

A Xenolite of the Eclogite with Diamonds

SOV/20-126-3-50/69

great depths - though from smaller depths than the garnet peridotites. The taking hold of xenolites of diamond-containing eclogites does by no means justify the assertion that all diamonds in kimberlites are xenogenous. The diamond crystallization in the kimberlite magma, or in any case the genetic relation to this magma, are now established (Ref 1). There are 3 figures, 2 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Amakinskaya ekspeditsiya Ministerstva geologii i okhrany nedr SSSR (Amakinskaya Expedition of the Ministry of Geology and for the Protection of Mineral Resources USSR)

SUBMITTED: March 26, 1959

Card 3/3

KALYUZHNYI, Vladimir Antonovich; SOBOLEV, V.S., akademik, otv.red.;
CHEKHOVICH, N.Ya., red.izd-va; LISOVETS, O.M. [Lysovets', O.M.],
tekhn.red.

[Methods for studying multiple inclusions in minerals] Metody
vychennia bahstofazovykh vkluchchen' u mineralakh. Kyiv, Vyd-vo
Akad.nauk URSS, 1960. 167 p. (MIRA 13:8)
(Minerals)

PHASE I BOOK EXPLOITATION SOV/5325

International Geological Congress. 21st, Copenhagen, 1960.

Granito-gneysy (Gneissose Granites) Kiyev, Izd-vo AN UkrSSR, 1960. 174 p. 1,000 copies printed. (Series: Doklady sovetskikh geologov, problema 14) Added t. p. in English.

Sponsoring Agency: Akademiya nauk Soyuzo SSR. Akademiya nauk Ukrainskoy SSR. Ministerstvo geologii i okhrany nedr SSSR. Natsional'nyy komitet geologov Sovetskogo Soyuzo.

Editorial Board: Resp. Eds.: N.P. Semenenko, D.S. Korzhinskiy, and G.D. Afanas'yev; Ed. of Publishing House: V.N. Zaviryukhina; Tech. Ed.: A.A. Matveychuk.

PURPOSE: This book is intended for geologists and petrographers, as well as students of geology at schools of higher education.

COVERAGE: The book contains 13 articles representing the reports given by Soviet scientists at the 21st Session of the International Geological Congress. The individual reports deal with theoretical problems of metamorphism and interaction of magmatic masses, formation of granites, magmatic replacement in sub-effusive facies, formation of scarns, and paragenetic analysis. Representatives
Card 1/5

Gneissose Granites

SOV /

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ZOLOTUKHIN, Valeriy Vasil'yevich; SOBOLEV, V.S. [Soboliev, V.S.], akademik,
otv.red.; CHEKHOVICH, N.Ya. [Chekhovych, N.IA.], red.izd-va;
YEFIMOVA, M.I. [IEfimova, M.I.], tekhn.red.

[Geological and petrographic studies of Chernaya Gora and adjacent
regions in Transcarpathia] Geologo-petrografichni doslidzhennia
chornoj gory ta pryleglykh raioniv Zakarpattia. Kyiv, Vyd-vo Akad.
nauk URSR, 1960. 175 p. (MIRA 13:5)
(Transcarpathia--Petrology)

USENKO, Ivan Stepanovich; SOBOLEV, V.S., akademik, otv.red.; OVCHAROVA,
Z.G., red.izd-va; KADASHEVICH, O.A., tekhn.red.

[Basic and ultrabasic rocks of the western Azov Sea region]
Osnovnye i ul'traosnovnye porody Zapadnogo Priazov'ia. Kiev,
Izd-vo Akad.nauk USSR, 1960. 177 p.

(MIRA 14:3)

(Azov Sea region--Rocks, Igneous)

SOBOLEV, V.S.

Conditions governing the formation of diamond deposits. Geol. i
geofiz. no.1:7-22 '60. (MIRA 13:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN
SSSR.

(Diamonds)

BOBRIYEVICH, A.P.; SMIRNOV, G.I.; SOBOLEV, V.S.

Mineralogy of xenoliths of grossularite-pyroxene-diathene rocks in
kimberlites of Yakutia. Geol. i geofiz. no.3:18-24 '60.
(MIRA 13:9)

1. Amakinskaya ekspeditsiya Yakutskogo geologicheskogo upravleniya
i Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
(Yakutia--Xenoliths) (Yakutia--Kimberlite)

SOBOLEV, V.S.

"Physicochemical principles for the analysis of parageneses of minerals"
by D.S.Korzhinskii. Reviewed by V.S.Sobolev. Geol. i geofiz. no.7:
133-136 '60. (MIRA 13:9)
(Mineralogy) (Korzhinskii, D.S.)

SOBOLEV, V.S.

Formation of anthophyllite. Min.sbor. no.14:80-85 :60.
(MIRA 15:2)

1. Gosudarstvennyy universitet imeni Ivana Franko, L'vov.
(Anthophyllite)

SOBOLEV, V.S.

Petroleum occurrences in the salts of the Chelkar dome in the
northern part of the Caspian Lowland. Trudy VNIIGPI no.163:256-
269 '60. (MIRA 14:6)

(Caspian Lowland---Petroleum geology)

SOBOLEV, V. S.

MINERALOGICAL ASSOCIATION, 1950-1951
NATIONAL - Third General Meeting -
Moscow, U. S. S. R. 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

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SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

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SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

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SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V. S. "Mineralogy of the USSR and their classification" Moscow - Mineralogical Association, 1950-1951

SOBOLEV, V.S.

Relationship between oil potentials of sediments overlying salt
domes and faults in the Emba region. Trudy VNIGRI no.186:241-
252 '61. (MIRA 15:3)

(Emba region--Petroleum geology)
(Emba region--Faults (Geology))

BERNADSKAYA, Lyudmila Genrikhovna; SOBOLEV, V.S., akademik, otv.red.;
CHEKHOVICH, N.Ya., red.izd-va; RAKHLINA, N.P., tekhn.red.

[Volcanic rocks in the Dnieper-Donets Lowland] Vulkanicheskie
porody Dneprovsko-Donetskoi vpadiny. Kiev, Izd-vo Akad.nauk
Ukrainskoi SSR, 1961. 189 p. (Akademiia nauk URSR, Kiev, Institut
geologichnykh nauk. Trudy no.12). (MIRA 14:12)
(Dnieper-Donets Lowland--Rocks, Igneous)

ZAVARITSKIY, Aleksandr Nikolayevich; SOBOLEV, Vladimir Stepanovich; SMIRNOVA, Z.A., red. izd-va; GUROVA, O.A., tekhn. red.

[Physicochemical fundamentals of the petrography of igneous rocks]
Fiziko-khimicheskie osnovy petrografii izverzhennykh gornyykh porod.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр, 1961. 382 p. (MIRA 14:11)

(Rocks, Igneous)

GODOVIKOV, A.A.; DISTANOV, E.G.; KCSYGIN, Yu.A.; KUZNETSOV, V.A.; SAKS, V.N.;
SOBOLEV, V.S.; SOKOLOV, B.S.; TROFIMUK, A.A.; SHAKHOV, F.N.

In memory of Oleg Dmitrievich Levitskii. Geol. i geofiz. no.3:116-
117 '61. (MIRA 14:5)

(Levitskii, Oleg Dmitrievich, 1909-1961)

BETEKHTIN, A.G.; GORSKIY, I.I.; KARPOVA, Ye.D.; KREYTER, V.M.; SOBOLEV, V.S.

