ACC NR: AT6033604   SOURCE CODE: UR/3231/66/000/002/0095/0103

AUTHOR: Valyus, V. P.; Levshin, A. L.; Sabitova, T. M.

ORG: none

TITLE: Combined interpretation of volume and surface waves for a region in Soviet Central Asia

SOURCE: AN SSSR. Institut fiziki Zemli. Vychislitel'naya seysmologiya, no. 2, 1966. Mashinnaya interpretatsiya seysmicheskikh voln (Machine interpretation of seismic waves), 95-103

TOPIC TAGS: seismic wave, data analysis, computer application, shock wave velocity

ABSTRACT: Observational ambiguity can be reduced by integrating the interpretation of different classes of observations, in particular surface and volume waves. Thus, the same set of data may correspond to a large number of different travel-time curves which markedly differ from each other in geophysical significance of the dynamics of the associated wave pattern. In this connection the article describes the solution by means of a computer of a converse problem of this type: The determination of the travel-time curves for the earth's crust in Central

Card 1/2

ACC NR: AT6033694

Asia from Andizhan to Dushanbe according to the observed time of arrival of P and S waves, over the epicentral distances Δ = 50, 100, 150, 250, and 350 km. These waves, recorded by the instruments of the Andizhan and Dushanbe seismic stations, originated from a series of earthquakes in the Kurile-Kamchatka zone. The observational data were converted for loading into a computer by the method of Azbel' et al. (Doklady II simpozium po teorii i vychislitel'-nym metodam v geofizike, 1965) so as to correspond to a crystalline two-layer earth's crust overlain by a layer of sedimentary rocks and underlain by a mantle with a weak positive velo-city gradients. Two variants of this method.were employed: one, based on the premise that only a velocity discontinuity of the pressure gradients is possible in the crust and the other, postulating a velocity discontinuity with gradual acceleration in velocities. In both cases the various possible travel-time curves are successively checked by the Monte Carlo method on computing in every individual case the theoretical curves of the hodographs of surface waves t_P (Δ) and t_S (Δ) and the period v_{R_2} (T) (12–36 sec) and comparing them with curves plotted on the basis of observational data until the optimal curve can be selected. After a sufficient-ly comprehensive number of possible solutions (500–1000) is thus scanned on the basis of com-parison with experimental data (time of arrival of various volume waves, amplitude curves of these waves, curves of variance of the phase and group velocity of any harmonic of Love and Rayleigh waves) and various criterions of estimation, they can be easily realized in a special-ly compiled computer routine. Orig. art. has: 3 figures, 3 tables.

SUB CODE: 08, 09/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 003

Card   2/2

LEVSHIN, A. M.

LEVSHIN, A. M. "Occurrence of Elytrosomes in the Leaves of Mosaic Diseased Sugar Beets,"
in Mosaic Diseases of Sugar Beets, a Collection of Articles, Publishing House of the
Variety-Seed Administration of the State All Union Association of Sugar Industries, Kiev,
1930, pp. 177-78. 464.04 Sa2

SO: Sire Si-90-53 15 Dec. 1953

SAVCHENKO, YA. M.; YURTSOVSKIY, M. A.; IAYOK, V. D.; DRYAGINA, I. V.; LEVSHIN, A. N.

Honey Plants

New honey plants, Pchelovodstvo, 29, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

ARALOV, Viktor Aleksandrovich; LEVSHIN, Anatoliy Vladimirovich; KUDRYAVCHIKOVA, V., red.; TROYANOVSKAYA, N., tekhn.red.

[Social insurance in the U.S.S.R.] Sotsial'noe obespechenie v SSSR. Moskva, Gos.izd-vo polit.lit-ry, 1959. 94 p.
(MIRA 12:8)

(Insurance, Social)

VLASOV, Sergey Nikolayevich; LEVSHIN, Anatoliy Vladimirovich; LA-
PIDUS, M.A., red.; DEYEVA, V.M., tekhn. red.

[Social insurance for collective farmers] Sotsial'noe obes-
pechenie kolkhoznikov. Moskva, Gos. izd-vo sel'khoz. lit-
ry, 1960. 70 p.   (MIRA 14:5)
                    (Insurance, Social)

TRET'YAKOV, A.F.; BOGOLEPOV, N.K.; ZIMKINA, A.M.; SPIVAK, F.N.;
    BUREYKO, V.M.; AVERBAKH, A.Ya.; LEVSHIN, A.V.; PANINA, L.G.,
    red.; BALDINA, N.F., tekhn.red.

[Principles of disability evaluation; theory, methodology,
organization. Guide for physicians of the Medical Experts'
Commission on Workers' Disability, medical and prophylactic
and other institutions, teachers and students of medical
institutes] Osnovy vrachebno-trudovoi ekspertizy; teoriia,
metodika, organizatsiia. Rukovodstvo dlia vrachei VTEK,
lechebno-profilakticheskikh i drugikh uchrezhdenii, pre-
podavatelei i studentov meditsinskikh institutov. Moskva,
Medgiz, 1960. 326 p.   (MIRA 14:12)
            (DISABILITY EVALUATION)

LEVSHIN, B.A.

AID P - 2213

Subject   : USSR/Aerodynamics

Card 1/2 Pub. 135 - 14/18

Author   : Not given

Title   : Readers' suggestions

Periodical: Vest. vozd. flota, 6, 73-79, Je 1955

Abstract : In this column the four following articles are published,
all related to the evaluation of wind in flight:
1) "Measuring the drift angle by twice taking the bear-
ing of a fix in the rear hemisphere of the aircraft"
by Lakhtin, M., Lt. Col. Examples, graphs, formulae;
2) "How to accelerate the computation of navigational
data" by Kurov, V., Guards Maj. Examples, graphs,
formulae; 3) "Determination of the drift angle and the
true speed by two slanting ranges and the course angle"
by Levshin, B., Jr. Lt. Examples, graphs, formulae;
4) "Graphs for the determination of the navigational
data of a flight" by Shabalin, Yu., Lt., in which the

L E V S H I N, B. H.

133-7-3/28

AUTHOR: Prikhod'ko, I.P. and Levshin, B.A., Engineers.

TITLE: On the Designing of Blast Furnace Skip Hoists (K proyektir-
         ovaniyu skipovykh pod"yemnikov domennykh pechey)

PERIODICAL: Stal', 1957, No.7, pp. 584 - 586 (USSR)

ABSTRACT: This is a criticism of the paper by Ya.F. Chel'tsov and
      G.A. Dubrovin (Stal', 1956, No.9).
      There are 2 figures and 2 Slavic references.

ASSOCIATION: Giprostal'

AVAILABLE: Library of Congress

Card 1/1

PARTUKOV, M.M.; LEVSHIN, B.A.

Turonian of the Krasnovodsk Peninsula and the central Kara Kum.
Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol.nauk no.2:125-126
'62.   (MIRA 15:4)

1. Upravleniye geologii i okhrany nedr pri Sovete Ministrov
Turkmenskoy SSR.
     (Krasnovodsk region—Geology, Stratigraphic)
     (Kara Kum—Geology, Stratigraphic)

LEVSHIN, B.A.; FARTUKOV, M.M.

Upper Cretaceous sediments in the Kizyl-Arvat structural
nose. Neftegaz. geol. i geofiz. no.3:27-30 '63.
(MIRA 16:8)

LEVSHIN, B.I.

Pharmacological characteristics of the chlorophyll preparation;
sodium chlorophyllin. [with summary in English]. Fam. i toks.
21 no.2:46-51 Mr-Ap '58   (MIRA 11:6)

1. Kafedra farmakologii i farmatsii (nach. - prof. S.Ya. Arbuzov)
Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
        (CHLOROPHYLL, rel.cpds.
            sodium chlorophyllin, pharmacol. (Rus))

VINOKUROV, A.D., inzh.; DYUBKO, A.P., inzh.; LEVSHIN, B.S., inzh.;
L'VITSIN, N.F., inzh.; RESHETIN, I.S., inzh.; KHUDYAKOVSKIY,
Yu.K., inzh.; SHAPOVALENKO, M.M., inzh.; SHATSKAYA, E.P.;
inzh.; MATALASOV, S.F., kand. tekhn.nauk, retsenzent;
SHISHLYKOV, Ye.S., inzh., red.; KHITROVA, N.A., tekhn. red.

[Manual on the transportation of perishable goods] Spravoch-
nik po perevozke skoroportiashchikhsia gruzov. [By] A.D.
Vinokurov i dr. Moskva, Transzheldorizdat, 1963. 323 p.
(MIRA 16:10)

(Railroads—Freight)   (Refrigerator cars)

LEVSHIN, B.S., inzh.; MAKARENKO, P.G., inzh.

Improve the organization of the transportation of fruit and
vegetables. Zhel. dor. transp. 46 no.8:30-34 Ag '64.

(MIRA 17:11)

SERGEYEV, A.M., inzh.; LEVSHIN, B.S., inzh.
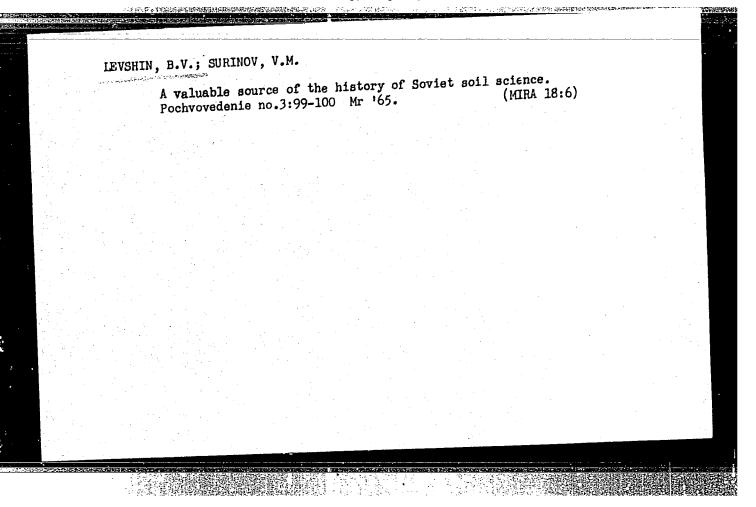
    Development of the fleet of refrigerator cars. Zhel.dor.transp. 47
    no.10:51-55 O '65.
                                            (MIRA 18:10)

ZAYTSEVA, L.L., kand. khim. nauk; LEVSHIN, B.V.; BARANOV, V.I., red.;
    KHLOPIN, N.G., red.; KNYAZEV, G.A., otv. red.; ARON, G.M., red.
    izd-va; BOCHEVER, V.T., tekhn. red.

