ARTAMONOV, K.I.; LEBEDEV, N.I.; YERGALIYEV, E.Ye.; LESECHKO, A.K.;
YAKUSHIN, M.V.; KAZAKOV, V.N.; BRYUKHANOV, N.G.; NIKITINA, L.I.;
KHVESYUK, F.I.; Prinimali uchastiye: MATVEYEV, A.T.; KOVALEV, S.I.;
ROMANOV, V.S.; MARCHENKO, B.P.; ZUDOVA, T.I.; OMAROV, M.N.;
PECHENKIN, S.N.; LUKIN, Ye.G; KHLUDKOV, V.I.

Shaft-furnace copper smelting with an oxygen-enriched blow.
TSvet. met. 34 no.3:32-39 Mr '61. (MIRA 14:3)

1. Irtyshskiy polimetallicheskiy kombinat (for Artamonov, Lebedev, Yergaliyev, Lesechko, Matveyev, Kovalev, Romanov, Marchenko, Zudova, Omarov). 2. Vsesoyuznyy nauchnoissledovatel'skiy institut tsvetnykh metallov (for Yakushin, Kazakov, Bryukhanov, Nikitina, Khvesyuk, Pechenkin, Lukin, Khludkov).

(Copper—Metallurgy) (Oxygen—Industrial applications)

PEC[illegible]KIN, V.

Float reagent feeder. TSvet. met. 31 no.11:82 N '58.
(MIRA 11:12)

1. Balkhashskiy medeplavil'nyy kombinat.
(Ore dressing--Equipment and supplies)

GOLIKOV, S.N.; PECHENKIN, V.A.

Study of the penetration of some cholinolytic substances through the hematoencephalic barrier by the method of brain ventricle perfusion. Biul. eksp. biol. i med. 56 no.11:82-85 O[i.e. N] '63. (MIRA 17:11)

1. Iz laboratorii farmakologii (zav. - chlen-korrespondent AMN SSSR prof. S.N. Golikov) Instituta toksikologii Ministerstva zdravookhraneniya SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.

MOVSESOV, E.Ye.; PECHENKIN, V.P.; BYSTRENIN, M.N.

A two-stage method of obtaining titanium slag. Met. i gornorud.
prom. no.4:49-51 Jl-Ag '65. (MIRA 18:10)

KRAMNIK, V.Yu.; MOVSESOV, E.Ye.; PECHENKIN, V.P.

Carbonizing titanium slag briquets with incomplete combustion of natural gas. Met. i gornorud. prom. no.6:46-48 N-D '65. (MIRA 18:12)

KLASSEN, V.I.; PIKKAT-ORDYNSKIY, G.A.; VENKOVA, M.D.; ZHENDRINSKIY, A.P.;
MATVEYENKO, N.V.; GORODETSKIY, M.I.; YEGIZAROV, A.A.;
PECHENKIN, V.V.; SEREGIN, N.V.; KEPP, G.A. YATSENKO, N.N.

Industrial testing of an ejector-type flotation machine for the flotation of ores. TSvet. met. 36 no.4:7-13 Ap '63.
(MIRA 16:4)

(Flotation—Equipment and supplies)

PECHENKIN, V.Ye

PECHENKIN, V. Ye. "A method for measuring the use-capacity of woodworking tools" sbornik nauch. trudov (Utal'skiy lesotekhn. In-t) Moscow-Leningrad, 1948, p.53-84

SO: U-3261 10 April 53, (Letopis 'Zurnal 'nykh Statey No. 11 1949)

ACC NR: AR6035275 SOURCE CODE: UR/0169/66/000/009/D016/D016

AUTHOR: Vasil'yev, A. V.; Shishkin, Ya. Ya.; Pechenkin, Ye. S.; Zenkin, Yu. S.

