

L 58700-65

ACCESSION NR: AP5016585

the unit cells of the compounds M_3Si_2 obtained (VLa_3Si_2 , VCe_3Si_2 , VPt_3Si_2) indicate the presence of Ce $4+$ ions in the compound Ce_3Si_2 . The lattice constants of La_3Si_2 , Ce_3Si_2 , and Pt_3Si_2 are also given. Orig. art. has: 2 figures and 4 tables.

ASSOCIATION: L'vovskiy gosudarstvennyy universitat im. I. Franko (Lvov State University)

SUBMITTED: 13Apr64

ENCL: 01

SUB CODE: 1C, SS

NO REF SOV: 001

OTHER: 004

Card 2/3

E 58700-65

ACCESSION NR: AP5016585

ENCLOSURE 01

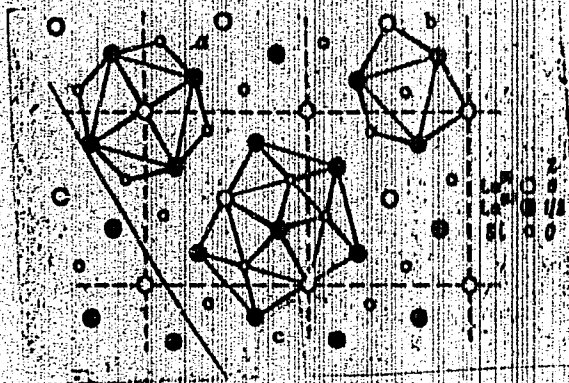


Fig. 1. Structure of the compound La_3Si_2 (type U_3Si_2); projection of unit cell on xy plane; coordination polyhedra:

a - $La(2La_1La_2La_3)$ b - $La(2Si_1Si_2Si_3Si_4)$
c - $Si(2La_1La_2La_3)$

Card

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I-58701-65 ENT(1)/ENP(e)/ENT(m)/ENP(1)/ENP(n)-2/IMG(M)/RFR. P/ENP(t)/ENP(b)/
REC(b)-2/ENI(c) Es-l/PI-l/Pa-l LIP(c) JD/JG/SO/AN/WI

ACCESSION NR: AP5016586

UR/0363/65/001/005/0711/0714
546.631'2811548.19

AUTHOR: Dvorina, L. A.; Protasov, V. S.; Gladyshevskiy, Yu. I.

32
52
B

TITLE: Scandium monosilicide and its crystal structure

SOURCE: AN SSSR. ⁷¹ Izvestiya. Neorganicheskiys materialy, v. 1, no. 5, 1965, 711-714

TOPIC TAGS: scandium silicide, silicide crystal structure, xray diffraction

ABSTRACT: Six alloys of scandium with silicon containing 40-80 at.% Si were prepared by electric arc fusion in He, annealing for 100 hr. at 800C, then quenching in cold water. X-ray phase analysis revealed the existence of the monosilicide ScSi in addition to the already known compounds Sc₃Si₅ and Sc₅Si₃. These three silicides (and no others) were also obtained by reducing Sc₂O₃ with silicon at high temperatures. Powder analysis of ScSi gave the lattice constants a = 3.99 A, b = 9.86 A, c = 3.65 A (within ± 0.01 A). It was postulated that ScSi belongs to the structural type of CrB (space group Caem - D_{2h}⁷). Interatomic distances and coordination characteristics of the atoms in the ScSi structure are given, and the ratios of line intensities are plotted versus the

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ACCESSION NR: AP5016586

parameters of the positions of the atoms. Orig. art. has: 1 figure, 3 tables, and 3 formulas. 2

ASSOCIATION: L'vovskiy ordena Lenina gosudarstvennyy universitet im. I. Franko (Lvov State University); Institut problem materialovedeniya Akademii Nauk UkrSSR (Institute of Materials Science Problems, Academy of Sciences, UkrSSR)

GLADYSHEVSKIY, Ye. I.

Mn_2Si_3 -type compounds in alloys of rare-earth metals with silicon. Izv. AN BSSR, Neorg. mat. 1 no. 6:868-872 (a 1965). (MIRA 18:8)

L. Lvovskiy gosudarstvennyy universitet imeni Iv. Franko.

L 60890-65 EWI(m)/EPF(n)-2/EWP(l)/EWP(b) IJP(c) JD/WY/WV/JG

ACCESSION NR: AP5018923

UR/0363/65/001/006/0890/0893
541.123

AUTHOR: Markiv, V. Ya.; Voroshilov, Yu. V.; Gladyshevskiy, Yu. I.

TITLE: Ternary Laves phases in the systems Ti - Co - Si(Ge) and Zr - Fe - Si(Ge)

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 890-993

TOPIC TAGS: titanium alloy, cobalt alloy, silicon alloy, zirconium alloy, iron alloy, germanium alloy

ABSTRACT: The authors carried out an x-ray structural study of alloys with 33.3 at.% R (Ti or Zr) containing 5, 10, 16.7, 25, and 33.3 at.% silicon or germanium (balance Fe, Co, or Ni). The alloys were prepared by double melting of the charge in an electric arc furnace in an atmosphere of helium. The heat treatment consisted in a 30-day homogenizing anneal in evacuated quartz ampoules at 800C, followed by quenching in cold water. Ternary phases are formed at the compositions R_2M_3X (where R = Ti, Zr, Hf; M = Fe, Co, Ni; X = Si, Ge). The x-ray patterns of Ti_2Co_3Si , Ti_2Co_3Ge , Zr_2Fe_3Si , and Zr_2Fe_3Ge are indexed in a hexagonal system with $c/a \approx 1.62$, which suggests the presence of an $MgZn_2$ -type structure in these

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ACCESSION NR: AP5018923

compounds. This conclusion is supported by a calculation of the interference intensities for certain positions of the atoms. The lattice constants of these compounds are as follows:

$TbCo_2Si$: $a = 4.706$; $c = 7.566$ Å
 $TbCo_2Ge$: $a = 4.887$; $c = 7.590$ Å
 Zr_2FeSi : $a = 4.989$; $c = 8.110$ Å
 Zr_2FeGe : $a = 5.020$; $c = 8.169$ Å

The solubility of component X in a binary compound RM_2 of the type of $MgZn_2$ ($TiFe_2$) is much greater than that in binary Laves phases with an $MgCu_2$ -type structure ($TiCo_2$, $ZrFe_2$, $ZrCo_2$). The increase in the lattice constants of the binary compounds upon dissolution of germanium therein is much greater than upon dissolution of silicon. Orig. art. has: 4 tables.

ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. Iv. Franko (Lvov State University)

SUBMITTED: 20 Jun 64

Card 2 / ZNO REF SOV: 002

ENCL: 00

SUB CODE: 88, 89

OTHER: 003

1981-1982

Report of the

1. The

L 1315-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) LJP(c) JD/JG

ACCESSION NR: AP5022262

UR/0363/65/001/007/1115/1120
546.821+546.881+546.2846
43
BAUTHOR: Gladyshevskiy, Ye. I.; Markiv, V. Ya.; Yefimov, Yu. V.; Savitskiy,
Ye. M.; Baron, V. V.

TITLE: The titanium-vanadium-silicon system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965,
1115-1120TOPIC TAGS: titanium compound, silicon compound, vanadium compound, titanium
alloy, silicon alloy, vanadium alloy

ABSTRACT: The object of the work was to investigate the equilibria and phase regions in the Ti-V-Si system in alloys containing up to 50 at.% Si. X-ray structural and microstructural studies as well as microhardness measurements provided data from which a diagram of the phase equilibria was plotted. The isothermal section at 800C showed the presence of a new ternary compound (Ti, V)Si and wide regions of solid solutions based on the binary compounds Ti_5Si_3 , V_5Si_3 , and V_3Si . The compound (Ti, V)Si has a variable content of the transition metal, and its region of homogeneity includes the composition $TiVSi_2$, which was shown to crystallize in the rhombic system. The change of the lattice constants and

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L 1315-66

ACCESSION NR: AP5022262

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microhardness of the solid solutions based on Ti_5Si_3 , V_5Si_3 , and V_3Si was studied as a function of composition of the alloys. The solubility of vanadium in Ti_5Si_3 is approximately 30 at.%, and that of titanium in V_5Si_3 and V_3Si , 12 and 18 at.%, respectively. Orig. art. has: 5 figures.

ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. I. Franko (Lvov State University); Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 07Apr65

ENCL: 00

SUB CODE: MM, XC

NO REF SOV: 002

OTHER: 013

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ACCESSION NR: AP5007757

the analogous sections of the two other systems under study. These two systems of

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L 36987465

ACCESSION NR: AP5007759

ASSOCIATION: Library of Congress, University of Michigan, University of California, University of Texas, University of Wisconsin, University of Illinois, University of Pennsylvania, University of Maryland, University of Virginia, University of North Carolina, University of South Carolina, University of Georgia, University of Florida, University of Alabama, University of Mississippi, University of Tennessee, University of Kentucky, University of West Virginia, University of Missouri, University of Arkansas, University of Louisiana, University of Texas at Dallas, University of Texas at Austin, University of Texas at San Antonio, University of Texas at El Paso, University of Texas at Permian Basin, University of Texas at Brownsville, University of Texas at Rio Grande, University of Texas at San Marcos, University of Texas at Tyler, University of Texas at San Antonio, University of Texas at El Paso, University of Texas at Permian Basin, University of Texas at Brownsville, University of Texas at Rio Grande, University of Texas at San Marcos, University of Texas at Tyler

Card 2/2

FEDOROV, T.F.; POPOVA, N.M.; GLADYSHEVSKIY, Ye.I.

Ternary systems hafnium - columbium - carbon, zirconium - columbium - carbon and titanium - columbium - carbon. Izv. AN SSSR. Met. no.3:158-163 My-Je '65. (MIRA 18:7)

L 53914-65 ENP(e)/ENT(n)/ENP(1)/EPF(n)-2/ENG(m)/EPR/T/ENP(t)/ENP(x)/ENP(z)/

ENP(b)/EWA(c) Pf-4/Pad/Re-4/Pl-4/Pv-4 LIP(c) RWF/JL/W/JG/T/WR

ACCESSION NR: AP5011828

UR/0192/65/006/002/0313/0314

48.736

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58
B

AUTHOR: Borusevich, L. K.; Gladyshevskiy, Ye. I.; Fedorov, T. F.; Popova, N. M.

TITLE: New representatives of the structural type W sub 3 Fe sub 3 C

SOURCE: Zhurnal strukturnoy khimii, v. 6, no. 2, 1965, 311-314

TOPIC TAGS: carbide structure, tungsten carbide, iron carbide, mixed carbide, Beta phase, niobium carbide, cobalt carbide, tantalum carbide

ABSTRACT: Carbides possessing the structure of γ phases exist in many ternary and quaternary systems. In a study of the phase equilibria in the ternary system Nb-Co-C, the authors found that a ternary compound is formed in annealed samples in the vicinity of the composition Nb₃Co₃C. The present article is devoted to a study of the crystal structure of this compound and of the possible formation of analogous compounds in other systems formed by transition metals with carbon. The compounds Nb₃Co₃C and Ta₃Co₃C were prepared from powdered iron-

The calculated line intensities were found to be in good agreement with the ob-

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L 53914-65
ACCESSION NR: AP5011828

served intensities, thus indicating that the compounds belong to the type W_3Fe_3C . Analogous compounds of the same structural type were found in the systems Nb-Ni-C and V-Fe-C: Nb_3Ni_3C and V_3Fe_3C . Orig. art. has: 1 table.

ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. Iv. Franko (Lvov State University); Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 05Sep64

ENCL: 00

SUB CODE: IC, MM

NO REF SOV: 002

OTHER: 001

SKOLIZHNA, N. V. and GORODKOV, Ya. P., CHADISHEVSKIY, Ye. I.

Compounds of the R-phase type in the systems Me - Fe (Co, Ni) - Si (Ge).
Zhur. Struk. Khim. 6 no.3:473-474 My-Je '65.

(MIRA 18:8)

L. I. Nevskiy gosudarstvennyy universitet imeni Iv. Franko.

SEP 19 12:21 PM '66
U.S. DEPARTMENT OF STATE
OFFICE OF THE ASSISTANT SECRETARY
FOR PUBLIC AFFAIRS
WASHINGTON, D.C. 20520

GLADYSHEVSKIY, Ye.I.

Compounds La_3Si_2 , Ce_3Si_2 , Pr_3Si_2 and their crystalline structures.
Izv. AN SSSR. Neorg. mat. 1 no.5:706-710 My '65. (MIRA 18:10)

1. L'vovskiy gosudarstvennyy universitet imeni Franko.

DVORINA, L.A.; PROTASOV, V.S.; GLADYSHEVSKIY, Ye.I.

Scandium monosilicide and its crystalline structure. Izv. AN SSSR,
Neorg. mat. 1 no.5:711-714. My '65. (MIRA 18:10)

I. I'vovakly ordena Lenina gosudarstvennyy universitet imeni
Franko i Institut problem materialovedeniya AN UkrSSR.

СЛАВЯНИНКИ Я.И., БЕЛОВАЯ, В.В.

Compounds of gadolinium with pentamers and hexa-cyclodextrine
structures. Dokl. Akad. Nauk, Moscow, 1978, 241:1508-1511, 165.
(YIF-18-11)

1. Slavyaniki pentameratvenyy un chislit' izmen' Planku.

FIGURE 1.4. ...

... equilibrium of the tertiary system of the fourth and
... of the ... of transition metals with carbon. Porosh, met.
... (MIRA 16:0)

... Institut metallurgii i Chernykh metallov
... Chernykh metallov i Chernykh metallov
... Chernykh metallov i Chernykh metallov

ХИМИКАМИ, 18.1.; ФИЗИКА, 78.9.

Учен. зап. Казан. ун-та. Сер. Физ.-матем. науки. 1967. Т. 9. № 1. С. 1-10. Кристаллические структуры соединений Nb_2O_5 , $\text{Nb}_2\text{O}_5 \cdot \text{H}_2\text{O}$ и их кристаллические структуры. Докл. АН СССР, 1965, № 170-74. За-Р '65.

(MIRA 18:12)

И. А. Ковалев, Казанский государственный университет имени А. М. Горького.
Получено 25 ноября 1967 г.

GLADYSHEV R.H., Ye.I.; KRIVYANOVICH, E.I.

Crystal structure of certain silicides of cerium. Part.
Strukt. khim. 6 no.1:163-164 Ja-F '65.

(NPA 13213)

L. M. V. vaki gosudarstvennyy universitet. Seriya. Khim. fiz.
Submitted June 15, 1964.

GLADYSHEVSKIY, Ye.I. [Hladyshevs'kiy, IE.I.]; KULIKOVA, A.A. [Kulykova, A.O.]

Continuous transformation between the structural forms
 α -ThSi₂ and α -GdSi₂ in the homogeneity region of
lanthanum disilicide. Dop. AN URSR no.11:1472-1474 '65.
(MIRA 18:12)

1. L'vovskiy gosudarstvennyy universitet.

SAVITSKIY, Ye.M. [Savyts'kiy, IE.M.]; BARON, V.V.; YEFIMOV, Yu.V.
[IEfimov, IU.V.]; GLADYSHEVSKIY, Ye.I. [Hladyshevs'kiy, IE.I.]

Solid solutions of Ge, Sn, Al, and Be in the V_3Si compound
and their superconductivity. Dop. AN URSR no.11:1474-1478
'65. (MIRA 18:12)

BGHA SEVICH, L.K. (L'vov); GLEDENEVSKIY, Ho.I. (L'vov)

Ternary system Cr - Co - Si. Izv. AN SSSR. Met., no.6:
120-126 1-D '65. (RUBA 39:3)

1. Submitted January 15, 1964.

L 15952-66 EWT(m)/T/EWP(t) LJP(c) JD/JG

ACC NR: AP6002648

SOURCE CODE: UR/0021/65/000/011/1472/1474

AUTHOR: Hladyshevs'kyi, Ye. I.; Gladyshevskiy, Ye. I.; Kulykova, A. O.;
Kulikova, A. A.

24
23
B.

ORG: L'vov State University (L'vivs'kyi derzhavnyi universytet)

TITLE: Continuous transition between structural types α -ThSi₂ and α -GdSi₂ in the homogeneity region of lanthanum disilicide

SOURCE: AN UkrRSR. Dopovidi, no. 11, 1965, 1472-1474

TOPIC TAGS: lanthanum compound, silicide, solid solution

ABSTRACT: The interaction between α -ThSi₂ and α -GdSi₂ structural types in lanthanum silicide were studied in ten alloys containing 31-40 at. % La. The alloys were homogenized in a vacuum for 100 hr at 800C and quenched in cold water. X-ray analysis established the presence of an α -ThSi₂ type structure in alloys with no more than 34 at. % La, and an α -GdSi₂ structure in alloys containing more than this amount of La. As the La content increases, the structure becomes deformed; lattice constants a and b decrease, and c increases. In alloys containing less than 33.3 at.% La, a = 4.322 ± 0.005 Å, c = 13.86 ± 0.02 Å; in those with more than 37.8 at.% La, a = 4.270 ± 0.005 Å, b = 4.170 ± 0.005 Å, Card 1/2

L 15952-66

ACC NR: AP6002648

$c = 14.05 \pm 0.02 \text{ \AA}$. At the same time, the volume of the unit cell decreases despite the increasing quantity of La, the atoms of which are larger than Si atoms. This indicates the formation of a solid solution in the compound LaSi_2 . On the basis of density data, the unit formula was determined to be LaSi_{2-x} , the deficiency of Si atoms being x . The latter increases from 0 at 33.3 at.% La to 17.5% at 37.8 at.% La. Thus, the findings indicate a continuous transition between structures of α - ThSi_2 type (tetragonal) and α - GdSi_2 type (rhombic) in the homogeneity region of lanthanum disilicide. The paper was presented by V. M. Svechnikov — V. N. Svechnikov, Member of AN UkrSSR. Orig. art. has: 1 figure.

