

~~L 02957-67 FSS-2/EWT(1) GW/WR~~  
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AUTHOR: Fialko, Ye. I.; Bayrachenko, I. V.

ORG: Kiev State University (Kiyevskiy gosudarstvennyy universitet) <sup>40</sup> <sub>B+</sub>

TITLE: Distribution of meteoric bodies with respect to energies  
(experiment conducted at  $\lambda = 9.59$  m)

SOURCE: AN UkrSSR. Mezhdovedomstvennyy geofizicheskiy komitet.  
Informatsionnyy byulleten', no. 9, 1966. Geofizika i astronomiya,  
165-169

TOPIC TAGS: meteor observation, radar meteor observation, *KINETIC ENERGY*

ABSTRACT: The results of meteor observations by radar in the Geminide shower were used to determine the character of distribution of meteoritic bodies with respect to their kinetic energies. The observations were conducted in 1963 at the Tripol'ye Station of Kiev State University. The radar system had the following parameters: pulse power, 20 kw; pulse duration, 10  $\mu$ sec; and pulse repetition rate, 500 pulse/sec. The four-element receiving and transmitting Yagi antennas were located at height  $h = 1/2$  above the ground. Only those meteors whose velocity and linear electron density could be determined were considered. The distribution of meteoric bodies with respect to kinetic energies was found

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~~RAYRACHINE~~

In harmony with practice. Sov.torg. no.8:46-47 Ag '57. (MLRA 10:8)

1.Direktor Khar'kovskogo instituta sovetskoy trgovli, Khar'kov.  
(Kharkov--Business education)

SEROBABA, M., gornyy inzh.; BAYRACHNYY, A.; PAUPEROV, A.;  
SHCHERBIY, P., zaboyshchik; KLIMOV, A.

When you work with ardor. Sov.shakht. ll no.2:24-28 F  
'62. (MIRA 15:1)

1. Chlen shakhtnogo komiteta, predsedatel' proizvodstvennomassovoy komissii shakhty imeni Il'icha, Luganskoy oblasti (for Serobaba).
2. Zamestitel' predsedatelya presidiuma postoyanno deystvuyushchego proizvodstvennogo soveshchaniya shakhty imeni Il'icha, Luganskoy oblasti (for Bayrachnyy).
3. Zamestitel' predsedatelya shakhtnogo komiteta, shakhty imeni Il'icha, Luganskoy oblasti (for Pauperov).
4. Predsedatel' zhilishchno-bytovoy komissii shakhty imeni Il'icha, Luganskoy oblasti (for Shcherbiy).
5. Sekretar' partiynoy organizatsii shakhty imeni Il'icha Luganskoy oblasti (for Klimov).  
(Coal miners) (Trade unions)

ANDRYUSHCHENKO, F.K.; BAYRACHNYI, B.I.

Negative electrode obtained from iron powders for chemical sources  
of electric current. Izv.vys.ucheb.zav.; khim. i khim.tekh. 8  
no.2:279-284 '65. (MIRA 18:8)

1. Khar'kovskiy politekhnicheskii institut imeni Lenina, kafedra  
tekhologii elektrokhimicheskikh proizvodstv.

ANDRYUSHCHENKO, F.K.; OREKHOVA, V.V.; BAYRACHNYY, B.I.; DZYABURA, V.F.;  
ANDRYUSHCHENKO, L.F.

Electrodeposition of metals on titanium. Izv.vys.ucheb.zav.;khim.i  
khim.tekh. 6 no.5:823-828 '63. (MIRA 16:12)

1. Khar'kovskiy politekhnicheskii institut imeni Lenina, kafedra  
tekhnologii elektrokhimicheskikh proizvodstv.

RAYBACHNY, V.

Device for training snipers. Voenn. znân. 30 no. 8:20-21  
Ag 154. (MIRA 8:1)

1. Instruktor Rostovskogo oblastnogo strelkovo-sportivnogo  
kluba Dosaafa.  
(Shooting)

BAYRACHNYY, V.

Device for using optical instruments in classrooms. Voen.  
znan. 31 no.2:23 F '55. (MLRA 8:8)

1. Instruktor Rostovskogo strelkovo-sportivnogo kluba Dobro-  
vol'nogo obshchestva sodeystviya armii, aviatsii i flotu.  
(Optical instruments)

BAYRACHNYY, V.

Optical training device. Voen.znan.31 no.4:19 Ap'55.  
(MIRA 8:10)

1. Instruktor Rostovskogo strelkovo-sportivnogo kluba  
Dobrovol'nogo obshchestva sodeystviya armii, aviatsii  
i flotu.

(Shooting)





BAYRACHNYY, V.; SHAKUN, L., gvardii leytenant.

Device for shooting at moving targets. Voen.vest. 35 no.5:73-76  
My '55. (Russia--Target practice) (MIRA 9:7)

BAYRACHNYY, V. (Rostov-na-Donu)

Shooting at moving targets. Voen.znan 31[1.e.32] no.5:19 My '56.  
(MIRA 9:9)

1. Instruktor strelkovo-sportivnogo kluba Dobrovol'nogo obshchestva  
sodeystviya armii, aviatsii i flotu.  
(Rifle practice)

**BAYRACHNYI, V.**

Improve the activity of shooting clubs. Voen. znan. 34 no.8:31  
Ag '58. (MIRA 11:12)

1. Instruktor Restevskege oblastnogo strelkevego sportivnogo kluba  
Dobrovel'nege obshchestva sodeystviya armii, aviatsii i fletu.  
(Shooting)

ПАТЕНТ

Investigational measurements of the depth dose in radiation treatment  
of cancer of the uterus. Rep. nos. 2000-98 '65.

(MIRA 18:8)

И. Д. рентгенологического центра (дир. - доктор Я.Ф. Левин)  
Харьковского научно-исследовательского института медицинской  
радиологии (дир. - канд. мед. наук В.И. Шастыр)

BAYRACHNYY, V.M.

Fixator of an intracavitary chamber for measuring the depth of  
the dose in the vagina and rectum. Med.rad. 7 no.6:77-79 Je '62.

(MIRA 15:8)

1. Iz rentgenologicheskogo otdela (zav. - dotsent Ya.F. Levin)  
Khar'kovskogo nauchno-issledovatel'skogo instituta meditsinskoy  
radiologii.

(RADIATION—DOSAGE)

(VAGINA)

(RECTUM)

BAYRACHNYY, V.M. (Khar'kov, 9, ul. Zelenaya, d.26)

Determination of deep doses in the radiotherapy of uterine  
cancer. Vop. onk. 10 no.9:36-44 '64. (MIRA 18:4)

1. Iz rentgenologicheskogo otdela (zav. otdelom - dotsent Ya.F.  
Levin) Khar'kovskogo nauchno-issledovatel'skogo instituta  
meditsinskoy radiologii (dir. - kand.med.nauk Shantyr', V.I.).

БАЙРАК, К.А.

