"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

USSR/General Biology. General Hydrobiology. B-6

Abs Jour : Ref Zhur-Biol., No 16, 1958, 71671

Author : Shkleyev, S. M.
Inst : Kuybyshev Medical Institute.
Title : Hydrochemical and Hydrobiological Characteristics of Lakes of the Volga River Botton Lands within Kuybyshev Oblast'.

Orig Pub : Tr. Kuybyshevsk. med. in-ta, 1957, 7, 101-104

Abstract : Studies are reported concerning the results of stationary year-around investigations of the hydrochemical and hydrobiological cycle of the Zelenen'kiy and Pesochnyy Lakes and of field observations in a series of lakes.

Card : 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

GINZBURG, V.L., redaktor; LEYKIN, G.A., kandidat fiz.-mat. nauk, redaktor; CHIKHACHEV, B.M., kandidat fiz.-mat. nauk, redaktor; SHKLOVSKIY, doktor fiz.-mat. nauk; FRADKIN, M.I., redaktor; MAKUNI, Ye. V., tekhnicheskiy redaktor.

[Proceedings of the Fifth Conference on Problems of Cosmogony; radioastronomy] Trudy piatogo soveshchaniia po voprosam kosmogonii; radioastronomiia. Moskva, 1956. Izd. Akademii nauk SSSR. 567 p. (MLRA 9:5)

1.Soveshchaniye po voprosam kosmogonii. 5th, Moscow 1955.2.Chlen-korrespondent AN SSSR (for Ginzburg).
(Radio astronomy)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A. M.

SHKLOVER, A.M.

[Method of calculating the heat resistance of buildings with single and multiple layers in walls and roofs] Metod rascheta odnosloinykh i mnogosloinykh ograzhdaiushchikh konstruktsii zdanii na teploustoichivost'. Izd. Akad. Arkh. SSSR., Moskva, 1945 79 p. (MLRA 7:5)
(Insulation (Heat))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M., inzhener

Principles for standardizing heat stability calculations of buildings. Stroi.prom.25 no.2:17-19 F'47. (MIRA 8:12)
(Insulation (Heat))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

LYKOV, A. V.

Mbr., Inst. Building Technology, Acad. Architectures, -1944-48-. "Use of Complex Numbers in Solving Problems of Heat Transfer by Plane Thermal Waves," Dok. AN, 45, No.3, 1944; "Solving Problems on the Heat Transfer of Flat Heat Waves with the Aid of Graphs," Zhur. Tekh. Fiz., 18, No. 7, 1948.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER A. M.

Heat - Conduction

Calculating the heat resistance of walls and roofs in relation to fluctuating outside temperature. Mat. i konstr. No. 4, 1949.

Monthly List of Russian Accessions, Library of Congress, August 1952 UNCLASSIFIED

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M., inzh.

Calculating dampness in exterior walls and roofs using the method of fixed balance. Stroi.prom. 27 no.7:20-23 Jl '49. (MIRA 13:2)

(Dampness in buildings)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

NSA

Engineering

)64
TEMPERATURE VARIATIONS ON THE SURFACE OF AN INFINITE SHELL UNDER DISCONTINUOUS HEAT FLOW.
A. M. Shklover. Zhur. Tekh. Fiz. 21, 1372-8(1951) Nov.
(In Russian)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M.

[Heat engineering computations for buildings located in southern U.S.S.R.] Teplotekhnicheskie raschety zdanii, raspolozhennykh na iuge SSSR. Moskva, Gos.izd-vo lit-ry po stroitel'stvu i arkhitekture, 1952. 42 p.
(MLRA 6:7)

1. Akademiya arkhitektury SSSR. Nauchno-issledovatel'skiy institut stroitel'noy tekhniki. (Air conditioning)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A. M.

N/5
613.59
.S5

Teploperedacha periodicheskikh teplovykh vozdeystviy (Thermal Transmission Of Periodic Thermal Influence) Moskva, Gosenergoizdat,1952.

79 p. diagrs., tables.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 200-I

Call No. TH 7121S47

BOOK

Author: SHKLOVER, A.M. Master of Eng. Sci.

Full Title: THERMAL STABILITY OF BUILDINGS

Transliterated Title: Teploustoychivost' zdaniy

Publishing Data

Originating Agency: Academy of Architecture, USSR. Scientific Research Institute of Building Technology.

Publishing House: State Publishing House of Literature on Building and Architecture.

Date: 1952 No. pp: 167 No. of copies: 3,000

Editorial Staff

Editor: Dashkevich, L.L. Dr. Eng. Sci. Tech. Ed.: None

Editor-in-Chief: None Appraiser: None

Text Data

Coverage: New methods of determining the thermal stability of buildings are presented exclusively from the physical and mathematical points of view. Heat capacity and conductivity of building parts (doors, windows, walls, etc.) are analyzed in respect to the seasonal, geographic, and solar-angularity variations of the interior and exterior temperatures. Continuous and interrupted heating methods are outlined as a function of the mean amplitude of composed

1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

harmonics of temperature variations. The question of air ventilation is also discussed in analytical terms. (Charts and tables)

This book treats the problems of heating buildings exclusively thermophysically and mathematically, unlike American books, whose approach is usually empirical and based on practical details of construction design.

Purpose: The textbook for construction engineers, architects and scientific workers on the thermal-physical problem of building.

Facilities: Professor O. E. Vlasov and Dr. Eng. Sci. L. A. Semenov are called the pioneers on the scientific research work in this field. Candidate of Engineering Sciences V. F. Vasil'yev conducted experiments at the laboratory of thermal physics of the Scientific Research Institute of Building Technology testing the conclusions presented in this book.

No. of Russian and Slavic References: 9 in foot notes. (1929-1950)

Available: Library of Congress

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

USHKOV, F.V., kandidat tekhnicheskikh nauk; SHKLOVER, A.M., kandidat tekhnicheskikh nauk, redaktor.

[Research on the thermotechnical properties of walls made of three-layer reinforced-concrete panels] Issledovanie teplotekhnicheskikh svoistv sten iz trekhsloinykh zhelezobetonnykh panelei. Pod red. A.M.Shklovera. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953. 58 p. (MLRA 6:10)
(Reinforced concrete) (Walls)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, Aron Mikhaylovich; VASIL'YEV, Boris Fedorovich; USHKOV, Fedr Vasil'yevich; KAUFMAN, B.N., kandidat tekhnicheskikh nauk, nauchnyy redaktor; BORODINA, I.S., redaktor izdatel'stva; PERSON, M.N., tekhnicheskiy redaktor

[Principles of heat engineering as applied to construction] Osnovy stroitel'noi teplotekhniki zhilykh i boshchestvennykh zdanii. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 349 p.(MLRA 9:11)
(Heat engineering)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M.

The temperature regime in a room under different heating systems. Vod.i san.tekh. no.3:1-4 Mr '56. (MLRA 9:7)
(Heating)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M.

SHKLOVER, A.M.

Calculating cooling in areas serviced by uneven heating. Vod. i san.tekh. no.9:8-11 S '57. (MIRA 10:11)
(Heating)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, Aron Mikhaylovich; VOSKRESENSKIY, K.D., red.; LARIONOV, G.Ye., ~~tekhn. red.~~

[Heat transfer in connection with intermittent heat] Teploperedacha pri periodicheskikh teplovykh vozdeistviiakh. Izd.2., perer. i dop. Moskva, Gos. energ. izd-vo, 1961. 159 p. (MIRA 14:9)
(Heat—Transmission)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M., kand.tekhn.nauk

Basic problems in the theory of heat resistance. Izv.ASiA no.3:97-98 '62. (MIRA 15:11)
(Walls—Thermal properties)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M., kand.tekhn.nauk

Breaks in the operation of a heating system. Vod.i san. tekh. no. 2:6-11 F '62. (MIRA 15:2)

(Heating)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, A.M., kand.tekhn.nauk

Patterns of the path of a wave of heat in a multilayer wall. (MIRA 16:1)
Izv.ASiA 4 no.4:118-121 '62.
(Walls--Thermal properties)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PHASE I BOOK EXPLOITATION SOV/5720

Shklover, Aron Mikhaylovich

Teploperedacha pri periodicheskikh teplovykh vozdeystviyakh (Heat Transfer During Recurrent Thermal Reactions) 2nd ed., rev. and enl. Moscow, Gosenergoizdat, 1961. 159 p. Errata slip inserted. 7000 copies printed.

Ed.: K. D. Voskresenskiy; Tech. Ed.: G. Ye. Larionov.

PURPOSE: This book is intended for engineers, students, and scientific workers interested in problems of heat transfer.

COVERAGE: The book describes a simple method developed by the author for the calculation of flat heat waves in multilayer walls. This method can be used for solving technical problems connected with the variation of temperatures and heat flows in various types of walls and in closed spaces limited by walls. Directions are given for the use of simplified approximate

Card 1/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

GULAMOV, R.G.; ZAYKO, G.I.; ZOTOV, A.N.; ISADZHANOVA, Kh.K.; SOKOLOV, Yu.A.; SHKLOVER, A.Ya.; TSUKERMAN, M.P.; USTIMENKO, I.L., red.; BAKHRIYAROV, A., tekhn.red.