SUB CODE: 11 / SUBM DATE: 31Aug64 / ORIG REF: 001 / OTH REF: 004
20/

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Card 2/2

L 38538-66 EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JG/JD/GD

ACC NR: AT6014757

SOURCE CODE: UR/0000/65/000/000/0091/0100

AUTHORS: Yefimov, Yu. V.; Gladyshevskiy, Ye. I.; Baron, V. V. (Candidate of technical sciences); Savitskiy, Ye. M. (Doctor of chemical sciences)

76
72
3+1

ORG: none

TITLE: The effect of alloying on the critical temperature of transition to the superconducting state and the crystal-lattice constant of the compound V_3Si

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. Ist. 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniye. Moscow, Izd-vo Nauka, 1965, 91-100

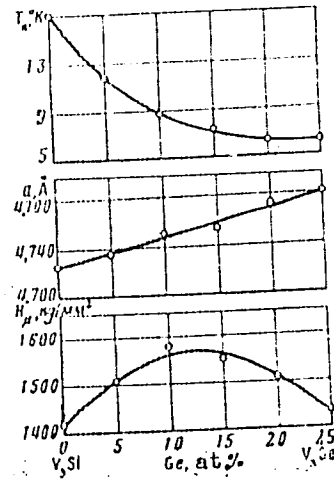
TOPIC TAGS: superconductivity, solid solution, vanadium compound, silicon compound, germanium compound, tin compound, crystal lattice parameter, x ray analysis, solubility

ABSTRACT: The solubility of 17 different elements in the compound V_3Si and the effect of the dissolution of these elements on the critical superconductivity transition temperature are studied. Microstructural and x-ray analysis and the microhardness method are used. The starting materials were sintered vanadium and silicon with a purity of 99.8 wt %. The alloys were prepared in an arc furnace in an atmosphere of purified helium at a pressure of 0.7 atm. The alloys were annealed at 800C
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ACC NR: AT6014757

for 2500 hrs. The x-ray phase analysis was performed by the powder method with chromium radiation in a cylindrical chamber. The transition temperature was measured by the magnetic method. It was found that interstitial solid solutions are formed when elements with small atomic radii are dissolved in V_3Si . There is isomorphous replacement of the vanadium atoms in the crystal lattice of V_3Si by atoms

Fig. 1. Change in critical temperature, lattice constant, and microhardness of solid solutions $V_3(Si, Ge)$.



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ACC NR: AT6014757

4

of the transition metals. Atoms of the elements of subgroup B of the periodic system replace Si atoms in the lattice of V_3Si . The pure compound V_3Si has the maximum critical superconductivity transition temperature (see Fig. 1). The authors thank N. Ye. Alekseyevskiy, Institute of Physical Problems AN SSSR (In-t fizproblem AN SSSR) and V. R. Karasik, Physics Institute AN SSSR (Fizicheskii in-t AN SSSR) for measuring the transition temperatures. Orig. art. has: 4 graphs, 4 tables, 1 diagram, and 2 photographs.

SUB CODE: 11, 20/ SUBM DATE: 23Dec65/ ORIG REF: 008/ OTH REF: 009

Card 3/3 #

ACC NR: APCOLRUE

(A)

AUTHORS: Ferusevina, L. K. (L'vov); Gladyshevskiy, Ye. I. (L'vov)

ORI: none

TITLE: Ternary system Cr-Co-Si

SOURCE: AN SSSR. Izvestiya. Metall., no. 6, 1965, 123-126

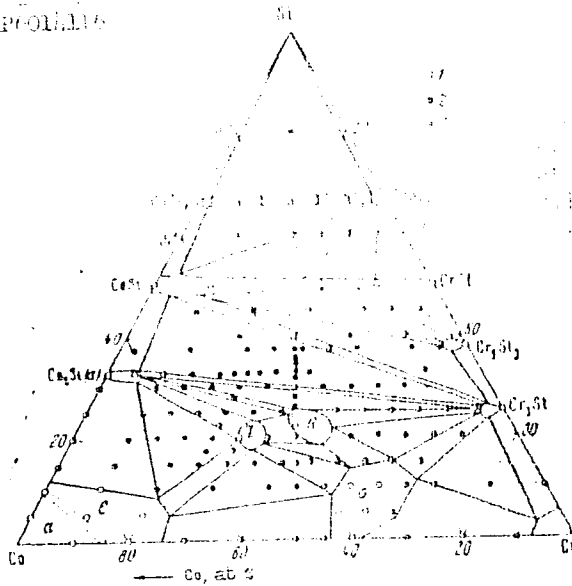
TOPIC TAGS: alloy phase diagram, chromium containing alloy, cobalt containing alloy, silicon containing alloy

ABSTRACT: The phase equilibria in the ternary system Cr-Co-Si were investigated at 820 and 1000C. The investigation supplements the results of Ye. I. Gladyshevskiy and P. L. Krivakovich (Italicheskoye sozhdineniya no strukturalni metallov. s. kn. VIII. Ser. fiziko-khimicheskoy i profil. khimii. Referaty Gubladov, sektoriya metallov i sployav. Izd. AN SSSR, 1965, 64). The phase equilibria were studied by x-ray powder diffraction and microstructural analysis. The experimental results are summarized in graphs and tables (see pg. 1). It was found that CoSi and CrSi form a continuous series of solid solutions. The compound Co₂Si dissolves in Co at 6 of Cr at 1000C. L. P. Rydenko assisted in the experiments.

UDC: 669.265'251'782

Card 1/2

ACC NRI AP70141116



Phase diagram
Co-Cr-Si
intermetallic alloys,
intermetallic alloys.

Orig. art. has: 3 tables and 2 graphs.

SUB CODE: 11/

SECT DATE: 13Jan64/

ORIG REF: 005/

OTH REF: 006

Card 2/2 114

E 28731-66 EWI(m)/T/EMP(b)/ETI LJE(c) JD/JG
 ACC NR AP6008800 SOURCE CODE: UR/0021/65/000/010/1326/1329

AUTHOR: Hladyshevs'kyy, Ye. I. -- Gladyshevskiy, Ye. I; Uhryn, R. S. -- Ugrin, R. S.

ORG: L'vov State University (L'vivs'kyy derzhavnyy universytet)

TITLE: Monogermanides of the rare earth metals and their crystal structures

SOURCE: AN UkrRSR. Dopovidi, no. 10, 1965, 1326-1329

TOPIC TAGS: germanium alloy, germanium compound, rare earth metal, crystal lattice structure, crystal lattice parameter

ABSTRACT: X-ray diffraction and microscopic analysis are used for studying alloys of La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu with Ge. Reaction of the components in a helium atmosphere for 50 hours at 600°C produced the alloys LaGe and CeGe (type FeB) and PrGe, NdGe, SmGe, EuGe, GdGe and HoGe (type CrB). The lattice constants for these alloys are tabulated. The diffraction patterns for ErGe, TmGe and LuGe are very similar and differ from those of other monogermanides. Experimental data show that the alloys RGe and RSi differ with respect to morphotropic transitions. A gradual increase in the valence of R in the first alloy produces the combination FeB-CrB-X (unknown structure), while the same increase in the second alloy yields the structure FeB-CrB-FeB-CrB. Europium monogermanides form ions of the R^{2+} type, while all other germanides form ions of the R^{3+} type. Orig. art. has: 3 tables.