Efficacy of the introduction of submersible electric pumps. Neft.  
khoz. 35 no.9:40-41 S. '57. (MIRA 11:1)  
(Oil well pumps)



KRYLOV, A.P.; MAKSIMOV, M.I.; RAYRAK, K.A.; PERMYAKOV, I.G.

Measures for improving the production system in the Tuymazy  
oil field. Neft.khoz. 37 no.2:44-50 F '59. (MIRA 12:4)  
(Tuymazy region--Oil fields--Production methods)

BAYRAK, K.A.

Ufa Petroleum Scientific Research Institute in the struggle for  
advanced technology. Neftianik 5 no.8:2-3 Ag '60.

(MIRA 14:8)

1. Direktor Ufimskogo neftyanogo nauchno-issledovatel'skogo  
instituta.

(Bashkiria—Oil fields—Production methods)

BAYRAK, Konstantin Alekseyevich; KARYAGIN, I.D., red.; KAYESHKOVA, S.M., ved. red.; STAROSTINA, L.D., tekhn. red.

[Economic significance of technical progress in petroleum production as exemplified by the Bashkir A.S.S.R.] Ekonomicheskoe znachenie tekhnicheskogo progressa v neftedobyvaushchei promyshlennosti; na primere Bashkirskoi ASSR. Moskva, Gostoptekhizdat, 1963. 77 p. (MIRA 16:4)  
(Bashkiria—Oil fields—Production methods)

BAYRAK, K.A.; SATTAROV, M.M.

Basic problems involved in the development of the Arlan oil field.  
Neft.khoz. 42 no.4:25-30 Ap '64. (MIRA 17:9)

BAYRAK, Konstantin Alekseyevich; SAMIGULLIN, Anvar Samigullich;  
GENKIN, I.B., red.

[Let us increase the economic efficiency of oil-field  
development] Povysim ekonomicheskuiu effektivnost' raz-  
rabo+ki neftianykh mestorozhdenii. Ufa, Bashkirskoe  
knizhnoe izd-vo, 1964. 86 p. (MIRA 18:10)

BAYRAKIMOV, S.I.

Comparative study of corn for ensilage. Vest. AN Kazakh.SSR 19 no.10:  
87-90 0 '63. (MIRA 17:1)

BAYRAKOV, V. I., Engr., Drozd, V.G. Engr., Pobedin, I. S., Cand. Tech. Sciences

"Analysis of Continuous Cold-Rolling of Thin-Wire on a TSKBMM-17 12-Stand Rolling Mill," Rolling Mills; Studies, Calculation, Design and Operation, No. 8, Moscow, Mashgiz, 1956. 258 p. p 107

Articles by Pobedin, I. S.; Bayrakov, V. I., and Drozd, V.G., describe a new 12-stand continuous cold-rolling mill for thin wire (to 1.8 mm diameter). Results of the application of this new process are also given.

*BAYRAKOV, V. I.*

POBEDIN, I.S., kandidat tekhnicheskikh nauk; BAYRAKOV, V. I., inzhener;  
EROZD, V.G., inzhener.

Investigating continuous cold rolling of thin wire on a TSKBMM-17  
12-stand mill. [Trudy] TSNIITMASH no.83:107-117 '56. (MLRA 10:9)  
(Rolling (Metalwork)) (Wire) (Steel--Cold working)



BAYRAKOV, V. I. Cand Tech Sci -- (diss) "Continuous cold rolling of fine wire." Mos, 1958. 14 pp (Glavniiprojekt under ~~the~~ Gosplan USSR. Central Sci Res Inst of Technology and Machine Building TsNII<sup>T</sup>Mash), 150 copies (KL, 52-58, 101)

Bayrakov V.I.

130-58-2-17/21

AUTHORS: Pobedin, I.S., Bayrakov, V.I., Uglov, M.G. and Drozd, V.G.

TITLE: Production of Thin Wire by Cold-rolling (Proizvodstvo tonkoy provoloki kholodnoy prokatkoy)

PERIODICAL: Metallurg, 1958, Nr 2, pp 32 - 34 (USSR)

ABSTRACT: Production of wire by drawing has a lower productivity than rolling, especially for special steels. In 1951, TsKBMM TsNIITMASH designed and made a 12-stand mill for the continuous rolling of thin, special-steel wire in an attempt to replace drawing. The mill (Fig.1) is intended for cold-rolling 6-8 mm diameter coiled rod into 1.5 - 2 mm diameter wire in 36 passes or hot-rolling 10-15 or 12-18 mm diameter rod into 6-8 mm diameter coiled rod. The authors give details of this mill and of various systems of roll-pass design which have been tried. The system finally adopted (Fig.2) was studied when rolling type Kh15N60 alloy (Table 1) and showed no regularity in the distribution of forces acting on the rolls. It was found that metal adhesion was taking place in some passes and cast-iron inserts were provided there. The rolling speed for this type of alloy was 20-25% greater than drawing and the authors consider that these preliminary experiments are promising as regards higher Card1/1 rolling speeds. There are 2 figures and 1 table.

AVAILABLE: Library of Congress

1. Rolling mills-Applications 2. Wire-Production

18.5100

77610  
SOV/133-60-2-10/25

AUTHORS: Bayrakov, V. I., Fedin, V. P.

TITLE: Investigation of 1,200-mm Reversing Thin-Strip Mill  
With Coilers Located in Heating Furnace

PERIODICAL: Stal', 1960, Nr 2, pp 130-133 (USSR)

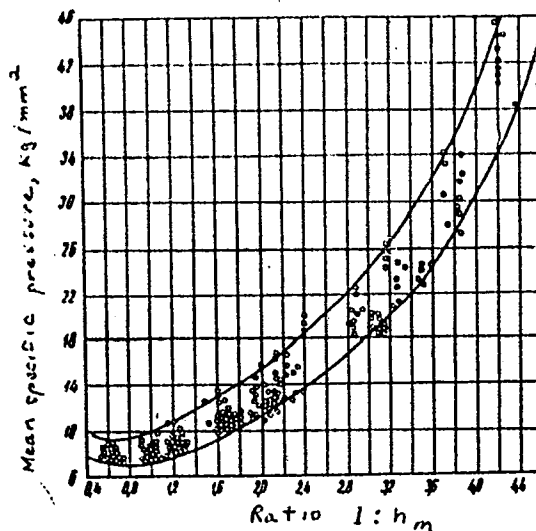
ABSTRACT: The authors investigated the power parameters of a two-high mill with coilers inside the furnaces at Nove-Lipetskiy Metallurgical Plant in Lipetsk (Nove-Lipetskiy metallurgicheskiy zavod). The following strips from St.2 and St.3-steel (regular C steel) were rolled: 8 - 10 - 12 - 16 - 20 x 1,000 mm and 11 x 750 mm in roughing stand; 1.5 - 1.75 - 2.0 - 2.5 - 3.0 x 710 mm, 1.5 - 1.75 - 2.5 - 3.0 x 620 mm, 2.0 - 2.5 - 3.0 - 4.0 x 1,000 mm and 1.85 - 2.0 x 900 mm in finishing stand. The following measurements were made in the course of tests: (1) metal pressure on rolls (by wire pickup) and torsional moments during rolling; (2) current voltage, and number of revolutions

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Investigation of 1,200-mm Reversing  
Thin-Strip Mill With Coilers Located  
in Heating Furnace

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Fig. 1. Mean specific  
pressure of metal on rolls.  
 $l:h_m$  ratio in roughing  
stand.