[Tashkent; concise reference book] Tashkent; kratkii spravochnik. Izd.2., dop. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1958. 190 p. (MIRA 13:3)

(Tashkent--Guidebooks)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

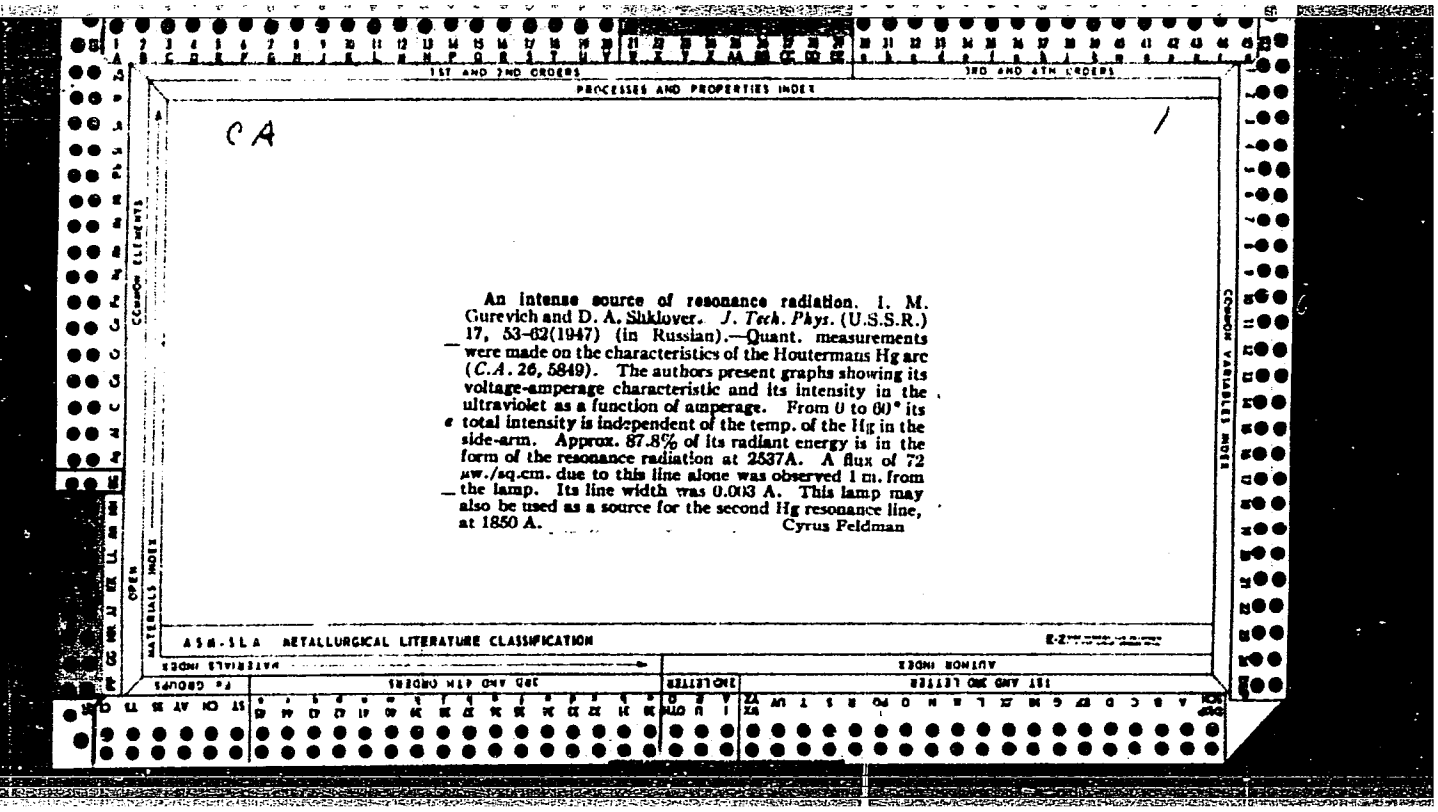
"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D. A.

"Quantum Yield of Luminescence in Some Silicates, Tungstates, and Borates," Zhur. Tekh. Fiz., No.11, 1947

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8



CA

An intense source of resonance radiation. I. M. Gurevich and D. A. Shklover. *J. Tech. Phys.* (U.S.S.R.) 17, 53–62(1947) (in Russian).—Quant. measurements were made on the characteristics of the Houtermans Hg arc (*C.A.* 26, 5849). The authors present graphs showing its voltage-amperage characteristic and its intensity in the ultraviolet as a function of amperage. From 0 to 60° its total intensity is independent of the temp. of the Hg in the side-arm. Approx. 87.8% of its radiant energy is in the form of the resonance radiation at 2537A. A flux of 72 μw./sq.cm. due to this line alone was observed 1 m. from the lamp. Its line width was 0.003 A. This lamp may also be used as a source for the second Hg resonance line, at 1850 A.

Cyrus Feldman

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

Quantum yield of the luminescence of some silicates, tungstates, and borates. D. A. Shklover (All-Union Ele-
trotech. Inst., Moscow). *Zhur. Tekh. Fiz.* 17, 1239 52
(1947); *Chem. Zentr.* (*Russian Zone Ed.*) 1949, I, 10. The
quantum yields of the technically important luminophores
$MgWO_4$ (I), $(Zn,Be)SiO_3$ (II), $ZnSiO_3$ (III), and $Cd_2B_2O_5$
(IV) were detd. The basis of comparison was the light
emission under irradiation with the spectral line 2537 A.
This light emission is defined as the ratio of the intensity of
the luminescent light to the intensity of the exciting radia-
tion falling upon the surface of the luminophore. The
quantum yield (k) is given by the equation $k = \eta$ 0.21C

Kvy) = η η [illegible] e), in which C is the mean relative visibility
for the luminescence radiation, K is the quantum ratio, α
and ν are the absorption quotients of the exciting radiation
and of the luminescence radiation, resp., in the film of the
luminophore, η is the light emission. The values of η for
the luminophores tested were between 50 and 140 lumens/
w., with the highest value of 137 lumens/w. being shown by
III. These values were 5-6 times those for incandescent
lamps. The absorption coeffs. for the visible portion of the
spectrum were 10-15% for I, III, and IV and 2-15% for II
The max. absorption coeff. occurred at λ = 300 mμ for I and at
250 mμ for II, III, and IV. The absorption coeff. for the
resonance radiation of the Hg line λ = 253.7 mμ was 90-
95% for I, II, and IV and 78% for III. The k values for the
253.7 mμ Hg line are reported for the various grades of
luminophores: For I 0.85, 0.98, and 0.82; for II 0.91,
for III 0.74, 0.67, and 0.53; for IV 0.70; and for daylight
mixts. 0.85 and 0.77. M. G. Moore

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D. A.

PA 75T30

USSR/Electricity
Lamps, Mercury
Lamps, Quartz

May 1948

"The Stability of Radiation of Mercury Quartz Lamps PRK-2 and PRK-4," D. A. Shklover, All-Union Elec Eng Inst, 3 pp

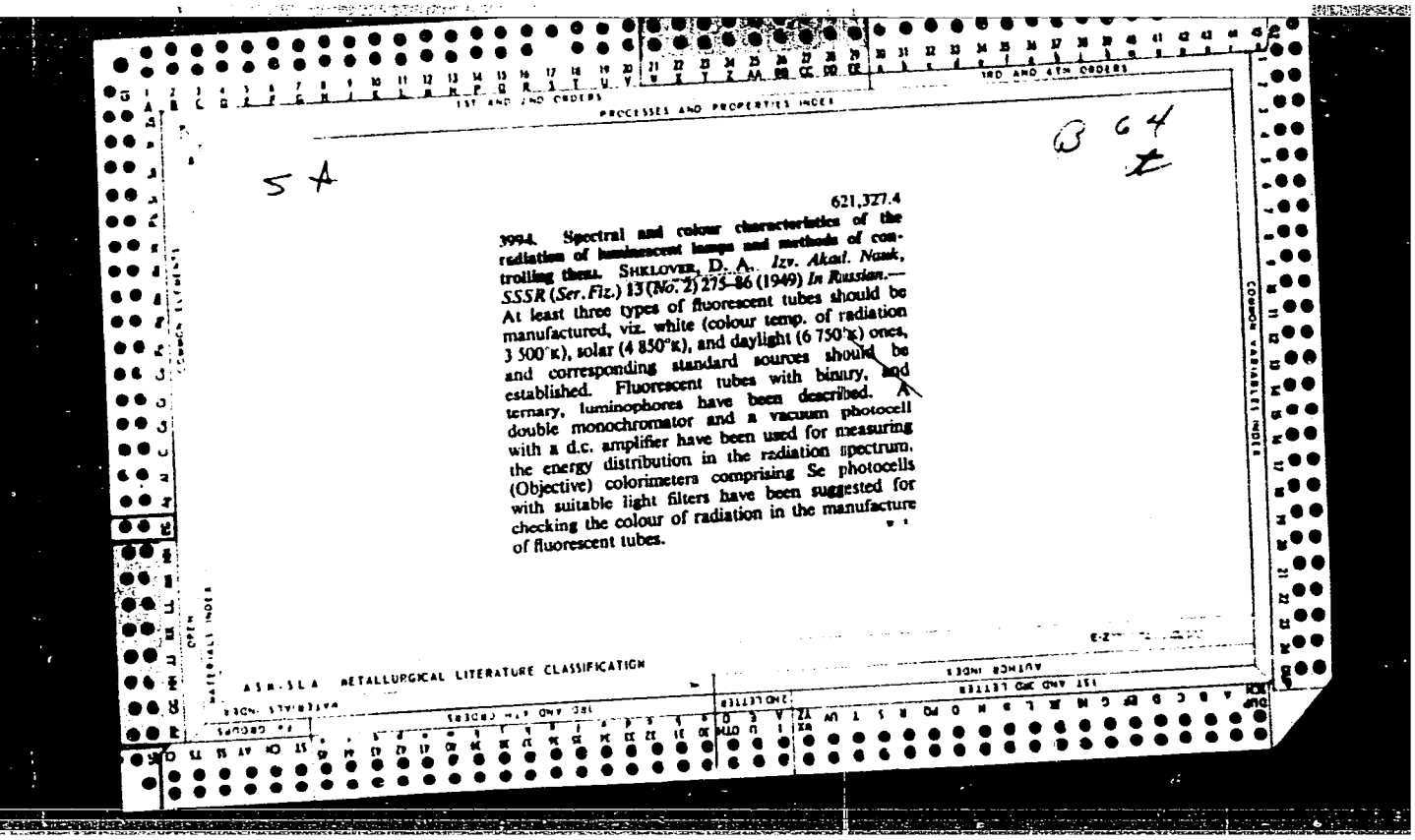
"Zavod Lab" Vol XIV, No 5

Working life of these lamps is 1000 hours. Describes measurements of relative power and wave lengths for various hours of service. Shows results graphically.

