINA, V.,  
brakovshchitsa

You're in the wrong, Linda! Rabotnitsa 37 no.2:11 F '59.

(MIRA 12:3)

1. Karvol'nyy kombinat, g. Bryansk.  
(Women--Employment)

L 21143-66 EWT(m)/EWP(j)/T/EWA(h)/EWA(l) FM  
ACC NR: AP6003503

SOURCE CODE: UR/0364/66/002/001/0117/0122

AUTHOR: Silin', E. A.; Motorykina, V. P.; Shmit, I. K.; Geyderikh, M. A.; Davydov,  
B. E.; Krentsel', B. A. 33

ORG: Latvian State University (Latviyski- gosudarstvennyy universitet); Institute  
of Petrochemical Synthesis, Academy of Sciences SSSR (Institut neftekhimicheskogo  
sinteza Akademii nauk SSSR)

TITLE: Structural changes in polyacrylonitrile during infrared irradiation 15

SOURCE: Elektrokhimiya, v. 2, no. 1, 1966, 117-122

TOPIC TAGS: polyacrylonitrile, IR absorption spectrum, electron spectrum

ABSTRACT: The purpose of this investigation was to study the effect of intense radiation on polyacrylonitrile. The selective interaction of radiation on the vibrational energy of individual groups of polyacrylonitrile molecules was assumed. The use of a concentrated IR beam was used to obtain a polyacrylonitrile film with treated sections of a given geometric configuration and degree of conversion. Polyacrylonitrile film was obtained by redox initiation with an average molecular

Card 1/3

UDC: 621.315.592 : 547



L 21143-66

ACC NR: AP6003503

weight of 23000-36000. The films were prepared from 3% polyacrylonitrile solution in dimethylformamide and kept in vacuum to a constant weight. The film thickness was 8-12 microns. The films were irradiated in  $10^{-5}$ - $10^{-6}$  mm pressure chamber through a quartz window about 100 mm from the light source. The spectra of irradiated samples were obtained in air at room temperature. Electronic absorption spectra were taken on an SF-4 spectrophotometer and vibrational spectra were taken on an IKS-14 spectrophotometer. It was found that infrared irradiation produces significant changes in the vibrational absorption spectra of polyacrylonitrile. The IR irradiation increases the mobility of hydrogen in tertiary carbon and facilitates its migration to the nitrile group,  $>C=NH$ , which, in turn, produces intermolecular cross-linking. The hydrogen band is formed between the  $>C=NH$  group and the neighboring nitrile group. This scheme is supported by the appearance of the diffuse absorption band, shifted toward the  $3.45 \text{ cm}^{-1}$  region, which is assigned to the valence vibrations of the  $>N-H...N=C$ -group. Electronic spectra also indicate the formation of polyunsaturated bonds. The comparison of the vibration absorption spectra of polyacrylonitrile upon thermal treatment with those of the same material irradiated with IR show that both in their initial and subsequent stages, the conversion process during IR irradiation differs from the conversions which take place during thermal treatment. Conversion of polyacrylonitrile during IR irradiation

Card 2/3

L 21143-66

ACC NR: AP6003503

proceeds by the self-accelerating reaction scheme, the rate of which is significantly higher than during thermal treatment. A. E. Krumin participated in the experimental part of this work. Orig. art. has: 3 figures.

SUB CODE: 07/

SUBM DATE: 27Apr65/

ORIG REF: 008/

OTH REF: 012

Card 3/3

*U R*

MOTORPAL, N. P.

Journal of Applied Chemistry  
April 1954  
Chemical Engineering and  
Electrochemical.

✓ Hydraulic centrifugal regulator. Motorpal, N. P. and V. Stritzko  
(B.P. 696,791, 31.7.51. Czech., 28.50).—A regulator for the  
control of injection pumps for Diesel engines is claimed.  
O. POTTER.

SILIN', E.A. [Silins, E.]; MOTORYKINA, V.P.; SHMIT, I.K. [Smits, I.];  
GEYDERIKH, M.A.; DAVYDOV, B.E.; KRENTSEL', B.A.