[Letters from V.G.Khlopin to V.I.Vernadskii; 1916-1943] Pis'ma V.G.
Khlopina k V.I.Vernadskomu, 1916-1943. Sost. L.L.Zaitseva i B.V.Lev-
shin.- Pod obshchei red. V.I.Baranova i N.G.Khlopina, 1961. 88 p.
                                                        (MIRA 14:8)

1. Akademiya nauk SSSR. Arkhiv.
            (Khlopin, Vitalii Grigor'evich, 1890-1950)

LEVSHIN, B.V.; SURINOV, V.M.

A valuable source of the history of Soviet soil science.
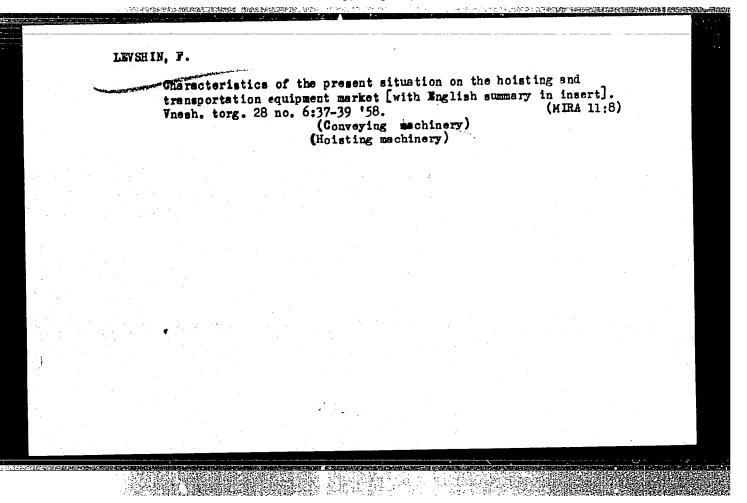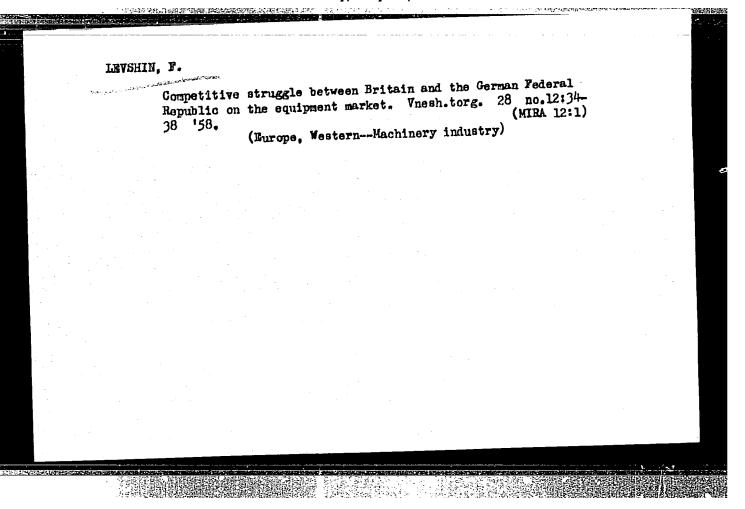Pochvovedenie no.3:99-100 Mr '65.   (MIRA 18:6)

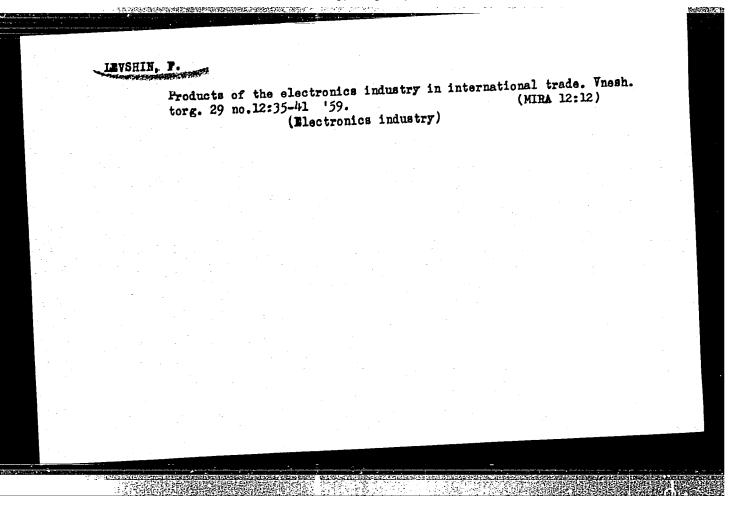KHLOPIN, Vitaliy Georgiyevich (1890-1950); ZAYTSEVA, L.L.;
    LEVSHIN, B.V., KNYAZEV, G.A., otv. red.; BARANOV, V.I.,
    red.

[Letters written to V.I.Vernadskii, 1916-1943]Pis'ma k V.I.
Vernadskomu, 1916-1943. Sost.: L.L.Zaitseva i B.V.Levshin.
Pod obshchei red. V.I.Baranova i N.G.Khlopina. Moskva,
Akad. nauk 1961. 88 p.   (MIRA 15:9)
    (Vernadskii, Vladimir Ivanovich, 1863-1945)

LEVSHIN, F.

Characteristics of the present situation on the hoisting and
transportation equipment market [with English summary in insert].
Vnesh. torg. 28 no. 6:37-39 '58.   (MIRA 11:8)
                            (Conveying machinery)
                            (Hoisting machinery)

LEVSHIN, F.

Competitive struggle between Britain and the German Federal
Republic on the equipment market. Vnesh.torg. 28 no.12:34-
38 '58.
(MIRA 12:1)

(Europe, Western--Machinery industry)

LEVSHIN, P.

Products of the electronics industry in international trade. Vnesh.
torg. 29 no.12:35-41 '59.   (MIRA 12:12)
                    (Electronics industry)

LEVSHIN, F.

Special features of price movements for equipment. Vnesh.
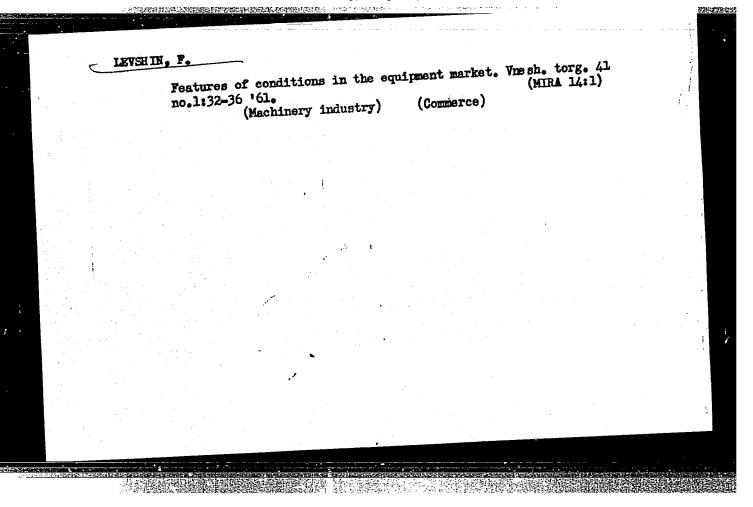torg. 43 no.5:32-38 '63.
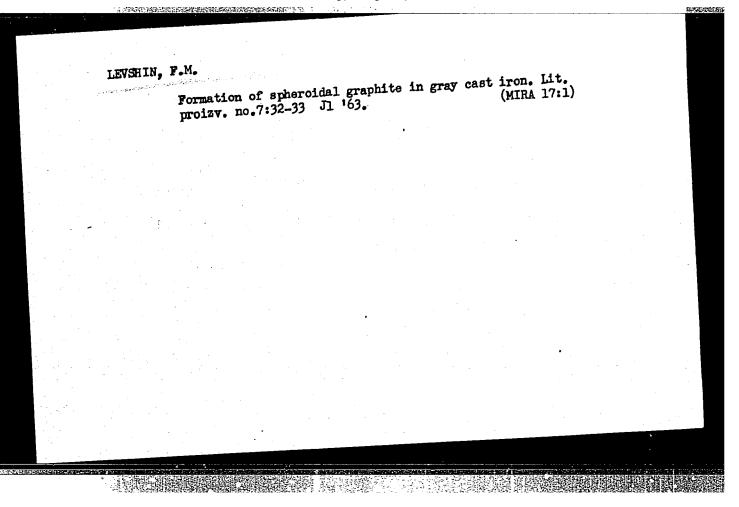(MIRA 16:6)

(Machinery industry—Prices)

VORONOV, Konstantin Gordeyevich; LEVSHIN, Filipp Mikhaylovich; GORDEYEV,
B.S., red.; KAKHOVSKAYA, O.G., red.izd-va; TYSHKEVICH, Z.V.,
tekhn.red.

[Organization and technique of Soviet foreign trade in equipment]
Voprosy organizatsii i tekhniki vneshnei torgovli SSSR oborudo-
vaniem. Moskva, Vneshtorgizdat, 1960. 66 p.   (MIRA 13:10)
     (Russia--Commerce)   (Machinery industry)

LEVSHIN, F.

Features of conditions in the equipment market. Vne sh. torg. 41
no.1:32-36 '61.   (MIRA 14:1)
          (Machinery industry)   (Commerce)

LEVSHIN, F.M.

Formation of spheroidal graphite in gray cast iron. Lit.   (MIRA 17:1)
proizv. no.7:32-33 Jl '63.

LEVSHIN, Filipp Mikhaylovich; SMIRNOV, G.V., red.; SHLENSKAYA,
V.A., red.izd-va; PAVLOVSKIY, A.A., tekhn. red.