75T30

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8



621,327.4

3994. **Spectral and colour characteristics of the radiation of luminescent lamps and methods of controlling them.** SHKLOVER, D. A. *Izv. Akad. Nauk, SSSR (Ser. Fiz.)* 13 (*No.* 2) 275–86 (1949) *In Russian.*— At least three types of fluorescent tubes should be manufactured, viz. white (colour temp. of radiation 3 500°K), solar (4 850°K), and daylight (6 750°K) ones, and corresponding standard sources should be established. Fluorescent tubes with binary, and ternary, luminophores have been described. A double monochromator and a vacuum photocell with a d.c. amplifier have been used for measuring the energy distribution in the radiation spectrum. (Objective) colorimeters comprising Se photocells with suitable light filters have been suggested for checking the colour of radiation in the manufacture of fluorescent tubes.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D. A.

USSR/Engineering - Control Equipment May 51

"Universal Photoelectric Colorimeter VEI," D. A. Shklover, P. S. Ioffe, VEI (All-Union Elec Eng Inst imeni V. I. Lenin)

"Iz Ak Nauk SSR, Otdel Tekh Nauk" No 5, pp 667-681

Describes new photoelec colorimeter developed in VEI Instr permits measurements of light and color intensity and color temp of light-source radiation, and measurements of refraction and reflection coeffs of various transparent and opaque materials. Colorimeter is now used in laboratories of plants and sci res institutes. Submitted by Acad V. S. Kulebakin.

182T62

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

CA

3

Methods of measurement of the optical characteristics of the radiation of phosphors, fluorescent lamps, and cathode-ray tubes. D. A. Shklover (Leningrad Electrotech. Inst. Izvest. Akad. Nauk, S.S.S.R. Ser. Fiz. 15, 829-34 (1951)). The intensity of radiation is measured with a Se cell, adjusted to eye sensitivity, with a filter and an amplifier (*Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1951, 807-81) or with a multiplier. To det. the quantum yield the exciting ultraviolet radiation is measured with a thermocouple calibrated against an incandescent lamp of known flux and color temp. also detg. the reflexion coeff. in ultraviolet of a thick phosphor layer. Spectral curves can be taken with a photomultiplier cell registering on an oscilloscope. The brightness, efficiencies, absorption coeffs., quantum yields, x-y coordinates, and wave lengths of the max. are tabulated for the following 19 production phosphors: Zn(53)Cd(43)S-Cu; Zn(65)Cd(35)S-Cu; Zn(75)Cd(25)S-Cu; Zn(82)Cd(18)S-Cu; Zn(90)Cd(10)S-Cu; ZnS-Cu(3 different prepns.); ZnS-Ag, Cu; ZnS; ZnS-Ag, CaSSeSiBaS; $MgWO_4$; Zn-SiO_3; Zn(Be) SiO_3 (2 prepns.); $Cd_2B_2O_5$. A color diagram is shown with limits of acceptance at 4 different color temps. A change of phosphor compn. of 1% changes the color temp. by 100°K.

S. Pakswer

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

GTRSPL No. 45

Shklover, D.A. and Ioffe, R.A. (V.I. Lenin All-Union Institute of Electrical Engineering), The universal photoelectric colorimeter of the All-Union Institute of Electrical Engineering, 667-81

Akademiya Nauk S.S.S.R., Doklady Vol. 79 No. 5, 1951

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ASHKENAZI,Genrikh Isaakovich; SHKLOVER,D.A., redaktor; VORONIN,K.P., tekhnicheskiy redaktor

[Color in nature and technology] TSvet v prirode i tekhnike. Moskva, Gos.energ.izd-vo, 1955. 67 p. (MLRA 9:1)
(Light) (Color)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

IOFFE,R.S., inzhener; SHKLOVER,D.A., kandidat tekhnicheskikh nauk

Photoelectric device for the control of color and light characteristics of fluorescent lamp radiation. Svetotekhnika 1 no.2:8-13 Ap '55. (MLRA 8:9)

1. Vsesoyuznyy svetotekhnicheskiy institut
(Fluorescent lighting--Testing)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D.A., kandidat tekhnicheskikh nauk.

Colorimetry today. Svetotekhnika 2 no.1:4-11 Ja '55.(MLRA 9:3)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Colorimetry) (Optics, Physiological)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D.A.

535.247.4 : 621.327.43

9531. Photo-electric installation for testing the colour and light characteristics of the radiation of fluorescent lamps. R. S. IOFFE AND D. A. SHKLOVER. *Svetotekhnika*, No. 2, 8–13 (1955) In Russian.

(1)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, D. A

HUNGARY/Optics - Physical Optics. K-5

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7769

Author : Shklover.
Inst :
Title : Investigation of Optical Properties of Luminophors of Cathode-Ray Tubes.

Orig Pub : Meres es automatika, 1955, 3, No 7, 211-214

Abstract : No abstract.

Card 1/1 - 57 -

SHKLOVER, D.A.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

USSR/Electronics - Photoelectric Devices and Photocells H-8

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35220

Author: Dorf, O. P., Kokina, N. G., Lifshits, T. M., Shklover, D. A.

Institution: None

Title: Photocells and Photomultiplier with Magnesium Photocathodes for Recording Ultraviolet Radiation

Original Periodical: Radiotekhnika i elektronika, 1956, 1, No 1, 106-113

Abstract: Up to 250 vacuum photocells with magnesium photocathodes, intended for operation in the ultraviolet region (from approximately 3500 A) have been prepared and tested. A reproducibility of the spectral characteristic from specimen to specimen of approximately 10% was attained. A magnesium photomultiplier with low dark current was also prepared, making it possible to record radiation fluxes up to 10^{-15} watt at $\lambda = 2537$ A.

Card 1/1

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 8090

corresponding units. This is effected by changing the light filters. After a single stage of pointer microammeter M-24 with a range of 100 μ amp. The sensitivity can be varied by a factor of 1,000 using input resistances of the amplifier. Also developed were the instruments UFM-5 and UFM-6, which employ circuit with charge-storage using a capacitor. They are equipped with magnesium and Sb-Cs photocells. The electric circuit of the UFM-5 is given. This instrument measures very small intensities, both integral (with respect to time) and averaged over 15 -- 20 seconds. The sensitivity of the instruments is 0.5 μ w/cm^2.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

Shklover, D.A.

48-4-45/48

SUBJECT: USSR/Luminescence

AUTHORS: Shklover D.A. and Ioffe R.S.

TITLE: Methods and Devices for Measuring Luminescence (Metody i pribory dlya izmereniya lyuminestsentsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, pp 619-622 (USSR)

ABSTRACT: VNISI, the All-Union Scientific Research Institute of Lighting-Engineering Industry, has developed several devices for measuring the radiation of luminescence with respect to its brightness, lumen output, color and spectral composition.

Selenium pnotocells and photoelectronic multipliers with bismuth-cesium cathode are applied as luminescent radiation receivers.

Universal photoelectric colorimeters UFK-1 and UFK-2 are used for measuring brightness, lumen output and color of luminophores for luminescent tubes and cathodoluminophores.

A special colorimeter was constructed for checking the radiation of luminescent tubes. Its capacity is 30 tubes per hour.

Card 1/2

48-4-45/48

TITLE: Methods and Devices for Measuring Luminescence (Metody i pribory dlya izmereniya lyuminestsentsii)

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The accuracy of determination of color relative components amounts to 0.005. Lumen output is determined with an accuracy of 2 to 3 %.

VNISI has also developed and produces a small number of new devices. television colorimeters of the TK-1 type, in connection with the problems of colored television. This device uses a pnotoelectronic multiplier FEU-13 with bismuth-cesium cathode as a radiation receiver. It can be used also as a luminosity meter. The maximum dimensions of a surface to be measured with this colorimeter are 50 x 50 mm and minimum dimensions are 5 x 5 mm. The photo-electronic multiplier is supplied from a high-voltage electronic stabilizer which ensures the voltage constancy with a tolerance of 0.1 %.
The article contains 3 photos and 1 graph.
The bibliography lists 3 references, all of them are Slavic (Russian). The report was followed by a short discussion.

INSTITUTION: All-Union Scientific Research Lighting-Engineering Institute.
PRESENTED BY:
SUBMITTED: No date indicated
AVAILABLE: At the Library of Congress.
Card 2/2

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

85206
S/035/60/000/010/008/021
A001/A001

9.6150

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 10, pp. 22-23, # 9913

AUTHORS: Shklover, D. A., Faynberg, I. S.

