

AUTHOR: Matveychev, A.S., Engineer SO7/118-56-2-2/19

TITLE: The Mechanization of the Maintenance Work of Martin Furnaces  
(Mekhanizatsiya remonta martenovskikh pechey)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 2,  
pp 6-8 (USSR)

ABSTRACT: The article deals with the mechanization of the maintenance works of the Martin (open hearth) furnaces. Special repair trusts (Yuzhdomnaremont trust and other) developed work methods which considerably cut down the idle time of furnaces by introducing special tools and installations to speed up the repair work; conveyer belts were installed in the modern plants for the evacuation of slag and broken brick and for the transportation to the furnaces of new material necessary for maintenance work. Mechanized methods of repair are still insufficiently developed; many operations are still done by manual labor; many repair shops must be reorganized and

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SOV/118-58-2-2/19

The Mechanization of the Maintenance Work of Martin Furnaces

new equipment must be installed so that the repair work can start as soon as the furnace has cooled off. There are 5 diagrams and 1 table.

1. Furnaces--Maintenance

Card 2/2

MATVEYCHUK, A.

MATVEYCHUK, A., strelok-sportmen 1-go razryada, Al'ma-Ata.

Why our team lags. Voen.snan. 31 no.1:11 Ja '55. (MIRA 8:8)  
(Kazakhstan--Shooting)

1. MATVEYCHUK, A.Y., SHABLOVSKIY, V.V.
2. USSR (600)
7. Metody Bor'by s Glavneyshimi Vreditelyami i Boleznymi Polevykh Kul'tur  
(Method for Combatting the Chief Pests and Diseases of Field Crops), Under  
the Editorship of A.Ye. Chumakov, Candidate in Agricultural Sciences, 23 pp,  
Voroshilov-Ussuriyskiy, 1951.
9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.

SOKOL'SKIY, D.V.; AZERBAYAEV, I.N.; MATVEYCHUK, A.Ya.; KIRILYUS, I.V.

Effect of the additions of metals of the IV period on the activity of alloyed nickel catalysts, Report No.1:  
Hydrogenation of dimethylacetylenylcarbinol on a nickel catalyst with chromium additions. Izv. AN Kazakh. SSR. Ser. khim. nauk 15 no.1:58-63 Ja-Mr '65. (MIRA 18:12)

1. Submitted April 8, 1964.

SOKOL'SKIY, D.V.; AZERBAYEV, I.N.; MATVEYCHUK, A.Ya.; GETMANTSEVA, I.P.;  
KIRILYUS, I.V.

Effect of the additions of metals of the IV period on the  
activity of alloyed nickel catalyses. Report No.2: Hydrogenation  
of nitrosonaphthols on a nickel catalyst with the addition of  
vanadium. Izv. A N Kazakh. SSR. Ser. khim. nauk 15 no.1:64-69  
Ja-Mi '65. (MIRA 18:12)

Submitted April 8, 1964.

SOKOL'SKIY, D.V.; AZERBAYEV, I.N.; MATVEYCHUK, A.Ya.; KIRILYUS, I.V.

Effect of metals of the IV period on the activity of alloyed nickel catalysts. Report No.3: Nickel catalysts with additions of titanium, vanadium, copper. Izv. AN Kazakh.SSR.Ser.khim.nauk 15 no.3:67-70 JI-Ag '65. (M. RA 18:11)

1. Submitted April 8, 1964.

MATVEYCHUK, F., polkovnik.

Are afternoon breaks needed? Voen.vest. 36 no.1:58 Ja '57.  
(Military education) (MLRA 10:2)



MA'VE'CHUK, F., polkovnik

Serve as long as the country needs you. Voenn. vest. 41 no.10:95  
0 '61. (MIRA 15:2)

(Radio, Military)

MATVEYCHUK, F.A., kand. voyenno-morskikh nauk, kapitan 2-go rango

Evaluation of the place of a target in observing with passive  
means. Mor. sbor. 48 no.3:56-59. M. '65.

(MIRA 18:8)

**FRESHNIKOV, Aleksey Fedorovich, kand.geograf.nauk. Prinsipali uchastiye:**  
**MATVEYCHUK, Georgiy Ivanovich; CHUPIN, Nikolay Petrovich; ARALOV,**  
**Dmitriy Petrovich; TIKHOMIROV, Igor' Ivanovich, vrach-stomatolog;**  
**MANSUROV, Sergey Mikhaylovich; KRICHAK, Oskar Grigor'yevich, kand.**  
**geograf.nauk; SHUMSKIY, Petr Aleksandrovich, doktor geograf.nauk;**  
**SHESTRIKOV, Nikolay Pavlovich, mladshiy nauchnyy sotrudnik, gidro-**  
**log. DROZHKHINA, L.P., tekhn.red.**

[Second Continental Expedition, 1956-1958; general description]  
Vtoraya kontinental'naya ekspeditsiya, 1956-1958 gg.; obshcheye opi-  
sanie. Pod red. A.F.Freshnikova. Leningrad, Izd-vo "Morskoi  
transport," 1960. 205 p. (Sovetskaya antarkticheskaya ekspeditsiya,  
no.8). (MIRA 13:7)

1. Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'-  
skiy institut. 2. Nachal'nik Vtoroy kontinental'noy ekspeditsii  
(for Freshnikov). 3. Zamestitel' nachal'nika Vtoroy kontinental'noy  
ekspeditsii po administrativno-khozyaystvennoy chasti; nachal'nik  
beregovoy bazy (for Matveychuk).

(Continued on next card)

**TEESHNIKOV, Aleksey Fedorovich ---(continued) Card 2.**

4. Glavnyy inzhener Vtoroy kontinental'noy ekspeditsii (for Chupin).
5. Nachal'nik otryada svyazi i radionavigatsii Vtoroy kontinental'noy ekspeditsii (for Aralov).
6. Starshiy vrach Vtoroy kontinental'noy ekspeditsii (for Tikhomirov).
7. Nachal'nik geofizicheskogo otryada Vtoroy kontinental'noy ekspeditsii (for Mansurov).
8. Nachal'nik aerometeorologicheskogo otryada Vtoroy kontinental'noy ekspeditsii (for Krichak).
9. Nachal'nik glyatsiologicheskogo i vnutrikontinental'nogo otryada Vtoroy kontinental'noy ekspeditsii.
10. Nachal'nik otryada pribreshnoy gidrologii Vtoroy kontinental'noy ekspeditsii (for Shesterikov).

(Antarctic regions--Russian exploration)

USSR / General and Specialized Zoology - Insects.

P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20910

Author : Matveychuk, N. I.

Inst : State Commission for Variety Testing of  
Agricultural Cultures at the Ministry of  
Agriculture of USSR

Title : On the Effectiveness of the Use of Poison  
Chemicals for the Control Agricultural  
Pests of the Sugar Beet

Orig Pub : Inform. byul. Gos. komis. po sortoispyt.  
s.-kh. kul'tur pri M-ve s.-kh. SSSR, 1958,  
No 4, 13-14

Abstract : The spraying of beets with a 0.5% suspension,  
of DDT, 300 liters/hectare (by active  
ingredient) completely paralyzed the beet  
weevils within 24 hours. Dusting with 12%

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USSR / General and Specialized Zoology - Insects.

10

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20910

hexachlorocyclohexane, 20 kg/hectare,  
paralyzed within 24 hours all the larvae of  
the beet bug (*Poeciloscytus cognatus* Fieb.).  
The dusting of beets with 5.5% DDT, 20  
kg/hectare, paralyzed 100% of the cater-  
pillars of clover and cabbage Noctuidae  
(*Scotogramma trifolii* Rott. and *Barathra*  
*brassicae* L.) after 8-10 hours. -- A. P.  
Adrianov

Card 2/2

MATVYCHUK, V.I.

Elimination of foci of ancylostomiasis in the mines of "Tajikngol"  
in Leninabad Province. Zdrav. Tadzb. 7 no.1:18-23 Ja-F '60.  
(MIRA 13:5)

1. Is Respublikanskoy sanitarnoy epidemiologicheskoy stantsii  
Tadshikskoy SSR.

(LENINABAD PROVINCE--COAL MINERS--DISEASES AND HYGIENE)  
(HOOKWORM)

KALMYKOV, Ye.S.; BURMAKINA, V.F.; MATVEYCHUK, V.I.

Measures for reducing ascariasis among the rural population.  
Zdrav. Tadzh. 7 no. 2:12-14 M-ap '60. (MIRA 13:10)

1. Iz Stalinabadskogo Instituta epidemiologii i gigiyeny i  
Respublikanskoj sanitarno-epidemiologicheskoy stantsii.  
(TAJIKISTAN--ASCARIDS AND ASCARIASIS)



MAJWEICHUK, V.S.; RABINOVICH, A.N., doktor tekhn. nauk, prof., red.; VE-  
KLOVSKIY, T., tekhn. red.

[Investigating loading and unloading devices having magnetic and vacuum clamps] Issledovanie sagrauzochno-rasgruzochnykh ustroystv s magnitnymi vakuumnymi sakhvatami. Pod red. A.N.Rabinovicha. L'vov, L'vovskii politekhn. in-t, 1959. 107 p. (MIRA 14:8)  
(Loading and unloading—Equipment and supplies)

RABINOVICH, Avraam Nakhimovich; ~~MATVEYCHIK, Vladimir Sergeyevich;~~  
SHTANKOV, Oleg Borisovich; FURER, P.Ya., red.; GORNOSTAYPOL'SKAYA,  
M.S., tekhn. red.

