

BORISIKHINA, V.I.; SKRYLEV, L.D.; MOKRUSHIN, S.G.

Emulsification method for extracting colloidal mixed uranyl  
ferrocyanide from its hydrosols. Koll.zhur. 23 no.5:521-523  
S-0 '61. (MIRA 14:9)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk.  
(Uranyl ferrocyanide)

BORISIKHINA, V.I.; SKRYLEV, I.D.; MOKRUSHIN, S.G.

Effect of freezing on the stability of gelatinized emulsions stabilized by colloidal mixed copper and iron ferrocyanides. Koll.zhur. 23 no.6:669-671 N-D '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, Sverdlovsk. (Emulsions (Chemistry)) (Carbon tetrachloride) (Ferrocyanides)

SKRYLEV, L.D.; MOKRUSHIN, S.G.; BORISIKHINA, V.I.

Effect of temperature on the process of extracting mixed heavy metal ferrocyanides in dissolved colloidal form from their hydrosols by means of emulsification. *Zhar.prikl.khim.* 34 no.3: 538-541 Mr '61. (MIRA 14:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.  
(Ferrocyanides)

BORISIKHINA, V.I.; MOKRUSHIN, S.G.; SKRYLEV, L.D.

Breaking of gelatinized emulsions with monohydroxy alcohols. Zhur.  
prikl.khim. 34 no.3:628-631 Mr '61. (MIRA 14:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.  
(Emulsions) (Alcohols)

S/080/62/035/011/010/011  
D423/D307

AUTHORS: Borisikhina, V.I., Skrylev, L.D., and Mokrushin, S.G.

TITLE: The problem of the breakdown of emulsions by freezing

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 11, 1962,  
2563 - 2565

TEXT: A study was made of the effect of low temperatures on the breakdown of gelatinized emulsions containing 75 - 80 % carbon tetrachloride, stabilized with colloidal solutions of mixed ferrocyanides of lead, thorium, nickel, cobalt and uranyl, 30 ml of emulsion were cooled over the temperature range -1 to -30°C in a glass test tube 200 mm long and 20 mm in diameter. The samples were thawed out in a thermostat at + 15°C. Emulsion breakdown was increased with reduction of temperature and also with increasing time of freezing. Under identical conditions, breakdown depended on the nature of the stabilizing agent. No significant breakdown was observed down to -3°C with all emulsions over times up to 5 hrs., but 75 - 78 % destruction occurred at -15°C except for cobalt-stabilized emulsions (51 % at -21°C). The mechanism of breakdown is very  
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The problem of the breakdown of ...

S/080/62/035/011/010/011  
D423/D307

complex but is undoubtedly related to the effects of low temperatures on the emulsifying ability of gelatine. Theories are put forward associated with formation of aggregates, increase of viscosity change of specific rotation of the plane of polarization and freezing out of water which leads to reduction in magnitude of the electric charge on the emulsion droplets. The greatest role in emulsion breakdown was played by the mechanical action exerted by ice crystals on the emulsion droplets, so that rupture of the stabilizing gelatine-ferrocyanide films occurs and which facilitates considerably the process of coalescence. The power of the mechanical action of ice on the oil droplets is quite large, since it is explained by the expansion of water on freezing. There are 2 figures and 2 tables. ✓

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova  
(Ural'skiy Polytechnic Institut imeni S.M. Kirov)

SUBMITTED: July 20, 1961

Card 2/2

MOKRUSHIN, S.G., prof., doktor khim. nauk; BORISIKHINA, V.I., otv.  
red.; VAKHTINA, Ye.F., tekhn. red.

[Problems in the physical chemistry of colloid-disperse  
systems and surface phenomena] Zadachi po fiziko-  
khimii kolloido-dispersnykh sistem i poverkhnostnykh iavlenni.  
Sverdlovsk, Ural'skii politekhn. in-t im. S.M.Kirova.  
No.5. 1962. 54 p. (MIRA 16:4)  
(Colloids) (Surface chemistry)  
(Chemistry, Physical and theoretical--Problems, exercises, etc.)

BORISIKHINA, V.I.; SKRYLEV, L.D.; MOKRUSHIN, S.G.

Breaking of emulsions by freezing. Zhur.prikl.khim. 35 no.11:2563-2565  
N '62. (MIRA 15:12)

(Emulsions)



SKRYLEV, L.D.; BORISIKHINA, V.I.; MOKRUSHIN, S.G.

Effect of surface-active agents on the process of extraction of  
colloid-suspended mixed heavy metal ferrocyanides from their hydrosols  
by the method of emulsification. Zhur.prikl.khim. 35 no.11:2398-2402  
N '62. (MIRA 15:12)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.  
(Ferrocyanides) (Surface-active agents) (Extraction (Chemistry))

BORISIKHINA, V.I.; MOKRUSHIN, S.G.

Extraction of metals dissolved in a colloidal state by the  
method of emulsification. Zhur. prikl. khim. 37 no.8:1695-  
1699 Ag '64. (MIRA 17:11)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

BORISKIN, A.G.: MOROZOV, G.A., red.

[Wages and establishing work norms] Normirovanie truda i zara-  
botnaia plata. Novgorod, Knizhnaia red. gazety "Novgorodskaia  
pravda," 1960. 43 p. (MIRA 14:12)

(Production standards)

(Wage payment systems)

PIROGOV, A.A.; KRASS, Ya.R.; BORISKIN, I.Ye.; KOSTINSKIY, D.S.;  
SOKHA, G.Ye.; YEVDOKIMOV, Yu.P.

Using magnesia concrete and brick blocks for lining electric steel  
smelting furnaces. Ogneupory 26 no. 4:176-180 '61. (MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for  
Pirogov, Krass). 2. Khar'kovskiy traktornyy zavod (for Boriskin,  
Kostinskiy, Sokha, Yevdokimov).

(Refractory materials) (Smelting furnaces)

ACC NR: AP5023265

SOURCE CODE: UR/0128/65/003/008/0005/0006

AUTHOR: <sup>44.55</sup> Kurbatov, M. I. (Candidate of technical sciences); Ridnyy, A. A. (Engineer); Boriskin, I. Ye. (Engineer); <sup>44.55</sup> Grenaderov, A. I. (Engineer) <sup>44.55</sup>

ORG: none

TITLE: Effect of the chemical composition of high manganese steel on its wear resistance <sup>44.55, 18</sup>

SOURCE: Liteynoye porizvodstvo, no. 8, 1965, 5-6

TOPIC TAGS: manganese steel, tractor, wear resistance, carbide / G10L high manganese steel

ABSTRACT: Since the C and Mn content of regular G13L high-manganese steel fluctuates too broadly, a new type of high-manganese steel, G10L, with a narrower range of variation in the content of C and Mn (0.90-1.35% C, 9-11% Mn as well as  $\leq 0.10\%$  P,  $\leq 1.2\%$  Si,  $\leq 0.02\%$  S,  $\leq 1.0\%$  Cr, and  $\leq 0.5\%$  Ni) has been developed. The reduction in Mn content to 9-11% and the corresponding reduction in C and P content result in a marked increase in the purity of track blocks with respect to residual carbides, virtual elimination of defects of the hot-crack type, and enhancement of wear resistance of the steel. Wear resistance of G13L and G10L steels specimens with different Mn and C contents, was determined by measuring the weight loss of track-block

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UDC: 669.15'74-194

ACC NR: AP5023265

lugs with the aid of a special device. Findings: as the Mn content decreases from 15.8% to 9.03, the wear resistance increases and the influence of C is feeble. As the P content increases the wear resistance somewhat increases; S content up to 1.2% has no effect on wear resistance. Further, as part of the experiment, T-75 tractors were assembled half with track blocks of P13L steel and half with track blocks of G10L steels and regularly operated under arduous field conditions. Subsequent examination showed that the wear resistance of track blocks of G10L steel is 16% higher than that of the track blocks of G13L steel. This indicates that the question of the optimal composition of the high-manganese steel used to fabricate track blocks must be re-examined. Orig. art. has: 5 figures, 2 tables.

SUB CODE: 02, 11, 13/ SUM DATE: none/ ORIG REF: 001/ OTH REF: 001

\* *No P13L [P13L] occurs in the original, probably G13L is meant.*

Cnrd 2/2

BORISKIN, L.

36116 Slava sovetskiKh shaKhterov. (Ispol'zovaniye stakhanovskogo opyta sov. shaKhterov v stranaKh nar. demokratii). Slavyane, 1949, No. 11, S. 34-38.

SO: Letopis' Zhrunal' nykh Statey, No. 49, 1949

BORISKIN, M., inzh.

Increasing the service reliability of the cross piece of sifters,  
Muk.-elev. prom. 28 no.10:23-24 0 '62. (MIRA 16:1)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti.  
(Flour mills--Equipment and supplies)  
(Sieves)



BORISKIN, M. M., LIL'P, G. M., ZIL'BERMINTS, I. V., GUDNEVA, O. A.,  
POPOV, S. C., DENISENKO, V. K., MOROVIN, F. T., GUTSEVICH, A. V.,  
FEREFIL'YEV, P. P., ROGODINA, E. A., FEDOROV, M. N., SPERANSKAYA, V. N.,  
SIYANITSKIY, F. M., SHUSTROV, A. K., ALEKSANDROV, P. M. and KLEVAKIN, V. N.

