

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; USHAKOVA, T.M.

Diene synthesis with the participation of vinyl ethers. Report No. 5:  
Reaction of divinyl ether with hexachlorocyclopentadiene. Izv.AN SSSR  
Otd.khim.nauk no.4:709-714 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Ether) (Cyclopentadiene)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Study of diacetylene derivatives. Report No. 8: Reactions of ethynyl vinyl and thioethynyl vinyl ethers with carbonyl compounds. Izv. AN SSSR. Otd. khim. nauk no. 5: 905-909 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Ether) (Carbonyl compounds)

BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; YAKOVLEV, I.P.

Derivatives of diacetylene. Report No.9: Synthesis of unsaturated alkoxy- and thioalkyl acetals having C7 - C15 carbon chain in their molecule. Izv.AN SSSR.Otd.khim.nauk no.10:1841-1846 0 '61.  
(MIRA 14:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Acetals) (Butadiyne)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Report No.8: Diene synthesis of vinyl ethers and thio ethers with anthracene. Izv.AN SSSR.Otd.-khim.nauk no.11:2072-2074 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Ethers) (Sulfides) (Anthracene)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; USHAKOVA, T.M.

Vinyl compounds in diene synthesis. Report No.9: Some properties  
of diene synthesis adducts with vinyl sulfides. Izv. AN SSSR  
Otd.khim.nauk no.12:2217-2222 D '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Vinyl compounds)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Part 7: Diene synthesis  
of vinyl ethers and thioethers with 2,3-dimethyl-1,3-butadiene.  
Zhur.ob.khim. 31 no.7:2096-2100 J1 '61. (MIRA 14:7)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.  
(Vinyl compounds) (Butadiene)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Report No.10 Interaction  
between divinyl ether and anthracene. Izv. AN SSSR Otd.  
khim.nauk no.2:346-350 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Vinyl ether)  
(Anthracene)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Report No.12: Structural selectivity of the diene condensation of vinyl ethers with isoprene. Izv.AN SSSR Otd.khim.nauk no.7:1254-1258 JI '62. (MIRA 15:7)

1. Institut organicheskoy khimii N.D.Zelinskogo AN SSSR.  
(Vinyl compounds) (Isoprene)



VOLKOV, A.N.; BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.

Vinyl compounds in diene synthesis. Report No.11: Diene synthesis of vinyl ethers and thioethers with isoprene. Izv. AN SSSR. Otd. khim. nauk no.7:1280-1284 J1 '62. (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Ethers) (Isoprene) (Vinyl compounds)

BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; SHOSTAKOVSKIY, M.F.

Reactivity of acetals and ionic telomerization. Usp.khim. 31  
no.10:1165-1178 0 '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.  
(Acetals) (Polymerization)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; GOLOVIN, A.V.; SHAMAKHMUDOVA, S.

New polymers of vinyl ethers. Report No.2: Heterogeneous catalyst  
of stereospecific polymerization at room temperature. Izv. AN SSSR.Otd.  
khim.nauk no.10:1813-1817 0 '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Ethers) (Catalysts) (Polymerization)

SHOSTAKOVSKIY, M. P.; BOGDANOVA, A. V.; VOLKOV, A. N.

Interaction of vinyl ethers with furan and 2-methylfuran.  
Izv. AN SSSR Otd. khim. nauk no.12:2224-2226 D '62.  
(MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Ethers) (Furan)

ACCESSION NR: AP4010042

S/0062/64/000/001/0127/0132

AUTHOR: Dolgikh, A. N.; Bogdanova, A. V.; Plotnikova, G. I.;  
Ushakova, T. M.; Shostakovskiy, M. F.

TITLE: Investigation of diacetylene derivatives  
Report 10. Interaction between ethinylvinylthioethers and water

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 127-132

TOPIC TAGS: diacetylene derivatives, ethinylvinylthioethers,  
ethinylvinylalkyloxo, thio or nitroethers, triple bond reactivity,  
cis-configuration, keto-enol resonance, enol stabilization, thio-  
vinyl group, thioketo group, mercaptan addition products

ABSTRACT: Since the compounds  $\text{CH}\equiv\text{C}-\text{CH}=\text{CH}-\text{OR}$  do not react with water in a neutral medium even under heating, hydration of the triple bond proceeded under the influence of  $\text{HgSO}_4$  and heat to form the corresponding 2-acetylvinylalkylsulfides and their tautomeric 3-oxybutadiene-1,3-yl-acetylvinylalkylsulfides, a new series of diacetylene

Card 1/2

ACCESSION NR: AP4010042

derivatives. The possibility of keto-enol tautomerism of the derivatives and conditions for stabilization of the enol form - cis-configuration and bond formation between the H of the OH-group and S, resulting in a six-membered ring - are discussed. The IR spectra confirmed presence of the cis-configuration. Acid hydration (10%  $H_2SO_4$ ) yielded mainly 2-acetylvinyllalkylsulfide. In the interaction with water, in compounds of the type  $CH\equiv C-CH=CH-XR$  where  $X = S, O, N$ , the sulfur atom, like O or N, increased the reactivity of the triple bond, compared to that in vinylacetylene. This influence appeared in the order  $N > O > S$ . The syntheses are described, as are yields and end products. Orig. art. has: 8 formulas.

ASSOCIATION: none

SUBMITTED: 22Aug63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 011

OTHER: 005

Card 2/2

SHOSTAKOVSKIY, M.F.; ~~BOGDANOVA, A.V.~~; PLOTNIKOVA, G.I.

Addition of alcohols and mercaptans to the compounds with triple bonds. Usp.khim. 33 No.2:129-150 F '64.

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AM SSSR.  
(MIRA 17:10)

DOLGIKH, A.N.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; USHAKOVA, T.M.;  
SHOSTAKOVSKIY, M.F.

Derivatives of diacetylene. Report No.10: Interaction of ethinyl  
vinyl thioethers with water. Izv.AN SSSR. Ser.khim. no.1:127-132  
Ja '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.



BOGDANOVA, A.V.; KUGATOVA-SHEMYAKINA, G.P.; VOLKOV, A.N.; ARAKELYAN, V.G.

Synthesis of diacetylenic alcohols, glycols, and their derivatives  
based on diacetylene. Izv.AN SSSR. Ser.khim. no.1:174-176 Ja  
'64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

DOLGIKH, A.N.; BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.

Interaction of vinyl and thiovinyl ethers with trithioethyl orthoformate. Izv.AN SSSR.Ser.khim. no.2:340-344 F '64. (MIRA 17:3)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

ACCESSION NR: AP4019015

8/0062/64/000/002/0363/0365

AUTHOR: Shostakovskiy, M. F.; Bogdanova, A. V.; Shamakhmudova, S.

TITLE: Highmolecular polymers of vinyl-n.butyl ethers .

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 2, 1964, 363-365

TOPIC TAGS: vinyl ether polymer, Ziegler catalyst propyl lithium, polymer, lithium, vinyl alkyl ether

ABSTRACT: The purpose of this work was to improve on Ziegler's catalyst so as to prepare stereoregulated polymers of vinyl ethers at room temperature (Ziegler catalysts require cooling due to excessive formation of the active component  $Al(i-C_4H_9)_2Cl$ ). This ether is industrially produced in the Soviet union and is the base for the important products "Vinipol" and the Shostakovskiy balsam (composition not explained). The recommended composition of the catalyst is  $VOCl_3:LiC_3H_7:Al(i-C_4H_9)_3$  in the proportion 1:1.5:3. Polymerization takes place at room temperature in 2-3 hours. The polymers are colorless, and the catalyst readily removable and universal for vinyl alkyl ethers of different structures. The polymers have a molecular weight of  $1.46 \cdot 10^6$ . Their radiograms are

Card 1/2

ACCESSION NR: AP4019015

similar to those of earlier stereoregular polymers. It is a white rubberlike substance. The action of conventional catalysts is compared. Orig. art. has: no figures, 5 formulas, 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskiy (Institute of Organic Chemistry)

SUBMITTED: 17Jul63

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: CC

NO REF SOV: 004

OTHER: 002

Card 2/2

ACCESSION NR: AP4025011

S/0062/64/000/003/0543/0548

AUTHORS: Bogdanova, A.V.; Shostakovskiy, M.F.; Shamakhmudova, S.

TITLE: New simple vinyl ether polymers. Communication 3. Homogeneous catalyst for stereospecific polymerization at room temperatures.

SOURCE: AN SSSRL Izv. Seriya Khimicheskaya, no. 3, 1964, 543-548

TOPIC TAGS: vinyl ether polymer, stereospecific polymer, stereospecific polymerization, homogeneous catalyst, modified Ziegler catalyst, polymerization activation, stereospecificity, stereospecific orientation, aluminum isobutyl containing catalyst, diisobutylaluminum chloride catalyst, catalyst component function, vinylbutyl ether polymer, vinylisobutyl ether polymer, vinylcyclohexyl ether polymer, vinyldecalyl ether polymer, molecular weight, viscosity, solubility, x ray pattern.

ABSTRACT: The modified Ziegler heterogeneous catalyst ( $TiCl_4$ ,  $LiO_3H_7$  and  $Al(i-C_4H_9)_3$ ) requires investigation to determine which component is responsible for activating the polymerization and which for directing stereospecificity. High viscosity high molecular weight stereo-

Card 1/3

ACCESSION NR: AP4025011

specific vinyl ethers were obtained at room temperature by using a ratio of the above components of 0.5:0.5:2. The vinylisobutyl ether thus prepared had an even higher viscosity than a polymer prepared with the new homogeneous catalyst  $\text{Al}(\text{i-C}_4\text{H}_9)_3:\text{Al}(\text{i-C}_4\text{H}_9)_2\text{Cl}$ . This catalyst, with an  $\text{Al}(\text{i-C}_4\text{H}_9)_3:\text{Al}(\text{i-C}_4\text{H}_9)_2\text{Cl}$  ratio of up to 3:1 was found suitable for stereospecific polymerization at room temperature. Polymers of vinyl-n-butyl-, vinylisobutyl-, vinylcyclohexyl-, and vinyldecalyl ethers were obtained in good yield (75-90%) with this catalyst. The molecular weight (vinyl-n-butyl ether  $7.4 \times 10^5$ , vinylisobutyl ether  $1.38 \times 10^6$ ), viscosity, solubility (97-99% in boiling acetone), and x-ray patterns of these polymers were determined. "The authors thank L.S. Yasenko for determining the molecular weight of the polymers by the light diffusion method." Orig. art. has: 1 table, 1 figure and 1 equation.