[Automation of the feeding and discharging of metal-cutting  
equipment] Avtomatizatsiia zagruski i razgruski metalloob-  
rabatyvaiushchego obrudovaniia. Moskva, Mashgis, 1963. 115 p.  
(MIRA 16:9)

(Feed mechanisms) (Automatic control)

L 29615-66 ENI(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6011321

SOURCE CODE: UR/0363/66/02/003/0514/0516

AUTHOR: Matveychuk, V. T.; Shevchenko, A. V.; Skripchenko, N. V. 58  
B

ORG: Institute of Material Science Problems, Academy of Sciences UkrSSR (Institut problem materialovedeniya Akademii nauk UkrSSR)

TITLE: Infrared absorption spectra of chromites of rare earth elements 17

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 3, 1966, 514-516

TOPIC TAGS: rare earth element, chromite, chromia, crystal lattice, IR absorption, spectrophotometric analysis

ABSTRACT: The IR absorption spectra of 13 chromites of rare earth elements were taken using a UR-10 spectrophotometer. Chromite samples were prepared by two techniques: by growing single crystals from a melt containing  $PbO+PbF_2$  mixed solvent, the melt was held at 1360°C for 4 hours whereupon the melt temperature was reduced from 1360°C to 1000°C at a rate of 10-30° per hour. Under the second method, mixtures of the chromium oxide were fused with a rare earth element oxide at 2000°C for 15 minutes in an argon atmosphere. Individual chromite phases were examined by petrographic and x-ray analyses and the chromite compositions were confirmed by chemical analysis. The IR spectra of chromites of the cerium subgroup elements are shown in figure 1. The IR spectra of chromites of the yttrium subgroup elements are shown in figure 2. It was

UDC: 546.65'763:543.422.4

Card 1/3

L 29615-66

ACC NR: AP6011321

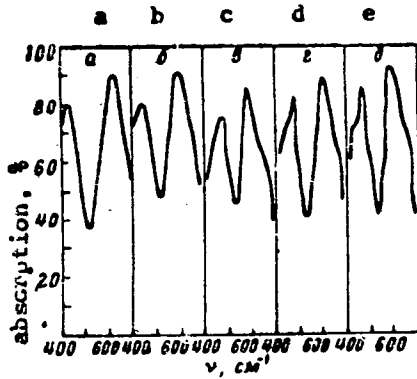


Fig. 1. a--LaCrO<sub>3</sub>; b--PrCrO<sub>3</sub>; c--NdCrO<sub>3</sub>; d--SmCrO<sub>3</sub>; e--EuCrO<sub>3</sub>.

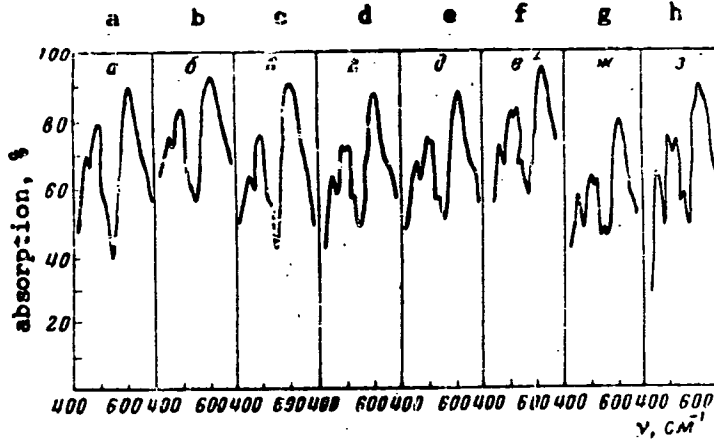


Fig. 2. a--GdCrO<sub>3</sub>; b--TbCrO<sub>3</sub>; c--DyCrO<sub>3</sub>; d--YCrO<sub>3</sub>; e--HoCrO<sub>3</sub>; f--ErCrO<sub>3</sub>; g--TmCrO<sub>3</sub>; h--YbCrO<sub>3</sub>.

found that chromites of the rare earth elements give a characteristic absorption band at about 600 cm<sup>-1</sup> which is connected with valence vibration of the Cr-O bond. The chromites of the cerium subgroup elements have a second band in the 430-480 cm<sup>-1</sup> range.

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L 29615-66

ACC NR: AP6011321

Due to the imperfections in the crystal lattice, the second band of the chromites of the yttrium subgroup elements is split into either a doublet or a triplet, or a quadruplet. A linear relationship was established between the wave number of the second band and the ionic radii of the rare earth elements contained in the chromites. Orig. art. has: 1 table, 3 figures.

SUB CODE: 07/      SUBM DATE: 05Jul65/      ORIG REF: 003/      OTH REF: 002

Card 3/3 CC

**MATVEYCHUK, V.Ya.**

Ancylostomiasis at the Shurab Coal Mine in Leninabad Province,  
Tajik S.S.R. Sbor. rab. po mal. i gel'min. no.2:229-233 '59.  
(MIRA 15:3)  
(SHURAB (LENINABAD PROVINCE)--HOOKWORM DISEASE)

RABINOVICH, A.N., dir.tekhn.nauk; MATVEYCHUK, V.S., inzh.; FESSENKO, V.I.,  
inzh.

Vertical-feeder hoist with automatic regulation of the high level  
of blanks. Mashinostroitel' no.1:5-6 Ja '60.

(MIRA 13:4)

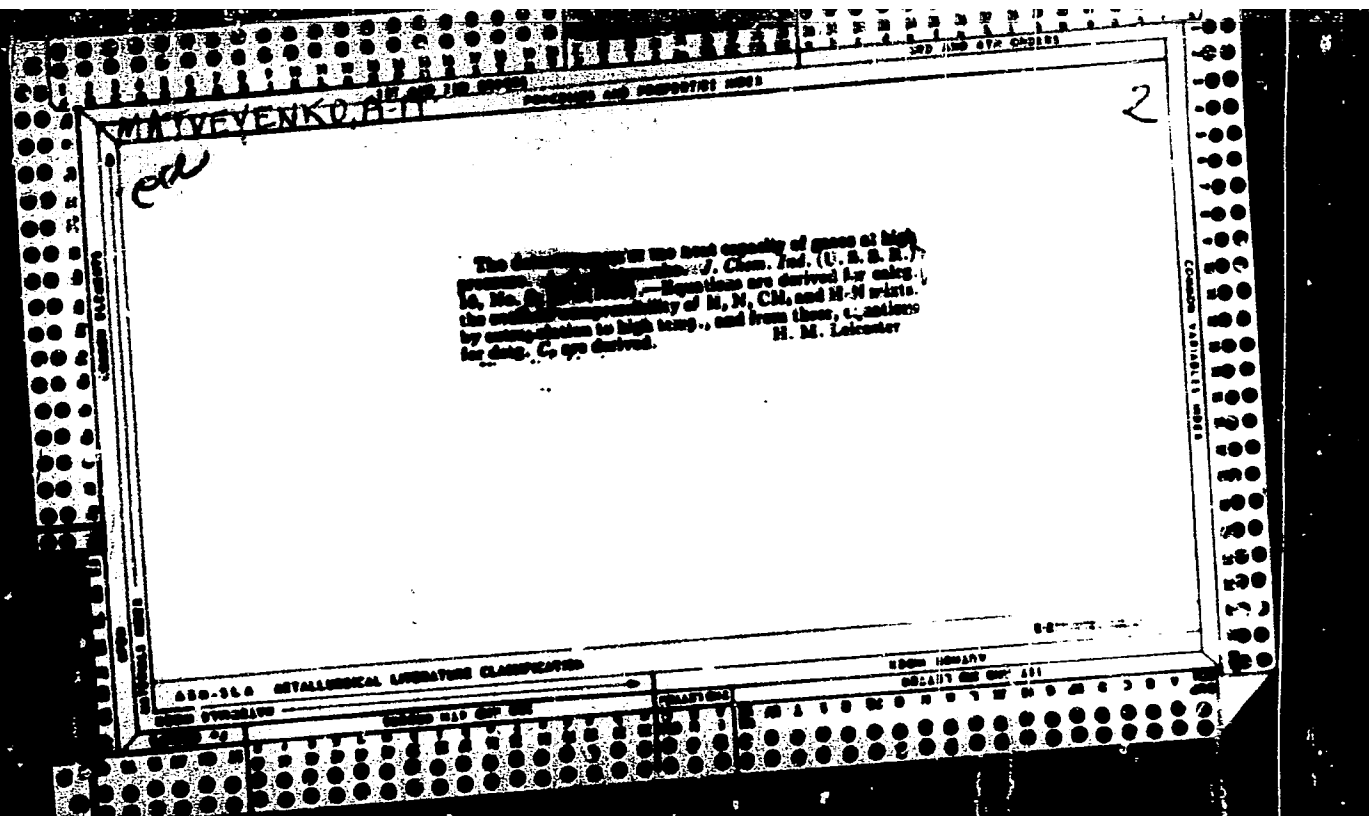
(Machine tools--Attachments)

BOL'SHAKOV, A.G., doktor tekhn. nauk, prof.; MATVEYENKO, A.A.

Material balance of the production of granular ammonium nitrate.  
Report No.1. Nauch. zap. Od. politekh. inst. 40:3-14 '62.  
(MIRA 17:6)

1. Predstavlena kafedroy "Protsessy i apparaty khimicheskikh proizvodstv" Odeaskogo politekhnicheskogo instituta.





L 31927-56 EWT(1) GW

ACC NR: AP5017029

SOURCE CODE: UR/0387/65/00G/003/0065/0070

AUTHOR: Avchyan, G. M.; Maruyenko, A. A.

