

68156

A Comparative Investigation of the Fine Structure of X-Ray Emission Bands of the  $K\beta$  Group of Titanium in a Metal and Its Compounds With Some Light Elements SOV/20-129-6-19/69

PRESENTED: July 17, 1959, by A. P. Vinogradov, Academician ✓

SUBMITTED: July 14, 1959

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83553

S/020/60/134/001/004/021  
B019/13060

The Fine Structure of X-Ray K-Absorption Spectra and the Hall Effect in Vanadium Silicides

constant, while metallic vanadium, in accordance with its p-type conductivity, has a positive Hall constant. The effective carrier concentration  $n^*$  and its Hall mobility were determined with the aid of the Hall constants obtained. Results are compiled in Table 1. As may be seen from Fig. 1, the K-absorption edge undergoes a considerable and regular alteration in the case of increasing silicon content. Only that point of the edge remains unchanged, which characterizes the position of the original absorption range in the energy spectrum. The absorption maximum shifts toward higher energies on a transition of metallic vanadium to the silicides with rising Si content, and on a further transition to  $V_2O_5$ . Owing to the invariable position of the original absorption range, the shift of the maximum leads to a widening of the edge and, hence, causes the "mean point" of the K-edge to shift toward shorter wavelengths. With increasing Si content the width of the K-edge approaches that of  $V_2O_5$ , which is a compound with a large part of ionic bond. This indicates a polarization of the metal atoms in the silicon-rich silicides and a heteropolar component in metal-silicon compounds. ✓

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The Fine Structure of X-Ray K-Absorption Spectra and the Hall Effect in Vanadium Silicides

S/020/60/134/001/004/021  
B019/B060

This is in good agreement with results obtained from a quantum-mechanical calculation of the energy spectrum of electrons for molybdenum disilicide (Ref. 9). The authors finally discuss the behavior of the ultra-longwave absorption maximum A (Fig. 1), which is connected with the transition of K-electrons in the region of hybridized 3d-states of transition metal atoms. The authors believe that the shift of absorption maximum A is related to the d-states perturbed by the surrounding silicon atoms. There are 1 figure, 1 table, and 10 references: 6 Soviet, 2 German, 1 US, and 1 British.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk SSSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences USSR). Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR) ✓

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83553

The Fine Structure of X-Ray K-Absorption  
Spectra and the Hall Effect in Vanadium  
Silicides

S/020/60/134/001/004/021  
B019/B060

PRESENTED: April 29, 1960, by A. P. Vinogradov, Academician

SUBMITTED: April 29, 1960

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86047

S/020/60/135/003/033/039  
B004/B060

181215

1521,1449

AUTHORS: Vaynshteyn, Z. Ye., Zhurakovskiy, Ye. A., and Staryy, I. B.

TITLE: X-Ray Spectrum Analysis of Titanium Beryllides <sup>1</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3,  
pp. 642 - 644

TEXT: The authors refer to the obscure points found in literature concerning atomic interaction in beryllides of transition metals. They wanted to clarify this problem by studying the fine structure of X-ray spectra of titanium beryllides. The specimens were, besides pure titanium metal, TiBe and TiBe<sub>2</sub>, prepared by the Institut metallokeramiki i spetsplavov AN USSR (Institute of Powder Metallurgy and Special Alloys of the AS UkrSSR) and placed at the authors' disposal by G. V. Samsonov. The apparatus used for the X-ray spectrum analysis had been described in Refs. 8,9. Both the fine structure of the absorption spectrum (exposure 4-6 h at 15 kv, 40 ma) and the fluorescence spectrum (fine structure of the K $\beta$ <sub>5</sub> line) (exposure 20-40 h, 15 kv, 70  $\mu$ a) were photographed. A shift

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X-Ray Spectrum Analysis of Titanium Beryllides

S/020/60/135/003/033/039  
B004/B060

of the  $K\beta_5$  line, as well as of points m and A of the edge of the absorption band was observed in beryllides, as against the Ti spectrum. Fig.1 illustrates this shift, taking the position of the  $K\beta_5$  line in pure titanium as the zero point of graduation. The relative position of these points on the energy scale (ev) is shown in Table 2:

$K\beta_{5max}$	m	A
Ti 0	6.7 0.2	17.8 0.5
TiBe 3.8 0.2	7.5 0.2	23.0 0.3
TiBe <sub>2</sub> 3.8 0.2	7.2 0.2	22.6 0.3

The experimental data are indicative of a metallic character of titanium beryllides, the valence electrons being common to both atoms. The donor-acceptor interaction between jd electrons of Ti and 2s electrons of beryllium is bound to be small. There are

1 figure, 2 tables, and 9 references:

5 Soviet and 4 German.

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86017

X-Ray Spectrum Analysis of Titanium  
Beryllides

S/020/60/135/003/033/039  
B004/B060

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im.  
V. I. Vernadskogo Akademii nauk SSSR (Institute of  
Geochemistry and Analytical Chemistry imeni  
V. I. Vernadskiy of the Academy of Sciences USSR).  
Odesskiy pedagogicheskiy institut im. K. D. Ushinskogo  
(Odessa Pedagogical Institute imeni K. D. Ushinskiy)

PRESENTED: June 16, 1960, by A. P. Vinogradov, Academician

SUBMITTED: June 8, 1960

Card 3/4

86047

S/O20/60/135/003/033/039  
B004/B060

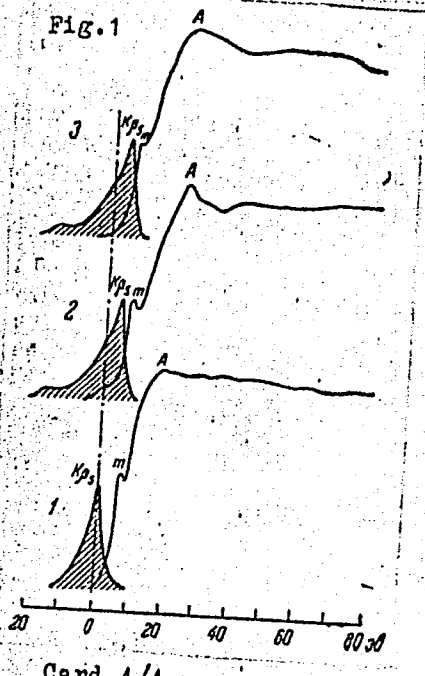


Fig. 1

X



15 2240

<sup>30450</sup>  
S/126/61/012/003/004/021  
E021/E180

AUTHORS: Vaynshteyn, E.Ye., Verkhoglyadova, T.S.,  
Zhurakovskiy, Ye.A., and Samsonov, G.V.

TITLE: The fine structure of X-ray absorption K-spectra of  
the metal in the homogeneous region of titanium  
nitride

PERIODICAL: Fizika metallov i metallovedeniye, v. 12, no. 3, 1961,  
360-364

TEXT: X-ray spectrographic studies of titanium carbide were  
published earlier. The present work investigated the effect of  
concentration changes of the titanium nitrogen system in the  
region where only the phase TiN exists (30-50 at.% N). Samples  
containing 11.7, 12.8, 14.7, 15.4, 17.5, 18.1, 18.8, 20.6, 21.2  
and 22.4 wt.% nitrogen were prepared by the method given by Samsonov  
and his team (Ref.5: Sb. Metallokeramicheskiye materialy i  
metody ikh issledovaniya, AN USSR, Kiyev, 1959, p.53 (Symposium:  
Cermets and methods of studying them, AS Ukr.SSR, Kiev, 1959, p.53).  
X-ray phase analysis showed that in all the specimens only one  
phase existed with a NaCl-type lattice having a parameter  
Card 1/3

30450

S/126/61/012/003/004/021  
E021/E180

The fine structure of X-ray ....

increasing from 4.212 to 4.235 kX with increasing nitrogen content. X-ray spectrographic studies were carried out on apparatus described earlier by I.B. Staryy, (Ref.7: Izv. AN SSSR, ser. fiz., 1958, Vol.20, 798). The crystalline structure of titanium nitride is always octahedral. Decreasing nitrogen content in the nitride phase, although maintaining the octahedral coordination, should lead to a reduction in the role of the p-functions, decreasing their contribution to the d-band and therefore decreasing the coefficient of absorption in the corresponding spectral region; this was actually observed for all compositions, except those with 21.2 and 22.4 wt.% nitrogen, which very nearly correspond to the stoichiometric composition of TiN. Another explanation of the change in the fine structure of absorption spectra is that in the nitride phase there is a considerable ionic component in the bonds which decreases with transition from the samples deficient in nitrogen to the compound with stoichiometric composition. This is confirmed by results of measurements of the electrical properties and microhardness of the samples. S.N. L'vov and V.F. Nemchenko are mentioned in the article for their contributions in this field.