"The Effectiveness of a Chemical Method for Combatting Arthropods  
over Large Areas from Airplanes."

Tenth Conference on Parasitological Problems and Diseases with Natural  
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of  
Sciences, USSR, Moscow-Leningrad, 1959.

(Leningrad - Moscow)

PETROV, P.S., dots.; BORISKIN, S.V., dots.; VASILENKO, N.A., starshiy  
prepod.; GERSHANOV, Ye.M., dots.; DEMENT'YEVA, A.N., starshiy  
prepod.; IL'IN, V.P., dots.; NIKITIN, D.P., starshiy prepod.;  
NIKITIN, D.P., starshiy prepod.; SHRAMCHENKO, K.G., starshiy  
prepod.; YUSHIN, V.I., starshiy prepod.; POPOV, A.S., red.;  
MESHALKIN, V.I., tekhn. red.

[Book of the trade-union committee chairman; aid to the factory, plant  
and workshop committee chairman]Kniga predsedatelia komiteta profsoiuza;  
v pomoshch predsedateliu fabrichnogo, zavodskogo, tsekhovogo komiteta.  
Moskva, Profizdat, 1962. 356 p. (MIRA 16:2)

1. Moscow. Vysshaya zaobnaya shkola profdvizheniya. 2. Kafedra "Prof-  
soyuznoye stroitel'stvo" Moskovskoy vysshey zaobnoy shkoly prodvi-  
zheniya Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for all except  
Popov, Meshalkin). (Trade unions—Handbooks, manuals, etc.)

BORISKIN, Stepan Vasil'yevich; VARSHAVSKIY, A.S., red.; SHADRINA, N.D.,  
tekhm, red.

[Organization and methods of operation of trade unions in the  
U.S.S.R.] Organizatsiia i metody raboty profsoiuzov SSSR.  
Moskva, Izd-vo VTsSPS, Profizdat, 1959. 22 p. (MIRA 13:6)  
(Trade unions)

27.V.100

35735

S/020/62/143/002/022/022

B144/B138

AUTHORS: Boriskin, V. V., Oblapenko, P. V., Rol'nik, V. V., and Sabin, B. M.

TITLE: Developmental potentialities of the animal organism when atmospheric nitrogen is replaced by helium

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 2, 1962, 475 - 478

TEXT: Development of chicken embryos of the white Russian breed was studied in a two-stage incubator of special design. The gas mixture was passed through a thermostat, where it was preheated and saturated at 26 - 33°C; then it was led through a final preheating coil and distributed into 4 glass cylinders with 10 eggs in each. Ventilation was controlled by a gas meter at the outlet; maximum CO<sub>2</sub> content was 0.3%; temperature was

measured by thermocouples fixed to one egg in every glass cylinder; egg inversion took place every 2 hrs. Test groups had 40 eggs each: 1) He:O mixture of 79 - 80% : 21 - 20%; 2) atmospheric air from a cylinder; 3) usual conditions in a two-stage incubator. Observation of weight loss

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Developmental potentialities of ...

S/020/62/143/002/022/022  
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and hatching, autopsy of some eggs with living and all eggs with dead embryos, and egg testing were carried out to elucidate the effect of altered gaseous media. Hatchability in 3) was very high (95.8%). The lower values for 1) (27.6%) and 2) (67.8%) are partly due to insufficient turning of the eggs. This can be overcome by structural improvement of the new apparatus. For technical reasons temperature at the upper egg poles was in 1) somewhat higher and in 2) slightly lower than the recommended optimum of 38.5 - 39.0°C. Hatching analysis related to location of the eggs in the incubator showed in 3) the best results at the warmest spots. The normally positive heat balance of chicken embryos toward the end of incubation is seriously disturbed by the high heat conductivity of He. This was also true for chickens kept for two weeks in the same medium. Nevertheless, the tests prove that embryonal development and life of chickens is possible in an atmosphere where N<sub>2</sub> is replaced by He. There are 2 figures, 2 tables, and 7 references: 5<sup>2</sup> Soviet and 2 non-Soviet. The two references to English-language publications read as follows: D. S. Simons, E. K. Archibald, J. Aviation Med., 29, 5, 350 (1958); C. Romijn, W. Lokhorst, Poultry Sci., 35, 4, 829 (1956).

Card 2/3

Developmental potentialities of ...

S/020/62/143/002/022/022  
B144/B138

ASSOCIATION: Institut evolyutsionnoy fiziologii im. I. M. Sechenova  
Akademii nauk SSSR (Institute of Evolutionary Physiology  
imeni I. M. Sechenov); Voenno-meditsinskaya akademiya im.  
S. M. Kirova (Military Medical Academy imeni S. M. Kirov)

PRESENTED: September 5, 1961, by V. N. Chernigovskiy, Academician

SUBMITTED: April 17, 1961

Card 3/3

ACCESSION NR: AT4042659

S/0000/63/000/000/0078/0081

AUTHOR: Boriakin, V. V.; Gul'tyayev, P. A.; Savin, B. M.

TITLE: The possibility of developing and prolonging the existence of biological objects in a helium-oxygen atmosphere

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 78-81

TOPIC TAGS: helium oxygen atmosphere, embryonic development, vital activity, chicken embryo, frog embryo, chicken, mouse, dog, temperature tolerance

ABSTRACT: A number of experiments have been performed to test the effects of a helium-oxygen atmosphere on the development of chicken and frog embryos and to determine the effects of a prolonged exposure (10 to 15 days) of chickens, white mice, and dogs to this atmosphere. A normal nitrogen-oxygen atmosphere was used for control purposes. The experimental atmospheres contained between 19 and 23% oxygen, 0.2 to 1.2% CO<sub>2</sub>, and not more than 1 to 1.5% nitrogen. Experiments with chicken embryos indicated that when the temperatures were kept equal, there was

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ACCESSION NR: AT4042659

no substantial difference between embryos raised in normal nitrogen atmospheres and in the experimental helium-oxygen atmospheres. Further observation of the chickens up to the period of maturity failed to show up any differences between the two. In experiments with frogs eggs, which develop in water, no difference was found between experimental embryos raised in a helium-oxygen atmosphere and those of controls. Development of tadpoles in the two media also failed to reveal any differences. Baby chicks, which were incubated in a normal atmosphere, were placed into a helium-oxygen chamber. Observations of their growth and weight as well as their behavior and reactions to food and various stimuli during the first ten days of exposure indicated that when the temperature was kept around 30°C, which is necessary for maintaining the proper balance and development in a normal atmosphere, the chickens were "cold". They huddled in a group and their motor and feeding activity was lowered. However, when the temperature in the helium-oxygen medium was increased to between 34 and 36°C, their reactions became normal and their feeding and motor activities were indistinguishable from chickens kept in a normal atmosphere at 30°C. After ten days the chickens were moved to a normal atmosphere and showed no differences upon development to maturity. Similar results were obtained with mice, which are kept in a helium-oxygen atmosphere for 15 days. No indication of temperature discomfort was observed in mice kept in a normal

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ACCESSION NR: AT4042659

atmosphere at a temperature of 21 to 22°C, but those kept in a helium-oxygen atmosphere required a temperature of 24 to 25°C before temperature discomfort was relieved. The skin and muscular temperature of a dog kept in a helium-oxygen atmosphere at a temperature of 23 to 26°C was 0.7 to 0.9°C less than normal, its energy expenditures were somewhat higher, and its heartbeat rate was 10 beats higher per minute. When the atmospheric temperature was raised to 27 or 28°C, the temperature of the body tissues and the physiological functions of the animal became equivalent to those of dogs in a nitrogen-oxygen atmosphere of 19.5 to 22.5°C. The replacement of nitrogen by helium did not cause any changes in embryonic development of animals observed, provided they were kept at a somewhat higher temperature. A temperature 4 to 6°C higher than a nitrogen atmosphere is required in a helium atmosphere because of the higher heat conductivity of helium.

ASSOCIATION: none

SUBMITTED: 27Sep63

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Card 3/3

BORISKIN, Yu., vtoroy mekhanik; ARKUSHA, L., starshiy motorist

Operational practice with KVS-68 marine boilers. Mor. flot 18  
no.7:22 J1 '58. (MIRA 11:7)

1. Teplokhod "Karl Marks."  
(Boilers, Marine)

BOBISLINA, I.I.

1A 240124

USSR/Medicine - Bacillus prodigiosus Feb 53

"Investigation of the Effectiveness of Treatment With B. prodigiosus in Animal Experiments," M.S. Aronov, K.I. Boriskina, Chair of Microbiol and Operative Surg, Kuybyshev Med Inst

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 2, p 88

Although B. prodigiosus generates inflammation and sepsis by itself, it prevents suppuration and inflammation when introduced into a wound together with staphylococci. Gradually increasing doses of B. prodigiosus produced immunity against lethal doses of staphylococci in rabbits.