ORG: All-Union Scientific Research Institute of Geophysical Methods of Prospecting.  
(Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki)

TITLE: Effect of saturating liquids on the propagation velocity of longitudinal waves in sedimentary rocks at high pressures and temperatures

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 3, 1965, 65-70

TOPIC TAGS: seismic wave,<sup>12</sup> high pressure chamber, ultrasonic wave propagation, seismic prospecting

ABSTRACT: The authors describe an investigation of the effect of saturating liquids upon the propagation velocity of elastic longitudinal waves in samples of sedimentary rocks exposed to omnidirectional pressures up to 1500 kg/cm<sup>2</sup> and temperatures up to 150°C. While it is known that variations in the physical properties of minerals (caused by the saturating liquids) can be used for the detection of oil deposits, there is very little data available on the effect of these liquids on the physical parameters of sedimentary rocks. The experiments were based on measurements of the propagation velocity of ultrasonic vibrations through various samples of clay and sandstone under accurately controlled conditions of pressure and temperature, both in presence and in absence of saturating liquids (kerosene, naphta and 4 mol solution of NaCl). A spe-

UDC: 534.222 : 539.09

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L 31927-66

ACC NR: AP5017029

cial chamber was constructed, designed to withstand pressures up to 5000 kg/cm<sup>2</sup> and temperatures up to 300°C. This chamber was equipped with a heating element, an oil pump to generate omnidirectional pressure on the sample, an ultrasonic transducer and receiver, as well as various temperature and pressure gages for measuring and controlling the internal environment. The authors measured the variations of sound propagation (at about 100 KHz) caused by changes in temperature and pressure in dry and liquid saturated rock samples. Dry samples of sandstone exhibited nonlinear change of propagation velocity with respect to omnidirectional pressure. The changes were much less pronounced for dry clay. In the liquid-saturated samples, the absolute velocity was higher (up to 500 m/sec) due to greater acoustical coupling area but the changes in velocity for sandstone were now similar to those in clay, which differed only slightly from the dry sample. The higher degree of velocity variation in dry sandstone can be attributed to more rapid closure of pores under ambient pressure than in clay. The increase in temperature causes reduction in propagation velocity in both dry and liquid saturated samples. The following conclusions are made based on the results of these experiments: 1. In dry samples, the changes in propagation velocity of longitudinal waves depend upon lithological composition and the nature of porosity. In clays, such changes are gradual and in sandstone there is an abrupt change at 500 kg/cm<sup>2</sup> with a subsequent decrease in the gradient. 2. The velocity changes with respect to pressure are similar in saturated clays and sandstone. 3. The influence of temperature on the velocity is stronger in rocks saturated with naphta, than in dry samples of those saturated with mineralized water. Orig. art. has: 7 figures.

SUB CODE: 08,1S/

SUBM DATE: 10Mar64/

ORIG REF: 003/

OTH REF: 002

Card <sup>m1</sup> 2/2

BOL'SHAKOV, M.N.; KOLOSOV, I.S.; LUGOVOY, V.S.; MATVEYENKO, A.I.

Prospects of developing electric power in Kirghizistan in the near future. I.AN Kir. SSR.Ser.est.1 tekhnauk 2 no.7:5-23 '60.

(MIRA 14:4)

(Kirghizistan—Electric power)

L 10221-67 EMP(d)/EMP(m)/EMP(c)/EMP(v)/EMP(k)/EMP(h)/EMP(l) IJP(c) WJ --  
ACC NR: AF6031376 (A) SOURCE CODE: UR/0145/66/000/001/0075/0080

AUTHOR: Akopov, M. G. (Graduate student); Matveyenko, A. K. (Graduate student)

ORG: None

TITLE: Testing and calculating the reliability of hydropneumatic equipment

SOURCE: IVUZ. Masinostroyeniye, no. 7, 1966, 75-80

TOPIC TAGS: hydraulic equipment, pneumatic servomechanism, reliability engineering, probability

ABSTRACT: Testing the reliability of the elements in hydropneumatic systems involves considerable difficulties due to the necessity of testing a large number of specimens to obtain a high confidence coefficient for estimating the probability of reliable operation with sufficient accuracy. The authors propose a method for reducing the number of specimens required by increasing the length of the test. The method is based on testing a given number of specimens simultaneously under identical operating conditions. Specimens which fail are not put back into operation so that binomial law gives the number of specimens which have broken down by a given moment. Formulas are derived for determining the lower confidence limits of the unknown reliability function with a limited number of specimens. It is shown that the proposed method may be used in the first approximation for determining the lower confidence limit of the

UDC: 621.2+621.541

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L 10291-67

ACC NR: AP6031376

probability of reliable operation for a minimum number of specimens. The test volume for reliability experiments is a constant given by the formula

$$\frac{tn}{T} = \lim_{n \rightarrow \infty} n(1 - \sqrt[1-\alpha]{1-\alpha})$$

where  $t$  is the test duration,  $n$  is the number of specimens tested,  $\alpha$  is a rather high confidence coefficient and  $T$  is the ratio of the guaranteed time resource to the reliability level. Tests on determining the lower confidence limit for the probability of reliable operation should not be carried out beyond  $n/2$  failures (breakdown of half the units being tested) since there is a sharp drop in the probability of raising the resultant estimate after this time limit. Orig. art. has: 5 figures, 24 formulas.

SUB CODE: 13/ SUBM DATE: 09Mar66/ ORIG REF: 002/ OTH REF: 001

KOROVKIN, V.; MATVEYENKO, A.

Moving Picture Projection

Proper utilization of reels. Kinomekhanik no. 8, 1951.

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

MATVEYENKO, A.

Amplifiers, Vacuum Tube

Replies to readers Kinomekhanik no. 2, Feb. 1952

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, August, 1952. UNCLASSIFIED.





*MA Matveyenko, A. S.*

38077. MATVEYENKO, A. S. AND KHRUSHCHEV, A. A.

Massovyy tip usilitel'nogo ustroystva dlya zvukovogo kino (USU-45).  
Trudy nifii (nauch.-issled. kinofoto in-t), vyp. 10, 1949, s. 138-60.

MATVEYENKO, A.S.

[Repair of the sound-reproducing motion-picture apparatus] Remont zvukovosproisvodiashchei kinoapparatury. Moskva, Goskinoizdat, 1953- v. 1.  
211 p. (MIRA 6:7)

(Sound--Recording and reproducing)

MATVEYENKO, A.S.; YAKOBSON, A.Kh., redaktor; VORONTSOVA, Z.V., tekhnicheskiy redaktor.

[Repairing motion-picture sound apparatus] Remont zvukovoproizvodishchei kinoapparatury. Moskva, Gos. izd-vo "Iskusstvo," Pt. 2. 1954. 255 p. (MLBA 8:2)  
(Motion-picture projectors) (Sound--Apparatus)

PARFENT'YEV, A.I.; DEMIKHOVSKIY, L.A.; MATVEYENKO, A.S.; TAGER, P.G.,  
professor, redaktor; SOVETOV, S.S., redaktor; MARISSEN, Z.M.,  
tekhnicheskiy redaktor

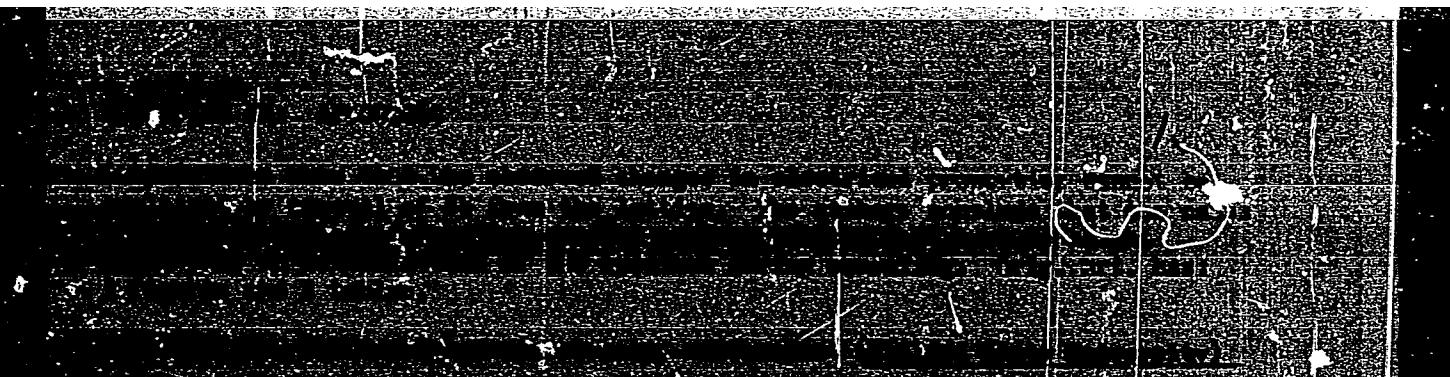
[Sound recording in the staging of theatricals] Zvukozapisi v  
ofermlenii spektaklia. Pod red. P.G.Tagora. Moskva, Gos. izd-vo  
"Iskusstvo," 1956. 142 p. (MIRA 9:7)  
(Sound--Recording and reproducing)

MATVEYENKO, Aleksandr Sergeevich; PANFILOV, N.D., red.; MALEK, Z.N.,  
tekh. red.

[Amateur sound recording] *Liubitel'skaja zvukozapis'*. Moskva.  
Gos. izd-vo "Iskusstvo," 1959. 181 p. (MIRA 12:10)  
(Sound--Recording and reproducing)