In memory of V.A.Nikolaev. Geol.rud.mestorozh. no.4:107-109
Л-Аг '61. (MIRA 14:10)
(Nikolaev, Viktor Arsen'evich, 1893-1960)

KAZARINOV, V.P.; KAS'YANOV, M.V.; KOSYGIN, Yu.A.; POSPELOV, G.L.; SAKS, V.N.;
SOBOLEV, V.S.; SOKOLOV, B.S.; FOTIADI, E.E.; YANSHIN, A.L.

Academician Andrei Alekseevich Trofimuk; on his 50th birthday.
Geol. i geofiz. no.9:124-126 '61. (MIRA 14:11)
(Trofimuk, Andrei Alekseevich, 1911-)

ABDULLAYEV, Kh.M.; ALYAVDIN, V.F.; AMIRASLANOV, A.A.; ANIKEYEV, N.P.;
ARAPOV, Yu.A.; BARSANOV, G.P.; BELYAYEVSKIY, N.A.; BOKIY, G.P.;
BORODAYEVSKAYA, M.B.; GOVOROV, I.N.; GODLEVSKIY, M.N.; SHCHEGLOV, A.D.;
SHAKHOV, F.N.; SHILO, N.A.; YARMOLYUK, V.A.; DRABKIN, I.Ye.;
YEROFEYEV, B.N.; YERSHOV, A.D.; IVANKIN, P.F.; ITSIKSON, M.I.;
KARPOVA, Ye.D.; KASHIN, S.A.; KASHKAY, M.A.; KORZHINSKIY, D.S.;
KOSOV, B.M.; KOPLYAR, V.N.; KREYTER, V.M.; KUZNETSOV, V.A.; LJGOV,
S.F.; MAGAK'YAN, I.G.; MATERIKOV, M.P.; ODI NTSOV, M.M.; PAVLOV, Ye.S.;
SATPAYEV, K.I.; SMIRNOV, V.I.; SOBOLEV, V.S.; SOKOLOV, G.A.; STRAKHOV,
N.M.; TATARINOV, I.M.; KHRUSHCHOV, N.A.; TSAREGRADSKIY, V.A.;
CHUKHROV, F.V.

In memory of Oleg Dmitrievich Levitskii; obituary. Sov.geol. 4
no.5:156-158 My '61. (MIRA 14:6)
(Levitskii, Oleg Dmitrievich, 1909-1961)

SOBOLEV, V.S.

Volcanism of the Siberian Platform and some general geological problems. Geol. i geofiz. no.7:8-15 '62. (MIRA 16:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(Siberian Platform--Geology)

SOBOLEV, V.S.; REVERDATTO, V.V.

High-temperature mineral association at contacts of a differentiated trap intrusion on the Lower Tunguska River. Geol.i geofiz. no.5:137-138 '62. (MIRA 15:8)
(Lower Tunguska Valley--Minerals)

SOBOLEV, V.S.; ZOLOTUKHIN, V.V.; DOBRETSOV, N.L.

V.N.Lodochnikov's works on Siberian petrography; on the 75th anniversary of his birth. Geol.i geofiz. no.5:138-139 '62. (MIRA 15:8)

(Lodochnikov, Vladimir Nikitich, 1887-1943)
(Siberia--Petrology)

SOBOLEV, V.S.; GODOVIKOV, A.A.

Present-day problems of experimental mineralogy and petrography.
Geol. i geofiz. no.10:93-103 '62. (MIRA 15:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

(Petrology)

SOBOLEV, V.S......

Physicochemical studies of magma and processes associated with it
carried out in the U.S.S.R. during 1957-1959. Trudy Lab.vulk.
no.21:83-99 '62. (MIRA 15:4)

(Magma)

SOBOLEV, V.S.

Role of faults in the formation of oil pools in the Emba region.
Trudy VNIGRI no.190:72-84 '62. (MIRA 16:1)
(Emba region--Petroleum geology)
(Emba region--Faults (Geology))

SOBOLEV, V.S.

Field method of studying flysh formations. Trudy VNIGRI
no.190:252-258 '62. (MIRA 16:1)
(Balkan Peninsula--Flysh)

BELOV, Ivan Vasil'yevich; SOBOLEV, V.S., akademik, otv. red.;
SHLEPOV, V.K., red. Izd-va; GUS'KOVA, O.M., tekhn. red.;
MAKAGONOVA, I.A., tekhn. red.

[Trachybasalt formation in the Lake Baikal region] Trakhi-
bazal'tovaia formatsiia Pribaikal'ia. Moskva, Izd-vo Akad.
nauk SSSR, 1963. 371 p. (MIRA 16:7)
(Baikal Lake region--Trachybasalt)

SOBOLEV, V.S., akademik, red.; SHATALOV, G.Y.[translator];
STARIKOVA, L.M., red.; GRIBOVA, M.P., tekhn.red.

[Problems of theoretical and experimental petrology] Voprosy teoreticheskoi i eksperimental'noi petrologii; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1963. 530 p.
Translated from the English. (MIRA 16:12)
(Petrology)

VOLOKHOV, I.M.; DOVGAL', V.N.; KOSYGIN, Yu.A.; KUZNETSOV, V.A.;
LUCHITSKIY, I.V.; POSPELOV, G.L.; POLYAKOV, G.V.; PINUS, G.V.;
SOBOLEV, V.S.; TROFIMUK, A.A.; SHAKHOV, F.N.

Professor IUrii Alekseevich Kuznetsov, Corresponding Member of the
Academy of Sciences of the U.S.S.R.; on his 60th birthday. Geol.
i geofiz. no.4:135-140 '63. (MIRA 16:10)

SOBOLEV, V.S.

Forthcoming Third All-Union Conference on Petrography. Izv. AN
SSSR. Ser.geol. 28 no.4:3-7 Ap '63. (MIRA 16:6)
(Petrology--Congresses)

SOBOLEV, V.S., akademik; BAZAROVA, T.Yu.

Crystallization temperature of disthene in pegmatites.
Dokl. AN SSSR 153 no.4:920-922 D '63. (MIRA 17:1)

1. Institut geologii i geofiziki Sibirskogo otdeleniya
AN SSSR.

BOBILYEVICH, A.I.; BOBILYEV, I.I.; SPENCER, D.F.;
LACH, F.V., A.A.; LACH, F.I.; HEDRA, V. A.D.;
SOBOLYEV, V.N., and MISHKINA, L.I., ved. red.

[Petrography and mineralogy of kimberlite rocks in
Yakutia] Petrografiya i mineralogiya kimberlitovykh po-
rod Yakutii. [by] A.I. Bobilyevich i dr. Moskva, Nedra,
1964. 189 p. (NIRA 18:1)

ZOLOTOUKHIN, Valeriy Vasil'yevich, SOBOLEV, V.S., *akademik, rev.*
red.

[Basic characteristics of tectonics and the problems
of ore-bearing trap intrusions as revealed by a study of
the Noril'sk deposit] Osnovnye zakonomernosti protetek-
toniki i voprosy formirovaniia rudonosnykh trappovykh in-
truzii (na primere Noril'skoi). Moskva, Nauka, 1964.
175 p. (MIRA 17:12)

ACCESSION NR: AP4040013

S/0288/64/000/001/0034/0042

AUTHOR: Sobolev, V. S.