TITLE: Controlled directional reception in the study of the rim zone of the Caspian depression

SOURCE: Ref. zh. Geofizika, Abs. 9D105

REF SOURCE: Tr. Nizhne-Volzhsk. n.-i. in-t geol. i geofiz. vyp. 3, 1965, 131-136

TOPIC TAGS: seismic observation, controlled directional reception, profiling, disjunctive dislocation, geologic exploration/Caspian depression

ABSTRACT: Seismic observations were made using controlled directional reception in one and one-and-half stage continuous profiling. Distances between short points were 200—800 m, the magnitude of the summation base wase 160—200 m, and groups of five seismographs per 12—25 m base were used. Results obtained at the Ural and Yeruslan area sections (northern part of the rim area) and at the Lamyshinskaya section are given. The high effectiveness of

Card 1/2 UDC: 550.834.5

ACC NR: AR6035275

the controlled directional reception in plotting salt and subsalt deposits and in identifying disjunctive dislocations is demonstrated. For complex areas, it is recommended that a system of double profiling be incorporated when using the controlled directional method and that parametric wells be drilled in the inside part of the rim zone. A. Titkov. [Translation of abstract] [SP]

SUB CODE: 08/

Card 2/2

SEDLIS, L.V.; YEL'YASHEVICH, A.I.; PECHENKINA, A.L.

Prospects for the production and uses of polypropylene. Plast.
massy no.5:68-72 '63. (MIRA 16:6)
(Propene)

TER-GRIGOR'YANTS, L.S.; SHCHUTSKAYA, Ye.K.; TEMIN, L.S.; PECHENKINA, A.P.

White clay and Solonka horizons in the Stavropol Paleocene. Biul.
MOIP. Otd.geol. 33 no.5:143-146 S-O '58. (MIRA 12:1)
(Stavropol Territory--Geology, Stratigraphic)

SOV/5-58-5-10/20

AUTHORS: Ter-Grigor'yants, L.S., Shutskaya, Ye.K., Temin, L.S., Pechenkina, A.P.

TITLE: Belaya Glina-Solonka Level of the Paleogene of the Stavropol' Region (Beloglinsko-solonskiy gorizont paleogena Stavropol'ya)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody, Otdel geologicheskiy, 1958, Nr 5, pp 143 - 146 (USSR)

ABSTRACT: This is a detailed description of various layers of argiles and marles found in the region of Stavropol'. Although these layers bear different names (Belaya Glina, Solonka and Kuma suites) the authors agree with F.P. Panteleyev that all these suites of the Upper-Eocene period were of the same age and that, in the direction of the S. Ergeni transition occurred between adjacent facies. There is 1 map, 1 set of profiles and 1 Soviet reference.

Card 1/1

USSR/Optics - Physical Optics.

K-5

Abs Jour : Ref Zhur Fizika, No 5, 1957, 12890

observed from the change in the intensity of the absorption bands at 9.8 microns and 10.22 -- 10.25 microns. Spectra of the crystallization products of glass, containing 20% Na_2O and 55% Na_2O, studied in the range from 6 to 13 microns, indicate a greater variety in the crystalline phases, than would follow from the diagrams of state. A comparison is made of the spectra of glass of identical molecular composition of the systems Na_2O -- SiO_2 and PbO -- SiO_2, prepared under laboratory conditions and under semi-manufacturing conditions and blown into thin films. In all lead glass there is observed between 9 and 11 microns one absorption band, while in the case of sodium glass, containing from 33.3 to 50% Na_2O, there appeared two bands, this indicating the strong influence of the cation on the structure of the silicon-oxygen skeleton of the glass. The spectra of the glass are compared with the spectra of the crystalline silicates; the observed absorption bands

Card 2/3

PECHENKINA, F.A., dessinator.

New fabrics of the Kuntsevo factory. Tekst.prom. 14 no.7:11-12 Jl '54. (MLRA 7:8)
(Kuntsevo--Woolen and worsted manufacture) (Woolen and worsted manufacture--Kuntsevo)

BLUDOV, I.; PECHENKINA, M.

Improve the establishement of norms and the utilization of material resources in knit goods and shoe factories. Fin.SSSR 23 no.11:21-27 N '62. (MIRA 15:12)

(Knit goods industry—Production standards)
(Shoe industry—Production standards)

PECHENKINA, P. S.

"Reflection and Diathermancy Spectra of Potassium Silicate Glasses in the Infra-Red Region." V. A. FLORINSKAYA and P. S. PECHENKINA, "DOKLADY AKADEMII NAUK USSR," New Series, Vol. XCI, No. 1/1953 pp. 59-62.

FLORINSKAYA, V.A., PECHENKINA, R.S.

