

83708

S/056,60/038/004/001/048
B019/B070

24.6720

AUTHORS:

Romanov, V. A., Iodko, M. G., Tuchkevich, V. V.

TITLE:

Long-lived Lutecium Isotopes /9

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 4, pp. 1019-1026

TEXT: The authors have studied the conversion spectra of Lu¹⁷³- and Lu¹⁷⁴ isotopes. The measurements were made with a spectrometer with double focusing. Two different sources were used. Source I was separated from a Ta target 10-12 hours after it had been exposed to 660 Mev protons for a quarter of an hour; source II was separated from a Ta target which was exposed for about three months. Source II was used previously by B. S. Dzheleпов and others (Refs. 1,2). Most of the conversion lines found belong to Lu¹⁷³ whose relative intensities and energies (Table 1) are well known. The values obtained here agree with those of Yu. G. Bobrov and others (Ref. 1). The relative intensities of γ -rays measured by G. H. Gorodinskiy and others (Ref. 3) and collected in Table 2 are then.

Card 1/3

Long-lived Lutecium Isotopes

83708

S/056/60/038/004/001/048
B019/B070

discussed. The level scheme of Yb¹⁷³ (Fig. 2) is discussed with the help of the well known level scheme of Lu¹⁷³. A number of lines were found in the long-lived spectra of Lu isotopes which do not belong to Lu¹⁷³. The energy values of these lines are given in Table 3, and their identifications are discussed in detail. The authors are convinced that they could belong only to Lu¹⁷⁴. A possible variant of the decay scheme is discussed with the help of Fig. 3. The spins of the excited levels are discussed on the assumption that the ground state of ${}_{71}\text{Lu}_{103}^{174}$ has either the spin 6⁻ or 1⁻. The half life of Lu¹⁷⁴ is 165±5 days. The lines found here are attributed to the M1 and M3 transitions ($E_{\gamma} = 44.7$ kev, and $E_{\gamma} = 59.0$ kev, respectively) of the isomeric states of Lu¹⁷⁴. The half life of the isomeric state is given to be 90 days. The authors thank Professor V. M. Kel'man for his interest in the work and valuable advice. L.A. Sliv and I. M. Band (Ref. 4) are mentioned. There are 3 figures, 4 tables, and 13 references: 6 Soviet, 6 US, and 1 Dutch. X

Card 2/3

83708

Long-lived Lutecium Isotopes

S/056/60/038/004/001/048
B019/B070

ASSOCIATION: Leningradskiy fiziko-tehnicheskij institut Akademii nauk
SSSR (Leningrad Institute of Physics and Technology of the
Academy of Sciences, USSR)

SUBMITTED: August 7, 1959

X

Card 3/3

83709

S/056/60/038/004/002/048
B019/B070

24-6720

AUTHORS:

Iodko, M. G., Tuchkevich, V. V., Romanov, V. A., Kresin, O.M.

TITLE:

An Investigation of the Relative Intensities of Some
Conversion Lines in the Spectrum of Neutron-deficient
Lu-Isotopes *n*

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 4, pp. 1027-1030

TEXT: The authors have investigated the strong lines of the conversion spectrum of the neutron deficient Lu-isotopes by means of a prism spectrometer. The two sources used here were obtained by separating the Lu-isotope fraction from a Ta-target which had been irradiated by 660-Mev protons. With the first source, the energies and the intensities of the conversion lines 66.70 and 75.85 kev in the Lu¹⁷¹ spectrum were measured, and 78.70 and 90.55 kev lines in the spectrum of Lu¹⁷². The relative intensities of the 84.19-kev L-lines in the Lu¹⁷⁰-spectrum, the 87.30-kev L-lines in the Lu¹⁶⁹-spectrum, and the 181.4 kev L-lines in the Lu¹⁷²-
Card 1/3

83709

An Investigation of the Relative Intensities of Some Conversion Lines in the Spectrum of Neutron-deficient Lu-Isotopes S/056/60/038/004/002/048 B019/B070

spectrum were measured with the second source. As the second source was very thick, the data obtained with it are to be considered only as rough values. The energies of the lines were measured by a method developed earlier by Romanov (Ref. 4). The energies of the conversion lines, and the calculated values of the transition energies are given in Table 1. The conversion lines are represented graphically in Fig. 1. The ratios of the L-conversion lines of the transitions with 66.74 and 75.89 keV in the Lu¹⁷¹-spectrum are given in Table 2. The analogous ratios for 78.74 keV-, 90.66 keV-, and 181.4 keV in the Lu¹⁷²-spectrum are given in Table 3. The theoretical and the experimental values are compared in the tables 2 and 3, and the multiplicities of γ -transitions are derived from the corresponding L-sub-shell intensities. L. A. Sliv and I. M. Band (Ref.10) are mentioned. There are 1 figure, 3 tables, and 16 references: 6 Soviet, 8 US, and 2 Dutch.

Card 2/3

83709

An Investigation of the Relative Intensities of Some Conversion Lines in the Spectrum of Neutron-deficient Lu-Isotopes S/056/60/038/004/002/048 B019/B070

ASSOCIATION: Leningradskiy fiziko-tehnicheskii institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

SUBMITTED: August 7, 1959

Card 3/3

S/048/60/024/012/003/011
B019/B056

AUTHORS: Tuchkevich, V. V., Romanov, V. A., and Iodko, M. G.

TITLE: Relative Intensities of Lu¹⁷⁰ and Lu¹⁷² Conversion Electrons

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 12, pp. 1457-1464

TEXT: The present paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which was held in Moscow from January 19 to January 27, 1960. The authors investigated the relative intensities of the conversion lines by means of a spectrometer with double focusing, a line half-width of from 0.25-0.35%, and a solid angle of 0.1-0.2%. Lutecium fraction, which had been separated from a Ta target irradiated with 660-Mev protons was used as a source. Table 1 shows the energies and the relative intensities of conversion lines in the Yb¹⁷² spectrum and the energies and relative intensities of the γ -lines, which had been taken from a paper by Dilman et al. (Ref. 2). On the basis of these data, the internal conversion coefficients for a number of transitions were calculated, and the multiplicities of these transitions could be estimated.

Card 1/6

Relative Intensities of Lu¹⁷⁰ and Lu¹⁷²
Conversion Electrons

S/048/60/024/012/003/011
B019/B056

There follows a detailed discussion of these data, and a discussion of experimental results, which the authors consider to be in need of improvement. The investigations of the transition energies and the conversion electron intensities of Yb¹⁷⁰, yielded rather inexact results. Partly, the occurrence of a large number of weak lines with short half-lives in the conversion electron spectrum is to blame for this. Table 5 gives the transition energies and the intensities of the conversion lines of Yb¹⁷⁰, the doubtful data being shown in brackets. A possible variant of the decay scheme is shown in Fig. 2. There are 2 figures, 5 tables, and 12 references: 6 Soviet, 5 US, and 1 Danish. ✓

Text to Table 1: 1) Transition energy; 2), 3), and 4) Conversion line intensities; 5) Energy according to data by Dilman; 6) Intensities according to data by Dilman in units used by the authors; 7) Conversion coefficient; 8) Total intensity of conversion lines;
Text to Table 5: 1) Transition energy; 2) and 3) Conversion line intensities; 4) Total intensity; 5) Multiplicity.

Card 2/6

LU 172 (5.7 days)

S/04B/60/024/012/003/011
B019/B056

Card 3/6

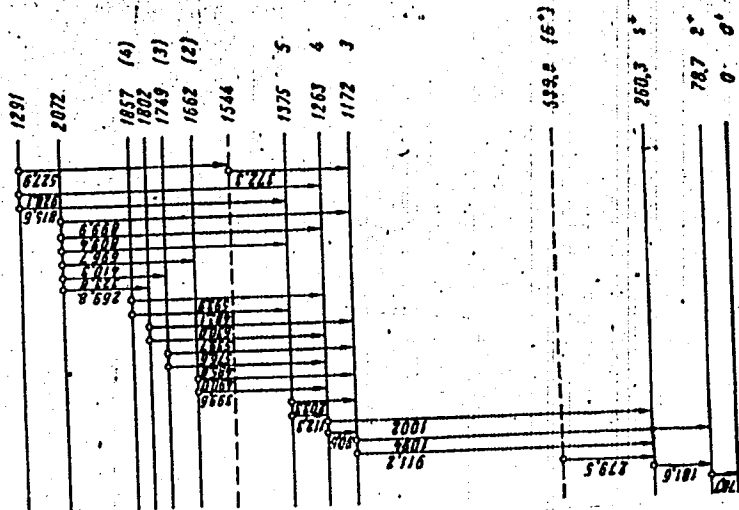


рис. 1. Схема пачада Лу 172

✓

S/048/60/024/012/003/011
B019/B056

LNM (LNU) (~2 days)

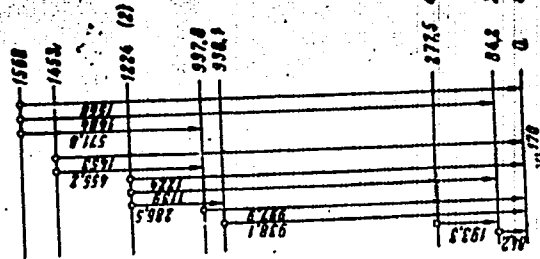


Рис. 2. Возможный вариант
схема распада Lu¹⁷⁸

Card 4/6

1	2	3	4	5	6
E, keV	I_{K^*}	I_L	I_M	Сигнатура no (2), keV	Идентификация номера и знака излучения
78,7	1300±100	2700±60	700±100	79±2	1557
90,6	500±30	600	140±10	113±3	750
112,3	195±5	100	25±5	181±5	806
181,6	36,5±0,8	11,1±0,3	24,5±0,5	203±5	528
203,3	13,3±0,4	2,3±0,2	5,8±0,3	—	—
269,8	4,5	1,1	<1,7	—	—
279,5	4,3	—	—	—	—
318,8	8,6±0,5	1,7±0,1	0,8	325	556
323,8	6,3±0,1	1,2	—	370±5	—
372,3	1,2	—	—	—	—
377,4	1,9±0,2	—	—	—	—
399,6	4,9±0,3	1,3	—	—	—
410,3	1,2±0,1	0,7	—	—	—
482,1	1,2±0,15	—	—	—	—
485,8	3,5±0,4	1,4±0,2	—	—	—
490,0	4,5±0,2	0,3	—	525±10	528
527,9	1,7	—	—	—	—
539,7	0,5	—	—	—	—
576,6	0,74	—	—	—	—
594,0	1,6±0,2	0,4	—	—	—
626,4	0,65	<0,58	—	—	—
630,0	—	0,8±0,1	0,38	—	—
696,7	3,6±0,3	1,2±0,1	0,47	820±7	238
809,4	6,2±0,2	—	—	—	—
815,6	0,71	1,5±0,2	0,36	900±5	722
899,9	10,1±0,2	0,54	—	—	—
911,2	3,0±0,1	—	—	—	—
928,1	1,2	<0,2	—	—	—
986,3	0,4	<1,0	—	—	—
1002	0,9±0,2	1,4±0,1	—	1090±10	1446
1094	7,2±0,2	<0,40	—	—	—
1113	0,54	—	—	—	—