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920016-4

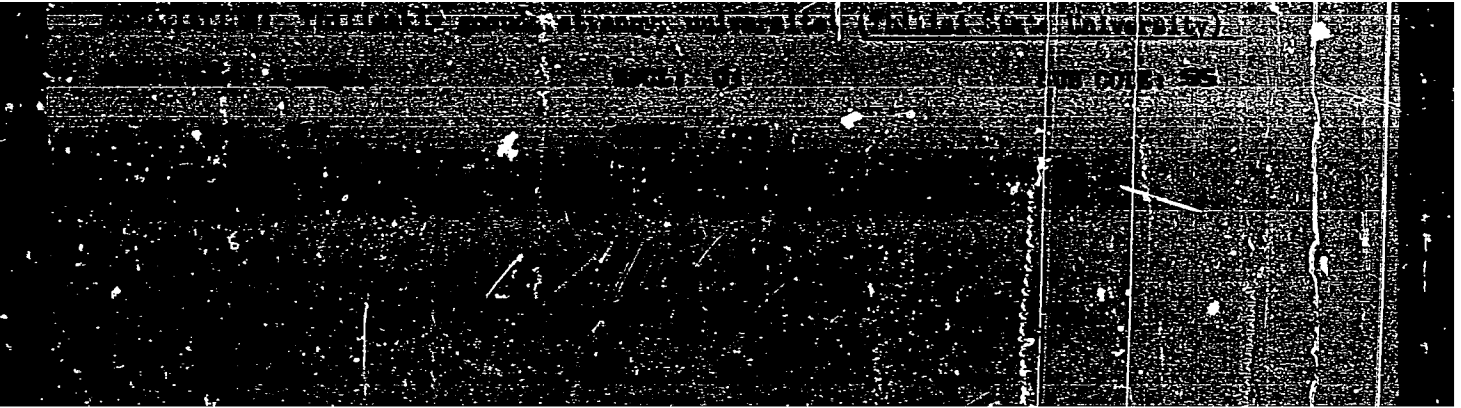


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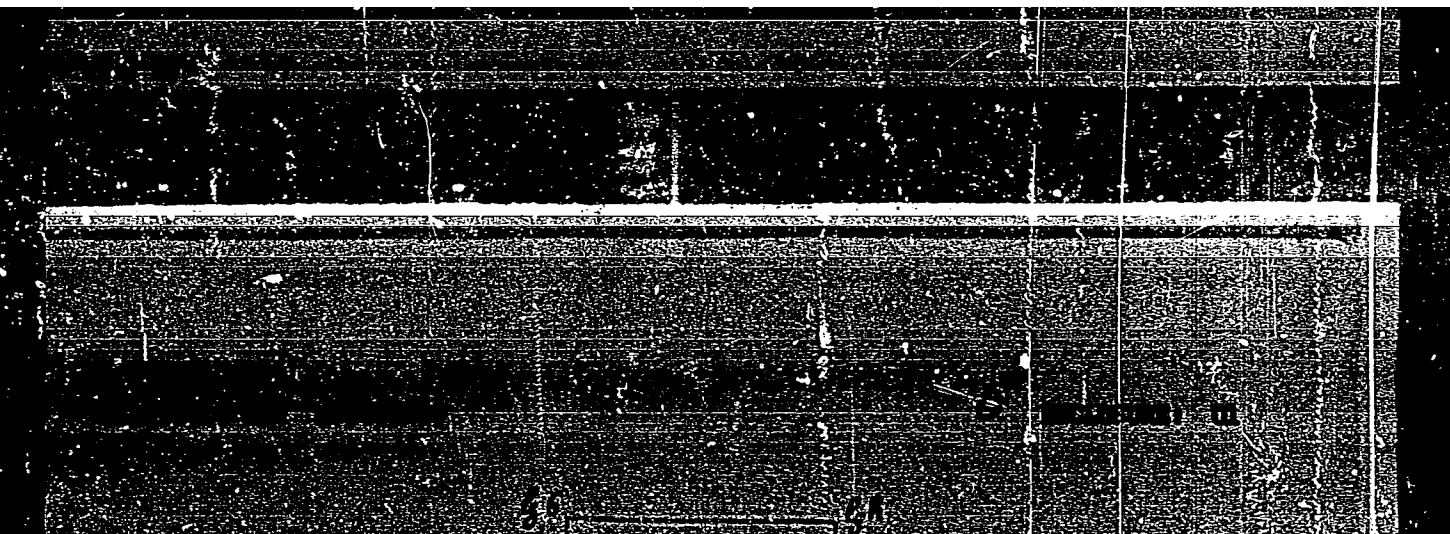
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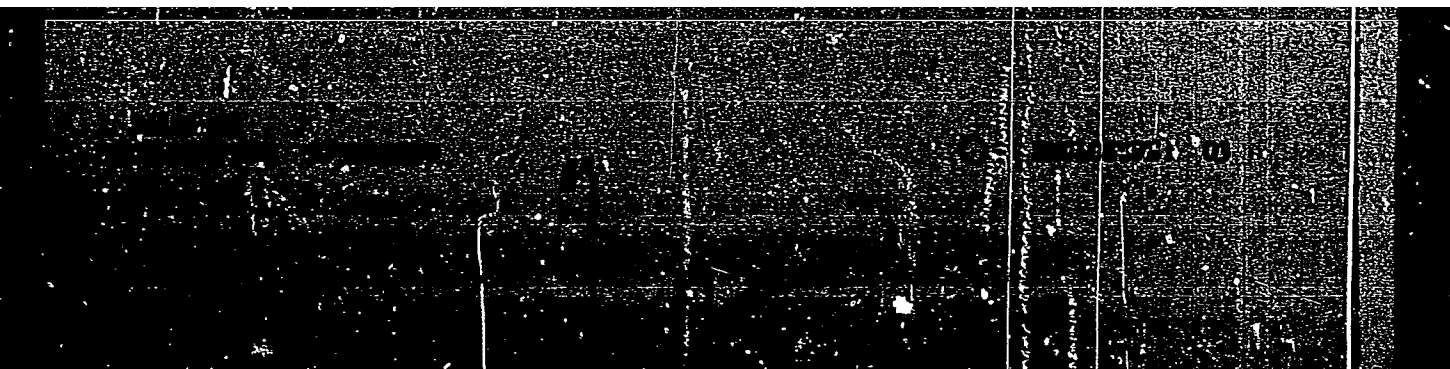


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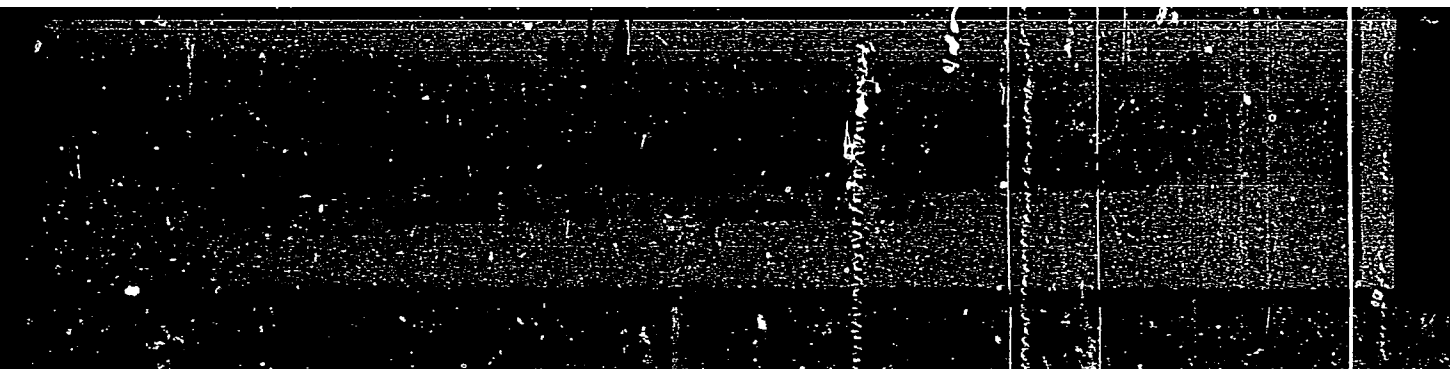


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CIA-RDP86-00513R032932920016-4"

ACC NR: AP7003229

SOURCE CODE: UR/0056/66/051/006/1873/1879

AUTHOR: Alliluyev, S. P.; Matveyenko, A. V.

ORG: Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut)

TITLE: Symmetry group of the hydrogen molecular ion (a system with separable variables)

SOURCE: Zh eksper i teor fiz, v. 51, no. 6, 1966, 1873-1879

TOPIC TAGS: hydrogen ion, molecular structure, molecular property, group theory

ABSTRACT: The authors present another example of a physical system where the complete symmetry group does not reduce to purely geometrical transformations. Such a system is a molecular hydrogen ion or, in more general form, any system consisting of an electron moving in the field of two differently charged Coulomb centers. It is shown that such a system has a symmetry group which is higher than geometric, because it does not obey the Neumann-Wigner theorem, which forbids the crossing of terms having the same symmetry. It is shown that in the case of the hydrogen molecular ion the violation of the Neumann-Wigner theorem is only apparent and is related to the circumstance that the geometrical symmetry group does not exhaust the entire symmetry which the system possesses. The symmetry group so obtained has the form  $SO_2 \otimes SO_2 \otimes O_2$ , with the  $SO_2$  groups corresponding to the coordinates of the elliptical system in which the variables became separable. The obtained group turns out to be wider than

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ACC NR: AF7003229

the original geometrical group and the results obtained for the molecular hydrogen ion can be generalized without difficulty to the case of arbitrary quantum mechanical systems which allow complete separation of the variables. The authors thank S. S. Gershteyn for interest in the work. Orig. art. has: 32 formulas.

SUB CODE: 20/    SUBM DATE: 05Jul66/    ORIG REF: 005/    OTH REF: 003

Card 2/2



SOMOL'SKIY, D.V.; MATVEYCHUK, A.Ya.

Electric conductivity of Raney nickel activated by metal admixtures.  
Vest. AN Kazakh. SSR 21 no.1:35-38 Ja '65.

(MIRA 18:7)

AVCHYAN, G.M.; MAIVEYENKO, A.A.

Effect of a saturating liquid on the propagation rate of longitudinal waves in sedimentary rocks at high pressures and temperatures. Izv. AN SSSR. Fiz. zem. no.3:65-70 '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

*MATVEYENKO, D.D*

**TSANAVA, N.Ye., inzh.; MATVEYENKO, D.D., slesar' masterskikh (stantsiya Bendery).**

Creative work of the Bendery track worker inventors. Put' i put.  
Khoz.no.12:13-16 D '57. (MIRA 10:12)

1. Nachal'nik Benderskoy distantsii puti Moldavskoy dorogi.  
(Bendery--Railroads--Maintenance and repair)

USSR/Farm Animals. Small Horned Stock.

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92611.

Author : Matveyenko, D.V.

Instit : *[illegible]*

Title : Fecundity and Fertility of Karakul Ewes Inseminated with Domestic and Distant Sperm.

Orig Pub: Sots. s. kh. Uzbekistana, 1957, No 9, 48-54.

Abstract: Karakul breed ewes were artificially inseminated with sperm mixtures from homogeneous sources. Consequently, only a certain amount of diversity in the quality of the sperm was created in the genital tracts of the ewes, without any nerve reflex stimulus in addition which is connected with the sexual act. This method of insemination did not yield an

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USSR/Farm Animals. Small Horned Stock.

Obs Jour: Ref Zhur-Lib., No 20, 1953, 92-11.

increase in sheep fecundity or fertility. -- V.V.  
Polovtsova.

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73

MATVEYENKO, D. V.