TITLE: Contactless measurement of the resistivity of semiconductor materials by an eddy-current method

SOURCE: AN SSSR. Sib. otd. Izv. Seriya tekhnicheskikh nauk, no. 1, 1964, 34-42

TOPIC TAGS: semiconductor, semiconductor resistivity, semiconductor resistivity measurement

ABSTRACT: Theoretical principles and the practice of measuring low-resistivity (under 50 ohm-cm) semiconductor materials by an eddy-current method are considered. Formulas describing the insertion impedance of a lay-on coil (sensor) with a semiconductor material introduced into its field are developed; frequencies under 200 or 100 mc are recommended for measurement. Design features of the sensors are briefly discussed. A 40-mc instrument developed by

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ACCESSION NR: AP4040013

the author compares the voltage of the sensor with that of a compensating circuit; two sensors, 3- and 6-mm in diameter, cover a resistivity range of 0.005-20 ohm-cm; the error is claimed to be under $\pm 3\%$. Orig. art. has: 3 figures, 12 formulas, and 1 table.

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Automation and Electrometry, Siberian Branch, AN SSSR)

SUBMITTED: 20Nov63

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OTHER: 005

Card 2/2

3:47-48, 17:8.

Selecting parameters of transducers for noncontact measurements
of electric conductivity by the method of vortex currents. Izv.
tech. no. 3:47-48 Mr '64 (MIRA 17:8)

SOBOLEV, V.S.; BAKUMENKO, I.T.

Temperature of crystallization of transparent albite from
Strzegom in Lower Silesia. Bul geolog PAN 11 no.2:93-95 '64.

1. Institute of Geology and Geophysics of the Siberian Branch
of the Academy of Sciences of the U.S.S.R. Presented by K.
Smulikowski.

SOBOLEV, V.S., akademik; KHLESTOV, V.V.; KEPEZHINSKAS, K.B.

Use of the quartz arrangement for evaluating the temperatures of mineral formation. Dokl. AN SSSR 154 no.6:1355-1358 F. '64. (MIRA 17:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

SOBOLEV, V.S., akademik

Melting incongruence of minerals under the conditions of pressure variation. Dokl. AN SSSR 156 no. 2:341-344 My '64. (MIRA 17:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

SOBOLEV, V.I., akademik, 1910.V, M.A., SOBOLEV, V.I.,
1974. "KRYSTALLOGRAFIYA". 7.7.

High-temperature inclusions in the minerals of permatites and
granites. Dokl. AN SSSR 1974 no. 243.0.000. 11. 1974.
MIRA 1975.

1. Institut geologii i geofiziki Akademiya nauchnykh
SSSR.

SOBOL'EV, V.S., akademik; SOBOL'EV, M.V.

Xenoliths in the kimberlites of northern Yakutia and some
problems of the earth's mantle structure. Dokl. AN SSSR 158
no.1:108-111 S-2 '64 (MIRA 17:8)

KEPEZHINSKAS, Kazimir Bernardovich; SOBOLEV, V.S., akademik, otv.
red.

[Statistical analysis of chlorites and their paragenetic
types] Statisticheskii analiz khloritov i ikh paragene-
ticheskie tipy. Moskva, Nauka, 1965. 134 p,
(MIRA 18:8)

МАКАРОВСКИЙ, А. А. и др. МАКАРОВСКИЙ, А. А., МАКАРОВСКИЙ, В. С.: академик, отв.
МАКАРОВСКИЙ, А. А., МАКАРОВСКИЙ, В. С.

[Problems of the mineral facies of metamorphic and meta-
somatic rocks] Problemy mineral'nykh fatsii metamorfi-
cheskikh i metasomaticheskikh gornykh porod. Moskva,
Nauka, 1965. 316 p. (MIRA 18:11)

SOBOLEV, V.S.

Theory of the superposed pickup method for testing with eddy currents.
Defektoskopiia no.246-15 '65. (MIRA 18:6)

I. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.

L 9452-66 EWT(d)/EEC(k)-2/EWP(1) IJP(c) BC

ACC NR: AP6001928

SOURCE CODE: UR/0115/65/000/001/0057/0059

AUTHOR: Sobolev, V. S.

ORG: none

TITLE: Conference on automatic control and electrical measurement methods

SOURCE: Izmeritel'naya tekhnika, no. 1, 1965, 57-59

TOPIC TAGS: data processing, data processing equipment, scientific conference, metrology, automatic control, electric measurement, electric measuring instrument, electronic measurement

ABSTRACT: The Sixth All-Union Conference on Automatic Control and Methods of Electrical measurements was held in Novosibirsk on 8 to 12 September 1964, sponsored by the Institute of Automation and Electrical Measurement of the Siberian Section Academy of Sciences USSR and two other organizations. The conference was attended by 710 delegates for the purpose of exchanging ideas and coordinating efforts in developing techniques of sampling and data processing. Typical subjects were: Principles of coding biological data, use of x-ray irradiation of excited nuclei in automatic control, control and automation requirements in the chemical industry. Most of the papers given at two sections were devoted to data sampling systems. Statistical problems were stressed at one and system diagnostics at the other. S. M. Mandelshtam presented "Estimate of certain methods of statistical corre-

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ACC NR: AP6001928

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lation of an instrument with a parameter". Other leading papers were given by G. M. Dor'skiy - Power spectrum analyzer for discrete low-voltage signals; V. P. Prikhod'ko - Two-dimensional statistical analyzer, and A. N. Kasperovich - Elimination of the effects of periodic noise on multiple-point d-c measurements. A group of reports dealt with data sample size. Among the papers heard at the section stressing diagnostics were M. V. Savenkov - Determination of equipment aging characteristics by measuring its parameters during use; V. I. Rabinovich, M. A. Rozov, and L. S. Timonen - The subject and problems of technical diagnostics; N. V. Kinsht - Optimization criteria of trouble-shooting; E. L. Baum - Functional possibilities of threshold elements in diagnostic circuits; and V. F. Motorin - Use of a mathematical logic apparatus for combination trouble-shooting of control objects.

Other subjects covered were reliability, methods of electrical measurement (especially bridge methods), circuit synthesis, self-adaptive and automatic instruments, phase-shift measurements, and determination of the parameters of semiconductors and ferromagnetic materials.

The section on measurement system elements heard such papers as Ya. M. Dikovskiy - Methods of magnetically actuated measurement contacts; A. S. Volkov - Design of magnetostrictive delay lines; and B. K. Grigorovskiy - Investigation of a photoelectric amplifier as a vector meter. Problems of measurement in chemical analysis, dimensional analysis, vibration, flow rate, and digital trigonometry were also treated. R. M. Masitova, V. N. Okhotskaya, and B. I. Puchkina reported on 'Some possibilities of quantitative and qualitative

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measurements of the characteristics of odors.' Areas in which measuring instruments need improvements are pointed out. The new journal "Avtometriya", which started publication in 1965, was discussed. Some of the conference papers are to appear in this journal; others will be published as a proceedings by "Nauka" press. JPRS

SUB CODE: 09, 12 / SUBM DATE: none

Card 3/3 *pw*

SOBOLEV, V.S.; ZERSHCHIKOVA, M.G.