SUB CODE: 11, 20/ SUBM DATE: 16Mar64/ ORIG REF: 004/ OTH REF: 005

Card 1/1

L 23585-66 EWT(m)/EWP(e)/T/EWP(t) IJP(c) JD/JG

ACC NR: AP6012772

SOURCE CODE: UR/0226/66/000/004/0055/0060

AUTHOR: Gladyshevskiy, Ye. I.; Fedorov, T. F.; Kuz'ma, Yu. B.;
Skolozdra, K. V. 38
BORG: Lvov Order of Lenin State University im. Iv. Franko (L'vovskiy
ordena Lenina gosuniversitet); Institute of Metallurgy im. A. A. Baykov
(Institut metallurgii)TITLE: The system molybdenum-iron-boron

SOURCE: Poroshkovaya metallurgiya, no. 4, 1966, 55-60

TOPIC TAGS: molybdenum compound, boron compound, ternary compound,
isothermal cross section

ABSTRACT: The system Mo-Fe-B has been investigated by x-ray and micro-
scopic analyses, and its isothermal cross section is given. The phase
equilibria were established at 1000C. The ternary compound Mo_2FeB_2
was found to exist in the range 20--28 at % Fe, with a U_3Si_2 -type super-
structure ($a = 5.807 \text{ -- } 5.729 + 0.004 \text{ \AA}$, $c = 3.142 \text{ -- } 3.151 + 0.003 \text{ \AA}$).
The ternary compound $(\text{Mo}, \text{Fe})\text{B}$ has a CrB-type structure (the lattice
constants are similar to those of the high-temperature modification of
MoB). The compound MoFe_2B_4 has a Ta_3B_4 -type superstructure ($a = 3.128$

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L 23585-66

ACC NR: AP6012772

+ 0.005 Å , b = 12.70 + 0.01 Å, c = 2.984 + 0.005 Å). Iron was found to have a stabilizing effect on the high-temperature modification of MoB. Orig. art. has: 3 figures and 3 tables. [Based on author's abstract] [AM]

SUB CODE: 11, 07/ SUBM DATE: 05May65/ ORIG REF: 002/ OTH REF: 004

Card 2/2

PB

ACC NR: AP6012775

SOURCE CODE: UR/0220/66/000/001/0069/0173

AUTHORS: Verkhoglyadova, T. S. (deceased); Vivchar, O. I.; Gladyshevskiy, Ye. I.ORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); L'vov State University im. I. Franko (L'vovskiy gosudarstvennyy universitet)TITLE: Solubility of transition metal disilicides in molybdenum and tungsten disilicide

SOURCE: Poroshkovaya metallurgiya, no. 4, 1966, 69-73

TOPIC TAGS: molybdenum compound, tungsten compound, transition element, phase diagram

ABSTRACT: The phase diagrams of the binary systems $\text{MoSi}_2 - \text{ReSi}_2$ and $\text{WSi}_2 - \text{ReSi}_2$ and the ternary system $\text{MoSi}_2 - \text{WSi}_2 - \text{MeSi}_2$ (where Me = Ti, V, Nb, Ta, or Cr) were determined. The nature of the solid phase was determined by x-ray and microstructural methods. The experimental results are presented in graphs and tables (see Fig. 1). The system $\text{MoSi}_2 - \text{ReSi}_2$ exhibits a continuous series of solid solutions, and the systems $\text{WSi}_2 - \text{ReSi}_2$ and $\text{MoSi}_2 - \text{WSi}_2 - \text{ReSi}_2$ show unlimited reciprocal solubility. The systems $\text{MoSi}_2 - \text{WSi}_2 - \text{MeSi}_2$ show only limited solubility in the solid state. It is concluded that the greater solubility of disilicides in WSi_2 as compared with

Card 1/2

L. 26027-66

ACC NR: AP6012775

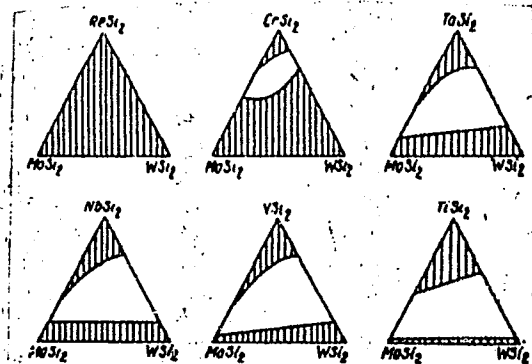


Fig. 1. Regions of solid solution formation in the ternary systems $MoSi_2 - WSi_2 - MeSi_2$, temperature 1400C.

$MoSi_2$ is associated with the decreased stability of the d-electronic level in W atoms. Orig. art. has: 1 table and 5 figures.

SUB CODE: 11/

SUBM DATE: 15Jul64/

ORIG REF: 006/

OTH REF: 001

Card 2/2

PB

L 46111-56 ENT(®)/ENT(t)/ETI IJP(c) JD/HW
 ACC NR: AP6023925 SOURCE CODE: UR/0353/66/002/007/1317/1319

AUTHOR: Markiv, V. Ya.; Gladyshevskiy, Ye. I.; Kripyakevich, P. I.; Fedoruk, T. I.

ORG: L'vov State University im. Iv. Franko (L'vovskiy gosudarstvennyy universitet)

TITLE: Titanium-nickel-silicon system

SOURCE: AN SSSR. Izv. Neorg materialy, v. 2, no. 7, 1966, 1317-1319

TOPIC TAGS: metal phase system, titanium, nickel, silicon, phase diagram

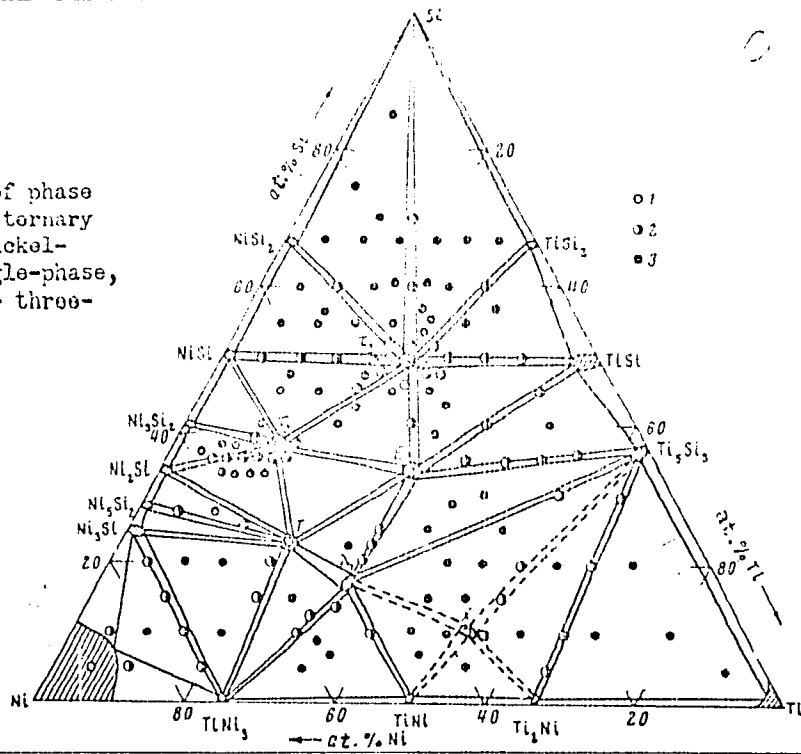
ABSTRACT: The study of the Ti-Ni-Si system was carried out as a part of a series of investigations concerned with phase equilibria and crystal structures of compounds in metal-metal-silicon systems. The binary systems comprising the ternary system were investigated in detail. The isothermal section of the Ti-Ni-Si system at 750°C was plotted (see Fig. 1). Six intermetallic compounds are formed in this system; three of them, $Ti_2Ni_3Si(1)$, $Ti_6Ni_{16}Si_7(T)$ and $TiNiSi(E)$, were confirmed, and three, $Ti_4Ni_9Si_7$, $Ti_{14}Ni_{40}Si_{37}$ and $-Ti_{23}Ni_{37}Si_{10}$, were identified for the first time. The ternary compound $TiNiSi_2$ has a tetragonal structure with lattice constants $a = 12.58 \text{ \AA}$, $c = 4.97 \text{ \AA}$ (possible space groups: $D_{4h}^{13} = \overline{I}4mm$; $D_{2d}^9 = \overline{I}4m2$; $D_{2d}^{11} = \overline{I}42m$; $C_{4v}^9 = \overline{I}4mm$; $D_2^9 = \overline{I}422$). The number of atoms per unit cell is 56. The compound $Ti_{14}Ni_{40}Si_{37}$, similar to the τ_3 phase of the Ti-Co-Si system, crystallizes in the hexagonal system. In the crystallochemical sense, the Ti-Ni-Si system resembles the Ti-Co-Si system. Orig.

Card 1/3

UDC: 546.221+546.24+546.28

ACC NR: AP603925

Fig. 1. Diagram of phase equilibria in the ternary system titanium-nickel-silicon: 1 - single-phase, 2 - two-phase, 3 - three-phase alloys



L 46111-66

ACC NR: AP6023925

art. has: 1 figure.