S/048/60/024/012/003/011
B019/B056

Card 5/6

$I_{K^{**}}$	1830	1550	~130	1100	310	~74	(560)	~380	30-220	100-230	60-360	20-120	~200	30-200	(260)	(720)	155-1960	62-760	590-6580
I_L	0,81	—	0,24	6,9(-2)	—	—	1,1(-2)	—	—	—	8,5(-3)	—	—	—	—	2,4(-2)	1,4(-2)	—	5,0(-3)

S/048/60/024/012/003/011
B019/B056

Table 5

1	2	3	4	5	1	2	3	4	5
Энерг. переход, keV*	$I_{K^{**}}$	I_L	Полная интенсивность	Мультиплетность	Энергия перехода, keV*	$I_{K^{**}}$	I_L	Полная интенсивность	Мультиплетность
84,2	1400±200	7600	14300	E2	511,7	1,4	—	—	—
181,5	14,9	—	—	—	543,9	~1,4	—	—	—
193,3	100	59	760	E2	(580,9)	1,2	—	—	—
222,7	11±2	~3	—	—	571,8	2,4	—	—	—
279,4	—	~4	—	—	756,2	~0,3	—	—	—
282,9	8,5±0,3	1,8	—	—	837,1	~2,1	—	—	—
286,5	3,3±0,4	—	—	—	938,1	3,7±0,1	—	—	—
382,1	~3,5	<1,8	—	—	983,2	~3,5	—	—	—
(386,3)	1,4	—	—	—	997,9	~2	—	—	—
388,7	2,7	<1,3	—	—	(1103)	1,3±0,1	—	—	—
396,1	4,6	~2	—	—	1139	2,3±0,1	—	~1000	—
416,8)	1,5	—	—	—	1224	2,1±0,3	—	~1000	—
419,8)	—	~1,8	—	—	1281	2,0±0,1	—	—	—
455,2	~3	~1,2	—	—	1454	14,0±0,3	1,8	1500+18000	—
487,3	1,7	—	—	—	1484	8,4±0,2	1,5	1000+13000	—
					1568	1,8	—	200+3000	—

Card 6/6



S/048/60/024/012/004/011
B019/B056

AUTHORS: Iodko, M. G., Romanov, V. A., Tuchkevich, V. V.
TITLE: Relative Intensities of Lu^{169} and Lu^{171} Conversion Electrons
PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 12, pp. 1465-1469

TEXT: The present paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which was held in Moscow from January 19 to January 27, 1960. The conversion electron spectra of Lu^{169} and Lu^{171} were investigated by means of a β -spectrometer with double focusing, the relative line width amounted to 0.25-0.35%. The two sources were obtained by irradiation of Ta targets with 660-Mev protons on the synchrocyclotron of the OIYaI (Joint Institute of Nuclear Research), the Lu fraction was separated by ion exchange and applied onto an Al foil. As the Lu^{169} and Lu^{170} -half-lives are nearly equal, the lines of these isotopes could not be separated. Table 1 shows the relative intensities of the conversion lines

Card 1/5

Relative Intensities of Lu¹⁶⁹ and Lu¹⁷¹
Conversion Electrons

S/OAB/60/024/012/004/011
B019/B056

of Lu¹⁶⁹, Table 3 shows the Yb¹⁷¹ transition energies and relative intensities of the conversion electrons. The decay schemes already known are shown in Figs. 1 and 2. L. A. Sliv and I. M. Vand (Ref. 5) are mentioned. The authors thank V. M. Kel'man for his interest, B. S. Dzhelepyov and L. K. Peker for valuable comments, as well as G. I. Vlasenko and V. P. Belov for their assistance in the measurements. There are 2 figures, 4 tables, and 8 references: 5 Soviet, 2 US, and 1 Danish. ✓

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology of the Academy of Sciences USSR)

Text to Table 1: 1) Energy of the transition line; 2), 3), and 4) are the relative intensities of the Lu¹⁶⁹ conversion lines.

Text to Table 2: 1) Yb¹⁷¹ transition energies; 2), 3), and 4) relative intensities of the conversion electrons.

Card 2/5

S/048/60/024/012/004/011
B019/B056

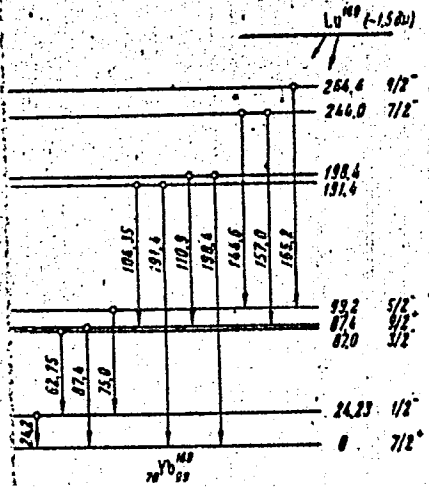


Рис. 1. Схема распада Lu^{169}

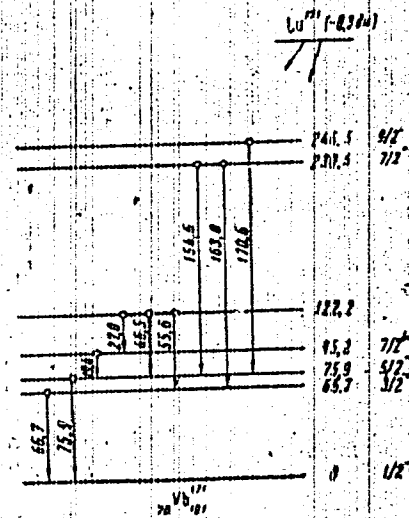


Рис. 2. Схема распада Lu^{177}

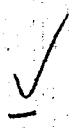
Card 3/5

S/048/60/024/012/004/01
 B019/B056

Таблица 1

Относительные интенсивности конверсионных линий Lu¹⁸⁵

1	2	3	4	1	2	3	4	1	2	3	4
E, keV	K	L	M	E, keV	L	L	M	E, keV	K	L	M
24,2	—	9000	—	227,9	—	12	—	583	9	—	—
62,6	—	11300	—	243	—	22	9	590,8	—	4	—
87,3	18100	—	—	258	112	—	—	634,8	15	—	—
91,8	3800	—	—	290,9	100	20	7,4	646,9	3,5	—	—
110,9	—	1000	250	369,1	102	—	—	655,4	1,4	—	—
144,5	—	188	105	378,3	205	30	11	707,4	> 3,0	—	—
158,8	830	530	—	403,9	12	—	—	820,9	8	—	—
164,9	1100	790	130	456,5	57	9	—	879,3	6,7	—	—
166,5	130	—	—	470,4	—	6	—	980,6	55	8,7	—
191,5	1700	350	—	479,5	16	4	—	1061	28	—	—
198,6	200	—	—	491,7	—	9	—	1072	24	—	—
				548	17	3	—	1079,5	6,4	—	—



Card 4/5

S/048/60/024/012/004/011
 B019/B056

Энергии переходов Yb^{171} и относительные интенсивности конверсионных электронов

1	E, keV	2	K	3	L	4	M	E, keV	K	L	M
	55,83	—	—	5500	—	—	—	712,6	10	2,7	1,4
	66,8	—	—	14600	—	—	—	739,4	100	16	3
	72,38	—	—	3000	—	—	—	767,2	8,5	—	—
	75,97	2800	—	41000	—	8700	—	780,6	9	—	—
	85,55	3800	—	—	—	—	—	839,3	26	7,5	—
	91,28	1500	—	—	—	—	—	853,9	—	—	—
	498,4	5	—	—	—	—	—	986,0	2	—	—
	517,7	9	—	—	—	—	—	1020	2,5	—	—
	626,2	11	—	4	—	—	—	1029	1,	—	—
	666,8	29	—	2	—	—	—	1037	2,	—	—
	688,8	6,5	—	5	—	3	—	1042,9	—	—	—
				—	—	—	—	1102,8	2	—	—

Card 5/5

IODKO, M. O.

IODKO, M. O. -- "A Study of the Dickman Reaction as Applied to the Synthesis of Beta-Tetralone." Min Food Products Industry USSR. Glavparfyumer (Main Perfumery). All-Union Sci Res Inst for Synthetic and Natural Essential Oils. Moscow, 1955. (Dissertation for the Degree of Candidate of Chemical Sciences.)

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

VUL'FSON, H.S.; IODKO, M.O.

Investigations in the field of Dieckmann reaction. Report
No.1: Synthesis of α -phenylone acetic- β -propionic acid and
its ester tagged with C^{14} in the carboxylic group of the
propionic acid residue. Org. poluprod. i kras. no.1:92-
95 '59. (MIRA 14:11

(Propionic acid)
(Radioactive tracers)
(Dieckmann condensation)

3/081/60/000/021/013/018
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 21, p. 168, # 84726

AUTHORS: Stepanov, F. N., Iodko, M. O.

TITLE: The Synthesis of the o-Phenylene Acetic- β -Propionic Acid

PERIODICAL: V sb.: Organ. Poluprodukty i krasiteli. No. I. Moscow, Goskhimizdat, 1959, pp. 237-239

TEXT: It turned out that water is needed for the hydrolysis of the intermediate forming 1,2,3,4-tetrahydro-3-oxo naphthoic-2 acid at the deoxidation of 2-HOC₁₀H₆CO-OH-3 under the action of Na in iso-C₅H₁₁OH to o-phenylene acetic- β -propionic acid. The optimum ratio of water: 2-HOC₁₀H₆CO-OH-3 is (in moles) equal to 1.5 : 1. One smelts 60 g Na under a layer of 125 ml iso-C₅H₁₁OH, and at boiling for 1 hour one adds the solution of 34 g 2-HOC₁₀H₆CO-OH-3 in 500 ml iso-C₅H₁₁OH containing the rated quantity of water. One boils until total dissolution of Na (about 6 hours), cools down to 140-150°C, pours out into 300 ml of cold water, washes the spirit layer with water, acidifies the jointed aqueous solutions to weak acidic reaction, distills off the remainder of iso-C₅H₁₁OH, and filters off

Card 1/2

S/081/60/000/021/013/018
A005/A001

The Synthesis of the o-Phenylene Acetic- -Propionic Acid

the 2-HOC₁₀H₆CO-OH-3 unreacted after cooling down to 90°C. The filtrate will be acidified strongly, and after cooling o-phenylene acetic-β-propionic acid will be extracted by the ester; output, 46.6-53.2%; melting point, 139-140°C.