Spectrum, Infrared

Reflection and transmission spectra of various modifications of silica in the infrared region. Dokl. AN SSSR 85, no. 6, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, DECEMBER 1952. UNCLASSIFIED.

PECHENKINA R. S.

USSR/Physics - Infrared Spectrum 21 Agu 52

"The Reflection and Transmission Spectra of Various Modifications of Silica in the Infrared Region,"
V. A. Florinskaya and R. S. Pechenkina

"DAN SSSR" Vol 85, No 6, pp 1265-8

Presents the results of an investigation of subject spectra of reflection and transmission in the region up to 14 microns, since there have been no studies on two modifications of quartz, namely tridimite and crystobalite. This lack of study is explained by the fact that natural tridimite and crystobalite are very rarely encountered in pure form and are very small crystals. Acknowledge the interest of Acad A. A. Lebedev, who submitted this report 24 Jun 52.

238T104

238T104

FLORINSKAYA, V. A.; PECHENKINA, R. S.

Glass Manufacture - Chemistry

Filtration spectrum of thin layers of silica glasses in the infrared range.
Dokl. AN SSSR 89, No. 1, 1953.

9. **Monthly List of Russian Accessions, Library of Congress,** May **1953. Unclassified.**

1. FLORINSKAYA, V. A.; PECHENKINA, R. S.

2. USSR (600)

4. Spectrum Analysis

7. Filtration spectrum of thin layers of silica glasses in the infrared range, Dokl. AN SSSR 89, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

PECHENKINA, R. S.

USSR/Physics - Infrared Spectra, Sep/Oct 53
Silica

"Reflection and Transmission Spectra of Various Modifications of Silica in Infrared Region," V.A. Florinskaya and R.S. Pechenkina

Iz Ak Nauk, Ser Fiz, Vol 17, No 5, pp 649-653

Present graphically results of experimental research of reflection and transmission spectra of quartzes, cristobalite and tridymite. Finds properties of Ural quartz similar to those of Brasilian quartz.

274T100

PECHENKINA, R.S.

62

Transmission spectra of thin silicate glass films in the infrared. V. A. Florinskaya and R. S. Pechenkina. *Doklady Akad. Nauk S.S.S.R.* 89, 37-40(1953)(Engl. translation issued as *U.S. Atomic Energy Comm.* NSF-tr-30, 4 pp.(1953)); cf. *C.A.* 48, 8050f.—Transmission spectra of thin films of 2-component Pb silicate glasses with PbO content varying from 23 to 69 mole-% and of some industrial flint and crown glasses are studied. The film thicknesses were of the order of 1-3 μ or thinner. Transmission was measured by using a Beckman spectrophotometer. The presence of an absorption band in the Pb glasses in the vicinity of 13 μ indicates the existence of crystallites with an ordered arrangement of atoms. As the PbO content is increased, from 33% to 60% in 2-component glasses, the absorption max. moves toward longer wave lengths of 9.5-11.1 μ. In increasing the Pb content from 60% to 69% no further absorption max. shift takes place. For all heavy flint glasses starting with the compn. of Pb metasilicate, this max. shows a slight split. The presence of a 2nd band indicating the presence of zones with orderly arrangements moves from 12.8 to 13.05 μ with increase in PbO content and simultaneously becomes considerably weaker. When the PbO content exceeds 60% this band vanishes completely. Thus the increase of the metal-ion content in the glass considerably weakens the ring formation of the tetrahedra and, at a concn. of 60 mole-% or higher, this ring formation is destroyed. A theory for the change in refractivity of glasses with increasing Pb content is given. A 2-component glass with a mol. compn. 33.33% Na_2O and 66.66% SiO_2 gives an absorption max. between 9 and 10 μ and a 2nd max. at 13 μ. This is taken to indicate that ring formation is pronounced in glass of this compn.

Alvin J. Cohen

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PECHENKINA, R.S.

V

USSR

M.A. YOUTZ
2 copies

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6523. Reflection and transmission spectra of potassium-silicate glasses in the infrared. V. A. FLORINSKAYA AND R. S. PECHENKINA. *Dokl. Akad. Nauk SSSR*, 91, No. 1, 59-62 (1953) *In Russian.* English translation, *U.S. National Sci. Found. NSF-tr-*108.

