

PETRUSHEVSKIY, B. A.

Doc Geolog-Mineralog Sci

Dissertation: "History of the Development of the Vral-Siberian Epi-
Hercynian Stage During the Mesozoic and Cenozoic Eras.

10 June 49

Inst of Geological Sciences, Acad Sci U.S.S.R.

SO Vecheryaya Moskva
Sum 71

PETRUSHEVSKIY, B.A.

Mesozoic and Cenozoic structure of the West Siberian Plain.

Bul. MOIP. Otd. geol. 26 no.4:3-40 '51.

(MIRA 11:5)

(West Siberian Plain--Geology)

PETRUSHEVSKIY, B. A.

USSR/Geophysics - Seismic classification

FD-758

Card 1/1 : Pub 44-6/11

Author : Belousov, V. V.; Gorshkov, G. Ts.; Petrushevskiy, B. A.

Title : Concerning I. Ye. Gubin's article "Seismic regionalization of southwest Turkmenia"

Periodical : Izv. AN SSSR, Ser. geofiz., 443-450, Sep-Oct 1954

Abstract : Discuss recent statements of I. Ye. Gubin concerning his proposed so-called seismotectonic method of seismic classification of regions. Establish that these statements are but slightly connected with the author's earlier remarks on the given problem. Show that it is impossible to talk about the existence of a new seismotectonic "method." Eleven references, all USSR (6 by Gubin, and the rest by V. V. Belousov, G. P. Gorshkov, and Ye. F. Savarenskiy).

Institution : Geophysics Institute, Acad. Sci. USSR

Submitted : April 12, 1954

PETRU
PETRUSHEVSKIY, B. A.
USSR/Geophysics - Seismogeological characteristics

FD 351

Card 1/1

Author : Petrushevskiy, B. A., Rezanov, I. A., Rastvorova, V. A.

Title : Seismogeological characteristics of western Turkmenia

Periodical : Izv. AN SSSR, Ser. geofiz. 2, 160-183, Mar/Apr 1954

Abstract : Consider the structure of western Turkmenia and its seismicity, and attempt to explain the various seismic interrelationships. Arrive at the conclusion that the west Kopet-Dag is characterized less by high degree of seismicity than the regions adjacent to it on the west and east. Twenty-five references, all Soviet, including A. A. Shreyder, "Basic results of the general geophysical survey of the western part of Central Asia," Prikladnaya geofizika (Applied Geophysics), No 4, 1943.

Institution : Geophysics Institute, Acad. Sci. USSR

Submitted : March 11, 1953

KROPOTKIN, F.N., *otv. red.*; BELOUSOV, V.V., *red.*; BELYAYEVSKIY, N.A., *red.*; BOGDANOV, A.A., *red.*; GARETSKIY, S.G., *red.*; GUBIN, I.Ye., *red.*; LENTEL, A.M., *red.*; MAZAROVICH, G.A., *red.*; MURATOV, M.V., *red.*; NIKOLAYEV, N.I., *red.*; FAVLOVSKIY, Ye.V., *red.*; PEYVE, A.V., *red.*; PETRUSHEVSKIY, B.A., *red.*; PUSHCHEKOVSKIY, Yu.L., *red.*; SHEYNMANN, Yu.L., *red.*; SHTREYS, N.A., *red.*; YANSHIN, A.L., *red.*

[Structure and the development of the earth's crust; materials] Stroenie i razvitie zemnoi kory; materialy. Moskva, Nauka, 1964. 199 p. (MIRA 18:2)

1. Vsesoyuznoye soveshchaniye po problemam tektoniki. 2d, Moscow, 1963.

PETRUSHEVSKIY, B.A.

Pacific moving ring. Sov. geol. 7 no.3:3-28 Mr Izv.

(MIRA 17:15)

1. Institut fiziki Zemli im. O.Yu. Shmidta AN SSSR.

PETRUSHEVSKIY, B.A.; REZANOV, I.A.; RASTVOROVA, V.A.; LEONOV, N.N.

Tectonics of western Turkmenia. *Biul.MOIP. Otd.geol.* 29 no.4:3-35
Л-Аг '54. (MLRA 7:9)
(Turkmenistan--Geology, Structural) (Geology, Structural--
Turkmenistan)

PETRUSHEVSKIY, B.A.; YANSHIN, A.L., redaktor; REZANOV, I.A., redaktor;
ALEKSEYEVA, T.V., tekhnicheskiy redaktor.

[Uralo-Siberian epi-Hercynian platform and Tsien-Shan; history of development in Mesozoic and Cenozoic times and problems of seismicity] Uralo-Sibirskaya epigertsinskaya platforma i Tian'-Shan'; istoriya razvitiya v mezozoiskoe i kainozoiskoe vremya i voprosy seismichnosti. Moskva, Izd-vo Akademii nauk SSSR, 1955. 551 p. (MLRA 9:4)

(Siberian platform--Geology) (Tien Shan--Geology)

PETRUSHEVSKIY, B.A.; BELOUSOV, V.V., redaktor; REZANOV, I.A., redaktor;
ALEKSEIEVA, T.V., tekhnicheskiy redaktor.

Significance of geological phenomena in the division of a region
into seismic zones. Trudy Geofiz. inst. no.28:3-58 '55. (MIRA 8:5)
(Geology, Structural) (Seismology)

PETRUSHEVSKIY, B.A.; YANSHIN, A.L.

~~Conference on tectonics in Baku.~~ Biul.MOIP.Otd.geol. 30 no.2:116-118

Mr-Apr '55.

(MIRA 8:8)

(Baku—Geology, Structural)

PERUSHEVSKIY, B. A.

Mesozoic and Cenozoic structure and history of development of the
Ural-Siberian epi-Hercynian platform and Tien Shan. Biul.MOIP. Otd.
geol.30 no.3:17-38 My-Je'55. (MIRA 8:10)
(Tien Shan--Folds (Geology)) (Siberia--Folds (Geology))

PETRUSHEVSKIY, B.A.

Relation of seismic phenomena in the Ural-Siberian Platform and
Tien Shan to the geological conditions of these regions. Biol.
MOIP.Otd.geol.30 no.6:31-53 N-D '55. (MIRA 9:4)
(Kazakhstan--Seismology) (Tien Shan--Seismology)

PETRUSHEVSKIY, B. A.

BALAKINA, L. M.

X(10)

PHASE I BOOK EXPLORATION

SOV/1663

Akademiya nauk SSSR. Komitet po geodesii i geofizike.

Tezisy dokladov na XI General'noy sessiiye Mezhdunarodnogo geodeticheskogo i geofizicheskogo soyuzn. Mezhdunarodnaya assotsiatsiya seismologii i fiziki nedr zemli (Abstracts of Reports Submitted to the XI General Assembly of the International Union of Geodesy and Geophysics. The International Association of Seismology and Physics of the Earth's Interior) Moscow, 1957. 108 p. /Parallel texts in Russian and English/ 1,500 copies printed.

No additional contributors mentioned

PURPOSE: This booklet is intended for geophysicists, especially those specializing in seismology.