N. Vul'fson

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

VUL'FSON, N.S.; IODKO, M.O.

Synthesis of β -tetralone. Org. poluprod. i kras. no.2:143-145
'61. (MIRA 14:11)
(Naphthalenone)

KOZLOV, V. V.; VOL'FSON, T. I.; IODKO, M. O.; KOZLOVA, N. A.;
TUBIANSKAYA, G. S.

Naphthalene series. Part 26: Conversions of monosulfonic acids
of naphthalene to dinaphthyl sulfones. Zhur. ob. khim. 32
no.12:4074-4076 D '62. (MIRA 16:1)

(Naphthalenesulfonic acid) (Sulfone)

KOZLOV, V. V.; VOL'FSON, T. I.; IODKO, M. O.; KOZLOVA, N. A.;
TUBYANSKAYA, G. S.

Naphthalene series. Part 27: Conversions of naphthalenesul-
fonyl chlorides to dinaphthyl sulfones. Zhur. ob. Khim. 32
no.12:4077-4079 D '62. (MIRA 16:1)

(Naphthalenesulfonyl chloride) ..(Sulfone)

KOZLOV, V.V.; IODKO, M.O.; RUDNIK, A.L.; KOZLOVA, N.A.

Naphthalene series. Part 29: Formation of aromatic disulfones.
Zhur.ob.khim. 33 no.2:664-667 P '63. (MIRA 16:2)
(Naphthalenesulfonic acid) (Sulfones)

IODKO, M.Ye.

For a general agrochemical study. Zemledelis 26 no.2:
2-4 F '64. (MIRA 17:6)

1. Nachal'nik Glavnogo upravleniya podgotovki Kadrov massovykh
professiy i povysheniya kvalifikatsii rabotnikov sel'skogo
khozyaystva Ministerstva proisvodstva i zagotovok sel'skokho-
zyaystvennykh produktov RSFSR.

LODKO, V. K.

RUSSIAN BOOK REVIEWS

Topovoy tekhnicheskoy seymologii, vpp. 3 (Problems in Engineering Seismology, No. 3) Moscow, 1960. 191 p. 1,700 copies printed. (Series: 144; Trade, no. 10 (17))

Reep, Ed.: S.V. Medvedev, Doctor of Technical Sciences, and A.G. Kato, Candidate of Physics and Mathematics) Ed. of Publishing House: L.T. Vidyayerni; Tech. Ed.: P.G. Samoilov.

Summary: This book is intended for seismologists, and engineers concerned with the construction of earthquake-resistant buildings.

Contents: This is a collection of 15 articles by different authors on problems of engineering seismology. Individual articles discuss the effects of quakes on various structures; seismic activity in the Soviet Union, Kenya, India, and Pakistan-Pakistan; seismic activity and ground vibrations during strong earthquakes. One article discusses the effects of the detonation of 1000 tons of explosives on buildings located 1000 m away. No personalities are mentioned. Each article is accompanied by references.

TABLE OF CONTENTS:

Belokobyl'skiy, Ye. K., B.A. Vaynshteyn, Ye. Iodko, N.Y. Korobeynik, P.G. Semenov, A.A. Treshch, V.I. Dvornik, and A.D. Pribludnyy. Bulletin of Strong Earthquakes in the USSR During 1957 3

Kato, A.G. Seismic Microzonation of the South-India Zone 81

Medvedev, S.V. Accelerations of Ground Vibrations in Strong Earthquakes 82

Prabhakar, D.J. Epicentral Zones of the Kenyan's Polyma Earthquakes 90

T'ang, Han-shuan. On Applying the Theory of Probability to Problems of Engineering Seismology 99

Tab, Sath-Juan. Methods of Registering Ground Vibrations in Strong Earthquakes 109

Kato, B.A. Propagation of Vibrations in a One-dimensional Discrete Medium 112

Podkov, S.V. Some Problems in the Instrumental Determination of Geomorphological Properties of the Substrate, Based on Seismic Wave Propagation 118

Korff, M.G. Evaluating the Engineering Characteristics of Earthquakes by Mathematical Statistics Methods 133

Iyemori, O.A. On Determining the Seismic Properties of Subsurface Sites a Portable Seismic Station 141

Engelblat, K.K. Measuring the Level and the Spectral Composition of Short-Period Microseisms 153

Chang, Tsai-yung. Regarding Seismic Stresses on Structures During Seismic Wave Propagation 165

Kato, A.G. On the Nature of Vibrations in Some Rigid Heavy Structures During Seismic Wave Propagation 175

Korff, M.G. Applying Seismometric Data to Computations for Seismic-Resistant Structures 182

Yoshida, J.M., and O.A. Iyemori. On the Seismic Effect of an Explosion in the Subcrustal-Uplifted Region 189

AVAILABLE: Library of Congress Card #/A

24/000/000 6-28-61

(14)

ACCESSION NR: AT4045972

S/2619/64/000/033/0124/0143

AUTHOR: Vvedenskaya, N. A.; Dzhanuzakov, K. D.; Iodko, V. K.; Kondorskaya, N. V.; Landygreva, N. S.; Misharina, L. A.; Mnatsakanyan, D. M.; Ragimov, Sh. S.; Semenov, P. G.; Tabulevich, V. N.

TITLE: Byulleten' sil'nykh zemletryaseniy SSSR (Bulletin of the Strong Earthquakes of the SSSR) for 1961

SOURCE: AN SSSR. Institut fiziki Zemli. Trudy*, no. 33(200), 1964. Voprosy* inzhenernoy seysmologii (Problems of earthquake engineering), no. 9, 124-143

TOPIC TAGS: geophysics, seismology, earthquake, earthquake focus, earthquake epicenter, earthquake intensity, seismicity

ABSTRACT: The "Bulletin of the Strong Earthquakes of the SSSR" is a periodic annual summary which simultaneously summarizes all instrumental and noninstrumental data on the strong earthquakes ($M \geq 4$) occurring in the Soviet Union. The Bulletin contains a catalogue of earthquakes (reproduced in the paper for 1961 in the form of a lengthy table), a map of the epicenters and a brief description of the strongest earthquakes. The catalogue includes instrumental data on the coordinates of the epicenter, focal depth, magnitude M and the time of occurrence of earthquakes, taken from the Byulleten' seti seysmicheskikh stantsiy SSSR (Bulletin of the Network of Seismic Stations of the SSSR) and noninstrumental data -- information on

Card 1/6

ACCESSION NR: AT4045972

the sensed intensity of earthquakes, received from reports submitted by local inhabitants or from investigations devoted to descriptions of the strongest earthquakes. With the exception of the Kurile-Kamchatka zone, in the catalogue there are data for all earthquakes with $M \geq 4$, and all earthquakes for which M was not determined but which were recorded by seismic stations of the general type as having epicentral distances greater than 1,000 km. Data for the Kurile-Kamchatka zone include all earthquakes with $M \geq 5$. A map is presented in the paper which shows the location of the epicenters of the earthquakes listed in the catalogue; numbers on the map correspond to the numerical listing in the catalogue. In 1961 there were 272 earthquakes in the SSSR with $M \geq 4$. Their distribution by regions and intensities is tabulated in the original text. Fig. 1 of the Enclosure shows the value $\sum E^{1/2}$ for individual seismically active zones of the SSSR for 1961, computed using the formula $\lg E = 11.8 + 1.5 M$. Fig. 2 of the Enclosure shows the change with time of the deviation from the mean annual value $\sum E^{1/2}$ for four seismically active zones. Along the y-axis of the graph there is plotted the value $\sum E^{1/2} - (\sum E^{1/2})_{\text{mean}}$ and along the x-axis - time (1946-1961). The value $(E^{1/2})_{\text{mean}}$ for each zone is indicated at the right of the graph. The authors go on to describe briefly, but individually, the most important seismic phenomena occurring in various regions of the SSSR in 1961. The annual publication of the Bulletin was begun in 1956 and until 1961 it was printed in the Trudy* Instituta Fiziki Zemli AN SSSR in the collection of articles Voprosy inzhenernoy seismologii

Zemli AN
Card 2/6

ACCESSION NR: AT4045972

(Problems of Earthquake Engineering). Beginning with the Bulletin for 1962, the report will be published in annual numbers of Zemletryaseniya SSSR, which will be a separate publication. Orig. art. has: 11 figures and 1 table.

ASSOCIATION: Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AN SSSR)

SUBMITTED: 00

ENCL: 03

SUB CODE: ES

NO REF SOV: 004

OTHER: 000

Card 3/6

ACCESSION NR: AT4045972

ENCLOSURE: 01

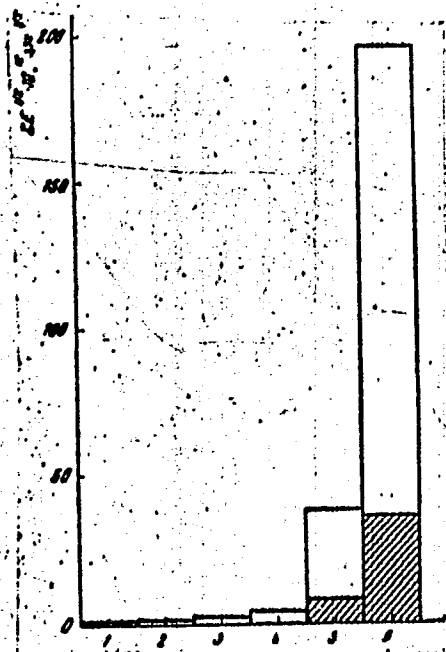


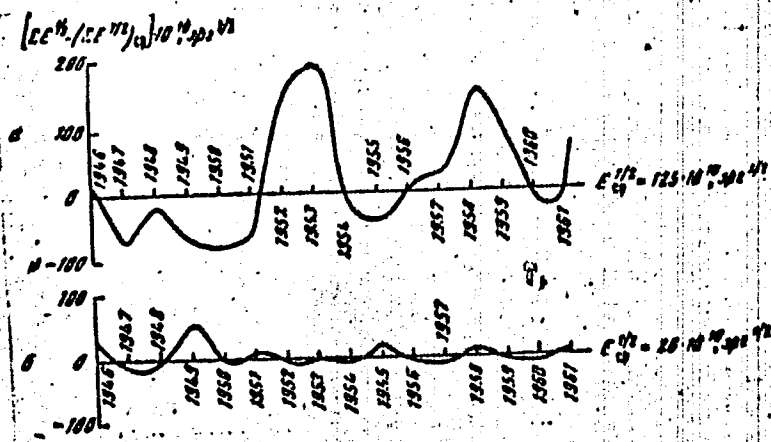
Fig. 1. Distribution of $\Sigma E_i/2$ by zones (in units of 10^{10} ergs^{1/2}). Seismic zones: 1 - Carpathian; 2 - Kopet-Dag; 3 - Caucasus; 4 - Baykal-Altay; 5 - Central Asia; 6 - Far East. Cross-hatched part corresponds to energy of deep earthquakes ($H > 100$ km).