Reflection spectra were investigated with surfaces freshly polished with rouge and kerosene; transmission spectra on fine films, a few µ thick, drawn out of the melt. All glasses investigated (K content 15-35%) show a transmission band corresponding to one of the active atomic oscillations in the SiO_4 tetrahedron, and another corresponding to the pulsation of the SiO_4 tetrahedron. The degree of polymerization of the SiO_4 tetrahedra decreases as the K-ion content increases. Reflection experiments show that, during heat treatment, the growth occurs of zones with an ordered atomic arrangement. F. LACHMAN

PECHENKINA, R.S.

④

Ultraviolet absorption spectrum of lead-containing glasses. V. A. Florinskaya, A. V. Yakovleva, R. S. Pechenkina, and M. K. Ivanova. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 17, 736-9(1953).—Absorption spectra of Na_2O-SiO_2-PbO glasses contg. 0, 0.2, 0.8, 3.0, 27% PbO and Flint-glass TF-5 are plotted in the region 2000-4100 A. When the concn. of PbO is small, a band appears between 2300 and 2400 A. At higher PbO concn. the absorption is so high that even 0.04-mm. films are completely opaque. Reflection measurements were made under an angle of 45° with a Beckman spectrophotometer to λ = 2050 A. and with a vacuum fluorite spectrograph to 1550 A. In the sample with 27% PbO a max. appears at 2300-2400 A., which is shifted in heavy flint to 2540 A. Another max. was found in heavy flint at 1700 A. The observed spectra resemble spectra of alkali halide phosphors contg. Tl and Pb halide activators and also spectra of Pb salts in H_2O solns. of alkali halides. The electron system of the Pb^{++} ion is different in such cases from the electron system of the Pb^{++} in Pb vapor.

S. Pakswer

14/8/54

PECHENKINA, R.S.

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B. T. R.
Vol. 3 No. 4
Apr. 1954
Ceramics and Concrete

4444 **Transmission Spectra of Thin Silicate Glass Films in the Infrared.** V. A. Florinskaya and R. S. Pechenkina. *National Science Foundation Translation*, no. 30, July 1953, 4 p. (Original in *Doklady Akademii Nauk SSSR*, v. 89, 1953, p. 37.)

Study of reflection and transmission spectra of silicate glasses in infra-red makes it possible to infer configuration of SiO_4 tetrahedron, which is the basic structural element of the glass and to determine presence or absence of order in the relative arrangement. Graphs. 10 ref.

7-14-54

PECHENKINA, R. S.

USSR/Physics - Infrared Spectra 1 Jul 53

"Reflection and Transmission Spectra of Potassium Silicate Glasses in the Infrared Band," V. A. Florinskaya and R. S. Pechenkina

DAN SSSR, Vol 91, No 1, pp 59-62

Continue previous works (ibid 89, 1; 89, 2; 90, 6 (1953)), concerning methods and results of reflection and transmission spectra of lead silicate glasses, by testing potassium silicate glasses with various content of potassium oxide before fritting and after thermal treatment. Presents results in graphs. Presented by Acad A. A. Lebedev, 10 Apr 53

266T97

FLORINSKAYA, V.A.; PECHENKINA, R.S.; LEBEDEV, A.A., akademik.

Diffraction and absorption spectra of potassium silicate glasses in the infrared band. Dokl. AN SSSR 91 no.1:59-62 Jl '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Lebedev). (Glass) (Spectrum analysis)

15-57-2-1780

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 2, p 91 (USSR)

AUTHORS: Florinskaya, V. A., Pechenkina, R. S.

TITLE: The Spectrum of Simpler Glasses in the Infrared Region and Its Relation to the Structure of the Glass (Spektry prosteyshikh stekol v infrakrasnoy oblasti i svyaz' ikh so strukturoy stekla)

PERIODICAL: V sb: Stroyeniye stekla, Moscow-Leningrad, AN SSSR, 1955, pp 70-95

ABSTRACT: The investigation of spectra for structure and transmission in the infrared and ultraviolet regions was made on various modifications of silica, fused quartz glass, lead and sodium silicate glasses. The transmission spectra (with absorption bands of about 9μ and 12μ to 13μ) were preliminarily obtained for different modifications of silica to obtain supporting

Card 1/4

15-57-2-1780

The Spectrum of Simpler Glasses (Cont.)