246T24

NIKOLAYEVA, V.G.; DUKHNINA, A.Ya.; KOMAROV, B.I.; LEVINSON, G.I.; Prinimali  
uchastiye: KOLOTUSHKINA, Ye.V., inzh.; BORISKINA, N.A.

Investigation of the anticorrosive additives to residual fuels  
containing vanadium and sulfur. Khim. i tekhn. topl. i masel.  
6 no.10:17-22 0 '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.  
(Fuel-Additives) (Corrosion and anticorrosives)

*Boriskina, N. G.*

18  
Diagram of state of the system titanium-iron  
Korotkiy and N. G. Boriskina. Proc. Acad. Sci. U.S.S.R.  
Sect. Chem. 105, 822-3 (1970) (English translation). See  
C.A. 51, 1E06. H. M. B.

*pg mt*

*Boriskina, N. G.*  
USSR / Solid State Physics / Structure of Alloys and Other Systems

E-5

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11679

Author : Kornilov, I. I., Boriskina, N. G.

Inst : Institute of Metallurgy, ~~Academy~~ *AA. Baykov* Academy of Sciences, USSR.

Title : Diagram of State of the Titanium-Iron System.

Orig Pub : Dokl. AN SSSR, 1956, 108, No.6, 1083 - 1085

Abstract : A study is made of the diagram of state of the Ti-Fe system by methods of thermal, dilatometric, microstructural, X-ray-structural analysis, and also by measuring the hardness and microhardness. The authors establish the existence of TiFe and TiFe<sub>2</sub> compounds with a melting temperature of approximately 1500 and 1400° respectively. Three eutectics are formed, corresponding to the crystallization of

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USSR / Solid State Physics / Structure of Alloys and Other Systems

E-5

Abs Jour : Ref Zhur - Fizika, No. 5, 1957 No. 11679

Abstract : the phases  $\beta + \text{TiFe}$ ,  $\text{TiFe} + \text{TiFe}_2$ , and  $\text{TiFe} + \alpha$ , with melting points of 1100, 1280, and 1298° with a composition of 32, 62.5, and 82.5% iron by weight respectively. The boundary of the limiting solubility of Ti in  $\alpha$ -Fe is determined as a function of the temperature (1200° -- 12%, 1100° -- 8.5%, 1000° -- 7.5%, 900° -- 5%, 800° -- 4%, and 500° -- 2.5% Ti).

Card: 2/2

5(2)

AUTHORS:

Boriskina, N. G., Kornilov, I. I.

SOV/78-4-9-40/44

TITLE:

A Ternary Metal Compound in the System Iron - Chromium - Titanium

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2171-2173 (USSR)

ABSTRACT:

On the occasion of the investigation of the phase diagram of the ternary system Fe - Cr - Ti the authors investigated the alloys in the cross section  $TiFe_2$  - FeCr ( $\sigma$ -phase). The alloys were prepared by melting in an electric arc in an argon atmosphere. By means of a microstructure analysis it was found that the alloy consisting of 15.7 atom% Ti, 25.8 atom% Cr, and 58.5 atom% Fe is a single-phase alloy and highly brittle in a cast state. By tempering at  $1000^\circ$  the alloy is decomposed, and finely-dispersed needles develop which form a definite angle with the ground surface (Widmannstätten texture). The radiographs of this alloy were taken for the cast and tempered state (Table 1, Fig 1). The lattice constant corresponds to that phase which was found in the system Fe - Cr - Mo (Ref 3) and later in alloys of

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A Ternary Metal Compound in the System  
Iron - Chromium - Titanium

SOV/78-4-9-40/44

binary and ternary systems (Refs 4-6) and which is called the  $\chi$ -phase. In the system Fe - Cr - Ti, therefore, such a phase would also form. Its composition corresponds to the formula  $Ti_5Cr_7Fe_{17}$ . It decomposes at  $1000^\circ$  and forms the Laves phase  $TiFe_2$ . Thus it is, in fact, a transitional stage between the Laves phase and  $\sigma$ -phase. There are 1 figure, 1 table, and 6 references, 2 of which are Soviet.

SUBMITTED: April 6, 1959

Card 2/2



68685

181100

S/180/60/000/01/006/027

E111/E135

AUTHORS: Boriskina, N.G., and Kornilov, I.I. (Moscow)TITLE:  $\gamma$  Investigation of the Equilibrium Diagram of Iron-  
Chromium-Titanium in the Region of Alloys Rich in Iron  
and Chromium

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, Nr 1, pp 50-58 (USSR)

ABSTRACT: The object of this work was to elucidate the nature of the chemical reaction of iron with chromium and titanium and establish the equilibrium diagram for iron- and chromium-rich alloys. Although much work has been published on Fe-Cr (surveyed in Ref 1), Fe-Ti (Refs 5-9) and Ti-Cr (Refs 10-14), there is little on the ternary system, and in some of these (e.g. Ref 15) impure materials were used. The compositions of alloys used in the present work are shown in Fig 1 and tabulated. They included alloys of the  $TiFe_2$ -FeCr and the  $TiFe_2$ -Cr sections, and of three sections with constant Ti : Cr ratios of 3 : 1, 1 : 1 and 1 : 3, and some alloys along sections parallel to the Fe-Cr side with 5, 10, 15, 20 and 25% Ti. Alloys were made from electrolytic iron (99.94% Fe), electrolytic chromium (99.95% Cr), and

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S/180/60/000/01/006/027

E111/E135

Investigation of the Equilibrium Diagram of Iron-Chromium-Titanium  
in the Region of Alloys Rich in Iron and Chromium

iodide titanium (99.85% Ti) by arc melting under argon. The cast alloys were homogenized at 1100 °C for 100 hrs enclosed in quartz capsules and were studied after quenching from 1000 °C (holding time 100 hours) and after annealing at 550 °C for 500 hours. X-ray analysis was carried out with unfiltered vanadium radiation in a RKU86 camera; hardness was measured with a diamond-tipped Vickers machine, and microstructures were also examined. Fig 2 shows microstructures of various alloys after different heat treatments, and Fig 3 typical X-ray patterns for TiFe<sub>2</sub>-FeCr. The hardness of specimens of the different constant Ti:Cr sections as functions of % (Ti + Cr) is shown in Fig 4. The 550 °C and 1000 °C isothermal sections of the Fe-Cr-Ti system are shown in Figs 5 and 6, respectively. The work showed the presence of a compound of composition Ti<sub>5</sub>Cr<sub>7</sub>Fe<sub>17</sub> of the alpha-Mn type; at high temperatures this compound forms a narrow range of solid solutions with alpha and gamma phases decomposing at 1000 and 550 °C. The eutectic nature has

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Investigation of the Equilibrium Diagram of Iron-Chromium-Titanium  
in the Region of Alloys Rich in Iron and Chromium

been demonstrated of crystallization in the region of alloys adjacent to the Ti-Fe side, in TiFe<sub>2</sub>-Cr section alloys and in a wide range of alloys on the right-hand side of this section with a higher chromium content. The range of the Fe and Cr-base ternary alloy at 1000 and 550 °C lies along the Fe-Cr side. The solubility of Ti in the alpha-solid solution at 1000 °C increases from the Ti-Fe side and is about 5% on the average, falling at 550°. The extents of phases at 1000 and 550 °C have been found. The hardness was found to be greatest in the  $\chi$ -phase region, which decomposes to form the compound TiFe<sub>2</sub>.

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There are 6 figures, 1 table and 16 references, of which 6 are Soviet, 7 English, 2 German and 1 Japanese. ✓

SUBMITTED: October 5, 1959

S/598/62/000/007/006/040  
D267/D307

AUTHORS: Boriskina, N. G. and Myasnikova, K. P.

TITLE: Investigating the solubility of iron, manganese and copper in  $\alpha$ -titanium

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 61-67

TEXT: This research was carried out in order to fill the existing gap, the more so as Fe, Mn and Cu (also Cr and Si) have a considerable effect on the properties of multicomponent alloys used in industry. The various alloys of Ti with Fe, Mn and Cu were prepared by levitation melting in He, with subsequent heat treatment with or without deformation. The following results were obtained from the investigation of solubilities: (1) about 0.5 wt-% Fe dissolves at the temperature of the eutectoid transformation (585 - 600°C); in the temperature range 550 - 400°C the maximum solubility of Fe in  $\alpha$ -Ti remains constant at ca. 0.4 wt-%; (2) the so-  
Card 1/2

Investigating the solubility ...

S/598/62/000/007/006/040  
D267/D307

solubility of Mn at the temperature of the eutectoid transformation (550°C) is 0.4 wt-% and remains constant at 0.3 - 0.4 wt-% in the range 550 - 400°C; (3) the maximum solubility of Cu in  $\alpha$ -Ti is ca. 1.5% at the temperature of the eutectoid transformation (798°C) and does not vary in the interval 798 - 400°C. There are 5 figures and 1 table.