Card 4/6

ACCESSION NR: AT4045972

ENCLOSURE: 02

Fig. 2.



Card 5/6

VVEDENSKAYA, N. A.; DZHANUZAKOV, K. D.; IODKO, V. K.; KONDOESKAYA, N. V.;
LANDYREVA, N. S.; MISHARINA, L. A.; SULTANOVA, Z. Z.;
TSKHAKAYA, A. D.; YURKEVICH, O. I.

Bulletin of strong earthquakes in the U.S.S.R. in 1959. Trudy
Inst. fiz. Zem. no.22. Vop. insh. seism. no.7:3-24 '62.
(MIRA 15:10)

(Earthquakes)

BUTOVSKAYA, Ye.M.; ZAKHAROVA, A.I.; IODKO, V.K.; FLENOVA, M.G.;
FLENOV, Yu.P.; KYZHKOV, O.A., doktor geol.-miner. nauk,
otv. red.; SHAFEYEVA, K.A., red.

[Seismicity of Uzbekistan] Seismichnost' Uzbekistana.
[By] E.M.Butovskaya i dr. Tashkent, Izd-vo "Nauka,"
UzSSR. No.2. [Tashkent and Yuzhnyy seismic regions, the
central part of the Chatkal Range] Pritashkentskii i
Iuzhnyi seismicheskie raiony, tsentral'naya chast' Chatkal'-
skogo khrebta. 1964. 121 p. (MIRA 17:6)

VVEDENSKAYA, N.A.; IODKO, V.K.; KONDORSKAYA, N.V.; LANDYREVA, N.S.;
MISHARINA, L.A.; SEMENOV, P.G.; TABULEVICH, V.N.

Bulletin of strong earthquakes in the U.S.S.R. in 1960.
Trudy Inst. fiz. Zem. 28 Vop. inzh. seism. no.8:61-76 '63.
(MIRA 16:11)

VVEDENSKAYA, N.A.; DZHANUZAKOV, K.D.; ~~IGDKO, V.K.~~; KONDORSKAYA, N.V.;
LANDYREVA, N.S.; MISHARINA, L.R.; ~~MIATSAKANYAN, D.M.~~; RAGIMOV, Sh.S.;
SEMENOV, P.G.; TABULEVICH, V.N.

Bulletin of powerful earthquakes in the U.S.S.R. during 1961.
Trudy Inst. fiz. Zem. no.33. Vop. inzh. seism. no.9:124-143
'64.

YODKO, Ye. K.

Theory of constructing distribution systems for radio broad-
casting. *Elektrosvyaz'* 10 no.10:29-34 0 '56. (MIRA 9:11)
(Radio relay systems)

IODKO, Yevgeniy Konstantinovich; FORTUSHENKO, A.D., otvetstvennyy red.;
VORONOVA, A.I., red.; MAZEL', Ye.I., tekhn.red.

[Organization and planning of radio communication and radiobroad-
casting] Organizatsiia i planirovanie radioaviasii i radioveshchaniia.
Moskva, Gos.isd-vo lit-ry po voprosam aviasii i radio, 1958. 543 p.
(Radiobroadcasting) (Radio) (MIRA 11:6)

GLADKIY, M.I. [deceased]; SHANIN, G.A.; IODKO, Ye.K.; MANAYENKOV,
S.D.; MIKHAYLOV, E.A.; GRIBOVA, Ye.N.; LUGOVSKIY, P.P.;
KULESHOV, S.M.; SHATOV, A.I.; SHNYREVA, N.N.; ISKOVA,
V.M.; LYKOV, A.I.; TYULYAYEV, A.N., *otv. red.*; SIDOROVA,
T.S., *red.*; SHEFER, G.I., *tekhn. red.*

[Determining the economic efficiency of new machinery in the
communication system] *Opređenje ekonomicheskoj effektivno-*
sti novoi tekhniki v khoziaistve sviazi; informatsionnyi sbor-
nik. Moskva, Sviaz'izdat, 1962. 174 p. (MIRA 16:3)
(Communication and traffic--Technological innovations)

IODKO, Ye.K.

Economic effectiveness of the standardization of the field strength
of television broadcasting stations. *Elektrosviaz'* 16 no.3:55-65
M^r 162. (MIRA 15:4)

(Television Standards)

IODKO, Ye.K.

Optimum parameters of television relay stations using radio
relay communication lines. Elektrosviaz' 17 no.1:52-63 Ja '63.
(MIRA 16:2)

(Television)

(Microwave communication systems)

IODKOVSKAYA, N. K.

Iodkovskaya, N. K. -- "Construction of Shadings on Architectural Details with the Aid of Hyperboloids of Revolution." Min Higher Education USSR, Leningrad Order of Labor Red Banner Engineering Construction Inst, Leningrad, 1955 (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knishnaya Letopis', No 24, 11 June 1955, Moscow, Pages 91-104

SOV/137-57-11-21109 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 68 (USSR)

AUTHOR: Iodkovskiy, S.A.

TITLE: An Investigation of the Process of Melting Heat-resistant Chromium-nickel-cobalt Steel From Residues With the Use of Oxygen (Issledovaniye protsessa vyplavki zharoprochnoy khromo-nikel'-kobal'tovoy stali na otkhodakh s primeneniym kisloroda)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Candidate of Technical Sciences, presented to the Tsent. n.-i. in-t tekhnol. i mashinostr. (Central Scientific Research Institute of Technology and Mechanical Engineering), Moscow, 1957

ASSOCIATION: Tsent. n.-i. in-t tekhnol. i mashinostr. (Central Scientific Research Institute of Technology and Mechanical Engineering), Moscow

Card 1/1

IODKOVSKIY, S.A.

PHASE I BOOK EXPLOITATION

322

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i Mashinostroyeniya.

Vyplavka stali dlya fasonnogo lit'ya (Making of Steel for Shaped Castings) Moscow, Mashgiz, 1957. 142 p. (Its: [Trudy] kn. 86) 3,600 copies printed.

Ed.: Kryainin, I. R., Candidate of Tech. Sciences; Tech. Ed.: El'kind, V. D., Managing Ed. for literature on heavy machine building (Mashgiz): Golovin, S. Ya.

PURPOSE: This collection of articles is intended for workers in various branches of the machine-building industry. It may also be used by metallurgical research institutions and by students of the technology of steel production.

COVERAGE: The articles in this collection describe the experimental work done by the Tsentral'nyy Nauchno-Issledovatel'skiy Institut Tekhnologii i Mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building) in developing new melting and casting methods for various

Card 1/5

Making of Steel for Shaped Castings

322

carbon and alloy steels to be used in the manufacture of hollow-shaped forgings. Experiments with various furnaces, in particular with the combined Bessemer basic-electric furnace, are described and evaluated in detail. There are 47 references, 37 of which are Soviet, 6 German, 1 French, and 3 English.

TABLE OF

CONTENTS: Foreword

3

Iodkovskiy, S. A., Engineer. Making LA-1 Heat-resistant Austenitic Steel for Shaped Castings

5

The preparation of LA-1 steel, used for gas turbine parts operating at 600°C., and its properties are described. Electric furnaces using semi-acid slag are claimed to be most suitable for the production of this kind of steel. There are no references.

Ivanov, V. G., Candidate of Technical Sciences.
Behavior of Sulfur and Phosphorus in a Converter Process

21

Card 2/5

Making of Steel for Shaped Castings

322

The author describes experiments dealing with the removal of S and Ph in a side blown Bessemer process. It is said that the amount of S can be reduced by 24.2% and the amount of Ph can be reduced by 24.5%. The temperature of the molten pig iron and the water content of the blown air are claimed to be important factors in this process. There are 5 Soviet references.

Ivanov, V. G., Candidate of Technical Sciences. Study of a Combination Method of Steel Making.

30

Easy removal of Ph and S from converter steel in an electric furnace permits the use of all types of scrap irrespective of Ph and S content. The greater speed and efficiency of the electric furnace makes it suitable for pouring on a conveyor belt. There are 10 references, 8 Soviet and 2 German.

Gorozhankin, A. N., Candidate of Technical Sciences, Bashmakov, A. D., Engineer. Problems of Steel Making in a Uniflow Furnace of Limited Capacity

Card 3/5

66

Making of Steel for Shaped Castings

322

The authors stress the need for a furnace of limited capacity in steel foundries. For this purpose an experimental furnace was developed with a capacity of up to 1 ton. This furnace is said to be slow in reaching operational temperatures; there is also a loss of heat due to the small amount of metal in each charge. Ph and Mg impurities also present a problem. This furnace needs further development and de-bugging before it can be employed on industrial scale. There are 6 references, 5 Soviet, 1 English.

Kraskovskiy, S. V., Candidate of Technical Sciences. Decarbonization and Dephosphorization of Steel by Means of Air-Oxygen Mixtures

84

To speed up the production of steel it is necessary to improve the process of decarbonization and dephosphorization of steel. Oxygen-enriched air with powdered limestone was blown into the bath of an electric furnace. The author claims that this method is quicker, eliminates the use of iron ore, and produces steel of good quality.

Card 4/5

Making of Steel for Shaped Castings

322

The equipment required is said to be simple and expensive. There are no references.

Novitskiy, V. K., Candidate of Technical Sciences.
Study of Casting Methods and Structure of Hollow
Steel Castings

107

The author states that the quality of hollow castings is often unsatisfactory. Slow crystallization is said to present many problems. The experiments deal with the various cores for hollow castings. It was experimentally determined that cores made of thin-walled steel tubes with a cooling arrangement give the best results. There are 16 references, 14 Soviet, 2 English.

AVAILABLE: Library of Congress

Card 5/5

GO/vm
June 3, 1958

SOV/137-58-7-14422

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 69 (USSR)

AUTHOR: Iodkovskiy, S.A.