TITLE: Cathode-Ray Spectrophotometers

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, No. 4 (9), pp. 139-143

TEXT: A spectrophotometer was constructed in which a cathode-ray tube is employed as a recording device. A spectrograph serves as a dispersion device; the exit slit is mounted in the plane of the spectrograph plates. The exit slit, together with the receiver, slides along a special carriage. All this is mechanically connected with the slide of a variable resistance switched in a rheostat circuit. The output voltage is described by the expression:

$$u = E\left[1 - R_2/(R_2 + R_1 - r)\right].$$

This relation coincides with Hartmann's formula in its form. Making use of this coincidence, it is easy to obtain the linear dependence of the wavelength scale,

Card 1/2

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Cathode-Ray Spectrophotometers

switching this voltage to the horizontal plates of an oscillograph. Spectrum is recorded in 10 - 30 sec. A photomultiplier serves as a receiver.

O. Dmitriyevskiy

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

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

DORF, O.P.; RYMOV, A.I.; SHKLOVER, D.A.

Spectral characteristics of sources and receivers of ultraviolet radiation. Fiz.sbor. no.4:190-195 '58. (MIRA 12:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut.
(Spectrum, Ultraviolet)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHELKOVA-DORF, O.P., kand.tekhn.nauk; SHKLOVER, D.A., kand.tekhn.nauk;
YAKOVLEVA, I.F.

Measuring natural ultraviolet radiation. Svetotekhnika 4 no.11:20-23
N '58. (MIRA 11:11)

1. Vsesoyuznyy svetotekhnicheskiy institut (for Shelkova-Dorf, Shklover).
2. Yevpatoriyskaya bioklimaticheskaya stantsiya (for Yakovleva)
(Ultraviolet rays--Measurement)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

15(7)
AUTHOR: Yustova, Ye.N. SOV/72-58-12-23/23

TITLE: Conference on Problems of Measuring the Whiteness of Products (Soveshchaniye po voprosam izmereniya belizny izdeliy)

PERIODICAL: Steklo i keramika, 1958, Nr 12, pp 48-48 (USSR)

ABSTRACT: In the current year, the Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni Mendeleyev), with the participation of representatives of interested organizations, held an extended session of the Postoyannaya komissiya pri VNIIMe (Permanent Commission at the VNIIMe), which dealt with problems of the whiteness measurement. The following reports and informations were given:
Ye.N. Yustova on methods of whiteness measurement.
D.A. Shklover on an electronic color comparator and its application in the determination of whiteness.
V.S. Khazanov on the photometer FT-2 and its application in the measurement of whiteness.
D.I. Levin reported on the determination of an expedient measuring method of porcelain whiteness.
M.M. Gurevich spoke on the stage of the problem of whiteness measurement.

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As a result of the conference it was stated that it is necessary to use either the colorimetric or the spectrophotometric method, according to the purpose for which the whiteness is measured. It was regarded as necessary to organize the series production of the photometer FT-2, the colorimeter KNO, the spherical photometer FM-58, and the photo-electric comparator GOI. The work done by the All-Union Scientific Research Institute of Metrology, the Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut (All-Union Scientific Photological Research Institute), the Gosudarstvennyy nauchno-issledovatel'skiy keramicheskiy institut (State Scientific Ceramic Research Institute), the Nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti (Scientific Research Institute of Cotton Industry) was appreciated, and its continuation was recommended. The desire was expressed to create in the VNIIM a center which should be equipped with the most up-to-date apparatus for measuring the whiteness in order to help industrial organizations.

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32143
S/675/60/000/004/002/005
D298/D304

9,9862

AUTHOR: Shelkova, O.P., Shklover, D.A. and Yakovleva, I.F.

TITLE: Experience with measuring natural ultra-violet radiation

SOURCE: Konferentsiya po biologicheskomu deystviyu ul'trafioletovogo izlucheniya. Leningrad, 1958. Ul'trafioletovoye izlucheniye solntsa i yego ispol'zovaniye dlya profilakticheskikh i lechebnykh tseley; trudy konferentsii. No. 4, Leningrad, 1960, 83-89. At head of title: Ministerstvo zdravookhraneniya RSFSR. Institut radiatsionnoy gigiyeny

4

TEXT: In 1957 the Nauchno-issledovatel'skiy svetotekhnicheskiy institut (Scientific Research Institute of Lighting Engineering) and the Yevpatoriyskaya bioklimaticheskaya stantsiya (Yevpatoriya Bioclimatic Station) measured total and dispersed

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Experience with measuring ...

shaded against direct sunlight, thereby recording the extent of the dispersed component of ultra-violet radiation. The apparatus was calibrated by the formula:

$$E_{\lambda_2-\lambda_1} = \int_{\lambda_1}^{\lambda_2} E_\lambda d\lambda = \frac{\int_0^\infty E_\lambda \varphi_\lambda \partial\lambda}{\varphi_{mean}} = \frac{I}{\varphi_{mean}} \quad (2)$$

where E_λ - spectral irradiation (in relative units) being measured, φ_λ - absolute spectral sensitivity of the instrument in $\mu a/\mu v/cm^2$, I - photocurrent of the instrument in μa. From July through October 1957 the apparatus was used for measurements in Yevpatoriya. The measurements provided data on total natural radiation in the spectral range close to B, together with its direct and dispersed components at different times of the day and their changes throughout the months. The results of the measurements are presented graphically. The apparatus' readings were compared with similar readings from a Boyko monochro-

Card 3/4

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Experience with measuring ...

matic light meter. A considerable divergence in the readings was noted, but further study is needed to determine the reason for this divergence. The Institute of Lighting Engineering and the Institut biologicheskoy fiziki AN SSSR (Institute of Biophysics, AS USSR) are using the above-mentioned model as a basis for developing improved recording devices. These use photoelectric multipliers as radiation receivers and register the photocurrent on a 6-point recording electronic potentiometer, thus providing measurement data in various narrow sections of the ultra-violet spectrum for both the total and dispersed components of natural ultra-violet radiation. There are 5 figures.

4

Card 4/4

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

GORBACHEV, N.V., kand.tekhn.nauk; GOREV, Z.M., kand.tekhn.nauk; YERMOLINSKIY, N.N., inzh.; FOL'B, R.L., inzh.; KHAZANOV, V.S., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk; SHKLOVER, D.A., kand.tekhn.nauk; YUROV, S.G., kand.tekhn.nauk

Principal works of professor S.O.Maizel' in the field of lighting engineering. Svetotekhnika 6 no.7:1-9 Jl '60. (MIRA 13:7)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Electric lighting) (Maizel', Sergei Osipovich, d. 1955)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

S/196/62/000/006/008/018
E194/E154

AUTHORS: Rymov, A.I., and Shifkover, D.A.

TITLE: A photo-electric colour-matching device

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.6, 1962, 3, abstract 6 V14. (Svetotekhnika, no.10, 1961, 14-20).

TEXT: Electric colour-matching device type ЭКЦ-1 (EKTs-1) is based on the principle of measuring the logarithm of the ratio of the photoelectric currents obtained during the reflection (or transmission) of light from the two specimens which are being compared. The device consists of a radiation receiver type ФЭЦ-27 (FETs-27) with bismuth-silver-caesium cathode, an amplifier, detector, and a measuring instrument. The light source is an incandescent lamp type СЦ-70 (STs-70), operating as source A with a colour temperature of 2854 °K. The following filters are fitted to two rotating discs: 2 for measuring the colour temperature of the lamps (sources B and C) and 3 for correcting the spectral sensitivity curve of the equipment. The reference and the measured samples are illuminated in turn

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at an angle of 9° by light modulated at a frequency of 20 c/s (a double beam optical system with a single light source). The current is generated in the form of rectangular impulses. The electronic circuit takes the logarithm of the photo-current and amplifies the alternating component, which is detected by a full-wave phase-sensitive detector. The voltage at the detector output is measured by a microammeter and the instrument reading is proportional to the logarithm of the ratio of the colour coordinates of the reference and the sample. The accuracy of measurement is as follows: for colour coordinates 0.0001-0.0005; for difference between reflection coefficients of specimens - up to 0.01%, for surfaces of any colour with reflection factor equal to or greater than 1%. The following coordinate systems are proposed:

$\log \alpha$, $\log \beta$ ($\log \alpha = \log \frac{x_H}{y}$; $\log \beta = \log \frac{z}{y}$) and

$\triangle \log \alpha$, $\triangle \log \beta$ ($\triangle \log \alpha = \log \alpha_{specimen} - \log \alpha_{standard} = V_\alpha$;
$\triangle \log \beta = \log \beta_{specimen} - \log \beta_{standard} = V_\beta$).

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

Z/019/62/019/003/003/006
D006/D102

AUTHORS: Rymov, A.I., and Shklover, D.A.

TITLE: A photoelectric color comparator

PERIODICAL: Přehled technické a hospodářské literatury, Energetika a elektrotechnika, v. 19, no. 3, 1962, 102, abstract # E 62-1353. Svetotekhnika 7, no. 10, 1961, 14-20

TEXT: The article describes an electronic instrument for comparing the color hues of a standard and a test sample to determine small deviations. After passing a revolving system of filters, the light reflected from the standard and the test sample, respectively, is alternately directed into an integrator and then into a photomultiplier connected to an amplifier. Design and wiring of the instrument, colorimetric analysis, and examples of measuring results are given. The original article contains 6 figures and 10 references. [Abstracter's note: Complete translation.]

Card 1/1

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

GORBACHEV, N.V., kand.tekhn.nauk; GOREV, Z.M., kand.tekhn.nauk; KHAZANOV, V.S., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk; SHKLOVER, D.A., kand.tekhn.nauk; YUROV, S.G., kand.tekhn.nauk; YERMOLINSKIY, N.N., inzh.; POL'B, R.L., inzh.

Letter received by the editor of "Svetotekhnika." Svetotekhnika 8 no.1:30 Ja '62. (MIRA 15:1)

(Sight) (Electric lighting)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, F.Ya., inzhener.