Card 2/2

S/598/62/000/007/021/040  
D290/D307

AUTHOR: Boriskina, N. G.

TITLE: The effect of iron on the structure and properties of alloy AT3 (AT3)

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 150-157

TEXT: The author studied the effect of the addition of 0 - 5% by weight Fe on the structure and properties of Ti and AT3. The present work is a continuation of previous studies of the structure and properties of alloys based on the Ti-Cr-Fe system. The tensile strengths of forged binary alloys and the alloys AT3 are higher if the specimens contain 0.2 - 3.0% Fe; the alloys retain satisfactory plastic properties. Hardness of the binary alloys containing up to 5% Fe and the alloys AT3 containing up to 1.5% Fe is lower after annealing at 400°C and 500°C than after tempering at 1100°C; the alloys have the lowest hardness values after prolonged

Card 1/2

The effect of iron ...

S/598/62/000/007/021/040  
D290/D307

annealing at 500°C. An analysis is made of the link between structural changes in the alloys due to the addition of iron and the related changes in mechanical properties. Addition of up to 1.0 - 1.5% Fe to AT3 can be recommended; it leads to a considerable increase in tensile strength ( $\sim 20 \text{ kg/mm}^2$ ) and is not accompanied by ageing of the alloys (as indicated by the hardness values). However, plasticity of the alloy diminishes during working due to the presence of a small amount of the eutectoid; this defect can be overcome, and a very stable alloy produced, by adding Si (<0.2 - 0.3%) and Fe and Cr up to the limits of their solubility in  $\alpha$ -Ti. There are 4 figures and 2 tables. ✓

Card 2/2

S/598/62/000/007/022/040  
D290/D307

AUTHOR: Boriskina, N. G.

TITLE: The effect of iron on the structure and properties of alloy AT8 (AT8)

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 158-165

TEXT: The author studied the effect of varying amounts of Fe (0 - 5% by weight) on the structure and properties of the Ti-Al alloy AT8 (Al content 7.5% by weight, total Cr, Si and B 0.81% by weight). The present paper is part of a systematic study of titanium alloys made in order to find the optimum proportions of alloying elements. The microstructure and mechanical properties of the alloys were investigated as well as the effect of preliminary annealing at different temperatures on the subsequent ageing of the alloys. The alloys were more stable at 500°C if they were first cooled in air at 950°C than if they were tempered at 1100°C; the most stable alloys

Card 1/2



S/598/62/000/007/022/040  
D290/D307

The effect of iron ...

contained 0 - 0.75% Fe. Iron does not appreciably alter the mechanical properties of AT8. Plasticity of the alloy is not reduced by ageing at 500°C for 1 hour; ageing at 500°C for 100 hours reduced  $\delta$  and  $\psi$  considerably for alloys containing 0 - 3% Fe, whether they have been cooled in air at 950°C or tempered at 1100°C. [Abstracter's note:  $\delta$  and  $\psi$  not defined.] It is recommended that alloying components should be added to AT8 up to the limits of their solubility in  $\alpha$ -Ti at the working temperatures (up to 0.4% Fe, 0.2 - 0.3% Si and 0.4 - 0.5% Cr) in order to increase the stability of the alloy. There are 5 figures and 1 table.

Card 2/2

BORISKINA, N.G.; KORNILOV, I.I.

Mechanical properties of titanium-rich alloys in the system Ti - Cr -  
Fe (sections with 0.5 and 1.5% Fe). Titan i ego splavy no.10:300-306  
'63. (MIRA 17:1)

KORNILOV, I.I.; BORISKINA, N.G.

System  $TiFe_2 - TiCr_2$  . Zhur. neorg. khim. 9 no.3:702-704 № 164  
(MIRA 17:3)

1. Institut metallurgii im. A.A. Baykova.

ACCESSION NR: AT4007029

S/2598/63/000/010/0086/0094

AUTHOR: Boriskina, N. G.; Kornilov, I. I.

TITLE: Phase composition of alloys of Ti-Al-Cr.-Fe-Si system, containing 6% Al and 0.3% Si

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy\*, no. 10, 1963. Issledovaniya titanovy\*kh splavov, 86-94

TOPIC TAGS: titanium alloy, titanium aluminum chromium alloy, iron containing alloy, silicon containing alloy, phase composition, alloy property

ABSTRACT: In continuation of earlier work on titanium-rich alloys, ten Ti-Al-Cr-Fe-Si alloys containing 63.7 to 93.5% Ti, 6% Al and 0.3% Si were arc-melted in an argon atmosphere, forged at 1000-1200C and variously heat treated. Through microstructure analysis, X-ray analysis, and measurement of hardness and electrical resistivity, phase components were identified and solubility ranges of Fe and Cr were established for  $\alpha$  and  $\beta$  Ti at 500, 800, 1000 and 1100C. From 500 to 800C, only 0.4% of Fe + Cr dissolves in  $\alpha$  Ti (See Figure 1 in the Enclosure). Results of tests for hardness and electrical resistivity are shown in Figures 2 and 3 of the Enclosure, respectively. Orig. art. has 8 metallographic sections, 6 graphs and 4 phase diagrams.

Card 1/6

ACCESSION NR: AT4007029

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute AN SSSR)

SUBMITTED: 00

DATE ACQ: 27Dec63

ENCL: 04

SUB CODE: MM

NO REF SOV: 008

OTHER: 003

Card

2/6

0

ACCESSION NR: AP4019496

S/0078/64/009/003/0702/0704

AUTHORS: Kornilov, I. I.; Boriskina, N. G.

TITLE: The  $\text{TiFe}_2$ - $\text{TiCr}_2$  system

SOURCE: Zhurnal neorg. khimii, v. 9, no. 3, 1964, 702-704

TOPIC TAGS:  $\text{TiFe}_2$  system,  $\text{TiCr}_2$  system, x ray analysis, thermal analysis, titanium iron chromium system, solid solution,  $\text{MgZn}_2$  lattice, polymorphism, titanium alloy annealing, crystal lattice parameter,  $\text{Ti}(\text{CrFe})$ , equilibrium diagram, beta titanium phase, polymorphic transition, hexagonal structure

ABSTRACT: X-ray, thermal and microscopic examination of the Ti-Fe-Cr system was conducted to explain the effect of  $\text{TiFe}_2$  and  $\text{TiCr}_2$  on the crystallization of a continuous series of solid solutions of the  $\text{MgZn}_2$  lattice type, and to explain the appearance of polymorphism of  $\text{TiCr}_2$  in alloys annealed for a long time at low temperatures. The continuous increase in the a and c parameters of the crystal lattices in going from  $\text{TiFe}_2$  to  $\text{TiCr}_2$  (fig. 1) confirms the existence of a continuous series of solid solutions between the isomorphic structures of  $\text{TiFe}_2$  and  $\text{TiCr}_2$ . The solid solution is represented by

Card: 1/5

ACCESSION NR: AP4019496

the ternary phase (gamma-phase)  $Ti(CrFe)_2$  of interchangeable composition in which the isomorphic Cr and Fe replace one another. The equilibrium diagram of the system was constructed (fig. 2). The gamma-phase is crystallized exclusively up to 60 wt.% Cr; in the 60-65 wt.% Cr range a small amount of a second solid phase, the beta-phase, is also formed. Annealing at 550 and 800C has little effect of the microstructure of the alloys; annealing at 1000C breaks down a large amount of the beta-phase. X-ray study of a series of Ti-Cr-Fe alloys annealed for 1000 hours at 450C shows that the  $Ti(CrFe)_2$  phase with the  $MgZn_2$  type structure is also formed by the breakdown of the solid solutions based on beta-titanium. Thus, iron stabilized the hexagonal modification of  $TiCr_2$ . Melts containing less than 8.5% Fe undergo polymorphic transition of the  $Ti(CrFe)_2$  phase at temperatures below 1220C. At all Fe concentrations above 8.5% the hexagonal structure of  $Ti(CrFe)_2$  is stable at room temperature. Orig. art. has: 3 figures.

ASSOCIATION: Institut metallurgii im. A. A. Baikova (Metallurgical Institute)

Card 2/5

ACCESSION NR: AP4019496

SUBMITTED: 30Jan63

DATE ACQ: 31Mar64

ENCL: 02

SUB CODE: MM

NR REF SOV: 004

OTHER: 003

Card: 1 3/5



ACCESSION NR: AP4019496

ENCLOSURE: 01

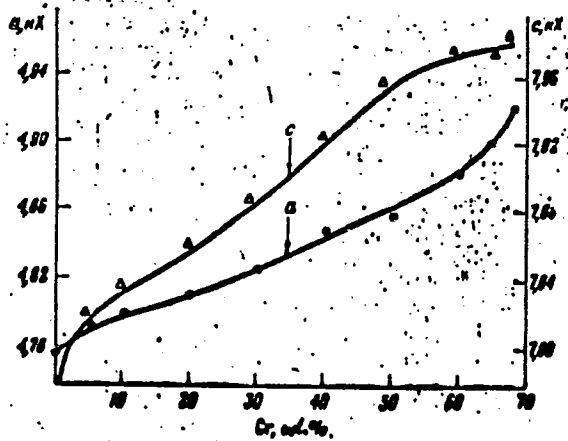


fig. 1

Phase diagram- parameters a and c of alloys annealed at 1000C.