[Products of the electric equipment industry; market of the
capitalist countries] Elektrotekhnicheskie izdeliia; rynok
kapitalisticheskikh stran. Moskva, Vneshtorgizdat, 1963.
(MIRA 17:1)
218 p.

PETROV, A.P., doktor tekhn. nauk, prof.; TULUPOV, L.P., kand. tekhn.
nauk; KRYUKOV, N.D., kand. tekhn.nauk; GUNDOBIN, V.N., inzh.;
VASIL'YEV, G.S., kand. tekhn. nauk; GRISHIN, M.S., kand.
tekhn. nauk; MOROZOVA, K.N., inzh.; ROZE, V.A., inzh.; LEVSHIN,
G.I., inzh.; BERNGARD, K.A., doktor tekhn. nauk, prof.;
BIKCHENTAY, M.A., inzh.; BUYANOV, V.A., inzh.; ILOVAYSKIY,
N.D., inzh.; MUKHAMEDOV. G.A., kand. tekhn.nauk; MIROSHNICHENKO,
A.P., inzh.; ANDRIANOV, V.P., inzh.; BUTS, V.D., inzh.; KAZIMOV,
A.A., inzh.; KIREYEV, O.P., inzh.; DYUFUR, S.L., kand. tekhn.
nauk; USTINSKIY, A.A., kand. tekhn. nauk; MIKHAYLOV, S.M., inzh.;
NESTEROV, Ye.P., kand. tekhn. nauk, retsenzent; LIVSHITS, V.N.,
inzh., retsenzent; PREDE, V.Yu., inzh., red.; VOROTNIKOVA, L .F.,
tekhn. red.

[Control of transportation processes using electronic digital
computers] Upravlenie perevozochnym protsessom s primeneniem
elektronnykh tsifrovykh vychislitel'nykh mashin. Pod obshchei
red. A.P.Petrova. Moskva, Transzheldorizdat, 1963. 207 p.
                                        (MIRA 16:8)

1. Chlen-korrespondent AN SSSR (for Petrov).
   (Railroads--Management) (Electronic digital computers)

KURBALEV, A.M.; LEVSHIN, I.I., starshiy agronom

Potato wart in Khmel'nitskiy Province. Zashchita rast. ot
vred. i bol. 5 no. 8:47-48 Ag '60.   (MIRA 13:12)

1. Nachal'nik Khmel'nitskoy karantinnoy inspektsii (for
Kurbalev).
            (Khmel'nitskiy Province--Potato wart)

LEVSHIN, I. K.

BOROVOY, Natan Yefimovich; LEVSHIN, Ivan Konstantinovich; OBORIN, Nikolay Nikolayevich; PANOV, V.I., redaktor; KANDYKIN, A.Ye., tekhnicheskiy redaktor

[Innovation in the practice of a level shunting station; the experience of the Uzlovaya station no.1] Novoe v tekhnologii bezgorochnoi stantsii; opyt stantsii Uzlovaia I. Moskva, Gos. transportnoe zhel-dor. izd-vo, 1955. 17 p.   (MLRA 8:6)
    (Uzlovaya--Railroads--Stations)

S/058/61/000/006/052/053
A001/A101

C.9200

AUTHORS: Levshin, I.P., Slobodenyuk, G.I.

TITLE: A device for measuring correlation coefficients in distant communica-
            tion lines using ultrashort waves

PERIODICAL: Referativnyy zhurnal. Fizika, no. 6, 1961, 359, abstract 6Zh290 ("Sb.
            tr. Nauchno-tekhn. o-vo radiotekhn. i elektrosvyazi im. A.S. Popova",
            1959, no. 3, 140 - 151)

TEXT: The authors describe a device designed for measuring coefficients of
correlation between two random processes which characterize signal fading at dis-
tant tropospheric propagation of ultrashort waves. They give recommendations on
using this device, correlation meter, in those regions which are connected with
studying statistical properties of random processes. The description of the device
is preceded by a short substantiation of the measurement method.

[Abstracter's note: Complete translation]

Card 1/1

ARMAND, N.A.; VVEDENSKIY, B.A.; GUSYATINSKIY, I.A.; IGOSHEV, I.P.;
KAZAKOV, L.Ya.; KALININ, A.I.; KOLOSOV, M.A.; LEVSHIN, I.P.;
LOMAKIN, A.N.; NAZAROVA, L.G.; NEMIROVSKIY, A.S.; PROSIN,
A.V.; RYSKIN, E.Ya.; SOKOLOV, A.V.; TARASOV, V.A.; TRASHKOV,
P.S.; TIKHOMIROV, Yu.A.; TROITSKIY, V.N.; FEDOROVA, L.V.;
CHERNYY, F.B.; SHABEL'NIKOV, A.V.; SHIREY, R.A.; SHIFRIN, Ya.S.;
SHUR, A.A.; YAKOVLEV, O.I.; ARENBERG, N.Ya., red.

[Long-distance tropospheric propagation of ultrashort radio
waves] Dal'nee troposfernoe rasprostranenie ul'trakorotkikh
radiovoln. Moskva, Sovetskoe radio, 1965. 414 p.
(MIRA 18:9)

22727

S/108/61/016/005/001/005
B104/B205

9.9100

AUTHORS: Prosin, A. V., Igoshev, I. P., Levshin, I. P.

TITLE: Automation of the statistical evaluation of radio signals by electronic computers

PERIODICAL: Radiotekhnika, v. 16, no. 5, 1961, 64 - 70

TEXT: A description is given of a method for the statistical evaluation of experimental data by digital electronic computers. This method was developed for computers of the types M-2 (M-2) and БЭСМ-2 (BESM-2) of the Institut elektronnykh upravlyayemykh mashin AN SSSR (Institute of Electronic Control Machines, AS USSR) by the Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics, AS USSR) in a laboratory under the supervision of V. I. Siforov, Corresponding Member AS USSR, and the apparatus required was also built. The proper conversion of experimental data to be processed by electronic computers is discussed first. Fig. 1 shows the code of the M-2 machine; a signal and its conversion into a digital code are illustrated in Fig. 2. For the purpose of feeding data given in the code of the M-2 machine into
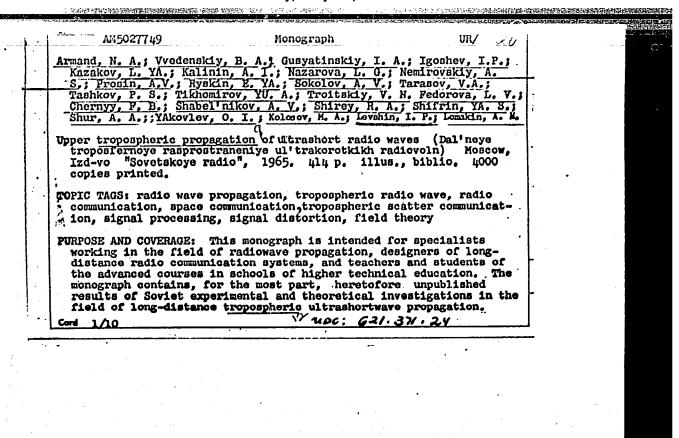
Card 1/4

L 28503-66   EEC(k)-2/EWT(d)/EWT(l)/FCC   GW/WS-2

ACC NR: AP6007149   SOURCE CODE: UR/0108/66/021/002/0002/0011

AUTHOR: Levshin, I. P. (Active member); Prosin, A. V. (Active member)   69 B

ORG: Scientific and Technical Society of Radio Engineering and Electro-
communication (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Digital-computer simulation of a multipath channel with long-distance
UHF tropospheric propagation

SOURCE: Radiotekhnika, v. 21, no. 2, 1966, 2-11

TOPIC TAGS: UHF wave propagation, multipath communication, computer
simulation , digital computer, tropospheric radio wave, communication channel

ABSTRACT: The development of a discrete mathematical simulator of the tropo-
spheric channel is reported. The simulator permits reproducing random
characteristics of such a channel which may be useful in planning multipath radio-
communication lines. The simulator describes a fluctuating quadripole whose
random amplitude-frequency and phase-frequency characteristics are statistically

Card 1/2   UDC: 621.371.176

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ACC NR: AP6007149

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close to those of a real tropospheric channel. The received signal, as a combination of many random-amplitude, random-phase waves, is described by:

$$u_{\pi p}(t) = \sum_{\varkappa = 0}^{n(t)} a_\varkappa(t) e^{i \omega (t - \tau_\varkappa (t))} = \sum_{\varkappa - 0}^{n(t)} u_\varkappa(t).$$

From this formula, a complex transfer factor of the quadripole is derived. Physically, the received signal comprises these three components: coherent scatter, reflection from various layers, and incoherent scatter. The average period of variation of the coherent scatter is assumed to be 1.5—2 hrs or longer; of the reflection, 2—12 min; of the incoherent scatter, from a fraction to a few seconds. A simplified scheme of the machine algorithm of the tropospheric-channel simulator is shown. Simulated amplitude-frequency and phase-frequency characteristics and also group delay time determined for a 300-km 1000-Mc line agreed almost exactly with the experimental characteristics measured on such a line. Orig. art. has: 6 figures, 33 formulas, and 1 table.

SUB CODE: 17, 09 / SUBM DATE: 15May64 / ORIG REF: 004

Card 2/2

AM5027749   Monograph   UR/

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.;
Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A.
S.; Prosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.;
Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.;
Chernyy, F. B.; Shabel'nikov, A. V.; Shirey, R. A.; Shifrin, YA. S.;
Shur, A. A.;;YAkovlev, O. I.; Kolosov, M. A.; Levshin, I. P.; Lomakin, A. M.

Upper tropospheric propagation of ultrashort radio waves (Dal'neye
troposfernoye rasprostraneniye ul'trakorotkikh radiovoln)   Moscow,
Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000
copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio
communication, space communication,tropospheric scatter communicat-
ion, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists
working in the field of radiowave propagation, designers of long-
distance radio communication systems, and teachers and students of
the advanced courses in schools of higher technical education. The
monograph contains, for the most part, heretofore unpublished
results of Soviet experimental and theoretical investigations in the
field of long-distance tropospheric ultrashortwave propagation.