SUB CODE: 07/ SUBM DATE: 06Oct65/ ORIG REF: 016/ OTH REF: 007

Cara

L 46769-66 ENT(m)/I/ENP(t)/EII IJP(c) JD/HW/JG
ACC NR: AP6031724 SOURCE CODE: UR/0370/66/000/005/0148/0151

AUTHOR: Skolozdra, N. V. (L'vov); Gladyshevskiy, Ye. I. (L'vov); Yarmolyuk, Ya. P. (L'vov)

ORG: none

TITLE: Ternary Mo-Co-Si system 47
B

SOURCE: AN SSSR. Izvestiya. Metally, no. 5, 1966, 148-151

TOPIC TAGS: *COBALT CONTAINING ALLOY, SILICON CONTAINING ALLOY,*
molybdenum cobalt silicon system, molybdenum cobalt silicon alloy, alloy
phase diagram, alloy phase composition, alloy structure, intermetallic compound,
TERNARY ALLOY, MOLYBDENUM CONTAINING ALLOY

ABSTRACT: A study has been made of 120 alloys of the molybdenum-cobalt-silicon system. Alloys were melted from 99.9%-pure molybdenum, 99.98%-pure cobalt, and 99.99%-pure silicon. A phase-equilibrium diagram of the system at 800C (see Fig. 1) was plotted on the basis of data obtained by physicochemical analysis. The existence of MoCoSi compound, with a homogeneity region extending from 15 to 30 at% silicon, was confirmed. Two previously unknown compounds, $\text{Mo}_5\text{Co}_3\text{Si}_2$ ($a = 11.06\text{\AA}$, $c = 19.89\text{\AA}$) and Mo_3CoSi ($a = 12.70\text{\AA}$, $c = 4.85\text{\AA}$), were found. The solubility of cobalt in MoSi was about 3 at%

Card 1/3

UDC: 669.285'25'782

L 46769-66

ACC NR: AP6031724

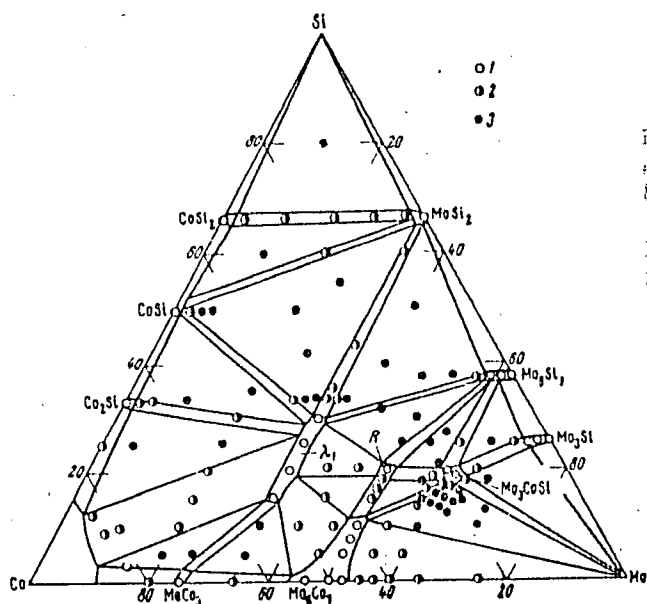


Fig. 1. Phase equilibrium diagram of the Mo-Co-Si system at 800C

- 1 - Single-phase alloys;
- 2 - two-phase alloys;
- 3 - three-phase alloys.

Card 2/3

ACC NR: AP6031724

and in Mo_5Si_3 and Mo_3Si , about 5 at%. The solubility of silicon in Mo_6Co_7 was 12 at% and in MoCo_3 , less than 5 at%. The solubility of molybdenum in silicides was found to be insignificant. Orig. art. has: 2 figures and 2 tables. [TD]

SUB CODE: 11/ SUBM DATE: 21Dec64/ ORIG REF: 007/ OTH REF: 008/ ATD PRESS:
5090

L 0431-66 EBT(t)/EPP(t)/EPI LNP(c) ID/IG

ACC NR: AP6019838

(A)

SOURCE CODE: UR/0370/66/000/001/0159/0164

AUTHOR: Gladyshevskiy, Ye. I. (L'vov); Borusevich, L. K. (L'vov)

32
B

ORG: none

TITLE: The ternary system Cr-Fe-Si
27 29 ~ 7

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1966, 159-164

TOPIC TAGS: alloy phase diagram, ternary alloy, chromium alloy, iron alloy, silicon alloy, solid solution

ABSTRACT: Although the interaction between Fe and Cr and Si has been the subject of several studies in the past owing to the significance of this problem to the development of corrosion-resistant high-temperature materials, the complete phase equilibrium diagram of the Cr-Fe-Si system has not previously been investigated. To fill this gap, the authors investigated by radiographic and microstructural methods specimens of 120 Cr-Fe-Si alloys melted in corundum crucibles within helium-atmosphere induction and arc furnaces and annealed at 900°C for 400 hr in evacuated quartz ampoules. The findings (Fig. 1) confirm the existence of a continuous series of CrSi-FeSi solid solutions, as well as the limited solubility of the compounds FeSi₂ and CrSi₂. It is further established that the solubility of the compounds

Card 1/3

UDC: 669.017.13

L 44308-66
ACC NR: AP6019838

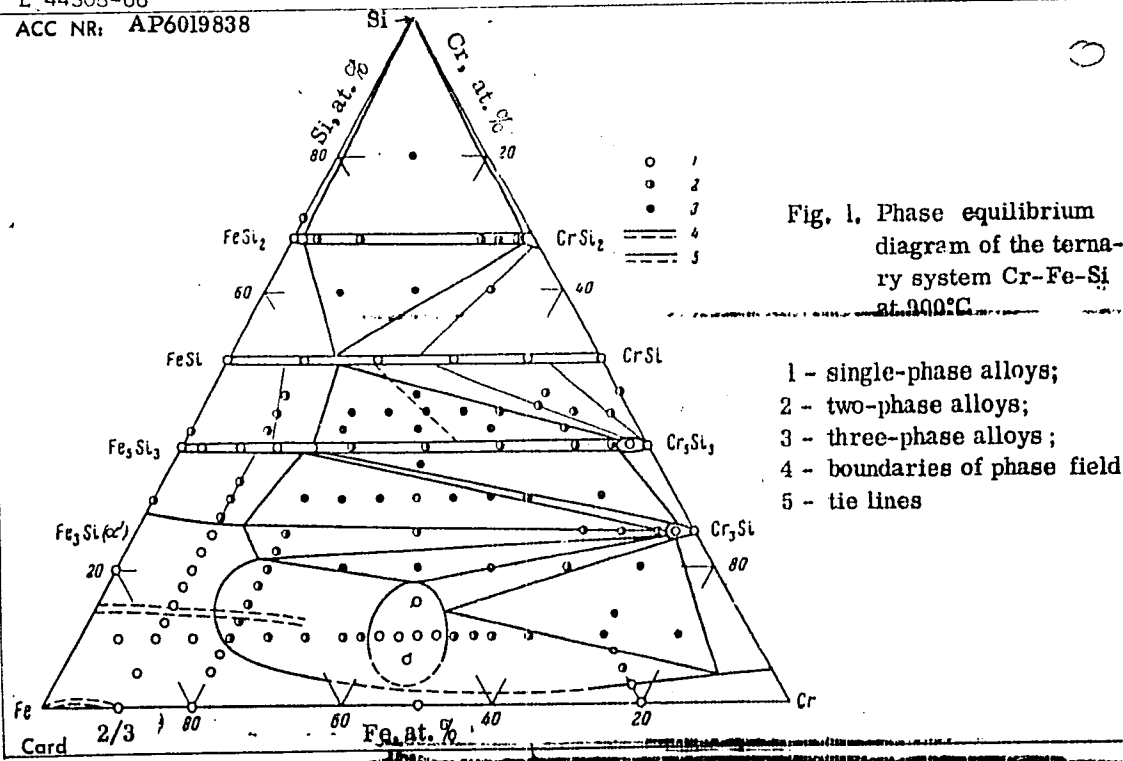


Fig. 1. Phase equilibrium diagram of the ternary system Cr-Fe-Si at 900°C.

- 1 - single-phase alloys;
- 2 - two-phase alloys;
- 3 - three-phase alloys;
- 4 - boundaries of phase fields;
- 5 - tie lines

L 44302-66

ACC NR: AP6019838

Cr_5Si_3 - Fe_5Si_3 is also limited and that a continuous series of solid solutions between the iso-structural compounds $\text{Cr}_5\text{Si}_3(\text{S})$ and Fe_5Si_3 exists in C-containing alloys. At 900°C the σ -phase of $\text{CrFe}(\text{Si})$ gets stabilized by Si; measurements of the lattice constant and microstructure show that this phase contains from 37 to 48 at. % Cr. The solubility of Si in the σ -phase is 18 at. % Si. Orig. art. has: 2 figures, 1 table.