Calculating the effect of a conductive sphere on a current-carrying
coil. Defektoskopia 1 no.3:60-70 '65. (MIRA 18:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.

DOBRETSOV, N.L.; REVERDATTO, V.V.; SOBOLEV, V.S.; SOBOLEV, N.V.; USHAKOVA,
Ye.N.; KHLESTOV, V.V.

Basic characteristics of the distribution of the facies of
regional metamorphism in the U.S.S.R. Geol. i geofiz. no.4:
3-18 '65. (MIRA 18:8)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN
SSSR, Novosibirsk.

SOBOLEV, V.S., brigadir montazhnikov

High production and good quality. Transp. stroi. 15 no.3:
34-35 Mr '65. (MIRA 18:11)

SOBOL' V. V.S., akademik

Effect of pressure on the limits of isomorphic substitutions.
Dokl. AN SSSR 140 no.2:435-437 Ja '65.

(MIRA 12:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

KETICHINSKAI, E.B.; SOBOLEV, V.S., akademik

Paregenetic types of chlorites. Dokl. AN SSSR 161 no. 2:436-439
Mr '65. (MIRA 18:4)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

Magmatic types of the amphiboles of the hornblende-actinolite series in metamorphic rocks. Dokl. AN SSSR 161 no.4:892-901 O '65.

(MIRA 18:10)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.

ACC NR: AP6013003 SOURCE CODE: UR/0410/66/000/001/0011/0016

AUTHOR: Sobolev, V.S. (Novosibirsk): Shkarlet, Yu. M. (Moscow)

ORG: none

TITLE: The theory of eddy current quality control [Paper presented at the 7th All-Union Conference on Automatic Control and Methods of Electrical Measurements held in Novosibirsk in September 1965]

SOURCE: Avtometriya, no. 1, 1966, 11-16

TOPIC TAGS: eddy current, nondestructive test, quality control, control theory

ABSTRACT: Although eddy current testing is increasingly used for nondestructive quality control, many aspects of the theory related to the utilization of superposed and screen sensors have not yet been sufficiently developed. The present article derives in detail the density distribution of eddy currents for the general case when the sensing device is located above a conductive n-layer medium. For simplicity, the superposed sensor is substituted by an equivalent current carrying loop. Theoretical results concerning the current density are presented in two diagrams. Orig. art. has: 25 formulas and 3 figures.

SUB CODE: 13 / SUBM DATE: 07Oct65 / ORIG REF: 003

UDC: 620.179.14.538.54

Card 1/1

Investigation of rubber ...

S/844/62/000/000/097/129
D234/D307

Z

carboxylate rubber it is equal in both cases. Thermomechanical stability of electron-irradiated vulcanized rubbers was about 4 times as high as that of Co^{60} irradiated rubbers. Those of carboxyl containing rubbers show high strength and wear resistance (abrasion index = 115 cm^3/kWh for nonfilled rubbers irradiated with 24 megarad and 200 cm^3/kWh for nonfilled sulphur rubbers). Chemical relaxation curve of these rubbers shows destruction and re-grouping of salt bonds in its initial part. There are 6 figures and 2 tables.

ASSOCIATION: NII shinnoy promyshlennosti (NII of the Tire Industry); Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AS USSR)

Card 2/2

L 17560-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWA(h)/EWA(l) Pc-4/
Pr-4/Ps-4/Peb/Pu-4 GG/RM

ACCESSION NR: AP4049784

S/0138/64/000/011/0028/0033

AUTHOR: Kaplunov, M. Ya.; Khozak, V. K.; Kozlov, V. T.; Sobolev, V. S.; Tarasova, Z. N.; Borisov, V. A.; Karpov, V. L.; Dogadkin, B. A.

TITLE: Thermoradiation vulcanization of tires ¹⁵

SOURCE: Kauchuk i rezina, ²³⁻ no. 11, 1964, 28-33 ¹⁸

TOPIC TAGS: thermoradiation vulcanization, rubber structure, sulfur vulcanization, tire wear, thermal aging

ABSTRACT: The effectiveness of the method of thermoradiation vulcanization ¹⁹ was investigated from the point of view of increasing the quality of the tires. The radiation unit consisted of 18 spent, heat-liberating elements from an atomic reactor. The total activity amounted to 76,000 gram-equivalents of radium. Not more than six 5.60-15 tires could be treated at one time in a cylindrical vat with a hermetically closed cover. The tires had a reduced content of vulcanizing agent; one contained a sensitizer of radiation structuring-hexachlorethane. Irradiation was in an argon medium at 0.35 atm pressure. The temperature did not exceed 40C. Radiation doses amounted to 5, 9, 13, and 20 Mrad. The resulting vulcanizate had the optimum relationship of crosslinks of the type -C-C- and

Card 1/2

L 17560-65

ACCESSION NR: A74049784

-C-Sx-C. The destructive processes as well as processes of oxidation and trans-isomerization were less than during sulfur and radiation vulcanization. The relative content of rubber in the "active" portion of the vulcanization network was high. The rubbers had ¹⁵ much higher elasticity and strength, as well as increased resistance to thermal aging and wear. Accelerated road tests showed 15-20% greater wear resistance than standard tires. "The relationship between structurization and destruction was determined by A. S. Ly*kin. N. D. Stepanov, V. Ye. Lesnichiy and L. M. Dunayev (member of NIFKhl) took part in setting up the apparatus. The design of the apparatus was developed under the guidance of G. N. Lisov (member of NIFKhl). Measurements of radioactivity and dosimetry were carried out by A. G. Vasil'yev and V. Ye. Drozdova (member of NIFKhl). The TsZL MShZ took part in manufacturing the tires." Orig. art. has: 5 figures and 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promy*shlennosti (Scientific Research Institute for the Tire Industry); Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute for Physics and Chemistry)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 005

OTHER: 001

Card

2/2

SOBOLEV, V.V.

Branch Leningrad State Univ., ELABUGA, (1943)

"On the intensity of radiation in the inner layers of absorbing and scattering medium."

Iz. AK. Nauk SSSR, Ser. Geograf. I Geofiz., No. 1-6, 1944.