COVERAGE: This collection of articles deals with the structure and composition of the Earth and phenomena related thereto. The majority of the articles concern studies of earthquakes and seismic waves. Other articles cover the structure of the Earth's crust and mountain roots; the elastic properties of rocks at high pressures; the piezoelectric effect of rocks and the method of modeling in tectonophysics. The collection also contains articles on the Earth's thermal history, the microseismic method of tracing storms and others.

Card 1/3

Kontorskaya, S.V. Travel Times and Some Dynamic Characteristics of Seismic Waves	58
Lyubimova, Ye.A. The Earth's Thermal History and Its Geophysical Consequences	63
Mel'nikov, S.V. and B.A. Petrushevskiy. Methods and Experience in Locating USSR Territory Exposed to Seismic Intensity	66
Magnitskiy, V.A. Properties of the Earth's Mantle and the Physical Nature of the Intermediate Layer (Layer C)	70
Rozhnkov, P.I. Development of the Microseismic Method of Tracing Storms at Sea	74
Mel'nikov, L.S. Study of the Character of Decrease of P-Wave Amplitudes in the Shadow Zone on a Model	78
Selov'ov, S.L. The Energy and Intensity of Earthquakes	81
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PETRUSHEVSKIY, B.A.

AUTHOR: Petrushevskiy, B.A.

5-5-4/6

TITLE: Some Current Problems of Seismic Geology (O nekotorykh tekushchikh zadachakh seysmo-geologii)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskii, 1957, No 5, pp 99-125 (USSR)

ABSTRACT: The author sets forth his conceptions on the connection between geologic and seismic phenomena, basing it on the fact that seismic phenomena and various large-scale structural complexes on the Earth's surface are the results of abyssal processes. The contemporary abyssal processes are in most cases manifestations of the trends which have been characteristic for a given region during the preceding span of time, which was sometimes rather long. Thus, a genetic connection can be established between the seismic events which represent consequences of recent abyssal processes on the one hand, and the large-scale structural surface complexes which also represent consequences of abyssal processes proceeding during considerably longer times, on the other hand. However, connections between the seismic and geological situations are rather complicated, the intricacy of the processes causing the differences in the geological structures of

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Some Current Problems of Seismic Geology

various regions. In some cases the geological peculiarities, with which the intensification of seismic activity is connected, consist of the presence of those zones which link large structural complexes with different build-ups and movements. In other cases, these geological peculiarities consist of the tectonic mobility of a given region, which characterizes its development during a very long geologic time. Still in other cases, geological peculiarities consist of the combination of their low mobility in the past with the high intensity of movements at the present time. All these cases pertain to the regions related to plateaus with Pre-Mesozoic folded foundations. On the territories of the Alpine folding in the Southern USSR, the seismic activity is connected with other geologic peculiarities. Above all, the zones of recent, Pliocene-Quaternary volcanism in the Caucasus must be mentioned. Then, there is a connection between the high seismic activity and the zones of intensely developing Quaternary depressions superimposed upon the elevations of the preceding stage of development. There is also a group of earthquakes associated with the zones of the largest transverse elevations. Movements resulting in the

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Some Current Problems of Seismic Geology

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formation of folds in regions not affected previously by folding are of importance for the intensification of seismic activity. Thus, both for the plateau structures and for the Alpine folded zone of the Southern USSR, seismic phenomena are connected with various geological peculiarities which in the most cases have one or another reflection on the surface of the Earth. It is probable that seismic-geological connections in the Far East are characterized by a still different special type or types. Following the ideas of G.A. Gamburtsev, who started investigations in the Geophysical Institute for establishing geological criteria of seismicity, the author proposes some general concepts of his own. He considers seismic phenomena as a reflection of contemporary (in the literal sense of this word) tectonic developments of a given area. For the Urals-Siberian region the author derived the following regularity: the younger the age of folding of the foundation is in a given area, the oftener occur in this area movements leading to activation of seismic activity. The second regularity found is formulated as follows: the intensification of seismicity is usually observed in the areas in which recent intensive movements lead to the formation of active elevations (anticlines) of relatively small

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Some Current Problems of Seismic Geology

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size and of conjugated active and equivalent scale sinkings (synclines). In the areas of unidirectional elevations, although very considerable in extent of lifting, the seismicity is somewhat weakened. For the region of the Caucasus the author formulates the following conclusion: the greatest seismic activity is characteristic for the zones which suffered multiple reconstructions of the tectonic structure, and moreover, the highest intensity of seismicity occurs in the areas where this reconstruction took place only recently. The seismic activity of the Turkmen-Caucasian section of the Alpine folded region is connected with the zones of the most recent activation of tectonic movements. The author concludes that regularities of connections between seismic and geological events are different in different zones which can be classified into 3 large groups:

1. The Alpine folded zone of the Southern USSR,
2. The plateaus, and
3. Those portions of the former plateaus which have been reconstructed (and continue to suffer reconstruction) as a result of manifestations of very intense tectonic movements. It is probable that the greatest earthquakes arise just in these regions. In the regions whose structure considerably

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5-5-4, '6

Some Current Problems of Seismic Geology

differs from these groups, such as the Pacific ring and modern synclinal regions, geological criteria of seismicity may be characterized by some new, still unknown properties. The author evaluates M.V. Gzovskiy's [Ref. 11, 12] highly positive, new, physico-mathematical approach about the seismo-geological phenomena. The author discusses a possible dependence between earthquakes of maximum intensity and geological factors, and comes to the following conclusion: that the maximum intensity of earthquakes occurs in the reconstructed plateaus, followed by the Alpine folded zone, and the lowest intensity has earthquakes in the recent plateaus. Here the maximum is understood on the average. The absolute maxima of earthquake intensity in the Alpine folded zone and in the reconstructed plateaus are almost equal, but their frequency in reconstructed plateaus is higher. The author cites the map of epicenters of the earthquakes in Asia compiled by Gutenberg and Richter [Ref. 50] and finds there the confirmation of his theoretical results. The author recommends the method of historico-structural analysis for investigating seismo-geological correlations which should be supplemented with seismic-statistical data.

Card 5/6

Some Current Problems of Seismic Geology

5-5-4/6

The article contains 2 maps, 2 tables and 50 references, 46 of which are Russian, and 4 in English (US)

AVAILABLE: Library of Congress

Card 6/6

PETRUSHEVSKIY B. A.

AUTHOR: Petrushevskiy, B.A.

TITLE: Conference on Dividing Central Asia Into Tectonic Districts Held in Tashkent (Sveshchvaniye po tektonicheskomu rayonu vaniyu Sredney Azii v Tashkente)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1987, # 1, pp 107-109 (USSR)

ABSTRACT: A conference held in Tashkent from 14 May to 19 May 1987 dealt with the task of dividing Central Asia into tectonic districts. The chief task of the conference was to compare the available opinions on this question with the ultimate aim of preparing a scheme which could be used as a reliable basis for the preparation of metallogenetic and prognostic maps. The conference was attended by numerous geologic organizations of the following Central Asian republics: Academies of Sciences of Uzbekistan, **Tadzhikistan**, Kirgizia, Kazakhstan, organizations "Sredazneft" and "Turkmenneft", the trusts "Sredaznefterazvedka", "Sredazneftegeofizika" and others. To coordinate the efforts of geologists of different republics was one of the principal subjects of the conference. Although the ultimate goal of the conference, the establishment of a certain scheme of dividing Central Asia

Card 1/2

Conference on Dividing Central Asia Into Tectonic Districts Held in Tashkent

into tectonic districts could not be achieved, it paved the road for such an undertaking. One of the most important lectures was held by Professor V.I. Popov, of the Uzbek Academy of Sciences. Other lectures were held by Yu.N. Gudin, coworker of the Scientific Research Institute of Applied Geology (NIIPG), B.B. Tal'-Virskiy, B.S. Vol'vovskiy, A.A. Ryzhkov of the Uzbek Academy of Sciences, Professor D.P. Rezviy, L.G. Zhukovskiy, V.G. Korolev and F.T. Kashirina of the Kirgiz Academy of Sciences, S.A. Saknarev and M.M. Kuktikov of the Tadzhik Academy of Sciences and others.