ASSOCIATION: Institut organicheskoy khimii AN SSSR im. N. D. Zelinskogo (Institute of Organic Chemistry, "AN SSSR)

Card 2/3

ACCESSION NR: AP4025011

SUBMITTED: 27Sep62

SUB CODE: OH

DATE ACQ: 17Apr64

NR REF SOV: 003

ENCL: 00

OTHER: 005

Card

3/3

ACCESSION NR: AP4033388

S/0062/64/000/004/0709/0715

AUTHOR: Shamakhmudova, S.; Bogdanova, A. V.; Shostakovskiy, M. F.

TITLE: New polymers of simple vinyl ethers. Communication 4. Stereospecific copolymerization of simple vinyl ethers with methylacrylate and methylmethacrylate at room temperature.

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1964, 709-715 and top half of insert facing page 712

TOPIC TAGS: vinyl ether polymer, vinyl ether copolymer, vinyl ether methylacrylate copolymer, stereospecific copolymerization, methylacrylate polymer, methylmethacrylate polymer, homogeneous catalyst system, triisobutylaluminum, diisobutylaluminum chloride, heterogeneous catalyst system, thermal stability, thermomechanical property, elongation, solubility, x ray analysis, elastic state, stereoregular polymer, stereoregular copolymer

ABSTRACT: Conditions for polymerizing methylacrylate and methylmethacrylate and for the stereospecific copolymerization of these with simple vinyl ethers were investigated. Three catalyst systems were tried for the copolymerizations:

Card

1/3



ACCESSION NR: AP4033388

(1) heterogeneous system of 1:1:4  $TiCl_4:LiC_3H_7:Al(iC_4H_9)_3$ ; (2) homogeneous system of 1:3  $Al(iC_4H_9)_2Cl$  and  $Al(iC_4H_9)_3$ ; (3) heterogeneous system of 1:1.5:3  $VOCl_3:LiC_3H_7:Al(iC_4H_9)_3$ . The homogeneous system proved most favorable. Continuing the polymerization increased the yield of the copolymers but did not change their composition. The solubility in organic solvents of the copolymers of simple vinyl ethers with methacrylate is limited, causing difficulty in separating the copolymer from the catalyst. In a benzene-soluble fraction, the solubility of the copolymer increases with an increase in the vinylalkyl ether content. The methylacrylate and methylmethacrylate polymers are high melting thermally stable materials. The copolymers have a significant range in the highly elastic state. From thermomechanical x-ray and solubility studies it is concluded that the structures of these polymers and copolymers are stereoregular. Orig. art. has: 4 tables and 4 figures.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 15Nov63

DATE ACQ: 15May64

ENCL: 00

Card 2/3

ACCESSION NR: AP4033388

SUB CODE: OC

NO REF SOV: 011

OTHER: 001

Card 3/3

VOLKOV, A.N.; BOGDANOVA, A.V.; KUGATOVA-SHEMYAKINA, G.P.

Synthesis of divinyl-~~α~~-diketones and dialkoxyethyl vinyl ketones.  
Izv. AN SSSR. Ser. khim. no.10:1913-1914 O '64. (MIRA 17:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

L 37676-65 EWT(m)/EPF(c)/EWP(j)/T PC-4/Pr-4 RM  
ACCESSION NR: AP5008112 S/0062/65/000/002/0359/0362

24  
23  
8

AUTHOR: Bogdanova, A. V. ; Dolgikh, A. N. ; Shostakovskiy, M. F.

TITLE: Synthesis of primary, secondary, and tertiary alkoxy alcohols of the "enyne" series

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1965, 351-362

TOPIC TAGS: alkoxy alcohol synthesis, primary alkoxy alcohol, secondary alkoxy alcohol, tertiary alkoxy alcohol, olefinic acetylenic alcohol, conjugated unsaturated alcohol, ethynylvinyl ether, Grignary reaction, olefinic alkoxyketol

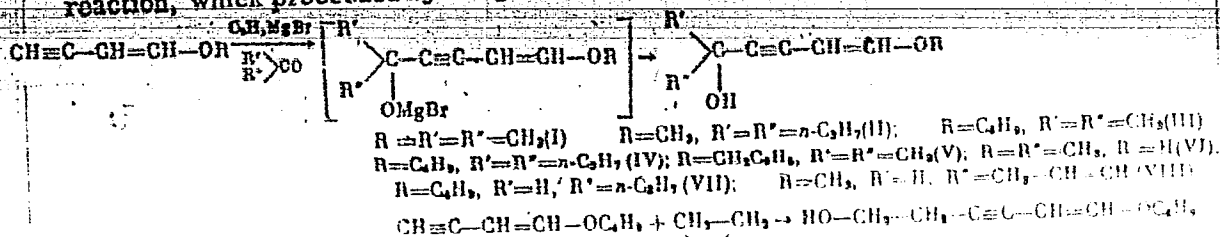
ABSTRACT: Conjugated acetylenic-olefinic primary, secondary and tertiary alkoxy alcohols which may be used for the production of herbicides or growth accelerators were prepared by the reaction of ethynylvinylmethyl, ethynylvinylbutyl or ethynylvinylbenzyl ether with acetone, di-n-propyl ketone, acetaldehyde, n-butyraldehyde, benzaldehyde or ethylene oxide. The alkoxy alcohols were obtained via the MgBr<sub>2</sub> reaction of ethynylvinyl ethers prepared by their reaction with C<sub>2</sub>H<sub>5</sub>MgBr; the physical properties and infrared spectra of the reaction products were determined and the secondary alcohols were identified by preparing acetals with vinylethyl ether. The hydration of the alcohols gave olefinic alkoxyketols. Yields of 16.9-63% of the theoretical were produced by the

Card 1/2

L 37670-65

ACCESSION NR: AP5008112

reaction, which proceeded by the general formula



Orig. art. has: 1 table and 15 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk  
 SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 12Jun64

ENCL: 00

SUB CODE: OC

NO REF SCV: 003

OTHER: 004

Card 2/2 *ls*

L 37669-65 ENT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM  
S/0062/65/000/002/0363/0365  
ACCESSION NR: AP5008113

AUTHOR: Bogdanova, A. V.; Dolgikh, A. N.; Shostakovskiy, M. F.

TITLE: Synthesis of primary, secondary and tertiary alkylthio-ene alcohols

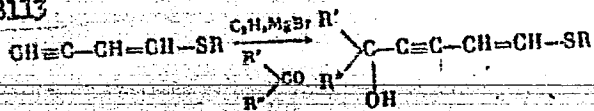
SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1965. 363-365

TOPIC TAGS: alkylthioalcohol, olefinic acetylenic alcohol, conjugated unsaturated alcohol, primary alcohol synthesis, secondary alcohol synthesis, tertiary alcohol synthesis, ethynylvinylthioalcohol, Grignary reaction

ABSTRACT: Conjugated olefinic-acetylenic primary, secondary and tertiary thioether alcohols were prepared by the reaction of ethynylvinylthioethyl and ethynylvinyl thioisopropyl alcohol with acetone, di-n-propyl ketone, methylvinyl ketone, acetaldehyde, n-butyraldehyde, crotonaldehyde or ethylene oxide. The thioether alcohols were obtained via the organomagnesium compounds generated in the presence of  $C_2H_5MgBr$  and the products were identified by elemental analysis and infrared spectroscopy. Physical properties were measured and tabulated. Yields of 18.5-71% of the theoretical were produced, the reaction proceeding by the general formula

Card 1/2

L 37669-65  
 ACCESSION NR: AP5008113



R' = C<sub>2</sub>H<sub>5</sub>, R'' = R' = CH<sub>3</sub> (I); R = C<sub>2</sub>H<sub>5</sub>, R' = R'' = n-C<sub>2</sub>H<sub>5</sub> (II); R = C<sub>2</sub>H<sub>5</sub>, R' = CH<sub>3</sub>, R'' = CH<sub>3</sub> = CH (III);  
 R = C<sub>2</sub>H<sub>5</sub>, R' = H, R'' = CH<sub>3</sub> (IV); R' = H, R'' = n-C<sub>2</sub>H<sub>5</sub>, R = C<sub>2</sub>H<sub>5</sub> (V);  
 R = C<sub>2</sub>H<sub>5</sub>, R' = H, R'' = CH<sub>3</sub>-CH=CH (VI); R = i-C<sub>2</sub>H<sub>5</sub>, R' = CH<sub>3</sub>, R'' = C<sub>2</sub>H<sub>5</sub> (VII);  
 CH≡C-CH=CH-SC<sub>2</sub>H<sub>5</sub> + CH<sub>2</sub>=CH<sub>2</sub> → OHCH<sub>2</sub>-CH<sub>2</sub>-C≡C-CH=CH-SC<sub>2</sub>H<sub>5</sub> (VIII)

Orig. art. has: 1 table and 9 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 12Jun64      ENCL: 00      SUB CODE: OC  
 NO REF SOV: 010      OTHER: 000

Card 2/2 *ho*

BOGDANOVA, D. Ya.

BOGDANOVA, D. Ya. : "The awareness of motion in the process of mastering a motor habit." State Order of Lenin and Order of Labor Red Banner Inst of Physical Culture imeni P. F. Lesgraft. Leningrad, 1956. (Dissertations for Degree of Candidate in Pedagogical Sciences).

SO: Knizhnays Letopsis' No. 22, 1956



BOGDANOVA, E.A.

Study of peripheral circulation by rheovasography. Voen.-med.zhur.  
no.10:34-38 0 '58.

(MIRA 12:12)

(BLOOD CIRCULATION, determ.

peripheral, rheovasography (Rus))

(PLETHYSMOGRAPHY

rheovasography in determ. of peripheral blood circ.  
( Rus))

BOGDANOVA, E.A.; DREMINA, T.N.