Problems of illumination in blueprint work. Svetotekhnika 3 no.8:15-19 Ag '57. (MLRA 10:8)

1.Institut poligraficheskogo mashinostroyeniya.
(Blue printing)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SOV/112-59-5-10337

23(3)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 273 (USSR)

AUTHOR: Shklover, F. Ya.

TITLE: Uniformity of Illumination and Utilization Factors of Lighting Outfits for Copying Work

PERIODICAL: Sb. tr. N.-i. in-t poligr. mashinostr., 1957, Nr 3, pp 93-105

ABSTRACT: Various arrangements of luminaires over a copying frame are compared as to uniformity of illumination and lighting-outfit utilization factor. Examination shows that illuminating the frame by a single light source placed over its center is the poorest arrangement. Lighting the frame by 4 sources considerably improves the illumination uniformity. It is noted that reciprocal or circular motion of the sources used in many cases does not result in a better uniformity than that obtainable from 4 fixed sources. It is mentioned that in cases where arc lamps are used without reflectors, the utilization factor of the lighting outfit is under 10%. An experimental investigation of the

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Uniformity of Illumination and Utilization Factors of Lighting Outfits for . . . .

influence of exposure upon gradation characteristics of the printed copy showed that a ± 30% nonuniformity of illumination of the copying frame has no effect on the print quality.

A.A.M.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, F. Ya., Candidate Tech Sci (diss) -- "Problems of illumination with copying processes in polygraphy". Moscow, 1959. 20 pp (Moscow Power Engineering Inst), 150 copies (KL, No 24, 1959, 143)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SOV/96-58-9-8/21

AUTHORS: Polikovskiy, M.V. (Candidate of Technical Science) and Shklover, G.G. (Engineer)

TITLE: An Experimental Investigation of Steam-jet Ejectors (Eksperimental'noye issledovaniye parostruynykh ezhektorov)

PERIODICAL: Teploenergetika, 1958, Nr 9, pp 46 - 51 (USSR)

ABSTRACT: Between 1954 and 1957 the laboratory of the Kaluga Turbine Works has made detailed tests on a number of two-stage steam-jet ejectors used on the condensers of low- and medium-power turbine sets. As a result of the tests and of improvements in the design of the coolers a series of very efficient ejectors was developed. The tests were made whilst extracting dry air and steam/water mixture over a wide range of working conditions. The profile of the flow part of the ejectors is illustrated schematically in Fig 1 and the leading dimensions are given in Table 1. Throughout the tests the steam delivered to the nozzles was at a pressure of 16 atm and a temperature of 220 - 250°C. The tests showed that the shape and length of the inlet section have a most important influence on the performance of the ejector, as indicated by the characteristics plotted in Fig 2. The best ratio of the length of inlet section

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to throat diameter is about six, as will be seen from Fig 3; if this ratio is reduced to about 3.6 the performance is appreciably impaired. In the ejectors tested, the ratio of the length of the cylindrical part to its diameter was 3 - 4.5, and the diffuser angle was 8 - 10 degrees. The influence of the ratio of the area of the throat to that of the nozzle was also studied. The best values of this ratio and of the corresponding ejection factor are plotted in Fig 4. Test results for the second stages were presented in the form of a family of such curves for constant values of inlet pressure. Experimental curves of the kind given in Fig 4 are valid only if the conditions are very close to those used in the tests, but they can be expected to apply well enough to ejectors similar to those tested. The amount by which the output of the second stage should be greater than that of the first is discussed. With each stage tested, determinations were made of the limiting back-pressure as a function of the area ratio; and the results are graphed in Fig 5. The main dimensions of the flow parts which were used in the design of the new ejector

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type EO-30 are recorded in Table 1 line 11 (first stage) and line 14 (second stage). Their characteristics are given in Fig 7. The efficiencies are appreciably greater than those of other ejectors, for example type EP-2-400 of the Leningrad Metal works. The main reason for the improvement is the greater length of the inlet section and the reduced angle of it. In addition to the above considerations the efficiency of an ejector depends very much on the performance of the coolers. The screw-type heat-exchangers used by the Kaluga Turbine works are very efficient and, as will be seen from Fig 8, this makes the new-type ejector still more efficient than the old. The heat-transfer coefficient of the screw-type heat-exchangers is up to 1500 kcal/m^2hour/°C, which is between three and five times higher than usual, so that the equipment can be made small and light. Ejector type EO-30 is intended for use with turbine set type AP-6 of 6000 kW. A cross-sectional drawing of the complete assembly appears in Fig 9 and the construction is described. The main characteristics are given in Table 2. Although the output is much the same as that of ejectors types E-1-B

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

An Experimental Investigation of Steam-jet Ejectors

and EP-2-400 it is only half the weight, as will be seen from Table 3. The steam consumption of the new ejector is also much less than that of other types, as indicated by the data in Table 4. It is hoped to improve still further the performance of ejector type EO-30 by modifying the areas of the flow parts.

There are 9 figures, 4 tables, 4 literature references (Soviet)

ASSOCIATION: Kaluzhskiy turbinnyy zavod (Kaluga Turbine Works)

1. Air ejectors--Test methods

Card 4/4

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, G.G., inzh.; RODIVILIN, M.D., inzh.; TITIVKIN, A.V., inzh.

Vacuum condensation of steam in spiral heat exchangers manufactured by the Kaluga Turbine Factory. Energomashinostroenie 9 no.8: 4-7 Ag '63. (MIRA 16:8)

(Heat exchangers)

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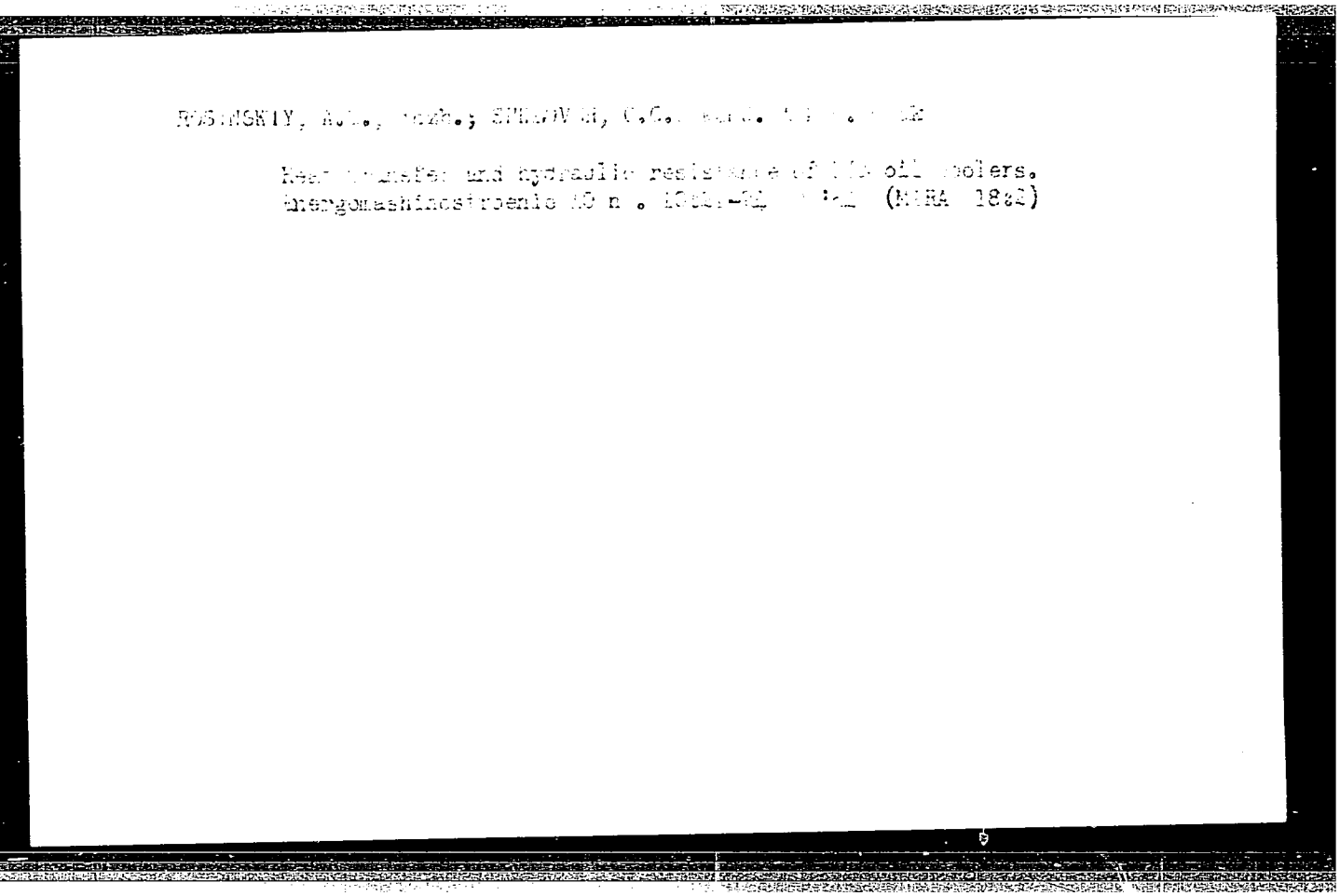

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SHKLOVER, G.G., kand. tekhn. nauk

Generalized experimental data on steam condensation in helical KTZ heat exchangers in a vacuum. Trudy MEI no.63:203-220 '65. (MIRA 18:12)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PLYUSHCHEV, V.Ye.; MARKINA, I.B.; SHKLOVER, L.P.