TITLE: Smelting of Heat-resistant Steel LA-1 Employed for Casting of Profiles (Vyplavka zharoprochnoy stali LA-1 dlya fasonnogo lit'ya)

PERIODICAL: V sb.: Vyplavka stali dlya fasonnogo lit'ya. Moscow, Mashgiz, 1957, pp 5-20

ABSTRACT: The smeltings were conducted in a 3-t basic arc furnace with a charge composed of intermediate Ni products containing 0.4-0.5% C and 19-26% Ni. Of the three different smelting procedures employed the third procedure gave best results. According to this method the smeltings were carried out without reduction and involved the following steps: Addition of any Fe alloys to the charge with the exception of Fe-W and Fe-Ti; utilization of intermediate Ni products containing up to 0.07% C; introduction of lime and fluorspar into the first slag, deoxidation of said slag by means of a mixture of charcoal and ground Si-Ca, or 75% Fe-Si, followed by a refining process under a fireclay or lime slag depending on the S content; addition of

Card 1/2

SOV/137-58-7-14422

Smelting of Heat-resistant Steel LA-1 Employed for Casting of Profiles

Fe-Ti and Mg into the furnace prior to the discharge of its contents into a ladle. It is noted that carrying out the refining process under a fireclay slag made it possible to raise the temperature of the metal more rapidly after Fe-Cr had been added to it. It was established that in smeltings performed in accordance with the third method, the contents of O and H were small, the N content was somewhat greater, and the plastic properties and the $\sigma_{0.2}$ of the metal were improved, while the consumption of electrical energy and Si-Ca, as well as the duration of the smelting process, were at a minimum. On the strength of these findings the method presented above is recommended.

A.Sh.

1. Heat resistant alloys--Preparation
2. Heat resistant alloys--Properties
3. Electric furnaces--Applications
4. Steel--Properties

Card 2/2

IODKOVSKIY, S. A. (Engr.)

"Making Heat-Resistant Austenitic Steel."

(Mar 55) in book - Improving the Quality of Steel Castings; Transaction of the All-Union Conference, Moscow, Mashgiz, 1958. 214 p.

The author concludes from his investigation that the most effective way to make IA-1 steel is to purify the melt under a layer of semi-acid slag.

IODKOVSKIY, S. A. and SASHUKHIN, N. N.

Novyy metod vyplavki austenitnykh staley s vazdannyim kolichestvom ferrita.

report submitted for the 5th Physical Chemical Conference on Steel Production,
Moscow, 30 Jun 1959.

10DKOVSKIY, S. A.

СЛИТКИ И СВОЙСТВА СТАЛИ

- Д.Ф.Черога Исследования влияния особенностей
возраста обжига при выплавке стали
на качество проката и свойства
металла.
- К.С.Прохоров
Л.И.Курочко Рассмотрение возможностей улучше-
ний в слитках из жидкой стали.
- Ю.А.Нелишкин
Н.Г.Григорьев
В.Я.Боник Качество слитков и их микро-
структурные свойства в зависимости от
технологии и особенностей формы.
- В.Г.Гурьев Структурообразование в зависимости
от температуры при разливе
жидкой стали.
- С.А.Ивановский
И.С.Степанов
А.С.Лобанов Влияние технологии слитков на качество
металла.
- В.Г.Курочко
С.М.Гурьев Показатели качества слитков и
свойства проката.
- В.М.Тетенов
Ю.Д.Сидоров О связи структуры и свойств
закаленных слитков с качеством
проката.
- В.М.Тетенов
Ю.Д.Сидоров Влияние структуры слитков при
закалке на свойства проката,
особенно в отношении прочности и
пластичности.
- А.М.Мельник
В.С.Розинский Методы определения структуры
слитков и свойства проката.
- В.А.Мельник
В.П.Ковалев Получение слитков с заданной
структурой при разливе жидкой стали.

Report submitted for the 5th Physical Chemical
Conference on Steel Production, Moscow-- 30 Jan 1959.

IODKOVSKIY, S.A.

PHASE I BOOK EXPLANATION 807/5559

Abdumiyaz makh SSSR, Institut metallurgii. Nauchnyy sovet po problema sharo-prochnoyan sployov

Investatsionnoye koo spetsprochnoye spoyarm, t. 5 (Investitsionnoye of Heat-Resistant Alloys, Vol. 5) Moscow, Izdatel'stvo M 5558, 1959. 433 p. Kromez ally inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klyamov, Tech. Ed.: I.P. Kus'min; Editorial Board: I.P. Savitskiy, Academician, G.V. Muravyov, Academician, S.V. Agayev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oling, I.M. Pavlov, and I.P. Iudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

CONTENTS: This book, consisting of a number of papers, deals with the properties of heat-resistant steels and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The properties of various elements such as Cr, Ni, and V on the heat-resistant properties of various alloys are studied. Deformability and workability of certain steels as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrochromatals are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

Seritskiy, V.G., and E.V. Popov. Study of Certain Problems of the Temperature Dependence of the Plasticity of Steel From the Viewpoint of the Diffusion Theory	130
Grain, P.I., L.V. Pavlov, A.N. Syntarmak (Deceased), and G.B. Fedorov. Self-Diffusion in Chromium and Molybdenum	135
Zhdanovskiy-Lentov, G.P., M.P. Bushanov, R.S. Kozlov, E.I. Babko, and L.S. Kuratman. Investigation of the Properties of H-700 Steel	160
Platonskiy-Lentov, G.P., P.I. Puchanov, and M.I. Solomennik. Cast Austenitic Steels for Service at Temperatures of 600-700°C	166
Lebedev, P.G., M.M. Piskunov, A.V. Rubchenkov, A.I. Mokhobov, S.S. Iodkovskiy, I.A. Zolotarev, P.G. Kuznetsov, V.A. Sorokally, and M.A. Druzhkov. New Heat-Resistant Alloy for Automobile and Stationary Gas Turbines	175
Mina, R.S. The Effect of Elements of Groups IV to VIII of the Periodic Table on the Properties of Phase III	179
Avdeyev, S.I. The Effect of Hardness and Grain Size on the Thermal Fatigue of Heat-Resistant Steel	187
Portny, E.I., and G.V. Samonov. Study of Boron-Base Materials	198
Arbuzov, F.M. Study of Phase Composition of the Diffusion Layer	199
Ignatov, S.M. On the Theory of Secondary and Complex Alloying of Steels	203
Kolbendzi, Puh., E.G. Gireborych, V.A. Rlyy, G.P. Kocharyan, M.V. Astupov, I.V. Geynash, and A.Ye. Lofko. Stability of Heat-Resisting Alloys	210
Kobayashi, S.I., and A.S. Sazonov. Metallurgical Problems in Electroslag Casting of Heat-Resisting Austenitic Steels and High-Chromium-Base Alloys	220
Pratt, S.W., S.I. Kocharyan, and V.I. Kuznetsov. Improvement of Quality and Brittleness of Alloyed Steels and Alloys by Means of Electroslag Remelting in Water-Cooled Metal Holes	228
Lubinskiy, B.E. The Effect of Small Amounts of Additive Agents on the Property of Nickel-Base Alloys	234
Chibrikov, D.M., and A.M. Grin'ko. The Formation and Massaction of Nickel Carbides	240
Pavlov, I.M. Forming of Hard-to-Form Alloys	245
Bartogov, M.V., and A.M. Demit'chenko. Specific Deformation Work [per Unit of Volume] of Certain Alloys	255
Boctor, A.T., and A.M. Samarin. Mechanical Properties of Deformed Chromium	260
Kuznetsov, M.I., I.G. Shugrayev, S.B. Parygin, and Ye.I. Babchikov. Thermomechanical Fatigue of Porcelain High-Temperature Polymers and Chromium-Base Alloys	269

18(5)

SOV/135-59-6-4/20

AUTHOR:

Runov, A. Ye., Engineer; Iodkovskiy, S. A., Candidate of Technical Sciences and Sashchikhin, N. N., Engineer

TITLE:

Control and Correction of the Ferrite Phase Quantity of the Weld and Base Metals in Weld Joints of Austenite Steels

PERIODICAL:

Svarochnoye Proizvodstvo, 1959, Nr 6, pp 13-15 (USSR)

ABSTRACT:

The authors discuss the problem of heat-fissure-forming in welding metal. There are mentioned [Ref 1 and 3] who have been working on the same problem by the method of the ferrite base (3 ferrite). This method renders it possible to prevent the forming of fissures in welding cast austenite steels [Ref 4 and 5]. Up to now, all experiments of control and correction of the ferrite phase quantity of weld and base metals in weld joints of austenite steels [Ref 9] were unsuccessful. In this connection, a new method has been tried over a period of several years, in TsNIITMASH. S. D. Entin, Candidate of Technical Sciences, and V. Ya. Kozlov, Engineer, participated in this work. The new method is a defini-

Card 1/2

SOV/135-59-6-4/20

Control and Correction of the Ferrite Phase Quantity of the Weld and Base Metals in Weld Joints of Austenite Steels

tion of the quantity of the ferrite phase by magnetic methods, by a specially constructed device. The whole defining process takes about 3 to 5 minutes. The investigations have been carried out on several casts of austenite ferrite steel; 1 Kh 20 N 12 T and 1 Kh 19 N 10 B. The experiment was successful. There are 2 photographs, 1 graph, 1 table and 13 references, 11 of which are Soviet and 2 English.

ASSOCIATION: TsNIITMASH

Card 2/2

GOROZHANKIN, A.N., kand.tekhn.nauk; NOVITSKIY, V.K., kand.tekhn.nauk;
KRYANIN, I.R., doktor tekhn.nauk; IODKOVSKIY, S.A., kand.tekhn.
nauk; LADYZHENSKIY, B.N., kand.tekhn.nauk; MIL'MAN, B.S., kand.tekhn.
nauk; KLOCHNEV, N.I., kand.tekhn.nauk; TSYPIN, I.O., kand.tekhn.
nauk; LEVIN, M.M., kand.tekhn.nauk; BALDOV, A.L., inzh.; LYASS,
A.M., kand.tekhn.nauk; CHERNYAK, B.Z., kand.tekhn.nauk; ASTAF'YEV,
A.A., kand.tekhn.nauk; YERMAKOV, K.A., inzh.; GRIBOYEDOV, Yu.N.,
kand.tekhn.nauk; MYASOYEDOV, A.N., inzh.; BOGATYREV, Yu.M., kand.
tekhn.nauk; UNKSOV, Ye.p., doktor.tekhn.nauk, prof.; SHOFMAN, L.A.,
kand.tekhn.nauk; PERLIN, P.I., inzh.; MOSEVIN, Ye.N., kand.tekhn.
nauk; PROZOROV, L.V., doktor tekhn.nauk; CHERNOVA, Z.I., tekhn.
red.