Structural transformations of polyacrylonitrile under the effect  
of infrared irradiation. *Elektrokhimiya* 2 no.1:117-122 Ja '66.  
(MIRA 19:1)

1. Latviyskiy gosudarstvennyy universitet i Institut neftekhimi-  
cheskogo sinteza AN SSSR, Moskva. Submitted April 27, 1965.

L 20590-66 ENT(\*) DIAAP  
ACC NR: AP6012006

SOURCE CODE: CZ/0038/65/000/012/0441/0447

AUTHOR: Behounek, Frantisek--Bogounek, F.; Motouskova, Jirina--Matoushkova, Y.  
ORG: Behounek Department of Technical and Nuclear Physics, CVUT, Prague;

28  
B

TITLE: Analysis of induced atmospheric radioactivity

SOURCE: Jaderna energie, no. 12, 1965, 441-447

19

TOPIC TAGS: atmospheric radioactivity, nuclear weapon burst, radioactive fallout

ABSTRACT: The radioactivity arising in the atmosphere after nuclear weapon tests is of complex nature and may be divided into a short-lived component containing nuclides with  $T \leq 1$  year, and into a long-lived component formed essentially from two nuclides ( $^{90}\text{Sr}$  and  $^{137}\text{Cs}$ ) with the half lives of 28 and 30 years, respectively. The short-lived component forms the main part of total activity of atmospheric fall-out for several years and is decisive in increased radiation background for populations. The long-lived component is important in the food chain and its quantitative evaluation is difficult. On the basis of long-term analyses criteria for precise evaluation of atmospheric fallout activity are discussed. Orig. art. has: 3 figures and 3 tables. [NA]

SUB CODE: 18, 04 / SUBM DATE: none / ORIG REF: 012 / OTH REF: 013

Card 1/1 BK

UDC: 661.039.766: 614.73: 623.45

MOTOV, A.V.; ZABELKIN, A.D.

Reorganization of the outside **pneumatic tube transportation**  
between factory buildings. Der.prom. 10 no.6:21-22 Je '61.  
(MIRA 14:7)

1. Moskovskiy mebel'no-sbornochnyy kombinat No.2.  
(Moscow--Furniture industry) (Pneumatic--Tube transportation)

*MOTOV* *D* *L*

Reversible oxygen electrode on mercury in alkaline solutions and the mechanism for the cathode reduction of oxygen. V. S. Bagotskii and D. L. Motov (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 171: 601-4 (1950). --The cathode reduction of O was studied polarographically in acetic, basic, and neutral solutions to determine its kinetic characteristics. The dropping electrode was polarized with respect to the auxiliary calomel or mercuric oxide (in basic solution) electrode. The kinetic mixture and the mechanism of this reaction were different in acetic and in basic solutions. The data indicated that the reduction of O was reversible in alk. soln. A quantitative expression was developed. I. Rovnar Leach

SOV/137-57-11-21030 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 58 (USSR)

AUTHOR: Motov, D.L.

TITLE: A Study of the System  $\text{TiO}_2\text{-H}_2\text{SO}_4(\text{NH}_4)_2\text{SO}_4\text{-H}_2\text{O}$  in Connection with the Problem of the Treatment of the Titanium Niobates of the Kola Peninsula (Izucheniye sistemy  $\text{TiO}_2\text{-H}_2\text{SO}_4(\text{NH}_4)_2\text{SO}_4\text{-H}_2\text{O}$  v svyazi s problemoy pererabotki titano-niobatov Kol'skogo poluostrova)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Candidate of Chemical Sciences, presented to the In-t obshch. i neorgan. khimii, AN SSSR (Institute of General and Inorganic Chemistry, USSR Academy of Sciences), Moscow, 1957

ASSOCIATION: In-t obshch. i neorgan. khimii, AN SSSR (Institute of General and Inorganic Chemistry, USSR Academy of Sciences), Moscow

Card 1/1



MOTOV, D.L.