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Figure 3 shows the relation between  $p_m$  and  $h_1:D$  ratio in finishing stand; as the strip gets thinner, this ratio decreases while  $p_m$  increases. Maximum specific pressure ( $129 \text{ kg/mm}^2$ ) was achieved in rolling 1.5 mm thick strip. A comparison of experimental and calculated pressure in finishing stand showed, on the whole, good conformity, although in some cases the difference amounted to 30%. The latter is due to errors in measurements of metal temperatures and reduction per pass. Maximum torsional moments on the main motor shaft of the roughing stand exceed the nominal moment by 1.2-2.5 times and by 1.4-2.0 times in the finishing stand, which is within permissible limits. Maximum specific power consumption in roughing stand did not exceed 24 kw/hr/ton in rolling an  $8 \times 1,000$  mm strip from a 120 mm thick slab. Rolling  $12 \times 1,000$  mm strip from the same slab requires a power consumption of 10.5-14.0 kw/hr/ton. This

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Investigation of 1,200-mm Reversing  
Thin-Strip Mill With Coilers Located  
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scattering is primarily due to uneven temperature conditions in rolling. Motor was overheated in rolling 10-8 x 1,000 mm (from 2.1 to 2.5) in roughing stand. In rolling thicker or narrower strip the motor has a 10-30% heating margin. With a root-mean-square current in the finishing equalling  $I_{r-m-s} = (0.99-1.14)I_{nom}$ , the motor is also overheated during the rolling of 2.5 to 2.0 x 1,000 mm strip in 5 passes, while working normally in rolling thicker or narrower strip. There are 6 figures; 2 tables; and 1 Soviet reference.

ASSOCIATION:

VNIIMETMASH

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S/137/61/000/007/020/072  
AO60/A101

**AUTHORS:** Bayrakov, V. I., Fedin, V. P., Lazutin, A. G.

**TITLE:** Some data from the investigation of the operation of the reversing mill 1200 with reelers in the furnace

**PERIODICAL:** Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 7, abstract 7D38 ("Tr. Konferentsii: Tekhn. progress v tekhnol. prokatn. proiz-va". Sverdlovsk, Metallurgizdat, 1960, 572-581)

**TEXT:** Investigations were carried out on the rolling of steel sheets mark St. 2 and St. 3 with thickness 1.5 - 2 mm and width 620 - 1,000 mm. It was established that 1) the metal pressure on the rolls increases from the first passes to the last ones in the roughing stand and in the planishing stand - inversely; 2) the average specific pressure increases with the ratio of the length of the gripping arc to the mean thickness of the sheet being reduced (for the roughing stand); 3) the average specific pressure increases with decrease in the ratio of the strip thickness after reduction to the roll diameter (for the planishing stand); 4) the maximum torques on the shaft of the motor installed are within admissible limits; 5) the maximum specific energy expenditure does

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Some data from the investigation ...

S/137/61/000/007/020/072  
A060/A101

not exceed 24 kwh/ton; 6) to avoid motor overheating it is necessary to increase the number of passes.

V. Pospkhov

[Abstracter's note: Complete translation]

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POLUKHIN, P.I., prof., doktor tekhn.nauk; BAYRAKOV, V.I., kand.tekhn.nauk;  
FEDIN, V.P., inzh.

"Changes in the mechanical properties of metals and alloys under the  
effect of cold rolling" by V.A. Tret'iakov, K.M. Radchenko. Reviewed by  
P.I. Polukhin, V.I. Bairokov, V.P. Fedin. Stal' 21 no.2:155 F'61.  
(MIRA 14:3)

(Rolling (Metalwork))(Tret'iakov, V.A.)(Radchenko, K.M.)

Rolling Industry; Handbook

SOV/6044

Sciences; V. I. Meleshko, Candidate of Technical Sciences; N. V. Mekhov, Engineer; A. K. Ninburg, Candidate of Technical Sciences; V. D. Nosov, Engineer; B. I. Panchenko, Engineer; O. A. Plyatskovskiy, Candidate of Technical Sciences; I. S. Fobedin, Candidate of Technical Sciences; I. A. Priymak, Professor, Doctor of Technical Sciences [deceased]; A. A. Protasov, Engineer; M. M. Saf'yan, Candidate of Technical Sciences; N. M. Fedosov, Professor; S. N. Filipov, Engineer [deceased]; I. N. Filippov, Candidate of Technical Sciences; I. A. Fomichev, Doctor of Technical Sciences; M. Yu. Shifrin, Candidate of Technical Sciences; E. R. Shor, Candidate of Technical Sciences; M. M. Shternov, Candidate of Technical Sciences; M. V. Shuralev, Engineer; I. A. Yukhvets, Candidate of Technical Sciences; Eds. of Publishing House: V. M. Gorobinchenko, R. M. Golubchik, and V. A. Rymov; Tech. Ed.: L. V. Dobuzhinskaya.

**PURPOSE:** This handbook is intended for engineering personnel of metallurgical and machine-building plants, scientific research

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Rolling Industry; Handbook

SOV/6044

6. Types of defects in rolled products and the prevention of these defects	211
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1. Types of and specifications for hot-rolled strip and skelp for welded tubes	215
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BAYRAKOV, V.I., kand.tekhn.nauk

The 250 continuous high-speed wire mill. *Biul.tekh.-ekon.inform.Gos.-  
nauch.-issl.inst.nauch. i tekhn.inform. no.8:8-10 '62. (MIRA 15:7)*  
(Wire drawing—Equipment and supplies)

BAYRAKOV, V.I., kand.tekhn.nauk

The 450 continuous mills for rolling very thin-walled sectional  
shapes. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i  
tekhn.inform. no.11:18-19 '62. (MIRA 15:11)  
(Rolling mills)

BAYRAKOV, V.V.; BOCHKOV, A.A.

Recent andalusite manifestation of the Ukrainian Crystalline  
Shield. Dokl. AN SSSR 165 no.1:171-174 N '65.

(MIRA 18:10)

1. Institut mineral'nykh resursov Gosudarstvennogo geologicheskogo  
komiteta SSSR i Priazovskaya ekspeditsiya tresta "Artemgeologiya."

GOROSHNIKOV, B.I.; BAYRAKOV, V.V.; BOCHKOV, A.A.

New type of Pre-Cambrian corundum mineralization in the Ukraine. Dokl.  
AN SSSR 163 no.2:454-457 J1 '65. (MIRA 18:7)

1. Institut mineral'nykh resursov, Simferopol'. Submitted March 1, 1965.

BAYRAKOV, V.V.