Card 4/5

ACCESSION NR: AP4019496

ENCLOSURE: 02

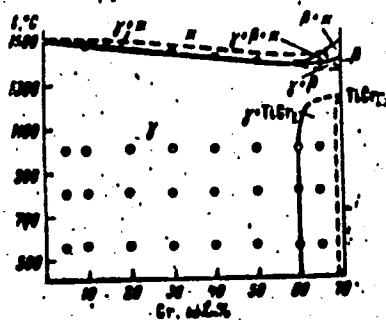


fig. 2

Polythermic equilibrium diagram of the metal system  $TiFe_2-TiCr_2$

Card: 5/5

ACCESSION NR: AT4007053

S/2598/63/000/010/0300/0306

AUTHOR: Boriskina, N. G.; Kornilov, I. I.

TITLE: Mechanical properties of titanium-rich alloys of the Ti-Cr-Fe system (sections with 0.5 and 1.5 % Fe)

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy\*, no. 10, 1963. Issledovaniya titanovy\*kh splavov, 300-306

TOPIC TAGS: titanium chromium iron alloy, titanium alloy, titanium alloy structure, titanium alloy strength, titanium alloy ductility, titanium alloy heat resistance, titanium alloy property, alpha beta titanium alloy

ABSTRACT: Titanium alloys can be strengthened by alloying and by suitable heat treatment. The authors therefore studied the influence of iron and chromium and of heat treatment on some physical properties of titanium-base ternary alloys. The alloys investigated were of the Ti-Fe-Cr type; specifically, sections with 0.5 and 1.5 % Fe containing 0, 0.5, 1.0, 2.0, 3.0, and 5.0 % Cr. Tensile strength and elongation at room temperature and heat resistance measured in terms of time for a certain creep strain under specified conditions (stress 15 kg/mm<sup>2</sup> at 450C) were determined, and thermal stability was studied. The following heat treatments were applied: quenching in water

Card

1/2

ACCESSION NR: AT4007053

from 1000C (Maintained for 5 hours) or 750 C (200 hours) and annealing at 400C for 200 hours. Thermal stability was investigated in samples water-quenched from 750C and aged at 450C in a vacuum for 1, 10, 25, 50, and 100 hours. Hardness testing and metallographic examination were applied for detecting phase transformations. It was found that the mechanical properties of both investigated alloy sections with 0.5 and 1.5% Fe can be altered by heat treatment. In addition, it was discovered that quenching from 750C is the most favorable of the heat treatments tried for getting optimum mechanical properties at both room temperature and 450C. Maximum tensile strength and elongation at room temperature and maximum heat resistance were obtained with a 1.5% Fe section containing 3 and 5% Cr. In thermal stability tests, the observed beta decomposition rates were very slow, Fe and Cr being beta stabilizers. Only a partial transformation of beta solid solution into eutectoid was observed after annealing at 550 and 450C over a total of 2000 hours. It was concluded that the investigated alloys are of relatively high stability. Orig. art. has: 6 figures.

ASSOCIATION: Institut metallurgii AN SSSR. (Metallurgical Institute AN SSSR)

SUBMITTED: 00

DATE ACQ: 27Dec63

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 001

Card 2/2

BORISKINA, N.G., kand. tekhn. nauk; FYLAYEVA, Ye.N., kand. tekhn.  
nauk; KORNILOV, I.I., prof., doktor khim. nauk, otv. red.

[Metallography of titanium; transactions] Metallovedenie  
titana; trudy. Moskva, Nauka, 1964. 316 p. (MIRA 17:10)

1. Nauchnoye soveshchaniye po metallurgii, metallovedeniyu  
i primeneniyu titana i yego splavov. 5th, Moscow, 1963.

BORISKINA, N.G.; KORNILOV, I.I.

Phase diagram of the system titanium - chromium - iron.  
Zhur. neorg. khim. 9 no.5:1163-1168 My '64.

(MIRA 17:9)

L 6614-55 EWT(m)/EWP(q)/EWP(b) JD/JG

ACCESSION NR: AP4036967

S/0078/64/009/005/1163/1168

AUTHORS: Boriskina, N.S.; Kornilov, I.I. 44

TITLE: Phase diagram of the titanium-chromium-iron system

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 5, 1964, 1163-1168

TOPIC TAGS: titanium chromium system, titanium iron system, titanium chromium iron system, iron rich alloy, chromium rich alloy

ABSTRACT: X-ray, microstructural, and thermal analysis were used to investigate the Ti-Cr-Fe system, particularly 1) the region of alloys within the limits of the Ti-TiFe<sub>2</sub>-TiCr<sub>2</sub> system, 2) alloys rich in Fe and Cr, and 3) the interaction of the TiFe<sub>2</sub> and TiCr<sub>2</sub> phases. Cast alloys of high-purity components were annealed in a five-step, 1900-hour procedure and studied after quenching at 1000 and 800 C and zonal annealing at 500 C. The compositions of the alloys investigated are shown on the triangle in Fig. 1. The phase composition of these alloys was found to be determined by the presence of solid solutions based on β-Ti, α-Fe, and Cr; ternary (γ-phase Ti(CrFe)<sub>2</sub>; the compound TiFe (δ-phase); the cubic modification of TiCr<sub>2</sub>; Ti<sub>5</sub>Cr<sub>7</sub>Fe<sub>17</sub> (λ-phase); and γ-Fe. Iron was found to

Card 1/3

L 6611-65

ACCESSION NR: AP4036967

promote the stabilization of the hexagonal modification of  $TiCr_2$ . Solid solutions based on  $TiCr_2$  and  $TiFe_2$ , with a phase composition at 20-1350 C corresponding to the quasibinary system, crystallize first in a wide concentration range of components of alloys of the  $TiFe_2-TiCr_2$  section. In the  $Ti-TiFe_2-TiCr_2$  system the transformations observed in the solid state are of the eutectoid type with a four phase reaction  $\beta \rightleftharpoons \alpha + \gamma + \delta$ ; the ternary eutectoid has 8% Cr and 12% Fe. A four-phase peritectic reaction  $\gamma + \text{liquid} \rightleftharpoons \beta + \delta$  occurs in the  $Ti-TiFe_2-TiCr_2$  system at 1200 C; the ternary peritectic composition has about 30% Fe and 12% Cr. A liquid ternary compound  $Ti_5Cr_7Fe_{17}$  ( $\chi$ -phase) with an  $\alpha$ -Mn structure is formed in the Fe-rich alloy region. The reaction of this compound with  $\alpha$ -Fe and Cr solid solutions and with liquid and solid-state  $Ti(CrFe)_2$  is explained. It is suggested that the results of the investigation of the components of the  $Ti-Cr-Fe$  ternary system may be used for constructing partial phase diagrams of the  $Ti-Cr-Fe-Al-Si-B$  systems and establishing optimum compositions of new titanium alloys of practical value. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 12Apr63

ENCL: 01

SUB CODE: MM

NO REF SW: 008

OTHER: 006

Card 2/3



L 6614-65  
ACCESSION NR: AP4036967

ENCLOSURE: 01

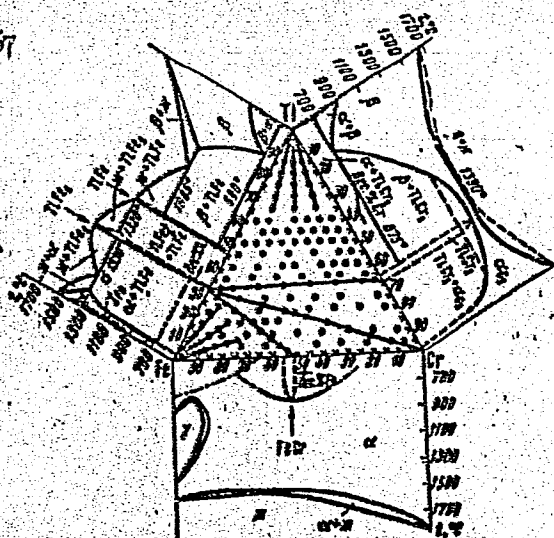


Fig. 1. Composition triangle of the Ti-Cr-Fe system. Dots show compositions of the investigated alloys. Bee % = weight %; = liquid

Card 3/3

L 14322-65 EWT(m)/EPF(n)-2/EPR/EWP(t)/EWP(b) Ps-4/Pu-4/ ASD(m)-3/  
AFIC(p) JD/WH/JG/MLK  
ACCESSION NR: AT4048051 S/0000/84/000/000/0047/0053