Solubility in the ternary system  $\text{TiOSO}_4$  --  $(\text{NH}_4)_2\text{SO}_4$  --  $\text{H}_2\text{O}$   
at 20°. Zhur. neorg. khim. ? no.11:2661-2667 N '57. (MIRA 11.3)  
(Solubility) (Titanyl sulfate)  
(Ammonium sulfate)

KOTOV, D.L.

Investigating the quaternary system  $TiO_2$  --  $H_2SO_4$  --  $(NH_4)_2SO_4$  --  
 $H_2O$  by the solubility method (isotherm  $20^\circ$ ). *Zhur. neorg. khim.* 2  
no.12:2797-2806 D '57. (MIRA 11:2)

1. Kol'skiy filial im. S.M. Kirova AN SSSR.  
(Titanium oxides) (Sulfuric acid) (Ammonium sulfate)

SOV/137-59-5-9618

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 20 (USSR)

AUTHOR: Motov, D.L.

TITLE: Investigation Into the  $TiO_2 - H_2SO_4 - (NH_4)_2SO_4 - H_2O$  Quaternary System by the Method of Solubility ( $0^\circ$ ,  $40^\circ$  and  $80^\circ C$  Isotherms).

PERIODICAL: Izv. Karel'sk. i Kol'sk. fil. AS USSR, 1958, Nr 3, pp 139-151

ABSTRACT: In connection with the titanyl-ammonium method of complex sulfate processing of titanium niobates from the Kola Peninsula, the author investigated the isotherms of solubility of the  $TiO_2 - H_2SO_4 - (NH_4)_2SO_4 - H_2O$  quaternary system at  $0^\circ$ ,  $40^\circ$  and  $80^\circ C$ . It was established that titanyl and ammonium bisulfate, crystallizing in this system in the form of monohydrate  $(NH_4)_2 TiO(SO_4)_2 \cdot H_2O$  (I) and in the form of anhydrous salt  $(NH_4)_2 TiO(SO_4)_2$  (II), was equiponderant to the saturated solution within a wide range of concentrations and temperatures. The saturation surface has the shape of a hill. Raising temperatures after crystallization cause

Card 1/2

SOV/137-59-5-9618

Investigation Into the  $TiO_2-H_2SO_4-(NH_4)_2SO_4-H_2O$  Quarternary System by the  
Method of Solubility ( $0^\circ$ ,  $40^\circ$  and  $80^\circ C$  Isotherms)

expansion of II to the  $TiOSO_4 - (NH_4)_2SO_4$  line of the  $TiOSO_4-H_2SO_4-(NH_4)_2SO_4$   
triangle at the expense of the reduction in the range of stability of I.  
At  $80^\circ C$  I does not crystallize at all. There is also a crystallization  
field of  $TiO_2$  gel in the system, which expands at elevated temperatures on  
account of intensified hydrolysis processes.

A. Sh.

Card 2/2

MOTOV, D.L

5(2)

PHASE I BOOK EXPLOITATION

SOV/2015

Akademiya nauk SSSR. Kol'skiy filial

Sbornik trudov po khimicheskoy tekhnologii mineral'nogo syr'ya Kol'skogo poluostrova, vyp. 1 (Collection of Works on Chemical Technology of Minerals of the Kola Peninsula, Nr 1) Moscow, Izd-vo AN SSSR, 1959. 221 p. 1,200 copies printed. Errata slip inserted.

Resp. Ed.: B.N. Melent'yev, Candidate of Geological and Mineralogical Sciences;  
Ed. of Publishing House: B.M. Markus; Tech. Ed.: E. Yu. Bleykh.

**PURPOSE:** The book is intended for scientists and technicians concerned with the extraction of tantalum, niobium, and rare metals.

**COVERAGE:** The book deals with a study of a complex treatment of the perovskite and sphene concentrates. The first three articles cover methods of extraction of titanium dioxide from the perovskite concentrate with side recovery of niobium, tantalum, and rare earths. The treatment of sphene concentrate is discussed in two articles. The separation of titanium, niobium, and tantalum is described in a separate article. The problem of selecting an efficient

Card 1/3

## Collection of Works on Chemical (Cont.)

SOV/2015

technological procedure is discussed in the last article. No personalities are mentioned. There are 31 references: 25 Soviet, 3 English, and 3 German.