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30450

The fine structure of X-ray ....

S/126/61/012/003/004/021  
E021/E180

There are 2 figures and 16 references: 13 Soviet-bloc and 3 non-Soviet-bloc. The English language reference reads as follows:  
Ref.12: G. Kimball, J. Chem. Phys., 1940, Vol.8, 188.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov  
AN USSR (Institute of Powder Metallurgy and Special  
Alloys, AS Ukr.SSR)  
Institut neorganicheskoy khimii Sibirskogo  
otdeleniya AN SSSR (Institute of Inorganic  
Chemistry, Siberian Department AS USSR)

SUBMITTED: January 2, 1961

X

Card 3/3

24.2130

28729  
S/020/61/140/003/008/020  
B104/B125

AUTHORS: Vaynshteyn, E. Ye. and Zhurakovskiy, Ye. A.  
TITLE: Fine structure of X-ray absorption K-spectra of titanium  
in complex solid solutions of the TiC-TiN system  
PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 3, 1961, 560 - 562

TEXT: This is a contribution to the extensive experimental and theoretical material on carbides and nitrides of transition metals. S. V. Samsonov et al. (DAN; 135, no. 3, (1960)) studied the electrical properties of the TiC-TiN system. The authors used Samsonov's specimens for their tests. The K-absorption edge of titanium was examined with an X-ray spectrograph (G. V. Samsonov et al., Dop. AN USSR, 8, 838 (1958)). The analyzer was a bent quartz crystal, in which the (10 $\bar{1}$ ) plane was the reflecting plane (radii of curvature, 2600 and 1650 mm). The X-ray photon energy was determined with an error of  $\pm 0.3$  ev. K-absorption edges of 7 alloys of the system under consideration, averaged from three measurements, are shown in Fig. 1. The dotted theoretical curves fit the experimental, continuous curves. The theoretical curves of the absorption edges were obtained on the assumption

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X

Fine structure of X-ray...

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S/O20/51/140/003/008/020  
B104/B125

that the metal atoms in the octahedral neighborhood change gradually during the transition from pure nitride to pure carbide, and that one metalloid is statistically replaced by the other. This process is accompanied only by a slight change of the lattice constant (about 3%) and a monotonic diminution of the carrier concentration. The authors think that the 3d conduction band of the metal in carbides and nitrides is little filled. The donor-acceptor interaction of the 3d electrons of titanium with the conduction electrons of metalloids is insignificant. The structural changes of the K-absorption edge during the transition from pure carbide to pure nitride are monotonic (Fig.1). The structure of the absorption edge becomes more distinct with increasing carbon content in the vicinity of the titanium atoms. This fact is connected with the scattering power of metalloid atoms. The results obtained are in good agreement with those of G. V. Samsonov (Sborn. nauchn. tr. Mosk. inst. tsvetn. met. i zolota im. M. I. Kalinina, no. 30, v. 1 (1957); ZhTF, 26, 299 (1950)). G. V. Samsonov, Corresponding Member AS UkrSSR, is thanked for providing the specimens and for participating in the work. There are 1 figure and 19 references: 14 Soviet and 5 non-Soviet. The references to English-language publications read as follows: H. J. Juretschke et al., J. Phys. Chem. Solids, 4, 118 (1958); P. Duwez et al., J. Electrochem. Soc., 97, 299 (1950).

Card 2/3

287~~28~~

S/020/61/140/003/008/020

B104/B125

Fine structure of X-ray...

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Inorganic Chemistry of the Siberian Department of the Academy of Sciences USSR), Institut metallo-keramiki i spetsial'nykh splavov Akademii nauk SSSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences USSR)

PRESENTED: May 6, 1961, by A. P. Vinogradov, Academician

SUBMITTED: April 28, 1961

X

Card 3/4  
3

L 3223h-65 EMP( $\alpha$ )/EMP( $\beta$ )/EMP( $\gamma$ )/EMP( $\delta$ ) 2/1/1/1 ID 10/1/1/1  
ACCESSION NR AP4046748 S/0228/64/000/00 10087/0084

28  
25  
B

AUTHOR Zhurakovskiy, Ye. A., Stepanovskiy, V. P.

TITLE: Investigation of the homogeneity region of titanium nitride by method of

SOURCE Poroshkovaya metallurgiya, no. 5, 1964, 57-64

TOPIC TAGS: titanium nitride, homogeneity region, stoichiometric composition, X-ray satellite, cross transition

ABSTRACT: Based on earlier findings, the authors assess the changes that take place in the homogeneous region of titanium nitride which has the character of a chemical bond with a tendency to an increase in its metallic component as the

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ACCESSION NR: AP4048740

68

ed indicating the occurrence of cross-transitions from the sub-level of the collect-

ivized electrons of metal ions in the presence of the metal ions. The

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ACC NR: AP6032850

SOURCE CODE: UR/0020/66/170/003/0548/0551

AUTHOR: Zhurakovskiy, Ye. A.; Vladimirova, A. A.; Dzeganovskiy, V. P.

ORG: Institute of Problems of the Science of Materials, Academy of Sciences USSR  
(Institut problem materialovedeniya Akademii nauk USSR)

TITLE: The  $K_{\beta}$ -spectrum of x-ray fluorescence in metallic scandium and some of its high-melting compounds

SOURCE: AN SSSR. Doklady, v. 170, no. 3, 1966, 548-551

TOPIC TAGS: scandium, scandium compound, fluorescence spectrum, x ray spectroscopy

ABSTRACT: The structure of the valence bands in metallic scandium and its carbide, boride, nitride and oxide (Sc, ScC, ScB<sub>2</sub>, ScN, Sc<sub>2</sub>O<sub>3</sub>) were investigated in a study of the fine structure of  $K_{\beta}$  emission lines in these materials. Due to low stability of metallic Sc and some of its compounds, the samples were placed in a vacuum and excitation was brought about by means of a sealed copper tube (30 kv, 30-35 ma). The (10 $\bar{1}$ 0) plane of a bent quartz crystal was used for analyzing the spectrum. The resolving power of the spectrograph was 10,000. Except for a small shift (1 ev toward the long wavelength side) observed for the ScC the short wavelength side of the  $K_{\beta}$  line remained unchanged in shape and position. The shape and position of the  $K_{\beta 5}$  line appears to be