Propagation of waves

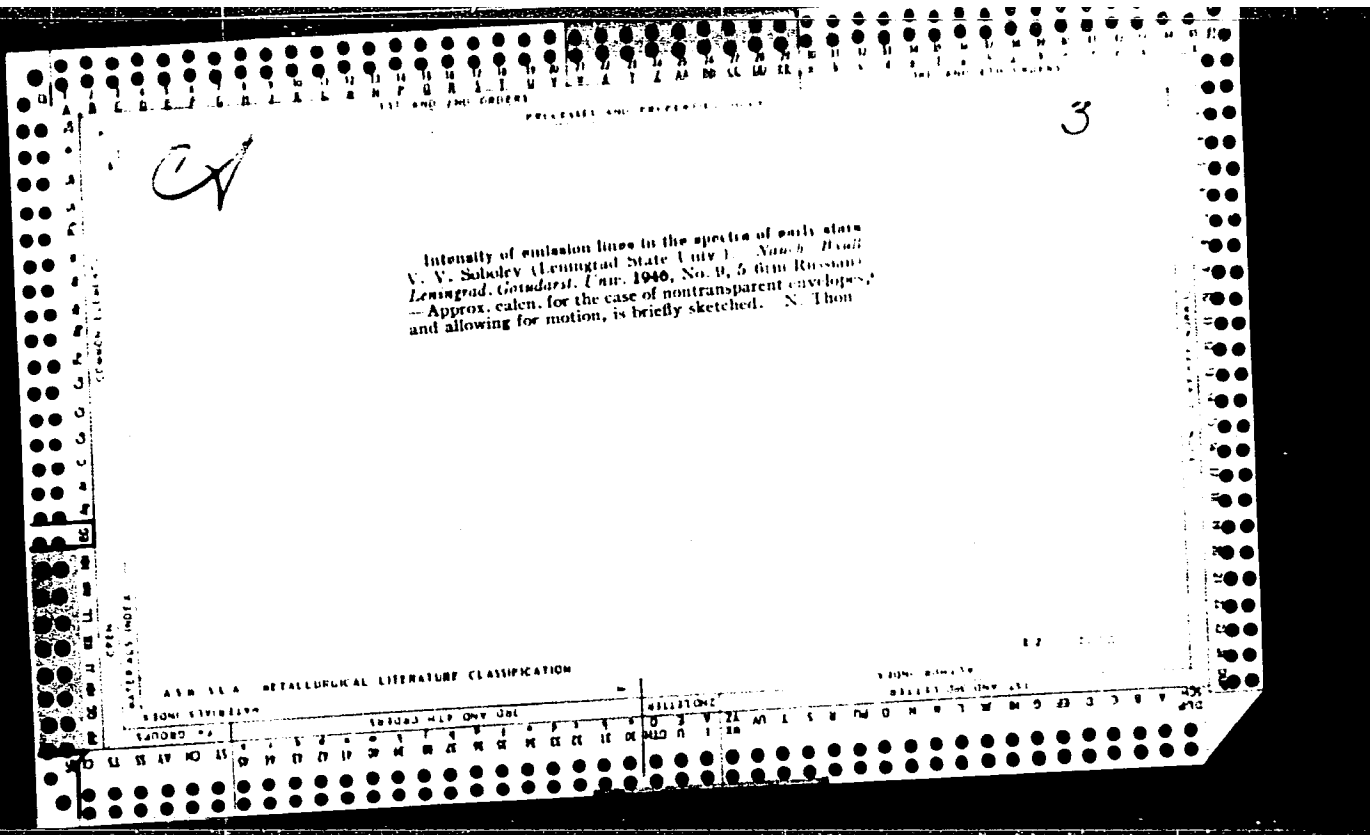
W.E.

1941 POINT SOURCE OF LIGHT BETWEEN PARALLEL
PLATES V. A. Sedukhin (in Russian)
(Doklady Akad. Nauk SSSR) 1941
Feb. 1941 Vol. 17, No. 4 pp. 177-178 in
English

If a luminous source is placed near to reflecting
surfaces, the illuminations cannot be properly
ascertained without taking into account the re-
flected reflections from these surfaces. Generally
speaking the problem is reduced to the solution
of an integral equation. Below is discussed a case
when the solution is obtained in the explicit form.
The intervening space is taken as perfectly trans-
parent, but the method is applicable when an
absorbing (but not scattering) medium is involved

Yelabuga Br., Leningrad State Univ

1945



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3

Excitation and ionization in expanding stellar envelopes.
 V. V. Sobolev. *Astron. Zhur.* **23**, No. 1, 103-202 (1946). A math. analysis of these phenomena based on the assumptions that the atoms pass only 3 levels of energy corresponding to the ground, excited, and ionization state; that excitation and ionization are due to radiation; that the transition of atoms from a state of excitation to one of radiation is caused by the stars' radiation; and that a stellar envelope consists of parallel layers. M. Hoesch.

The atmosphere of 10 Lacertae. Lawrence H. Aller. (Indiana Univ., Bloomington). *Astrophys. J.* **104**, 347-56 (1946). From high-dispersion spectrograms of this star, equiv. widths have been measured for lines of He I, He II, Ne II, O II, O III, Si III, Si IV, N III, C II, C III, etc. By applying Unsold's methods (*C. I.* **40**, 69869) to these data an effective temp. of 20000° K. has been detd. for the star's atm., and the values 2.80 and 4.44, resp., for the logarithms of the electron pressure and surface gravity. With these consts. the relative nos. of atoms in the atm. are: H 1000, He 134, O 0.8, Ne 0.7, N 0.18, C 0.16, Si 0.06, Mg 0.05. C. C. Kiess.

A 58-31 A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

9

Origin of bright lines in the spectra of late class stars.
 V. V. Sobolev (Leningrad State Univ. U.S.S.R.). *Compt. rend. acad. sci. U.R.S.S.* 53, 783 (1946). Certain supergiants are known to contain in their spectra, besides the bright lines of metals and the mol. bands, some bright lines of atoms with a high ionization potential (H, He, He⁺, etc.). Such "combination spectra" are either interpreted on the assumption that the stars emitting them are binaries composed of one hot and one cold component or that in the external layers of the supergiants wide deviations from thermodynamic equil. are possible. S. tries to explain the origin and also the behavior of the bright lines in the spectra of late-class stars. As a basis the theory of extended photospheres and the hypothesis of efflux of matter from supergiant stars are used. The coeff. of absorption is assumed to be independent of the wave length. From the theory of radiative equil. the max. brightness of a star is found to correspond to the smallest radius and the highest temp. Since the temp. depends strongly on the luminosity, emission lines may possibly appear near the max. of brightness and disappear near the min. From the fact that the emission lines appear in a comparatively thin layer, adjoining the photosphere, the radial velocities detd. from the emission lines and corrected for the motion of the star characterize the rate of motion of the photosphere proper. Variations in luminosity bring on variations in the depth of the layer responsible for the appearance of emission lines and the rate of outflow corresponding to this layer changes accordingly. These predictions are in accord with observations. F. A. Gulbrausen

No 9

3

Astronomical Observatory

ASTROPHYSICAL JOURNAL METALLURGICAL LITERATURE CLASSIFICATION

SOBOLEV, V.V.

[Moving star shells] Dvizhushchiesia oboloshki zvezd. Leningrad,
Izd-vo Leningradskogo Gos. Ordena Lenina Univ., 1947 111 p.
(Stars) (MIRA 7:10)

SOBOLEV, V.V.

Radiant equilibrium of moving shells of stars; doctoral dissertation. Vest. LGU 2 no.3:132-136 Mr '47. (MIRA 12:9)
(Stars--Atmospheres)

SOBOLEV, V. V.

Sobolev, V. V. - "On the diffusion of light in the atmosphere of planets," Trudy
Yuzhnyykh nauch. tsentr (Lexing. gos. un-t), Sektel'ya nauch. nauk, Podsektel'ya
fiziki, Leningrad, 1948, p. 9-11

SO:U-3609, 19 July 53. (Leto is 'Zhurnal 'lych Statey, No.6, 1949).