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Card 2/3

## Collection of Works on Chemical (Cont.)

SOV/2015

- Goroshchenko, Ya.G., D.L. Motov, and G.V. Trofimov. Large Scale Laboratory Experiments on Fusion of Sphene Concentrate With Ammonium Sulfate and Sulfuric Acid 79
- Motov, D.L. Study of the System  $TiO_2 - H_2SO_4 - (NH_4)_2SO_4 - H_2O$  by Dissolution in the Aqueous Solution Region 101
- Goroshchenko, Ya.G., and M.I. Andreyeva. Extraction of Niobium and Tantalum From Intermediate Products Obtained During the Processing of Loparite, Perovskite, and Sphene 129
- Goroshchenko, Ya.G., V.I. Belokoskov, Yu.A. Fomin, and D.L. Motov. The Problem of Selecting a Scheme for Industrial Process for the Production of Titanium Pigments From Perovskite Concentrate With Side Recovery of Rare Metals 148

AVAILABLE: Library of Congress

Card 3/3

TM/fnl  
8-3-59

GOROSHCHENKO, Ya.G.; ~~\_\_\_\_\_~~ MOTOV, D.L.; TROFIMOV, G.V.

Laboratory experiments on the processing of sphene concentrate  
by fusion with ammonium sulfate and sulfuric acid. Sbor.trudov  
po khim.tekhnol.min.syr'ia Kol'.polnos. no.1:67-78 '59.

(MIRA 12:5)

(Sphene)

(Ammonium sulfate)

(Sulfuric acid)



GOROSHCHENKO, Ya.G.; MOTOV, D.L.; TROFIMOV, G.V.

Extended laboratory experiments on the fusion of sphene  
concentrate with ammonium sulfate and sulfuric acid. Sbor.  
trudov po khim.tekhnol.min.syr'ia Kol'.poluos. no.1:79-100  
'59. (MIRA 12:5)

(Sphene)

(Titanium oxides)

(Niobium)

S/081/60/000/013(I)/001/014  
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 13 (I), p. 57,  
# 51134

AUTHOR: Motov, D. L.

TITLE: Investigation of the  $TiO_2$ - $H_2SO_4$  -  $(NH_4)_2SO_4$ - $H_2O$  System by the  
Method of Solubility Within the Range of Aqueous Solutions

PERIODICAL: Sb. tr. po khim. tekhnol. mineral'n. syr'ya Kol'sk. poluastroya,  
No. 1. Moscow-Leningrad, AN SSSR, 1959, pp. 101-128

TEXT: The author investigated the  $TiO_2$ - $H_2SO_4$ - $(NH_4)_2SO_4$ - $H_2O$  system by the  
solubility method at 0, 20, 40 and 80°C in the  $H_2SO_4$ - $TiOSO_4$ - $(NH_4)_2SO_4$  range.  
Within the wide range of temperatures and concentrations dehydrated  $(NH_4)_2TiO(SO_4)_2$   
in the form of two crystalline modifications or the monohydrate of this salt  
crystallize in the system. The author determined the composition of the solid  
phases of the system and outlined their crystallization fields. The X-ray,  
crystal-optic and thermographic methods were used to determine the solid phases. ✓

Ye. Banashek

Translator's note: This is the full translation of the original Russian abstract.  
Card 1/1

GOROSHCHENKO, Ya.G.; BELOKOSKOV, V.I.; FOMIN, Yu.A.; MOTOV, D.L.

Selecting the industrial layout for the production of titanium pigments from perovskite concentrate with a side recovery of rare metals. Sbor.trudov po khim.tekhnol.min.syr'ia Kol'.  
poluos. no.1:148-221 '59. (MIRA 12:5)  
(Titanium) (Rare earth metals)

GOROSHCHENKO, Ya.G.; MOTOV, D.L.; TROFIMOV, G.V.; BELOKOSKOV, V.I.