AVAILABLE: Library of Congress

Card 2/2

Author: Petrushevskiy

TITLE: On the question of overthrust foldings in the...
 Regional: Byallek...
 SUMMARY: The authors...
 Card 1/2

In the location of version 51...

It is important to note that the structure of the first page
of the paper is very simple. The pages of the document
foldings were only of the first part. The authors are
the following references: [1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
[11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42] [43] [44] [45] [46] [47] [48] [49] [50] [51] [52] [53] [54] [55] [56] [57] [58] [59] [60] [61] [62] [63] [64] [65] [66] [67] [68] [69] [70] [71] [72] [73] [74] [75] [76] [77] [78] [79] [80] [81] [82] [83] [84] [85] [86] [87] [88] [89] [90] [91] [92] [93] [94] [95] [96] [97] [98] [99] [100]

Card 2/2

AUTHOR: Petrushevskiy, B.A.,

12-90-1-15770

TITLE: To the Problem of the Transliteration of Geographical Place Names in Central Asia and Kazakhstan (K voprosu o transkriptsii mestnykh geograficheskikh nazvaniy v Sredney Azii i Kazakhstane)

PERIODICAL: Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva, 1988, Vol 90, Nr 2, pp 185 - 186 (USSR)

ABSTRACT: The author criticizes irregularities in the transliteration of Central Asiatic and Kazakhstan names in the great "World Map" published recently. He quotes various examples and suggests the eliminating of these deficiencies by the Geographical Society.

AVAILABLE: Library of Congress
Card 1/1
1. Cartography-Determination

GORYACHEV, Arkadiy Vasil'yevich; PETRUSHEVSKIY, B.A., otv.red.; MEL'NIKOVA, N.B., red.izd-va; RYLINA, Yu.V., tekhn.red.

[Mesozoic and Cenozoic structures, tectonic development, and seismicity of Lake Issyk-Kul' region] Mezozoisko-kainozoiskaya struktura, istoriya tektonicheskogo razvitiya i seismichnost' raiona ozera Issyk-Kul'. Moskva, Izd-vo Akad.nauk SSSR, 1959. (MIRA 12:11)
178 p.

(Issyk-Kul' region--Geology)

REZANOV, I.A.; ~~PETRUSHKIVSKIY, B.A.~~, otv.red.; KUN, N.R., red.izd-va;
ASTROV, A.V., red.izd-va; ~~ESTAP'YEVA, G.A.~~, tekhn.red.

[Tectonic pattern and seismicity of the Turkmen-Khorasan
Ranges] Tektonika i seismichnost' Turkmeno-Khorasanskikh gor.
Moskva, Izd-vo Akad.nauk SSSR, 1959. 245 p. (MIRA 12:12)
(Turkmen-Khorasan Ranges--Geology, Structural)
(Turkmen-Khorasan Ranges--Seismic waves)

S/519/60/000/008/002/C31
D051/D113

AUTHOR: Petrushevskiy, B.A.

TITLE: The association between earthquakes of maximum intensity and the geological environment

SOURCE: Akademiya nauk SSSR. Sovet po seysmologii. Byulleten', no. 8, Moscow, 1960. Voprosy seysmicheskogo rayonirovaniya, 28-35

TEXT: In a previous paper (Ref. 5: B.A. Petrushevskiy. O nekotorykh tekushchikh zadachakh seysmo-geologii [Some immediate tasks of seismic geology]. Byull. Mosk. ob-va isp. prir., otd. geologii, no. 5, 1957) the author outlined three groups of geological criteria of seismicity likely to help find the association between heavy earthquakes and geological conditions. Without indicating the special features of these groups, he points out that, for the Western USSR, the regularities of association between seismic and geological phenomena differ for the following three large structural areas: (1) the zone of alpine folding (Caucasus, Turkmeniya); (2) the areas of recent platforms with a paleozoic folded foundation (Urals, Kyzyl-

Card 1/3

S/519/60/000/008/002/031
D051/Dil3

The association between earthquakes...

Kumy), and (3) those sections of platforms of any age of foundation folding which are still undergoing structural changes (Tyan'-Shan'). Comparing the geological conditions of these regions and the frequency and intensity of the earthquakes occurring in them, the author concludes that the alpine folded zone can be considered as a standard of seismicity, the recent platforms being considerably below this standard, and the transformed platforms (particularly in sections of early stabilization) a little above it. Some assumptions on the geological reasons for this phenomenon are given. A map and tables are included illustrating the distribution and intensity of earthquakes in Eurasia from 1897 to 1957, most of the data being derived from American sources. For the indicated period, the most intense seismic shocks occurred in the area of transformed platforms. The author mentions M.V. Gzovskiy for his recent efforts to establish the relationship between the force of earthquakes and the geological environment and Huang Po-ch'in, A.D. Arkhangel'skiy, and V.V. Belousov in connection with the structural determination of Tibetan earthquake areas. There are 1 figure 2 tables, and 13 references: 8 Soviet-bloc and 5 non-Soviet references. The four most recent English-language references read as follows: B. Gutenberg, Great

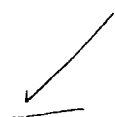
Card 2/3

S/519/60/000/008/002/031
D051/D113

The association between earthquakes...

Earthquakes 1896-1903. Transact. Amer. Geophys. Union, 37. no. 5, 1956;
Seismological notes; Bull. Seism. Soc. America, 46. no. 4, 1956; id. 47,
no. 1, 1957; id. 47. no. 4, 1957.

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



Card 3/3

REZANOV, I.A.; RASTVOROVA, V.A.; LEONOV, N.N.; Primalni uchastiye:
ANDREYEV, S.S.; GAL'PERIN, Ye.I.; DONABEDOV, A.T.; KATS, A.Z.;
KOSMINSKAYA, I.P.; LEONOV, N.N.; MASARSKIY, S.I.; MEDVEDEV,
S.V.; PETRUSHEVSKIY, B.A.; PUCHKOV, S.V.; RASTVOROVA, V.A.;
REZANOV, I.A.; SAVARENSKIY, Ye.F.; KHARIN, D.A.; Red karty:
GAMBURTSSEV, G.A.

Establishment of detailed seismic regions as exemplified by
a region of western Turkmenistan. Biul. Sov. po seism. no.8:
131-141 '60. (MIRA 13:10)

1. Institut fiziki Zemli AN SSSR.
(Turkmenistan--Seismology)

PETUSHEVSKIY, B.A.