Cand Agr Sci - (diss) "Problem of the heterosperm and supplementary insemination of sheep." Omsk, 1961. 16 pp; (Index of dissertations listed by author as defended at the Omsk Agricultural Inst imeni S. M. Kirov); 150 copies; price not given; list of author's works on p 16 (11 entries); (KL, 5-61 sup, 198)

MAIWEYENKO, Dmitry Vasil'yevich

[Elementary principles of biometry; methodological text-book for students of the Zootechnical, Game and Game Management Departments of the Irkutsk Institute of Agriculture] Elementarnye osnovy biometrii; uchebno-metodicheskoe posobie dlia studentov zootekhnicheskogo, zverovodcheskogo i okhotovedcheskogo fakul'tetov Irkutskogo sel'skokhoziaistvennogo instituta. Irkutsk, 1964. 44 p.  
(MIRA 18:7)

1. Irkutsk. Sel'skokhozyaystvennyy institut.

TULASHVILI, N.D.; SAMUNDZHEVA, E.M.; RACHVELISHVILI, E.V.; ANTONOVA, V.P., dotsent; MALEZHNIK, G.M.; SMIRNOV, B.M., doktor sel'skokhoz.nauk; MATVEYENKO, G.A., aspirantka; BALANTAYEVA, M.R.; GARNAGA, G.K.

From the practices of the use of poisonous chemicals. Zashch.rast. ot vred. i bcl. 8 no.12:28-29 D '63. (MIRA 17:3)

1. Gruzinskiy institut zashchity rasteniy (for Tulashvili, Samundzheva, Rachvelishvili). 2. Kishinevskiy sel'skokhozyaystvennyy institut (for Antonova). 3. Zaveduyushchiy otdelom zashchity rasteniy Sumskoy opytnoy stantsii (for Malezhnik). 4. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Yugo-Vostoka (for Smirnov, Matveyenko). 5. Nauchno-issledovatel'skiy institut bogarnogo zemledeliya, Gallya-Aral (for Balantayeva, Garnaga).



MATVEYENKO, G.P.

Out tasks. Apt. delo 10 no. 23-9 Mr-Ap '61.

(MIRA 14:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya meditsinskogo snab-  
zheniya i sbyta Ministerstva zdravookhraneniya SSSR.  
(DRUGSTORES)

MATVEYENKO, G.P.

Pharmacy services under strict control. Apt. delo 11 no.2:3-7 Mr.-Ap  
'62. (MIRA 15:5)

1. Glavnoye upravleniye meshrespublikanskogo meditsinskogo snabzheniya  
i sbyta Ministerstva zdavoookhraneniya SSSR.  
(PHARMACY)

MATVEYENKO, G.P. (Moskva); VOYUSHIN, M.Ye.

Pharmacy in Bulgaria. Apt. delo 12 no.2387-89 1-Ap '63.

(MIRA 17:7)

MATVEYENKO, G., assistant

Linear programming. ~~Grashd.~~ av. 21 no.9:21 8 '64.

(MIRA 17:10)

1. Kafedra politicheskoy ekonomii i ekonomiki Grazhdanskogo  
vozdushnogo flota ~~Kiyevskogo~~ instituta inzhenerov Grazhdanskogo  
vozdushnogo flota.

MATVEYENKO, I. I.: Master Tech Sci (diss) -- "Aluminum-thermal reduction of calcium oxide". Sverdlovsk, 1958. 16 pp (Acad Sci USSR, Ural Affiliate), 150 copies (KL, No 4, 1959, 127)

~~XXXXXXXXXX I I~~

Thermodynamic analysis of the reduction of calcium oxide by  
aluminum. Trudy Inst. khim. UPAN SSSR no.2:97-109 '58.  
(MIRA 12:12)

(Calcium)

~~MATHEBUKO, I. I.~~

Kinetics of the reduction of calcium oxide by aluminum. Trudy Inst.  
khim. UPAN SSSR no.2:111-120 '58. (MIRA 12:12)  
(Calcium) (Chemical reaction, Rate of) (Aluminotherapy)

**MATVEYENKO, I.I.**

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Aluminotheary of calcium oxide. Trudy Inst. khim. UFAN SSSR  
no.2:121-131 '58. (MIRA 12:12)  
(Calcium) (Aluminotheary)



FATVEYREKO, I.I.; GEL'D, F.V.

Mechanism of the reduction of calcium oxide by aluminum.  
Trudy Inst. khim. UFAN SSSR no.2:133-142 '58.

(MIRA 12:12)

(Calcium) (Aluminotherapy)

MATVEYENKO, I.I.

Aluminothermic method for obtaining calcium from limestones of the  
Ust'-Anginskiy deposit. Trudy Vost.-Sib. fil. AN SSSR no.13:286-297  
'58. (MIRA 12:12)

1.Ural'skiy filial AN SSSR.  
(Siberia, Eastern--Calcium)

MATVEYENKO I.I., GEL'D, P.V.  
MATVEENKO, I.I.; GEL'D, P.V.; ALYAMOVSKIY, S.I.

Kinetika vorstanovleniya pyatiokisi vanadiya  
vodorodcz.

report submitted for the 5th Physical Chemical Conference on  
Steel Production.

MOSCOW 30 JUN 1959

MATVEYENKO, I.I., insh.; GEL'D, P.V., prof.; ALYAMOVSKIY, S.I., insh.

Reduction kinetics of vanadium pentoxide by hydrogen.

Izv. vys. ucheb. zav.; khim. met. 2 no.4:13-21 Ap '59.

(MIRA 12:3)

1. Ural'skiy politekhnicheskiy institut i Ural'skiy filial Akademii nauk SSSR.

(Vanadium—Metallurgy) (Oxidation-reduction reactions)

86487

S/078/60/005/008/020,031/XX  
B023/B066

5.1150

1203, 1208, 1274

## AUTHORS:

Gel'd, P. V., Alyamovskiy, S. I., Matveyenko, I. I.

## TITLE:

Intermediates of  $V_2O_5$  Reduction With Hydrogen

## PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 8,  
pp. 1678-1687

TEXT: The authors deal with the question how the transformation process of  $V_2O_5$  to  $V_2O_3$  proceeds, which intermediate phases are formed therein, how large their quantity is, and in how far the conversion of some higher oxides to lower ones is complicated. In the first experimental series, the composition of the samples was investigated. Fragments of  $V_2O_5$  briquettes (2-3 mm) were subjected to a partial reduction in hydrogen at 400-600°C. The second series was carried out with preparations of different degrees of reduction. In the third series, samples were investigated which had been prepared in layers and partially reduced with  $H_2$ . The X-ray structural analysis of the products of a partial reduction of  $V_2O_5$  with hydrogen was

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Intermediates of  $V_2O_5$  Reduction With Hydrogen <sup>66457</sup> S/078/60/005/008/020/031/XX  
B023/B066

made in PK7 (RKD) or BPC (VRS) cameras by means of caesium radiation. When investigating the intermediate products of the reduction of vanadium pentoxide by hydrogen, which had been obtained at 200-1200°C, the authors detected  $VO_{1.3}$ ,  $V_2O_4$ , and  $V_2O_3$ , while  $VO_{1.75}$ ,  $VO_{1.80}$ ,  $VO_{1.84}$ , and  $VO_{1.86}$  could not be found. Though phases of  $VO_{1.67}$  and  $VO_{1.87}$  were present, they could not be clearly identified, since they occur only in minute quantities. By the reduction of  $V_2O_5$  with hydrogen, monophasic oxide preparations as intermediates of  $V_2O_5$  and  $V_2O_3$  could not be obtained. The theorem of A. A. Baykov (Ref. 9) on the sequence of conversions applies to relatively slow interactions proceeding in systems of different composition and different structure. If the process occurs rapidly in systems containing phases of similar composition and structure, some of these phase components are possibly not formed. Table 2 shows the phase composition of products of a partial reduction of  $V_2O_5$  by hydrogen. Table 3 illustrates the phase composition of products of vanadium pentoxide with hydrogen. Mention is made of papers by V. I. Arkharov, B. S. Borisov, T. V. Dolgal' (Ref. 3?),

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Intermediates of  $V_2O_5$  Reduction With Hydrogen S/078/60/005/008/C20/051/XX  
3023/B066

G. A. Meyerson and A. N. Zelisnman (Ref. 51), M. A. Gurevich and B.T. Ormont (Ref. 29). There are 1 figure, 4 tables, and 54 references: 25 Soviet, 10 US, 2 British, 7 Danish, 3 French, 5 German, 1 Japanese, 1 Swedish, and 1 Swiss.

SUBMITTED: March 5, 1959

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63037

S/126/60/009/02/032/033

El111/E335

5.2100(A)

AUTHORS: Gel'd, P.V., Alyamovskiy, S.I. and Matveyenko, I.J.

TITLE: The Structural Characteristics of Vanadium Oxide

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 2,  
pp 315 - 317 (USSR)

ABSTRACT: Investigations were carried out on samples of varying composition ( $VO_{0.75}$  to  $VO_{1.74}$ ), prepared by vacuum sintering of briquettes of metallic vanadium and vanadium trioxide. The samples were heated at  $1400^{\circ}C$  for 60 to 76 hours. X-ray analysis was carried out and the results are given in the table. Samples  $VO_{0.75}$  and  $VO_{1.3}$  were two-phased. A relation between the lattice parameter and composition was observed only in the interval  $VO_{0.85}$  to  $VO_{1.25}$ . Special interest is caused by the possible existence of a  $\zeta$  phase. This would be expected to have an NaCl structure. From experimental and theoretical densities, it is shown that the concentration of vacancies in the region of homogeneous vanadium oxide

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68637

S/126/60/009/02/032/033

E111/E335

The Structural Characteristics of Vanadium Oxide

was 12 to 22% in the vanadium sub-lattice. The concentration relation of the thermal emf shows a change of sign at the composition corresponding to stoichiometric VO, as would be expected. There are 1 table and 3 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Institut khimi UFAN SSSR (Institute of Chemistry, UFAN SSSR)

Ural'skiy politekhnicheskii institut im. S.M. Kirova  
(Ural Polytechnical Institute imeni S.M. Kirov)

SUBMITTED: December 26, 1959

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MATVEZENKO, I.I.; GEL'D, P.V.; ALYAMOVSKIY, S.I.