Testing a continuous method for the sulfuric acid decomposition of titanium-niobium concentrates. Izv.Kar.i Kol .fil.  
AN SSSR no.4:135-141 '59. (MIRA 13:5)

1. Laboratoriya khimicheskoy tekhnologii Kol'skogo filiala AN SSSR.

(Sulfuric acid) (Titanium-niobium ores)

5(2)

SOV/78-4-9-16/44

AUTHOR:

Motov, D. L.

TITLE:

The Investigation of Titanyl Ammonium-bisulphates

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2026-2033  
(USSR)

ABSTRACT:

Two forms of titanium bisulphates exist: 1.  $\text{Me}_2[\text{Ti}(\text{SO}_4)_3]$  and 2.  $\text{Me}[\text{TiO}(\text{SO}_4)_2]$ . Salts of the second kind (titanyl salts) were investigated. They form stable double salts only with monovalent cations and are of importance for the separation of titanium from niobium and tantalum in industry. The determination of the chemical composition, optical properties of the crystals, as well as the X-ray analysis of the structure of the ammonium salt  $(\text{NH}_4)_2\text{TiO}(\text{SO}_4)_2 \cdot \text{H}_2\text{O}$  have been described in an earlier report by the author (Ref 15). Here the behaviour of the salt on heating, the tensimetric analysis according to a method described by A. G. Bergman (Ref 18) and the solubility diagram are reported on. Weight lost on heating (Fig 1) was determined by means of a torsion balance, the thermogram (Fig 2) by means of the pyrometer by N. S. Kurnakov. Table 1 gives the analysis of products

Card 1/3

## The Investigation of Titanyl Ammonium-bisulphates

SOV/78-4-9-16/44

obtained at 350, 400, 450, and 500°. Bound water is lost between 180 and 210°, ammonium sulphate sublimates above 300°, and  $(\text{NH}_4)_2\text{S}_2\text{O}_7 \cdot 6\text{TiSO}_4$  is formed. Pure titanyl sulphate was not found, as this begins to decompose at 500°. Above 600° decomposition to  $\text{TiO}_2$  is complete. Figures 3 and 4 show a similar curve for the loss in weight, and the thermogram of anhydrous ammonium titanyl bisulphate. The only difference is the lack of a loss in weight between 180 and 210° by evolution of water. The results of the tensimetric analysis between 20 and 80° are given in tables 2, 3 and figures 7, 8. Not even drying over 96% sulphuric acid yields pure monohydrate  $(\text{NH}_4)\text{TiO}(\text{SO}_4)_2 \cdot \text{H}_2\text{O}$ , as it obstinately retains excess water. Figure 9 gives the vapor pressure diagram drawn by means of these data. The solubility diagram (Fig 10) was obtained by plotting the cooling curve of the aqueous solution. It consists of two branches, one corresponding to the

Card 2/3

The Investigation of Titanyl Ammonium-bisulphates

SOV/78-4-9-16/44

crystallization of ice, the other to the solubility of the monohydrate. The eutectic point lies at 29.0 % by weight  $(\text{NH}_4)\text{TiO}(\text{SO}_4)_2$  and  $-10.6^\circ$ . There are 10 figures, 3 tables, and 20 references, 10 of which are Soviet.

ASSOCIATION: Kol'skiy filial Akademii nauk SSSR (Kola Branch of the Academy of Sciences, USSR)

SUBMITTED: June 10, 1957

Card 3/3

GOROSHCHENKO, Ya.G.; MOTOV, D.L.; TROFIMOV, G.V.

Studying the rapidity of revealing by sulfuric acid of loparite,  
perovskite and sphene concentrates. Tsvet. met 33 no. 12:38-42  
D '60. (MIRA 13:12)

(Nonferrous metals)

(Ore dressing)



S/149/62/000/006/005/008  
A006/A101

AUTHORS: Motov, D. L., Leshtayeva, T. G.