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UDC: 539.26

ACC NR: AP6032850

most sensitive to the changes in chemical bonding. In contrast to the shape exhibited by Sc, in its compounds the  $K_{\beta_5}$  line shows two distinct maxima. The compounds where the covalent and ionic contributions to bonding are stronger, the intensity of the short wavelength maximum is less.  $ScB_2$  shows the strongest tendency toward covalent bonding. The position of the two peaks for  $ScB_2$  supports the idea that the short wavelength maximum corresponds to the metallic Me-Me bond and the long wavelength maximum to the covalent Me-B bond. The spectrum of  $ScC$  shows two approximately equivalent maxima, both shifted by about 2 eV toward the shorter wavelength. This is in good agreement with previous notions that the strong bonding forces in high temperature transition metal compounds exist due to an almost equivalent contribution to bonding of the covalent and metallic d electrons. The spectrum of  $ScN$  shows the largest difference between the two maxima. The short wavelength maximum has the higher intensity and width. The increased contribution of the 2p states of N to the 3d band of Sc increases the probability of emission. The metallic nature of bonding in the nitride is supported by the disappearance of the long wavelength maximum of the K absorption edge (reported previously) and the closeness of approach between the  $K_{\beta_5}$  emission line (2p+3d states) and its satellite (2s states of the metalloid). It follows from this that the separation between the  $K_{\beta_5}$  and  $K_{\beta''}$  lines can, to a certain degree, be used to characterize the energy levels of the valence bonds of the metal and the metalloid. Whenever these lines come close, one can expect the metallic exchange interaction to pre-

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ACC NR: AP6032850

vail over the covalent interaction. Among the high temperature compounds involving transition metals of the first period (of those that have thus far been investigated), ScN, TiC, VC and CrB show the greatest degree of approach between  $K_{\beta 5}$  and  $K_{\beta}''$  (the sum of the valence electrons among the interacting atoms approaches a stable octet). This characteristic of the high melting compounds leads one to suspect that certain regularity exists in their energy spectra. The melting points of the Sc compounds decrease in the same order (ScN + ScC + ScB<sub>2</sub> + Sc<sub>2</sub>O<sub>3</sub>), in which the 2s and 2p + 3d bonds separate. Presented by Academician G. V. Kurdyumov on 24 November 1965. Orig. art. has: 1 table, 1 figure.

SUB CODE: 0720/

SUBM DATE: 24May65/

ORIG REF: 009/

OTH REF: 003

Card 3/3

ZHURAKOVSKIY, Ye.A.

X-ray K-spectra of vanadium absorption in certain oxides. Nauch.  
zap. Od. ped. inst. 25 no.2:65-67 '61.

(MIRA 18:2)

L 19365-63

EWP(q)/EWT(m)/EWP(B)/BDS. AFFTC/ABD Jd/JG

ACCESSION NR: AR3006968

S/0058/63/000/008/D015/D015 5

SOURCE: RZh. Fizika, Abs. 8D107

AUTHOR: Zhurakovskiy, Ye. A.

TITLE: X-ray K-absorption spectra of vanadium in some oxides 27

CITED SOURCE: Nauchn. zap. kafedr matem., fiz. yestestvozn. Odessk. gos. ped. in-t, v. 25, no. 2, 1961, 65-67

TOPIC TAGS: X-ray spectrum, K-absorption, vanadium oxide

TRANSLATION: The K absorption edge was investigated for V in the oxides  $V_2O_3$ ,  $VO_2$  and  $V_2O_5$ . With increasing valence of V, the intensity of the long-wave maximum of absorption (shifted relative to the metal by 3--4.5 eV towards the long-wave side) increases, thus indicating transfer of part of the 3d-electrons of the V to the oxygen, and consequently the ionic character of the bond in the V-O

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L 19365-63  
ACCESSION NR: AR3006968

system. Simultaneously with the displacement and the change in the brightness of the long-wave maximum, the principal absorption maximum shifts towards the short-wave side by an amount up to 10 eV.

I. Nikiforov.

DATE ACQ: 06Sep63

SUB CODE: PH

ENCL: 00

Card 2/2

ZHURAKOVSKIY, Ye.A.; DZEGANOVSKIY, V.P.

Fine structure of X-ray absorption K-spectra of scandium in metals and solid high-melting compounds. Dokl. AN SSSR 150 no.6:1260-1262 Je '63. (MIRA 16:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.  
Predstavleno akademikom G.V.Kurdyumovym.  
(X-ray spectroscopy)

ZHURAKOVSKIY, Ye. A.; LYASHCHENKO, A. B.; FRANTSEVICH, I. N.

"Elastic properties and differences in the electronic structure of some high melting compounds made by powder metallurgy."

Report presented at the Conference on Powder Metallurgy, Krakow, Poland, 19-21 Sept 63.



VAYNSHTEYN, E.Ye.; ZHURAKOVSKIY, Ye.A.

Fine structure of X-ray K absorption spectra of titanium in complex solid solutions of the system TiC - TiN. Porosh. met. 2 no.6:81-87 N-D '62. (MIRA 15:12)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR  
i Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.  
(Ceramic metals) (X-ray spectroscopy)

L 12625-63

BDS/EWP(q)/EWT(m)

AFTTC/ASD

WH/JH/JG

ACCESSION NR: AP3003220

S/0020/53/150/006/1260/1262

AUTHOR: Zhurakovskiy, Ye. A.; Dzeganovskiy, V. P.

6-28  
3-8

TITLE: The fine structure of the x-ray absorption K-spectra of scandium in metal and in solid refractory compounds

SOURCE: AN SSSR. Doklady, v. 150, no. 6, 1963, 1260-1262

TOPIC TAGS: x-ray absorption, K-spectra, scandium, titanium, vanadium, hydrogen, boron, carbon, nitrogen, scandium nitride, scandium carbide, x-ray

ABSTRACT: In previous works by Zhurakovskiy et al., the fine structure of the K-spectra of titanium and vanadium, combined with hydrogen, boron, carbon, and nitrogen, was related to the nature of chemical interactions in these phases and to the properties of the compounds. The present work deals in a similar manner with scandium and its compounds. The work was motivated by theoretical, as well as by practical reasons, inasmuch as scandium nitride and carbide have a high melting point (approximately 3000°) and a high electrical conductivity. The absorption was measured in pure metal, ScB sub 2, ScC, ScN, and Sc sub 2 O sub 3. The absorption spectra are given in a figure, and their characteristic differences are pointed out. In particular, the long wavelength maximum does not remain same

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L 12625-63

ACCESSION NR: AP3003220

in the compounds as in pure metal, but is shifted toward the shorter wavelength indicating a different kind of interatomic interaction in the crystallographic phase than in the case of titanium and vanadium. The authors express their gratitude to I. Frantsevich, Academician, AN UkrSSR, for his constant attention and interest in the work." The paper was presented by Academician G. V. Kurdyulov on 21 Jan 1963. Orig. art. has: 1 figure.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR  
(Institute of Powder Metallurgy and Special Alloys, Academy of Sciences UkrSSR)

SUBMITTED: 14Jan63      DATE ACQ: 24Jul63      ENCL: 00  
SUB CODE: PH, EL      NO REF SOV: 006      OTHER: 002

Card 2/2

8/226/62/000/006/012/016  
E039/E535

AUTHORS: Vaynshteyn, E.Ye. and Zhurakovskiy, Ye.A.

TITLE: The fine structure of X-ray K-absorption spectra of titanium in complex solid solutions of the TiC-TiN system

PERIODICAL: Poroshkovaya metallurgiya, no.6 . 1962. 01-84

TEXT: The properties of refractory compounds of the transition metals are investigated using samples of TiC-TiN alloys, obtained from G. V. Samsonov. These samples were cut from the centre of hot pressed billets of TiC-TiN mixtures containing 25, 33, 50, 67 and 75% of one component. For determining their phase composition the samples were analysed by X-ray diffraction. The K-absorption edge was obtained using a bent quartz crystal spectrometer (radii quartz crystals 2600 and 1650 mm) which enable X-ray photons to be determined to an accuracy of 0.3 eV. The change in fine structure observed as the composition of the alloy is altered agrees very well with the theoretical formula:

$$\mu(\lambda) = \mu_1(\lambda)x + \mu_2(\lambda)(100 - x).$$

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The fine structure of X-ray ...