13.5μ ; transmission spectra were obtained for films of glass with 50 percent PbO and a layer of crystallized glass of the same composition in the region of 7μ to 13μ ; and reflection spectra were also obtained of initial and crystallized glass with 50 percent PbO. On the basis of comparison and consideration of the spectral curves, the authors conclude that glass contains groups of orderly arranged atoms, crystallites combined in sizes greater than 10 A to 12 A. The crystallites are bound in layers having unordered structure. In the structural development in lead silicate glass, various modifications of silica and lead silicates of different compositions participated. In this process an ion of lead was the central bonding ion, similar to cations in "island" silicates. The structure of sodium silicate glass was studied in its relationship to the composition and heat of treatment. The results led the authors to conclude that the distribution of atoms in glass is not completely unordered, even as the same fact had been earlier noted in the structure of quartz and lead glasses. In formulating general conclusions on the structure of
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PECHENKINA, R. S

Category: USSR/ Physical Chemistry - Liquids and amorphous bodies. Gases. B-6

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29815

Author : Florinskaya V. A., Pechenkina R. S.
Inst : not given
Title : Infrared Spectra of Sodium Silicate Glasses and Their Correlation with Structure

Orig Pub: Optika i spektroskopiya, 1956, 1, No 5, 690-709

Abstract: Using a Beckmann spectrophotometer a study was made of the 6-13 region of the infrared absorption spectra of glasses of the Na_2O - SiO_2 system (Na_2O content 20, 25, 27, 33.3, 34.5, 36, 38, 40, 45 and 50 mol.%) and of the products of crystallization of some of these glasses. The specimens consisted of a thin layer of powder under study, deposited on a sylvite plate, or, in the case of glasses, of thin films blown directly from the glass melt. In all instances investigation of the products of crystallization of different glasses revealed, in the infrared spectra, a large amount of crystalline silicates, exceeding the amount determined from the diagram of state of the corresponding system. Thus glass containing 33.3% Na_2O and

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Card : 1/4

Category: USSR / Physical Chemistry - Liquids and amorphous bodies. Gases. B-6

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29815.

66.7% SiO_2 (sodium bisilicate) crystallized at temperatures of 620 and 700°. On comparing the spectra the authors arrive at the conclusion that at 700°, crystallization occured of essentially the alpha-modification of sodium bisilicate (absorption maximum at 9.80 μ), while at 620° the beta-modification crystallized out (absorption maximum 10.25 μ). Glasses containing an amount of Na_2O that is less or above the amount present in the bisilicate (up to 38%), give absorption spectra which differ from those of the alpha- and beta-modification of sodium bisilicate. These spectra are characterized by a single, wide, absorption band and are similar to spectra of mixed crystals. With lapse of time these products decompose and new maxima appear in the spectra, which the authors attribute to various crystalline modifications of sodium bisilicate, silica, etc. Principal bands of the absorption spectra of glasses of the Na O-SiO system are found in the regions of 9-11 and 12-14 μ, and with change in the composition of the glass the bands are shifted and undergo changes in intensity. As the composition of the glass approaches that of sodium bisilicate the curves that represent the dependence of frequencies of principal bands

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Card : 2/4

Category: USSR / Physical Chemistry - Liquids and amorphous bodies. Gases. B-6

Abs Jour: Referat. Zhur-Khimiya, No 9, 1957, 29815.

on the composition, acquire an anomalous shape. Analogous curves plotted for the products of crystallization of the glasses, also show an anomalous progression course of the frequency versus composition graph, but in these instances the sudden change at 33.3% Na_2O is more sharply manifested. The conclusion is reached that the structure of sodium bisilicate is retained in true glass. Comparison of absorption spectra of glasses of system Na_2O - SiO_2 and PbO - SiO_2 shows that with the same content of the metal oxide the spectra of glasses of different systems are different. Thus in the spectra of lead silicate glasses only one band is found in the 9-11 μ region. This indicates a difference in structure of the glass network, which is apparently determined by the nature of the cathion. Study of spectra of glasses having the composition of sodium bisilicate heated at 620° for different lengths of time (3, 6,8 and 11 hours), has shown that changes in the spectrum begin to take place already after a very short period of heating of the glass (Maxima at 9.8 and 10.25 μ appear in the spectrum, which correspond to the alpha- and beta-modifications of sodium

Card : 3/4

Category: USSR / Physical Chemistry - Liquids and amorphous bodies. Gases. B-6

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29815.

bisilicate). Thereform the conclusion is drawn that long before a visible crystallization can be detected in the glass, there takes place therein the incipient formation of zones of ordered disposition of atoms -- of sodium bisilicate crystallites.