Card 1/10   UDC: 621.3N.24

ACC NR: AM5027749

Problems of investigating the troposphere by means of refracto-
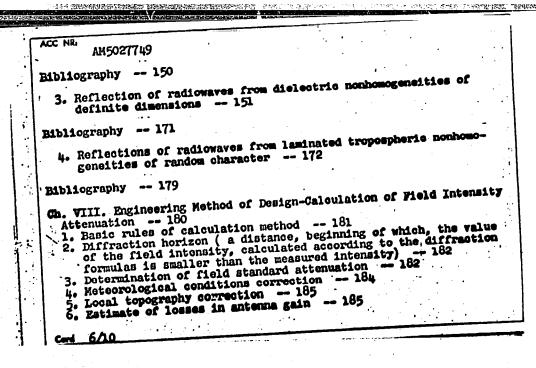meters, the mean level of signals, meteorological conditions and
topography, fluctuation of arrival angles and distortions of antenna-
directivity patterns, losses in antenna gain, and quick and slow
fadings of signal levels are discussed. The statistical character-
istics of the signals at diversity reception in time, space, fre-
quency and angle as well as the distortion of signals in the commun-
ication systems are also investigated. The long-distance propagat-
theory is analyzed, and the engineering method of calculating field
intensity at long-distance tropospheric propagation is given. At
present, there is no theory of Long-Distance Tropospheric Propagat-
ion which can be applied effectively enough in practice. Thus, in
the investigation of that propagation, considerable attention has
to be paid to experiments. The special characteristics of geograph-
ical conditions of the territory involved should be taken into con-
sideration during the analysis of experimental data and in their
practical application because the conditions of propagation in
arctic and tropical climates differ from those existing over seas
and continents. A considerable part of the monograph deals with
the investigation of long-distance tropospheric propagation carried
out over dry land routes, 800 km long, in the central part of the
USSR under the general supervision of B. A. Vvedenskiy and A. G.
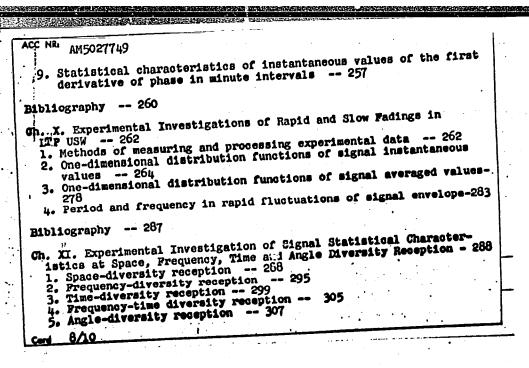Arenberg (up to 1957). V. I. Siforov investigated problems con-

Card 2/10

ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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Foreword --

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4. Reflections of radiowaves from laminated tropospheric nonhomogeneities of random character -- 172

Bibliography -- 179

Ch. VIII. Engineering Method of Design-Calculation of Field Intensity
Attenuation -- 180
1. Basic rules of calculation method -- 181
2. Diffraction horizon (a distance, beginning of which, the value of the field intensity, calculated according to the diffraction formulas is smaller than the measured intensity) -- 182
3. Determination of field standard attenuation -- 182
4. Meteorological conditions correction -- 184
5. Local topography correction -- 185
6. Estimate of losses in antenna gain -- 185

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ACC NR: AM5027749

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ACC NR: AM5027749

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Card 9/10

LEVSHIN, I.Ye.

Methods for developing the dentritic structure of carbon steel.
Zav.lab. no.11:1333-1334 '59.   (MIRA 13:4)

1.Dneprovskiy metallurgicheskiy zavod. im. Dzerzhinskogo.
        (Steel- Metallography)

LEVSHIN, L.A.
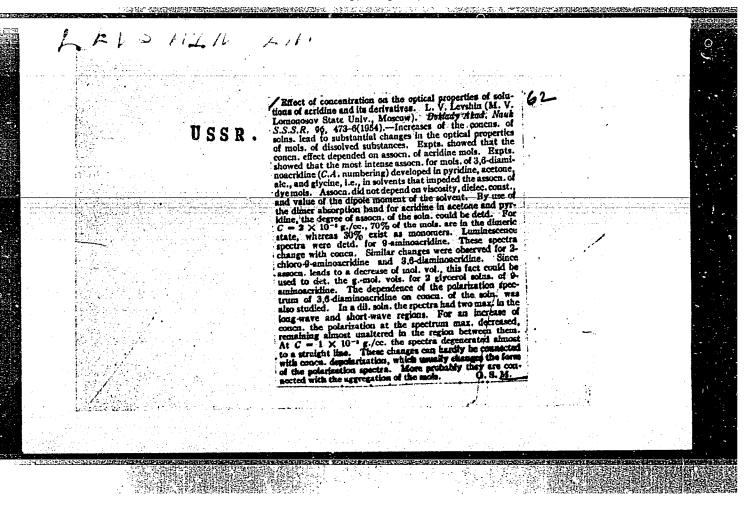
Role of the word in education. Vop.psikhol. no.1:90-99 Ja-F '56.
(MLRA 9:5)

(Speech)

ZHDANOV, Andrey Andreyevich; LEVSHIN, Lev Vasil'yevich; KAZAKOVA, L.A.,
red.; BYKOVA, V.V., tekhn.red.

[Protection of forest and water resources in the U.S.S.R.]
Okhrana lesnykh i vodnykh bogatstv v SSSR. Moskva, Gos.izd-vo
iurid.lit-ry, 1958. 49 p.   (MIRA 12:2)
    (Forests and forestry)   (Hunting)   (Fisheries)

USSR.

Effect of concentration on the optical properties of solutions of acridine and its derivatives. L. V. Levshin (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 96, 473-6(1954).—Increases of the concns. of solns. lead to substantial changes in the optical properties of mols. of dissolved substances. Expts. showed that the concn. effect depended on assocn. of acridine mols. Expts. showed that the most intense assocn. for mols. of 3,6-diaminoacridine (C.A. numbering) developed in pyridine, acetone, alc., and glycine, i.e., in solvents that impeded the assocn. of dye mols. Assocn. did not depend on viscosity, dielec. const., and value of the dipole moment of the solvent. By use of the dimer absorption band for acridine in acetone and pyridine, the degree of assocn. of the soln. could be detd. For $C = 2 \times 10^{-3}$ g./cc., 70% of the mols. are in the dimeric state, whereas 30% exist as monomers. Luminescence spectra were detd. for 9-aminoacridine. These spectra change with concn. Similar changes were observed for 2-chloro-9-aminoacridine and 3,6-diaminoacridine. Since assocn. leads to a decrease of mol. vol., this fact could be used to det. the g.-mol. vols. for 2 glycerol solns. of 9-aminoacridine. The dependence of the polarization spectrum of 3,6-diaminoacridine on concn. of the soln. was also studied. In a dil. soln. the spectra had two max. in the long-wave and short-wave regions. For an increase of concn. the polarization at the spectrum max. decreased, remaining almost unaltered in the region between them. At $C = 1 \times 10^{-3}$ g./cc. the spectra degenerated almost to a straight line. These changes can hardly be connected with concn. depolarization, which usually changes the form of the polarization spectra. More probably they are connected with the aggregation of the mols.   O. S. M.

Levshin, L. V.

USSR/Physics - Luminescence

FD-1824

Card 1/1   Pub 146-9/25

Author   : Levshin, L. V.

Title   : Influence of concentration upon the optical properties of solutions of 3, 6-diaminoacridine

Periodical : Zhur. eksp. i teor. fiz. 28, 201-212, February 1955

Abstract   : The author investigates the influence of the concentration of a solution upon the absorption spectra, luminescence spectra, illumination intensity, average duration of the excited state, and polarization spectra of 3, 6-diaminoacridine. He demonstrates that the variations in optical properties during increasing concentration of the solution are caused by the dimerization of the molecules of this compound. He establishes the optical properties of the dimers and determines the degree of association of the solutions of various concentration. He investigates the influence of the solvent and temperature upon the association of the molecules of 3, 6-diaminoacridine. He thanks Prof. P. A. Bazhulin, who guided the present work; prof. A. M. Grigorovskiy, who advised on chemical problems; M. D. Galanin, fluorometer expert; N. D. Zhevandrov, who helped on the polarization measurements. Fifteen references; e.g. V. L. Levshin, Zhur. fiz. khimii, 6. 1, 1935, and ZS. f. Phys. 43, 1927.

Institution: Moscow State University

Submitted : March 2, 1954

USSR/Physics - Luminescence   FD-1825

Card 1/1   Pub 146-10/25

Author   : L. V. Levshin

Title   : Influence of concentration upon the optical properties of solutions of
acridine compounds

Periodical : Zhur. eksp. i teor. fiz. 28, 213-222, February 1955

Abstract   : The author investigates the influence of concentration upon the absorption
spectra (in the region from 500 to 220 millimicrons), luminescence spectra,
polarization spectra, light yield, and average duration of the excited state
of ten acridine compounds. He demonstrates that many concentration effects
can be explained by the association of the molecules of the dissolved sub-
stance. Association of the molecules of certain compounds annihilates the
luminescent capacity, and association of the molecules of other compounds
varies the spectral composition of radiation. He thanks Prof. P. A. Baz-
hulin, who guided the present work; Prof. A. M. Grigorovskiy, expert on
chemical problems; M. D. Galanin, fluorometer expert; and N. D. Zhevandrov,
who helped on polarization measurements. Ten references.

Institution: Moscow State University

Submitted : March 2, 1954

L E V S H I N, L. V.

USSR / Physical Chemistry. Molecule. Chemical Bond.   B-4

Abs Jour   : Ref Zhur - Khimiya, No 8, 1957, 25772

Author   : L.V. Levshin
Inst   : Academy of Sciences of USSR
Title   : Luminescence and Absorption of Concentrated Solutions of 3,6-
               Diaminoacridine.