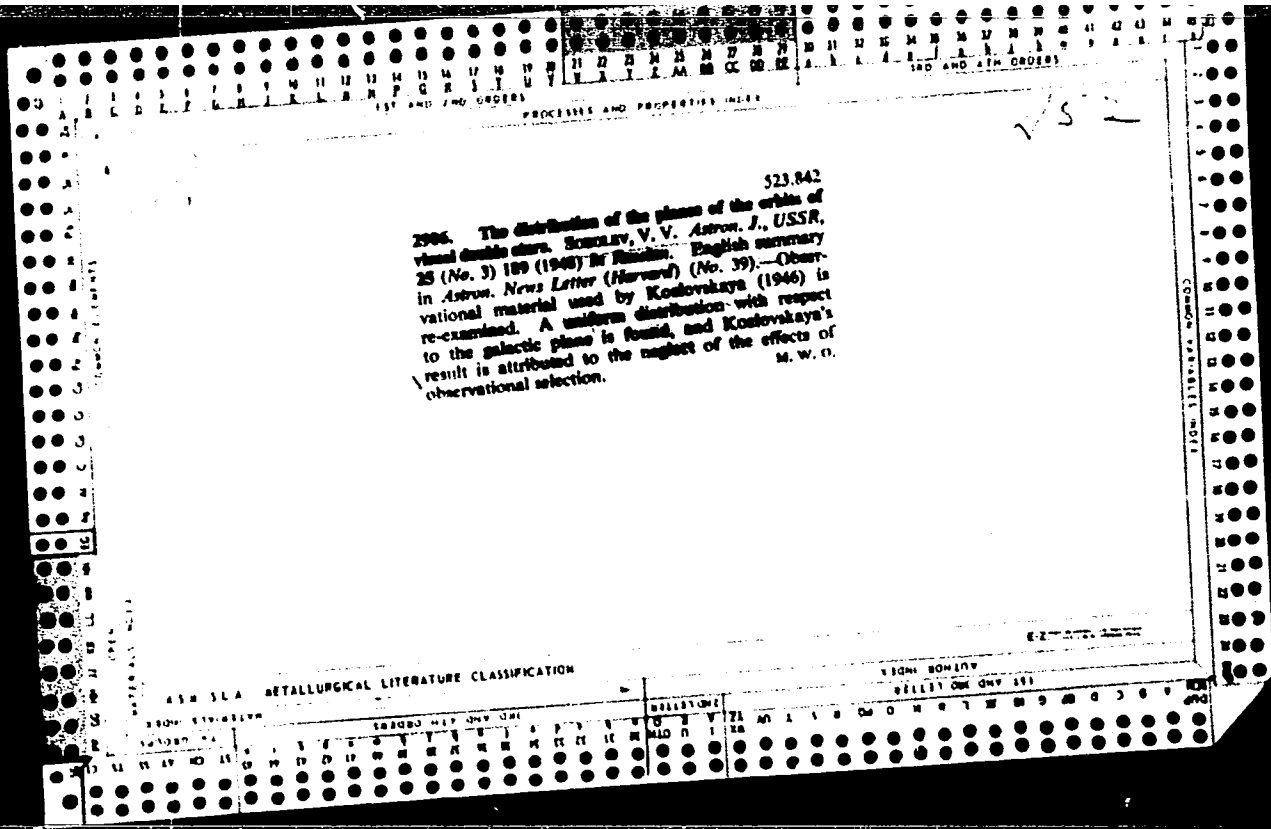
SOBOLEV, V. V.

Sobolev, V.V. "Physics of the astral atmosphere," Theoretical Section, in symposium; *Astronomiya v SSSR za tridtsat' let*, Moscow-Leningrad, 1948, p. 112-19

SOBOLEV, V. V.

Sobolev, V. V. - "Stars with brilliant spectral lines", Vestnik Leningr. un-ta, 1948, No. 10, p. 52-68.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).



SECRET, . . .

12/04/1971

USSR/Physics
Astronomy
Light

Aug 48

"Coefficients of Brightness for a Flat Layer in a Turbid Medium," V. V. Sobolev, Astr Obs, Leningrad State U, 4 pp

"Dok Ak Nauk SSR" Vol LXI, No 5

Integral equations determine the coefficients of brightness directly, as a spherical indicatrix. Solves these equations numerically for number of cases, and compares precise values for the coefficient of brightness found in this way with values found by solving the integral equations through successive approximations.

24/49T117

30723. SOBOLEV, V. V.

O Polyarizatsii rasseyannogo sveta. Uchen. Zapiski (Leningr. gos. un-t. im. Zhdanova), Seriya matem, nauk. vyp. 18, 1949, s. 3-16.

30704. SOBOLEV, V. V.

O rasseyanii sveta v atmosferakh zemli i planet. Uchen. zapiski (Leningr. gos. un-t. im. Zhdanova), seriya matem. nauk, vyp. 18, 1949, c. 53-79. --
Bibliogr: 10 nazv.

SOBOLEV, V. V.

Sobolev, V. V. On the distribution of brightness on a stellar disk. Akad. Nauk SSSR. Astr. Zhurnal 26, 22-27 No. 1, (1949). (Russian)

The author considers the center-to-limb variation of brightness over the apparent disk of a star which is imbedded in a scattering atmosphere of negligible extent. The plane-parallel equations of radiative transfer are set up and their numerical solutions investigated for the case of scattering which is isotropic, or characterized by a linear scattering indicatrix. The results are briefly compared with previous solutions of the same problem by Ambarzumian [C. R. (Doklady) Acad. Sci. URSS (N.S.) 43, 102-106 (1944)] and Chandrasekhar [Astrophys. J. 130, 76-86, 117-127 (1944); these Rev. 6, 76, 190]. Z. Kopal.

Source: Mathematical Reviews,

Vol 10, No. 10

SOBOLEV, V.V.

158T83

USSR/Physics - Light
Reflection

21 Nov 49

"Diffusion Reflection and Passage of Light by a Plane
Layer of a Turbid Medium," V. V. Sobolev, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 3

Describes new method for solving classical problem of
diffusion reflection and passage of light by plane
layer of turbid medium, previously used in the case
of spherical indicatrix of dispersion but here gener-
alized to the case of dispersion indicatrix of arbi-
trary form. Method involves finding linear integral
equations that directly determine intensity of ra-
diation from the medium. Submitted 12 Sep 49 by Acad
S. I. Vavilov.

158T83

155T71

USSR/Physics - Light, Passage of
Reflection, Light

Dec 49

"Problem Concerning the Diffusive Reflection and Passage of Light," V. V. Sobolev, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 4

Sobolev had previously obtained very simple linear integral equations for finding intensity of diffusely reflected and diffusely passed light which could be solved explicitly for media of infinitesimally great optical thickness. Earlier, V. A. Ambarzumyan had clarified structure of coefficients of brightness, i.e., had expressed these complicated

155T71

USSR/Physics - Light, Passage of (Contd) Dec 49

functions of many variables through certain auxiliary functions of one variable and had given for their determination systems of functional equations easily solvable by numerical methods. With the aid of linear integral equations he had previously obtained for coefficients of brightness, Sobolev derives similar equations for Ambarzumyan's functions Submitted by Acad S. I. Vavilov 12 Sep 49.

155T71

SOBOLEV, V. V.

SOBOLEV, V.V.

Polarization of scattered light. Uch.zap.Len.un. no.116:3-16 '49.
(MLRA 10:3)

(Polarization (Light)) (Light--Scattering)

SOBOLEV, V.V.

Scattering of light in the atmospheres of the earth and planets.
Uch.zap.⁴en.un. no.116:17-52 '49. (MLRA 10:3)
(Light--Scattering)

SOBOLEV, V. V.