Electrocardiographic observations in operations on the organs  
of the thoracic cavity under ether-oxygen intubation anesthesia.  
Khirurgiya 36 no.9:91-99 S '60. (MIRA 13:11)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. P.N.  
Yelanskiy) I Moskovskogo ordena Lenina meditsinskogo instituta  
imeni I.M. Sechenova.

(ELECTROCARDIOGRAPHY) (CHEST--SURGERY)  
(INTRATRACHEAL ANESTHESIA)

BOGDANOVA, E.A.

Prognostic significance of electrocardiography in thoracic surgery under anesthesia. Khirurgia no.9:78-83 '62.

(MIRA 15:10)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - zasluzhenny deyatel' nauki prof. N.N.Yelanskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(ELECTROCARDIOGRAPHY) (CHEST--SURGERY)  
(ANESTHESIA--COMPLICATIONS AND SEQUELAE)

BEGEL'MAN, A.A., dotsent; BOGDANOVA, E.A.; BUKHTEYEVA, N.F.

Diagnosis and treatment of obliterative peripheral vascular diseases. Khirurgia 40 no.4:140-145 Ap '64 (MIRA 18:1)

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - prof. N.N. Yelanskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

BOGDANOVA, E.A.

Electrocardiographic control during operations under anesthesia.  
Trudy 1-go MMI 33:151-163 '64. (MIRA 18:3)

BOGDANOVA (FERNYAK), E.G.

Dependence of the readings of the Petljakov precipitation gauge  
on the wind velocity. Trudy GGO no.175:87-97 '65.

(MIRA 18:8)

I. Glavnaya geofizicheskaya observatoriya im. A.I.Voyeykova,  
Leningrad.

L 29139-66 ENT(1)/ECC GW  
ACC NR: AP6018691

SOURCE CODE: UR/0050/65/000/010/0050/0054

AUTHOR: Struzer, I. R. (Candidate of physicomathematical sciences); Nechayev, I. N.  
(Candidate of physicomathematical sciences); Bogdanova, E. G. (Candidate of  
physicomathematical sciences) 18  
B

ORG: Main Geophysical Observatory(Glavnaya geofizicheskaya observatoriya)

TITLE: Systematic errors in measurement of precipitation

SOURCE: Meteorologiya i gidrologiya, no. 10, 1965, 50-54

TOPIC TAGS: atmospheric precipitation, atmospheric evaporation

ABSTRACT: This is a brief description of the principal results of a quantitative determination of the principal systematic errors in measurement of precipitation. Emphasis is on the following sources of error: losses of collected precipitation due to wetting of the receiver, losses of collected precipitation due to evaporation from the receiver and losses of precipitation due to distortions of the wind field over the receiver. Quantitative relationships are derived between the systematic errors and the factors responsible for their occurrence. The computation system proposed here makes it possible to determine the errors for any point in an area and for different time intervals such as a month or year. Orig. art. has: 4 figures and 1 table. /JPRS/

SUB CODE: 04 / SUBM DATE: none / ORIG REF: 007

Card 1/1 CC UDC: 551.501.777

STRUZER, L.R., kand. fiz.-matem. nauk; NECHAYEV, I.N.; BOGDANOVA, E.G.;  
FEDOROVA, Ye.A.

Methodology of correcting the precipitation norms of a  
period of several years. Meteor. i gidrol. no.11:43-50  
N '65. (MIRA 18:11)

1. Glavnaya geofizicheskaya observatoriya.



ACC NR: AT6036738

SOURCE CODE: UR/2531/66/000/195/0040/0062

AUTHOR: Bogdanova, E. G.

ORG: GGO

TITLE: Investigation of precipitation measurement errors due to winds

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 195, 1966. Voprosy metodiki izmereniya atmosferykh osadkov (Problems in methods of measuring atmospheric precipitation), 40-62

TOPIC TAGS: weather forecasting, atmospheric precipitation, wind velocity

ABSTRACT: The errors made during measurements of liquid precipitation are influenced by winds as well as the size of the raindrops. This error for rains of average intensity is 2.5% in winds moving at 1 m/sec. It decreases to 0.5% in intense rains and increases to 4% in light rains composed of small raindrops in winds moving at 1 m/sec. The rain measurements obtained by the Tret'yakov precipitation gages give an underestimate of 5--8% in most often encountered winds which have the velocity of 2--4 m/sec at heights of 2 m. The seasonal and regional underestimates are determined by the relationship of the liquid precipitation underestimates caused by winds as a function of the rain structure. The parameter of rain structure N is taken to be that portion of total monthly precipitation which is caused by rains whose intensity is  $I \leq 0.03$  mm/min. The measurement errors due to winds at any point may be

Card 1/2

ACC NR: AT6036738

compensated by the use of isolines of the parameter N. A nomogram is given for correcting the monthly precipitation values. The underestimates in solid precipitation measurements are also influenced by the structure of the precipitation. The air temperature is used as a parameter for correlating these two quantities. Curves are given for correcting the Tret'yakov precipitation gage measurements of solid and mixed precipitation for various air temperatures. The error in solid precipitation measurements is 30--60% in most often encountered winds. At low temperatures (from -15 to -20C) and 8--10 m/sec winds these errors may reach 200--300%. The relationships obtained for the solid precipitation measurement underestimates cannot as yet be directly used for correction of monthly precipitation data. The authors, however, intend to develop a method for correcting these underestimates using climatological characteristics. Orig. art. has: 17 formulas, 6 tables, and 11 figures.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 019/ OTH REF: 002

Card 2/2

PLOTNIKOVA, K.N.; Primalni uchastiye: GORNAYA, K.A.; SHILINA, L.S.;  
KUZNETSOVA, V.K.; BOGDANOVA, E.I.; BASHILOV, S.F.; TRABER, I.G.;  
KAREVA, M.V.; KUZ'MINA, A.I.

Experience in the production of lavsan-cotton blend yarn in  
the "Trehgornaya Manufactura" and Kalinin Cotton Mills.  
Nauch.-iss. trudy TSNIKHBI za 1962 g.:166-175 '64.

(MIRA 18:8)

1. Tsentral'noy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti, Moskva (for Gornaya, Shilina).
2. Kalininskiy nauchno-issledovatel'skiy institut tekstil'noy promshlennosti (for Kuznetsova, Bogdanova).
3. Kalininskiy khlopchatobumazhnyy kombinat (for Bashilov), Traber).
4. Kombinatsiya "Trehgornaya manufaktura" (for Kareva, Kuzmina).

BOGDANOVA G. A.

И. В. Громова

Исследования по влиянию изменения добротности кварцевого резонатора в форме бруска.

К. А. Фомин

О влиянии изменения в дублетных резонансах собственных частот кварцевых резонаторов.

К. В. Халезов

Измерение добротности обычных резонаторов на чашках кварца.

А. Я. Лобов

Определение частот высокочастотных генераторов в режиме работы.

Г. А. Богданова

Исследования стабильности высокочастотных генераторов на полупроводниковых транзисторах.

9 июня  
(с 18 до 22 часов)

А. Г. Пирожков

Новые радиотехнические приборы общего назначения.

28

В. Р. Лисица

Проблема для измерения температуры в частоте до 300 МГц.

А. М. Фадеев

К. В. Рубинштейн

Экспериментальные исследования высокочастотных параметров диодных полупроводников в диапазоне частот до 1000 МГц.

М. М. Демин

Измерение мощности высокочастотного сигнала с помощью диодного полупроводника.

И. И. Громова

Измерение амплитуды сигнала сигнала.

К. Г. Карачев

Установка для измерения генераторов ГСС по их параметрам в диапазоне частот от 0,1 до 1000 МГц.

18 июня  
(с 10 до 16 часов)

28

report submitted for the Confidential Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications in. A. S. Paper (VGRIN), Moscow, 8-12 June, 1959

IVANOVA, I. S.; BOGDANOVA, G. F.; ALEKSEYEVA, T. A.; NOVIKOV, S. S.

Synthesis of dinitrodiazodicarboxylic acids. Izv. AN SSSR Otd.  
khim. nauk no.12:2236-2238 D '62. (MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Acids, Organic) (Diazoo compounds)

L 37208-66 EWT(m)/EWP(j) JW/RM

ACC NR: AP6014413

SOURCE CODE: UR/0062/66/000/004/0753/0755

AUTHOR: Novikov, S. S.; Ivanova, I. S.; Bogdanova, G. F.; Alekseyeva, T. A.; Konnova, Yu. V.

ORG: Institute of Organic Chemistry im. N. S. Zelinakly Academy of Sciences SSSR (Institut organicheskoy khimii, Akademii nauk SSSR)

TITLE: Synthesis and certain chemical conversions of nitro- and nitrazadicarboxylic acids<sup>1</sup>

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1966, 753-755

TOPIC TAGS: organic nitro compound, aliphatic carboxylic acid, chemical reaction, dissociation constant, heat resistance

ABSTRACT:  $\gamma$ -nitro- and  $\delta$ -nitro- $\gamma$ -methylpimelic acid were synthesized from methyl acrylate<sup>1</sup> and nitromethane<sup>1</sup> (nitroethane). The dihydrazides and the dichloroanhydrides were prepared. Introduction of the nitro groups in the  $\delta$ -position of pimelic acids reduced their thermal stability. Dissociation constants determined by potentiometric titration showed that introduction of 1 or 2 nitro groups in the  $\gamma$ -position of pimelic acid increased acid strength. Acid strength increases in the following

Card 1/2

UDC: 542.91 547.232

L 37208-66

ACC NR: AP6014413

series: pimelic,  $\gamma$ -nitro- $\gamma$ -methylpimelic,  $\gamma$ -nitropimelic, 3-nitrazapentane dicarboxylic acid-1,5, and  $\gamma$ ,  $\gamma$ -dinitropimelic. Orig. art. has: 1 table and 2 equations.

SUB CODE: 07/ SUBM DATE: 25Aug65/ ORIG REF: 002/ OTH REF: 003

Card 2/2mcp

DEGTYAREV, F.G.; BUTIN, V.I.; BOGDANOVA, Ye.A.; BOGDANOVA, G.I.;  
SHERSHNEVA, V.I.; MILYUTINA, L.L.; DEMUROV, M.G., kand.  
sel'khoz. nauk, spets. red.