SUB CODE: 13, ~~21~~ 11/ SUBM DATE: 28Apr64/ ORIG REF: 011/ OTH REF: 010/

Card 3/3

L 07384-67 EWT(m)/EWP(:)/ETI IJP(c) JD/JG

ACC NR: AP6027749

SOURCE CODE: UR/0370/66/000/004/0128/0131

AUTHOR: Fedorov, T. F. (Moscow, L'vov); Gorshkova, L. V. (Moscow, L'vov); Gladyshevskiy, Ye. I. (Moscow, L'vov)

32
B

ORG: None

TITLE: The ternary system ¹Ti-¹V-¹C

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1966, 128-131

TOPIC TAGS: phase equilibrium, phase diagram, titanium alloy, vanadium alloy, solid solution, carbide, ternary alloy

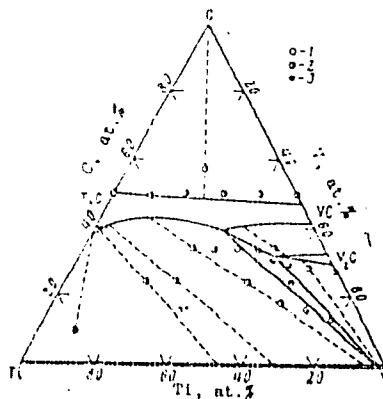
ABSTRACT: The authors study the diagram for phase equilibria in the Ti-V-C system. The initial materials for preparation of the alloys were powdered titanium (99.8% Ti), vanadium (99.5% V) and lamp black (99.5% C). The powder alloys were remelted in an arc furnace with a tungsten electrode on a copper hearth in an inert gas atmosphere. Sintering was done in a vacuum resistance furnace with a graphite heater. The specimens were then heat treated in the same furnace at 2000°C with a gradual reduction in temperature to 1400°C. The resultant alloys were annealed for 300 hours at 1000°C in evacuated quartz ampules and quenched by immersion of the ampules in water. The alloys were studied by microstructural and x-ray analysis. The resultant phase diagram at 1000°C is shown in the figure. The experimental data confirm the existence of a continuous series of solid solutions between the compounds TiC and VC with a linear change in the lattice period at the carbon-rich boundary of the solid solution. No ternary

Card 1/2

L 07384-67

ACC NR: AP6027749

compounds were observed. Measurement of the lattice periods in the space of the elementary cell of V_2C carbide in alloys lying close to the region of homogeneity showed that this compound dissolves approximately 14 at.% Ti at the given temperature. The lattice periods of the solid solution based on V_2C in alloys of the three-phase region $MeC+Me_2C+Me$ are $a=2.91\pm 0.01$ A and $c=4.63\pm 0.01$ A. The tie lines in the two-phase region $MeC+Me$ connect the vanadium-rich metal phase with the titanium-rich carbide phase. No alloys were observed in the V_3C_2 region. The given ternary system is similar to the previously studied Ti-Nb-C and Ti-Ta-C systems, differing from them in the high solubility of Ti in V_2C . Orig. art. has: 3 figures.



Phase equilibria of the Ti-V-C system at 1000°C; alloys: 1--single-phase, 2--two-phase, 3--three-phase. Broken lines indicate tie lines.

SUB CODE: 11/ SUBM DATE: 17Mar64/ ORIG REF: 009/ OTH REF: 014

Card 3/2 L5

I 00893-67 EWP(m)/T/EWP(t)/ETI IJP(c) JG/JD

ACC NR: AP6021615

SOURCE CODE: UR/0021/66/000/006/0769/0771

AUTHOR: Kryp'yakevych, P. I. -- Kripyakevich, P. I.; Hladyshevs'kyy, Ye. I. -- Gladyshevskiy, Ye. I.ORG: L'vov State University (L'vivs'kyy derzhavnyy universytet)

39

TITLE: The compounds EuNi_5 , TmNi_5 and LuNi_5 and their crystal structure

B

SOURCE: AN UkrRSR. Dopovidi, no. 6, 1966, 769-771

TOPIC TAGS: crystal structure, rare earth metal, X-ray diffraction analysis

ABSTRACT: The authors study the crystal structure of EuNi_5 , TmNi_5 and LuNi_5 . The atomic radii of Tm and Lu are close to those of other rare earth metals in the yttrium group, which indicates that RNi_5 compounds with a CaCu_5 type structure might be found in the Tm-Ni and Lu-Ni systems. Since the atomic radius of Eu (2.02 Å) is greater than that of any of the metals which form the RNi_5 compounds, the existence of EuNi_5 is also feasible. X-ray diffraction analysis proves the existence of the compounds EuNi_5 , TmNi_5 and LuNi_5 with a CaCu_5 type structure. Comparison of the lattice constants for all RNi_5 compounds shows that the cerium atoms in CeNi_5 are in a tetravalent state, while the rare earth atoms for all the remaining compounds including those of Eu and Yb are in a trivalent state. This article was presented for publication by Academician V. M. Svyechnykov. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 2011/ SUBM DATE: 07Jun65/ ORIG REF: 004/ OTH REF: 008

Card 1/1 afs

L 0657-47 INF(m)/INT(t)/EXT IJI(c) JD/JG

ACC NR: AP6029820

SOURCE CODE: UR/0363/66/002/008/1448/1453

AUTHOR: Skolozdra, R. V.; Gladyshevskiy, Ye. I. 43
B

ORG: L'vov State University im. I. Franko (L'vovskiy gosudarstvennyy universitet)

TITLE: The ¹¹Mo-²⁷Fe-¹¹Si system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1448-1453

TOPIC TAGS: molybdenum, iron, silicon, phase diagram, phase composition, phase analysis

ABSTRACT: The ¹⁶phase diagram of the tertiary system, Mo-Fe-Si, was studied at 800°C. For various samples, the lattice parameters were determined by the x ray technique. The study involved 133 individual samples prepared by fusing mixtures of Mo, Fe, and Si in an electric arc furnace. The existence of the MoFe_2Si_2 was confirmed and its crystal structure was found to belong to the rhombic system. The existence of two other compounds Mo_3FeSi and $\text{Mo}_5\text{Fe}_3\text{Si}$, and of the $(\text{Mo}_{0.17}\text{Fe}_{0.83})_5\text{Si}_3$ -phase was also established. The previously reported compound Mo-Fe-Si was found to be a binary solid solution based on MoFe_2 stabilized by silicon. The solubility of silicon in the Mo-Fe- μ -phase was found to be about 13.5 atom % and the solubility of Mo and Fe in the binary silicides was found to be very low. The stabilizing effect of the silicon on various λ ,- and μ -phases was found to be associated with the increased electron

Card 1/2

UDC: 546.77+546.72+546.28

L 06578-67

ACC NR: AP6029820

concentration when silicon is being dissolved in such binary compounds as MoFe_2 or $\text{MoFe}_{1.3}(\text{Mo}_2\text{Fe}_3)$. Orig. art. has: 3 figures and 1 table.

SUB CODE: \\,20/ SUBM DATE: 29Sep65/ ORIG REF: 011/ OTH REF: 006

and
Card 2/2

ACC NR: AP7007592

SOURCE CODE: UR/0070/66/011/005/0818/0821

AUTHOR: Kolpyakovich, P. I.; Gladyshevskiy, Ye. I.

ORG: L'viv State University Irena I. Franko (L'vivskiy gosudarstvennyy universitet)

TITLE: Crystal structure of strontium disilicide

SOURCE: Kristallografiya, v. 11, no. 5, 1966, 818-821

TOPIC TAGS: silicide, strontium compound, crystal structure

SUB CODE: 00

ABSTRACT: The crystal structure of strontium disilicide belongs to a new structure type. In this structure the Si atoms form a three-dimensional framework, being bonded with one another into spiral chains which run parallel to the X, Y, Z axes along the screw axes 4_1 . Each Si atom belongs at the same time to three chains, as a result of which the chains are joined into the framework, and the coordination number for Si relative to Si equals 3. Each Si atom is surrounded by four Sr atoms at distances δ_1 and δ_2 , which either do not exceed or slightly exceed the sum of the atomic radii (3.32 Å). The coordination polyhedron of the Si atom is in the form of an extended trigonal pyramid. The coordination number of the Sr atom equals 14, and the coordination polyhedron is "normal": i. e., consists only of triangles, configurations with 14 apexes. The author concludes that "The structure of SrSi_2 is heterodesmic, while the composition corresponds to the valences of the components; the charge of Sr^{2+} ions is balanced by the charge of a polyanion, consisting of Si atoms, each of which has one unpaired electron." Orig. art. has: 5 figures and 2 tables. [JPRS: 39,658]

Card 1/1

UDC: 548.736.3

ACC NR: AT7004210

(A)

SOURCE CODE: UR/0000/66/000/000/0127/0135

AUTHORS: Fedorov, T. F.; Gladyshevskiy, Ye. I.; Popova, N. M.