Seismogeological characteristics of mountain structures in southern
Siberia and northern Mongolia. *Biul. Sov. po seism.* no.10:108-120 '60.
(MIRA 13:11)

1. Institut fiziki Zemli AN SSSR, Moskva.
(Siberia--Seismology) (Mongolia--Seismology)
(Geology, Structural)

PETRUSHEVSKIY, B.A.

Structural position of the Greater Balkhan. Biul. MOIP. Otd.
geol. 35 no. 3:105-128 My-Je '66. (MIRA 14:2)
(Greater Balkhan Range—Geology, Structural)

PHASE I BOOK EXPLOITATION

SOV/5127

Petrushevskiy, Boris Abramovich, Doctor of Mineral Geological Sciences

Zemletryaseniya i vozmozhnosti ikh predskazaniya (Earthquakes and the Possibility of Forecasting Them) Moscow, Izd-vo "Znaniye", 1961. 44 p. 22,500 copies printed. (Series: Vsesoyuznoye obschestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya XII, 1961. Geologiya i geografiya, no. 2)

Ed.: Z.A. Sumnik; Tech. Ed.: L.Ye. Atroshchenko.

PURPOSE: This booklet is intended for the general reader.

COVERAGE: The author discusses in simple language the various types of earthquakes and their causes, with special emphasis on tectonic earthquakes. Examples are given of the most powerful earthquakes over a period of several decades, including earthquakes causing tsunamis. The compilation of seismic regionalization maps is also discussed. There are many illustrations in the text, including a world map of seismicity. No personalities are mentioned. There are 12 references, all Soviet.

Card 1/4

GORSHKOV, Georgiy Petrovich; PETRUSHEVSKIY, B.A., doktor geol.-mineral
nauk, otv.red.; NIKOLAYEVA, L.K., red.izd-va; ROMANOV, G.N.,
tekm.red.

[Problems of seismotectonics and seismic zones of the Union of
Burma] Voprosy seismotektoniki i seismicheskoe raionirovanie
territorii Birmanskogo Soiuza. Moskva, Izd-vo Akad. nauk SSSR,
1961. 124 p. (Akademiia nauk SSSR. Sovet po seismologii. Biul-
leten', no.12). (MIRA 14:12)

(Burma--Seismology)

LEONOV, Nikolay Nikolayevich; PETHUSHEVSKIY, B.A., otv. red.; MIRAKOVA,
L.V., red. izd-va; MAKAGONOVA, I.A., tekhn. red.

[Tectonics and the seismicity of the Pamirs-Altai zone] Tektonika i
seismichnost' Pamiro-Alaiskoi zony. Moskva, Izd-vo Akad.nauk SSSR,
1961. 162 p. (MIRA 14:11)

(Pamirs--Geology, Structural) (Seismology)
(Altai Mountains--Geology, Structural)

21734

S/026/61/000/003/003/006
A166/A127

3,9300 (1019,1109)

AUTHOR: Petrushevskiy, R.A., Doctor of Geological and
Mineralogical Sciences

TITLE: Earthquakes and their Causes

PERIODICAL: Priroda, no. 3, 1961, 15-26

TEXT: The articles describes types of earthquakes, their relation to movements and faults in the earth's crust, the propagation of earth tremors, the geographical distribution of earthquakes, the phenomenon of tsunami, the power liberated by earthquakes, the damage they cause and measures of protection against them. Much research is now being devoted to predicting the place and time of possible earthquakes. Seismologists can now predict the site of an epicenter to an accuracy of $\pm 3-5$ km. Comprehensive geological and geographic studies in the seismic regions of the USSR have enabled scientists to indicate the maximum earthquake force probable for each particular zone. Each zone is assigned a

Card 1/2

Earthquakes and their Causes

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S/026/61/000/003/003/000
A160/A127

A

rating of 6, 7, 8 or 9 balls Earthquakes of a force greater than 9 balls are extremely rare in the USSR, however where an area is liable to quakes greater than 9 balls this data is indicated on seismic maps. The Institut fiziki zemli AN SSSR (Institute of Geophysics, AS USSR) is compiling a map of the seismic zones in the USSR. After government approval the map will become an obligatory document for all construction enterprises. The latter will have to conform to anti-seismic measures in reinforcing installations under construction to standards established for each of the 6-9 ball ratings listed on the map. Soviet practice in this respect is now being followed in China, Rumania and Bulgaria. Research on methods of predicting the time of an earthquake continues. There are 4 maps and 4 photos.

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidt (Institute of Geophysics im. O. Yu. Shmidt), Moscow

Card 2/2

PETRUSHEVSKIY, B.A.

Tectonic characteristics of the Pamirs. *Biul.MGU. Otd.geol.*
36 no.4:122-154, J1-Ag '61. (MIRA 14:9)
(Pamirs--Geology, Structural)

REZANOV, I.A.; ZARUDNYI, N.N.; PETRUSHEVSKIY, B.A., otv. red.;
GALUSHKO, Ya.A., red. izd-va; POLYAKOVA, T.V., tekhn. red.

[History of epirogenic movements in the northeastern part of
the U.S.S.R.] Istorii kolebatel'nykh tektonicheskikh dvizhenii
Severo-Vostoka SSSR. Moskva, Izd-vo Akad. nauk SSSR, 1962. 173 p.
(MIRA 15:6)

(Soviet Far East—~~Earth~~ movements)

GARETSKIY, R.G., otv. red.; YANSHIN, A.L. akademik, otv. red.;
BELOUSOV, V.V., red.; BELYAYEVSKIY, N.A., red.; BOGDAROV,
A.A., red.; GUBIN, I.Ye., red.; KRIPOTKIN, P.N., red.;
LEYTES, A.M., red.; MAZAROVICH, O.A., red.; MURATOV, M.V.,
red.; NIKOLAYEV, N.I., red.; PAVLOVSKIY, Ye.V., red.; PEYVE,
A.V., red.; PETRUSHEVSKIY, B. red.; PUSHCHAROVSKIY, Yu.M.,
red.; SHEINMANN, Yu.M., red.; SHTREYS, N.A., red.

[Young platforms, their tectonics, and prospects for find-
ing oil and gas; materials] Molodye platformy, ikh tektonika
i perspektivy neftegazoznoshosti; materialy. Moskva, Nauka,
1965. 223 p. (MIRA 18.2)

1. Soveshchaniye po problemam tektoniki, Moscow, 1963.

PETRUSHEVSKIY, B. A.