[Some technological problems in the manufacture of heavy machinery]
Nekotorye voprosy tekhnologii tiashelogo mashinostroeniya. Moskva,
Gos.nauchno-tekhn.isd-vo mashinostroit. lit-ry. Part 11 [Steel smelt-
ing and casting; founding; heat treatment; shaping metals by pres-
sure] Vyplavka i rasliykmetali; lubeinoe proizvolstvo, termicha-
skaya obrabotka, obrabotka metallov davleniem. 1960. 266 p. (Moscow.
TSentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashi-
nostroeniya. [Trudy] no. 98). (MIRA 13:7)

(Steel) (Founding) (Forging)

10DKOVSAIY, 3-11

115

PHASE I BOOK EXPLOITATION

SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th,
Moscow, 1950.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii
(Physicochemical Bases of Steel Making; Transactions of the
Fifth Conference on the Physicochemical Bases of Steelmaking)
Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted.
3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni
A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy
of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg.
Tech. Ed.: V. V. Mikhaylova.

Card 1/16

115

Physicochemical Bases of (Cont.)

SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

Card 2/16

Physicochemical Bases of (Cont.)

SOV/5411

Arc Furnace Induced by Blowing Oxygen Into the Metal	149
Shul'te, Yu. A., and M. I. Kurbatov. The Effect of Manufacturing Parameters on the Properties of High-Manganese Steel	159
Iodkovskiy, S. A., and N. N. Sashchikhin. New Method of Making Austenitic Steels With a Given Quantity of Ferrite	167
Suchil'nikov, S. I. Extracting Valuable [Ferroalloy] Elements During The Process of Their Production	178
Berezhiani, V. M., and V. B. Baratashvili. Investigating the Nitrous Manganese Production Processes	184
Zamoruyev, V. M. On the Distribution of Titanium Between the Metal and Slag	189

Card 8/16

S/765/61/000/000/002/003

AUTHORS: Iodkovskiy, S. A., Novitskiy, V. K., Loboda, A. S., Burylichev, G. I.,
Kudel'kin, V. P., Topilin, V. V., Shirayev, N. A., Molev, D. S.

TITLE: The effect of the wall thickness of the mold on the quality of nickel-base alloy castings.

SOURCE: Slitok i svoystva stali; trudy V konferentsii po fiziko-khimicheskim osnovam proizvodstva stali. Moscow, Izd-vo AN SSSR, 1961, 47-60.

TEXT: The paper describes an experimental investigation intended to improve the quality of large-size gas-turbine components. The investigation is concerned with the fundamental defect of highly alloyed Ni-alloy castings, poured into ordinary molds with a vertical taper of 5% and a b/r ratio of 0.55-0.75, namely the presence of internal fissures of thermal origin. The investigation is directed toward the elimination of one of the two possible causes of internal fissures, namely, the stresses which arise as a result of the great difference in temperature (T) along the cross-section of the casting during solidification and cooling. To counteract this effect, the T gradient along the cross-section of the casting must be reduced. Practical means for this purpose include either the reduction of the heat capacity and the heat conductivity of the mold material, the heat rejection of the external

Card 1/2

The effect of the wall thickness of the mold

5/765/61/000/000/002/003

surface of the mold, or a change of the mass of the mold itself (through the use of molds with a reduced wall thickness). It was found that, for castings of the weight range investigated (50-150 kg), the principal factor that determines the rates of their solidification and cooling appears to be the mass of the mold itself. The thinner mold heats up more rapidly than the ordinary thicker mold, and the T gradients are substantially reduced. The investigation also covered the effect of an external thermal insulation layer applied to an ordinary and a thin-walled mold on the macrostructure of the castings and on their rate of cooling. A decrease of the wall thickness of a mold to a b/r ratio of less than 0.30 results in a significant decrease of the mass of the mold, a reduction of the rate of solidification of the casting, a reduction in the T difference between the periphery and the axis of the ingot, and, as an ultimate consequence, in an absence in the casting of any internal thermal fissures. There is no appreciable change in macrostructure, but a casting poured into a thin-walled and thermally-insulated mold is completely free of internal fissures. The experimental thin-walled molds were used in actual production in the pouring of highly-alloyed Ni alloys in castings of 500, 700, and 750 kg, and resulted in the elimination of internal fissures and in a reduction of the number of low-grade rejects as identified by ultrasonic inspection. There are 7 figures and 2 tables; no references.

Card 2/2

S/128/61/000/006/001/004
A054/A127

AUTHORS: Bidulya, P.N.; Iodkovskiy, S.A.; Sashchikhin, N.N.
TITLE: On the problem of melting steel with required phase composition
PERIODICAL: Liteynoye proizvodstvo, no. 6, 1961, 1 - 4

TEXT: The properties of a given steel grade may vary considerably in different heats. These fluctuations which are, as a rule, rather pronounced in double-phase (ferrite-pearlite, austenite-ferrite) steels, are due to deviations in the chemical composition within the limits allowed for the given grade. The different refining methods (vacuum treatment and electro-slag melting excluded) may change some of the steel properties within some tenth parts of one percent, whereas the changes in chemical composition also involving the change of phase composition are able to modify steel properties with several percents. To obtain stable qualities for double-phase steels not only the amount of each constituent must be stable, but the phase composition as well (there must be a fixed ratio of all composing elements, additives, gases, etc.). On the other hand when the phase composition is controlled during the melting process, the steel quality can be regulated according to requirements. TsNIITMASH designed a device with which it

Card 1/3

S/128/61/000/006/001/004
A054/A127

On the problem of melting steel with....

is possible to melt the steel with a strictly prescribed phase composition. To develop the device austenitic steel was used with a certain amount of ferrite. The electromagnetic device is portable and determines the ferrite content in the furnace in 3 - 5 min. When current is supplied to the magnetic coil and to the induction coils, an inductive electromotive force is generated. Since identical induction coils are in cross connection, the galvanometer indicating the difference in electromotive force is in zero-position, i.e., the differential circuit is compensated. When a specimen with austenitic structure is put into one of these coils, the galvanometer remains in a neutral position, because the magnetic susceptibility of such a specimen is near that of the atmosphere. If, however, the specimen contains some ferrite, the electromotive force will increase in the core and the equilibrium of the circuit will be disturbed, which is indicated by the galvanometer depending on the ferrite amount in the sample. The stressed condition of the alternating magnetic field generated in the coils is not more than 300 cersted and this is not sufficient to magnetize the test sample up to saturation. Therefore, there is no linear relation between the ferrite quantity and the registrations of the device which is scaled according to the ferrite content of the check sample. The tests showed that upon applying the ferritometer it is possible to modify the composition of austenitic steel with ferrite phase

Card 2/3

On the problem of melting steel with....

S/128/61/000/006/001/004
A054/A1E7

in such a way that the amount of the latter is changed in the initial structure of the steel. In order to obtain the required ferrite quantity it was necessary to determine the effect of various alloying elements on the ferrite content. The results of tests carried out for this purpose with a different C, Si, Mn, Cr and Ni content in three heats are given in a table, while the composition of 2M316 (EI316) grade steel is plotted graphically, which ensures the optimum amount of ferrite. For a number of heat resistant steels TsNIITMASH and TsKTI have developed a technology ensuring the required ferrite amount. This improves the quality of steel and makes the automation of the melting process possible. There are 5 figures, 5 tables and 5 Soviet-bloc references.

Card 3/3

IODKOVSKIY, S.A., kand.tekhn.nauk; LOBODA, A.S., inzh.

Effect of calcium on the plastic properties of the KI765 alloys.
Metalloved. i term. obr. met. no.6:57-59 Je '61. (MIRA 14:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
mashinostroyeniya.

(Nickel alloys--Metallography)
(Plasticity)

ACCESSION NR: AP4013085

S/0125/64/000/002/0072/0074

AUTHOR: Panin, V. V.; Borovskiy, O. B.; Ivakhnenko, I. S.;
Iodkovskiy, S. A.

TITLE: Behavior of a drop and the liquid-puddle surface in electroslag remelting

SOURCE: Avtomaticheskaya svarka, no. 2, 1964, 72-74

TOPIC TAGS: remelting, electroslag remelting, molten metal drop, metal
puddle, welding

ABSTRACT: An experimental x-ray investigation of the processes of formation
of a molten-metal drop, its motion in the slag, and the behavior of the liquid-
metal puddle is reported. Type 30 and 1Kh18N12 steels were remelted in an
aluminum single-wall crystallizer of 80-mm ID, cooled by a water drain. Flux:
ANF-6 was used in 10 melts, and OSTs-45, in 2 melts; electrode diameter,
30-45 mm; carbon and austenitic steels were remelted. Twin electrodes, one

Card 1/2

ACCESSION NR: AP4013085

current-carrying and the other nonenergized, or one consumable (steel) and the other nonconsumable (tungsten), were used to study the effect of the current on the size of the drop. Upon a fusing of the flux, discharges occur between the electrode and the starter; this is accompanied by a rapid emission of 10-15-mm drops. Details of visually observable phenomena are given, as well as two pictures of the arc. Orig. art. has: 2 figures.

ASSOCIATION: TsNIIImash (Central Scientific-Research Institute of Heavy Machine Building)

SUBMITTED: 01Feb63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: ML

NO REF SOV: 000

OTHER: 000

Card 2/2

PANIN, V.V.; BOROVSKIY, O.B.; IVAKHNENKO, I.S.; IQDKOVSKIY, S.A.

Behavior of a drop and a liquid bath surface during electric
slag remelting. Avtom. svar. 17 no.2:72-74 F. '64. (MIRA 17:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i
mashinostroyeniya.