PA 15874

USSR/ Astronomy - Stars
Radiation

Mar/Apr 50

"Illumination of Stellar Envelopes in the Absence of Radiative Equilibrium," V. V. Sobolev, Astr Obs, Leningrad State U, 7 pp

"Astron Zhur" Vol XXVII, No 2

Calculates number of neutral and ionized atoms per cubic centimeter for the two cases where stellar envelope is small or great in optical thickness. Applies resulting formulas to the Nova Hercules 1934.

15874

SOBOLEV, V. V.

PA 192T3

USSR/Astronomy - Astrophysics

Sep/Oct 51

"New Method in the Theory of Light Dispersion,"
V. V. Sobolev, Leningrad State U imeni Zhdanov

"Astron Zhur" Vol XXVIII, No 5, pp 355-362

New methods of investigation are desirable. Sobolev proposes the new concept of probability of exit of light quantum from given spot of medium in a definite direction. Introduction of this concept simplifies soln of some problems of theory of light dispersion, and its phys interpretation becomes more distinct.

192T3

SOBOLEV, V.V.

TREASURE ISLAND BIBLIOGRAPHIC REPORT

AID 121 - I

PHASE I

Call No.: AF539690

BOOK

Authors: AMBARTSUMYAN, V.A., MUSTEL', E.R., SEVERNYI, A.B., SOBOLEV, V.V.

Full Title: THEORETICAL ASTROPHICS

Transliterated Title: teoreticheskaya astrofizika

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of Technical-Theoretical Literature

Date: 1952

No. pp.: 635

No. of copies: 5,000

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: Pikel'ner, S.B. wrote two paragraphs.

Text Data

Coverage: A textbook on astrophysics, mainly related to the study of the sun as a star. Covers radioactive equilibrium of the stellar photospheres, spectra of the stars and the sun, the physics of the solar atmosphere, nebulae, new stars (novae), interior structure of the stars and interstellar matter.

Comments: Primarily a textbook, based on numerous sources (1927-1951). Does not compare with the more clearly written American texts (such as L.H. Aller's Astrophysics, 1953)

SOBOLEV, V.V.

AID 121 - I

Teoreticheskaya astrofizika

Purpose: Approved as a textbook in state universities by the Ministry of Higher Education, U.S.S.R.

No. of Russian and Slavic References: 66, with many footnote references.

Available: AID, Library of Congress.

2/2

USSR/Astronomy - Radiation

Jul/Aug 52

"Theory of Nonstationary Fields Radiation. Part I." V. V. Sobolev, Astr Obs of Leningrad State U

"Astron Zhur" Vol 29, No 4, pp 406-417

A further development of previous works by the author "Vest Leningradskogo Universiteta" No 10, 1948; "Astron Zhur" 27, 2, 1950). Deals with nonstationary processes of radiational diffusion. States that, in physics, the theory may be applied

226742

to scattering of light on resonant line; in astro-physics, to diffusion of resonant radiation on non-stationary objects, such as shells of novae, solar prominences, etc. Received 8 May 52.

226742

SOBOLEV, V. V.

PA 234T55

USSR/Astronomy - Radiation Diffu- Sep/Oct 52
sion

"Theory of the Nonstationary Field of Radiation
II," V. V. Sobolev, Astr Obs of Leningrad State U
"Astron Zhur" Vol 29, No 5, pp 517-525

Author started discussion of nonstationary proc-
esses of diffusion of radiation in a previous ar-
ticle (cf. "Astron Zhur" Vol 29, No 4, 1952).
Here he derives new functional eqs to det proba-
bilities of quantum emission from the medium.
Methods applied are those of V. A. Ambartsuryan

234T55

in analysis of light scattering and fluctuations
of intensity of the Milky Way. As example, the
results are applied to the luminosity of new stars.

SOECLEV, V. V.

234T55

SOBOLEV, V. V.

1100

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110
Sobolev, V. V. The theory of scattering of light in planetary atmospheres. *Uspchi Astr. Nauk* 6 (1954), 1-17/17
250-280. (Russian)
A survey of recent research by Russian authors on the theory of multiple scattering of light in extended regions, principally the works of Ambartsumian, Kuznetsov, and Sobolev.
R. G. Langebartel (Urbana, Ill.)

110

SOBOLEV, V. V.

AID - P-57

Subject : USSR/Astronomy

Card : 1/ 1

Author : Sobolev, V. V.

Title : On the Theory of Brightness of Novae

Periodical : Astron. zhur., V. XXXI, 1, 15-26, Ja - F 1954

Abstract : Granted: a film (or envelope) detaches itself from the star at the beginning of the flare; this film has a large optical thickness which diminishes with its expansion. Sources of brightness are: 1) the energy in the envelope, and 2) energy from the star. Mathematical solutions of the brightness are given and theoretical deductions as to the temperature made. Theoretical and actual brightness are shown in three graphs. The article is based on the works of V. A. Ambartsumyan, Sh. G. Gordeladze, D. McLaughlin, F. Beileke, and W. Harper. Bibliography gives 7 references (4 Russian)

Institution : Leningrad University im. A. A. Zhdanov

Submitted : October 14, 1953

SOBOLEV, V.V.

K-6

USSR/Optics - Spectroscopy.

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7789

Author : Sobolev, V.V.

Inst : Leningrad State University, USSR.

Title : Formation of Absorption Line in Incoherent Scattering of Light.

Orig Pub : Astronom. zh., 1954, 31, No 3, 231-248

Abstract : The author considers the problem of the formation of absorption line in star spectra with incoherent scattering of light, i.e., under the assumption that the radiation is redistributed over the frequencies inside the line for the elementary active scattering. The problem of the formation of absorption lines in star spectra for a totally incoherent scattering (when the frequency of the scattered radiation is independent of the frequency of the incident radiation) was first solved by the author previously (Astronom Zh, 1949, 26, 129). The problem solved in this

Card 1/3

- 67 -

USSR/Optics - Spectroscopy.

K-6

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7789

article is the same, but with allowance for fluorescence and by using another method. The problem consists of finding the intensity of the radiation emerging from the star at a given frequency and in a given direction $I_\nu(0, \eta)$, where the value of $I_\nu(0, \eta)$ corresponds to the solutions of the following equation: $\eta \frac{dI_\nu(z, \eta)}{dz} = (\sigma_\nu + \alpha) I_\nu(z, \eta) - (1 - \epsilon) \frac{\sigma_\nu}{2} \times \int_0^\pi \sigma_{\nu'} d\nu' \int_0^\pi I_{\nu'}(z, \eta') d\eta' - (\alpha + \sigma_\nu \epsilon) B$

Where $I_\nu(z, \eta)$ is the intensity of radiation at the frequency ν , penetrating at the depth z under the angle $\cos^{-1} \eta$ with the normal, σ_ν is the scattering coefficient in the line, and α and B are the coefficients of absorption and radiation in a continuous spectrum, while ϵ is the coefficient taking fluorescence into account. The solution is obtained by the method derived by the author (Astronom Zh, 1951, 28, 355), based on the use of the quantity $p(z, \nu, \eta)$: which had the probability of

Card 2/3

- 68 -

USSR/Optics - Spectroscopy.