Orig Pub   : Izv. AN SSSR, ser. fiz., 1956, 20, No 4, 419-423

Abstract   : A strong concentration dependence of absorption spectra of 3,6
               diaminoacridine (I) solutions was observed (RZhKhim, 1955,
               36658) earlier and this dependence was explained by the asso-
               ciation of molecules of I. The hypothesis of molecule asso-
               ciation at the concentration rise met an essential objection,
               because 1) the heating of the concentrated solution to 50 to
               70° altered the spectrum little, and 2) the effects of concen-
               tration were more noticeable in such solvents (diozane, pyri-
               dine, acetone, alcohol), in which ordinary dyes did not associ-
               ate in general, or associated very weakly. The observed pheno-

Card   : 1/2   - 23 -

LEVSHIN, L.V

USSR/Optics - Physical Optics.   K-5

Abs Jour   : Referat Zhur - Fizika, No 3, 1957, 7749

Author   : Levshin, L.V.
Inst   : Moscow State University, USSR.
Title   : Nature of the Concentration Effects in Solutions of
              Acridine Compounds.

Orig Pub   : Dokl. AN SSSR, 1956, 108, No 2, 228-231

Abstract   : Measurements of the luminescence spectra were made with
              a photoelectric method employing the ISP-51 spectroscope
              together with the PS-381 attachment; the receiver em-
              ployed was a FEU-17 photographic paper. The excitation
              was by means of the 436 and 365 mμ lines from a mercury
              spectrum. The pH of the solution was determined with the
              aid of a vacuum tube potentiometer LP-5. By changing the
              pH of the solution, it was possible to maintain in it the
              predominance of one of the two forms of 3.6-diamino-acri-
              dine. The absorption and luminescence spectra of these

Card 1/3   - 45 -

Card 3/3   - 41 -

USSR/Optics - Physical Optics.   K-5

Abs Jour   :   Referat Zhur - Fizika, No 3, 1957, 7749

forms differ in intensity and position of the maxima.
If all the molecules are in the second form, the pre-
viously-noted dependence of the spectrum on the wave-
length of exciting light is lacking. The frequencies
of the electron transitions are $\nu_0 \approx 21050$ cm^{-1} for
the first form and $\nu_0 = 22100$ cm^{-1} for the second form.
The second form of 3.6-diamino-acridine which appears
when the pH of the solution is increased, and darkens
rapidly upon illumination; therefore concentrated solu-
tions of 3.6-diamino-acridine become dark when exposed
to light, while dilute solutions do not react to illumi-
nation. The concentration effects are quite pronounced
also in 9-amino-acridine the glow of which changes from
blue into azure-green when the concentration increases.
It is obvious that here, too, the pH of the solution de-
termines the existence of the particular form of molecu-
les. By artificially changing the pH of a solution of

Card 2/3   - 46 -

PRIKHOT'KO, A. F.

24(7)   p.3   PHASE I BOOK EXPLOITATION   SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1:
Molekulyarnaya spektroskopiya (Papers of the 10th All-Union
Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy)
[L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies
printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po
spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.;
Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased),
Neporent, B.S., Doctor of Physical and Mathematical Sciences,
Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences,
Fabrikant, V.A., Doctor of Physical and Mathematical Sciences,
Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M.,
Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K.,
Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S.,
Candidate of Physical and Mathematical Sciences, and Glauberman,
A. Ye., Candidate of Physical and Mathematical Sciences.

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Spectrum on the Aggregate State of the Sub-
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Width of Raman Lines in Liquids and Solids   230

Pavlovskaya, T. Ye., and A.G. Pasynskiy. Variation
in Absorption Spectra of Protein Solutions Due to
Ionizing Radiation in Air and in Vacuum   235

Levshin, L.V., and A.P. Khovanskiy. Spectroscopic
Study of the Ionization of Molecules of Acridine
Compounds   240

Karyakin, A.V., and A.V. Shablya. Infrared-spectro-
graphic Study of the Sensitization of the Photo-
oxidation of Organic Compounds by Means of
Anthraquinone Derivatives   243

Card 16/30

LEVSHIN, L.V.

51-6-9/26

AUTHORS: Levshin, L. V.   and   Khovanskiy, A. P.

TITLE: Study of the Ionisation of Molecules of Acridine and its Derivatives using Luminescence Spectra. (Issledovaniye ionizatsii molekul akridina i yego proizvodnykh po spektram lyuminestsentsii)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.II, Nr.6, pp. 747-754.   (USSR)

ABSTRACT: In acid solutions molecules of acridine compounds are ionised and, since their alkalinities are not the same, the degree of ionisation for a given value of pH will differ from one compound to another.   Using luminescence spectra the ionisation of acridine and five of its derivatives: 1-, 2-, 3-, 9-monoaminoacridines and 3,6-diaminoacridine, was studied.   The luminescence spectra were measured photoelectrically using a glass spectrograph.   Luminescence was excited with 436 and 365 mμ lines from a mercury lamp.   The absorption spectra were measured using a quartz spectrophotometer. Dependence of the luminescence spectra in the region

Card 1/2

Study of the Ionisation of Molecules of Acridine and its Derivatives
using Luminescence Spectra.

51-6-9/26

400 to 660 mμ on pH for the substances studied is given
in Figs.1, 2, 3, 4 and 6.   Fig.5 shows the absorption
spectra of double ions of 9-aminoacridine and acridinium
in the region 220 to 460 mμ.   The degree of ionisation
and its dependence on pH was found for each compound
studied from its luminescence spectrum.   The results
obtained for 9-aminoacridine support acridonimine
structure for that molecule.   The authors thank
Professor A. M. Grigorovskiy for his advice and a supply
of the substances studied, and Z. A. Barmina for help
in experiments.   There are 6 figures, 21 structural
formulae and 12 references, 7 of which are Slavic.

ASSOCIATION: Moscow State University. (Moskovskiy gosudarstvennyy
universitet.)

SUBMITTED: November 19, 1956.

AVAILABLE: Library of Congress.
Card 2/2

AUTHORS: Levshin, L.V. and Suvorov, V.S.   51-4-5-18/29

TITLE: Association of Molecules of Rhodamine 6G and Crystal Violet
                  Dyes in Concentrated Aqueous Solutions (Assotsiatziya molekul
                  krasiteley podamina 6Zh i kristallicheskogo floletovogo v
                  kontsentrirovannykh vodnykh rastvorakh)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp 678-681 (USSR)

ABSTRACT: The present paper deals with the possibility of formation of
                  associates consisting of different dye molecules and with the study
                  of their properties. Rhodamine 6G and crystal violet were the two
                  dyes studied. The first of them luminesces strongly in solution
                  while the second does not possess luminescent properties. Each of
                  these two dyes readily forms associates in concentrated aqueous
                  solutions. The absorption spectra were measured using a SF-4
                  spectrophotometer. The luminescence spectra were recorded by means
                  of an ISP-51 spectrograph together with a photoelectric collimator
                  FS-381. The results are shown in Fig 1 which gives the absorption
                  spectra of the mixture (curves 1) and of the components (curves 2 and 3),
Card 1/3

51-4-5-18/29

Association of Molecules of Rhodamine 6G and Crystal Violet Dyes in Concentrated
Aqueous Solutions

whose concentrations are equal to the concentration of the mixture.
The shaded portions in Fig 1 represent the difference between the
absorption spectrum of the mixture obtained experimentally, and the
sum of the absorption spectra of both components. Magnitude
of this shaded region indicates the degree of non-additivity of the
absorption spectra. Such non-additivity is the evidence for the
existence of associates. Curves marked 4 in Fig 1, which are the
boundaries of these shaded regions, are called non-additivity curves.
Fig 2 shows the change with time of the non-additivity curve for the
mixture of the two dyes. Fig 3 shows the effect of heating to 95°C
on the non-additivity of the absorption spectra of the dye mixture.
The effect of the solvent on the non-additivity of the absorption
spectra of rhodamine 6G and crystal violet is shown in Fig 4. The
existence of non-additivity of the absorption spectra of rhodamine 6G
and crystal violet when they are mixed together, and the behaviour
of the non-additivity curves are shown to be conclusive evidence for
formation of associates consisting of rhodamine 6G and crystal violet
molecules. There are 4 figures and 7 references, 6 of which are Soviet
and 1 German.

Card 2/3

51-4-5-18/29

Association of Molecules of Rhodamine 6G and Crystal Violet Dyes in Concentrated Aqueous Solutions

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, fizicheskiy fakul'tet
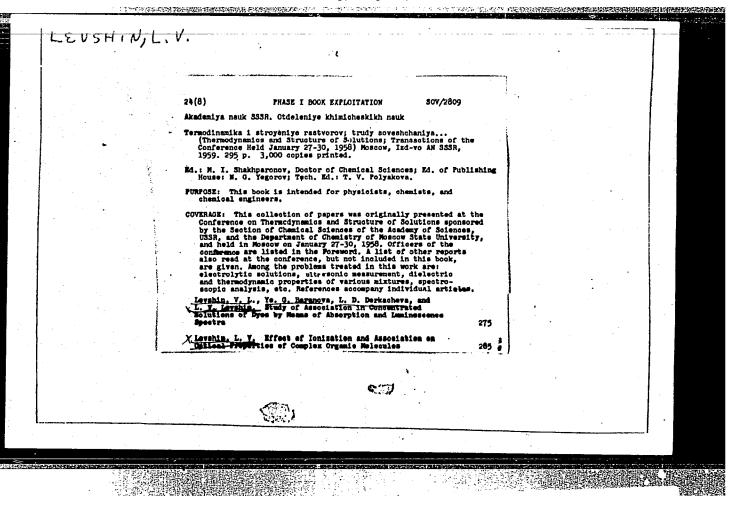   (Physics Department, Moscow State University)

SUBMITTED: July 19, 1957

              1. Rhodamine - Luminescence   2. Crystal violet -
                 Luminescence   3. Dyes - Analysis
Card 3/3

LEVSHIN, L. V.

24(8)   PHASE I BOOK EXPLOITATION   SOV/2809

Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk

Termodinamika i stroyeniye rastvorov; trudy soveshchaniya...
   (Thermodynamics and Structure of Solutions; Transactions of the
   Conference Held January 27-30, 1958) Moscow, Izd-vo AN SSSR,
   1959. 295 p. 3,000 copies printed.