[Recent developments in the technology of milk products;  
textbook] Novoe v tekhnologii molochnykh produktov; ucheb-  
noe posobie. Moskva, Vses. zaachnyi tekhnikum miasnoi i  
molochnoi promyshl., 1964. 187 p. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut moloch-  
noy promyshlennosti.



BOGDANOVA, G.N.

Fine vascularization of the sympathetic ~~ganglion~~ in some mammals  
(rabbits, cats). Nauch.trudy Kaz. gos.med.inst. 14:117-118  
'64. (MIRA 18:9)

1. Kafedra anatomii (zav. - prof. A.G.Korotkov) i tsentral'naya  
nauchno-issledovatel'skaya laboratoriya Kazanskogo meditsinskogo  
instituta.

*BOGDANOVA, G.P.*

*W*

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The influence of ultraviolet radiation upon blood metabolism and blood cholesterol. B. V. Kasatkin and G. P. Bogdanova. *Arch. sci. biol.* (U. S. S. R.) 40, No. 1, 39-43 (in English 63-4) (1938). In men ultraviolet radiation (I) produced increased hemolysis and regeneration of the blood; also an increase in lymphocytes and in cholesterol. Similar use of a sun-ray lamp (Sollux) (II) also induced increased hemolysis but less regeneration and no increase in cholesterol or lymphocytes. Prolonged use of I and II produced largely similar changes in the blood. The effects of therapeutic use of I and II in regard to production of anemia, mode of action through the skin on the cholesterol and primary action on the blood cells are discussed.

W. A. Petzweig

*11a*

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

RESEARCH INDEX

ORGANIC CHEMISTRY

MINERALOGY

ALUMINUM

E-2

PROCESSES AND PROPERTIES INDEX

11E

*OG* *BOGDANOV, E. I.*

The vitamin C metabolism in bronchial asthma. B. H. Kogan and G. P. Bogdanova. *Klin. Med. (U. S. S. R.)* 18, No. 4, 87-84(1940); *Chem. Zentr.* 1940, II, 1196c.

The daily excretion of vitamin C in the urine of asthmatic patients is reduced, especially at the onset of the disease. This reduction is frequently parallel to the intensity of the disease. The administration of ascorbic acid (200 mg. daily) in the form of rose hip produced no increase in the excretion of vitamin C. Conclusion: This metabolic disorder is due to the general pathogenesis of the disease. M. G. Moore

ASME-ISA METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

1ST AND 2ND LETTERS

3RD AND 4TH LETTERS

5TH AND 6TH LETTERS

7TH AND 8TH LETTERS

9TH AND 10TH LETTERS

11TH AND 12TH LETTERS

13TH AND 14TH LETTERS

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87TH AND 88TH LETTERS

89TH AND 90TH LETTERS

91ST AND 92ND LETTERS

93RD AND 94TH LETTERS

95TH AND 96TH LETTERS

97TH AND 98TH LETTERS

99TH AND 100TH LETTERS

ZHDANOV, Yu.A.; DOROFYENKO, G.N.; BOGDANOVA, G.V.

Use of zinc organic compounds in the synthesis of carbon-carbon  
sugar derivatives. Dokl. AN SSSR 119 no.3:495-497 Mr '58.

(MIRA 11:6)

1. Rostovskiy-na-Donu gosudarstvennyy universitet. Predstavleno  
akademikom A.I. Oparinym.

(Zinc organic compounds) (Sugar)

BOGDANOVA, G. S.

"Development of Light Filters for Trichromatic Colorimetry." Sub 27 Mar 51, All-Union Sci Res Inst of Glass, Ministry of the Construction Materials Industry USSR.

*Can. Tech Sci*  
Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

BOTVINKIN, O.K., doktor khim.nauk, prof.; BOGDANOVA, G.S., kand.tekhn.nauk

Light filters for objective colorimetry. Trudy VHIStekla  
no.33:31-41 '53. (MIRA 12:1)  
(Light filters) (Colorimetry)

**BOGDANOVA, G.S.**

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62261

Author: Bogdanova, G. S., Tsaritsyn, M. A.

Institution: None

Title: Staining of Glass with Compounds of Cerium and Titanium

Original  
Periodicals: Nauchn.-tekh. inform. byul. Vses. n.-i. in-ta.stekla, 1954, No 6,  
34-43

Abstract: The authors have studied the transmittance, in the visible region of the spectrum, of glasses of different composition stained with Ce-oxides or with mixtures of Ce- and Ti-oxides. As starting materials the following glasses were used: calcium glass (10% CaO), borosilicate (10.15 and 20% B<sub>2</sub>O<sub>3</sub>), lead (10, 20, 30 and 40% PbO) and zinc glass (10% ZnO). The amount of Ce-oxides was varied from 3 to 8% that of Ti-oxides from 3 to 18%. Ce-oxides used alone produce a pale yellow coloration. Combined use of oxides of Ce and Ti

Car

Card 1/2

Bogdanova, G. S.

✓ Effect of soda-potash mixture on the crystallization and fusion of window pane glass. M. V. Okhoblu, I. D. Tykachinski, R. S. Levina, G. S. Bogdanova, and S. Ya. Raf. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stikla* 1954, No. 34, 3-9; *Referat. Zhur. Khim.* 1955, No. 841. The suitability of the soda-potash mixt. obtained as a by-product in  $Al_2O_3$  plants operating on nepheline in glass melting was investigated. The mixt. contained  $K_2CO_3$  32.8 and  $Na_2CO_3$  63.8%. Exptl. glass was melted in crucibles and kept for 4 hrs. at  $1420^\circ$ . The glass was then poured from the crucibles, annealed, and its physicochem. properties were examd. visually. It was concluded that the soda-potash mixt. could be used in batches of sheet glass to replace soda partly or entirely; in the latter case the working temp. of the glass was raised by  $40-50^\circ$ . A glass contg. in its alk. component 7.5%  $K_2O$  was in its crystn. properties identical with a glass contg. only  $Na_2O$ . M. Hirsch

(4)



506-DIAUOVA

Distr: 4E2c

45  
 Glass filter for daylight, G. S. Bogdanova, *Trudy*  
 Leach, *Intelectuel. Ispytaniya*, 34, 37-  
 46, 1953, No. 1349. A glass  
 filter for daylight was studied to replace unsuitable liquid  
 filters. The spectral absorption curves were calcd. for  
 a light filter for which the light of an elec. lamp approaches  
 daylight. The absorption curve of a light filter which is  
 suitable for colorimetric detns, should coincide as closely as  
 possible with this theoretical curve. It seemed to be impos-  
 sible to obtain such a coincidence with a single glass. The  
 following 3 glasses were used: (1) "Azure" glass contg.  
 SiO<sub>2</sub> 72, CaO 10, Na<sub>2</sub>O 15, K<sub>2</sub>O 3, As<sub>2</sub>O<sub>3</sub> 0.3, and CuO 1  
 Cu<sub>2</sub>O 1.35%; (2) "Rose" glass contg. SiO<sub>2</sub> 67, PbO 20,  
 K<sub>2</sub>O 18, and Mn<sub>2</sub>O<sub>3</sub> 1%; (3) "Blue" glass contg. SiO<sub>2</sub> 44,  
 B<sub>2</sub>O<sub>3</sub> 20, K<sub>2</sub>O 12, Al<sub>2</sub>O<sub>3</sub> 1, As<sub>2</sub>O<sub>3</sub> 0.3, and CoO 0.3%. The  
 thickness of the component glasses was 1.03, 0.5, and 1.1  
 mm., resp. The spectral absorption curves for these glasses  
 are given as well as the spectral transmission curve for a  
 complex filter for daylight which coincides with the calcd.  
 curve. J. Rortar Leach

JK

Вогданова, Г. С.

15

The effect of the cement composition on the strain magnitude appearing in glass plates. S. M. A. Tsarlayev and G. S. Bogdanova. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stroi. 1958*, No. 35, 111-17; *Referat. Zhurn., Khim.*, 1958, Abstr. No. 25361. — It is established that cracking of glass face plates cemented on walls depends mainly on the cement shrinkage rather than on the difference of the expansion coefficients of the glass and cement. Recommended are building cements for use with glass plates 150 X 150, 150 X 300, and 300 X 300 mm. (portland cement type "300", 1 part, and sand 3 parts by wt.). The larger the area of the plate, the greater the strains that may arise after the cementing of the wall. The cement-layer thickness and the method of application do not affect the strains arising in the plates.

No. Vostok

5  
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gog

TSARITSYN, M.A.; BOGDANOVA, G.S.

Investigating stresses in cemented glass tiles. Stek. 1 ker.  
13 no.9:15-18 8 '56. (MLRA 9:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut stekla.  
(Glass, Ornamental) (Strains and stresses)

AUTHORS: Bogdanova, G. S., Orlova, Ye. M. 72-58-5-7/18

TITLE: Coloring of Glass by Means of Cerium and Titanium Compounds  
(Okrashivaniye stekla soyedineniyami tsceriya i titana)

PERIODICAL: Steklo i Keramika, 1958, Nr 5, pp. 21-25 (USSR)

ABSTRACT: In the paper by K. T. Bondarev, V. A. Dubrovskiy, V. V. Pollyak, I. Ye. Shapiro (ref. 1) the conditions for the production of glass types with a high degree of transparency by using cerium were investigated. A systematic investigation of the selective absorption of glass types with cerium oxide content was carried out by Kapnitskiy and Keller. Cerium oxide is never used alone as coloring substance. In 1919 Taylor proposed a combination of cerium and titanium oxides for producing yellow glass. In a paper from 1933 it is among other stated that the coloring intensity did not change when the content of cerium and titanium oxide was increased. This was, however, not proved in the experiments carried out by the authors and in those by Vargin, Kefeli and Starikova (1954) at the State Institute for Optics. The authors of this paper investigated the dependence of the character of spectral absorption on the glass types colored with cerium

Card 1/3

Coloring of Glass by Means of Cerium and Titanium Compounds 72-58-5-7/18

and titanium oxides. This was done to check the possibilities of the production of yellow-orange colored light filters. Furthermore the production of experimental types of glass is described in detail. The spectral characteristic of the glass was determined by means of the SF-4 spectrophotometer, the general light transparency and the color coefficients by means of the electric colometer UFK-1, system VNISI. Three types of glass were investigated: lead-, zinc- and barium glass. The suitability of the glass types for light filters was estimated according to the absorption curve, as introduced by L. I. Demkina. The authors preferred the method of determining the differences to that of optical density. In figure 1 the spectral characteristics of the glass types colored by cerium and titanium oxides are mentioned. The increase of the content of lead oxide leads to a considerable increase of the optical glass density (figures 2 and 3). The curves for lead-, zinc- and barium glass with different oxides of alkalies are shown in figures 4-6. With all types of glass the intensity of coloring increases when the content of the oxides of alkalies is reduced (figure 7). The spectral characteristics of barium glass molten on different conditions can be seen in figure 8. The light technical characteristics

Card 2/3

Coloring of Glass by Means of Cerium and Titanium Compounds 72-58-5-7/18

of 2 yellow-orange colored light filters colored by cerium and titanium oxides are mentioned in table 1. Table 2 shows the glass compositions of some light filters. The problem of the usefulness of the application of cerium and titanium oxides for the production of yellow-orange colored light filters can be definitely solved only after practical tests in industry.