S/226/62/000/006/012/016  
E039/E535

where  $\mu_1$  and  $\mu_2$  are the absorption coefficients of Ti in TiC and TiN respectively and x is the percentage content of one phase in the complex solid solution. It is shown that the degree of filling of the 3d-state of the metal and the nature of its interaction with metalloid atoms remains practically unchanged as the composition of the alloy is altered. There is 1 figure. ✓

ASSOCIATIONS: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Metalceramics and Special Alloys AS UkrSSR) and Institut neorganicheskoy khimii SO AN SSSR (Institute of Inorganic Chemistry SO AS USSR)

SUBMITTED: April 14, 1962

Card 2/2

S/849/62/000/000/003/016  
A006/A101

AUTHORS: Vaynshteyn, E. Ye., Zhurakovskiy, Ye. A., Staryy, I. B.

TITLE: Roentgenospectral analysis of the force of chemical bond in hydrides of refractory metals on the example of titanium and vanadium compounds

SOURCE: Vysokotemperaturnyye metallokeramicheskiye materialy. Inst. metalloker. i spets. spl. AN Ukr.SSR. Kiev; Izd-vo AN Ukr.SSR, 1962, 19 - 28

TEXT: There are only indirect data available on the type of interatomic interaction in hydrides. The authors attempted for the first time to obtain direct information on the density of electron distribution over the energies in titanium and vanadium hydrides and to check by means of spectroscopy the hypothesis on the presence of a metallic bond between metal and hydrogen atoms in hydrides. For this purpose the authors investigated the fine structure of X-ray absorption K-spectra of titanium in hydrides with 1.2 and about 3 weight % H, and of vanadium in hydrides with 0.12; 0.28; 0.475; 0.75; 1.1 and 1.45 weight % H.

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Roentgenospectral analysis of the...

S/849/62/000/000/003/016  
A006/A101

Absorption edges of initial metals were also studied. To eliminate undesirable consequences of heating the specimen during the experiments, the emission spectra of Ti in hydrides of various chemical composition were analyzed with the use of the fluorescence method. All the tests were performed on a high-intensity vacuum tube-spectrograph with Johann focusing. The titanium hydrides were prepared and analyzed by V. M. Mikheyeva, and the vanadium hydrides by T. V. Dubovik and G. V. Samsonov. The experiments proved the hypothesis on the "metallization" of the metal-hydrogen bond in the aforementioned compounds and the penetration of 1s-electrons of hydrogen into the vacant 3d-band of the transition metal. This is manifested in the gradual decrease (in comparison with the metal) of intensity of the long wavelength maximum, within the range of the basic edge of the hydride absorption band, and its displacement to the short wavelength side with increasing hydrogen content in the hydrides until this maximum vanishes entirely. A further increase of the hydrogen content in the hydrides does not cause changes in the absorption edge structure of the metal in hydrides. As expected, the long wavelength maximum of absorption in the spectrum of the transition metal in vanadium hydrides vanishes at lesser hydrogen contents in the alloy, than in titanium hydrides. Investigations of the fine structure of the  $K_{\beta 5}$ -band of titanium

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Roentgenospectral analysis of the...

S/849/62/000/000/003/016  
A006/A101

in the hydrides confirm fully the conclusions on the nature of the chemical bond forces in these compounds. The conclusions were drawn from the analysis of experimental data on the absorption spectra of elements in these compounds. However, the peculiarities of the fine structure of Ti emission bands in the hydrides and its changes, depending on the composition of the compounds, may indicate changes in the nature of forces of chemical interaction between hydrogen and metal in the alloys, which differ in the degree of completeness of the transition metal 3d-band. It can also be considered that 1s-electrons of hydrogen do not completely lose their "individual" nature when a generalized sd-band is formed in the hydrides and that the effective hydrogen charge is not equal to 1 and can be different for hydrides rich or poor in hydrogen. This explains also the incomplete vanishing of the  $K_{\beta}''$ -satellite in the emission spectra of titanium in the hydrides. There are 5 figures.

Card 3/3



- VAYNSHTEYN, E.Ye.; VERKHOGLYADOVA, T.S.; ZHURAKOVSKIY, Ye.A.;  
SAMSONOV, G.V.

Fine crystal structure of X-ray K-absorption spectra of metals  
in the titanium nitride homogeneity field. Fiz. met. i  
metalloved. 12 no.3:360-363 S 161. (MIRA 14:9)

1. Institut metallokeramiki i spetsial'nykh splavov AN USSR i  
Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.  
(Absorption spectra)  
(Titanium nitride--Spectra)

ZHURAKOVSKIY, Ye.A.; DZEGANOVSKIY, V.P.

X-ray spectroscopy in the field of the homogeneity of titanium nitrides. Porosh.met. 4 no.5:57-64 S-O '64.

(MIRA 18:10)

1. Institut problem materialovedeniya AN UkrSSR.

L 18581-63      EPR/EWP(j)/EPF(c)/EWT(m)/BDS      Ps-4/PC-4/Pr-4      RM/WW/MAY  
ACCESSION NR: AT3002113      S/2910/61/001/01-/0179/0186

AUTHORS: Zhurauskene, E., Vaychyunas, S.

71  
70

TITLE: Relationships between the absorption and luminescence spectra of several aromatic compounds

SOURCE: AN Lit SSR. Litovskiy fizicheskij sbornik. v.1, no.1-2, 1961, 179-186

TOPIC TAGS: absorption spectrum luminescence spectrum, aromatic compound, impurity center, pyrene solution in n-paraffine, 3.4-benzopyrene solution in n-paraffine, n-hexane, n-octane, pyrene solution, n-paraffine, 3.4-benzopyrene solution

ABSTRACT: The paper provides a survey of existing literature on the luminescence and absorption spectra of various monomolecular aromatic hydrocarbons in frozen n-paraffine solutions, and describes the results of an experimental investigation of the effect of the rate of freezing on the absorption spectrum of pyrene in n-heptane. A comparison is provided of the luminescence and absorption spectra of pyrene as against those of 3.4-benzopyrene in n-paraffine solutions at 77K. It is apparent that in some solvents (pyrene in n-hexane and n-octane, 3.4-benzopyrene in n-heptane and n-hexane) several oscillation-band series can be found in the absorption and fluorescence spectra, the number of which is identical in both spectra.

Card 1/2

L 18581-63

ACCESSION NR: AT3002113

The electron transition  $0'-0''$  in these spectra is represented by several resonance lines which correspond to the  $0'-0''$  transitions in various impurity centers. In solution of pyrene in n-heptane and of 3,4-benzopyrene in n-octane, fluorescence and absorption spectra with a differing number of oscillatory bands were found. It is also shown that the number of oscillatory-band series in the absorption spectrum of solutions of 3,4-benzopyrene in n-octane increases because of the unequal time employed in freezing. The appearance of the differences and of a multiplet structure is attributed to the presence of differing impurity centers, the number of which depends on the method of freezing and, also apparently, on the oscillations of the crystalline lattice of the solvent. Orig. art. has 3 figures.

ASSOCIATION: Vil'nyusskiy gosudarstvennyy universitet imeni V. Kapsukasā (Vilnyus State University)

SUBMITTED: 21Apr61      DATE ACQ: 23Apr63      ENGL: 00

SUB CODE: PH, CH      NO REF SOV: 013      OTHER: 001

Card 2/2

ZHURAVA, I.; PRISHKU, A.; VASILESKU, D.

Diaphragmatic hernia forming through the esophageal hiatus.  
Khirurgiia 36 no.1:88-93 Ja '60. (MIRA 13:10)  
(DIAPHRAGM—HERNIA)

KALININ, B.; ZHURAVCHENKO, A.

Motor vehicles at the Italian Exhibition in Moscow. Avt.transp. 4 no.8:  
57-59 Ag '62. (MIRA 16=4)

(Italy--Motor vehicles)(Moscow--Exhibitions)

KALININ, B.; ZHURAVCHENKO, A.