Ed.: M. I. Shakhparonov, Doctor of Chemical Sciences; Ed. of Publishing
   House: N. G. Yegorov; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for physicists, chemists, and
   chemical engineers.

COVERAGE: This collection of papers was originally presented at the
   Conference on Thermodynamics and Structure of Solutions sponsored
   by the Section of Chemical Sciences of the Academy of Sciences,
   USSR, and the Department of Chemistry of Moscow State University,
   and held in Moscow on January 27-30, 1958. Officers of the
   conference are listed in the Foreword. A list of other reports
   also read at the conference, but not included in this book,
   are given. Among the problems treated in this work are:
   electrolytic solutions, ultrasonic measurement, dielectric
   and thermodynamic properties of various mixtures, spectro-
   scopic analysis, etc. References accompany individual articles.

Levshin, V. L., Ye. G. Baranova, L. D. Derkacheva, and
   L. V. Levshin. Study of Association in Concentrated
   Solutions of Dyes by Means of Absorption and Luminescence
   Spectra   275

Levshin, L. V. Effect of Ionization and Association on
   Optical Properties of Complex Organic Molecules   285

24(7)

AUTHOR: Levshin, L. V.

SOV/48-23-1-4/36

TITLE: Influence of Ionization Upon the Luminescence Spectrum of
            9-Amino Acridine and Its Monochloro Derivatives (Vliyaniye
            ionizatsii na spektry lyuminestsentsii 9-aminoakridina i
            yego monokhlorproizvodnykh)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
            Vol 23, Nr 1, pp 19-22 (USSR)

ABSTRACT: Due to the ionization of acridine and monoamino-acridine
            molecules their luminescence and absorption spectra vary in
            a similar manner (Ref 1). Single ionization by affiliation of
            one proton to the nitrogen of the ring leads to a spectral
            shift toward the long-wave range, whereas double ionization
            by affiliating a further proton to the amino group causes a
            shift toward the short-wave range. In the ionization of
            9-amino acridine the process takes place in the other way
            round. Therefore, it was assumed that 9-amino acridine
            possesses an acridone-imino structure. First ionization:
            affiliation of the proton to the amino group; second ionization:
            affiliation to the nitrogen of the ring(Refs 2,3). In this
            paper the ionization of 1,2,3,4-chloro-9-amino acridines is

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Influence of Ionization Upon the Luminescence   SOV/48-23-1-4/36
Spectrum of 9-Amino Acridine and Its Monochloro Derivatives

studied according to the method of luminescence. The shift of
the luminescence spectrum at single and double ionizations
corresponds fully to the above-mentioned data on 9-amino
acridine. Furthermore, the influence is investigated that is
exercised by the substitution of chlorine in the various ring
positions. Figures show the comparison of: 1) nonionized
9-amino acridine with its monochloro derivatives in
1,2,3,4-position, whereby the spectrum is not shifted consider-
ably, however, the shape of the spectrum depends to a large
extent on the position of chlorine; 2) the luminescence spectra
of the mono-ions of 9-amino acridine with its chloro derivat-
ives. Their shape varies only in a certain degree, whereas
considerable shifts take place, especially in position 1.
The minimum shift is to be found in position 3. The other
two positions adopt a mid-position. The third comparison of
the double-ionized 9-amino acridine with its chloro
derivatives shows a particularly marked shift of the 1- and
4-chloro derivative toward the long-wave range. Both curves
are almost equal, while for the positions 2 and 3 the spectrum

Card 2/3   of 9-amino acridine adopts a mid-position between them only

Influence of Ionization Upon the Luminescence   SOV/48-23-1-4/36
Spectrum of 9-Amino Acridine and Its Monochloro Derivatives

as far as the shape is concerned. The regularities resulting
from these data are explained by induction effects. In the
amino and imino structure, positive electric charges are
arranged in the symmetrical position round the nitrogen of
the ring or round the amino group. Chlorine enters into
reaction with nitrogen and produces a deformation of the
spectrum. There are 4 figures and 6 references, 4 of which
are Soviet.

Card 3/3

PHASE I BOOK EXPLOITATION   SOV/4698

Levshin, Leonid Vadimovich

Sergey Ivanovich Vavilov.   [Moscow] Izd-vo Mosk. univ., 1960.   101 p.
(Series: Zamechatel'nyye uchenyye Moskovskogo universiteta, no.
24) Errata slip inserted.   2,000 copies printed.

Editorial Board: S. B. Bernshteyn, Professor, D. G. Vilenskiy,
Professor, G. D. Vovchenko (Chairman and Resp. Ed.) Professor,
D. I. Gordeyev (Deputy Chairman) Professor, N. K. Gudziy, Pro-
fessor, P. A. Zayonchkovskiy, Professor, S. F. Kechek'yan, Pro-
fessor, K. P. Mel'nikova (Secretary), Candidate of Sciences,
F. Ya. Polyanskiy, Professor, K. A. Rybnikov, Professor, S. D.
Skazkin, Academician, and A. N. Solov'yev, Docent; Ed.: M. G.
Zaytseva; Tech. Ed.: G. I. Georgiyeva.

PURPOSE: The booklet is intended for the general reader. It will
be of particular interest to students of physics.

COVERAGE: This booklet outlines the life and scientific work of
the physicist, S. I. Vavilov (1891-1951). The first half of the
booklet includes biographical information, while the second
half presents essays on Vavilov's contributions to the fields

Card 1/2

LEVSHIN, L.V.; BOCHAROV, V.G.

Study of the concentration effects in solutions of certain
organic compounds. Opt.i spektr. 10 no.5:627-633 My '61.
(MIRA 14:8)

(Organic compounds—Spectra)   (Luminescence)

LEVSHIN, L.V.; GORSHKOV, V.K.

Nature of the bonding forces of associated molecules of dyes
in concentrated solutions. Opt. i spektr. 10 no.6:759-766
Je '61.   (MIRA 14:8)
          (Dyes and dyeing) (Molecular dynamics)

DROZD, L.; LEVSHIN, V.L.

Temperature dependence of the nature of the radiation of
nonactivated ZnS-CdS phosphors. Opt. i spektr. 10 no.6:
773-779 Je '61.   (MIRA 14:8)
(Phosphors—Spectra)

LEVSHIN, L.V.; LONSKAYA, I.S.

Dependence of the association of rhodamines on their molecular structure and the nature of the solvent. Opt. i spektr.
11 no.2:278-282 Ag '61.   (MIRA 14:8)
(Rhodamine)
(Molecular association)

006/005/016

S/188/62/00
B187/B102

AUTHORS: Levshin, L. V., Slavnova, T. D.

TITLE: Association of the molecules of rhodamine 6 X(6Zh) in mixtures of chloroform and CCl$_4$

TEXT: The binding energy U was determined quantitatively for associates of 6Zh rhodamine in mixtures of chloroform and CCl$_4$ for which an indication of the presence of hydrogen bonds was found in the infrared spectrum. The dependence of the binding energy on the concentration C and on the temperature T of the mixtures was studied by means of the electron absorption spectra. The fraction X of molecules in the monomeric state at a given concentration of the solutions was determined from the absorption spectra. It was found that log(X^2/(1-X)) is a linear function of 1/T. The value of U was determined with an error of $\pm$ 10% from the factor of proportionality C of the above linear function. U increases noticeably with increasing C of

Card 1/3

IGNAT'YEVA, L.A.; LEVSHIN, L.V.; OSIPOVA, T.D.; POLUKHIN, Yu.M.

Study of the association of rhodamine 6G molecules based
on electron and vibrational absorption spectra. Opt. i
spektr. 13 no. 3:396-402 S '62.   (MIRA 15:9)
    (Rhodamine—Spectra)   (Molecular association)

S/188/63/000/001/004/014
B104/B102

AUTHORS: Levshin, L. V., Herdovskiy, V.

TITLE: The effect of the molecule ionization of some derivatives of 9-aminoacridine on their spectra.

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 1, 1963, 24 - 31

TEXT: In earlier papers (L. V. Levshin, A. P. Khovanskiy, Optika i spektroskopiya, 2, 747, 1957) a method was developed for investigating ionization of acridine molecules. This is based on a study of the change occurring in their luminescence spectra when the pH values of an alcohol-ic solution are varied. In another paper (L. V. Levshin, Izv. AN SSSR, ser. fizicheskaya, 23, 19, 1959) this method had already been used to investigate the ionization effect on the luminescence spectra. Here the changes in the luminescence spectra of the solutions of the following five 9-aminoacridine derivatives are investigated by a photoelectric spectrometer: 9-(δ-diethylamino-α-methylbutyl)-aminoacridine; 2-chlor-9- 1-chlor-9-(δ-diethylamino-α-methylbutyl)-aminoacridine; 2-chlor-9-

Card 1/2

BABUSHKIN, Aleksandr Afanas'yevich, dots.; BAZHULIN, Pavel Alekseyevich,
    prof.; KOROLEV, Fedor Andreyevich, prof.; LEVSHIN, Leonid
    Vadimovich, prof.; PROKOF'YEV, Vladimir Konstantinovich, prof.;
    STRIGANOV, Arkadiy Romanovich, doktor fiziko-matem. nauk;
    GOL'DENBERG, G.S., red.; GEORGIYEVA, G.I., tekhn. red.

[Spectrum analysis methods]Metody spektral'nogo analiza. [By]
A.A.Babushkin i dr. Pod red. V.L.Levshina. Moskva, Izd-vo Mosk.
univ., 1962. 508 p.   (MIRA 16:2)
                (Spectrum analysis)

LEVSHIN, L.V.; SLAVNOVA, T.D.

Association of rhodamine 6G molecules in mixtures of chloroform
and carbon tetracholoride. Vest.Mosk.un. Ser.3:Fiz.,astron. 17
no.6:24-27 N-D '62.   (MIRA 15:12)

1. Kafedra optiki Moskovskogo universiteta.
   (Rhodamine) (Carbon tetrachloride) (Molecular association)

LEVSHIN, L.V.; BERDOVSKIY, V.