There are 8 figures, 2 tables, and 1 reference, which is Soviet.

AVAILABLE: Library of Congress

1. Glass--Color
2. Cerium oxides--Applications
3. Titanium oxides--Applications

Card 3/3

BOGDANOVA, G.S.

15(2)  
AUTHOR:  
TITLE:  
PERIODICAL:  
ABSTRACT:

None given  
Glass Science at the VIII Mendeleev Congress  
(Mauka o stekla na VIII Mendeleevskom s'ezde)  
Stello 3 kuznalka, 1959, Fr. 5, PP 1-4 (USSR)

In the beginning a proclamation of the ZAI KFSK to the personnel of the building material industries for a qualitative and quantitative increase of production is mentioned. The Congress place in Moscow in the second half of March of the current year, the 125th anniversary of the great scholar's birthday. Outstanding scientists of the Soviet Union and the People's Democracies attended the Congress. The principal problems of the development of chemistry were discussed at the plenary meetings and the meetings of the 18 Congress sections. Professor I. I. Litvinovskiy opened the meetings of the sub-section for glass and gave a survey of the stages of development of Soviet glass production as well as of a number of promising tasks in the field of glass technology. Moreover, the following lectures were held: Doctor Korani (People's Republic of Hungary) investigated the structure of the top-layers of glasses;

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A. I. Avdeyevskiy (IPI Izvest) discussed the formation of a finely dispersed crystalline phase from the glass-like phase; V. V. Vargin and G. O. Karpovskiy (GOI) reported on absorption spectra, luminescence, and photochemical properties of certain-glass types; A. G. Il'kov (GOI) reported on the quantitative reciprocal relations between structure and dislocation density in glasses; V. I. Litvinovskiy (GOI) discussed the problem of the structure of glass-like substances; Professor O. K. Kovalchik, E. I. Ananich, and M. L. Kirpova, Institut Stekla (Glass Institute) reported on the investigation of the Glass Structure by the Method of Thermal Analysis and Optical Polarization; Ye. V. Poduzhko (GOI) discussed the new method of electric glass melting and the melting of silicates by means of high-frequency current; Yu. G. Shteynberg reported on strontium-magnesium glasses without lead and boron for false color and majolica which have been developed in the Comarstvennyy Nauchno-Issledovatel'skiy Kuznetskiy Institut (Glass Scientific-Research Institute of Comarstvennyy); G. I. Yezhovskiy and V. M. Malchukov (GOI) discussed the

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surface protection film in the destruction of silicate glasses; G. I. Yezhovskiy (GOI) discussed the coloring characteristics and the technology of phosphate glasses; O. V. Fagin (IPI) reported on the mobility of sodium ions in glass types of the type  $2R_2O \cdot Al_2O_3 \cdot xH_2O$ ; A. E. Bogova (IPI) reported on the structure of oxide and strontium glasses; V. I. Litvinovskiy (GOI) reported on silicate formation and sintering processes in the brignated glass layer; L. M. Yezhovskiy investigated various types of glass; M. L. Sazonov (Glass Institute) reported on the determination of impurities in silica by spectroscopic analysis; G. S. Bogdanova, and Ye. M. Orlova (Glass Institute) reported on types of electrode glass which has been derived by them. Ye. V. Bogoshin (Glass Institute) discussed the kinetics of the formation of crystallization centers in photo-sensitive types of glass; Z. M. Syrtkova (Glass Institute) discussed the investigation of the structure of the structure of phosphate glasses towards glass formation; G. I. Yezhovskiy (GOI) reported on the investigation of types of semiconducting oxide glass on the basis of  $ZnO$ ; A. V. Polubny, L. A. Gerasimov, I. V. Shapovalov, and Ye. A. Fagin (IPI) discussed the production of conductive films on types of glass which contain components easily to be regenerated.

15(2), 15(6)

SOV/72-59-3-5/19

AUTHORS:

Bogdanova, G. S., Orlova, Ye. M.

TITLE:

Heat-resisting Yellow-orange Colored Light Filters (Termo-stoykiye zhelto-oranzhevyye svetofil'try)

PERIODICAL:

Steklo i keramika, 1959, Nr 3, pp 13 - 16 (USSR)

ABSTRACT:

The investigation results obtained by I. D. Tykachinskiy, O. K. Botvinkin, L. I. Buneyeva, R. S. Levina, M. V. Okhotin, Yu. V. Rogozhin, Z. M. Syritskaya (Ref 1) in the field of colorless, alkaliless and alkali-weak glass types, as well as the investigation of the cerium-titanium coloring of glass (G. S. Bogdanova, Ye. M. Orlova, Ref 2) made it possible for the authors of the present paper to carry out experiments for the production of heat-resisting yellow-orange colored filters. Glass Nr 13, worked out by the Institut stekla (Glass Institute), was used as initial glass. For their experiments the authors employed the spectrophotometer SF-4 and the photoelectric colorimeter UFK-1 of the VNISI system. Figure 1 shows the spectrum characteristics of glass types containing equal molar quantities of lithium-sodium-potassium oxides, figure 2

Card 1/2



Heat-resisting Yellow-orange Colored Light Filters

SOV/72-59-3-5/19

shows the composition with various quantities of cerium oxides (with a constant 10% content of  $TiO_2$ ), figure 3 various quantities of cerium and titanium oxides, and figure 4 various  $TiO_2$  contents (with a constant 4% content of  $CeO_2$ ). The table gives the compositions, the phototechnical characteristic figures and extension coefficients of the glass recommended. After-checking in the test glass plant proved the good properties of these glass types. Figure 5 shows the melting conditions of the glass type ZhS-18, from which may be seen that the mass production of the glass types recommended does not call for special conditions. There are 5 figures and 1 table.

Card 2/2

15 (2)

AUTHORS:

Bogdanova, G. S., Orlova, Ye. M.

S/072/60/000/02/008/021  
B015/B003

TITLE:

Green Heat-Resistant Color Filters

PERIODICAL:

Steklo i keramika, 1960, Nr 2, pp 26 - 28 (USSR)

ABSTRACT:

The authors investigated in the present paper the influence of the composition of glass poor in alkali on the spectrum characteristics of copper- and chromium oxides. Thus it was possible to work out types of compositions of heat-resistant green color filters. As initial substance the glass previously elaborated at the Institut stekla (Institute of Glass) which is poor in alkali and has the following composition was used: 61.9% SiO<sub>2</sub>; 4.2% MgO; 2% Na<sub>2</sub>O; 15.4% CaO; 16.5% Al<sub>2</sub>O<sub>3</sub>; 4% (more than 100%) F'. The spectrum characteristics of glasses within the visible range were determined by an SF-4 spectrophotometer, and the color coefficients were measured by means of a UFK-1 colorimeter. Figures 1 - 4 show the transparency curves of glasses of various compositions dyed with copper oxide. In this connection the authors refer to papers by Vargin and Veynberg. In conclusion, the authors state that it is expedient for the elaboration

Card 1/2

Green Heat-Resistant Color Filters

S/072/60/000/02/008/021  
B015/B003

of glasses for green color filters to proceed from potassium glasses with a low alumina content, A number of glasses are listed in the table the color characteristics of which correspond to various types of color filters. For a large-scale test glass of the type ZS-73 was chosen. Melting of the latter glass under working conditions of the Opyt'nyy stekol'nyy zavod (Experimental Glass Factory) is shown in figure 5. The use of quartz as refractory material is recommended for melting these new glasses. There are 5 figures, 1 table, and 1 reference.

Card 2/2

RUBINSHTEYN, B.L.; YAKUBOVICH, S.V.; BOGDANOVA, G.S.; BAZILEVICH, Z.A.

Photometric method for determining the whitening capacity (intensity)  
of white pigments. Lakokrás.mat.1 ikh prim. no.3:51-55 '60.

(MIRA 14:4)

(Pigments)

RUBINSHTEYN, B.L.; YAKUBOVICH, S.V.; Prinimali uchastiye: BOGDANOVA, G.S.;  
BAZILEVICH, Z.A.