Card : 4/4

PECHENKINA, O.

PHASE I BOOK EXPLOITATION SOV/5035

Vsesoyuznoye soveshchaniye po steklobraznomu sostoyaniyu. 3d, Leningrad, 1959.

Steklobraznoye sostoyaniye; trudy Tret'yego vsesoyuznogo soveshchaniya Leningrad, 16-20 noyabrya 1959 (Vitreous State; Transactions of the Third All-Union Conference on the Vitreous State, Held in Leningrad on November 16-20, 1959) Moscow, Izd-vo AN SSSR, 1960. 534 p. Errata slip inserted. 3,200 copies printed. (Series: Its: Trudy)

Sponsoring Agencies: Institut khimii silikatov Akademii nauk SSSR. Vsesoyuznoye khimicheskoye obshchestvo imeni D.I. Mendeleyeva and Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova.

Editorial Board: A.I. Avgustinik, V.P. Barzakovskiy, M.A. Bezborodov, O.K. Botvinkin, V.V.Vargin, A.G. Vlasov, K.S. Yevstrop'yev, A.A. Lebedev, M.A. Matveyev, V.S. Molchanov, R.L. Myuller, Ye.A. Porai-Koshits, Chairman, N.A. Toropov, V.A. Florinskaya, A.K. Yakhkind; Ed. of Publishing House: I.V. Suvorov; Tech. Ed.: V.T. Bochever.

PURPOSE: This book is intended for researchers in the science and technology of glasses.

COVERAGE: The book contains the reports and discussions of the Third All-Union Conference on the Vitreous State, held in Leningrad on November 16-19, 1959. They deal with the methods and results of studying the structure of glasses, the relation between the structure and properties of glasses, the nature of the chemical bond and glass structure, and the crystallochemistry of glass. Fused silica, mechanism of vitrification, optical properties and glass structure, and the electrical properties of glasses are also discussed. A number of the reports deal with the dependence of glass properties on composition, the tinting of glasses and radiation effects, and mechanical, technical, and chemical properties of glasses. Other papers treat glass semiconductors and soda borosilicate glasses. The Conference was attended by more than 300 delegates from Soviet and East German scientific organizations. Among the participants in the discussions were N.V. Solomin, Ye. V. Kurshinskiy, Yu.A. Gastev, V.P. Pryanishnikov, Yu. Ya. Gotlib, O.P. Mchedlov-Petrosyan, G.P. Mikhaylov, S.M. Petrov, A.M. Lazarev, D.I. Levin, A.V. Shatilov, N.T. Fleshchinskiy, A.Ya. Kuznetsov, E.V. Degtyareva, G.V. Byurganovskaya, A.A. Kalenov, M.M. Skornyakov, P.Ya. Bokin, E.K. Keller, Ya.A. Kuznetsov, V.P. Pozdnev, R.S. Shevelevich, Z.G. Pinsker, and O.S. Molchanova. The final session of the Conference was addressed by Professor I.I. Kitaygorodskiy, Honored Scientist and Engineer, Doctor of Technical Sciences. The following institutes were cited for their contribution to the development of glass science and technology: Gosudarstvennyy opticheskiy institut (State Optical Institute), Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), Fizicheskiy institut AN SSSR (Physics Institute AS USSR), Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute AS USSR), Institut fiziki AN BSSR, Minsk (Institute of Physics, Academy of Sciences, Belorusskaya SSR, Minsk), Laboratory of Physical Chemistry of Silicates of the Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk (Institute of General and Inorganic Chemistry, Academy of Sciences, Belorusskaya SSR, Minsk), Institut vysokomolekulyarnykh soyedineniy AS SSSR (Institute of High Molecular Compounds, AS USSR), Gosudarstvennyy institut stekla (State Institute for Glass), Gosudarstvennyy institut steklovolokna (State Institute for Glass Fibers), Gosudarstvennyy institut elektrotekhnicheskogo stekla (State Institute for Electrical Glass), Sibirskiy fiziko-tekhnicheskiy institut, Tomsk (Siberian Physicotechnical Institute, Tomsk), Leningradskiy gosudarstvennyy universitet (Leningrad State University), Moskovskiy khimiko-tekhnologicheskiy institut (Moscow Institute of Chemical Technology), Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet), Belorusskiy politekhnicheskiy institut Minsk (Belorussian Polytechnic Institute, Minsk), Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute), and Sverdlovskiy politekhnicheskiy institut (Sverdlovsk Polytechnic Institute). The Conference was sponsored by the Institute of Silicate Chemistry AS USSR (Acting Director - A.S. Gotlib), the Vsesoyuznoye khimicheskoye obshchestvo im. D.I. Mendeleyeva (All-Union Chemical Society imeni D.I. Mendeleyev), and the Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova (State "Order of Lenin" Optical Institute imeni S.I. Vavilov). The 15 resolutions of the Conference include recommendations to organize a Center for the purpose of coordinating the research on glass, to publish a new periodical under the title "Fizika i khimiya stekla" (Physics and Chemistry of Glass), and to join the International Committee on Glass. The Conference thanks A.A. Lebedev, Academician, Professor, and Chairman of the Organization Committee, Ye.A. Porai-Koshits, Doctor of Physics and Mathematics, Member of the Organizational Committee, and R.L. Myuller, Doctor of Chemical Sciences, Member of the Organizational Committee. The editorial board thanks G.V. Parteney, M.V. Vol'kenshteyn, I.I. Demkina, D.P. Dobychin, S.A. Dubrovo, V.A. Ioffe, and P.T. Kolomiyets. References accompany individual reports.