Equipment for repairing brakes. Avt.transp. 40 no.11:60  
N '62. (MIRA 15:12)  
(Motor vehicles--Brakes--Maintenance and repair)

ZHURAVCHENKO, A.N.

PRAVDA, 27 August 1964

1964

AERODYNAMICS

**DECEASED**



ZHU XIAO A

ZHURAVEL, A.

PA 16/49T42

USSR/Engineering

Trucks

Cranes, Truck Mounted

Sep 48

"Two and One Half Ton Crane, Mounted on a Three-Axle Truck," Capt Engr A. Zhuravel',  $\frac{1}{2}$  p

"Avtomobil'" No 9

Describes crane of author's design, mounted on Studebaker truck. Since the latter are gradually becoming unserviceable due to wear, it is expedient to utilize them for mobile cranes. Includes sketch.

16/49T42

ZHURAVEL', A. A.

Minks

Neural mechanism of reaction of an animal to the introduction of a foreign protein, *Izv.*  
*1 zver*, 5, no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, October, 1952. UNCLASSIFIED.

ZHURAVEL', A. A.

4722. ZHURAVEL' A. A. Rukovodstvo K prakticheskim zanyatiyam po patologicheskoy fiziologii zhivotnykh. m., sel'khozgiz, 1954. 191 s. s ill.; 1 l. ill. 21 sm. (uchebniki i ucheb. posobiya dlya vyss h. s.-kh. ucheb. zavedeniy). 10,000 eks. 4 r. 5 k. v per.---(54--58109) 619:616-092(076.5)

SO: Letopis' Zhurnal' nykh Statey, Vol. 7, 1949

ZHURAVEL', B.P.

OZEROV, Aleksandr Vasil'yevich, prof.; ZHURAVEL', A.A., prof.; BURDELEV,  
T.Ye., prof.; NECHAYEVA, Ye.G., red.; MAKHOVA, N.N., tekhn.red.;  
ZUBRILINA, Z.P., tekhn.red.

[Practical laboratory exercises in veterinary medicine] Laboratorno-  
prakticheskie zaniatiia po veterinarii. Moskva, Gos. izd-vo  
sel'khoz. lit-ry, 1957. 238 p. (MIRA 11:4)  
(Veterinary medicine)

ZHURAVEL, A.A.

USSR/General Problems of Pathology - Allergy.

T-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 17200

Author : Zhuravel', A.A.

Inst : -

Title : On the Nervous Mechanism of Anaphylaxis.

Orig Pub : Sb. rabot. Leningr. vet. in-t, 1957, vyp. 16, 119-123.

Abstract : No abstract.

Card 1/1

YERSHOV, V.S., prof., doktor veter.nauk; ZHURAVEL', A.A., prof., doktor veter.nauk; PREEOBRAZHENSKIY, N.M., dotsent, kand.veter.nauk; YEL'TSOV, S.G., prof., doktor veter.nauk; ITKIN, B.Z., dotsent; NOSKOV, N.M., dotsent, kand.veter.nauk; YEMEL'YANOVA, N.I., red.; BALLOD, A.I., tekhn.red.

[Principles of veterinary medicine] Osnovy veterinarii. Izd.2., ispr. i dop. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 437 p.

(MIRA 13:10)

1. Direktor Vsesoyuznogo instituta gel'mintologii im. K.I. Skryabina (for Yerшов). 2. Zaveduyushchiy kafedroy fiziologii Leningradskogo veterinarnogo instituta (for Zhuravel'). 3. Moskovskaya veterinarnaya akademiya (for Preobrazhenskiy). 4. Zaveduyushchiy kafedroy operativnoy khirurgii Moskovskoy veterinarnoy akademii (for Yel'tsov). 5. Zaveduyushchiy kafedroy epizootologii Oranburgskogo sel'skokhozyaystvennogo instituta (for Noskov).  
(Veterinary medicine)

DALMATOV, Mikhail Konstantinovich; ZHURAVEL', A.A.; KOROPOV, V.M.;  
SOLOVY, A.S., red.; PROKOP'YEVA, L.N., tekhn.red.; DEYEVA,  
V.M., tekhn.red.

[Pathological physiology of farm animals] Patologicheskaia  
fiziologiya sel'skokhoziaistvennykh zhivotnykh. Izd.2., perer.  
i dop. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 511 p.

(MIRA 13:9)

(Veterinary pathology)



ZHURAVEL', Aleksandr Aronovich; GOL'DSHTEYN, S.A., red.; CHUNAYEVA,  
Z.V., tekhn.red.

[Physiology of farm animals] Fiziologiya sel'skokhoziaistvennykh  
shivotnykh. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 327 p.  
(Veterinary physiology) (MIRA 13:8)

ZHURAVEL' A.F.

Device for hardening reinforcement steel. Mekh. stroi. 21 no.3:  
27-28 Mr '64. (MIRA 17:3)

1. Nachal'nik proizvodstvennogo otdela kombinata Kemerovoshakhto-  
khimstroy.

ZHURAVEL', A.I., kand. ekonom. nauk; KAZAKOVTSSEV, N.M.; SIDOROVICH, Ye.A., inzh.;  
KÖZHEVNIKOV, Ye.N., inzh.; RAZUVAYEV, A.S., inzh.

Improvement of the economic work in stations. Zhel. dor. transp.  
47 no.3:69-72 Mr '65. (MIRA 18:5)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela stantsii  
Novosibirsk-Glavnyy (for Kazakovtsev).

ZHURAVEL', A.I., kand.ekonom. nauk, dotsent

Relation between the costs of operation and irregularity in  
freight transportation. Trudy NIIZHT no.25:109-116 '61.  
(MIRA 16:11)

ZHURAVEL', A.I., dotsent, kand.ekonom. nauk

Division of the operational expenditures into costs dependent and nondependent on the volume of the traffic. Trudy NIIZHT no.33: 41-58 '63.

Cost of operation of railroads dependent on the various types of traction. Ibid.:59-75 (MIRA 17:3)

ZHURAVEL', A.I., dotsent, kand.ekonom. nauk; BONDARENKO, V.O., inzh.

Methodology for determining labor productivity and the cost of  
operation of classification yards and section stations. Trudy  
NII ZHT no.33:76-107 '63. (MIRA 17:3)

ZHURAVEL', A. I., kand. ekonom. nauk; BONDARENKO, V. O., inzh.;  
POTAPOV, P. R.

Labor productivity and costs of operation of classification  
yards. Zhel. dor. transp. 45 no.1:20-24 Ja '63.  
(MIRA 16:4)

1. Glavnyy inzh. stantsii Inskaya (for Potapov).

(Railroads—Management)

ZHURAVEL', A.I., kand. ekonom. nauk; VOZNYUK, G.A., inzh.

Determining the economic efficiency of the transfer of short distance freight to the automotive transportation. Zhel. dor. transp. 46 no.8:50-52 Ag '64. (MIRA 17:11)

1. Nachal'nik otdela planirovaniya perevchok gruzovoy sluzhby Zabaykal'skoy dorogi (for Voznyuk).



ZHURAVEL', A.Ye. [Zhuravel', O.O.] (Kiyev)

Symmetric deformation of a conic rib-reinforced shell. Prykl.  
mekh. 10 no.6:600-607 '64. (MIRA 18:2)

1. Institut mekhaniki AN UkrSSR.

KOSTYUK, Z.D. (Kiyev); ZHIRAVEL', A.Ye. [Zhuravel', O.O.] (Kiyev);  
GRZHIBOVSKIY, V.V. [Hrshybovs'kyi, V.V.] (Kiyev)

Investigating the stressed state of axial-flow compressor  
nozzles. Prykl.mekh. 6 no.2:202-214 '60.  
(MIRA 13:8)

1. Institut stroitel'noy mekhaniki AN USSR.  
(Compressors--Aerodynamics)

USSR/Cultivated Plants - Fodder.