Diagrams of phase conversions in binary systems formed by rubidium and cesium nitrates with strontium and barium nitrates. Zhur.neorg.khim. 1 no.7:1613-1618 Jl '56. (MLRA 9:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.
(Thermal analysis) (Nitrates)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, L. P.

7 7 3 6

Polymorphism of rubidium and cesium nitrates and their interaction with barium nitrate. V. E. Plyushchev, I. B. Markina, and L. P. Shklover. *Proc. Acad. Sci. U.S.S.R., Sect. Chem.* 168, 351-3(1959)(English translation).—See C.A. 51, 3260f.

B. M. R.

RM MT

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, L. P.

Polymorphism of rubidium and cesium nitrates and their interaction with barium nitrate. V. E. Plyushchev, I. B. Markina, and L. P. Shklover (M. V. Lomonosov Moscow Fine Technol. Inst.). *Doklady Akad. Nauk S.S.S.R.* 103, 645–7(1958).—The points of polymorphous transformation of $CsNO_3$ and $RbNO_3$, and the m.p. of the 2-component systems formed by them with $Ba(NO_3)_2$ were detd. thermoanalytically. The $\delta \rightarrow \gamma$ $RbNO_3$ transformation point was 164°; $\gamma \rightarrow \beta$ 191°; m.p. 314°. For $CsNO_3$, the $\beta \rightarrow \alpha$ transformation point was at 154°, m.p. 414°. In the $RbNO_3$-$Ba(NO_3)_2$ system, the eutectic m.p. was at 235°, with 71 mol. % $RbNO_3$, and in the $CsNO_3$-$Ba(NO_3)_2$ system at 310°, with 87 mol.% $CsNO_3$.

W. M. Siemsen

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

69054

5.2400

AUTHORS: Alikberov, S. S., Shklover, L. P.

S/078/60/005/03/001/048
B004/B002

TITLE: The Production of High-purity Silicon

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 3, pp 513 - 518 (USSR)

ABSTRACT: After a short survey of the properties of silicon chlorides and the methods known for their reduction (Table 1), the authors state that trichlorosilane can most easily be reduced by hydrogen. Figure 1 shows the temperature dependence of the equilibrium constant for the reactions $SiHCl_3 + H_2$ and $SiCl_4 + 2H_2$ (according to data by A. I. Mel'nikov, Ref 4). According to it, $SiHCl_3$ can be reduced to elementary Si more easily than $SiCl_4$. The authors describe the synthesis of $SiHCl_3$ from industrial silicon type KR-0 at 290° (Refs 8,9) by the influence of hydrogen chloride, the rectification of $SiHCl_3$ and the quartz apparatus in which $SiHCl_3$ was reduced by hydrogen, carefully cleaned from O_2 and H_2O (Fig 2). In a stoichiometrical relation between $SiHCl_3$ and H_2, the silicon yield is

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

The Production of High-purity Silicon

S/078/60/005/03/001/048
B004/B002

very low due to side reactions. As is shown by figure 3, the yield can be increased by a hydrogen excess. Figure 4 shows the dependence of the yield on the silicon temperature, figure 5 its dependence on the flow velocity of the mixture in the reaction zone, and figure 6 the temperature distribution in the reaction vessel. The optimum conditions were: 60-70-fold hydrogen excess, 1050°, rate of 80 cm/sec. Figures 7-9 show samples of the silicon obtained. Figure 10 shows a single crystal of silicon, obtained according to Chokhral'skiy's method. The large hydrogen excess can be used in a second apparatus connected in series. The yield in the second apparatus was lower by 20 - 25% (Table 2) due to the presence of HCl. Further use of the hydrogen in a third apparatus, therefore, is only possible after HCl has been removed. There are 10 figures, 2 tables, and 10 references, 5 of which are Soviet.

SUBMITTED: July 25, 1958

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

S/078/60/005/010/008/021
B004/B067

AUTHORS: Alikberov, S. S., Shklover, L. P., Syromyatnikova, A. S., Belanovskiy, A. S.

TITLE: Use of Acetonitrile as Complex-forming Substance in the Purification of $SiCl_4$ and $SiHCl_3$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2258-2260

TEXT: The authors checked the data from Refs. 6,7 according to which impurities can be easily separated from silicon tetrachloride and trichlorosilane by means of acetonitrile. They found that this applies for $SiCl_4$ because a mixture of $SiCl_4$ and CH_3CN is separated into two layers (Fig.). $SiCl_4$ takes up 2 wt% of CH_3CN which must be removed by fractional distillation. Since, however, an azeotropic mixture boiling at 49-50°C is formed, this method leads to considerable losses in $SiCl_4$. The data of Refs. 6,7 do not apply for $SiHCl_3$. $SiHCl_3$ and CH_3CN are mixible at any ratio. This is also confirmed by the polarity of these

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

compounds (Table 1). Hence, the authors used the capability of acetonitrile of forming complexes with metal salts to purify silicon chlorides. They added only 1-2 vol% of acetonitrile and achieved good purification by fractional distillation. The residue contained the complexes of acetonitrile with Al, Fe, Cu, Mg, Mn, and Ti. Table 2 shows the purification of $SiHCl_3$ obtained herewith. The complex formation of CH_3CN with iron was examined also by means of Fe^{55}. Activity was measured with an MCT-17 (MST-17) counter of a B-2 (B-2) apparatus (Table 3). Formamide was successfully applied instead of acetonitrile. With iron, hydrocyanic acid which is formed in this case forms nonvolatile compounds. The results of experiments with formamide and Fe^{55} are given in Table 4. There are 1 figure, 4 tables, and 11 references: 6 Soviet, 1 US, 3 German, and 1 Polish.

SUBMITTED: July 10, 1959

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ALIKBEROV, S.S.; SHKLOVER, L.P.; SYROMYATNIKOVA, A.S.; SHCHERBAKOVA, T.M.

Mutual solubility in the system silicon tetrachloride - acetonitrile. Zhur. fiz. khim. 34 no.4:935-936 Ap '60. (MIRA 14:5)
(Silicon chloride) (Acetronitrile)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PLYUSHCHEV, V.Ye.; SHAKHNO, I.V.; SHKLOVER, L.P.

Interaction of minerals containing rare alkaline elements with salts and oxides during sintering and melting. Part 8: Reactions taking place in the interaction of spodumene with a mixture of calcium carbonate and chloride. Izv.vys.ucheb.zav.; khim.i khim. tekh. 5 no.1:133-140 '62. (MIRA 15:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonsova, kafedra tekhnologii redkikh i rasseyannykh elementov.
(Spodumene) (Lithium chloride) (Calcium carbonate)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

BELYAYEV, V.P.; KALINICHENKO, V.R.; KUZ'MIN, N.M., YAKIMENKO, L.N.; ARS[illegible]; [illegible]; BURAVLEV, Yu.M.; PEREPELKINA, M.A.; SHKLOVER, L.[illegible]; USTINOVA, V.I.; NEUYMINA, G.F.; ENGEL'SHT, V.S.; TRAPITSYN, N.F.; BULANOV, Yu.A.

Exchange of experience. Zav.lab. 28 no.6:685-687 '62. (MIRA 15:5)

1. Khimicheskiy zavod imeni Voykova (for Shklover). 2. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov (for Buravlev, Perepelkina, Ustinova, Neuymina). 3. Kirgizskiy gosudarstvennyy universitet (for Engel'sht, Trapitsyn, Bulanov). (Spectrum analysis)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PLYUSHCHEV, V. Ye.; SHKLOVER, L.P.; SHKOL'NIKOVA, L.M.

Composition and structural data of the formates of elements in the lanthanum-holmium series. Zhur. strukt. khim. 5 no.5: 794-796 S-O '64 (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova i Institut khimicheskikh reaktivov i osobo chistykh veshchestv.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PLYUSHCHEV, V.Ye.; SHKLOVER, L.P.; ROZDIN, I.A.

Synthesis of the phthatocyanins of zirconium and hafnium. Zhur.neorg. khim. 9 no.1:125-127 Ja '64. (MIRA 17:2)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 27181-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EWP(t)/EWP(b)/EWA(c) Pc-4/Pr-4/Pu-4 IJP(c)/RPL JD/WW/JG/RM

ACCESSION NR: AP4009348 S/0078/64/009/001/0125/0127

43
35
B

AUTHOR: Plyushchev, V. Ye.; Shklover, L. P.; Rozdin, I. A.

TITLE: Synthesis of zirconium and hafnium phthalocyanins

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 1, 1964, 125-127

TOPIC TAGS: zirconium phthalocyanin, zirconium phthalocyanin synthesis, zirconium phthalocyanin purification, zirconium phthalocyanin absorption spectra, hafnium phthalocyanin, hafnium phthalocyanin synthesis, hafnium phthalocyanin purification, hafnium phthalocyanin absorption spectra

ABSTRACT: Zirconium and hafnium phthalocyanins having the composition $C_{32}H_{15}N_8Cl \cdot Me(OH)_2 \cdot 2H_2O$, where Me = Zr, Hf, are prepared by reacting o-phthalonitrile with the metal tetrachloride (4:1 molar ratio) at 170-190C ($ZrOCl_2 \cdot 8H_2O$ practically does not react with phthalonitrile). The compounds are stable; the crude pigments can be purified by reprecipitating from the

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L 27181-65

ACCESSION NR: AP4009348

2

from the concentrated H_2SO_4. Absorption spectra for solutions of Zr and Hf phthalocyanins in alpha-bromonaphthalene in the 400 - 700 millimicron range are presented; the maximum wave length absorption bands are at 693 & 691 respectively. " I. F. Zakharchenko & T. A. Trushina participated in the experimental part ot the work." Orig. art. has: 1 figure and 1 table

ASSOCIATION: None

SUBMITTED: 08Jan63 ENCL: 00

SUB CODE: IC, GC NO REF SOV: 010 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012439 S/0078/64/009/002/0335/0339

AUTHOR: Plyushchev V. Ye.; Shklover, L. P.