Chrysotile asbestos from the October alkali massif. Min. sbor. 18 no.4:  
447-450 '64. (MIRA 18:7)

1. Institut mineral'nykh resursov, Simferopol'.



BAYRAKOV, V.V.

Find of xenoliths of ecloitelike rocks in a lamprophyric dike  
of the October alkali massif. Dokl. AN SSSR 156 no. 3:586-589  
'64. (MIRA 17:5)

1. Institut Mineral'nykh resursov, Simferepol'. Predstavleno  
akademikom V.I. Sobolevym.

BAYRAKTAREVICH, M. [Bajraktarevic, M.] (Sarajevo, Sotsialisti-  
cheskaya Federativnaya Respublika Yugoslaviya)

Solutions to certain functional and integral equations. Mat.  
sbor. 66 no.2:161-169 F '65. (MIRA 18:4)

USSR / Human and Animal Morphology (Normal and Pathological).  
Muscles.

S

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2987

On 60 cadavers it was also established that the short extensor radialis, extensor ulnaris, extensor digiti minimi proprius, and long abductor of thumb together with the short extensor of thumb always have a single permanent nerve branch. The nerve portal of the short radial extensor and of the ulnar extensor are located at the external margin of the muscles at the end of the upper third of the muscular mass. The nerve portal of the long radial E, common E of fingers, E digiti minimi proprius and E indicis proprius are located over the inner surface in the upper third of the muscular mass. The nerve portal of the long abductor of the thumb are located in the upper half of the posterior aspect of the muscle.

Card 2/2

BAYRAKTARSKI, I.S., starshiy nauchnyy sotrudnik (Bolgariya)

Studying the efficiency of irrigation systems in northern  
Bulgaria. Trudy VNIIGiM 42:79-92 '63. (MIRA 17:6)

**BAYRAKTARSKIY, Ivan, inshener.**

Changes in the efficiency of irrigation canals resulting from  
antiseepage measures. Gird. 1 mel. 8 no.7:60-62 J1 '56.(MIRA 9:9)  
(Irrigation canals and flumes)

SHAKOV, I.I., dotsent; POLATKHANOVA, K.B., kand.med.nauk; BAYRAMALIBEYLI, I.T.

X-ray picture of changes in the bones in leprosy. Vest.rent.i  
rad. 40 no.5:42-45 S-O '65. (MIRA 18:12)

1. Kafedra rentgenologii i meditsinskoy radiologii (zav. - dotsent  
I.I.Shakov) Azerbaydzhanskogo instituta usovershenstvovaniya  
vrachey imeni A.M.Aliyeva i Azerbaydzhanskiy respublikanskiy  
klinicheskiy leprozoriy, Baku.

BAYPAMUKOVA, S.B.

Problems of industrial concentration. Trudy Inst. gor.  
dela AN Kazakh. SSR. 19:132-142 '65. (MIRA 18:12)





BAYPAV-ALIBEKOVA, R.T., Cand Med Sci -- (diss) "Data for a comparative evaluation of the newest methods of treatment of trepanated mastoidal wounds with naphthalane, carotin, carotonaphthalane, certain antibiotics and hemolyzed blood (Clinical biological study)." Baku, 1968, 19 pp (Azerbaijdzhan State Med Inst im N. Narimanov) 200 copies (KL, 27-589 116)

KASUMOV, Ya.A., kand. med. nauk; BAYRAM-ALIBEKOVA, R.T., kand. med. nauk

Some data on the effect of the nervous system on the development  
and course of hearing disorders and deafness in boilermakers;  
preliminary report. Azerb. med. zhur. 41 no.2:19-23 F '64  
(MIRA 18:1)

1. Iz otorinolaringologicheskoy kliniki Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta imeni N.Narimanova.

SHAKHSUVARLI, M.A.; ALIYEVA, S.I.; BAYRAMALIBKOVA, R.T.

Unusual localization of Taenia saginata with exhalation of the proglottis through the nose. Med.paraz. i paraz.bol. 33 no.3:354-355 My-Je '64. (MIRA 18:2)

1. Klinicheskoye otdeleniye Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Kirova i kafedra bol'zney ukha, gorla, nosa Meditsinskogo instituta imeni Narimanova.

*Bayramalibeyli, E.T.*

SHIKHALIBEYLI, E. Sh; KORNEV, G. P.; BAYRAMALIBEYLI, E. T.

Geological structure of the northeast slope of the Nuzgerskii Plateau. Izv. AN Azerb. SSR no. 8:25-34 Ag'55. (MIRA 9:1)  
(Caucasus--Geology, Structural)

*BAYRAMALIBEYLI, E. P.*

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1,  
p 45 (USSR) 15-57-1-315

AUTHORS: Suleymanov, S. M., Bayramalibeyli, E. P.

TITLE: Magnetite Tuffaceous Sandstones on the Northeastern Slopes of Lesser Caucasus (O magnetitovykh tufopeschaniakakh severo-vostochnykh sklonov Malogo Kavkaza in Azerbaydzhan)

PERIODICAL: Uch. zap. Azerb. un-ta, 1955, Nr 11, pp 31-36

ABSTRACT: Magnetite Tuffaceous sandstones occur on the northeastern slope of the Nuzgerskiy Plateau and in the region of the Dashkesan mining district. These formations are characterized by abrupt facial changes. Within a small distance from one another lie magnetite tuffaceous sandstones, tuff breccias, tuff conglomerates and tuffs replacing one another and locally passing into agglomeritic lavas. The content of ore

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Magnetite Tuffaceous Sandstones (Cont.)

grains in the rocks is shown in the Table below. Origin of the magnetite tuffaceous sandstones of this region is closely associated with the simultaneous accumulation of sediments transported from dry land and containing absorbed magnetite grains, and the simultaneous deposition of the products of a subaquatic extrusion. The original source of magnetite and titanomagnetite grains of this district lies probably in the pre-Bathonian magnetite locations which most likely, have not been uncovered by contemporary erosion.

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Magnetite Tuffaceous Sandstones (Cont.)