M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15706

Author : ~~B.N. Zhuravel'~~

Inst : -

Title : Results of Corn Variety Studies at the Poleskaya  
Experimental Station (Preliminary Report).  
(Rezultaty sortoizucheniya kukuruzy na Poleskoy  
opytnoy stantsii (Predvaritel'noye soobshcheniye).

Orig Pub : Kukuruza v BSSR. Minsk, AN BSSR, 1957, 96-105

Abstract : The variety testing of corn at the Poleskaya Experi-  
mental Station was performed on 112 varieties of hy-  
brids and self-pollinating lines, obtained from va-  
rious rayons and institutions of the USSR. The yield  
count was made in the milky-waxy and full ripe stage  
of the cobs. The larger part of the varieties in the  
conditions of southern Belorussia become ripe. Many  
yielded large harvests of green stuff and cobs in the

Card 1/2

ZHURAVL', Boris Nikitich; LAZARCHIK, K.S., red.; DIK, V.M.,  
tekh. red.

[Millet growing in White Russia] Kul'tura prosa v BSSR.  
Minsk, Gos.izd-vo sel'khoz. lit-ry BSSR, 1963. 42 p.  
(MIRA 13:12)

(White Russia—Millet)

Il'yankov, A.I.; ZHURAVEL', F.A.; RAKITYANSKIY, D.F.

Device for the automatic check of the parameter stability of  
semiconductor devices. Trudy Inst. avtom. i elektrometr. SO

AN SSSR no.9:88-93 '64.

(MIRA 17:11)

ZHURAVEL' G.

The Day of Industrial Safety. Mashinostroitel' no.10:37 '60.  
(MIRA 13:10)  
(Moscow Province--Industrial safety)

ZHURAVEL', I.

Crew of a powerful machine. Mast. ugl. 9 no. 11:4-5 N '60. (MIRA 13:12)

1. Predsedatel' uchastkovogo komiteta profsoyusa Yuzhnogo dobychnogo razreza tresta Vakhrusheyugol'.  
(Coal mining machinery) (Coal miners)

ZHURAVEL, I.V.

FEDORENKO, I.D., kandidat sel'skokhozyaystvennykh nauk; ZHURAVEL', I.V.,  
kandidat tekhnicheskikh nauk.

Experience with introducing the method of irrigating from  
ditches in the central provinces collective farms. Gidr. i mel.9  
no.2:20-31 F '57. (MLRA 10:3)

(Irrigation)



ZHURAVEL', I., gornyy master

Training in labor. Mast. ugl. 8 no.11:16-17 k '59.

(MIRA 13:2)

1. Predsedatel' uchastkovogo komiteta Yushnogo dobychnogo rasresa  
Sverdlovskogo sovnarkhosa.  
(Sverdlovsk Province--Coal mines and mining)

KOROLEVICH, Yu.S. [Korolevych, IU.S.] (Kiyev); KOSHTUK, Z.D. (Kiyev);  
ZHURAVEL', A.Ye. [Zhuravel', O.O. (Kiyev)

Investigating stresses in a turbine semishaft. Prikl. mekh. 5  
no.3:330-336 '59. (MIRA 13:2)

1. Institut stroitel'noy mekhaniki AN USSR.  
(Turbines--Testing)

ZHURAVEL', I.V., dotsent; FLEKSER, Ya.N., doktor tekhn.nauk, red.;  
GIL'MAN, Ye.A., red.; VOZNESENSKIY, A.D., tekhn.red.

[Hydraulics; control lessons for correspondence students  
in engineering faculties majoring in irrigation and drainage]  
Gidravlika; kontrol'nye zaniatiia dlia studentov-saochnikov  
gidromeliorativnoi spetsial'nosti inzhenernogo fakul'teta.  
Balashikha, 1959. 20 p. (MIRA 14:12)

1. Balashikha, Vsesoyuznyy sel'skokhozyaystvennyy institut  
saochnogo obrazovaniya.  
(Hydraulics)

ZHURAVEL', M. S., NEGRUL', A. M., KATS, Ya. F.

25751 ZHURAVEL', M. C. Sorta Vno-Grada Sredneyeziatskoy Stantsii Vir.  
Vinodeliye i Vinogradad-Arstvo SSS. R. 1948, No. 6, s. 24-28.

SO: Letopis' Zhurnal Statey, No. 30, Moscow.

ZHURAVEL', M.S.

ZHURAVEL', M.S.: "Improving the assortment of grapes produced in Uzbekistan through development of new types". Tashkent, 1954. Min Culture USSR. Tashkent Agricultural Inst. (Dissertations for the Degree of Candidate of Agricultural Sciences.)

So. Knizhnaya letopis' No. 49, 3 December 1954. Moscow.

ZHURAVEL, M.S.

Biochemical alterations of the grapes at harvest feeding.  
 L. V. Malivanova and M. S. Zhuravel. *Prilozhenie k Vsesoyuznuyu  
 zhurnalov 3:5 2 R. 11, No. 4, 1954 (1955)* - Harvest feeding  
 (spraying 3 times in 10 days with solutions of 1% KCl, 1%  
 K<sub>2</sub>SO<sub>4</sub>, 1% NaHCO<sub>3</sub>, or 3% Ca(NO<sub>3</sub>)<sub>2</sub>) gives increased  
 flavor, and, in the case of KCl, a more uniform and intense  
 color, in 10 grape varieties. Total grape sugar was defined  
 as glucosaminic index ratio of sugar content in % to  
 titratable acidity in g. 100 g. grape. In harvest feeding  
 with 1.5% NH<sub>4</sub>NO<sub>3</sub> solution the content of amino acid and middle-  
 ringed aromatic was decreased in the cluster and in all of  
 these clusters was comparable to that of. With this exception  
 harvest feeding increased the content of amino acids in the  
 cluster. In the case of Ca(NO<sub>3</sub>)<sub>2</sub> harvest feeding caused con-  
 siderably increased aspartic acid content in clusters and  
 ripening, especially with K and P fertilizers. K and P feeding  
 lowered carboxylase activity in leaf. Carboxylase content in leaf  
 feeding increased in the case of K and P fertilizers. This process  
 was expected to give rise to crop yield. A. W. Italy.

3

*Handwritten mark*

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30082

Author : Negrul', A.M., Zhuravel', M.S.

Inst : -

Title : Large-Scale Experimentation in the Vineyard.

Orig Pub : Sad i ogorod, 1957, No 6, 64-67.

Abstract : A survey is given of the distribution of new selected grape varieties in Uzbekistan. Good results are indicated which were gotten from these varieties in other republics.

Card 1/1

USSR / Cultivated Plants. Fruits, Berries.

M-7

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58777

Author : Zhuravel', M. S.

Inst : All-Union Institute of Plant Cultivation

Title : Accelerated Propagation of Seedlings and of New Grape Varieties

Orig Pub : Vinodeliye i vinogradarstvo USSR, 1957, No 1, 22-26

Abstract : The grafting of scions of prospective grape seedlings on adult shrubs permitted the Middle Asian experimental station of the All-Union Institute of Plant Cultivation to accelerate considerably the propagation of valuable varieties. The planting of shortened scions on highly productive ground gave a high yield of seedlings. --  
M. R. Zlotin

Card 1/1

164



ZHURAVEL', N.A.

Methods of hydrogeological studies in detailed prospecting for  
ore deposits. Razved. i okh. nedr 27 no.6:29-33 Ja '61. (MIRA 14:9)

1. Hidrogeologicheskaya ekspeditsiya Irkutskogo geologicheskogo  
upravleniya.

(Water, Underground)

ZHURAVLEV, N.I., inzh.

Prevent accidents with low-pressure steam boilers. Bezop.  
truda v prom. 4 no.7:19-21 JI '60. (MIRA 13:8)

1. Upravleniye Sakhalinskogo okruga Gosgortekhnadzora  
RSFSR.

(Boilers--Safety measures)

27 2400

14036  
S/851/62/000/028/002/015  
D296/D307

AUTHOR: Zhuravlev, N.N.