Effect of molecular ionization of some derivatives of 9-aminoacridine on their luminescence spectra. Vest.Mosk.un.Ser3:Fiz.,astron.18no.1: 24-31 Ja-F '63.

(MIRA 16:5)

1. Kafedra optiki Moskovskogo universiteta.
   (Acridine—Spectra)   (Ionization)

L 10165-63   EWT(m)/BDS—RM

ACCESSION NR: AP3000307   S/0048/63/027/005/0590/0595

                                                    54
AUTHOR: Bocharov, V. G.; Levshin, L. V.   51

TITLE: Association of rhodamine 6G molecules in binary solvents [Report;
Eleventh Conference on Luminescence held in Minsk 10-15 Sept. 1962]

SOURCE: Izvestiya AN SSSR. Seriya fizicheskaya, v. 27, no. 5, 1963, 590-595

TOPIC TAGS: molecular association, rhodamine 6G, absorption in solvents

ABSTRACT: The purpose of the work was to investigate the influence of the polar
component of a binary solvent on the association of rhodamine 6G molecules as
evinced by the absorption spectra of the dye. The nonpolar component in all cases
was carbon tetrachloride; the polar solvents were normal alcohols (methyl to amyl),
iso-alcohols (propyl to amyl) and secondary and tertiary butyl alcohols. The
binary mixtures were proportioned so that the molar ratio of the polar and nonpolar
components remained constant. There was observed the variation of the long
wavelength electronic absorption band of rhodamine 6G as a function of the
concentration (the microdensitometer traces are reproduced). It was found that
the monomer absorption decreases in going from methyl to high alcohols, while the

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L 10165-63
ACCESSION NR: AP3000307   3

dimer absorption increases. The change in monomer absorption is attributed to
changes in dipole-dipole interaction between the dye molecules and the solvent
molecules. For the mixtures used the monomer absorption coefficient is
proportional to the sum of the dipole moments in a unit volume of solvent. It is
concluded that the different concentration induced alterations in the absorption
spectra of rhodamine 6G are due to two factors: different dipole-dipole
interactions between the dye and solvent molecules, and difference in the
interaction between the dye molecules, resulting in different degrees of association
in different solvents. "In conclusion the authors thank Ye. A. Byrsak and
Z. A. Gorbunova for assistance in carrying out the work." Orig. art. has: 3
figures and 1 table.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im.
M. V. Lomonosova (Physics Dept, Moscow State University)

SUBMITTED: 00   DATE ACQ: 12Jun63   ENCL: 00

SUB CODE: PH   NR REF SOV: 011   OTHER: 001
Card 2/2

LEVSHIN, L. V.; AKBAROVA, D. M.

Effect of the nonpolar components of a binary solvent on the
development of molecular association in rhodamine 6G. Vest.
Mosk.un Ser.3:Fiz., astron.19 no. 2:16-24 Mr-Ap '64.
                                              (MIRA 17:5)

1. Kafedra optiki Moskvoskogo universiteta.

ACCESSION NR: AP4040667   S/0075/64/019/006/0693/0696

AUTHOR: Glovadskiy, Ya.; Golovina, A. P.; Levshin, L. V.; Mitsel',
Yu. A.

TITLE: Rhodamine 3B as a fluorescent reagent for indium

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 6, 1964,
693-696

TOPIC TAGS: indium determination fluorescence analysis, rhodamine
dye, rhodamine 3B, fluorescent reagent, germanium tetrachloride
analysis

ABSTRACT: Rhodamine 3B was selected as the least known of the rho-
damine dyes and the most promising fluorescent reagent for indium.
It has been shown that the fluorescence of benzene extracts of rhoda-
mine bromoindates can be excited by a visible light with a wave length
near the maximum absorption of their solutions.   The optimum concentra-
tions of acid, potassium bromide, and reagent were determined.   Indium
can be determined in the presence of 2000—3000 times its amount of
germanium, i.e., in germanium tetrachloride or in the presence of
10—20 times its amount of 10 other metals.
Card 1/2

ACCESSION NR: AP4040667

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V.
Lomonosov (Moscow State University)

SUBMITTED: 04Jul63   DATE ACQ: 06Jul64   ENCL: 00

SUB CODE: GC   NO REF SOV: 009   OTHER: 000

Card 2/2

LEVSHIN, V.L., doktor fiz.-matem. nauk

Successes of molecular luminescence; conference in Kharkov.
Vest. AN SSSR 34 no.10:108-111 O '64.

(MIRA 17:11)

LEVSHIN, L.V.; AKBAROVA, D.M.

Spectroscopic study of the association of 6G-rhodamine in
mixtures of carbon tetrachloride with various polar solvents.
Zhur. prikl. spektr. 3 no.5:441-448 N '65.

(MIRA 18:11)

BOCHAROV, V.G.; LEVSHIN, L.V.

Effect of molecular interactions on the optical properties of
molecules of the rhodamine 6G dye in binary solvents. Vest.
Mosk.un. Ser. 3: Fiz., astron. 20 no.4:78-82 Jl-Ag '65.

(MIRA 18:12)

1. Kafedra optiki Moskovskogo gosudarstvennogo universiteta.
Submitted May 24, 1964.

L 01275-66   EWT(1)/EWT(m)/EWP(j)/T   IJP(c)   RM

ACCESSION NR: AP5020785   UR/0048/65/029/008/1295/1301

AUTHOR: Levshin, L. V.

TITLE: Association of rhodamine series dye molecules in binary solvents /Report,
13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, No. 8, 1965, 1295-1301

TOPIC TAGS: luminescence quenching, absorption spectrum, solution property, dye
chemical, nonaqueous solution, hydrogen bonding

ABSTRACT: The author discusses the experimental data on the absorption spectra
of rhodamine dyes in binary mixtures of polar and nonpolar solvents, which he
and collaborators have published in a series of papers beginning in 1961. The
investigations were undertaken to study association of the dye molecules. It was
found, however, that the absorption spectra of rhodamine 6G varied considerably in
different solvents in which its degree of association was practically the same.
Both the polar and nonpolar components of the solvent affected the spectrum and
also influenced the concentration damping of the luminescence. Some of the ob-
served phenomena are explained in terms of the conjugated bonds and shared

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L 01275-66

ACCESSION NR: AP5020785

π-electron clouds of the aromatic solvents, which facilitate the formation of certain types of hydrogen bonds. Rhodamine 3B was not associated in a mixture of carbon tetrachloride and propyl alcohol, whereas rhodamine 6G was associated in this solvent. This is ascribed to the formation of hydrogen bonds with the N H groups that occur in rhodamine 6G but not in rhodamine 3B. It is concluded that the solvent molecules exert a very great influence on the association of dye molecules, and that in binary solvents each solvent molecular species has its own very specific effect, which is determined by the nature and structure of the molecules. Orig. art. has: 5 figures.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova (Physics Department, Moscow State University)

SUBMITTED: 00   ENCL: 00   SUB CODE: GC, OP

NO REF SOV: 012   OTHER: 000

Card 2/2

L 6988-66

ACC NR: AP5020243

AUTHOR: Rocharov, V. G.; Levshin, L. V.

SOURCE CODE: UR/0188/65/000/004/0078/0082

ORG: Department of Optics (Kafedra optiki)

/6

B

TITLE: The influence of molecular interaction on optical properties of the Rhodamine 6-G molecule in binary solutions

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no. 4, 1965, 78-82

TOPIC TAGS: molecular interaction, dye chemical, organic solvent, alcohol, carbontetrachloride, band spectrum, solution concentration

ABSTRACT: In concentrated solution many organic substances, especially dyes, associate with molecules of the solvent. This is usually accompanied by a change in the absorption spectra and it initiates a diminishing of the luminescence of the dye. The latter depends on the nature of the solution used. To study the intermolecular interaction effects on Rhodamine 6-G (a brilliant yellowish red basic dye used in coloring paper) measurements were carried out with both polarized and unpolarized

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UDC: 535.34

Card 2/2

L 33243-66   EWT(m)/EWP(j)   RM

ACC NR: AR6016196   SOURCE CODE: UR/0058/65/000/011/D027/D028

AUTHOR: Bocharov, V. G.; Levshin, L. V.

TITLE: Influence of intermolecular interaction on the optical properties of molecules of rhodamine 6Zh dye in binary solvents

SOURCE: Ref. zh. Fizika, Abs. 11D213

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 313-318

TOPIC TAGS: molecular interaction, optic property, dye chemical, absorption band, solution concentration, monomer, organic solvent

ABSTRACT: The authors investigated the concentration effects in solutions of rhodamine 6Zh dye dissolved in binary mixtures of 10 different alcohols with CCl_4 and water. It is shown that the concentration changes of their electronic absorption bands, and also the concentration luminescence quenching, depend strongly on the nature of the solvent. It is established that the concentration changes in the absorption spectra are due both to the formation of associated molecules of dye, and to unequal influences exerted on the absorption band of its monomers and associates on the part of the molecules of the different binary solvents. Taking these effects into account, the degrees of association are calculated for all the investigated solutions and the absorption spectra of the molecules of rhodamine 6Zh, which are in a monomer and associated states, are determined. [Translation of abstract]

SUB CODE: 20, 07/

LEVSHIN, S.A., inzh.; GOL'TSMAN, V.Kh.

Precast reinforced concrete in the construction of the Kaunas Hydroelectric Power Station. Gidr. stroi. 30 no.4:15-19 Ap '60.

(Kaunas Hydroelectric Power Station)
(Precast concrete construction)

LITVINOV, L.N., kand.tekhn.nauk; MORIGEROVSKIY, V.M., kand.tekhn.nauk;
LEVSHIN, S.V., inzh.; SHKLYAYEV, A.V., inzh.

Driving piles with diesel hammers not of the drop hammer type.
Transp. stroi. 11 no.7:13-14 Jl '61.   (MIRA 14:7)
(Piling (Civil engineering))

LEVSHIN, S.A., inzh.