AUTHOR: Kornilov, I. I., (Professor, Doctor of chemical sciences), Boriskina, N. G.  
(Candidate of technical sciences)

TITLE: A study of the phase structure of the alloys of the Ti-Al-Zr system along the  
Ti<sub>2</sub>Al-Zr section 27 27 27

SOURCE: Soveshchaniye po metallurgii, metallovedeniyu i primeneniyu titani i yego  
splavov. 5th Moscow, 1963. Metallovedeniye titana (Metallography of titanium); trudy\*  
soveshchaniya. Moscow, Izd-vo Nauka, 1964, 47-53

TOPIC TAGS: alloy structure, alloy phase transformation, alloy hardness, quenching,  
titanium alloy, aluminum alloy, zirconium alloy 14

ABSTRACT: Although aluminum and zirconium have a marked effect on alloys based on  
 $\alpha$ -titanium and all binary systems of these 3 elements have been extensively investigated  
there is no existing literature on the ternary system. The purest possible metals were  
used to prepare the samples tested, and the samples were prepared in an arc furnace  
with a non-consumable electrode in an argon atmosphere. All samples were heated to  
1100C and held there for 10 hours, after which some were immediately quenched in ice-

Card 1/3

L 14322-65  
ACCESSION NR: AT4048051

water while others were cooled to lower temperatures and held there for extended periods of time before being quenched. Another series of samples was quenched from 800C and a third from 500C. After quenching, a microstructural analysis was made of each sample. Kurnakov's pyrometer was used for the thermal analysis. The density of the samples and their hardness were also determined. Figure 1 of the Enclosure, which is typical of the results, shows a relationship which is not as close to the Ti-Zr system as  $Ti_3Al-Zr$  and  $Ti_3Al-Zr$ , but is analogous to them. An increase in the proportion of aluminum should cause the characteristics of the curve to approach the Zr-Al system. Orig. art. has: 3 graphs, 9 photomicrographs, and 1 table.

ASSOCIATION: None

SUBMITTED: 15Jul64

ENCL: 01

SUB CODE: MM

NO REF SOV: 004

OTHER: 004

Card 2/3

L 14322-65  
ACCESSION NR: AT4048051

ENCL: 01 ○

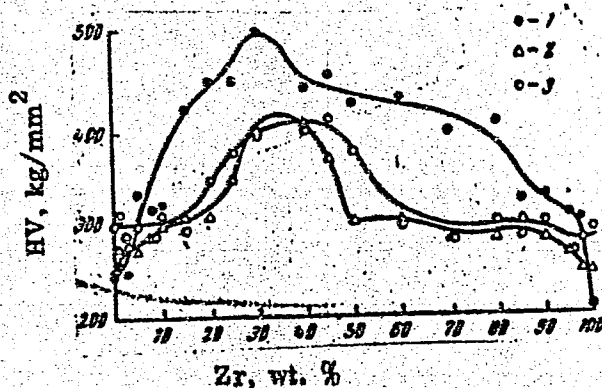


Fig. 1 - Dependence of the hardness on alloy composition after quenching:

1 - at 1100C, 2 - at 800C, 3 - at 500 C.

Card 3/3

L 27500-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/GS

ACC NR: AT6012371

SOURCE CODE: UR/0000/65/000/000/0061/0074

AUTHORS: Boriskina, N. G. (Candidate of technical sciences); Kornilov, I. I. (Doctor of chemical sciences, Professor)

ORG: none

38  
Bxl

TITLE: Structure of alloys of the systems Ti--Fe and Ti--Cr--Fe

SOURCE: <sup>18</sup> Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego <sup>27 27 27</sup> splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 61-74

TOPIC TAGS: titanium, chromium, iron, alloy phase diagram, hardness

ABSTRACT: The microstructure and hardness of the alloys as a function of composition and the phase diagrams of the systems Ti--Fe and Ti--Cr--Fe were studied. The experimental results supplement an earlier investigation of N. G. Boriskina and I. I. Kornilov, (Izv. AN SSSR, OTN, Metallurgiya i toplivo, 1960, No. 1, 50). The experimental results are presented in graphs and tables (see Figs. 1 and 2). The microstructural results are in good agreement with the hardness measurements. The decrease in the  $\gamma$  - phase is due to a peritectic reaction or decomposition with the formation of the compound TiFe.

Card 1/5

L 27500-66

ACC NR: AT6012371

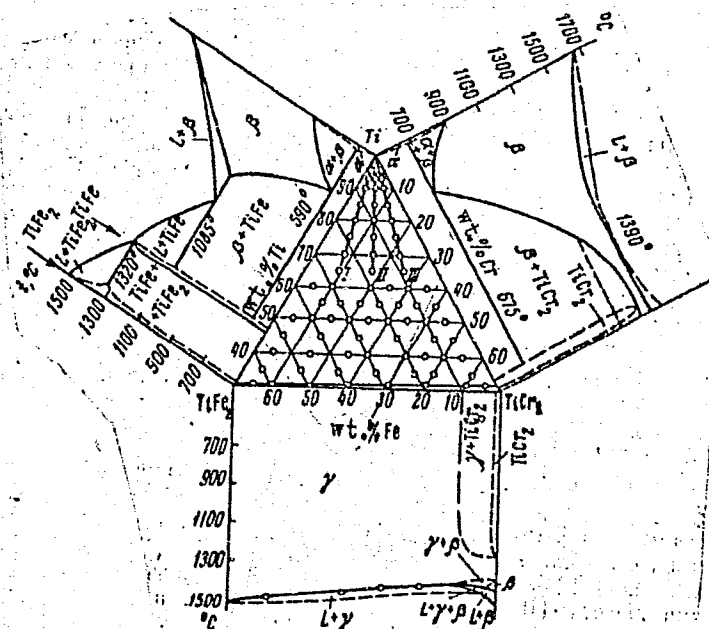


Fig. 1. Phase diagram of the system Ti--TiCr<sub>2</sub>--TiFe<sub>2</sub>  
(points indicate the composition of alloys studied).

Card 2/3

L 27500-66

ACC NR: AT6012371

0

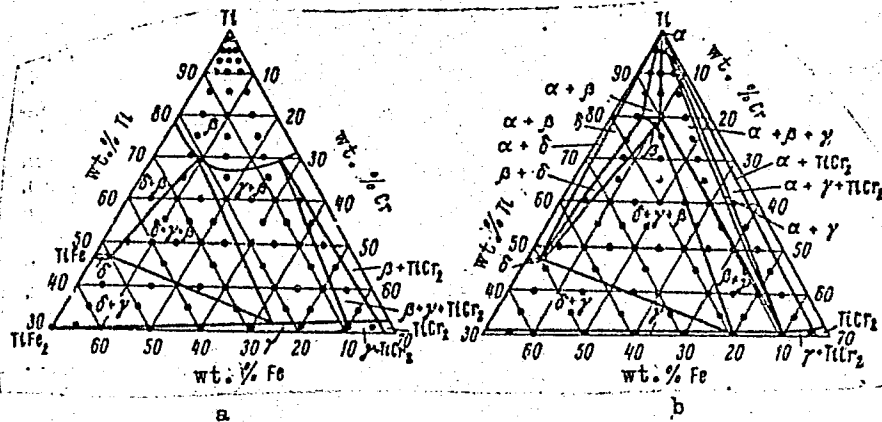


Fig. 2. Isothermal sections of the system Ti--TiCr<sub>2</sub>--TiFe<sub>2</sub> at 1000° (a) and 550° (b).

Orig. art. has: 1 table and 9 figures.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 012/ OTH REF: 007

Card 3/3 BLG

40094-66

EWT(d)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) EM/JD/JG/GD

ACC NR: AT6012395

SOURCE CODE: UR/0000/65/000/000/0229/0237

AUTHORS: Kornilov, I. I. (Doctor of chemical sciences; Professor); Boriskina, N. G. (Candidate of technical sciences)

ORG: none

TITLE: Some mechanical and physical properties of alloys of the system Ti--Cr--Fe

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 229-237

TOPIC TAGS: elastic modulus, titanium containing alloy, chromium containing alloy, iron containing alloy, *metal physical property, mechanical property*

ABSTRACT: A continuation of earlier studies by N. G. Boriskina and I. I. Kornilov (Sb. Titan i yego splavy, vyp. X. Izd-vo AN SSSR, 1963, p. 300) is presented, in which the properties of the alloy system Ti--Cr--Fe are investigated. Alloys were prepared with 3:1, 1:1, and 1:3 iron-to-chromium content ratio with combined iron and chromium content ranging from 1 to 12.5%. Base materials were titanium TG00 (99.8% Ti and 0.06% O<sub>2</sub>), electrolytic iron (99.9% Fe and 0.028% C), and chromium (99.9% Cr and 0.02% O<sub>2</sub>). Tests were performed to measure the strength limit and relative elongation properties, the characteristics of specimen microstructure, thermal

Card 1/2



L 40094-66

ACC NR: AT6012395

stability, strain versus time relationships, and electrical conductivity of the alloys. The mechanical properties of titanium-rich alloys are, after alloy tempering at 1000C, 750C, and curing at 400C, a function of the content and phase structure of the alloys. Both the alloy content and alloying process are specified for favorable strength and strain properties. Iron-chromium-titanium alloys can also be made for high thermal strength, but the thermal resistance varies significantly with the alloying process. The resistivity is increased through the content of iron and chromium in a titanium-based alloy. The phase structure is also found to control the modulus of normal elasticity of the alloys. Orig. art. has: 8 figures.