Principle of the succession of development, vertical movements and
the problem of large horizontal dislocations. Biol. Zhurn. Gtd. Sp. S. S. S. R.
39 no.1:3-9 Jan '64. (MIRA 19:4)

MURATOV, M.V., *otv. red.*; PUSHCHAROVSKIY, Yu.M., *red.*; KHAIN, V.Ye., *red.*; MAZAROVICH, O.A., *red.*; BELOUSOV, V.V., *red.*; BELYAYEVSKIY, N.A., *red.*; BOGDANOV, A.A., *red.*; GARETSKIY, R.G., *red.*; GUBIN, I.Ye., *red.*; KROPOTKIN, P.N., *red.*; LEYTES, A.M., *red.*; NIKOLAYEV, N.I., *red.*; PAVLOVSKIY, Ye.V., *red.*; PEYVE, A.V., *red.*; PETRUSHEVSKIY, B.A., *red.*; SHEYNMANN, Yu.M., *red.*; SHTREYS, N.A., *red.*; YANSHIN, A.L., *red.*

[Folded areas of Eurasia; materials] Skadchatye oblasti Evrazii; materialy. Moskva, Nauka: 1964. 375 p.
(MIRA 17:11)

1. Soveshchaniye po problemam tektoniki. Moscow, 1963.

BELAYEVSKIY, N.A., civ. red.; BENTLEY, A.L., civ. red.; BERNARDI,
Yu.M., civ. red.; BERNARDI, V.V., red.; BOGDANOV, A.A., red.;
DABEKIN, R.G., red.; DEIN, I.Ye., red.; DUBININ, I.I.,
red.; SMIRNOV, N.A., red.; LADAVIN, S.A., red.; LUKIN, V.S.,
red.; NIKOLAYEV, M.I., red.; LAVINSKIY, Ye.V., red.; PEYVE,
A.V., red.; PETROCLEVSKIY, S.A., red.; PULCHAROVSKIY, Yu.M.,
red.; YALSHIN, A.L., red.

[Tectonics, intense activity and distribution of the deposited
materials] Tektonika, intenzivnaya i raspredeleniye namozhnykh
materialov raznykh razmerov na erdnuyu. Moskva, Nauka, 1981.
-37 p.

1. Governmental: (in Russian) Tektonika, M. 1981, 37 p.

BELOUSOV, V.V., red.; BELYANEVSKIN, N.A., red.; BOGDANOV, A.A.,
red.; GALETSKIY, A.G., red.; GUBIN, I.Ye., red.; K
K. GPOTRIN, F.N., red.; LEITES, A.M., red.; MAZANOVICH,
G.A., red.; MURATOV, F.V., red.; NIKOLAYEV, N.I., red.;
PAVLOVSKIY, Ye.V., red.; RENVE, A.V., red.; PETRUSHEVSKIY,
B.A., red.; PUSHCHELOVSKIY, Yu.M., red.; SHEYNMANN, Yu.M.,
red.; SMILEY, N.A., red.; YANSHIN, A.L., red.

[Problems of the comparative tectonics of ancient platforms;
materials] Voprosy sravnitel'noi tektoniki drevnikh platform;
materialy. Moskva, Nauka, 1964. 152 p. (MIRA 17:8)

PETRUSHEVSKIY, B.A.

[Problems in the geological history and tectonics of Eastern Asia] Voprosy geologicheskoi istorii i tektoniki Vostochnoi Azii. Moskva, Izd-vo "Nauka," 1964. 299 p. (MIRA 17:6)

PETRUSHEVSKIY, B. A., geolog; BELOUSOV, V. V., geolog; GZOVSKIY, M. V., geolg;
GORYACHEV, A. V., geolog; KIRILLOVA, I. V., geolog; KRESTNIKOV, V. N.
geolog; RASTVOROVA, V. A., geolog; REZANOV, I. A., geolog; SORSKIY,
A. A., geolog.

Geologic principles of seismis division into districts. Studii
astron seismol 6 no.2:181-186 '61.

1. Institut fiziki Zemli AN SSSR.

VARSANOF'YEVA, V.A.; BOGDANOV, A.A.; KUZNETSOV, Ye.A.; LANGE, O.K.;
MERKLIN, R.L.; MURATOV, M.V.; PERMYAKOVA, A.I.; PETRUSHEVSKIY,
B.A.; SOKOLOV, D.S.; SHVETSOV, M.S.; YANSHIN, A.L.

Nikolai Sergeevich Shatskii. *Biul. MOIP. Otd.geol.* **36** no.4:
3-6 ~~JI-Ag~~ '61. (MIRA 14:9)
(Shatskii, Nikolai Sergeevich, 1895-1960)

RUDICH, Yevgeniy Markovich; ~~PETRUSHEVSKIY, B.A.~~, otv. red.; MIRAKOVA,
L.V., red.izd-va; POLENOVA, T.P., tekhn. red.

[Basic characteristics of the tectonic development of
Sakhalin, Japan, and the Maritime Territory as the transition
zone from the continent to the ocean]Osnovnye zakonomernosti
tektonicheskogo razvitiia Primor'ia, Sakhalina i Iaponii kak
zory perekhoda ot kontinenta k okeanu. Moskva, Izd-vo Akad.
nauk SSSR, 1962. 271 p. (MIRA 15:11)

(Soviet Far East—Geology, Structural)
(Japan—Geology, Structural)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; PETRUSHEVSKIY, G.K. [deceased]

Trematode larvae in fishes of the Soviet Union. Trudy sov. Ikht.
kom. no.9:198-205 '59. (MIRA 13:5)

1. Zoologicheskiy institut Akademii nauk SSSR i Vsesoyuznyy
nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo
khozyaystva.

(Parasites--Fishes) (Trematoda) (Larvae--Worms)

BYKHOVSKAYA-PAVLOVSKAYA, I.Ye.; PETRUSHEVSKIY, G.K.

Distribution of fluke larvae in fishes of the Soviet Union. Paraz.
sbor. 21:140-202 '63. (MIRA 17:4)

1. Zoologicheskii institut AN SSSR.

STARIKOV, G.M., dotsent, otv.red.; YUDENICH, V.A., prof., red.; OGLOBLIN, A.A., prof., zasluzhennyy deyatel' nauki, red.; PETRYAYEVA, A.T., prof., zasluzhennyy deyatel' nauki, red.; ANISIMOVA-ALEKSANDROVA, V.V., dotsent, red.; MARGOLIN, G.S., prof., red.; KARTAVENKO, A.N., prof., red.; KISELEV, M.S., tekhn.red.

[Forty years of the Smolensk State Medical Institute, 1920-1960]
40 let Smolenskomu gosudarstvennomu meditsinskomu institutu,
1920-1960 gg. Red.kollegiia: G.M.Starikov i dr. Smolensk, Izd-vo
Smolenskogo gos.med.in-ta, 1960. 189 p. (MIRA 13:7)

1. Russia (1917- R.S.F.S.R.) Ministerstvo zdravookhraneniya.
(SMOLENSK--MEDICINE--STUDY AND TEACHING)

PETUKHOR, R.M.

Economic calculations in determining size, degree of specialization and dislocation of repair plants. Izv.AN Kazakh.SSR.Ser. ekon., filos.1 prava no.2:29-41 '59. (MIRA 13:4)
(Kazakhstan--Machinery--Maintenance and repair)

PETUKHOV, B.S., doktor tekhn. nauk

Contemporary state and perspectives of the development of heat
exchange research. Teploenergetika 6 no.12:3-13 D '59.
(MIRA 13:3)

1. Moskovskiy energeticheskiy institut.
(Heat engineering)

001/001/000/12/001/001
1959

AUTHOR: Petrushavskiy, B. A.