Precast reinforced concrete in the construction of the Kaunas
Hydroelectric Power Station. Energ. stroi. no.20:30-36 '61.
(MIR. 15:1)

1. Kaunasgesstroy.
(Kaunas Hydroelectric Power Station--Precast concrete construction)

SOV/124-57-4-4561

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 97 (USSR)

AUTHOR: Levshin, V. A.

TITLE: On One Application of Toroidal Coordinates in the Theory of Elasticity
(Ob odnom primenenii toroidal'nykh koordinat v teorii uprugosti)

PERIODICAL: Nauch. tr. Mosk. tekhnol. in-ta legkoy prom-sti, 1956, Nr 7,
pp 260-283

ABSTRACT: The author discusses the application of toroidal coordinates to the
solution of a problem on the equilibrium of an elastic body. The solu-
tion is given in terms of Papkovich-Neuber harmonic functions. Under
conditions of axisymmetrical loading of the tore, the solution retains
one harmonic function, the general expression of which contains
toroidal functions as introduced by Neumann. No specific examples
are included in the article. It should be noted that the basic results
of this work appear in an article by A. F. Zakharevich (Zap. Leningr.
gorn. in-ta, 1952, Vol 26, Nr 1) in which the approach described
above is applied to the solution of a problem on the stresses in a
revolving tore.

                                                    V. K. Prokopov

Card 1/1

40511

S/044/62/000/008/006/073
C111/C333

AUTHOR: Levshin, V. A.

TITLE: On the solution of homogeneous one-dimensional linear differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1962, 33, abstract 8B148. ("Nauchn. tr. Mosk. tekhnol. in-t legkoy prom-sti", 1961, no. 20, 216-219)

TEXT: A simple integration method is suggested for the homogeneous one-dimensional linear differential equation

$$\sum_{k=1}^{n} \frac{a_k}{r^{n-k}} \frac{d^k}{dr^k} \varphi = 0,$$

where a_k are constants (k=1,...,n). It is shown that, using the Euler-substitution $r = e^t$ (where t is the new parameter) for all k=1,...,n, the relation

$$\frac{d^k}{dr^k} = \prod_{i=0}^{k-1} \left(\frac{d}{dt} - i \right)$$

Card 1/2

LEVSHIN, Vladimir Arturovich; FILONENKO-BORODICH, M.M., doktor tekhn.nauk, prof., retsenzent; VOSTROKNUTOV, S.P., doktor tekhn.nauk, prof., retsenzent; SINDEYEV, V.A., prof., retsenzent; SOKOLOV, V.I., doktor tekhn.nauk, prof., retsenzent; MINAYEVA, T.M., red.; SHAPENKOVA, T.A., tekhn.red.

[Strength of materials] Soprotivlenie materialov. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1961. 475 p.

(MIRA 14:6)

(Strength of materials)

S/124/63/000/001/035/080
D234/D308

AUTHOR: Lëvshin, V.A.

TITLE: A generalization of the solutions of some problem
             of the theory of elasticity.

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1963, 3,
             abstract 1V13 (Nauchn. tr. Mosk. tekhnol. in-t
             legkoy prom-sti. 1961, no. 23, 198-239)

TEXT: The author describes general equations of the theory
of elasticity and thermoelasticity, the equations of the plane prob-
lem in Cartesian and polar coordinates. He considers known solutions
of the following problem. Lamé's problem for a cylinder in this
field, the problem of rotating cylinder and sphere, the problem of
temperature stresses in a hollow cylinder and a hollow sphere.
/ Abstracter's note: Complete translation_/

Card 1/1

AUTHOR: Levshin, V. A.

TITLE: Choice of stress functions for an axisymmetrically
            loaded tore

TEXT: The author proposes a determined choice of harmonic func-
tions $\bar{\Phi}_0$ and $\bar{\Phi}$ in the expression for the stress function

$$F = \bar{\Phi}_0 + \frac{c \sin \Theta \, \bar{\Phi}}{ch \, \eta - \cos \Theta}$$

in the case of axisymmetrically loaded tore (see Nauchn. tr. Mosk.
tekhnol. in-t legkoy prom-sti, 1956, sb. 7, 260-283 - RZhMekh,
1957, no. 4, 4561). The case of a hollow tore loaded by external

Card 1/2

Choice of stress ...

and internal pressure is studied. /Abstracter's note: Complete
translation./

S/124/63/000/003/023/065
D234/D308

Card 2/2

L 23570-66   EWT(1)/EWT(m)/T/EWP(t)   IJP(c)   JD
SOURCE CODE: UR/0368/66/004/004/0316/0322

ACC NR: AP6012854

AUTHORS: Goryunov, V. A.; Levshin, V. L.

ORG: none

TITLE: The influence of repeated electron localization on the photostimulated luminescence and conductivity of ZnS-Cu monocrystals

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 4, 1966, 316-322

TOPIC TAGS: zinc sulfide copper, monocrystal, conductivity, electron radiation, electron trap, thermoluminescence

ABSTRACT: The relation between thermoluminescence and thrmostimulated conductivity curves has been determined by optical and electrical measurements. Electron migration from deep traps to shallow ones has been studied on thermoluminescence curves under exposure to IR radiation of 1.2 μ. An estimation of the influence of repeated electron localization on photostimulated radiation at specific temperatures has been carried out. Electrons transferred by the IR radiation from the deep traps into the conductivity band are repeatedly captured by the shallow adhesion levels due to the high probability of repeated localizations. With temperature decrease, more and more electrons are delayed on shallow traps. This leads to "freezing" of photostimulated radiation. Orig. art. has: 4 figures and 2 formulas. [Based on author's abstract][AM]

SUB CODE: 20/   SUBM DATE: 10Jul65/   ORIG REF: 006/   OTH REF: 004/
Card 1/1

1925-1956

LEVSHIN, Vadim Leonidovich

"The Polarized Fluorescence and Phosphorescence of Dye Solutions," Zhur.
Russkogo fiz-khimich. ob-va. Ch. fizicheskaya, Nos. 3-4, 1925

LEVSHIN, V.

Cost of gasoline production in Grozny in various cracking units. V. LEVSHIN. Grosnenskii Neftyanik 1, No. 11-12, 81-3(1931).—The cost of a gallon of cracked gasoline produced in Grozny amounts in the Dubbs unit to 5.5754, in the Winkler-Koch unit to 6.5914, in the Jenkins unit to 10.3384 and in the Cross unit to 5.5780 Kopeks.

A. A. HOSHTLINOK

METALLURGICAL LITERATURE CLASSIFICATION

CA

LEVSHIN, V. L.

Application of a hyperbolic function to the representation of the extinction of phosphides. V. L. Levshin and V. V. Antonov-Romanovskii. *Compt. rend. acad. sci. U. R. S. S.* [N.S.], 1933, 205-6(in French 206-7).—The extinction of the phosphorescence of Zn and Zn-Cd phosphides by infra-red rays is due to auto-excitation of the phosphide and is given by $I = At^{-s}$.   F. H. R.

METALLURGICAL LITERATURE CLASSIFICATION

βc

ℓ Ⅱ 3

Investigations on phosphorescence. I The hyperbolic law of decay of phosphorescence. V. L. Levshin and V. V. Antonov-Romanovskii. *Physik. Z. Sowjetunion* 5, 790-810(1934). —The Becquerel equation for the rate of decay of phosphorescence, which holds for only very short time intervals, is transformed to the hyperbolic function $I = At^{-a}$, where I is the emitted light intensity, A is a const. numerically equal to I when the time $t = 1$, and a a const. characteristic of the rate of decay. Results of measurements with a series of Zn phosphors, in which the relative intensities were varied 3000-fold, show the equation to hold over long time intervals during which 75% of the total light stored up in the phosphor is emitted. Self-excitation decreases decay of phosphorescence, the decrease being greater with thicker phosphor layers. II. The quenching of phosphorescence by infra-red rays and its application to photography in the infra-red region of the spectrum. V. L. Levshin, V. V. Antonov-Romanovskii

and L. A. Tumerman. *Ibid.* 811-37. The quenching of phosphorescence produced by exposing phosphors to infra-red light of wave length 0.45 18 μ is studied. The reciprocity law of Bunsen and Roscoe is shown to hold, the quenching effect being const. provided the product of the intensity of the quenching infra-red rays and the time of exposure is const. The hyperbolic law of decay of phosphorescence (cf. above) holds for most rate quenching at various wave lengths. The factors influencing quench ing which are investigated include: effect of wave length, independence of quenching coeff. and the total light energy of quenching at any one wave length, the relation of the total energy of the quenching light to the quenching, and the relation between the total phosphorescent light emitted and the total quenching light. The quenching coeffs. of 4 phosphors at various wave lengths are plotted to give sensitivity curves resembling those of photographic plates. The application to photography in the infra-red, giving a positive directly, is indicated and photographs taken with 45 sec. exposures at an av. wave length of about 1.0 μ are shown. K. O. W.

5A

A 53
2

2040. Relationship between Absorption and Fluorescence Spectra in Dilute Solutions of Dye-Stuffs. W. L. Lewschin. *Comptes Rendus de l'Acad. des Sciences, U.S.S.R.* 1, pp. 478-482, March 11, 1935. In German. The work now described is a continuation of previous experiments on the same subject [see Abstract 3742 (1936)]. The absorption and fluorescence spectra of crystalline eosine H extra in water, solution and fluorescence spectra of crystalline eosine H extra in water, amyl alcohol, and acetone solutions, of erythrosine extra in water, acetone; water, and acetone, and of rhodamine 6G extra in water and in acetone are measured quantitatively at 80°C. A marked change in the intensity of fluorescence accompanies change in solvent, whilst absorption and fluorescence spectra both become displaced, the displacement being unrelated to the dielectric constant of the solvent. The effect of temperature is also investigated. The change of fluorescence intensity with temperature is independent of concentration and of the nature of the solvent. The absorption of rhodamine G extra in iso-amyl alcohol decreases with increasing temperature, whilst that of rhodamine 6G extra remains unchanged. The temperature effects are therefore associated with the structure of the respective molecules. Corresponding and proportional changes are also observed in the fluorescence spectra of these solutions.   C. B. A.

METALLURGICAL LITERATURE CLASSIFICATION