TITLE: Nervous elements in the wall of the stomach in normal rats and in rats suffering from radiation sickness

SOURCE: Akademiya nauk Latvyskoy SSR. Institut eksperimental'noy i klinicheskoy meditsiny. Trudy. no. 28, 1962. Znachenije faktora pitaniya v profilaktike luchevoj bolezni. no. 4, 21 - 30.

TEXT: 110 white rats were exposed to a sublethal dose of radiation (700 r) emitted by the ГУТ Co-400-1 (GUT Co-400-1) apparatus. 122 rats were not exposed to radiation and served as the control group. Both the experimental and the control group were further divided into two subgroups, one of which was kept on wheat biscuits containing a protein-vitamin complex, considered to be an adequate diet, and the other on wheat biscuits alone, a diet considered to be deficient in proteins and vitamins. The animals were killed 36 hours, 5, 10, 20 and 50 days after exposure to radiation. The stomach was fixed in neutral formalin and the intramural nervous apparatus was examined.  
Card 1/2

Nervous elements in the wall of ...

S/851/62/000/028/002/015  
D296/D307

ratus of the stomach was impregnated with silver by the method of Bielschovskiy and Gross. The ganglion cells and the nerve fibers proved to be more vulnerable than the sensory nerve endings. The ganglion cells showed an increased uptake of silver, with changes in shape and size. Some cells showed vacuolization or underwent complete disintegration. The nerve fibers also showed an increased uptake of silver, with vacuolization of the axis cylinders and varicose thickenings, and some fibers even disintegrated completely. Changes in the sensory nerve endings were only slight, consisting of an increased uptake of silver and swelling confined to short stretches of some of the terminal processes. No relation between the described changes and the diet could be established. There are 6 figures.

Card 2/2

BERZIN'SH, U.Ya. [Berzins, U.], kand. med. nauk; ZHURAVLEV, N.N.,  
kand. med. nauk; KALINKA, V.D., kand. med. nauk;  
SHURMIN, F.V., kand. med. nauk

Second Republic Conference of Pathoanatomists of Latvia.  
Arkh. Pat. 25 no.6:78-81 '63. (MIRA 17:1)

ZHURAVEL', P.A.

Changes observable in the ecology of mysids (Crustacea, Schizopoda) introduced in the reservoirs of the Crimean piedmont. Nauch.dokl. vyz.shkoly; biol.nauki no.3:26-28 '59. (MIRA 12:10)

1. Rekomendovana Nauchno-issledovatel'skim institutom gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta im. 300-letiya vospoyadineniya Ukrainy s Rossiyey.  
(Crimea---Schizopoda)

ZHURAVEL', P.A.

Some data on the biology and ecology of mysids experimentally introduced in reservoirs and other bodies of water of the Ukraine to enrich the food supply of fishes. Zool.zhur. 33 no.7:987-990 J1 '59. (MIRA 12:10)

1. Research Institute of Hydrobiology, Dnepropetrovsk State University.  
(Ukraine--Schizopoda) (Fishes--Food)

ZHURAVEL, P. A.

PA 27T69

USSR/Medicine - Water	Nov 1946
Medicine - Plants	
"The Increase of Natural Feeding Resources in Fresh Water Basins," P. A. Zhuravel', 1 1/2 pp.	
"Priroda" No 9	
Resume of observances on the development of animal and plant growth in reservoirs in the Soviet Union.	
ID	27T59



... - Dnieper Reservoir

"Experiment in settling Cumacea in the Dnieper Reservoir." Zool. zhur. 31 no. 3, 1952

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

1. ZHURAVEL', P.A., Prof.; LUBYANOV, I.P.
2. USSR (600)
4. Fresh-Water Fauna
7. Acclimatizing fauna serving as fish food in reservoirs and other water bodies of the southeastern Ukraine, Prof. P.A. Zhuravel', I.P. Lubyarov, Ryb.khoz. 29 no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

ZHURAVEL', P.A.

Invertebrate fauna of the Southern estuarine region of the lower part of the Bug River and of the Aleksandrovka Reservoir. *Zool. zhur.* 32 no.3: 380-383 My-Je '53. (MLBA 6:6)

1. Institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta. (Southern Bug River--Fresh-water fauna)

ZHURAVEL', P.A.

Introducing mysidean crustaceans suitable for fish food into the middle Dnieper. Vop. ikht. no. 5:138-144 '55. (MLBA 9:5)

1. Institut gidrobiologii Dnepropetrovskogo universiteta imeni 300-letiya vosoyedineniya Ukrainy s Rossiyey. (Fishes--Food) (Dnieper River--Crustacea)

ZHURAVEL', P.A.

Transplanting the crustacean *Limnopsis benedeni* Cz. as fish food  
to pond outside the floodland Dnepropetrovsk Province. Trudy  
Gidrobiol.ob-va 7:204-208 '56. (MLRA 10:2)

1. Institut gidrobiologii Dnepropetrovskogo gosudarstvennogo uni-  
versiteta.

(Dnepropetrovsk Province—Crustacea)  
(Fishes--Food)

ZHURAVEL', P.A.

Introduction of Mysidae (Crustacea) as a food for fishes in reservoirs and other bodies of water in the Krivoy Rog Basin. [with English summary in insert]. Zool.shur.35 no.8:1131-1138 Ag '56. (MLRA 9:10)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskego gosudarstvennogo universiteta imeni 300-letiya vossoyedineniya Ukrainy s Reshiyey.

(Krivoy Rog Basin--Mysidae)

ZHURAVEL', P.A.

New mysids (Crustacea, Mysidacea) introduced in the Al'ma Reservoir  
(Crimea). Nauch.dokl.vys.shkoly;biol.nauki no.3:14-15 '58.  
(HIRA 11:12)

1. Predstavlena institutom gidrobiologii Dnepropetrovskogo  
gosudarstvennogo universiteta imeni 300-letiya vossoyedineniya  
Ukrayny s Rossiyey.  
(Al'ma Reservoir--Schizopoda)

AUTHOR: Zhuravel', P.A. SOV-21-58-4-25/29

TITLE: On Enriching the Piscine Food Supply of Crimean Reservoirs  
(Ob obogashchenii kormovoy bazy ryb vodokhranilishch Kryma)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 4,  
pp 456-458 (USSR)

ABSTRACT: All investigators of freshwater reservoirs of the Crimea, such as Ya.Ya. Tseyeb, I.I. Puzanov, G.P. Trifonov, S.N. Ulomskiy, point out an underpopulation of fish and food fauna, which reduces the fish catch in these basins. The underpopulation of the fauna may be explained both by the history of this region, as was suggested by I.I. Puzanov and Ya.Ya. Tseyeb, and by contemporary conditions. The author's investigations show that favorable conditions have developed in the Crimean reservoirs for a number of faunal forms which are absent in the rivers feeding these reservoirs. Work on introducing fish species and food organisms into some Crimean reservoirs, initiated at the author's suggestion, by Crimean organization (aided by the hydrobiological research institutions of Dnepropetrovsk and Kiyev) in the spring of 1955, have already yielded the first positive results. Chemical and hydrobiological studies of the reservoirs into which

Card 1/2



SOV-21-58-4-25/29

On Enriching the Piscine Food Supply of Crimean Reservoirs

new species were introduced are being carried out under supervision of Professor G.B. Mel'nikov. There are 7 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta (Research Institute of Hydrobiology at the Dnepropetrovsk State University)

PRESENTED: By Member of the AS UkrSSR, A.P. Markevich

SUBMITTED: May 22, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Fishes--Nutrition
2. Animals--Abundance

Card 2/2

AUTHOR: Zhuravel', P.A., Professor

26-58-6-10/56

TITLE: Enrichment of the Fresh Water Fauna of the Crimea (Obogashcheniye fauny presnykh vodoyemov Kryma)

PERIODICAL: Priroda, 1958, Nr 6, p 55-56 (USSR)

ABSTRACT: The ponds and water reservoirs of the Crimea are mainly inhabited by small river fish and a few species of bottom animals. Some of these reservoirs are well suited for raising commercial fish and invertebrate-feeding animals which do not exist in the water-supplying rivers. In 1955, various Crimean organizations, in cooperation with hydrobiological scientific institutions of Dnepropetrovsk and Kiyev, began to put new kinds of fish (the pike perch, bream, carp and others) into these ponds and reservoirs. This called for the introduction of feeding animals, and the Dnepropetrovskiy nauchno-issledovatel'skiy institut gidrobiologii Gosuniversiteta (Dnepropetrovsk Scientific Research Institute of Hydro-Biology of the State University) started putting out experimentally such animals as oligochaete worms, branchiate mollusks and crustacea. Professor G.B. Mel'nikov controls the chemical and hydrobiological investigations of the stocked reservoirs and the newly introduced fish and invertebrates.