COMPONENTS, percent	<u>TUFFACEOUS SANDSTONES</u>	
	Rich in Fe <sub>3</sub> O <sub>4</sub>	Poor in Fe <sub>3</sub> O <sub>4</sub>
Metallic:		
Magnetite	34-50	21-30
Titanomagnetite	5-8	3-5
Limonite	1-2	1-2
Hematite	Rare Grains	Rare Grains
Pyrite	" "	" "
Chalcopyrite	" "	" "

Card 3/4

*BAYRAMALIBEYLI, E. I.*

*(USSR)*

*1957, pp. 124-127 (USSR)*

Caucasus, with representatives of geological organizations of the Transcaucasian republics, of Northern Caucasus, Moscow, and Leningrad participating, was held by the Caucasian Institute of Raw Materials (KIMS) in May 1957. It was convened in connection with the work being done by a commission headed by Academician N.S. Shatskiy on the problem of "The Regularity of the Distribution of Valuable Minerals", as well as the compilation of a metallogenic map of the Caucasus of the scale 1:500,000. O.D. Levitskiy, Member-Correspondent of the USSR Academy of Sciences, and V.G. Grushovoy, Doctor of Geological-Mineralogical Sciences (VSEGEI), took part in the discussion. Three lectures were given on tectonics of the Caucasus: 1. by P.D. Gankrelidze, the Member-Correspondent of the Academy of Sciences of the Georgian SSR, on the tectonic structure of Georgia; 2. by E.Sh. Shikhalibeyli, Candidate

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of Geological-Mineralogical Sciences (KIMS) of the Azerbaijan SSR) on the geological structure of the Azerbaijan SSR; and 5. by A.T. Aslanyan, Candidate of Geological-Mineralogical Sciences (Geological Administration of the Armenian SSR) - on the tectonic structure and metallogeny of Armenia. G.D. Afanas'yev, Member-Correspondent of the USSR Academy of Sciences, Professor G.M. Zaridze (Georgian Polytechnical Institute); and Academician Sh.A. Azizbekov (Academy of Sciences of the Azerbaijan SSR); presented data on the magnetic rocks of different parts of the Caucasus.

Lectures on the metallogeny of different parts of the Caucasus were given by: G.A. Tvalokrelidze, Candidate of Geological-Mineralogical Sciences (KIMS), I.G. Magak'yan and S.B. Mkrtchyan, Academicians of the Academy of Sciences of the Armenian SSR, A.E. Bendeliani, Professor of the Georgian Polytechnical Institute, M.A. Kashkay, Academician of the Academy of Sciences of the Azerbaijan SSR; and L.P. Kharchuk, Candidate of Geological-Mineralogical Sciences (KIMS).

Lectures on separate questions of metallogeny of the Caucasus were given by: Professor G.D. Ashgirey (MGU) - on results of works of a Caucasian expedition of the MGU; Professor V.I. Smirnov (MGU) criticised the basic hypothesis of G. Shady-

Card 2/4

of the Azerbaijan SSR) and N.S. Sayranalibeyli (Candidate of Geological Sciences) reported on iron ore-bearing deposits in the Caucasus; Doctor of Geological-Mineralogical Sciences A.N. Khudobayev (KIMS) reported on problems of mercury and an deposits of cinnabar on the southern slopes of the Great Caucasus; Candidate of Geological-Mineralogical Sciences, P.S. Asakyan (VMS) presented a classification of the sheet-like polymetallic deposits of the Caucasus; Candidate of Geological-Mineralogical Sciences G.I. Kerimov reported on deposits of pyrites in Azerbaijan; Academician S.S. Mkrtchyan of the Academy of Sciences of the Armenian SSR lectured on the results of research in the Alaverd mining region.

After discussions on all these subjects, the participants recommended the continuation of work on all named problems pertaining to the stratigraphy, paleogeography, tectonics, magmatic cycles and metallogeny of the Caucasus; an improvement in the technique of determining the age of rocks and ores; a compilation of the schemes of structural division in the geological development and the magmatic cycles of the Caucasus; the working out of the first variant of a metallogenic map of

Card 3/4

tion of a map of the whole Soviet Union on the scale 1 : 2,500,000; that the Caucasian-geologic organization be given the responsibility of preparing large scale metallogenic maps of separate mining regions. A commission of 13 members was elected to direct this work.

ABDULLAYEV, R.N.; AZIZBEKOV, Sh.A.; BAYRAMALIBEYLI, E.T.; KASHKAY, M.A.;  
KERIMOV, A.D.; KERIMOV, G.T.; ~~MUSHTAFALIBEYLI, G.A.~~ SITKOVSKIY, I.N.;  
SHIRVANZADE, I.A.; SHIKHALIBEYLI, E.Sh.; EFENDIYEV, G.Kh.

Principal metallogenetic characteristics of Azerbaijan [with summary  
in English]. Sov. geol. 1 no.4:98-110 Ap '58. (MIRA 11:6)

1.Geologicheskii inatitut AN AzerSSR.  
(Azerbaijan--Ore deposits)

BAYRAMALIBEYLI, E.T.

Occurrence of claysy gypsum in the Kirovbad-Kazakh sloping lowland.  
Uch.zap.AGU no.3:67-73 ' 58. (MIRA 12:1)  
(Kura Valley--Gypsum)

BAYRAMALIBEYLI, E. T. Cand Geol-Min Sci -- (diss) "Geology of the iron-ore deposits of the inter-river area of Shamkhorohay-Koshkarchay and their prospects." Baku, 1959. 25 pp (Min of Higher Education USSR. Azerbaydzhan.State Univ in S. M. Kirov), 100 copies (KL, 44-59, 126)

BAYRAMLIBEYLI, E.T.; KERIMOV, A.D.

Recent data on the ore resources of lower Eocene extrusions  
in the Nakhichevan ~~folded~~ area. Dokl. AN Azerb. SSR 17 no.8:697-  
700 '61. (MIRA 14:10)

1. Predstavleno akademikom AN Azerbaydzhanskoy SSR Sh. A  
Azizbekovym.  
(Norashen region--Ore deposits)

BAYRAMALIBEYLI, E.T.; ABDULLAYEV, N.D.

New locality of Danian sediments in the Kazakh trough. Dokl.  
AN Azerb. SSR 20 no.9:41-44 '64. (MIRA 18:1)

1. Kavkazskiy institut mineral'nogo syr'ya.



ISHKHANYAN, S.G.; BAYRAMALIBEYLI, I.T.

Comparative evaluation of the results of combined sulfonotherapy  
in Azerbajanian leprosarium. Azerb.med.shur. no.3:58-60 Mr '60.

(MIRA 13:6)

(SULFONES--THERAPEUTIC USE)

(LEPROSY)

BAYRAMASHVILI, I. A.

BAYRAMASHVILI, I. A. --"On the Nature of the Growth of Grey Cast Iron."  
\*(Dissertations for Degrees in Science and Engineering Defended at USSR Higher  
Educational Institutions) Min of Higher Education USSR, Georgian Order of Labor  
Red Banner Polytechnic Inst imeni S. M. Kirov, Tbilisi, 1955

SO: Knizhnaya Letopis', No. 25, 18 Jun 55

\* For Degree of Candidate in Technical Sciences

BAIRAMASHVILI, I. A.

~~Influence of vacuum melting on growth of cast iron. P. N. Tavadze and I. A. Bairamashvili. *Lithuanian Proceedings of the Academy of Sciences*, No. 12, 1955. The hypothesis that growth of cast iron is assocd. with its high gas content was checked by melting specimens of iron in magnesite crucibles under  $10^{-4}$  mm. Hg, holding at  $1820^{\circ}$  for 20 min. and detg. their growth after heating up to 36 hrs. at  $730^{\circ}$ . After the max. growing time, the growth of the original iron was 2.32%, and of the degassed one 0.72%. However, melting changed the original compn. of iron 3.67% total C, 0.59 combined C, 3.10 Si, 0.65 Mn, 0.20 P, 0.15 S to an average of 3.36% total C, 0.18 combined C, 2.92 Si, 0.58-1.60 Mn, traces of P, 0.02% S. The change in growth characteristics is apparently connected with the changes in graphite structure.~~  
 J. D. Cat

pm of

BOIRAMASHVILI, I. A.