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Alekseyev, A.G. Study of Glass Crystallization Products of the Na_2O-SiO_2 System by the X Ray Diffraction Method 194

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Vitreous State (Cont.) SOV/5035

Markin, Ye.F., V.V. [illegible], T.A. Sidorov, N.N. Sobolev, and V.P. Cheremisinov. Vibration Spectra and Structure of Glass-Forming Oxides in Crystalline and Vitreous States 207

Sidorov, T.A. Molecular Structure and Properties of Crystalline Quartz 213

Brekhovskikh, S.M., and V.P. Cheremisinov. Study of the Structure of Lead Borate and Bismuth Borate Glasses With the Aid of Infrared Spectroscopy 219

Vlasov, A.G. Quantitative Correlation of the Ordered and Disordered Phases in Glass 222

Bogdyk'yants, G.O., and A.G. Alekseyev. Electron Diffraction Study of Vitreous Silica and Lead Silicate Glasses 226

Kolyadin, A.I. [illegible] Scattering of Light in Glass 230

Vitreous State (Cont.) SOV/5035

Andreyev, N.S., V.I. [illegible], and N.A. Vyshvillo. On the Role of Intermolecular [illegible] Phenomena in Soda Borosilicate Glasses 234

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Belyavskaya, I.M. [illegible] of Glasses by the Method of [illegible] Field 254

Card 11/22

FLORINSKAYA, V.A.; PECHENKINA, R.S.

Application of infrared spectroscopy to the study of the structure of silicates. Part 1: Reflection spectra of crystalline sodium silicates in the region of 7.5 to 15 . Zhur. strukt. khim. 1 no.1: 86-98 My-Je '60. (MIRA 13:8)

1. Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova, Leningrad.

(Sodium silicate--Spectra)

PECHENKINA, R.S.

110

PHASE I BOOK EXPLOITATION SOV/6181

Ural'skoye soveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTO.

Eds. (Title page): G. P. Skornyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skornyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

Card 1/15

110

Materials of the Third Ural Conference (Cont.) SOV/6181

COVERAGE: The collection presents theoretical and practical problems of the application of atomic and molecular spectral analysis in controlling the chemical composition of various materials in ferrous and nonferrous metallurgy, geology, chemical industry, and medicine. The authors express their thanks to G. V. Chentsova for help in preparing the materials for the press. References follow the individual articles.