ORG: none

TITLE: Investigation of the system niobium-zirconium-hafnium-carbon

SOURCE: AN SSSR. Institut metallurgii. Eksperimental'naya tekhnika i metody vysokotemperaturnykh izmereniy (Experimental techniques and methods of high temperature measurement). Moscow, Izd-vo Nauka, 1966, 127-135

TOPIC TAGS: phase diagram, alloy phase diagram, phase equilibrium, metal phase system, niobium, zirconium, hafnium, carbon

ABSTRACT: The phase relationships in the system Nb-Zr-Hf-C were investigated. This study supplements the results of I. I. Kornilov (Fiziko-khimicheskiye osnovy zharoprochnosti splavov. Izd-vo AN SSSR, 1961, str. 510). Phase diagrams based on x-ray and metallographic data are presented (see Fig. 1). The phase composition of the ternary systems Zr-Nb-C and of the binary system ZrC-HfO, were determined. The results are tabulated. It was found that binary carbide formation did not take place in the ternary system. Similarly, no evidence for the existence of ternary

Card 1/2

ACC NR: AT7004210

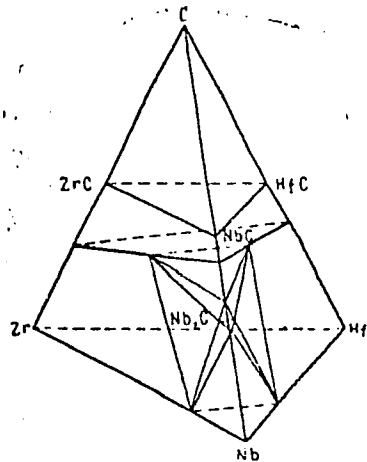


Fig. 1. Phase diagram for the system Zr-Nb-Hf-C at approximately 1700C

carbides was found in the quaternary system. Orig. art. has: 4 tables and 3 graphs.

SUB CODE: 11/

SUBM DATE: none/

ORIG REF: 008/

OTH REF: 006

ACC NR: AP6036446 SOURCE CODE: UR/0370/66/000/006/0134/0136

AUTHORS: Fedorov, T. F. (Moscow, L'vov); Gladyshevskiy, Ye. I. (Moscow, L'vov);
Gorshkova, L. V. (Moscow, L'vov)

ORG: none

TITLE: Phase equilibria in the ternary system Hf-Re-C

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 134-136

TOPIC TAGS: hafnium, rhenium, carbon, alloy phase diagram, x ray analysis

ABSTRACT: The phase diagram of the ternary system Hf-Re-C at 1500C was determined. The phase composition was studied by x-ray and microstructural analyses, and the experimental results are summarized in graphs and tables (see Fig. 1). It is concluded that the ternary system Hf-Re-C differs from other Mo-Re-C systems described by L. K. Borusevich and Ye. I. Gladyshevskiy (Rentgenostrukturnoye issledovaniye splavov sistemy Mo-Re-C. Poroshkovaya metallurgiya, 1964, No. 6, 22) by the absence of complete solid solution series between HfC and ReC.

UDC: 669.297.5'849'784

Card 1/2

ACC NR: AP6036788

SOURCE CODE: UR/0363/66/002/011/1980/1984

AUTHOR: Markiv, V. Ya.; Lysonko, L. A.; Gladyshevskiy, Ye. I.

ORG: L'vovsk State University im. Iv. Franko (L'vovskiy gosudarstvennyy universitet).

TITLE: The titanium-iron-silicon system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 11, 1966, 1980-1984

TOPIC TAGS: titanium containing alloy, iron containing alloy, silicon containing alloy, alloy phase diagram

ABSTRACT: A study was made of the phase equilibria of 20 binary and 12 ternary alloys of the Ti-Fe-Si system; the alloys were obtained by melting titanium, iron, and polycrystalline silicon in an atmosphere of purified argon in an electric arc furnace. The composition of the alloys investigated are shown in Figure 1. The following results were determined by x ray structural and microstructural analysis of the phase equilibria at 800°C. The existence of the following ternary compounds was established: TiFeSi_2 , $\sim\text{Ti}_{46}\text{Fe}_{10}\text{Si}_{144}$ (X'), $\sim\text{Ti}_{43}\text{Fe}_{14}\text{Si}_{140}$ (X''), $\text{Ti}_{12}\text{Fe}_{36}$ (L₂'), and TiFeSi. The crystal structure of the compound TiFeSi_2 belongs to the rhombohedral system ($a = 7.64 \text{ \AA}$, $b = 9.53 \text{ \AA}$, $c = 8.56 \text{ \AA}$); the possible space groups are: $D_{2h}^1 = \text{R}\bar{3}m$; $C_{2v}^1 = \text{R}\bar{3}m2$; $D_2^1 = \text{R}222$; the number of atoms in an elementary cell is 44. An isostructural

Card 1/3

UDC: 546.821+546.72+546.28

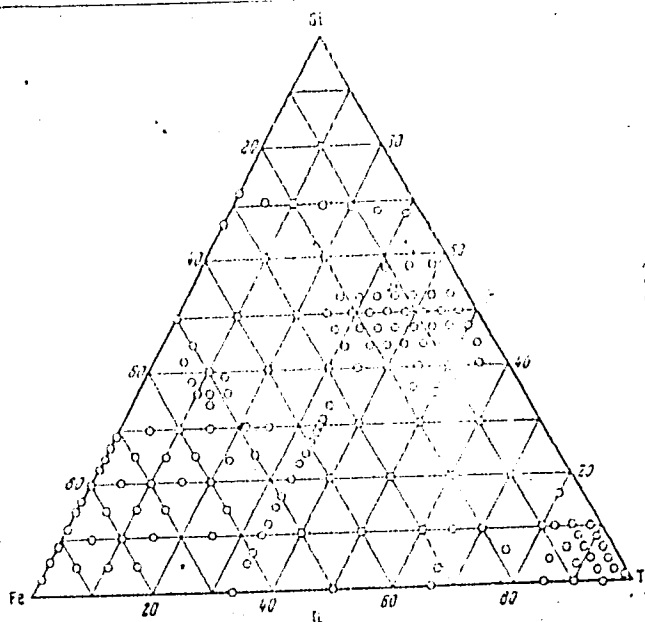
ACC NR: AP6036788

compound is also formed in the Ti-Mn-Si system (TiMnSi_2 ; $a = 6.92 \text{ \AA}$; $b = 9.54 \text{ \AA}$; $c = 8.64 \text{ \AA}$). The compound TiFeSi crystallizes in the hexagonal system ($a = 6.24 \text{ \AA}$; $c = 6.96 \text{ \AA}$), the diffraction class is $D_{6h}^{2d} = 6/mmm$, and the number of atoms in an elementary cell is 18. The compound $\text{Ti}_{12}\text{Fe}_{52}\text{Si}_{36} (\gamma_3)$ is isostructural with the γ_3 phases of the Ti-Co-Si and Ti-Ni-Si systems. Orig. art. has: 3 figures and 1 table.

Card 2/3

ACC NR: AF6036788

Figure 1. Composition of alloys investigated in the Ti-Fe-Si system (in at. %)



SUB CODE: 11/ SUBM DATE: 23Dec65/ ORIG REF: 007/ OTH REF: 003

Card 3/3

GLADYSHEVSKIY, Yu.I. (Moskva)

Unit for soil fertility tests. Moskva (S. no. 8:111-115 Ag '61.
(MIRA 14:7)
(Plants--Chemical analysis) (Soil fertility)

I 27075-66 EWT(m) JD/JG

ACC. NR: AP6017477

SOURCE CODE: UR/0185/66/011/002/0266/0208

AUTHOR: Skolozdra, R. V.; Gladysheva'kyy, Ye. I.; Krypyakevych, P. I.

ORG: L'vov State University im. I. Frank (L'viva'kyy derzhuniveruytet)

TITLE: Compound with structure of the $W_{\text{sub } 6} \text{Fe}_{\text{sub } 7}$ type in the Mo-Ni-Si system

SOURCE: Ukrayins'kyy fizichnyy zhurnal, v. 11, no. 2, 1966, 206-208

TOPIC TAGS: crystal structure, metal crystal, tungsten, iron, molybdenum, nickel, silicon

ABSTRACT: The crystal structure of the phase $\text{Mo}_6(\text{Ni}_{0.75}\text{Si}_{0.25})_7$ was determined by means of X-ray diffraction. The structure belongs to the $W_6\text{Fe}_7$ type (space group $R\bar{3}m-D_{3d}^5$; $a = 4.738 \pm 0.003 \text{ \AA}$, $c = 25.85 \pm 0.01 \text{ \AA}$, $c/a = 5.456$). Orig. art. has: 1 table. [JPRS]

SUB CODE: 11, 20 / SUBM. DATE: 16Apr65 / ORIG REF: 007 / OTH REF: 005

Card 1/1

GLA/POLEMIKI, W.