TITLE: Synthesis of erbium phthalocyanin

SOURCE: Zhurnal neorg. khim., v. 9, no. 2, 1964, 335-339

TOPIC TAGS: erbium phthalocyanin, synthesis, yttrium subgroup phthalocyanins, absorption spectrum, pigment, rare earth phthalocyanin

ABSTRACT: Erbium phthalocyanin is obtained by heating $ErCl_3 \cdot 5H_2O$ with o-phthalonitrile (1:4 molar ratio) to 270-280C. This synthesis is typical for the synthesis of phthaocyanins of the yttrium subgroup. $C_{32}H_{16}N_8 \cdot ErCl \cdot 2H_2O$ is the formula proposed for erbium phthalocyanin, based on elemental chemical analysis of the pigment purified with solvents. The absorption spectrum of erbium phthalocyanin in alpha-bromonaphthalene in the 400-700 millimicron range shows an intense maximum at 667, and a second weaker absorption at 602 millimicrons. "I. F. Zakharchenko, N. A. Dvornikova and T. A. Trushina

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012439

participated in the experimental work." Orig. art. has: 2 figures, 1 table and 1 equation.

ASSOCIATION: None

SUBMITTED: 10Dec62 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 020 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012440 S/0078/64/009/002/0340/0346

AUTHORS: Shklover, L. P.; Plyushchev, V. Ye.

TITLE: Synthesis and purification of samarium and erbium phthalocyanins.

SOURCE: Zhurnal neorg. khim., v. 9, no. 2, 1964, 340-346

TOPIC TAGS: samarium phthalocyanin, erbium phthalocyanin, synthesis, purification, stability, absorption spectrum, labile compound

ABSTRACT: Samarium and erbium phthalocyanin were prepared by reacting samarium and erbium formate with o-phthalonitrile. The synthesis and purification of samarium phthalocyanin were studied by thermal, x-ray and spectrophotometric analyses. These compounds, purified with solvents, show an anomalous metal content. The nature of the anion at the central rare earth element has little effect on its phthalocyanin absorption in alpha-bromonaphthalene in the visible spectrum. It was shown that differential heating curves may be used to qualitatively characterize the degree of purification of the metal phthalocyanins from the starting materials, and absorption curves (in the visible

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012440

spectral range) of phthalocyanin solutions in alpha-bromo- or chloro-naphthalene may be used to detect disintegration of the metal phthalocyanin or contamination H_2·phthalocyanin. The latter, $C_{32}H_{16}N_8$·H_2 was shown spectrophotometrically to be formed by heating samarium phthalocyanin solutions in alpha-bromo-naphthalene or by reprecipitating erbium phthalocyanin from concentrated H_2SO_4. The samarium and erbium phthalocyanins have both labile and salt forming properties. "V. N. Davy*dova, N. A. Dvornikova and T. A. Trushina participated in the experimental work." "The authors thank Ye. A. Shugam and Yu. V. Oboznenko for conducting the x-ray analysis." Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 21Jan63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: CH NR REF SOV: 010 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012451 S/0078/64/009/002/0478/0479

AUTHORS: Shklover, L. P.; Plyushchev, V. Ye.; Rozdin, I. A.; Novikova, N. A.

TITLE: Synthesis of titanium phthalocyanine

SOURCE: Zhurnal neorg. khim., v. 9, no. 2, 1964, 478-479

TOPIC TAGS: titanium phthalocyanine, metal phthalocyanine, hydroxy form metal phthalocyanine, titanium phthalocyanide, titanium phthalocyanine preparation

ABSTRACT: Titanium phthalocyanine is unknown although zirconium and hafnium phthalocyanines have been prepared earlier by the authors (same journ. 9, 125 (1964)). It was found that $TiCl_4$ readily reacts with o-phthalonitrile (O PhN) (proportion 1:4; at 170-190C;/1 hour) to produce a stable titanium phthalocyanide. Analysis showed the compound contains 7.57-7.47% Ti, 61.50-61.09% C, 2.62-2.52% H, 18.22-17.39% Ni and 4.50-4.45% Cl. This composition slightly differs from the formula $C_{32}H_{15}N_8Cl \cdot Ti(OH)_2$ in the calculated Cl content (5.64%) which is probably due to the volatility of $TiCl_4$ causing deficient

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACCESSION NR: AP4012451

chlorination of some phthalocyanine molecules. The yield of purified titanium phthalocyanine is 35% of the crude final product of reaction. Analogous chlorine-substituted O-PhN compounds with Cu, Al and Sb were described by Lindsted et al. (Ber. Deutseh. Chem. Ges., 72A, 93(1939)) Compounds with Zr and Hf have been prepared by the authors. Metal phthalocyanines in hydroxy form have been prepared by alkali solution treatment of pigments reprecipitated from concentrated H_2SO_4. Absorption peaks of titanium phthalocyanine solutions in α-bromonaphthaline appear at 701, 631 and 387 mμ. They do not shift after reprecipitation from H_2SO_4.
"I. F. Zakharchenko participated in the experimental part."

ASSOCIATION: None

SUBMITTED: 03Jun63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: CH NR REF SOV: 003 OTHER: 010

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

SHKLOVER, L.P.; PLYUSHCHEV, V.Ye.

Interaction of o-cyanobenzamide with rare-earth metal salts. Zhur. neorg. khim. 9 no.8:1830-1832 Ag '64.

Yttrium derivatives of phthalocyanine. Ibid.:2015-2016

(MIRA 17:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 8866-65 EWT(m)/EPF(c)/EWP(j)/EWP(q)/EWP(b) Pc-4/Pr-4 RPL JD/JG/RM
ACCESSION NR: AP4043573 S/0078/64/009/008/1830/1832

AUTHOR: Shklover, L. P.; Plyushchev, V. Ye.

TITLE: Reaction between ortho-cyanobenzamide and rare-earth-metal salts

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 8, 1964, 1830-1832

TOPIC TAGS: rare earth metal phthalocyanine, lanthanide phthalocyanine, neodymium phthalocyanine, erbium phthalocyanine, phthalocyanine, ortho cyanobenzamide, ortho phthalonitrile, metal phthalocyanine synthesis

ABSTRACT: Synthesis of neodymium or erbium phthalocyanines was attempted by reacting neodymium formate or erbium chloride with ortho-cyanobenzamide (CBA) instead of the ortho-phthalonitrile previously used for synthesis of erbium and samarium phthalocyanines. CBA is an intermediate product in the preparation of O-phthalonitrile from phthalimide, and as such might present an advantage over O-phthalonitrile. CBA had been used for synthesis of certain other rare-earth phthalocyanines and of Al, Cu, and In phthalocyanines. The procedure for synthesis and a spectrophotometric study of the reaction products

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L 8866-65
ACCESSION NR: AP4043773

at various temperatures are described. The absorption peaks of the solutions of reacting mixtures in α-bromonaphthaline indicated the presence of free phthalocyanine in the reaction product obtained at 240—250C. The free phthalocyanine was not detected in the product of the reaction with O-phthalonitrile. It is concluded that the CBA method is less suitable than the O-phthalonitrile method for preparing lanthenide phthalocyanines, since an additional separation of the free phthalocyanine is necessary in the former. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 08Jun63 ATD PRESS: 3099 ENCL: 00

SUB CODE: GC NO REF SOV: 006 OTHER: 007

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 8864-65 EWT(m)/EPF(c)/EWP(j)/EWP(q)/EWP(b) Pc-4/Pr-4 RPL/ESD(t)/ASD(a)-5/ESD(dp)/AFWL/RAEM(t) JD/RM

ACCESSION NR: AP4043582 S/0078/64/009/008/2015/2016

AUTHOR: Plyushchev, V. Ye.; Shklover, L. P.

TITLE: Yttrium derivatives of phthalocyanine

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 8, 1964, 2015-2016

TOPIC TAGS: phthalocyanine, yttrium phthalocyanine, yttrium chloride, o-phthalonitrile, organic semiconductor

ABSTRACT: Yttrium phthalocyanine has been synthesized for the first time by the reaction of yttrium chloride with o-phthalonitrile. This work was done in view of the potential use of metal derivatives of phthalocyanine as pigments, dyes, catalysts, semiconductors, etc. Preparative conditions were essentially the same as for erbium phthalocyanine (V. Ye. Plyushchev, L. P. Shklover, Zh. neorgan. khimii, 9, 335 (1964)). A purification procedure was developed which makes it possible to isolate yttrium phthalocyanine as $[C_{32}H_{16}N_8]YOH$. Absorption bands in the visible region for solutions of yttrium

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L 8864-65
ACCESSION NR: AP4043582

phthalocyanine in α-bromonaphthaline are independent of the anion combined with yttrium. Orig. art. has: 2 tables.

ASSOCIATION: None

SUBMITTED: 21Jun63 ATD PRESS: 3099 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 52061-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5012969 UR/0078/65/010/005/1121/1125

19
B

AUTHOR: Shklover, L. P.; Plyushchev, V. Ye.; Kuznetsova, G. P.; Trushina, T. A.