TITLE: Investigation of the Seismicity in China

PERIODICAL: Izvestiya Akademii nauk SSSR Seriya geofizicheskaya
1959, Nr 12, pp 1729-1738 (USSR)

ABSTRACT: A short description of the seismo-geological conditions in North-West China (Gansu Corridor) is given by the author who, together with D. A. Kharin and N. V. Shebalin of the Institute of Physics of the Earth, Ac.Sc., USSR, went to China as Soviet representatives on seismic research. The general character of the territories described can be seen in the chart (Fig 1), which gives the following data

- 1 - zone of the Epi-proterozoic Platform
- 2 - Epi-hercynian Platform
- 3 - zone of the Epi-hercynian Platform changed into a high mountain construction during the Neogene-Quaternary Period,
- 4 - transitional region between the Epi-proterozoic Platform and the high mountain construction produced on the Epi-hercynian Platform
- 5 - zone of the Upper Mesozoic folds within the

Card 1/2

S/049/59/000/11200 70
E131/E591

Investigation of the Seismicity in China

Epi-proterozoic Platform which underwent extensive motions in the Tertiary Period

6 - epicentres of the magnitude $M > 7\frac{3}{4}$

7 - $M = 7$ to $7\frac{3}{4}$,

8 - $M = 6$ to $6\frac{3}{4}$

9 - $M = 5$ to $5\frac{3}{4}$.

10 - $M < 5$,

11 - approximate zone of the earthquake in 1954 with $M \approx 8$,

12 - earthquake in 1954 with $M \approx 8-9$

Investigations of this region have been started in 1954 in collaboration with Soviet seismologists and it is hoped that their methods of research will become a model for seismic work in the rest of China. Thanks are expressed to the Deputy Director of the Institute of Geophysics and Meteorology, Ac. Sc., China, Chen I to Professors Li Shan-Pan, Fu Chen and Se Yuy-mo and to Professor of the Geological Institute Syey Yuy for organizing the work.

Card2/2

There are 1 figure and 5 references, 2 of which are Soviet and 3 English

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Ac. Sc., USSR, Institute of Physics of the Earth)

SUBMITTED: May 14, 1959

GABA, Ye.S., inzh.; PETRUSHEVSKIY, I.N., inzh.

Testing of TV2-100-2 turbogenerators which use AGP-1
automatic field quenching apparatus. *Klek.sta.* 31
no.4:87-89 Ap '60. (MIRA 13:7)
(Turbogenerators)

GABA, Ye.S., inzh.: KRASNOYARSKIY, Ye. A., inzh.: PETROUSHEVICH, I.N., inzh.

Some special features: 1. the use of Krasnoyarskiy automatic excitation
controllers in synchronous compensators. 2. elektr. tekhn. i inzh.
no. 1153-55. 3A-Mr. 1955. (MIRA 18:5)

MALAKO... ..

Translating... ..
elements in para... ..
of S. no. 113-1... ..

GABA, Ye.S., inzh.; PETRUSHEVSKIY, I.N.

Possibility of wrong operation of directional overload protection.
Elek.sta. 29 no.8:88-90 Ag '58. (MIRA 11:11)
(Electric networks) (Electric circuit breakers)

ACC NR: AP7000319 (A) SOURCE CODE: UR/0413/66/000/022/0058/0058

INVENTOR: Petrushevskiy, I. N.; Malakhovskiy, Ye. I.; Gayevenko, Yu. A.

ORG: none

TITLE: A protection relay based on semiconductor devices. Class 21, No. 188560.

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 58

TOPIC TAGS: electronic relay, electronic circuit, transistorized circuit, *transistor,*
semiconductor rectifier

ABSTRACT: An Author Certificate has been issued for a protection relay based on semiconductor devices. The relay (see Fig. 1) consists of semiconductor rectifiers, a

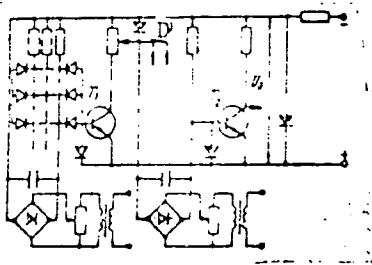


Fig. 1. A protection relay

T₁, T₂ - Transistors, E - standard voltage;
D - shunting diode.

Card 1/2

UDC: 621.316.925.2:621.382.2/3

ACC NR: AP7000319

voltage divider, and transistors. Rectified voltage in one of the above circuits is compared with the voltage across a precision resistor. One of the transistors is controlled by the voltage circuit. To obtain a stepwise dependence of the operation current on the voltage across the protected circuit by using a standard voltage, a rectifier in the current circuit is connected to the voltage divider. The voltage is in the collector circuit of the transistor that is controlled by the voltage circuit. One of the voltage divider arms is shunted with a diode. Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 17Feb64/

Card 2/2

NOVICHEV, Aron Davydovich; PETRUSHEVSKIY, I.P., otv.red.; DIZHUR, I.M.,
red.izd-va; TSIGEL'NIK, L.S., otv.red.

[Peasantry of Turkey in the recent period] Krest'ianstvo Turtsii
v noveishee vremia. Moskva, Izd-vo vostochnoi lit-ry, 1959.
288 p. (MIRA 12:12)

(Turkey--Peasantry)

PETRUSHEVSKIY, I.P.

GASANOV, I.M.; PETRUSHEVSKIY, I.P., redaktor; AGAYEVA, Sh., tekhnicheskiy redaktor

[Peasant landowners in Azerbaijan during the first half of the 19th century] Chastnovladel'cheskie krest'iane v Azerbaidzhane v pervoi polovine XIX veka. Baku, Izd-vo Akad.nauk Azerbaidzhanskoi SSR, 1957. 233 p. (MLRA 10:9)

(Azerbaijan--Land tenure--History)

(Azerbaijan--Peasantry)

PETRUSHEVSKIY, I. P., PROF

84 1/978

USSR/Academy of Sciences

Jan 48

"Eastern Scientific Research Institute of Leningrad University," Prof I. P. Petrushevskiy, 2 pp

"Vest Leningrad U" No 1

Institute was founded in 1947 for study of philology, history, and economics of Soviet Russia and the Near and Far East. Special attention is being paid to present-day developments. Reviews work to date and outlines plans for the future.

FIB

4/4978

~~LOPATO~~, Yuriy Semenovich, kand. khim. nauk; PETRYANOV, I.V., red.;
SHUSTOVA, I.B., red.; RAKITIN, I.T., tekhr. red.

[The periodic law in the light of recent discoveries] Periodicheskiy zakon v svete noveishikh otkrytii. Moskva, Izd-vo "Znanie," 1963. 46 p. (Narodnyi universitet kul'tury: Estestvennonauchnyi fakul'tet no.12) (MIRA 17:2)

1. Chlen-korrespondent AN SSSR (for Petryanov).

APRESOV, K.A.; PETRUSHEVSKIY, I.Ye.

Technical methods for studying Karadag wells. Trudy Azerb. ind.
inst. no.19:110-134 '57. (MIRA 11:9)
(Apshehon Peninsula--Condensate oil wells)

PETRUSHEVSKIY, M.G. (Leningrad)

"Comparison of the Groups of Genus Azygia (Digenetic Trematoda)"

Report presented at the 3rd Conference on the use of Mathematics in Biology,
Leningrad University, 23-28 Jan. 1961.