Kinetics of the reduction of vanadium pentoxide and tetroxide  
by carbon. Izv. Sib. otd. AN SSSR no. 11:77-88 '60. (MIRA 14:1)

1. Ural'skiy filial AN SSSR.  
(Vanadium oxides) (Carbon)  
(Reduction, Chemical)

ALYAMOVSKIY, S.I.; GEL'D, P.V.; MATVEYENKO, I.I.

Phase constituents of the system Nb - Si. Trudy Ural.politekh.  
inst. no.14:149-151 '61. (MIRA 16:6)  
(Niobium silicide)  
(Phase rules and equilibrium)

8/137/62/000/004/002/201  
A006/A101

**AUTHORS:** Gel'd, P. V., Alyamovskiy, S. I., Matveyenko, I. I.

**TITLE:** Determining the application range of the principle of consecutive transformations, set up by Academician A. A. Baykov

**PERIODICAL:** Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 6 - 7, abstract 4A26 (V sb. "Fiz-khim. osnovy proiz-va stali", Moscow, AN SSSR, 1961, 157 - 167)

**TEXT:** The substances employed were prepared from two  $V_2O_5$  batches containing about 0.0007% heavy metal oxides and < 0.1%  $SiO_2$ . A thorough investigation of intermediate products of  $V_2O_5$  reduction with hydrogen, obtained at 200 - 1,200°C, revealed the presence of  $V_6O_{13}$ ,  $V_2O_4$  and  $V_2O_3$ . In none of the samples whose reduction degree varied from 0 to 38.6%, the presence of  $VO_{1.75}$ ,  $VO_{1.80}$ ,  $VO_{1.84}$  and  $VO_{1.86}$  was revealed. Phases  $VO_{1.67}$  (or  $VO_{1.87}$ ) are present, if any, in small amounts so that they cannot be reliably identified. It was established that by  $V_2O_5$  reduction with hydrogen, single-phase oxide preparations with compositions ranges between  $V_2O_5$  and  $V_2O_3$  can not be obtained. The authors state that

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Determining the application range of...

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A006/A101

A. A. Baykov's principle on consecutive transformation is applicable to the case of relatively slow processes with relatively slow interactions, occurring in systems which are characterized by substantial differences in the composition and structure of intermediate phases. At a rapid development of the process in systems containing phase constituents of close compositions and structures, some of them can not be formed. There are 54 references.

T.Kolesnikova

[Abstracter's note: Complete translation]



Card 2/2

GEL'D, P.V.; ALYAMOVSKIY, S.I.; MATVEYENKO, I.I.

$\beta$ - ~~$\delta$~~  and  $\xi$ - phases of the vanadium - oxygen system. Zhur.strukt.-  
Khim. 2 no.3:301-307 Iy-Je '61. (MIRA 15:1)

1. Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk.  
(Vanadium oxide)

24939

15.2240

S/192/61/002/004/002/004

D217/D306

AUTHORS: Alyamovskiy, S.I., Gel'd, P.V. and Matveyenko, I.I.

TITLE: Cubic vanadium carbide phases

PERIODICAL: Zhurnal strukturnoy khimii, v. 2, no. 4, 1961, 445 - 448

TEXT: The object of this investigation was to verify the results of work by earlier authors (Ref. 1: M.A. Gurevich, B.S. Ormont, *Ah. neorgan. khimii*, 2, 1566, 2581, 1957; 3, 403, 1958) and (Ref. 2: N. Schönberg, *Acta Chem. Scand.*, 8, 624, 1954) and to obtain more precise information. Carbide specimens of various compositions were synthesized by sintering briquetted powder mixtures of vanadium hydride and spectroscopically pure graphite in a high frequency induction vacuum furnace at 1600 - 1750°. The vanadium hydride was prepared by reducing vanadium oxide with carbon or calcium. The powder was hydrated for 2

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S/192/61/002/004/002/004  
D217/D306

Cubic vanadium...

hours at a hydrogen pressure of 1 atm., at 850°. The lattice parameter of the original metal was 3.020 kX, which indicated a low oxygen content ( $< 0.04$  at.%); this was also confirmed by the high strength of the material. Sintering of the carbides was carried out for 40 - 70 hours with 2 - 3 intermediate re-briquetting operations. The compounds were cooled in the furnace for approximately 30 minutes. X-ray control was carried out after each operation. The attainment of equilibrium in the system was judged by the constancy of the lattice parameters and by the sharpness of the lines obtained in the X-ray pictures. The X-ray investigation was carried out in a Cr  $K_{\alpha}$  irradiation in a Debye Camera of 143.3 mm diameter. The experimental error in the determination of lattice periods did not exceed 0.001 kX. The density of the compounds was measured in vacuum by the pycnometric method, using kerosene and decalin as the liquid reagents. The errors in the density determinations were approximately 0.7%. The analysis of the carbides for vanadium content was carried out by a volumetric method, and the total and free

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S/192/61/002/004/002/004  
D217/J306

Cubic vanadium...

carbon were determined gravimetrically. The accuracy of the determination of  $x$  in the formula  $VC_x$  was approximately 0.02. The oxygen content of the specimens was less than the corresponding oxo-carbide  $VC_x = 0.02$ . Altogether 17 specimens, containing between 10.93 and 25.73 weight % carbon ( $VC_{0.52} - VC_{1.47}$ ) were synthesized. The results of the X-ray investigation are shown. In the neighborhood of the compositions  $VC_{0.79} - 0.80$  a drastic change in the lattice parameter (approximately by 0.013 kX) occurs. From this it can be deduced that one cubic vanadium phase ( $\delta$ ) is stable in the range  $VC_{0.63} - VC_{0.79}$ , and another ( $\epsilon$ ) is stable in the range  $VC_{0.79} - VC_{0.92}$ . It was found that cubic vanadium carbides are characterized by defects in the carbon sub-lattice. It is also assumed that the high carbon phases as well as the vanadium sub-lattice are very slightly defective. There are 1 figure, 2 tables and 11 references: 5 Soviet-bloc and 6 non-Soviet-bloc. The reference to the English-language publication reads as follows: A.R. Ubbelohde, Proc. Roy. Soc., B826, 295 (1937).

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Cubic vanadium...

S/192/61/002/004/002/004  
D217/D306

ASSOCIATION: Institute khimii ural'skogo filiala AN SSSR,  
Sverdlovsk (Insitute of Chemistry of the Ural  
Branch, AS USSR, Sverdlovsk)

SUBMITTED: August 2, 1960

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15 2240

32615

S/137/61/000/011/071/123

A060/A101

AUTHORS: Alyamovskiy, S.I., Gel'd, P.V., Matveyevko, I.I.

TITLE: On the phase components of the Nb-Si system

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 24, abstract  
11Zh146 ("Tr. Ural'skogo politekhn. in-ta", 1961, coll. 114, 149-151)

TEXT: Alloys of silicides of niobium were prepared by sintering briquetted mixtures of powdered Nb (99.6%) and Si (99.98%) in a vacuum furnace at 1,200-1,600°C and were studied by the methods of microscopic and X-ray structure analyses. The phases of the silicides have marked regions of homogeneity: for  $\alpha = \text{Nb}_5\text{Si}_3$  - from  $\text{NbSi}_{0.58}$  to  $\text{NbSi}_{0.56}$ ; for  $\text{NbSi}_2$  - from  $\text{NbSi}_{1.85}$  to  $\text{NbSi}_{2.2}$ . Here the lattice parameters  $\alpha$  of  $\text{Nb}_5\text{Si}_3$  and  $\text{NbSi}_2$  remain practically constant. In the Nb-Si system there exist solid substitution solutions both for  $\text{NbSi}_2$  and  $\alpha = \text{Nb}_5\text{Si}_3$ . At 1,000-1,100°C, while annealing alloys containing  $\text{Nb}_4\text{Si}$ , there occurs a decomposition  $\text{Nb}_4\text{Si} \rightarrow \text{Nb} + \text{Nb}_5\text{Si}_3$ . There are 8 references.

Z. Rogashevskaya

[Abstracter's note: Complete translation]

Card 1/1

S/200/62/000/005/003/005  
I003/I242

**AUTHORS:** Gel'd, P.V., Matveyenko, I.I., and Alyamovskiy, S.I.

**TITLE:** Intermediate products in the process of reduction of vanadium oxides by carbon

**PERIODICAL:** Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no.5, 1962, 59-69

**TEXT:** The kinetics of the reduction of vanadium oxides by carbon have received little attention. Highly pure vanadium has good mechanical and corrosion resistance properties and there are good prospects for the industrial application of vanadium carbides and oxycarbides. The kinetics of the reduction of  $V_2O_3$  was investigated between 1100 and 1600°C. The reduction is not

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S/200/62/000/005/OC3/005  
I003/I242

Intermediate products in the process of...

a single reaction because, while its initial stage depends on the rate of gasification of carbon, on the absorption or chemical processes and on crystallographic changes taking place in the reduced oxides, the final stage depends on the velocity of diffusion of atoms of O, C, and V through the lattices of oxides and particularly oxycarbides. The first product consists of an intermediate oxycarbide  $\delta$  - phase which can be transformed either into an  $\epsilon$  - phase or into an intermediate  $\gamma$  - phase, depending on the composition of the charge, on the nature of the reducing agent, and on the temperature. The reduction of higher oxides  $V_2O_5$  and  $VO_2$  by carbon below  $800^\circ C$  leads to the formation of the  $V_6O_{13}$ -,  $VO_2$ -,  $V_3O_5$ -, and  $V_2O_3$ - phases. No intermediate  $VO_{1.87}$ ,  $VO_{1.86}$ ,  $VO_{1.84}$ ,  $VO_{1.80}$  and  $VO_{1.75}$  phases have been found. There is 1 figure and 4 tables.

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S/200/62/000/005/003/005  
1003/1242

Intermediate products in the process of...

**ASSOCIATION:** Ural'skii filial AN SSSR, Sverdlovsk (The Ural  
branch of the AS USSR, Sverdlovsk)

**SUBMITTED:** June 24, 1961

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35488

S/078/62/007/004/007/016  
B110/B101

15.2240

AUTHORS: Alyamovskiy, S. I., Gel'd, P. V., Matveyenko, I. I.