TITLE: Extraction method of separating zirconium and hafnium with cyclohexanone from sulfuric acid solutions

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 6, 1962, 113 - 121

TEXT: The extraction was performed by shaking a sulfuric acid solution with an equal volume of cyclohexanone in a glass separating-funnel during 3 min. Ten minutes later samples were taken off. The distribution of Zr and Hf was determined by using radioactive Hf<sup>181</sup> and Zr<sup>95</sup> isotopes. To contaminate the operational solutions, sulfuric acid solutions of radioactive isotopes were used; the calculated activity was 5,000 - 15,000 pulses/min.ml. Moreover, Zr distribution was determined by the gravimetric method and the Hf content by quantitative spectral analysis. The experiments were made with a solution containing 23.6 g/l ZrO<sub>2</sub> and 100 g/l H<sub>2</sub>SO<sub>4</sub>. It was found that without the introduction of complex-forming additional agents cyclohexanone does not extract either hafnium or zirconium.

Card 1/3

Extraction method of separating zirconium and...

S/149/62/000/006/005/008  
A006/A101

Of a series of tested inorganic and organic compounds, satisfactory results in extracting Hf into cyclohexanone and separating Zr and Hf were obtained with rhodanides, in particular with ammonia rhodanide. Regularities were revealed of extracting Hf and Zr with cyclohexanone from sulfuric acid solutions in the presence of rhodanide, depending on the content of  $ZrO_2 + HfO_2$ ,  $H_2SO_4$ ,  $(NH_4)_2SO_4$ , and upon a varying ratio between the aqueous ( $V_w$ ) and organic ( $V_o$ ) phases. (from 1:0.05 to 1:10). It was established that at 400 g/l  $NH_4CSN$  and more, 100 - 200 g/l  $H_2SO_4$  acidity of the solution, up to 100 g/l  $ZrO_2 + HfO_2$  content, and  $V_w:V_o = 1:1$ , the degree of extracting Hf into the organic phase was 95 - 97.5%, the factors of separating Zr and Hf being between 60 - 140. The cyclic ketone, i.e. cyclohexanone in the presence of rhodanide-ion, is an exclusively specific and efficient extracting agent for separating Zr and Hf. The method can be used to obtain pure zirconium and hafnium concentrates. There are 6 tables and 4 figures.

Card 2/3

Extraction method of separating zirconium and...

S/149/62/000/006/005/008  
M006/A101

ASSOCIATION: Institut khimii i tekhnologii redkikh elementov i mineral'nogo  
syr'ya Kol'skogo filiala AN SSSR (Institute of Chemistry and  
Techniques of Rare Elements and Crude Minerals at the Kola Branch  
of AS USSR)

SUBMITTED: May 9, 1961

Card 3/3

S/149/63/000/001/006/008  
A006/A101AUTHORS: Motov, D. L., Leshtayeva, T. G.

TITLE: On the separation of zirconium and hafnium rhodanide complexes by extraction with cyclohexane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 1, 1963, 121 - 128

TEXT: The authors studied the distribution of  $\text{CNS}^-$ ,  $\text{HCNS}$ ,  $\text{NH}_4\text{CNS}$  and  $(\text{NH}_4)_2\text{SO}_4$  between the aqueous and cyclohexane phases with both pure solutions of  $\text{NH}_4\text{CNS}$ ,  $\text{HCNS}$ ,  $\text{H}_2\text{SO}_4 + \text{NH}_4\text{CNS}$ , and zirconium-containing solutions, subjected to extraction refining by cyclohexane with the use of rhodanide as a complex-forming additive. They revealed the interrelation of zirconium and hafnium extraction and the distribution of rhodanide, as a complex-forming additive, between the aqueous and cyclohexane phase. It was found that the extracted rhodanide complex of hafnium includes rhodanic acid and a non-acid rhodanide ion. The ammonium rhodanide and rhodanic acid, contained in the aqueous phase, participate in the formation of this complex and act simultaneously as its salting-out agent.

Card 1/2

On the separation of...

S/149/63/000/001/006/008  
A006/A101

The authors studied, moreover, the behavior of the basic zirconium impurities, namely iron and titanium, in extraction-separation of zirconium and hafnium by cyclohexane. It was established that during extraction by cyclohexane in the presence of rhodanide, simultaneous refining of zirconium from titanium and iron takes place; extraction of iron and titanium rhodanide complexes by cyclohexane may be used as a basis for efficient technological methods of refining solutions from these metallic impurities. There are 4 tables and 3 figures.