WOOD

1947\* Influence of Various Methods of Growth of Cast  
Aluminum Alloys (2024, 7075, etc.)

1/1

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204030008-4

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000204030008-4"

BAYRAMISHVILI, I. A.

Austenite cast iron with nodulized graphite

Bayramishvili, I. A. and L. V. Kuznetsov

4  
JE 2

J. D. Gal

ja/Per  
MIT

*BAYRAMASHVILI, I. A.*

137-58-2-4019

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 251 (USSR)

AUTHORS: Tavadze, F.N., ~~Bayramashvili, I.A.~~

TITLE: The Effect of Low Pressures on the Graphitization of Gray Iron  
(Vliyaniye nizkikh davleniy na grafitizatsiyu serogo chuguna)

PERIODICAL: Tr. Gruz. politekhn. in-t, 1957, Nr 3 (51), pp 97-105

ABSTRACT: The graphitization rate at low residual pressures exceeds that in atmospheric air because of the elimination of the hydrogen. After a certain exposure time the growth curve for air intersects the growth curve for vacuum and goes on upward. This is attributed to the fact that in the case of long exposures the oxidation process starts to predominate over the graphitization process.

A.S.

~~1. Iron-Graphitisation-Pressure factors~~

Card 1/1

AUTHORS: Tavadze, F.N., Bayramashvili, I.A. SOV/128-58-11-11/24

TITLE: On the Nature of the X-Phase (O prirode X-fazy)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 11, pp 18-20 (USSR)

ABSTRACT: The X and X<sup>1</sup> phase in heat resistant grey cast iron were investigated. To obtain the large inclusions of the X-phase, which is a result of oxidation processes, specimens of cast iron with varying silicon and manganese content, and specimens of wrought and magnesium iron were subjected to 20 hrs of isothermal treatment at 730° C. It was found that the X-phase formation did not take place in cast iron with a 6.25 % silicon content. In all other cast iron specimens, the X-phase was observed. The X<sup>1</sup>-phase depends on the manganese content, it is reduced with an increased silicon content and rises with a higher manganese content. It also depends on the shape of graphites. There are 5 sets of microphotos, 1 table, 1 graph and 7 Soviet references.

1. Cast iron--Phase studies
2. Cast iron--Heat treatment
3. Silicon--Metallurgical effects
4. Manganese--Metallurgical effects

Card 1/1



TAVADZE, F.N.; BAYRAMASHVILI, I.A.; TSAGAREYSHVILI, G.V.

Effect of manganese on the removal of sulfur from cast iron  
smelted under vacuum. Soob. AN Gruz. SSR 22 no.3:329-336  
Mr '59. (MIRA 12:8)

1. Gruzinskiy politekhnicheskiy institut im. S.M. Kirova. 2. Chlen-  
korrespondent AN GruzSSR (for Tavadze)  
(Manganese) (Cast iron--Metallurgy)

L 10629-63

EWP(q)/EWT(m)/PDS--AFPTC/ASD--JD

ACCESSION NR: AP3000750

S/0020/63/150/003/0544/0546

57

56

AUTHOR: Tavadze, F. N. (Academician, AN GruzSSR); Bayramashvili, I. A.;  
Khantadze, D. V.; Tsagareyshvili, G. V.

TITLE: Density and surface tension of molten boron  $\checkmark$ 

SOURCE: AN SSSR. Doklady\*, v. 150, no. 3, 1963, 544-546

TOPIC TAGS: liquid-boron density, liquid-boron surface tension, localized melting, electron-beam melting, drop-volume image, contact angle

ABSTRACT: The density and surface tension of molten boron (B) have been measured for the first time by the pendant-drop and sessile-drop methods. A procedure for zone melting without a crucible, reported previously by Tsagareyshvili (Tsagareyshvili, G. V., Peredovoy nauchno-tekhnicheskiy i proizvodstvennyy opyt, GOSINTI, tema 37, v. 7 (1962).), was adapted with modifications for the use of an electron beam of a cathode-ray tube for localized melting. Experiments with Ni drops have established that surface tension is not affected by electron beam heat. The volume of the drop was both determined from its photoimage in a calibrated optical system for precise measurements of expansion coefficients and calculated from the function  $V_0/V = f(1/H)$  for various contact

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L 10629-63

ACCESSION NR: AP3000750

angles  $\theta$ , with  $l$  the radius of the equatorial cross section of the drop;  $H$ , the distance between the equatorial cross section and the top;  $V$ , the volume of the drop, determined from the Bashforth and Adams tables (Bashforth, F., Adams, J. An Attempt to Test the Theories of Capillary Action by Comparing the Theoretical and Measured Form of Fluid Drop, London, 1883) and calculated on the basis of parameters  $l$ ,  $H$ ,  $\theta$ ; and  $V_0$ , the volume of a rotating ellipsoid with semimajor axis  $l$ , semiminor axis  $H$ , and height  $h$ . Correction to actual drop volume was accomplished by means of the above function. The accuracy of this method, unlike that of the Bashforth tables, is not influenced by errors in the measurement of the contact angle. The degree of heating was determined by means of an OPPIR-17 pyrometer to be approximately 50C above the melting point. Surface tension was determined by melting crystalline B rods, 4, 6, and 9 mm in diameter with an electron beam removed after formation of a drop. Results obtained were similar for rods with different diameters. Surface tension was determined to be 1080 dyn/cm by the sessile drop method and on the basis of previously reported data 1060 to 1070 dyn/cm by the pendant-weight-drop method depending on the data used and 1030 dyn/cm by the weight-drop method. At temperatures 50C above the melting point of B the density was  $2.08 \pm 0.03$  gr/cm<sup>3</sup>, and the average surface tension was  $1060 \pm 50$  dyn/cm. Orig. art. has: 3 figures.

Card

*2/12 Inst. of Metallurgy*

ACCESSION NR: AT4030796

8/0000/63/000/000/0110/0118

AUTHOR: Tavadze, F.N.; Bayramashvili, I.A.; Khantadze, B.V.; Grdzlishvili, V.A.