I. 36862-66 EWP(k)/EWT(m)/T-2/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) ESI/JD/HM/HW
ACC NR: AP6023438 SOURCE CODE: UR/0135/66/000/007/0017/0019

AUTHOR: Lazarev, B. I. (Candidate of technical sciences); Iodkovskiy, S. A. (Candidate of technical sciences); Rusinova, I. N. (Engineer); Shumskiy, V. G. (Engineer) 49 43 5

ORG: TsNIITMASH

TITLE: TsT-23 electrodes for welding heat-resistant Kh16N14V2BR-type steels 18 76

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 17-19

TOPIC TAGS: WELD EVALUATION, heat resistant steel, austenitic steel, steel welding, arc welding, manual welding, welding electrode, electrode steel, steel melting, steel composition / TsT-23 WELDING ELECTRODE

ABSTRACT: Research conducted during 1960-1963 led to the development of TsT-23 welding electrode yielding fully austenitic weld metal and intended for welding EP17 heat-resistant tube steel. The weld metal is similar in composition to EP17 steel, but has a higher manganese content (4.5-6.0% compared to 2.0% in EP17) and contains no boron in order to reduce the susceptibility to hot cracking, characteristic of fully austenitic welds. Since, however, the weld susceptibility to hot cracking was found to vary significantly from one heat of electrode

Card 1/2

UDC: 621.791.042.4:669.14.018.44

L 36862-66

ACC NR: AP6023438

wire to another, a special investigation was undertaken to determine the effect of conditions of wire steel melting on the weld susceptibility to hot cracking. Ferroniobium used for alloying with niobium was found to be one of the main factors in intensifying hot cracking. Deoxidation with more than 0.3% silicon, 0.1% aluminum, or 0.3% calcium-silicon and the use of acid furnace lining also contributed to the increased susceptibility to hot cracking. Niobium should be introduced as nickel-niobium master alloy, melting should be done in basic furnaces, the silicon content should be kept below 0.50%, and the phosphorus content below 0.025%. Electrodes with wire made of steel melted from a virgin charge with the above precautions yielded weld metal which had a low susceptibility to hot cracking. The electrodes were successfully used in welding EI695, EP17, and EP18 steel pipelines. Orig. art. has: 4 figures and 2 tables.

6

[DV]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 006/ ATD PRESS: 542

Card 2/2

ACC NP: AP6018012

(N)

SOURCE CODE: UR/04.13/66/000/010/0126/0126

INVENTORS: Lyubavskiy, K. V.; L'vova, Ye. P.; Sukhov, L. V.; Yarovinskiy, L. M.;
Tarnovskiy, A. I.; Ryabchenkov, A. V.; Gerasimov, V. I.; Iodkovskiy, S. A.

ORG: none

TITLE: Welding electrode. Class 49, No. 181968 [announced by Scientific Research
Institute of Technology and Machine Construction (Nauchno-issledovatel'skiy institut
tekhnologii i mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 126

TOPIC TAGS: welding, welding electrode, austenite steel, carbon, silicon, manganese,
chromium, nickel, molybdenum, niobium, sulfur, phosphorus

ABSTRACT: This Author Certificate presents a welding electrode for welding austenite
steels containing carbon, silicon, manganese, chromium, nickel, molybdenum, niobium,
sulfur, and phosphorus. To increase the resistance of welded seam to corrosion,
the electrode composition is taken in the following percent relationship: carbon—
not over 0.05; silicon—not over 0.45; manganese 2—10; chromium 19—25; nickel 33—
50; niobium 0.8—1.2; molybdenum 2.5—7.5; sulfur or phosphorus—not over 0.02 of
each.

SUB CODE: 13/ SUBM DATE: 29Apr65

Card 1/1

UDC: 621.791.042.2

L 10934-66 EWT(m)/EMP(w)/T/EMP(t)/EMP(z)/EMP(b)/EWA(h) I/P(c) JD/HW
ACC NR: AP5028552 SOURCE CODE: UR/0285/65/000/020/0167/0167

INVENTOR: Chipizhenko, A. I.; Iodinskaya, Z. M.; Golubkov, M. E.; Bliznyukova, N. Yu.

ORG: none

TITLE: Copper-base alloy. Class 40, No. 160827

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 167

TOPIC TAGS: copper alloy, zinc containing alloy, nickel containing alloy, aluminum containing alloy, manganese containing alloy, silicon containing alloy, high strength alloy, *copper base alloy, tensile strength*

ABSTRACT: This Author Certificate introduces a copper-base alloy containing nickel, aluminum, manganese, and zinc. To increase the tensile strength and relaxation strength of the alloy, the component contents are kept within the limits: copper 73.0-76.0%, nickel 1.5-3.0%, aluminum 1.5-3.0%, manganese 0.3-1.0%, silicon 0.3-1.0%, and balance zinc.

SUB CODE: 11/ SUBM DATE: 30Jul63/ ATD PRESS: 4170

Card 1/1

UDC: 669.35.5.71

DANCHENKO, A.; IODLOVICH, S.

Create and introduce new equipment. NTO 5 no.7:28-31 JI '63.
(MIRA 16:8)

1. Nachal'nik Otdela svodnykh planov Gosudarstvennogo komiteta Soveta Ministrov RSFSR po koordinatsii nauchno-issledovatel'skikh rabot, chlen smotrovoy komissii Vsesoyuznogo soveta nauchno-tehnicheskikh obshchestv (for Danchenko). 2. Zamestitel' nachal'nika Otdela svodnykh planov Gosudarstvennogo komiteta Soveta Ministrov RSFSR po koordinatsii nauchno-issledovatel'skikh rabot (for Iodlovich).

(Industrial equipment—Technological innovations)

IODLOVICH, S., red.

[Mineral waters of the Caucasus; an album of views] Kav-
kazskie mineral'nye vody; al'bom vidov. Moskva, Gos.
izd-vo izobraz. iskus., 1963. 1 v. (MIRA 1B:1)

IODLOVICH, S.M.

Organization of the accounting for economic efficiency in planning
and adapting new equipment and technological processes in industrial
production. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.
inform. 18 no.5:46-47 My '65. (MIRA 13:6)

SEVERNEV, M.M.; DOMAN'KOV, V.M.; IODO, I.I.; CHERKASSKIY, A.G.

Substantiation for the tractor maintenance system. Sbor. rab. GOSNITI
no.17:8-18 '62. (MIRA 17:9)

IODA, M.V., Inzh.

Information workers improve their qualifications. NTI no.5:16 '65.
(MIRA 28:7)

1. Metodicheskiy otdel Tsentral'nogo byuro tekhnicheskoy informatsii
Chernomorskogo soveta narodnogo khozyaystva.

IODA, M.V., inzh.

Public office of technical information at the Odessa Canning
Combine. NTI no.7:18 '65. (MIRA 18:9)

1. Metodicheskiy otdel Tsentral'nogo byuro tekhnicheskoy
informatsii Chernomorskogo soveta narodnogo khozyaystva.

34410

S/081/62/000/002/070/10,
B150/B101

15.2125

AUTHORS: Bezborodov, M. A., Mazo, E. E., Iodo, S. S., Orlova V. M.,
Volchek, L. K., Volkodatov, A. F.

TITLE: Synthesis of glasses for glass fiber in the system SrCaAlSiO

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 378, abstract
2K241 (Dokl. AN BSSR, v. 5, no. 7, 1961, 304 - 307)

TEXT: The field of vitrification was studied and developed in the system SrCaAlSiO considered as a triangle in the angles of which are situated Al_2O_3 , SiO_2 and SrO + CaO in definite proportions. Three variants of the system were investigated with the ratios CaO:SrO (in mole %) equalling 10; 1.23, and 1.85. It was established that glasses of the SrCaAlSiO system are suitable for the production of glass fiber. [Abstracter's note: Complete translation.]

Card 1/1

L 17619-66 EWP(e)/EWI(m)/EWP(f)/ETC(m)-6 WW/RM/NH

ACC NR: AP6007679

SOURCE CODE: UR/013/65/000/003/0049/0049

INVENTOR: Mazo, E. E.; Matveyev, M. A.; Ushakova, L. K.; Iodo, S. S.; Orleva, V. M.; Volkodotov, A. F.; Levinbaum, B. M.

ORG: none

TITLE: Glass for glass fiber. Class 32, No. 178458

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 49

TOPIC TAGS: glass fiber, electric insulator

ABSTRACT: An Author Certificate has been issued for a glass for making glass fiber with improved electrical insulation properties and reduced cost. The glass has the following composition: SiO₂, 54-57%; Al₂O₃, 8-9%; CaO, 13-17%; SrO, 13-17%; MgO, not over 3.5%; and, in addition, BaO, 1.5-5%, and Fe₂O₃, not over 1.5%. [BO]

SUB CODE: 11/ SUBM DATE: 07Dec64/ ATD PRESS: 4210

Card 1/1 7795

UDC: 666.189.212

L 02373-67 EWP(a)/EWT(m) WH
ACC NR: AP6032502

SOURCE CODE: UR/0413/66/000/017/0061/0061

INVENTOR: Mazo, E. E.; Iodo, S. S.; Yakimovich, V. I.; Fridman, R. M.

32
B

ORG: none

TITLE: Opalescent glass containing no lead. Class 32, No. 185466 15

SOURCE: izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 61

TOPIC TAGS: opalescent glass, illumination engineering, glass, *light scattering glass*

ABSTRACT: An Author Certificate has been issued for opalescent glass containing no lead with high illumination engineering properties. The glass has the following composition: SiO₂, 60.3%; Al₂O₃, 8.5%; CaO, 1.4%; SrO, 3%; ZnO, 2%; Na₂O, 16.3%; ZrO₂, 2.5%; cryolite, 6%. [B0]

SUB CODE: 11/ SUBM DATE: 26Oct61

Card 1/1 vmb

UDC: 666.22 : 666.263

10/19/64 JG/MLK
10/19/64 JG/MLK

8/0000/64/000/000/0209/0215

3

10/19/64 Lodovskiy, S.A., Kudel'kin, V.P., Lotoda, A.S.

Effect of calcium on the plasticity of nickel alloys

... of this ... can be ...
... of this ... can be ...
... of this ... can be ...

SECRET

KLEYN, Yu. S.; IOEL', A. A.

Asymptomatic infectious lymphocytosis. Probl. gemat. i perel.
krovi no.8:55-56 '62. (MIRA 15:7)

1. Iz Vologodskoy gorodskoy bol'nitsy (glavnyy vrach S. F. Shvarev)

(LYMPHOCYTES)

TRUSHLYAKOV, V.P.; BEREZHINSKIY, A.I.; SPIVAK, M.Ya.; FINGOYEYEV, I.A.;
LIPETS, A.U.; AYZEN, B.G.; KOSTOVETSKIY, D.L.; BOLDZHI, K.I.;
YAMPOL'SKIY, S.L.; FEDOTOV, D.K.; KIRILLOV, I.I.; OSHEROV, S.Ya.;
ZYSIN, V.A.; OGLOBLIN, G.A.; KANAYEV, A.A.; BUIEGA, S.S.;
BORUKHMAN, V.A.; IOEL'SON, V.I.

Inventions. Energ. i elektrotekh. prom. no.3:48-49 J1-S '64.
(MIRA 17:11)

ICF, L.M.