TITLE: Formates of heavy lanthanides

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 5, 1965, 1121-1125

TOPIC TAGS: thulium 27 formate, ytterbium 27 formate, lutetium 27 formate, lanthanide 27 formate, thermal analysis, gravimetric analysis

ABSTRACT: Thulium, ytterbium, and lutetium formates, having the formula $Me(HCOO)_3 \cdot 2H_2O$, where Me = Tu, Yb, or Lu, were formed by reacting HCOOH with the hydroxides of these metals. Anhydrous ytterbium and lutetium formates were obtained by drying the dihydrates at 80-90°C. The data of the ultimate analysis were confirmed by the results of thermogravimetry and IR spectra. It was found by thermogravimetric analysis that $Tu(HCOO)_3 \cdot 2H_2O$ may be dehydrated under similar conditions. The density of ytterbium and lutetium formates and their dihydrates was determined pycnometrically, their solubility in water at 25, 40, and 50°C was studied by the isothermal method. Isothermal drying and thermal and thermogravimetric analysis

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 52061-65

ACCESSION NR: AP5012969 O

were used to investigate the thermal stability of the three formates, which was found to decrease in the order Tu - Yb - Lu. The decomposition of $Me(HCOO)_3$ takes place in several stages: following dehydration, thermally unstable intermediate products are formed having the formula $Me_2O_3 \cdot CO_2$. This stage of the decomposition is characterized by exothermic effects when a platinum crucible is used, and by endo- and exothermic effects in the case of a quartz crucible. The intermediate products dissociate into Me_2O_3 even during formation. This last stage of the decomposition is not associated with any thermal effects. The following mechanism is proposed:

$$2Me(HCOO)_3 \cdot 2H_2O \rightarrow 2Me(HCOO)_3 \rightarrow Me_2O_3 \cdot CO_2 \rightarrow Me_2O_3,$$

where Me = Tu, Tb, Lu. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 06Jul64 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 005 OTHER: 002

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Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 39302-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) JD/JG
ACCESSION NR: AP5004597 S/0020/65/160/002/0366/0369

AUTHOR: Plyushchev, V. Ye.; Shklover, L. P.; Shkol'nikova, L. M.; Kuznetsova, G. P.; Nadezhdina, G. V.

TITLE: Properties of rare earth formates from lanthanum to holmium

SOURCE: AN SSSR. Doklady, v. 160, no. 2, 1965, 366-369

TOPIC TAGS: rare earth compound, polymorphism, isomorphism, differential thermal analysis, thermal stability

ABSTRACT: It is stated that the properties of rare earth formates are insufficiently known. Formates of Y, La and all lanthanides of the Pr-Ho series (except Pm) were synthesized by the reaction of freshly precipitated hydroxides with HCOOH. Ce(III) formate was synthesized by the dissolution of cerium carbonate in HCOOH. X-ray studies of polycrystalline samples indicate polymorphism of Ce, Pr, Nd, Sm and Gd formates and isomorphism of formates of all elements in the La-Ho series. In the investigated series of rare earth formates, there is a systematic decrease in the parameter a of the rhombohedral lattice which is apparently associated with lanthanide contraction. The authors determined the density of the above formates by the pycnometric method at 20±0.1° C. The solubility of these compounds was

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

determined by the isothermal method at 25, 40 and 50° C. Special attention was devoted to the thermal stability of rare earth formates. Formates were investigated simultaneously by means of thermogravimetric (TGA) and differential thermal analysis (DTA). On the basis of analysis of TGA curves the following dissociation schemes were proposed:

$$2Me(HCOO)_3 \rightarrow Me_2O_3 \cdot CO_2 \rightarrow Me_2O_3$$

where Me = La, Nd, Sm, Eu, Gd, Dy, Ho.

$$Ce(HCOO)_3 . 0.2\ H_2O \rightarrow CeO_2$$

$$6Pr(HCOO)_3 \rightarrow 3(Pr_2O_3 \cdot CO_2) \rightarrow Pr_6O_{11}$$

$$4Tb(HCOO)_3 \rightarrow 2(Tb_2O_3 \cdot CO_2) \rightarrow Tb_4O_7$$

Orig. art. has: 1 table, 2 figures.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 39302-65
ACCESSION NR: AP5004597

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Institute of Fine Chemical Technology)

SUBMITTED: 20Jun64 ENCL: 00 SUB CODE: IC

NO REF SOV: 011 OTHER: 015

Card 3/3 JG

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 40303-65 EWT(1)/EWG(v)/EEC(t) Pe-5/Pae-2 GW

ACCESSION NR: AR5009014 S/0269/65/000/002/0042/0042

SOURCE: Ref. zh. Astronomiya. Otd. vyp., Abs. 2.51.346

AUTHOR: Shklovskiy, I. S.

TITLE: Possible identification of a source of X-radiation in the constellation Scorpion with the spur - a remnant of the flareup of a supernova close to the sun

CITED SOURCE: Astron. tsirkulyar, no. 298, maya 18, 1964, 3-4

TOPIC TAGS: stellar astronomy, supernova, xradiation, Scorpion, radio emission, star, neutron star

TRANSLATION: It is shown that the source of X-radiation in the constellation Scorpion coincides with the center of the spur - a well-known detail in the distribution of intensity of galactic radio emission. Since the second brightest source of X-radiation is identified with the Crab nebula, such a coincidence cannot be considered random. It must be regarded as a new proof that the spur is the expanding envelope of a type-II supernova which flared up at a distance of several tens of parsecs from the sun. It is possible that remnants of the flareup of type-

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L 40303-65

ACCESSION NR: AR5009014

II supernovae are neutron stars. T. L.

SUB CODE: AA ENCL: 00

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PLYUSHCHEV, V.Ye.; SHKLOVER, L.P.; TRUSHINA, T.A.

Composition and thermal stability of lanthanum formate. Zhur. neorg. khim. 9 no.12:2710-2714 D '64. (MIRA 18:2)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

PLYUSHCHEV, V.Ye.; SHKLOVER, L.P., SHKOL'NIKOVA, L.M.; KUZNETSOVA, G.P.; NADEZHDINA, G.V.

Properties of formiates of rare-earth elements in the lanthanum-holmium series. Dokl. AN SSSR 160 no.2:366-369 Ja '65. (MIRA 18:2)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Submitted July 8, 1964.

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PLYUSHCHEV, V.E.; SHKLOVER, L.P.; SHKOL'NIKOVA, L.M.; KUZNETSOVA, G.P.; TROSHINA, T.A.

Ytterbium and erbium formates and their properties. Zhur. ob. khim. 35 no.10:1783-1790 O '65. (MIRA 18:10)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

L 26959-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/JG/RM

ACC NR: AP6014891 SOURCE CODE: UR/0076/65/039/012/2924/2926

AUTHOR: Shklover, L. P.; Plyushchev, V. Ye.

ORG: All-Union Scientific Research Institute for Chemical Reagents and Very Pure Chemical Substances (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv)

TITLE: The strength of the metal bond in the phthalocyanines of the rare earth elements

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 2924-2926

TOPIC TAGS: rare earth element, spectrophotometric analysis

ABSTRACT: Metal phthalocyanines are usually characterized by a single intense (long wave) absorption band in the visible region of the spectrum, the position of which in a given solvent depends on the nature of the central metal. Spectroscopic investigations were made of the position of this maximum absorption band for 17 different rare earth elements. The experimental results are shown in a table. The data in the table show that the direction of the displacement of the position of the maximum absorption band of the phthalocyanines of the metals in the

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L 36959-66

ACC NR: AP6014891

scandium subgroup is connected with the change in the characteristics of the elements. The dependence of the position of the absorption maximum λ_1 on the atomic number of the lanthanoid is sufficiently well described by the following empirical equation:

$$\lambda, m\mu = 4{,}4205 \cdot N + \frac{24838}{N}.$$

Solution of the equation for N = 57 (La), 58(Ce), and 61(Pm) gives, respectively, λ = 687.72; 684.63; and 676.99 mμ. The values calculated by the formula are compared in the table with values found experimentally. The displacement of the absorption maximum of the phthalocyanines of the rare earth elements toward the short wave side with an increase in the atomic number is explained by an increase in the stability of the compounds. Orig. art. has: 1 figure and 1 table.

SUB CODE: 07, 20/ SUBM DATE: 07Jul64/ ORIG REF: 010/ OTH REF: 002

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549620015-8

ACC NR: AP6032958 SOURCE CODE: UR/0363/66/002/010/1905/1905

AUTHOR: Fedulov, S. A.; Tatarov, Z. I.; Shklover, L. P.; Sergeyeva, N. I.; Antonov, G. N.; Gurevich, M. Z.

ORG: none

TITLE: Growing $NaLa(MoO_4)_2$ single crystals

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 10. 1966, 1905

TOPIC TAGS: single crystal growth, molybdate, lanthanum compound, sodium compound, laser effect, laser optic material

ABSTRACT: $NaLa(MoO_4)_2$ single crystals were grown by Czochralski technique in a high-frequency crystallizer in view of the laser effect, previously reported in Western literature, in certain $M^IM^{III}(M^{VI}O_4)_2$ type compounds, where M^I is an alkali metal, M^{III} a rare-earth element and M^{VI} is W or Mo. The starting material $NaLa(MoO_4)_2 \cdot 2H_2O$ was synthesized by precipitation reaction of sodium molybdate and lanthanum nitrate in solution. Pure $NaLa(MoO_4)_2$ with MP = 1163C and scheelite structure was obtained by calcining the hydrated product at 900C. The crystals up to 60 mm long and up to 12 mm in diameter were grown from pure $NaLa(MoO_4)_2$ melt. The laser effect at a fairly low generation threshold was observed at room temperature in $NaLa(MoO_4)_2$ single crystals activated with 1 at% Nd. The generation threshold may be significantly decreased in the optically more perfect crystals. Orig. art. has: 1 figure. [JK]

SUB CODE: 20/ SUBM DATE: 04Nov65/ ORIG REF: 001/ OTH REF: 005/ ATD PRESS: 5096

UDC: 548.55

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