TITLE: The influence of boron on the surface tension of nickel

SOURCE: AN UkrSSR. Institut metallokeramiki i spetsial'nykh splavov. Poverkhnostnyye yavleniya v rasplavakh i protsessakh poroshkovoy metallurgii (surface phenomena in liquid metals and processes in powder metallurgy). Kiev, Izd-vo AN UkrSSR, 1963, 110-118

TOPIC TAGS: surface tension, boron, nickel, beryllium oxide, aluminum oxide, nickel based alloy, boron containing alloy, hydrogen, helium

ABSTRACT: The authors investigation was conducted by the lying-drop method on an instrument designed and constructed especially for this purpose. The fundamental diagram of the instrument is presented in a figure. The drop was magnified four times. The surface tension of the metal was determined on a flat support of aluminum oxide and beryllium oxide. Special experiments were performed to study the effect of the materials of the heater and the supports, as well as the medium (hydrogen, helium), on the surface tension of nickel and its alloys with boron. The

Card 1/2

ACCESSION NR: AT4030796

results of the investigation were presented in micro-photographs, tables, and figures. The values of the surface tension of nickel in a hydrogen and helium atmosphere were practically identical. Boron, an inactive element in relation to nickel, did not effect the value of its surface tension and the grain size. The calculation of the generalized moment and the static generalized moment of nickel and boron atoms confirmed the inactivity of boron in nickel-boron alloy systems. Orig. art. has: 10 figures and 2 tables.

ASSOCIATION: Institut metallurgii AN GruzSSR, Tiflis  
AN (Georgian SSR)

(Institute of Metallurgy

SUBMITTED: 23Nov63

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 006

OTHER: 003

Card 2/2

L 16581-65 EWP(e)/EWP(m)/EWP(t)/EWP(b) IJP(c)/RAEM(c)/ESD(zs)/ESD(t)/SSD/  
APWL/ASD(a)-5/AS(mp)-2 JD

ACCESSION NR: AP5000294

S/0070/64/009/006/0918/0920

AUTHORS: Tavadze, F. N.; Bayramashvili, I. A.; Tsagareyshvili, 0  
G. V.; Tsomaya, K. P.; Zoidze, N. A.

TITLE: Structure of crystalline boron grown from a melt

SOURCE: Kristallografiya, v. 9, no. 6, 1964, 918-920

TOPIC TAGS: boron, crystal growth, x ray structure analysis, zone melting

ABSTRACT: The crystalline boron was obtained by vertical crucibleless zone melting with simultaneous drawing. The initial boron was obtained by pyrolysis, electrolysis and thermal decomposition. An x-ray structural investigation showed that regardless of the source of the initial boron, the remelted boron crystallizes in the same structure, data on which are tabulated. An analysis of the x-ray structural data indicates that the remelted boron has a  $\beta$ -rhombo-

Card 1/2

L 16581-65  
ACCESSION NR: AP5000294

hedral structure and does not experience polymorphic transformations. Dilatometric and thermal analysis has shown that the remolten boron does not experience polymorphic transformations, and when pulverized in a pestle it does not go into the amorphous stage, as does the boron obtained by thermal decomposition. The cleavage plane is (0001). The boron crystals have a tendency to maintain this plane perpendicular to the crystallization front. It is concluded that other modifications of boron reported in the literature are probably unstable. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Gruzinskiy institut metallurgii (Georgian Institute of Metallurgy)

SUBMITTED: 11Jan64

ENCL: 00

SUB CODE: SS

NR REF SOV: 001

OTHER: 002

Card 2/2

ACC NR: AR6035405

SOURCE CODE: UR/0137/66/000/009/A007/A007

AUTHOR: Tavazde, F. N.; Bayramashvili, I. A.; Khantadze, D. V.

TITLE: Surface tension and density of borides of iron, cobalt, and nickel

SOURCE: Ref. zh. Metallurgiya, Abs. 9A39

REF SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i voznikayushchikh iz nikh tverd. fazakh. Nal'chik, 1965, 376-382

TOPIC TAGS: boride, metal compound, surface tension, zone melting, metal surface

ABSTRACT: The authors investigated the surface tension  $\sigma$  and the density  $\gamma$  of Fe-B, Co-B, and Ni-B alloys. These were determined with apparatus for crucible-less zone melting by an electron beam, using the lying and hanging drop method in the 1500 - 1900° interval. The substrates were made of an alloy of boron nitride with graphite (3NC) and high-purity graphite. The value of  $\sigma$  of B was determined in a single experiment by two methods (by weighing the detached drop and by determining the shape of the hanging drop), while  $\sigma$  and  $\gamma$  of the alloys Me-B were determined by the "large drop" method in a helium atmosphere. The drops were produced in cups made of BeO. The following data were obtained:  $\gamma_{Fe} = 8.325 - 0.862 \times 10^{-3} T^{\circ}C$ ,  $\gamma_{Co} = 9.230 - 1.020 \times 10^{-3} T^{\circ}C$ , and  $\gamma_{Ni} = 9.338 - 1.036 \times 10^{-3} T^{\circ}C$ .  $\sigma$  of B near the melting point is 1060 erg/cm<sup>2</sup>. The investigated systems belong to that class of systems in which the components with low melting temperatures have a higher value of  $\sigma$ . The experimental isotherms of  $\sigma$  lie in all cases above the isotherms calculated from the equation for

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UDC: [669.781'1 + 669.781'24/25]:[532.14 + 532.61]



ACC NR: AR6035405

ideal solutions. This shows that the Me-B bonds are more favored from the energy point of view than the adsorption of B on the surface of the metal. That a strong inter-particle interaction exists in the Me-B systems is also indicated by the appreciable negative deviation of the experimental values of the molar volumes from their additive values. The investigated alloys have apparently a quasimolecular structure with quasimolecular groupings close in composition to FeB, CoB, and Ni<sub>3</sub>B<sub>2</sub>. From among the investigated melts, the lowest stability to quasimolecular structure is possessed by melts of the Fe-B system. 2 illustrations. Bibliography, 24 titles. M. Krasheninikov [Translation of abstract]

SUB CODE: 11

Card 2/2

L 07806-67 EMT(m)/ENP(t)/ETI IJP(c) JD

ACC NR: AR6017483

SOURCE CODE: UR/0137/66/000/001/V021/V022

AUTHOR: Tavadze, F. N.; Bayramashvili, I. A.; Sakvarelidze, L. G.; Metreveli, V. Sh.TITLE: Zone refining of iron 27SOURCE: Ref. zh. Metallurgiya, Abs. 1V158 22  
B

REF SOURCE: Tr. Gruz. in-t metallurgii, v. 14, 1965, 123-127

TOPIC TAGS: zone refining, carbonyl iron, metal purification

ABSTRACT: Data are given from experiments on zone refining of two iron ingots: the first of Armco iron and the second of carbonyl iron. The first specimen was purified in an argon atmosphere on a copper hearth at a rate of 4 cm/hr. The second was purified at the same rate in a helium atmosphere on a lime hearth. It was found that zone refining may be done successfully on a hearth made from a mixture of calcium and magnesium oxides (5% MgO). Frank-Read sources at all stages of development were observed in the iron. Horizontal zone refining produces perfect crystals of iron including perfect single crystals. Purification results after nine passes on both specimens were as follows (the numerator indicates % in the initial material, the denominator -- % after zone refining in the head of the ingot): first specimen Si 0.17/0.002, P 0.007/0.003, S 0.028/0.007, C 0.017/0.009, Mn 0.13/0.025, Cu 0.16/0.09. Second specimen Si 0.0001/none, Mn 0.00005/None, Ni 0.02/0.007, C 0.011/0.006. 10 illustrations, 2 tables, bibliography of 5 titles. A. Pokhvisnev. [Translation of abstract]