25993 Iof, L.M. O Kharakteristike Obostreniya Otdalennykh Toulod+ Stviy Zakrytykh
Travn Cherepa. Sbornik Nauch. Rabot Lecheb. Uchrezhdeniy Mosk, Voen. Okr.
Gor'kiy, 1948, S. 304-10

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

Iof, L. S.

USSR/Medicine-Venereal Disease,
Prevention

Jan/Feb 50

"Second Thematic Conference on the Organization of the Control of Venereal and Skin Diseases in Rural Areas," P. I. Golemba, Cand Med Sci, L. S. Iof, Cand Med Sci.

"Vest Venerol i Dermatol" No 1, pp 42-58

Details conference held 28-30 Sep 49 at Cen Dermato-Venereal Inst, Opening address given by A. I. Shabanov, Dep Min, Min of Pub Health USSR. Addresses given by V. Ya. Arutyunova, head of Sec on Control of Venereal and Skin Diseases of the ministry, G. F. Konstantinov, head of Adm for Med and Prophylactic Aid to the Rural Pop of the ministry, and others.

PA 163T42

IOF, L.S.

Organisation of blood examination in pregnancy by the method of
the dry drop. *Feldsher & akush. No.1:55-57 Jan 51. (GIZML 20:5)*

1. Candidate Medical Sciences.

IOFA, B. Z.

USSR/Chemistry - Isotopes Combustion

21 May 51

"Synthesis of 2-C¹⁴-Propene," M. B. Neyman, A. F. Lukovnikov, B. Z. Iofa

2Dok Ak Nauk SSSR" Vol LXXVIII, No 3, pp 493-496

Use of 1-C¹⁴-Propene-1 in combustion investigations is difficult, because (1) its synthesis is complicated, (2) the double bond migrates at high temps, and (3) there are many side reactions and low yield of radioactive products. Synthesized 2-C¹⁴-propene-1 from BaC¹⁴O₂ according to the scheme: C¹⁴O₂ + MeMgI → MeC¹⁴COMgI → (MeC¹⁴OO)₂Ba → Me. C¹⁴O.Me → Me.C¹⁴HOH.Me → CH₃.C¹⁴H=CH₂.

186T11

Iofa, B. Z.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 22 - 29/44

Authors : Nesmeyanov, A. N., and Iofa, B. Z.

Title : Measurement of vapor pressure of solid antimony by the method of marked atoms

Periodical : Dok. AN SSSR 98/6, 993-995, October 21, 1954

Abstract : The vapor pressure of solid antimony was measured in a wide range of temperatures. Only tetrameric molecules were found to exist in antimony vapors in the range of investigated temperatures. The radioactive ^{124}Sb isotope was used in the role of indicator. The device in which the experiments were carried out as well as results obtained are described. Seven references: 1-USSR; 1-Japanese; 2-Norwegian; 1-English and 2-USA (1909-1954). Table; graph; drawings.

Institution : The M. V. Lomonosov State University, Moscow

Presented by: academician V. N. Kondratyev, May 28, 1954

IOFA, B. Z.

Iofa, B. Z. -- "Measurements of the Pressure of Saturated Pairs of Certain Hard Metals and Their Alloys Using Radioactive Indicators." Moscow State U imeni M. V. Lomonosov. Chair of Inorganic Chemistry. Laboratory of Radiochemistry. Moscow, 1956. (Dissertation For the Degree of Candidate in Chemical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

Iofa, B.Z.

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical B-8
Analysis. Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26102

Author : A.N. Nesmeyanov, B.Z. Iofa, A.A. Strel'nikov, V.G. Firsov.
Title : Measurement of Pressure of Saturated Vapors of Solid Alloys
by Method of Radioactive Indicators.

Orig Pub : Zh. fiz. khimii, 1956, 30, No 6, 1250-1257

Abstract : The pressure of saturated vapors of solid Zn, Cd and Sb and of alloys corresponding by the chemical composition to SbZn (I), Sb_2Zn_3 (II), Zn_3As_2 (III), and Cd_3As_2 (IV) was measured by Knudsen method in combination with the method of tagged atoms (the radioactive isotopes Sb^{124} , Zn^{65} , Cd^{109} , Cd^{113} and As^{76} were used). In accordance with the activity of the deposit on the cooled surface above the evaporator, the vapor pressure was calculated by the formula p (mm of mercury column) = $17.14 \cdot I \cdot \sqrt{t} / \alpha \cdot S$, where: I is the activity of the deposit in impulses per min., α is the specific activity of the substance in impulses per min., S is the area of the diaphragm in sq. cm, t is the duration of the exposition in sec., T is the

Card : 1/2

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical B-8
Analysis. Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26102

absolute temperature, M is the molecular weight of the substance vapor, K is Klausning's factor. Following equations of the dependence of the vapor pressure on the temperature were found:

$$\log p \text{ Sb (mm of mercury column)} = -1058.6/T + 11.044 \quad (618 - 703^\circ\text{K});$$

$$\log p \text{ Sb (80\% Sb)} = -9514.3/T + 9.720 \quad (624 - 725^\circ\text{K});$$

$$\log p \text{ Sb (65\% Sb)} = -947.0/T + 9.695 \quad (616 - 715^\circ\text{K});$$

$$\log p \text{ Sb (51\% Sb)} = -9350.3/T + 9.131 \quad (623 - 729^\circ\text{K});$$

$$\log p \text{ Zn} = -7039/T + 9.265 \quad (622 - 665^\circ\text{K});$$

$$\log p \text{ Zn (80\% Zn)} = -7287.1/T + 9.398 \quad (526 - 633^\circ\text{K});$$

$$\log p \text{ Zn (30\% Zn)} = -8057.3/T + 9.834 \quad (556 - 658^\circ\text{K});$$

$$\log p \text{ Zn (9.5\% Zn)} = -7874.8/T + 9.205 \quad (570 - 660^\circ\text{K});$$

$$\log p \text{ Cd} = -5866.5/T + 8.748 \quad (416 - 564^\circ\text{K});$$

$$\log p \text{ Cd}_3\text{As}_2 = -8292.5/T + 11.123 \quad (511 - 648^\circ\text{K}).$$

Comparing the vapor pressure above pure components with that above their alloys, the conclusion was arrived at that I and II dissociated completely before evaporation in the solid phase and that a solid pseudosolution formed on the surface.

III and IV do not probably dissociate even in the vapors.

Card

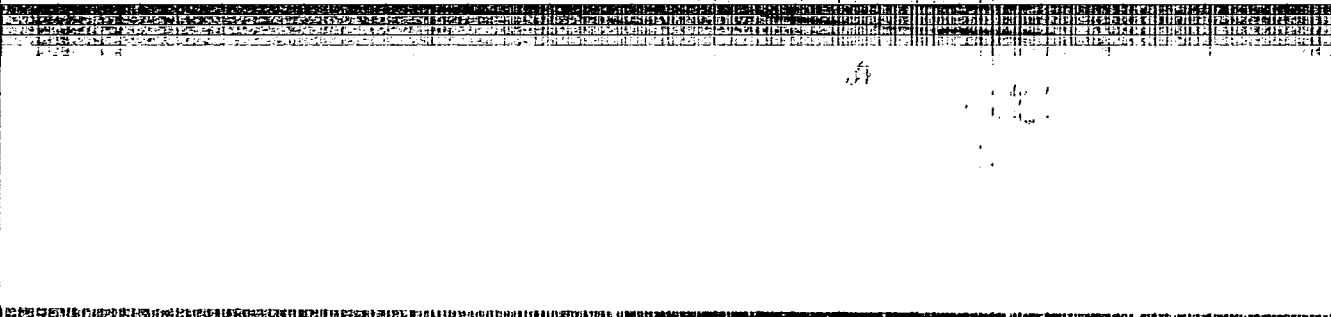
: 2/2

* $\log p \text{ Zn}_3\text{As}_2 = -8658.1/T + 9.653 \quad (601 - 751^\circ\text{K});$

[Faint, illegible text block]

"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618620009-9



APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618620009-9"

AUTHORS: Nesmeyanov, An. N., ~~Iofa, B. Z.,~~ 76-32-4-40/43
Strel'nikov, A. A.

TITLE: Determination of the Saturated Vapor Pressure of Solid
 $ZnAs_2$ (Davleniye nasyshchennogo para tverdogo $ZnAs_2$)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 4,
pp. 955-956 (USSR)

ABSTRACT: Already in a previous paper it was proved that the antimonides of zinc decompose in the solid phase in sublimation, while the arsenides of zinc and cadmium evaporate without decomposition. The determinations of pressure carried out in the present work were made according to the effusion method using the radioactive indicators Zn^{65} and As^{76} ; the obtained results are mentioned on tables, the data of the pressure of saturated arsenic vapors having been taken from Horiba (Reference 6) and the melting diagram of the system Zn - As from the book by Khansen (Reference 7). From the results can be seen that the heat of sublimation of zinc arsenides differ strongly from each

Card 1/2

Determination of the Saturated Vapor Pressure
of Solid $ZnAs_2$

76-32-4-40/43

other as well as from those of zinc and arsenic, from which fact it is concluded that $ZnAs_2$ sublimates (like Zn_3As_2) in the solid phase without decomposing; therefore a purification by vacuum sublimation is possible. In the absence of a dissociation of intermetallic compounds the measurement of the saturated vapor pressure can serve as method of the determination of these compounds in solid phases.

There are 2 figures, 2 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 13, 1957

AVAILABLE: Library of Congress

Card 2/2

1. Zinc arsenides--Vapor pressure 2. Vapor pressure--Measurement
3. Zinc isotopes (Radioactive)--Applications 4. Arsenic isotopes
(Radioactive)--Applications

5(4)

SOV/78-4-2-36/40

AUTHORS: Nesmeyanov, An. N., Iofa, B. Z.

TITLE: **Saturated Vapor** Pressures of Solid Lead Fluoride
(Davleniya nasyshchennogo para tverdogo fluoristogo svintsa)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2,
pp 486-488 (USSR)

ABSTRACT: In the investigation under review the saturated vapor pressure of solid lead fluoride was determined by the Knudsen effusion method and by means of the radioactive lead isotope ^{210}Pb . Lead fluoride was obtained by the precipitation of lead nitrate by fluoric acid in platinum vessels. The precipitate was dried at 120° . The dependence of the logarithm of the saturation steam pressure on the temperature is shown in equation (3):

$$\log P_{[\text{at}]} = - \frac{9096.2}{T} + 5.4696 \quad (3)$$

The dependence $\log P-1/T$ is shown in figure 3. The results were compared to those obtained by Wartenberg and Bosse (Ref 1) and it was found that the straight line, which shows the dependence of the logarithm of the vapor pressure on the reci-

Card 1/2