K-6

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7789

emergence from the medium of a quantum, absorbed at a depth z , at a frequency γ at an angle $\cos^{-1} \eta$ to the normal (after, scattering in the medium). The equation derived for the quantity $p(z, \gamma, \eta)$ made it possible to express $I(0, \eta)$ in terms of known quantities. Calculations were made of the contours of the lines on the basis of the solution obtained, and parallel calculations were also made of the contours under the assumption that the scattering is coherent. The problem of the central intensities of the lines and of the changes in the contours of the lines upon transition from the center towards the edge of the disk of the star are considered. It was found that the theory of the formation of absorption line in incoherent scattering is in better agreement with observations than that made under the assumption of coherent scattering.
Bibliography, 18 titles.

Card 3/3

- 69 -

SOBOLEV, V. V.

300-2mf
H. H. H.

Carbon dioxide radiation in the 4S- α region in a gas discharge. N. Ya. Doloncova and V. V. Sobolev. *Soviet Phys. JETP*, 1, 611-13 (1955) (English translation) - See C.A. 49, 14481c. B. N. 2.

PH ①
H. H. H.

SOBOLEV, V.V.

USSR/ Astronomy

Card 1/1 Pub. 127 - 7/12

Authors : Sobolev, V. V.

Title : Diffusion of radiation with redistribution of quanta according to their frequencies

Periodical : Vest. Len. un. ser. mat. fiz. khim. 5, 85-100, May 1955

Abstract : Causes of star spectral line diffusion are analyzed. A new theory concerning the diffusion of star radiation, namely, the theory of quanta redistribution according to their frequencies, is discussed. The formation of absorption lines in the star spectra and the diffusion of the resonant radiation in gaseous nebulae ($L\alpha$ - radiation) are explained in the view of this new theory. Ten references: 1 USA, 1 Netherlands, 3 British, 5 USSR (1933-1954). Tables; graphs.

Institution :

Submitted : September 10, 1954

Sobolev, V. V.

Sobolev, V. V. Diffusion of radiation with redistribution of frequencies. I. Vestnik Leningrad. Univ. 10 (1955), no. 5, 85-100. (Russian)

In a gas so tenuous that the pressure is neglected the radiation diffusion is treated considering energy decay levels in the atom and the Doppler effect arising from the thermal motion of the atoms. The diffusion integral equation is set up and solved for three cases: 1) Radiation with no redistribution of frequencies; 2) radiation with complete redistribution; 3) radiation with the theoretically predicted amount of redistribution. Numerical integration is used to handle the last two cases. The radiation pressure and the contours of the spectral lines are determined for the three cases. Cases 2 and 3 give nearly the same results but these are materially different from those of case 1. R. G. Langebartel (Urbana, Ill.)

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SOBOLEV, V. V.

Sobolev, V. V. Diffusion of radiation with redistribution of frequencies. II. Vestnik Leningrad. Univ. 10 (1955), no. 11, 99-111. (Russian)

In his earlier paper [same Vestnik 10 (1955), no. 5, 85-100; MR 17, 1142] the author derives formulae for the radiation field in a diffusive material based on a study of the integral equation for the coefficient of radiation. In the present paper he obtains formulae for the radiation as it leaves the material based on the equation for the probability of quantum departures from the material. He indicates how results could be applied to the construction of spectral line contours, the determination of the pressure of light at the material's boundary and of the number of atoms in the excited state.

R. G. Langebartel (Urbana, Ill.)

L 30

Geo

[Handwritten signature]

FD-2368

USSR/Physics - Emission spectrum of CO₂

Card 1/1 Pub. 146 - 33/34

Author : Dodonova, N. Ya., and Sobolev, V. V.

Title : Radiation of carbon dioxide in the region of 15 microns in an electric discharge

Periodical : Zhur. eksp. i teor. fiz. 28, 764-766, Jun 1955

Abstract : Investigation of the radiation of an electric discharge in CO₂ in the region of 15 microns is of interest from the viewpoint of expanding our ideas concerning the process of excitation, scattering, and transmission of the oscillatory energy of molecules. The authors discuss the results of measurements conducted at pressures of gas (CO₂, N₂, H₂) from 10 to 200 mm/Hg and discharge current strength of 280 milliamperes (the discharge tube was described earlier by senior author in DAN SSSR, 98, 1954) and with sylvite-prism monochromator. They present the emission spectrum of CO₂ in a discharge at 12-18 micron region, and the dependence of the intensity of the emission band of CO₂ at 13.7 microns upon the pressure CO₂, N₂, or H₂. They thank Academician A. N. Terenin, who guided this work. Seven references: e.g. A. N. Terenin and T. G. Neuymin, Izv. AN SSSR, ser. khim. 5, 1952; B. P. Kozyrev, Usp. fiz. nauk 44, 1951.

Institution : Leningrad State University

Submitted : January 2, 1955

SOBOLEV, Viktor Viktorovich; RAKHLIN, I.Ye., redaktor; GAVRILOV, S.S.,
tekhnicheskii redaktor

[Transfer of radiant energy in stellar and planetary atmospheres]
Perenos luchistoi energii v atmosferakh zvezd i planet. Moskva,
Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 391 p. (MLRA 10:4)
(Stars--Radiation) (Planets) (Radiation)

Sobolev V.V.

B-4

USSR/Physical Chemistry - Molecule. Chemical Bond

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3469

Author : Dodonova N. Ya., Sobolev V.V.

Inst : Leningrad University

Title : Infrared Radiation of Nitrogen Oxide in Electric Discharge

Orig Pub : Vestn. Leningr. un-ta, 1956, No 10, 3-5

Abstract : Study of radiation spectrum of NO in electrical discharge. In the spectrum maxima were observed at 3, 4.4 and 4.8 μ , apparently due not to NO but higher oxides of nitrogen formed in the discharge. Addition of nitrogen into the discharge tube does not affect intensity of radiation of the 4.8 μ band. This fact is in conflict with the assumption of A.N. Terenin and G.G. Neuymin (Izv. AN SSSR, Ser. khim. 1942, 5, 246) of an enhanced radiation of CO and CO₂ on addition of N₂, as a result of intermolecular energy transmission.

Card 1/1

- 6 -

SOBOLEV, V. V.
USSR/Physical Chemistry. Crystals.

B-5

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14520

Author : E. F. Gross, V. V. Sobolev

Inst : -

Title : Absorption Spectra and Excitons Emissions in a CdSe
Crystal

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Abstract: In the absorption spectrum of monocrystalline plates of CdSe, 10-30 microns thick, at 4.2°K, one observes around the area of main absorption in the region of 6653-6800 Å many clearly defined lines and bands, which are ascribed to the excitation of the exciton. As in the case of CdS, strong lines and bands are located on the short wave side of the region of main absorption while the weak lines and bands are on the long wave side. As in the case of CdS, in the CdSe luminescence spectrum at 77.3°K, one observes a group of equidistant ($\Delta\lambda=182\text{cm}^{-1}$) rather narrow bands, analogous to the "green" luminescence

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Abstract: bands of CdS and a group of lines analogous to the "violet" CdS luminescence. Wave lengths of the centers of the two short wave emission bands of $\lambda 6811$ and 6837 \AA at 77.3°K , brought to the temp. of 4.2°K , $\lambda 6740$ and 6766 \AA , coincide with two strong lines of absorption, $\lambda 6733$ and 6753 \AA . These bands are considered due to emission of the exciton during its annihilation. As in the case of CdS, lines and bands of CdSe emission and absorption are differently polarized.

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