Photometric determination of the dyeing power of ultramarine.  
Lakokres.mat. i ikh prim. no.2:70-71 '61. (MIRA 14:4)  
(Ultramarine)

*u* L 10864-66 EWP(e)/EWT(m)/EWP(j)/T/EWP(t)/EWP(b)/ETC(m) IJP(c)

ACC NR: AP5028732

*44* JD/WW/RM/WH

SOURCE CODE: UR/0363/65/001/011/2005/2008

AUTHOR: Bogdanova, G. S.; Litvinov, P. I. *44*

*59*  
*55B*

ORG: State Scientific Research Institute of Glass (Gosudarstvennyy nauchno-issledovatel'skiy institut stekla) *44*

TITLE: Relationship between structure and properties in pyroceramics of the  $SiO_2-Al_2O_3-MgO$  system *15.44*

SOURCE: AN SSSR. Izv'ostiya. Neorganicheskiye materialy, v. 1, no. 11, 1965, 2005-2008

TOPIC TAGS: glass, crystallization, silica, alumina, magnesium oxide

ABSTRACT: The change of density during the crystallization of glass in the  $SiO_2-Al_2O_3-MgO$  system containing cerium and titanium compounds was studied by hydrostatic weighing. X-ray phase analysis was carried out with a URS-50I diffractometer and a Tesla-242 electron microscope. As in the case of pure cordierite compositions, crystallization goes through several stages which follow one another in a rigorous sequence dependent (at standard pressure) solely on temperature. The optimum properties of the pyroceramic formed as a result of the crystallization correspond to the composition of phase transformations and to a practically complete crystallization of cordierite. Within the range of the composition studied, the density can be used for

UDC: 546.284+546.623+546.46

Card 1/2

L 10864-66

ACC NR: AP5028732

checking the quality of the pyroceramic. K. V. Zhuchenko and Yu. A. Ivanov participated in the work. Orig. art. has: 3 figures. 4

SUB CODE: 07.11/      SUBM DATE: 17Apr65/      ORIG REF: 010/      OTH REF: 001

HW  
Card 2/2

L 10863-66 EWP(e)/EWT(m)/T/EWP(j)/EWP(b)/ETC(m) WW/RM/WH

ACC NR: AP5028733

SOURCE CODE: UR/0363/65/001/011/2009/2013

AUTHOR: Bogdanova, G. S.; Orlova, Ye. M.; Zavin, L. S.

36  
B

ORG: State Scientific Research Institute of Glass (Gosudarstvennyy nauchno-issledovatel'skiy institut stekla)

TITLE: Phase composition of <sup>15, 14</sup>pyroceramics in the system  $SiO_2-Al_2O_3-BaO-TiO_2$

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 11, 1965, 2009-2013

TOPIC TAGS: titanium dioxide, catalyzed crystallization, glass

ABSTRACT: The phase composition of celsian base pyroceramics was studied at various stages of the crystallization process. Titanium dioxide was used as the crystallization catalyst. X-ray diffraction patterns were obtained with a URS-50I<sup>8</sup> diffractometer. In those glasses whose main composition was in the celsian range in the phase diagram of the  $SiO_2-Al_2O_3-BaO$  system the main end product of crystallization was  $\beta$ -celsian, independent of the initial stage of crystallization. At this stage either the  $\alpha$  or the  $\beta$  modification of celsian separated out. After  $\beta$ -celsian has crystallized out completely above  $1050^\circ C$ , the composition of the residual glass phase is in the

UDC: 546.284+546.623+546.431+546.824

Card 1/2



L 10863-66

ACC NR: AP5028733

aluminum Al TiO range. The presence of aluminum titanate in the composition is indicated by a marked increase in the dielectric constant and by x-ray phase analysis. Orig. art. has: 2 figures, 1 table.

SUB CODE: 07, //      SUBM DATE: 02Jun65/      ORIG REF: 006/      OTH REF: 003

HW  
Card 2/2

L 22283-66 EWT(m)/EWP(e) WH/WW

ACC NR: AP6007262 (A)

UR/0363/66/002/002/0380/0383

AUTHOR: Bogdanova, G.S.; Orlova, Ye.M.; Zevin, L.S.

38

B

ORG: State Glass Institute (Gosudarstvennyy institut stekla)

TITLE: Amount of the crystalline phase as a function of heat treatment conditions in microcrystalline glasses (Pyrocerams) of the SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-BaO-TiO<sub>2</sub> system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v.2, no.2, 1966, 380-383

TOPIC TAGS: glass property, ~~phase composition~~ glass, crystal growth, x ray analysis

ABSTRACT: The article reports a study of the dependence on heat treatment conditions of the amount of the crystalline phase in microcrystalline glasses of several different compositions, in which the product of crystallization is only beta celsian, and the properties of these microcrystalline glasses. The composition of the glasses corresponded to 65-85 weight % celsian. The aim of the work was investigation of the possibility of controlling the properties of microcrystalline glasses in a given system. The content of beta celsian in the microcrystalline glasses was determined by quantitative x-ray analysis. A figure shows the dependence of the amount of beta celsian on the heat treatment temperature.

Card - - -1/2

UDC: 661.1:542.65

L 22283-66

ACC NR: AP6007262

For all compositions, the amount of beta celsian at first increases slowly, then rapidly and, finally, attains a constant value. At a temperature of 950-1000°C, the amount of the crystalline phase and the values of the properties reach practically constant values. Further increase in temperature leads to a growth in the size of the crystals formed from about 0.2 to about 0.5 microns, but does not exert any significant effect on the properties. Orig. art. has: 3 figures.

SUB CODE: 11, 20/ SUBM DATE: 25Jul65/ ORIG REF: 002/ OTH REF: 001

Card 2/2 nst

L 32183-66 EWT(m)/ENP(e)/T/EWP(t)/ETI IJP(c) JD/WH

ACC NR: AP6011324 (A) SOURCE CODE: UR/0363/66/002/003/0537/0540

AUTHOR: Bogdanova, G. S.; Orlova, Ye. M.

63  
B

ORG: State Institute of Glass (Gosudarstvennyy institut stekla)

TITLE: <sup>16</sup> Structural transformations in <sup>21 21 21 21 21</sup> SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-BaO-TiO<sub>2</sub> glasses during the initial stages of crystallization <sup>15</sup>

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 3, 1966, 537-540

TOPIC TAGS: glass property, silicate glass, ~~ceramic technology, ceramic product,~~  
~~ceramic material~~ thermal process, silicon dioxide, alumina, barium oxide, titanium oxide, crystallization

ABSTRACT: Structural changes in SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-BaO-TiO<sub>2</sub> glasses caused by thermal treatment were studied. The changes in glass properties as a function of thermal treatment for 2 hours at various temperatures are shown in figure 1. It was found that thermal treatment of SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-BaO-TiO<sub>2</sub> glasses leads to irreversible structural changes which hinder crystallization processes. These structural changes are exothermal in nature and they are caused by coordinative rearrangements of aluminum ions within the glass lattice. Orig. art. has: 4 fig res.

UDC: 666.1:542.65

Card 1/2

L 32183-66

ACC NR: AP6011324

(a)--% celsian (barium feldspar)  
(b)--temperature of thermal treatment, °C

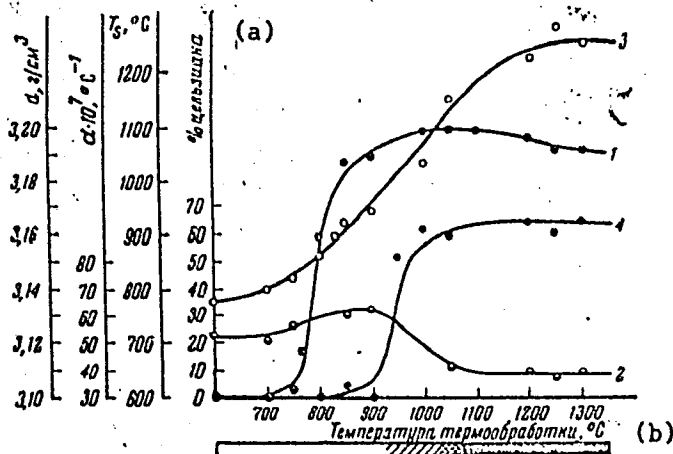


Fig. 1. The dependence of density ( $d$ ), expansion coefficient ( $\alpha$ ), glass softening temperature ( $T_s$ ), and crystalline phase content (% celsian) upon temperature of thermal treatment (for two hours); the shaded bar depicts the degree of glass crystallization, glass transparency declines toward right end of the bar; 1-- $d$ , 2-- $\alpha$ , 3-- $T_s$ , and 4--% celsian.

SUB CODE: 07,11/      SUBM DATE: 25Jul65/      ORIG REF: 008

LL  
Card 2/2

ZHDANOV, Yu.A.; KOROL'CHENKO, G.A.; DOROFEYENKO, G.N.; BOGDANOVA, G.V.

Synthesis of new G-glycosides. Dokl. AN SSSR 152 no.1:102-105  
S '63. (MIRA 16:9)

1. Rostovskiy-na-Donu gosudarstvennyy universitet. Predstavleno  
akademikom A.I.Oparinym.

(Glycosides)

ROGDANOVA, G. V.

26657 Sluchny ekhinokokka orbity. Vestnik oftalmologii, 1949, No. 4, s. 40-41

SO: LETOPIS' NO. 35, 1949

ZHDANOV, Yu.A., doktor khim. nauk; DOROFYENKO, G.N.; KOROL'CHENKO, G.A.;  
BOGDANOVA, G.V.; FEDOROVA, T.P., red.; SHVETSOV, S.V., tekhn.red.

[Laboratory work in carbohydrate chemistry] Praktikum po  
khimii uglevodov. Pod obshchei red. I.U.A. Zhdanova. [n.p.]  
Rozvuzizdat, 1963. 119 p. (MIRA 16:6)  
(Carbohydrates)



ZHDANOV, Yu.A. ; BOGDANOVA, G.V.; ZOLOTUKHINA, V.G.

Condensation of the  $\alpha$ -forms of sugars with 4-hydroxycoumarin.  
Dokl. AN SSSR 157 no.4:917-918 Ag '64 (MIRA 17:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet. Predstav-  
leno akademikom R.A. Kazanskim.

I 14187-66 EWT(1)/FCC GW

ACC NR: AT6004150

(N)

SOURCE CODE: UR/2531/65/000/167/0053/0058

AUTHOR: Bogdanova, G. V.; Kagan, B. A.