TITLE: Concentration ranges of the stability of niobium silicides at 1250°C

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 836-843

TEXT: The alloys of the Nb-Si system were investigated. Sodium thermic niobium (99.7% Nb) and purified Si (99.98% Si) (size of particles  $\sim 90\mu$ ) was briquetted at 6-7 ton/cm<sup>2</sup>. High volatilization of Si and concentration of Nb was observed during the silicide synthesis in the vacuum furnace at 1300-1500°C. The briquetted charge was therefore degassed at 800°C in a vacuum furnace and subsequently sintered for 3-4 hrs at 1150°C under spectroscopically pure He. The product was ground, briquetted, and further sintered in a sealed, evacuated quartz ampulla for  $\sim 5$  hrs at 1250°C. It was then cooled in the furnace during 10 min to 200°C. 27 samples between NbSi<sub>0.15</sub> and NbSi<sub>2.30</sub>, as well as Nb<sub>5</sub>Si<sub>3</sub>C<sub>x</sub> and Nb<sub>5</sub>Si<sub>3</sub>O<sub>x</sub> were studied under the metallographic MIM-7 (MIM-7) or MIM-8M (MIM-8M) microscope and by X-ray diffraction. In samples with < 14% Si, (1) the solid solution of Si  
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S/078/62/007/004/007/016  
B110/B101

Concentration ranges of the ...

in Nb and (2)  $\alpha$ -Nb<sub>5</sub>Si<sub>3</sub> were ascertained. No Nb<sub>4</sub>Si was found. The lattice constants of the phase components from NbSi<sub>0.15</sub> to NbSi<sub>0.55</sub> were identical. The alloys with the stoichiometric composition of Nb<sub>5</sub>Si<sub>3</sub> and NbSi<sub>2</sub> were monophase. NbSi<sub>2</sub> was hexagonal (a = 4.785 kX, c = 6.58 kX),  $\alpha$ -Nb<sub>5</sub>Si<sub>3</sub> was tetragonal (a = 11.84 kX, c = 6.54 kX). NbSi<sub>0.50</sub>-NbSi<sub>0.80</sub> the alloys NbSi<sub>0.50</sub> and NbSi<sub>0.55</sub> were found to consist in two phases: (1)  $\alpha$ -Nb<sub>5</sub>Si<sub>3</sub> and (2) slightly solid solution of Si in Nb. NbSi<sub>0.60</sub>, NbSi<sub>0.62</sub>, NbSi<sub>0.64</sub> and NbSi<sub>0.66</sub> are monophase. The identity periods of all lattices practically coincide. By adding ~2% carbon black or NbO (related to ~3% O<sub>2</sub>) to Nb-Si mixtures  $\gamma$ -Nb<sub>5</sub>Si<sub>3</sub> and the phase component Nb-Si-C(O) were obtained. The latter points toward isomorphous behavior of C and O on interaction with  $\alpha$ -Nb<sub>5</sub>Si<sub>3</sub>. In the range NbSi<sub>1.70</sub>-NbSi<sub>2.30</sub> a diphasic state consisting of  $\alpha$ -Nb<sub>5</sub>Si<sub>3</sub> and NbSi<sub>2</sub> was detected for NbSi<sub>1.70</sub> and NbSi<sub>1.80</sub>; the following

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S/078/52/007/004/007/016  
B110/B101

Concentration ranges of the ...

were monophase ( $\text{NbSi}_2$ ):  $\text{NbSi}_{1.87}$ ,  $\text{NbSi}_{1.90}$ ,  $\text{NbSi}_{2.00}$  and  $\text{NbSi}_{2.10}$ . For  $\text{NbSi}_{2.20}$ ,  $\text{NbSi}_{2.28}$ ,  $\text{NbSi}_{2.29}$  and  $\text{NbSi}_{2.30}$  were found:  $\text{NbSi}_2$  and Si. The density drops with increasing Si content. The thermo emf and the identity periods of the lattices of samples in the homogeneity range of  $\alpha\text{-Nb}_5\text{Si}_3$  and  $\text{NbSi}_2$  hardly change with the composition.  $\text{NbSi}_2$  has p-type,  $\alpha\text{-Nb}_5\text{Si}_3$  has n-type conductivity. It is supposed that the not found  $\text{Nb}_4\text{Si}$  is only stable above 1500-1600°C. The proportional change of the alloy densities with the composition and the unimportant sensitivity of the interplane distances to the composition best explained with the formation of solid solutions by substitution, supposing approximately equal dimensions of the Nb and Si atoms in Nb-Si alloys. There are 1 figure and 4 tables. The most important English-language reference is: H. J. Goldschmidt, J. Iron and Steel Inst., 194, 169 (1960). ✓

SUBMITTED: June 1, 1961

Card 3/3

GEL'D, P.V.; MATVEYENKO, I.I.; ALYAMOVSKIY, S.I.

Intermediate products in the reduction of vanadium oxides by  
carbon. Izv. Sib. otd. AN SSSR no.5:59-69 '62.

(MIRA 18.2)

1. Ural'skiy filial AN SSSR, Sverdlovsk.

L 32994-66 EWT(1)/E/T(m)/EWP(t)/ETI LJP(c) JD

ACC NR: AR6016235

SOURCE CODE: UR/0058/65/000/011/E074/E074

AUTHORS: Dubrovskaya, L. B.; Matveyenko, I. I.; Klimov, R. A.

39  
18

TITLE: Apparatus for the measurement of the magnetic susceptibility of weakly magnet-  
ic substances 4 9m

SOURCE: Ref. zh. Fizika, Abs. 11E584

REF SOURCE: Tr. Ural'skogo politekhn. in-ta, sb. 144, 1964, 62-66

TOPIC TAGS: magnetic susceptibility, measuring apparatus, magnetic metal

ABSTRACT: Apparatus is described for the measurement of the magnetic susceptibility of weakly-magnetic substances; the apparatus is based on a pendulum balance of modified construction. A procedure for using the apparatus is described and a formula is given for determining the magnetic susceptibility of substances; the causes of possible measurement errors are given. A. Nikonov. [Translation of abstract]

SUB CODE: 20

Card 1/1 *pld*

001(a)/001(c)/001(b) 17P(a) 2P  
001(b) 001(c) 001(d) 001(e) 001(f)

001/002/003/004/005/1062/1064  
146.802 151.538

28  
28  
85

Authors: Makovskaya, L. I.; Petrovskaya, L. B.; Osh's, P. V.; Tretakova, M. G.

Title: Magnetic susceptibility of cubic niobium carbide

Source: AN SSSR, Izvestiya. Neorganicheskaya khimiya, v. 1, no. 7, 1965, 1062-1064

Index term: niobium compound, carbide, magnetic susceptibility

Abstract: Samples of niobium carbide  $NbC_x$  were synthesized from  $NbC_{0.45}$  and carbon black; the homogenized preparations contained from 0.25 to 11.22 wt.% of chemically bound carbon and had a single phase, i.e., the composition ranged from  $NbC_{0.70}$  to  $NbC_{0.95}$ . Measurements of their magnetic susceptibility ( $\chi$ ) were made between room temperature and 1000°C. The data show that  $\chi$  and its temperature coefficient ( $\chi_T$ ) change substantially with the composition of niobium

carbide. In the region of homogeneity of cubic niobium carbide ( $NbC_{0.70}$  -  $NbC_{0.95}$ ),  $\chi$  changes with the composition in a complex fashion, exhibiting a maximum of elongation in the vicinity of  $NbC_{0.90}$ . The temperature coefficient

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ACQUISITION NO: AT5022234

is positive over the entire region of heterogeneity, but its value changes  
considerably with the composition, decreasing as the stoichiometric composition  
of the compound. The experimental data obtained are explained with the aid  
of a model proposed by N. F. M. (Zh. Fiz. Khim., 196, 196, 1966), involving N-6 and N-2  
levels of the energy spectrum of electrons in oxides, and by applying the basic  
concepts of the electron theory of metals (conduction of the gas of conduction  
electrons) to the N-6 band. Orig. art. has: 3 figures and 1 formula.

ACQUISITION: Institute of Chemistry, Jozef Stefan Institute (Institute of Chemistry)