Card 1/2

Enrichment of the Fresh Water Fauna of the Crimea

26-58-6-10/56

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrobiologii Dnepro-  
petrovskogo gosudarstvennogo universiteta imeni 300-letiya  
vossoyedineniya Ukrainy s Rossiyei  
(Scientific Research Institute of Hydrobiology of the Dnepro-  
petrovsk State University imeni 300th Anniversary of the Reunion  
of the Ukraine with Russia)

Card 2/2

1. Reservoirs 2. Fishes 3. Water fauna-Enrichment

SOV-21-58-8-23/27

AUTHOR: Zhuravel', P.A.

TITLE: New Crustacean Species in the Vasil'kov Reservoir on the Volchaya River (Novyye vidy rakoobraznykh v Vasil'kovskom vodokhranilishche na reke Volch'yey)

PERIODICAL: Dopovidi Akademii nauk Ukrain'skoi RSR, 1958, Nr 8, pp 891-892 (USSR)

ABSTRACT: Gammaridae and Mysidae were introduced into the Vasil'kov reservoir on the Volch'ya river (affluent of the Samara-Dneprovskaya) as an experiment. Of the Mysidae, the species introduced were Mesomysis kowalewskyi Czern. and Limnomysis benedeni Czern. The planted organisms soon became habituated to the environment and spread all over the reservoir and upstream. In view of the fact that Mysidae are active filterers, they should play an important part as biofilter components in potable water reservoirs after more development. There are 6 references, 5 of which are Soviet and 1 Hungarian.

ASSOCIATION: Dnepropetrovskiy nauchno-issledovatel'skiy institut gidrobiologii (Dnepropetrovsk Scientific Research Institute of Hydrobiology)

Card 1/2

New Crustacean Species in the Vasil'kov Reservoir on the Volchaya River

SOV-21-58-8-23/27

PRESENTED: By Member of the AS UkrSSR, A.P. Markevich

SUBMITTED: May 9, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Inland waterways
2. Plants--Growth
3. Water--Purification

Card 2/2

ZHURAVEL', P.A.; MEL'NIKOV, G.B.; CHAPLINA, A.M.

Outlook for the acclimatization of the roach (*Rutilus rutilus heckeli* (Nordmann) in southern reservoirs in relation to the nature of its feeding habits. Vop. ikht. no.10:127-130 '58. (MIRA 11:10)

1. Dnepropetrovskiy institut gidrobiologii Universiteta im. 300-letiya vossoyedineniya Ukrainy s Rossiyei.  
(Russia, Southern--Roach (Fish))

ZHURAVEL' P.A.; MEL'NIKOV, G.B.; CHAPLINA, A.M.

Significance of the bream *Abramis ballerus* for fishery in a number of reservoirs in connection with the nature of its food [with summary in English]. Zool. zhur. 37 no.8:1256-1257 Ag '58. (MIRA 11:9)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta.  
(Bream)

ZHURAVEL', P.A., prof.

Enriching the fresh-water fauna of Crimean ponds and reservoirs.  
Priroda 47 no.6:55-56 Je '58. (MIRA 11:7)

1. Nauchno-issledovatel'skiy institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta im. 300-letiya vnosoyedineniya Ukrainy s Rossiyey.

(Crimea--Fresh-water fauna)



SOV/21-59-1-22/26

3(5)

AUTHOR:

Zhuravel', P.A.

TITLE:

A Mysis That is New for the Dnepr System - Hemimysis Anomala Sars - in the Dnepr Reservoir (Novaya dlya sistemy Dnepra nizida - Hemimysis anomala Sars v Dneprovskom vodokhranilishche)

PERIODICAL:

Dopovidi Akademii nauk Ukrain's'koi RSR, 1959, Nr 1, pp 85-87 (USSR)

ABSTRACT:

A Hemimysis anomala Sars was revealed in the lower, near the dam portion of the Dnepr reservoir (Lenin lake) in September 1958 at depths of 5-30 m and more. It was brought into the reservoir in 1957, together with the estuary fauna caught in the upper portion of the Dnepr estuary, and the lower (estuary-like) Ingulets river, to stock the new reservoir. The mysis now behaves like a deep-water species. The dragging of the bottom was performed by the author,

Card 1/2

SOV/21-59-1-22/26

A Mysis That is New for the Dnepr System - Hemimysis Anomala  
Sars - in the Dnepr Reservoir

and a group of workers of the Dnepropetrovsk Institute of Hydrobiology, which included V.L. Bulakh, P.Ya. Lavrinenko. The Hemimysis anomala was transplanted to breed in the Dnepr estuary and Dnepr reservoir areas, to provide forage for the fish.

ASSOCIATION: Institut gidrobiologii Dnepropetrovskogo gosudarstvenno-go universiteta (Hydrobiology Institute of the Dnepropetrovsk State University).

PRESENTED: October 6, 1958, by A.P. Markevich, Member of the AS UkrSSR

Card 2/2

30(1)  
AUTHORS:

SOV/21-59-3-19/27  
Zhuravel', P.A. and Yevdushchenko, A.V.

TITLE:

On the Study of the Hydrobiology of the Makortovskiy Reservoir in the Krivoy Rog Basin (K izucheniyu gidrobiologii Makortovskogo vodokhranilishcha v Krivorozhskom basseyne)

PERIODICAL:

Dopovidi Akademii nauk Ukrain's'koi RSR, 1959, Nr 3, pp 309-311 (USSR)

ABSTRACT:

In order to secure access to certain iron ore deposits of the Krivoy Rog Basin, a section of the Saksagan' river was diverted creating several water reservoirs, the largest of which is the Makortovskiy reservoir, located within the Pyatikhatskiy and Sofiyevskiy rayons of the Dnepropetrovskaya oblast'. Its area of lower banked-up water is 2,000 hectares. The depth at the dam is about 20 m. It was filled in 1957. A considerable variety of mollusks, higher crustaceans, fish, etc, has already been introduced into the reservoir, and more will follow. This undertaking and the study

Card 1/2

SOV/21-59-3-19/27  
On the Study of the Hydrobiology of the Makortovskiy Reservoir  
in the Kriyvoy Rog Basin

of the reservoir are in the hands of Institut gidrobiologii Dnepropetrovskogo universiteta (Institute of Hydrobiology of Dnepropetrovsk University) and Oblastnaya sanitarnaya inspektsiya (Oblast' Sanitary Inspection). The authors encourage the use of the reservoir for fish breeding and emphasize the necessity of further hydrobiological and ichthyological studies of the reservoir. There are 8 Soviet references.

ASSOCIATION: Institut gidrobiologii Dnepropetrovskogo gosudarstvennogo universiteta (Institute of Hydrobiology of Dnepropetrovsk State University)

PRESENTED: December 12, 1958, by A.P. Markevich, Member of the AS UkrSSR

Card 2/2