36  
B+1

ORG: Main Geophysical Observatory, Leningrad (Glavnaya geofizicheskaya observatoriya)

TITLE: Experiment in calculating the characteristics of thermal and dynamic interaction between sea and atmosphere

12,55 12,44,55

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 1, 1965. Fizika pogranichnogo sloya atmosfery (Physics of the boundary layer of the atmosphere), 53-58

TOPIC TAGS: meteorology, computer application, atmospheric interaction

ABSTRACT: A theoretical study of thermal and dynamic interaction between sea and atmosphere is used as a basis for programming a digital computer to calculate the distribution of the characteristics of interaction between sea and atmosphere along the Meridian section between the tropical Atlantic and the North Pole. A block diagram of this program is given for a three-address computer with floating decimal

Card 1/2

2

I 14187-66

ACC NR: AT6004150

point. The program includes calculation of the altitude of the boundary layer, depth of the friction layer, temperature of the active surface, coefficients of turbulence in the atmosphere and sea, components of velocity of the surface friction, and turbulent heat exchange and heat losses through evaporation for the various seasons of the year. Curves are given showing the results of calculations of these characteristics for winter. A comparison of theoretical and experimental data shows satisfactory agreement for surface temperature which is a good indication that the other characteristics are also reliable. The proposed computer program may be used for solving various problems in interaction between sea and atmosphere. Orig. art. has: 3 figures, 6 formulas.

SUB CODE: 08,09/ SUBM DATE: 00/ ORIG REF: 005/ OTH REF: 002

Card 2/2

*Ch. Faraday, J. H.*

Faraday's law and current efficiency in the electrolysis of fused salts. II. The role of the current density at the electrodes. A. P. Alshychev and I. A. Bogdanova. *Zhur. Priklad. Khim.* (J. Applied Chem.) 20, 507-604 (1947); *Chem. Zentr.* 1948, I, 1030; cf. *C.A.* 42, 1823g. Expts. on fused  $PbCl_2$  showed the predominant influence of the cathodic c.d. on the current efficiency. At a const. cathodic c.d., a change in the anodic c.d. within wide limits (0.125-2.0 amp./sq. cm.) had practically no effect on the Pb yield. However, the current efficiency for the deposition of Pb,  $\eta$  (in %), changed with the cathodic c.d.,  $D_c$ , according to the equation  $\eta = 100 - (b/D_c)$ , in which  $b$  is the metal loss (in %) at  $D_c = 1$ .  
M. G. Moore

100 AND 4TH CREDIT

1ST AND 2ND CREDIT

PROCESSED AND PROPERTIES INDEX

BC

B-1-8

Determination of fluorine in aluminum oxide containing crystals.  
V. L. Zlotchenko and I. I. Rogozhina (*Russ. Lab.*, 1959, 8, 104—  
107).—A rough determination (80–91% of theory) of F in presence  
of a large excess of  $Al_2O_3$  can be made by treating the solid sub-  
stance with 0.1–0.12N-KOH, pptg. the dissolved part of  $Al(OH)_3$   
by  $(NH_4)_2CO_3$ , and determining F in the filtrate. J. J. B.

COMMON ELEMENTS

COMMON VARIABLES INDEX

ABX-51A METALLURGICAL LITERATURE CLASSIFICATION

REPORT NUMBER

SELECT ONE ONLY ALL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
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✓ The reabsorption of light in discharge in cesium vapors,  
S. R. Frish and L. P. Boridanova (A. A. Zhdanov State  
Univ., Leningrad), *Doklady Akad. Nauk S.S.S.R.* 1952, 230-30. — The reabsorption of  
light by the source was studied under conditions of gas dis-  
charge. Expts. were carried out with Cs at vapor pressures  
of  $4.3 \times 10^{-4}$ ,  $1 \times 10^{-3}$ , and  $2.8 \times 10^{-2}$  mm. The coeff.  
of absorption,  $k_1$ , was detd. for different spectral lines.  
I. Rovtar Leach

699

①

Population of excitation levels of thallium atoms in a discharge in the mixture of thallium vapors with argon. I. P. Borodanov. *Vestnik Leningrad. Univ.* 11, No. 23, Ser. Phys. Chem. No. 4, 41-55 (1956). --At temps. of 580-600°K and partial pressure of A of 0-2.00 mm., the concn. of electrons in the mixt. of Tl vapors in A in a discharge tube rose from 2 to 7.5 x 10<sup>10</sup> cm<sup>-3</sup>. The electron temp. T<sub>e</sub> increased from 10,200°K to 16,900°K. The population N<sub>1</sub>, N<sub>2</sub> = 10<sup>10</sup> cm<sup>-3</sup> of atoms at the lowest level for a given spectral line; f = oscillator strength of Tl atoms was detd. interferometrically. The concn. of atoms in the metastable level 6<sup>3</sup>P<sub>1/2</sub> of Tl at 635°K, P<sub>A</sub> = 0.12-2.0 mm., P<sub>Tl</sub> = 1.0 x 10<sup>-3</sup> mm. and discharge current 100 millamp. was approx. 60% that of atoms in the level 6<sup>1</sup>P<sub>1/2</sub>. With an increase of pressure of A, the concn. of atoms in 6<sup>3</sup>P<sub>1/2</sub> decreased, in 6<sup>3</sup>D<sub>3/2</sub> increased, and in the level 6<sup>1</sup>D<sub>3/2</sub> remained unchanged. In the level 6<sup>3</sup>P<sub>1/2</sub> - 7<sup>1</sup>D<sub>3/2</sub>, line 2018 Å, which is usually inverted, the pressure of A was weaker than for the 6<sup>3</sup>P<sub>1/2</sub> - 6<sup>1</sup>P<sub>1/2</sub> transition; the distribution of intensities was caused by the inversion, not by the change in the transition probability of the atoms in the atom. Therefore, in the population of the D<sub>3/2</sub> and D<sub>5/2</sub> levels in the absence of A, the primary process, i.e., nonelastic collisions of Tl atoms with electrons is predominant in the discharge in Tl vapors. The data show that during the nonelastic electron collision the transitions 6<sup>1</sup>P<sub>1/2</sub> - 6<sup>3</sup>D<sub>3/2</sub> and 6<sup>3</sup>P<sub>1/2</sub> - 6<sup>1</sup>D<sub>3/2</sub> in the Tl atom have greater probability than the 6<sup>3</sup>P<sub>1/2</sub> - 6<sup>3</sup>D<sub>5/2</sub> and 6<sup>1</sup>P<sub>1/2</sub> - 6<sup>3</sup>D<sub>5/2</sub> transitions. The transitions in the first pair occurred without a change in the direction of electron spin relative to the direction of the orbital moment; in the second pair, with a change in the direction of the spin. Apparently, during the nonelastic collisions of electrons the transitions involving the change in the direction of the spin are less probable. This conclusion was further confirmed by the direct measurement of the effective cross sections (function of excitation). 13 references.

A. P. Kozlov

BOGDANOVA, I. P.

Concentration of excited neon atoms during the discharge in a hollow cathode. I. P. Bogdanova and G. T. Khokhlov. *Optika i Spektroskopiya* 2, 681-2 (1957). — Glass discharge tube with a cylindrical hollow cathode (15 mm. in diam. and 130 mm. long) was used for the excitation of spectrum. Inside the cathode was placed a porcelain disk (13 mm. in diam., 3 mm. thick) which was connected through glass-coated Mo wire to an iron disk, in order to vary the size of the discharge beam by means of a magnet. The tube was equipped with a water-cooled glass joint. Measurements in the pos. beam were carried out also in a discharge tube (15 mm. in diam.), in one end of which was sealed a cylindrical probe (4.7 mm. long, 0.2 mm. in diam.). The tube was connected to a d.-c. source. C.d. was varied from 0.7 to 4.3 mA./sq.cm., while pressure inside the tube was kept at 0.5-1.1 mm. These conditions provided a stationary and even discharge across the cross section and along the cathode axes. The spectrum was photographed with the aid of a glass spectrograph by using a prism of const. deflection and dispersion  $\Delta\lambda/\Delta l = 125 \text{ \AA./mm.}$  near  $\lambda 5900 \text{ \AA.}$  Reabsorption was measured for the following bands of Ne ( $\lambda$  in  $\text{\AA.}$ ): 6852( $3s^2P_1 - 3p^2P_1$ ), 6268( $3s^2P_1 - 3p^2D_1$ ), 6074, 6090, 6500( $3s^2P_1 - 3p^2S_1$ ),  $^1D_2$ ,  $^1D_2$ ), and 6945, 8143, 8402( $3s^2P_1 - 3p^2S_1$ ,  $^1P_1$ ,  $^1D_2$ ). In the hollow cathode among the group of  $3s^2P_1$  and  $3p^2P_1$  levels the  $3s^2P_1$  level and in the pos. beam  $3s^2P_1$  level were populated relatively strongly. In addn., the entire group of levels in the pos. column was more populated than in the hollow cathode. On the other hand, the group of high levels,  $3p^2F_2$  and  $3p^2D_3$  in hollow cathode was more populated as compared with the pos. beam. The high levels of the ions were differently excited in different spots along the axes of the hollow cathode: some were excited predominantly near the cathode edges, the others in the center. The population of Ne ions for lines ( $\lambda$  in  $\text{\AA.}$ ) 4250 Ne II, 4398 Ne II, 4409 Ne II ( $3s^2F_2 - 4f^2G_7/2$ ), 4457 Ne II, 4488 Ne II, and 6400 Ne II ( $3s^2P_1 - 3p^2P_1$ ) were very sensitive to any changes in the energy of electrons.

A. P. Kotloby

5



*BOGDANOVA, I. P.*

51-6-1/26

AUTHORS: Bogdanova, I. P. and Gi-Tkhek, Ch.