SUB CODE: 11, 13

Card 1/1 mc

UDC: 660.181.4-492

L 62939-65 ENI(e)/EIA(s)-2/EAT(m)/EAF(i)/EAF(n)-2/EAG(r)/EAF(t)/EAF(z)/EAF(b) IUP(c)

ADMISSION NR: AP5013044

AUTHOR: Tavadze, F. N. (Academician AN GruzSSR); Bayramashvili, I. A.; Khantadze, D. V.TITLE: Surface tension and structure of molten borides of iron, cobalt and nickel

SOURCE: AN SSSR. Doklady, v. 162, no. 1, 1965, 67-69

TOPIC TAGS: surface tension, boride, iron compound, cobalt compound, nickel compound, molten metal

ABSTRACT: The surface tension was measured for various concentrations of boron, by the large drop method with an estimated accuracy of  $\pm 1.5\%$ . The boron used contained  $<0.002\%$  metallic impurities and  $<0.02\%$  oxygen, and the metals used were premelted under vacuum. Measurements were made in a helium atmosphere. The specimen drop was held in a beryllium oxide cup, heated to  $\sim 1900^\circ\text{C}$  and photographed while cooling slowly to the liquidus temperature. The density was measured at  $1550^\circ\text{C}$  for the Fe-B system and at  $1500^\circ\text{C}$  for the Co-B and Ni-B systems. The metal volume plotted as a function of boron concentration showed considerable negative deviations (up to a maximum of 13-14% for compositions of  $\sim 50$  at. % B) from values calculated assuming

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L 62959-65

ACCESSION NR: AP5013443

2

an additive law. Curves for surface tension as a function of concentration showed considerable positive deviation at all temperatures from values calculated using Zhukhovitskiy's formula (V. N. Yerezenko, Yu. V. Naydich, M. I. Vasilin, *Izv. AN SSSR, Metallurgiya i gornoye delo*, 5, 64, 1963). This indicates strong chemical attraction between the molecules of the two components of the melt. The deviation was maximum at a concentration of 50 at.% B for the Fe-B system and 40 at.% B for the Co-B and Ni-B systems. It is suggested that FeB, Ni<sub>3</sub>B<sub>2</sub> and Co<sub>3</sub>B<sub>2</sub> may be formed in the melts, although the phase diagrams for the above systems do not indicate the existence of such compounds. The temperature coefficient of the surface tension in the three systems was found to have unusually large positive values at compositions of 15-25 at.% B.

ASSOCIATION: Gruzinskiy institut metallurgii (Georgian Institute of Metallurgy)

REMITTED: 28Feb64

ENCL: 00

SUB CODE: SP, 10

NO REF SOV: 017

OTHER: 001

Card 2/2

TAVADZE, F.N., akademik; BAYRAMASHVILI, I.A.; METREVELI, V.Sh.

Internal friction peak of boron in pure iron. Soob. AN Gruz. SSR  
40 no.2:401-406 N '65. (MIRA 19:1)

1. Gruzinskiy institut metallurgii. 2. Akademiya nauk Gruzinskoy  
SSR (for Tavadze). Submitted Jan. 12, 1965.

L 43955-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI TSP(e) JDSB

ACC NR: AT6026905

SOURCE CODE: UR/0000/66/000/000/0036/0036

AUTHOR: Tavadze, P. N. (Academician AN GruzSSR); Bayramashvili, I. A.;  
Metreveli, V. Sh.; Tsagareyshvili, G. V.

59  
B-1

ORG: none

TITLE: Internal friction in boron

SOURCE: AN SSSR. Institut metallurgii. Vnutrenneye treinye v metallakh i splavakh  
(Internal friction in metals and alloys). Moscow, Izd-vo Nauka, 1966, 36

TOPIC TAGS: boron whisker, whisker internal friction, whisker shear modulus,  
temperature dependence

ABSTRACT: The temperature dependence of the internal friction and shear modulus of  
monocrystalline boron whiskers about 0.7 mm in diameter and up to 110 mm long has been

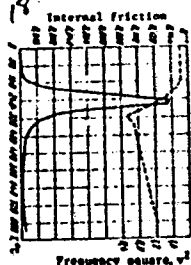


Fig. 1. Temperature dependence of the internal friction (solid line) and shear modulus (broken line) in boron.

Card 1/2

ACC NR: AT7004211 SOURCE CODE: UR/0000/66/000/000/0152/0157

AUTHOR: Tavadze, F.N.; Bayramashvili, I.A.; Tsagareyshvili, G.V.

ORG: none

TITLE: Metal refining by crucibleless electron-beam zone melting with electrotransfer of impurity ions

SOURCE: AN SSSR. Institut metallurgii. Eksperimental'naya tekhnika i metody vysoko-temperaturnykh izmereniy (Experimental techniques and methods of high temperature measurement). Moscow, Izd-vo Nauka, 1966, 152-157

TOPIC TAGS: metal zone refining, metal zone melting, electron beam melting, ~~crucibleless metal zone melting, ion electrotransfer electron beam melting unit, refractory metal zone melting.~~

ABSTRACT: A unit for crucibleless zone refining of metals using electron beam melting accompanied by the simultaneous electric transfer of impurity ions has been built and successfully used for zone melting rods of tungsten (3 mm diameter), molybdenum (4 mm), titanium (6 mm), nickel (8 mm), iron (10 mm), and boron (2.5-4 mm). The narrow portion of test specimens is the anode and is melted by the electron beam at an accelerating voltage of 1-5 kv. A selenium rectifier is the source of direct current which

Card 1/2

UDC: none

ACC NR: AT7004211

passes through the specimens and separates ions of various impurities. The power consumption in the electron beam circuit is 0.2—1.0 kw and that in the d-c circuit is up to 2 kw at 6 v. The speed of cathode movement can be varied from 0.2 to 2.0 mm/min; the melting is done in a vacuum of  $1 \cdot 10^{-2}$ — $2 \cdot 10^{-5}$  mm Hg. Refined nickel single crystals, 60 mm long, were obtained in 6 passes using direct current of 600 amp/cm<sup>2</sup> density. The unit was successfully used for crucibleless zone melting, with and without passing direct current, of boron specimens 2.5—4.0 mm in diameter and 20—40 mm long by decomposition of boron triboride on an incandescent tantalum wire 0.25 mm in diameter. Boron specimens were first heated by electron bombardment, after which direct current was passed through them. The zone movement was from top to bottom. X-ray examination of the zone-melted boron showed that the tantalum core dissolved in boron and concentrated in the molten zone together with other impurities. Orig. art. has 4 figures. [MS]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 002/  
ATD PRESS: 5116

Card 2/2



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