SUB CODE: 11/

SUBM DATE: 02Dec65/

ORIG REF: 007/

OTH REF: 001

Card

2/2 *llb*

KARGALOVA, Sof'ya Fedorovna; VASIL'YEVA, O.S., red.; BORISKINA, V.I.,  
red. kart; KARPOVA, T.V., tekhn. red.

[Practical exercises for the lessons in the economic geography  
of the U.S.S.R.] Prakticheskie raboty na urokakh ekonomicheskoi  
geografii SSSR. Moskva, Uchpedgiz, 1962. 110 p.  
(MIRA 15:12)

(Geography, Economic--Study and teaching)

GOREVA, Klavdiya Pavlovna; VASIL'YEVA, O.S., red.; BORISKINA, V.I.,  
red. kart; TATURA, G.L., tekhn. red.

[Study of the native town in a course on the geography of the  
U.S.S.R.; using the example of Orekhovo-Zuyevo] Izuchenie rod-  
nogo goroda v kurse geografii SSSR (na primere g.Orekhovo-  
Zuevo); posobie dlia uchitelei. Moskva, Uchpedgiz, 1962. 94 p.  
(MIRA 16:6)

(Orekhovo-Zuyevo--Economic geography)

KATIN, Vladimir Konstantinovich; ZHURAVLEV, V.L., retsenzent;  
UTKIN, G.N., retsenzent; KONSHINA, V.A., red.; BORISKINA,  
V.I., red. kart; KOVALENKO, V.L., tekhn. red.

[Morocco] Morokko. Moskva, Uchpedgiz, 1963. 68 p.  
(MIRA 17:3)

BORISKINA, N.G.; KORNILOV, I.I.

Investigating the phase constitution of alloys in the system Ti - Al -  
Cr - Fe - Si with a constant content of aluminum (6%) and silicon (3%).  
Titan i ego splavy no.10:86-94 '63. (MIRA 17:1)

L 40812-65 EWT(m)/EWP(s)/EPF(n)-2/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/Pu-4  
I/P(e) JD/JG

ACCESSION NR: AP5008233

S/0286/65/000/005/0125/0125

AUTHORS: Pol'kin, S. I.; Bykov, Yu. A.; Boriskina, Ye. A.

39  
B

TITLE: Method for removing carbon from electrolytic powders of tantalum niobium and their alloys. Class 1, No. 153049

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 125

TOPIC TAGS: tantalum, tantalum alloy, niobium, niobium alloy

ABSTRACT: This Author Certificate presents a method for removing carbon from electrolytic powders of tantalum, niobium, and their alloys. To maximize purification of the powders from carbon, the original powders are subjected to flotation with kerosene and OPSE (product of the interaction of propylene oxide and butyl alcohol) as reagents. For increased content of bound carbon in the form of tantalum and niobium carbides, reagents are added to the pulp, creating an alkaline medium (e.g., potassium hydroxide, sodium carbonate, water glass, etc). In an alternate method for flotation of powders with increased content of carbon, oleic acid is added to the pulp.

ASSOCIATION: none  
SUBMITTED: 23Dec61  
NO REF SOV: 000

ENCL: 00  
OTHER: 000

SUB CODE: MM

Card 1/1 *ks*

USSR/General and Special Zoology. Insects

P-2

Abstr Jour : Entomol. obozr., No 15, 1958, No 68993

Author : Borisko A.Ye.  
Inst : Ukrainian Sci Res Inst of Irrigated Agriculture  
Title : Testing the Trichogramma for Use Against the  
Corn (Cotton-Bull) Moth

Orig Pub : Byul. nauchno-tekhn. inform. Ukr. n.-i. in-ta  
proshoyenogo zemledel., 1957, No 3, 41-44

Abstract : The average cost of treating one hectare with trichogramma is 2 rubles -- considerably cheaper than using insecticides. Two species of trichogramma were tested: the brown (*Trichogramma evanescens*) and the yellow (*T. pallida*). On tomato and cotton plantings trichogramma was used against three generations of the moth, on corn against the first two generations (about 20,000 specimens per hectare). As a result, the quantity of damaged corn plants and tomato fruits was reduced by 2-3 times

Card : 1/2

USSR/General and Special Zoology. Insects

P-2

Abstr Jour : Ref Zhur -- Biol., No 15, 1958, No 63993

compared with the control. About 50-80% of the eggs were infected. Yellow trichogramma gave the best results, especially on high-stalk plants. When used against the corn borer, 97.1% of the pest's eggs were infected. On tomatoes the best time to use trichogramma is the first half of June, on corn -- the end of July, and on cotton -- the middle of July. --- I.A. Rubtsov

Card : 2/2

35



BORISKOV, P.F., kand.tekhn.nauk

Calculating the process of heating a tractor engine. Trakt. 1  
sel'khoz mash. 33 no.5:17-18 My '63. (MIRA 16:10)

1. Kubanskiy sel'skokhozyaystvennyy institut.

BORISKOV, P. F.

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BORISKOV, P. F. Novyy sposob rachatya teplopotor' truboprovodov  
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vyp. 5, 1949, s. 137-48.

SU: 'Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

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Dissertation: "Drying of Dispersed Masses." Cand Tech Sci, Moscow Technological Inst of the Food Industry, 2 Jun 54. Vechernyaya Moskva, Moscow, 24 May 54.

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RUMYANTSEV, V.I.; YEZHOV, V.A.; BORISKOVA, P.I.

Preparation of a demulsifier based on C<sub>15</sub> - C<sub>20</sub> synthetic aliphatic alcohols. Uch. zap. Mord. gos. un. no.27:36-38 '63.

Some recommendations for the preservation of a penicillin micelle and retention of its feeding value. Ibid.:39-42  
(MIRA 19:1)

USSR/Human and Animal Morphology (Normal and Pathological). Nervous System. Peripheral Nervous System.

S-2

Abs Jour: Ref Zhur-Biol., No 16, 1958, 74300

Author : Boriskovskaya, A. I.

Inst :

Title : Histologica-Comparative Study of Motor-Nerve Endings in the Tongue of Some Mammals and Man.

Orig Pub: Arkhiv anatomii, gistol. i embriologii, 1957, 34, No 4, 37-45

Abstract: Motor-nerve endings of the human tongue and the tongue of different mammals (mole, hedgehog, rabbit, rat, mouse, cat, dog, sheep, pig, chimpanzee) were investigated. Length of the motor plaque was measured from the site of

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USSR/Human and Animal Morphology (Normal and Pathological). Nervous System. Peripheral Nervous System.

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Abs Jour: Ref Zhur.-Biol., No 16, 1958, 74300

division of the neuraxis into terminal branches to the end of the longest of them. Motor nerve endings of the root, body and apex of the tongue of the different kinds of mammals differ according to shape, type of neuraxis branching, number of terminals and nuclei, and also by the size of endings. Four types of neuraxis branching are observed: 1) dichotomic (simple and complex); 2) loose; 3) magistral; 4) transitory. The 1st is mostly found in the tongue of all of the studied species except hedgehog and man, in which more differentiated motor endings predominate. Variations of their struc-

Card : 2/3

USSR/Human and Animal Morphology (Normal and Pathological). Nervous System. Peripheral Nervous System.

S-2

Abs Jour: Ref Zhur-Biol., No 16, 1958, 74300

tures in tongues of mammals are apparently connected with the adaptation of individual species to different conditions of existence. The motor endings in the tongues of carnivora are more differentiated than in rodents. Increase of the number of terminals, nuclei and area of motor plaques are apparently connected with the speed, and not with the multiplicity of tongue movements. -- V. G. Zaytsevskaya

Card : 3/3

USSR/Human and Animal Morphology (Normal and Pathological) Nervous System      S

Abs Jour : Ref Zhur - Biol., No 7, 1958, No 31204

Author : ~~Borickovskaya A.I.~~

Inst : Not Given

Title : On the Problem Concerning the Structure and Origin of Nerve Cells and Nodes of the Tongue.

Orig Pub : Izv. Akad. ned. nauk RSFSR, 1957, vyp. 84, 183-192.

Abstract : In the tissues of the tongue of different animals and men are found single nerve cells, but sometimes their tissues are encapsulated nerve centers. Cells possess a circular-oval form, and are located along the course of clusters of nerve fibers under the epithelium or in the connective tissue layers between muscle fibers. Lower animals have a greater quantity of nerve cells in the tongue. It was experimentally established that the nerve cells of the tongue seemingly possess no relation to the nerve cells of the gang. nodosum of the vagus nerve and of the upper neck sympathetic node, but

Card : 1/1 is genetically connected with the lingual and sublingual nerves.