TITLE: On the Excited Neon Atom Densities in a Hollow-cathode Discharge. (O kontsentratsiyakh vozbuzhdennykh atomov neona pri razryade v polom katode.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.II, Nr.6, pp. 681-8 (USSR)

ABSTRACT: This paper reports quantitative studies of the process of spectrum excitation in a hollow-cathode discharge and its dependence on the discharge parameters: current density, gas pressure. The measurements were made on neon discharges. In parallel studies in a positive-column discharge the current densities and gas pressures were the same as in the hollow-cathode discharges. For the hollow-cathode discharges a glass tube with a cylindrical cathode was used (Fig.2). Inside the cathode a porcelain disc was placed. This disc could be moved inside the cathode and the internal depth of the cathode could thus be varied. Fig.3 shows a discharge tube used for the positive-column studies. Both

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51-6-1/26

On the Excited Neon Atom Densities in a Hollow-cathode Discharge.

discharge tubes were supplied with high-voltage d.c. The spectra were photographed using a glass-prism spectrograph with 125 Å/mm dispersion. The working conditions were chosen to make the discharges stable and the emission uniform. The current densities were varied from 0.7 to 4.3 mA/cm<sup>2</sup>, the pressures from 0.5 to 1.1 mm Hg. Populations of excited atoms of neon at the levels 3s<sup>1</sup>P<sub>1</sub> and 3s<sup>3</sup>P<sub>2,1,0</sub> in the hollow-cathode and positive-column discharges were determined using the re-absorption method. The measurements were made on the following lines: 5852, 6266, 6074, 6096, 6506, 5945, 6143, 6402 Å. The re-absorption of these lines was found from the ratio of the intensities of the lines emitted by a long column (9 cm in the hollow-cathode, 12 cm in positive-column discharges) and a short column (3 cm in the hollow-cathode, 4 cm in positive-column discharges). The dependence of these ratios on the current density and gas pressure was determined. The measurements were made at pressures of 0.5, 0.7, 0.8 and 1.1 mm Hg,

Card 2/4

51-6-1/26

On the Excited Neon Atom Densities in a Hollow-cathode Discharge.

and current densities of 0.7, 1.4, 2.1, 2.9, 3.6 and 4.3 mA/cm<sup>2</sup>. From the value of re-absorption the numbers of dispersion centres  $N_f$  were found using tables given in Ref.3. Then, using the values of  $f$  (oscillator strengths) for neon lines given in Ref.1, the populations of the excited atoms at the levels  $3s^1P_1$  and  $3s^3P_{2,1,0}$  were found. Figs.6 & 7 show the dependences on the current density of these populations in the hollow-cathode and positive-column discharges. Measurements of the absolute intensities of the lines, whose upper levels are  $3p^3P_0$  and  $3p^3D_{3,2}$ , make it possible to estimate the degree and the nature of the excitation of these levels. The dependences of the populations of the latter two levels on the current density are given in Figs.8 & 9. In the hollow-cathode discharges the  $3s^1P_1$  level is the most densely populated, in the positive-column discharges the  $3s^3P_2$  level has the highest density.

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51-6-1/26

On the Excited Neon Atom Densities in a Hollow-cathode Discharge.

In general all the  $3s^1P_1$  and  $3s^3P_{2,1,0}$  levels are more densely populated in the positive-column discharges than in the hollow-cathode discharges. On the other hand the  $3p^3P_0$  and  $3p^3D_{3,2}$  levels in neon are more densely populated in the hollow-cathode discharges. Measurements of electron densities and electron temperatures in the positive-column discharges were also made. The results are given in Figs.4 & 5. Fig. 11 shows that the spectral lines of neon ions are excited to a different extent in different parts of the emitting column in the hollow-cathode discharges. Certain ionic levels are excited at the edges of the hollow-cathode, others in its middle portion. There are no ionic lines in the positive-column discharges. This indicates that the mean energies of electrons in the positive-column discharges are considerably lower than in the hollow-cathode discharges. This work was directed by S.E. Frish. There are 11 figures and 5 references, 3 of which are Slavic.

Card 4/4

SUBMITTED: November 10, 1956

AVAILABLE: Library of Congress.

FRISH, S.E.; BOGDANOVA, I.P.; KRAULINYA, E.K.

Importance of effective atomic cross sections in the excitation  
of spectra. Fiz.sbor. no.4:54-56 '58. (MIRA 12:5)

1. Fizicheskiy institut Leningradskogo ordena Lenina gosudar-  
stvennogo universiteta imeni A.A.Zhdanova.  
(Spectrum, Atomic)

AUTHORS: Frish, S. E., Bogdanova, I. P. SOV/48-22-6-4/28

TITLE: The Excitation of Spectral Lines in the Negative Luminescence of a Gas Discharge (Vozbuzhdeniye spektral'nykh liniy v otritsatel'nom svechenii gazovogo razryada)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 659-661 (USSR)

ABSTRACT: In earlier works (Ref 1) the existence of a surplus of fast electrons near the cathode had been ascertained by measurements carried out with probes. As these electrons influence the excitation of neutral atoms, it must be assumed that, within the range of negative luminescence, a different energy distribution of atoms and also a different distribution of intensity in the spectrum must take place. For the purpose of discussing these phenomena, the present paper investigates the gas spectra forming in the interior of a hollow cathode. Neon tube discharges were used for this purpose. The measurements mentioned as being carried out in the paper by Bogdanova and Chen-Gi-Tkhek (Ref 2), who used a discharge tube with hollow cathode (15 mm diameter and 130 mm length) are referred to. In the interior of the cathode a

Card 1/2

The Excitation of Spectral Lines in the Negative  
Luminescence of a Gas Discharge

SOV/48-22-6-4/28

small porcelain and magnetically adjustable disk was fitted. In this way it was possible to adjust the length of the column of light and thus to attain the line-reabsorption value which was assumed as a basis for calculations (Ref 3). For states of higher energies relating to the neon-electron-configuration  $2p^5 3p$  the absolute intensity lines are taken into account. Three diagrams illustrate the concentration of neon atoms in various states and at pressures of 0,7 torr. There are 4 figures and 3 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gos. universiteta im. A. A. Zhdanova (Scientific Research Institute for Physics of Leningrad State University imeni A.A.Zhdanov)

1. Gas discharges--Spectra 2. Atomic spectra 3. Atoms---Energy

Card 2/2

*B. G. DANOVA, I. P.*

21(0)24(0) PHASE I BOOK EXPLOITATION SOV/33  
 Akademiya nauk SSSR. Fizicheskii Institut  
 Issledovaniya po eksperimental'noy i teoreticheskoj fizike: (Sbornik) (Studies on Experimental and Theoretical Physics; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 304 p. Mirra styp inserted. 2,300 copies printed.  
 Ed.: I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; Eds. of Publishing House: A. L. Chernyak and V. G. Berkaut. Tech. Ed.: P. V. Yablonskiy, Commission for Publishing the Collection in Memory of Academician S. M. Zhuravskiy, L. Ye. Zimm (Chairman), Academician M. A. Leontovich, Academician: K. A. Buzalin, Doctor of Physical and Mathematical Sciences; S. L. Mandel'shtam, Doctor of Physical and Mathematical Sciences; I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; P. S. Landsberg-Baryshnayskiy, Candidate of Physical and Mathematical Sciences; and O. P. Mchulevich (Secretary), Candidate of Physical and Mathematical Sciences.

PURPOSE: This book is intended for physicists and researchers engaged in the study of electromagnetic radiation and their role in investigating the structure and composition of materials.  
 COVERAGE: The collection contains 30 articles which review investigations in spectroscopy, molecular optics, semiconductor physics, molecular physics, and other branches of physics. The introductory chapter gives a biographical profile of O. G. Landsberg, Professor and Head of the Department of Physics of the Division of Physical Technology at Moscow University, and reviews his work in Rayleigh scattering, combat gases, spectral analysis of metals, etc. No personalities are mentioned. References accompany each article.

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24(7)

AUTHOR:

Bogdanova, I. P.

SOV/54-59-3-3/21

TITLE:

Measurement of the Optical Excitation Functions in Retarding Electric Fields

PERIODICAL:

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 3, pp 15-18 (USSR)

ABSTRACT:

In investigations of the optical excitation function fine-structural lines have hitherto been observed which on the one hand are ascribed to cascade transitions (S. E. Frish, and I. P. Zapesochnyy, Ref 2), on the other, however, the observed 2 maxima of a line had to be ascribed to the excitation function of one and the same level (Frish and V. Ye. Yakhontova, Ref 4). Computations made by V. I. Ochkur confirmed the latter assumption (Ref. 5). Electron beams of high intensity but of low velocity had to be used for measurements of the excitation cross sections. This was achieved by using a retarded electric field. The velocity of the electrons in such a field and the potential distribution between the two electrodes, as well as the electron density in the beam were computed. A similar problem was dealt with by V. S. Lukoshkov and S. D. Gvozdoverov

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Measurement of the Optical Excitation Functions in  
Retarding Electric Fields

SOV/54-59-3-3/21

(Refs 2, 3). The excitation function of the Hg-lines  $\lambda = 5461$  and  $5791 \text{ \AA}$  was measured in tubes as are used according to the method by Hanle. The two electrode potentials were + 21 and -4 and -8 v. A fine-structure of this line which is due to cascade transitions was observed from the excitation function of the line  $\lambda = 5461 \text{ \AA}$ . An agreement was found between the position of the maxima of the excitation function with the corresponding results obtained by Frish and I. P. Zapesochnyy (Refs 2, 9). There are 1 figure and 9 references, 7 of which are Soviet.

SUBMITTED: April 15, 1959

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BOGDANOVA, I.P.

Measurements of the optical excitation functions in retarding  
electrical fields. Vest.LGU 14 no.16:15-18 '59.

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(Spectrometry)

24(4),24(7)

AUTHORS:

Bogdanova, I. P., Bochkova, O. P., Zaydel', A. N.,  
Zakharova, V. M., Kagan, Yu. M., Kalitayevskiy, N. I., Penkin,  
N. P., Chayka, M. P., Shukhtin, A. M., Lipis, L. V.

SOV/53-69-1-10/11

TITLE:

Sergey Eduardovich Frish (Sergey Eduardovich Frish).  
On the Occasion of His Sixtieth Birthday  
(k shestidesyatiletiju so dnya rozhdeniya)

PERIODICAL:

Uspekhi fizicheskikh nauk, 1959, Vol 69, Nr 1, pp 165-167 (USSR)

ABSTRACT:

On June 19th, 1959, the well-known Soviet physicist S. E. Frish, who made a name for himself especially in the field of spectroscopic optics, attained the age of sixty. He began his scientific work as a student at the fiziko-matematicheskoye otdeleniye Leningradskogo universiteta (Physico-mathematical Department of Leningrad University) under D. S. Rozhdestvenskiy. After completing his university studies he continued his work at the Gosudarstvennyy Opticheskiy institut (Optical State Institute). Since 1934 he held a chair for optics and supervised work at the Physics Department, first as dean and later as director of the Nauchno-issledovatel'skiy fizicheskiy institut LGU (Scientific Research Institute for Physics at Leningrad

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