ASSOCIATION: Institut khimii i tekhnologii elementov i mineral'nogo syr'ya Kol'skogo filiala AN SSSR (The Institute of Chemistry and Technology of Elements and Crude Minerals of the Kola AS USSR Branch)

SUBMITTED: July 3, 1962

Card 2/2

MCTOV, G.

Securing the Climatic Conditions during the Winter in Textile Factories.  
(Light Industry), #1:27:Jan. 55

Motov, S.

SIMBIRSKIY, I.

"Financial planning on state farms." S.Motov, L.Shul'ta. Reviewed  
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[Irtysh-Karaganda Canal; engineering geological conditions]  
Kanal Irtysh - Karaganda; inzhenerno-geologicheskie usloviia.  
Alma-Ata, Nauka, 1965. 169 p. (MIRA 18:5)  
(Continued on next card)

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,  
p 271 (USSR) 15-57-10-14951

AUTHOR: Motov. Yu.

TITLE: New Data on the Mechanization of Mining Sand and Gravel  
(Novoye v mekhanizatsii razrabotki peska i graviya)

PERIODICAL: Stroit. materialy, 1954, Nr 2, pp 34-35

ABSTRACT: The author examines foreign experiments (particularly American) in operating sand and gravel pits. He notes the following features: the use of excavators with different shovel sizes--dragline shovels, for instance, ranging in capacity from 0.39 m<sup>3</sup> to 1.91 m<sup>3</sup>; operations with excavators of the "mechanical shovel" type functioning over the entire thickness of a single bank that reaches 45 m to 60 m in height; the distribution of draglines under a variety of conditions for mining dry and water-soaked deposits; the use of conveyor belts in the pits for transport with movable bunkers; and wide-

Card 1/2



MOTOV, Yu., inzhener.

~~New methods for mechanized treatment of sand and gravel.~~ Stroimast.  
3 no.2:34-35 F '57. (MIRA 10:3)  
(United States--Excavating machinery)

*Molov, Yu. M.*

AUTHOR: Molov, *Yu. M.* 11-15-1-15/5

TITLE: New Technological Diagrams in Connection With Mining Sandy Gravel Deposits  
(Novyye tekhnologicheskiye diagrammy i skhemy dlya razrabotki i obrabotki peschano-graviyных mestorozhdeniy)

PERIODICAL: Mekhanizatsiya Trudoyemkikh i Tyazhelykh rabot, 1958, No. 4, pp 40 - 41 (USSR)

ABSTRACT: Since May 1957, in the Tuchkovskiy kar'yer (Tuchkovo quarry), a new method of excavating sandy gravel has been introduced using the E-1004 excavator, conveyers, SM-13 screening machines, etc. Special ZIS-585 trucks are transporting gravel for further treatment to the crushing and sorting plant. There are 2 figures.

AVAILABLE: Library of Congress

Card 1/1 1. Earth moving equipment 2. Mines-Equipment 3. Mining engineering-USSR

AUTHOR: Motov, Yu.M., Engineer SOV/118-58-11-8/19

TITLE: To Improve the Mechanization of Sand and Gravel Mining  
(Sovershenstvovat' mekhanizatsiyu dobychi peska i graviya)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 11,  
pp 25-26 (USSR)

ABSTRACT: This is a short description of Soviet mining methods in sand  
and gravel pits. In the USSR, sand and gravel are mined  
mostly with conveyers equipped with a straight shovel, and  
only seldom with the use of drag-line excavators or scrapers  
and bulldozers. The author mentions the methods of mining  
sand and gravel in the USA.  
There are 3 photographs and 3 tables.

1. Mining engineering--USSR 2. Mining engineering--USA 4. Sand  
--Handling 5. Industrial equipment

Card 1/1

MOTOV, Yu. M. Cand Tech Sci -- (diss) "Study of the parameters of sand gravel pits in connection with the mechanization of mining work." Moscow, 1960, 14 pp, (Acad Sci USSR. Inst Mining Affairs), 200 Copies, (KL, 30-60, 138)