BORISKOVSAYA, S.

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Bibl.SNO LGU no.1:170-185 '58. (NIRA 13:6)  
(Sparta--Temples, Greek)

BORISKOVSKIY, M. A. -- "Some Problems of Medical Supervision of the Training of the Young Boxer." State Order of Lenin and Order of Labor Red Banner Inst of Physical Culture imeni P. F. Lesgaft. Leningrad, 1955. (Dissertation for the Degree of Candidate of Medical Sciences.)

SO: Knizhnaya letopis', No. 4, Moscow, 1956

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Mikhail Konstantinovich Karper, Vest. Len. un. 7, No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

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Ocherki. Moskva, Izd-vo Akademii Nauk SSSR, 1953.  
463 p. Illus., Diagr., Tables (Akademiya Nauk SSSR. Materialy I Issledo-  
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Belemnites in old Stone Age. Priroda 45 no.11:113-114 # '56.  
(MLBA 9:11)

Leningradskoye otdeleniye Instituta istorii material'noy  
kul'tury Akademii nauk SSSR.  
(Belemnites) (Don Valley--Stone Age)

BORISKOVSKIY, P.I.; YEFIMENKO, P.P., otvetstvennyy redaktor; VIKTOROVA, L.L.,  
redaktor izdatel'stva; KRUGLIKOVA, N.A., tekhnicheskiy redaktor

[Man in remotest antiquity] Drevneishee proshloe chelovechestva.  
Moskva, Izd-vo Akad.nauk SSSR, 1957. 221 p. (MIRA 10:8)  
(Anthropology)

BORISKOVSkiY, P. I.

"Problema razvitiya pozdnepaleoliticheskoy kul'tury stepnoy oblasti."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

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The eight-tube super. p. 96. RADIOAMATER. (Savez radioamatera Jugoslavije) Beograd. Vol. 10, No. 4, Apr. 1956.

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 5, No. 8, Aug. 1956.



ZHINKIN, D.Ya.; MAL'NOVA, G.N.; BORISLAVSKAYA, Zh.V.; SOBOLEVSKIY, M.V.

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Plast. massy no.12:17-19 '64.

(MIRA 18:3)

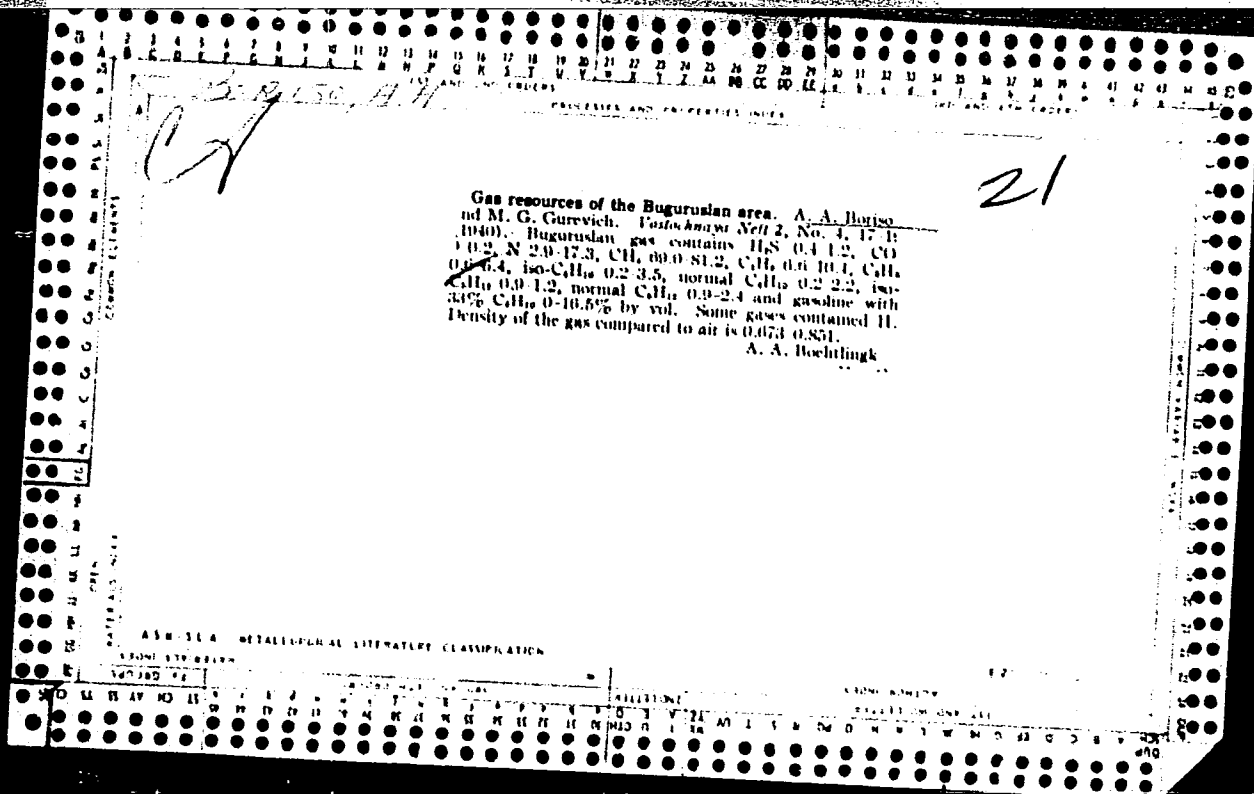
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2. USSR (600)
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1. Institut mekhaniki AN UkrSSR.



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Changes in the mitotic regime of the organism during the  
development of immunity to poliomyelitis. Trudy Mosk.  
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ZALKIND, S.Ya.; KULIKOVA, K.S.; BORISOGLEBSKAYA, N.V.; DUBROVSKAYA, R.V.

Comparative cytological analysis of the effect of the smallpox  
vaccine virus on tissue culture cells. Vop.virus 7 no.5:586-  
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1. Moskovskiy nauchno-issledovatel'skiy institut virusnykh  
preparatov.

(TISSUE CULTURE) (VACCINE LYMPH)

ZALKIND, S. Ya.; FOBERIY, I. A.; BORISOGLEBSKAYA, N. V.; IZAKOVA, L. F.; TIKHOMIROVA, T.I.  
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kletki."

report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.

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ACC NR: AP6004865 (H) SOURCE CODE: UR/0402/65/000/005/0563/0567 39

AUTHOR: Zalkind, S. Ya.; Borisoglebskaya, N. V.; Bogomolova, N. N., B  
Val'dman, K. L.

ORG: Moscow Scientific Research Institute of Viral Preparations  
(Moskovskiy nauchno-isslevodatel'skiy institut virusnykh preparatov)

TITLE: Analysis by luminescent microscopy of Hep-2 cells with chronic  
tick-borne encephalitis virus infection

SOURCE: Voprosy virusologii, no. 5, 1965, 563-567

TOPIC TAGS: virus disease, luminescence, microscopy, RNA, histology, virus,  
laboratory apparatus, cell physiology, encephalitis, cytology

ABSTRACT: The dynamics of RNA<sup>b</sup> production was studied from the first to the 12th day in a line of the above cells and another new one which developed as a result of a thermal effect (50 C) from one surviving colony. The cells were grown on mica platelets in test tubes and studied histochemically by luminescence microscopy after acridine orange staining. To determine the specificity of the stain, controls were set up with live cells. A 0.1% solution of crystalline ribonuclease was prepared for treating the cells prior to and after the staining. By the

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UDC: 576.858.25.095.383.086

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AUTHOR: Dorofeyev, V. M.; Borisoglebskaya, N. V.

ORG: Laboratory of Cortical and Viral Cytopathology, Moscow Viral Preparations Research Institute (Laboratoriya kori i virusnoy tsitopatologii Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov)

TITLE: Cytopathic effect of virus in tissue culture

SOURCE: Voprosy virusologii, no. 3, 1966, 373

TOPIC TAGS: virology, pathogen, cytopathic effect, virus tissue culture, DNA, RNA, cell fraction, *VIRUS, CYTOLOGY, HISTOLOGY*

ABSTRACT:

Inclusions in cortical cells caused by three virulent virus strains were studied by fixing and then staining tissue preparations with acridine orange to reveal DNA. Other tests revealed that the Brachet RNA reaction was negative and that the viruses are resistant to the effects of pepsin and nuclease but are sensitive to treatment with pepsin DNA-ase. It was suggested that the inclusions contain DNA and not RNA. However, the resistance of the inclusions to acid hydrolysis indicated RNA. Possibly the inclusions consist of a unique replicating nucleic acid.

SUB CODE: 06/ SUBM DATE: none/

[W.A. 50; CBE No. 10]

Card 1/1

BORISOGLIBSKAYA, T.A., aspirant

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1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana.  
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