(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963 pp 5-11)

GEL'D, P.V., prof., doktor tekhn. nauk; KORSHUNOV, V.A., assistant;
GERTMAN, Yu.M., inzhener-issledovatel'; PETRUSHEVSKIY, M.S.,
assistant

Structure of iron and manganese silicide melts. Sbor. nauch.
trud. Ural. politekh. inst. no.122:40-48 '61.

(MIRA 17:12)

PETRUSHEVSKIY, M.S.

Phase constitution of iron-silicon-chromium alloys. Trudy Ural.
politekh.inst. no.14:144-148 '61. (MIRA 16:6)
(Iron-silicon-chromium alloys--Metallography)
(Phase rule and equilibrium)

PETRUSHINSKIY, M.I.

Clinical data on the role of the duodenum in the digestive process after total gastrectomy and high resection of the stomach. Sov.med. 23 no.6:63-67 Je '59. (MIRA 12:9)

1. Iz 3-y kafedry khirurgii (zav. - zaslužhennyy deyatel' nauki prof.B.S.Rozanov) Tsentral'nogo instituta usovershenstvovaniya vrachey na baze Moskovskoy gorodskoy klinicheskoy ordena Lenina bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof.A.N. Shabanov).

(GASTRECTOMY)

(DUODENUM physiol.)

PETRUSHINSKIY, N.I. (Moskva)

Closure of the esophago-intestinal anastomosis with preservation
of the duodenal reflex in total gastrectomy. Eksper.khir. 4
no.4:43 J1-ag '59. (MIRA 12:11)
(GASTRECTOMY)

PETRUSHINSKIY, M.I., doktorant (Moskva, D-284, 2-y begovoy proyezd, d.10/13,
kv.6)

Restoration of permeability through the duodenum affected with
ulcer following high resection of the stomach. Nov.khir.arkh.
no.4:74-77 J1-Ag '59. (MIRA 12:11)

1. Kafedra khirurgii III (zav. - prof.B.S.Rozanov) Tsentral'-
nogo instituta usovershenstvovaniya vrachey, kafedra operativnoy
khirurgii i klinicheskoy anatomii (zav. - chlen-korrespondent
AMN SSSR prof.B.V.Ognev) i laboratoriya fiziologii i patofiziologii
pishchevareniya otдела pitaniya Instituta pitaniya AMN SSSR (zav. -
doktor med.nauk V.L.Gubar').

(ALIMENTARY CANAL--SURGERY)

PETRUSHINSKIY, M. I., Candidate Med Sci (diss) -- "Perfection of the operation of inclusion of the duodenum after high resection of the stomach and total gastrectomy". Moscow, 1959. 14 pp (Min Health USSR, Central Inst for the Advanced Training of Physicians), 200 copies (KL, No 25, 1959, 141)

AUTHORS: Petrushevskiy, M.S. and Gel'd, P.V. SOV/80-59-1-11 14

TITLE: Equilibrium of Carbon With Liquid Alloys of Fe, Mn, Si, C
(Ravnovesiye ugl'eroda s zhidkimi splavami Fe, Mn, Si,

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 86-95 (USSR)

ABSTRACT: The purpose of the present investigation was to determine the solubility of carbon in manganese and its alloys with iron and silicon at a temperature of 1,460°C. As materials for experimenting were used armco-iron, electrolytic manganese and commercial silicon (~98.5% Si). The following systems were investigated: Fe - Si - C; Mn - Si - C; Fe - Mn - Si, and Fe - Mn - Si - C. The results obtained led to the conclusions: 1. It was established for the binary alloys Fe, Si and Mn, Si that at 1,460°C the coefficient of carbon activity increases with the rise of silicon concentration, and the rate of increase is higher in the former system. In the alloys of Mn, Fe an increase in manganese concentration leads to an insignificant lowering of this coefficient, γ_C . 2. The study of carbon solubility in alloys Fe, Mn, Si has shown that also in this case the carbon activity coefficient rises with the increase in silicon concentration. The substitution of Fe with Mn leads practically to the linear decrease of this coefficient. 3. These relationships are explained by that the binding energy of silicon with iron is higher than that

Card 1/2

with the following information:

1. On 11/11/55, the following information was received from the source, who is a high level official in the Japanese government, regarding the activities of the Japanese Communist Party (JCP) in the United States. The source stated that the JCP is active in the United States and is engaged in a variety of activities, including the recruitment of new members and the maintenance of existing members. The source also stated that the JCP is active in the field of labor relations and is engaged in a variety of activities, including the recruitment of new members and the maintenance of existing members. The source also stated that the JCP is active in the field of labor relations and is engaged in a variety of activities, including the recruitment of new members and the maintenance of existing members.

REF ID: A66111

Page 1/2

PETRUSHEVSKIY, M.S.; GEL'D, P.V.

Solubility of carbon in liquid ferrosilicocromium. *Zhur.prikl.-*
khim. 35 no.6:1227-1236 Je '62. (MIRA 15:7)
(Iron-silicon-chromium alloys) (Carbon)

GEL'D, P.V.; PETRUSHEVSKIY, M.S.; KORSHUNOV, V.A.; GERTMAN, Yu.M.

Properties of liquid manganese-silicon alloys. Izv. vys. uchet.
zav.; Chern. met. 6 no.7:160-161 '63. (MIRA 16:9)

1. Ural'skiy politekhnicheskiy institut.
(Manganese-silicon alloys)

Растворимость углерода

ОБЩЕД., П.В.; ПЕТРУШЕВСКИЙ, М.С.

Solubility of carbon in iron - silicon - manganese alloys. Trudy
Ural. politekh. inst. no.72:255-258 '57. (MIRA 11:4)
(Iron-silicon-manganese alloys) (Carbon) (Solution, Solid)

GEL'D, P.V. (Sverdlovsk); PETRUSHEVSKIY, M.S. (Sverdlovsk)

Isotherm of the surface energy of liquid silicon-iron alloys.

Izv. AN. SSSR. Otd. tekhn. nauk. Met. i topl. no.3:160-162

My-Je '61.

(MIRA 14:7)

(Surface energy) (Liquid metals)

33796

S/137/62/000/001/011/237
A060/A101

18 1151

AUTHOR: Petrushevskiy, M. S.