ACQUISITION: 1966-05

NOCL: 00

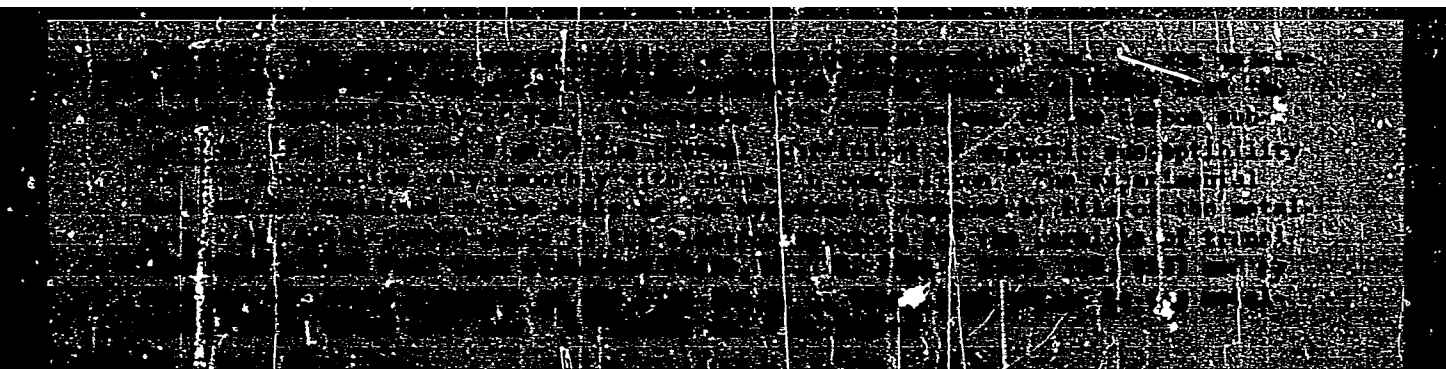
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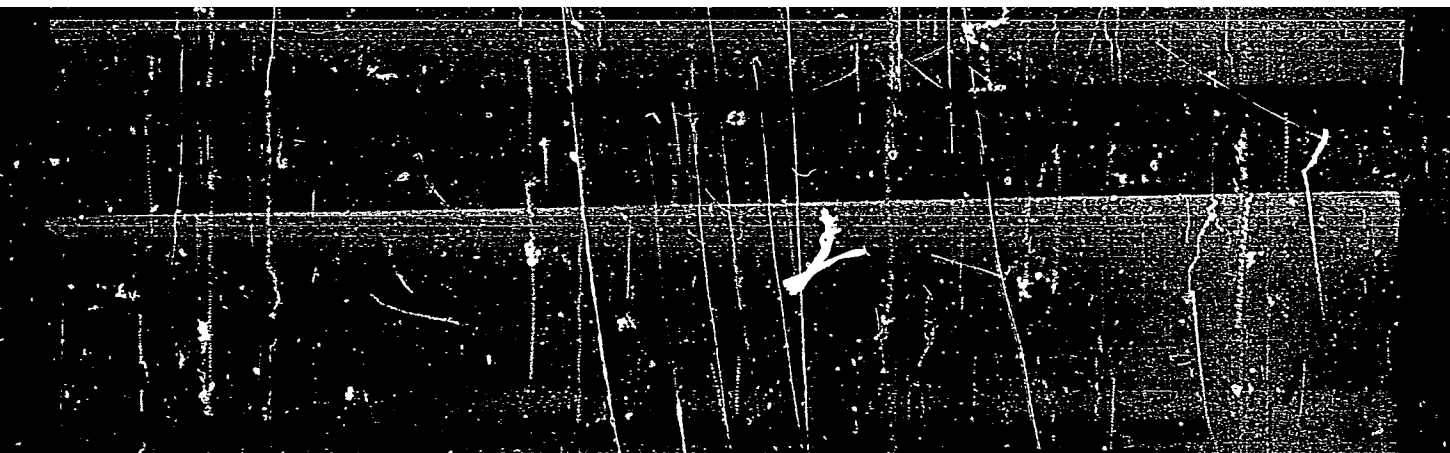


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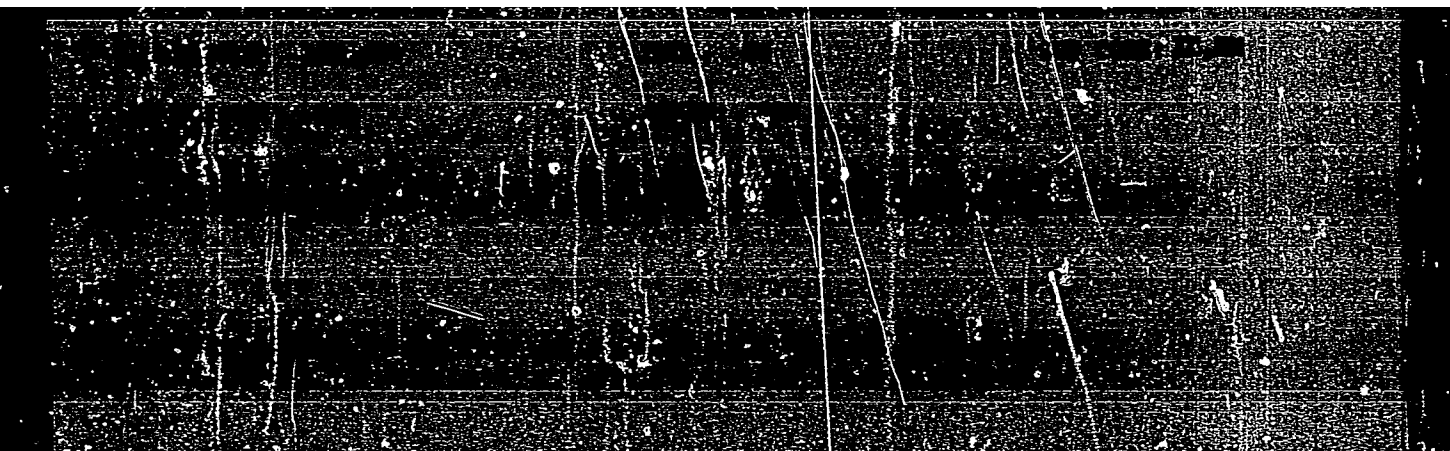


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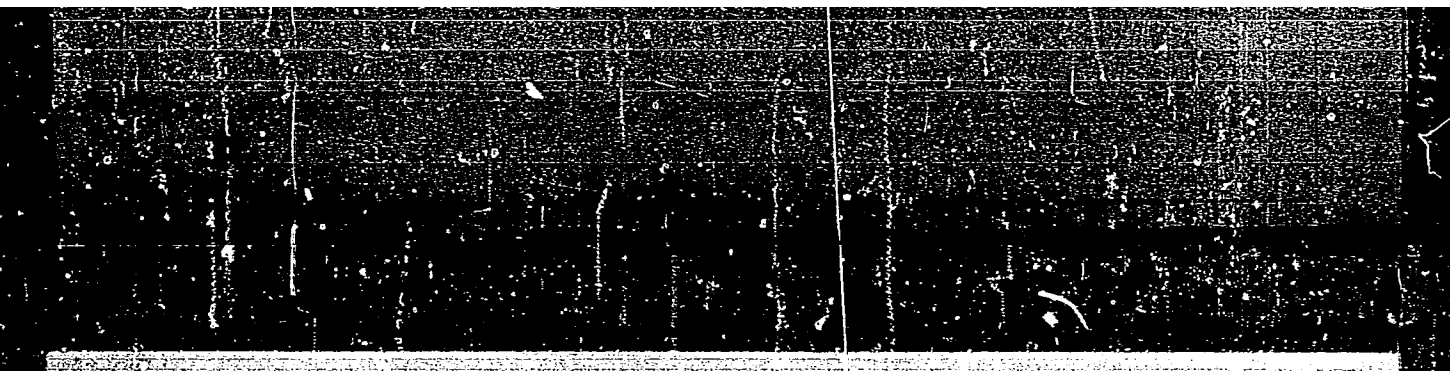
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1 135-66 INT(a)/INT(1)/INT(2) INT(3) INT(4)

ACCESSION NO: A75-01935

REF: 0126/05/020/002/0063/0250  
337.311-000.013.4

420

AUTHOR: Dubrovskaya, L. B.; Matveyenko, I. I.; Gal' S. P. V.

55  
57  
TITLE: Effect of temperature and composition on the electric conductivity of  $\beta$ - and  $\gamma$ -phases of the titanium-titanium system

SOURCE: *Viznikh metallov i metallovedeniye*, v. 20, no. 2, 1963, 243-250

TOPIC TAGS: titanium compound, carbide, electric conductivity, carbide phase, carbon, electron mobility

ABSTRACT: The temperature and concentration dependences of the electric resistances of titanium carbides were measured in the range of compositions  $TaC_{0.21}$ - $TaC_{0.31}$  and temperatures 80-1300°K. Specimens of the carbides were prepared by high-temperature sintering (at 2200°C) of briquets from carefully mixed powders of pure titanium and carbon black. The low-temperature measurements (80 to 300°K) were performed by means of electroless methods (electric conductivity was determined by measuring the torque on a cylindrical specimen placed in a rotating magnetic field). Findings: the temperature dependences of the carbides of all the investigated compositions, except the stoichiometric titanium carbide (of the  $\gamma$ -phase) of

Cont 1/2

1. 1552-64

ACQUISITION NO: AP9021935

2

the  $\alpha$ - $\beta$  alloy  $\text{TiC}_{0.5}$  is nearly linear, characteristic of metals, which indicates a low temperature sensitivity of the energy spectrum of electrons in the carbide. As for the concentration dependence of the electric conductivity of  $\beta$ - and  $\gamma$ -phases of the Ti-C system, this is determined by the relative rel<sub>1</sub> of two factors: the variation in the electron concentration within the conduction band (Mn-Mn band) and the variation in electron mobility with decreasing concentration of vacancies in the carbon sublattices of these carbides. Thus, the appearance of a defect in the carbon sublattice is accompanied by a decrease in the number of the valence electrons of Ti atoms participating in the bonding with C atoms. As a result, the electron concentration in the Mn-Mn band, which is responsible for the electric conductivity of the carbide, increases.

APPROPRIATE: Institute of Metallurgy USSR (Institute of Chemistry USSR) ✓

NUMBER: 100003

INCL: 00

FOR CODE: M.NP

NO. 2-7 207: 013

CODE: 000

End 2/2

ACC NR: AT6036294

SOURCE CODE: UR/268/66/000/009/0017/0021

AUTHOR: Gel'd, P. V.; Dubrovskaya, L. B.; Matveyenko, I. I.

CSC: none

TITLE: Electric conductivity of tantalum carbides

SOURCE: AN SSSR. Ural'skiy filial. Institut khimii. Trudy, no. 9, 1966. Fiziko-khimicheskiy issledovaniya soyedineniy redkikh tugoplavkikh elementov (Ti, V, Nb, Ta), ch. 1: Tverdefaznyye protsessy (Physicochemical analysis of compounds of rare refractory elements (Ti, V, Nb, Ta), pt. 1: Solid-phase processes), 17-21

TOPIC TAGS: tantalum compound, carbide, resistivity

ABSTRACT: The electric resistivity of carbide phases of tantalum was measured over a wide range of compositions ( $TaC_{0.21}$ - $TaC_{0.98}$ ) and temperatures (80-1500°K) on samples prepared by sintering in a vacuum at 2200°C at  $5 \times 10^{-5}$  mm, cooling rapidly to room temperature, and annealing. On the basis of the data obtained, resistivity isotherms (see Fig. 1) and polytherms for 15 carbides of various compositions were plotted. It is apparent that the electric conductivity of the phase components of the tantalum-carbon system depends substantially on their composition (the carbon content being a major factor) and temperature. The data indicate that the carbide phases of tantalum have a metal-type conduction in the investigated range of compositions and temperatures. The absolute value of the resistivity strongly depends on

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