"Condensate removal pumps and their defects."

p. 318 (Energetyka) Vol. 11, no. 6, Nov./Dec. 1957
Warsaw, Poland

SC: Monthly Index of East European Accessions (SEAI) LC. Vol. 7, no. 4,
April 1958

L 64449-65

ACCESSION NR: AP6019488

PO/0083/65/000/007/0130/0132

AUTHOR: Gladysiak, Andrzej

TITLE: Equipment of the laboratory of an industrial bakery

SOURCE: Przegląd piekarski i cukierniczy, no. 7, 1965, 130-132

TOPIC TAGS: industrial bakery laboratory, bakery laboratory design, bakery laboratory equipment, bakery laboratory personnel

ABSTRACT: The paper describes the laboratory of an industrial bakery as designed by the Biuro Studiow i Projektow Handlu Wewnetrznego (Bureau of Studies and Design of Internal Commerce) in Warsaw, which can be used as a model. The considerations governing the location of such a laboratory within an industrial bakery are discussed. Its area should be 2.5 sq. m. for each 1 ton/16 hr. capacity, according to the Standards for Designing Bakeries of the Ministerstwo Handlu Wewnetrznego (Ministry of Internal Commerce). The laboratory plan and equipment layout is shown for a 40 ton/16 hr. bakery. The weighing, sample processing, and the physical and chemical analyses rooms are described and the equipment in each room is listed. The paper gives a table which lists basic laboratory equipment for mechanized bakeries of the following capacities: 15 - 25 ton/16 hr., 26 - 35 ton/16 hr., and 36 - 45 ton/16 hr. The number of personnel in such labora-

Card 1/2

L 64449-65

ACCESSION NR: AP5019488

tories is proposed as follows: for 10 - 15 ton/16 hr. , - 3 employees; 15 - 30 ton/16 hr. - 5 employees; 30 - 40 ton/16 hr. - 6 employees; and for those exceeding 40 ton/16 hr. - 7 employees. The total cost of such a laboratory is from 300,000 to 350,000 zlotys depending on the size. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

llc
Card 2/2

GLADYSIEWICZ, Gustaw, dr inż.

Regularities determining the law of similarity and those appearing with the basic parameters characterizing centrifugal pumps.
Praczn. mech 22 no.14:434-436 25 JI '63.

1. Kierownik Zakładu Budowy Pomp, Politechnika, Wrocław.

GLADYSIEWICZ, Gustaw, dr inż.

Calculating and constructing guide rings for radical centr. fugal pumps. Przegl mech 24 no.9:260-264 10 My '69.

1. Head, Department of Hydraulic Machines of Wrocław Technical University.

AYZENBERG, V.N., kand. tekhn. nauk; GLADSKIY, I.N., inzh.; AL'EIN, O.M., inzh.

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ABSTRACTS Sec 15 Vol 13/1 Chest Dis. Jan 60

249. TUBERCULOMAS OF THE LUNGS - Główny tytuł ze zdjęć w obrazie radiologicznym - Gładysz B., Zakł. Radiol. Lek., Akad. Med., Poznań - PRACE KOMISJI MED. DOŚWIADCZALNEJ PTPN 1958, 14 5 (II) (67-107) Tables 3 Illus. 11

In 39 cases of tuberculoma of the lungs the author made a comparison of pre-operative radiograms and tomograms with the macroscopic anatomopathological picture of postoperative specimens. The interpretation of more subtle radiological features was confirmed by the results of microscopical findings. These examinations showed that in fact every type of tuberculous tumours may produce the same radiological picture of 'coin lesions'. However, deviations from the typical radiological picture are of some significance for differentiating between the various types of tuberculoma. Giant primary foci show a characteristic, even pathognomonic picture. In 14 out of 17 cases of actually existing bronchial tuberculous lesions were manifested by a characteristic tomographical picture. The author describes the tomographic and radiological features of bronchial tb. In 7 cases a prolonged radiological observation showed in several radiograms the spreading of tb from the tuberculoma to the surrounding tissues. The author indicates which radiological features constitute evidence of the dangerous consequences which a tuberculoma may have for the patient.

EXCERPTA MEDICA Sec 18 Vol 4/3 Cardiology. Dis. Mar 60

816. Tomographical picture of the respiratory system in cor pulmonale (in Polish).
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In 24 cases of chronic cor pulmonale, systematic tomographical examination in the frontal and sagittal projection was carried out. Seven more cases of cor pulmonale were examined radiologically after autopsy. Isolated lungs after inflation to normal life-size dimensions were (according to the method of C. P. Silver) injected with an aqueous suspension of 70% barium sulphate. Macroscopic vessel changes observed in standard radiograms and in tomograms were compared with the results of anatomo-pathological examinations. In 20 cases of chronic cor pulmonale, the author achieved tomograms of both lungs, which were unmasked by the shadows of parenchymal condensations or extensive emphysema. These pictures served to classify the severity of the radiological changes. Measurements of the intermediate part of the pulmonary artery in the hilus confirmed that during the course of the disease it undergoes a gradual dilatation. Very slight variations in width (from 3-4 mm.) between the right and the left pulmonary arteries in the hilus are of no significance, but real differences are indicative of an unequal dilatation of one of the branches. The author measured the width of the pulmonary arteries and their segmental ramifications on tomograms of living patients and on those of autopsy specimens. Comparison of these measurements showed that, during the illness till the end, the dilatation of these vessels depends on 2 phenomena, anatomical, and the equally considerable dynamic dilatations. As the disease progresses, the dynamic dilatation of the vessels spreads increasingly further through the peripheral ramifications. Calibre change in vessels, from dilatation to constriction, takes place in all cases at the same range of division. This dynamic dilatation of the vessels may precede the anatomical changes of the arteries described below. Dilatation of the pulmonary artery ramifications can easily be detected in tomograms if the superficial layers are compared with those made at the depth of the hilus. In the superficial layers one sees an excessive number of relatively wide axial cross-sections, from which radiate branchings of strikingly narrow collaterals. In layers made at the depth of the hilus one sees wide arteries in the left and intermediate zone of the lung field and thin ones in the peripheral zone. In the majority of cases one may observe that the branch of the pulmonary artery is definitely wider than the bronchus accompanying it. Rowinski already found attention to

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C. G. GLOW: Distortion of the
tomograms if the superficial
the hilus. In the superficial

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ly ramifications can easily be recognized, compared with those made at the depth of an excessive number of relatively wide axial cross-sections, from which radiate branchings of extremely narrow collaterals. In layers made at the depth of the hilus one sees wide arteries in the hilar and intermediate zone of the lung field - and thin ones in the peripheral zone. In the majority of cases one may observe that the branch of the pulmonary artery is definitely wider than the bronchus accompanying it. Kowinski already turned attention to this fact in 1952. Anatomical vessel changes, which may be detected by tomographical examination, depend on the tortuosity of the subsegmental ramifications, or adversely their tubular straightening, which in long segments are accompanied by a very slight drop in calibre. These tubular vessels may sometimes show more or less diffuse, spindle-like dilatations. On the basis of anatomico-radiological material it can be supposed that in the beginning the tubular deformation of vessels develops as the result of a rise in pressure in the small circulation. Developing obstructive emphysema leads to the constriction and obliteration of the collaterals, as a result of which the radiological characteristics of the tubular vessels become more accentuated. In cor pulmonale developing as a result of pneumopathy, one may distinguish on tomograms the same degrees of severity of vascular changes, as was done by Davies and Carmichael in cases of pulmonary hypertension, progressing in consequence of mitral stenosis. In the tomograms of 24 cases of chronic cor pulmonale, 20 showed thickening of the outline of the bronchial wall, so-called bronchiosclerotic. At first limited, localized bronchiosclerotic spreads over an ever-increasing area of the lung, as the disease progresses. The order in which the changes spread is as follows: the bronchi of the basal segments are attacked first, then those of the upper lobes and finally those of the apical segments of the lower lobes as well as those of the lingula and of the middle lobe. The spread of bronchiosclerotic in the lung may precede anatomical vascular changes. Fundamentally, one rule prevails: the tortuosity, dynamic dilatations of medium calibre ramifications of the pulmonary artery advance towards the periphery the more intense are the signs of thickening of the bronchial wall. Based on anatomico-radiological material the author gives a detailed tomographical symptomatology of obstructive emphysema. Direct tomographical features of emphysematous blebs and bullae are seldom observed. On the other hand, one often notes indirect signs of obstructive emphysema indicated by characteristic deformation of the vascular pattern. A well-known feature is the blunting of the angle of vessel division in the form of a rounded fork. Disproportionate spreading of

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the emphysematous areas pushes the vascular system from its usual position and either of the symmetrical branches of the dichotomical division may jut out from the layer of the tomographical cross-section. This gives the impression that the vessel running in the layer of the tomographical cross-section had been violently bent from one division to the next in various directions. Thus this feature is defined as a 'disorderly branching vessel'. In the areas of far-advanced obstructive emphysema, the vascular pattern is completely lost or one meets with only fragments of the vessels. Other signs of obstructive emphysema are mediastinal bands, balloon-like bending of the interlobal fissures and translocation of the whole vascular system. When comparing the pictures of the frontal layers with sagittal ones it was possible to show the successive periods of development of obstructive emphysema. The author describes the tomographical pictures of 3 stages in the development of obstructive emphysema. The increase of symptoms of obstructive emphysema conforms to the intensification of radiological signs of pulmonary hypertension. The 'pruned branches' symptom described by Evans appears exclusively in the areas attacked by obstructive emphysema. (XV, 11, 18)

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