TITLE: Phase composition of ferrosilicochrome

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 30-31, abstract
1V221 ("Tr. Ural'skogo politekhn. in-ta", 1961, ooll. 114, 144-148)

TEXT: Microstructure studies were carried out on Fe-Si-Cr specimens obtained by smelting armco-Fe, metallic Cr, and crystalline Si mark kp-0 (kr-0). The ratio Fe:Cr \leq 1. The Si concentration varied between the limits 0 - 35%. The investigations showed that the phase composition varies with the content of Si and C and after annealing does not vary as compared with the composition of cast specimens. Two components are observed. Bright steel in the form of needles decreases as the Si content increases and as the C content decreases. The needles become thinner. At 15% Si the bright component acquires the form of large crystals. This component represents complex carbides of Fe and Cr. At Si content $>$ 19% the needle-like segregates become silicides of Fe and Cr, and the dark component is transformed into carbides which apparently are pickled

Card 1/2

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18.1200

1454,1449

S/180/60/000/006/024/030
E111/E335

AUTHORS: Gel'd, P.V., Korshunov, V.A. and Petrushevskiy, M.S.
(Sverdlovsk)

TITLE: Some Peculiarities of Liquid Alloys of Silicon With
Iron, Manganese and Chromium

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye
tekhnicheskikh nauk, Metallurgiya i toplivo,
1960, No. 6, pp. 129 - 134

TEXT: The authors point out that the thermodynamic properties of liquid alloys of silicon with transition elements of the fourth period deviate substantially from the laws of both ideal and regular solutions (Refs. 1, 2). They class such silicide solutions as solutions with strongly interacting particles, whose theory has not yet been fully developed. Of the various models proposed to represent the structural characteristics corresponding to these features, the authors favour those envisaging a micro-heterogeneous structure with closest order. They cite evidence against the alternative model with uniform (statistical) particle distribution and survey critically
Card 1/3

86704

S/180/60/000/006/024/030
E111/E335

Some Peculiarities of Liquid Alloys of Silicon With Iron,
Manganese and Chromium

published results (Refs. 2-14). Going on to discuss the micro-
structural peculiarities of liquid silicides, particularly the
existence of closest order in them, the authors consider heats
of formation. This has been studied by Gel'd et al (Ref. 15)
in a high-temperature adiabatic calorimeter (Fig. 1). These
results and similar measurements on manganese silicide indicate
that near the fusion point elements of ordering, similar in
nature to those in the solids, exist. Determinations of heats
of mixing of liquid silicon and manganese by Gertman and
Gel'd (Ref. 16) give values similar to those for iron silicide;
but in combination with the different heats of fusion of iron-
and manganese-silicides the reason for the different disorder
in these systems is clear. Electrical conductivity measurements
(Refs. 15, 17) (Fig. 2) at various temperatures confirm the
micro-heterogeneous nature of these melts and the existence of
closest order of components. On these views the slower
increase with increasing silicon content of the carbon activity

Card 2/3

86704

S/180/60/000/006/024/030

E111/E335

Some Peculiarities of Liquid Alloys of Silicon With Iron,
Manganese and Chromium

coefficient in Fe-Si-C than in Mn-Si-C (Ref. 18) (Fig. 3) is understandable in that iron atoms are more weakly combined with carbon particles (and more strongly with silicon) than manganese atoms. Because of the lower bonding energy of chromium with silicon and higher with carbon, the solubility of carbon in Fe-Cr-Si-C is higher (Fig. 4) than in the other systems considered; the influence of iron on chromium is also more pronounced. The differences in separation of carborundum crystals from the different melts is due to such effects. Of the authors, Gel'd has made many contributions in this field. There are 4 figures and 18 references: 15 Soviet and 3 non-Soviet.

SUBMITTED: August 26, 1960

Card 3/3

GEL'D. P.V.; ~~PET~~TRUSHEVSKIY, M.S.

Solubility of carbon in iron- silicon-~~manganese~~ alloys. Dokl.
AN SSSR 120 no. 1:144-147 My-Je '58. (MIRA 11:7)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova. Predstavleno
akademikom S.I.Vol'fkovichem.
(Iron-silicon-~~manganese~~ alloys)
(Solubility)
(Carbon)

AUTHORS: Gel'd, P. V., Petrushevskiy, M. S. *SOV. 26-123-1-39, 73*

TITLE: The Solubility of Carbon in Ferrosilicomanganese (Rastvorimost' ugleroda v ferrosilikomangantse)

PERIODICAL: Doklady Akademii Nauk SSSR, 1956, Vol. 126, Nr 1, pp. 144 - 147 (USSR)

ABSTRACT: Systematic details on the solubility of C in alloys Mn-Si-C and Mn-Si-Fe-C (References 1-3) are not available in technical publications. The authors therefore investigated the solubility of C in synthetic alloys Fe-Mn-Si at 1400°. As seen from the graphs (Figures 1-4) the replacement of iron by manganese (similar to the system Mn-Fe-C) leads to a linear increase of carbon solubility. Determination of the carbon content in saturated 4-component melting can be carried out according to the rule of mixtures:

$$[C]_{\text{Mn, Fe, Si}} = \frac{[Fe] [C]_{\text{Fe, Si}}}{[Fe] + [Mn]} + \frac{[Mn] [C]_{\text{Mn, Si}}}{[Fe] + [Mn]}$$

where $[C]_{\text{Mn, Fe, Si}}$, $[C]_{\text{Fe, Si}}$, $[C]_{\text{Mn, Si}}$ are the solubility figures of carbon in the alloys concerned, which are distinguished by

Card 1/2

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the silicon concentration prescribed. The results of the examination of the 4-fold alloys are described in figure 4. The graph was constructed on the assumption that $[Fe] + [Mn] + [Si] = 100\%$. From this as well as from figure 2 it may be seen that carbon solubility decreases rapidly when the silicon content is increased. Apparently the concentration rise of manganese causes under the existing conditions a tighter linkage of the carbon atoms with the metal which means that the activity coefficient is reduced the more the manganese content in the alloy increases. There are 4 figures and 4 references, 2 of which are Soviet.

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

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Card 2/2 1. Carbon--Solubility 2. Iron-manganese-silicon alloys--Solvent action

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Zhur.prikl.khim. 35 no.2:233-242 F :62. (MIRA 15 20
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SOV 137-58-7-14207

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AUTHORS: Gel'd, P.V., Petrushevskiy, M.S.

TITLE Solubility of Carbon in Ferro-silico-manganese (Rastvorimost ugleroda v ferrosilikomargantse)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 72, pp 255-258

ABSTRACT: The solubility of C at 1460°C in synthetic alloys of the types Fe-Si with up to 40% [Si] and Mn-Si and Fe-Mn-Si with up to 50% [Si]. According to the data, the solubility of C in Fe-Mn alloys increases linearly with the increase in their Mn content. The empirical equations for the calculation of the coefficients of C activity obtained on the basis of data for Fe-Mn-C, Fe-Si-C, and Mn-Si-C alloys, namely,

$$\log_{10} \gamma_C^{\text{Fe, Si}} = 0.214N_{\text{Mn}}, \quad \log_{10} \gamma_C^{\text{Fe, Si}} = 2.15N_{\text{Si}} +$$

$$+ 2.25N_{\text{Si}}^2 \quad \text{and} \quad \log_{10} \gamma_C^{\text{Mn, Si}} = 0.8N_{\text{Si}} + 4.5N_{\text{Si}}^2$$

Card 1/2 demonstrates that γ_C is decreased fairly slightly by Mn and increased sharply by Si and that $\gamma_C^{\text{Mn, Si}} < \gamma_C^{\text{Fe, Si}}$. This

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is explained by the fact that Mn strengthens the C bonds considerably since $\epsilon_{Mn, C} > \epsilon_{Fe, C}$, and that Si forms durable groupings with atoms of Fe and Mn. In quaternary alloys Fe-Mn-Si-C, owing to the same cause, the solubility of C decreases rapidly. The solubility of C in these alloys increases practically linearly with an increase in Mn content. Therefore, it is recommended that the C content in saturated four-component alloys be determined according to the law governing mixing.

V.M.

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