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PART I

Sherstkov, Yu. A., and L. P. Maksimovskiy. Investigation of the dependence of the total intensity of spectral lines on the concentration of elements in an arc-discharge plasma 4

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8

Materials of the Third Ural Conference (Cont.) SOV/6181

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Grebenshchikova, M. P., K. V. Mukhorina, and S. G. Bogomolov. Absorption spectra of potato juice treated with diethanolamine salt of hydrazide maleic acid 187

Trofimov, A. K. Spectral-luminescence method for investigating crystallochemical transformations in solid phases 190

Trofimov, A. K. Quantitative determination of gadolinium traces in fluorite, metallic thorium, and beryllium by luminescence spectra 192

Florinskaya, V. A., and R. S. Pechenkina. Application of infrared spectroscopy to the study of silicate structure 194

Card 14/15

S/076/62/036/008/002/011
B101/B144

AUTHORS: Florinskaya, V. A., and Pechenkina, R. S. (Leningrad)

TITLE: Studies of crystallization products from quartz glass. I.
Infrared spectroscopy

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 8, 1962, 1687 - 1689

TEXT: IR reflection spectra of quartz glasses from the Heraeus firm were
studied in the range 7 - 15μ after devitrification of the glasses by
heating to 620 - 1425°C (for methods see Optika i spektroskopiya, 1, 261,
1956). Results: (1) The crystalline film forming at 620°C consists mainly
of quartz, probably of β-quartz or a mixture of α- and β-quartz. (2)
Above 900°C a mixture of cristobalite and some other unknown SiO_2
modifications is formed. (3) At 1380 - 1390°C, a SiO_2 modification is
formed whose reflection maximum lies at 8.75μ. This SiO_2 modification was
also observed in crystallized sodium silicate glass (12 - 14 mole% Na_2O).

There is 1 figure.
Card 1/2

Studies of crystallization...

S/076/62/036/006/002/011
B101/B144

SUBMITTED: October 24, 1960

Card 2/2

FLORINSKAYA, V.A.; PECHENKINA, R.S. [deceased]

Infrared spectra of crystalline and vitreous silicates of the system Na_2O - SiO_2 in the region up to 25 microns. Zhur.strukt. khim. 4 no.6:850-860 N-D '63. (MIRA 17:4)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova, Leningrad.

ACC NR: AP7003904 SOURCE CODE: GE/0030/67/019/001/K005/K006

AUTHOR: Bogdankevich, O.V.; Zverev, M.M.; Krasilnikov, A.I.; Pechenov, A.N.

ORG: Physical Institute, Academy of Sciences of the USSR, Moscow

TITLE: Laser emission in electron-beam-excited ZnSe

SOURCE: Physica status solidi, v. 19, no. 1, 1967, K5-K6

TOPIC TAGS: semiconductor laser, electron beam, ~~pumped laser,~~ zinc COMPOUND,
selenide, LASER EMISSION, LASER PUMPING

ABSTRACT:

Laser action in electron-beam-pumped ZnSe at 4600 Å was observed experimentally. The ZnSe crystals were prepared under high-pressure, gas-phase reaction and subsequent crystallization. The samples were 3 [sic] x 0.5 x 0.8 mm, and the spacing between the cavity mirrors was 0.8 mm. The operating temperature was 100K, rising to 150K during pumping. The experimental samples were pumped by 150-nanosec 45—150 keV electron pulses. Red-light emission was observed at small current densities; blue-line emission at 4570 Å was observed at current densities greater than several amp/cm^2.

Card 1/2

ACC NR: AP7003904

Further increases in the current density (threshold value 20 amp/cm^2) resulted in a sharp rise in the line (4600 Å) intensity (by a factor of 10), a sharp narrowing of its width (from 70 to 11 Å), and a directional effect. Although the mode structure was not resolved, various radiative directions, with a 7° beam aperture, could be identified. The results indicate that the large threshold densities may be caused by the crystal inhomogeneity and/or a high spontaneous recombination cross section. [JM]

SUB CODE: 20/ SUBM DATE: 21Nov66/ ORIG REF: 002/ OTH REF: 001/
ATD PRESS: 5114

Card 2/2

L 44599-66 EWT(1)/EWT(m)/EEC(k)-2/T/EWP(k)/EWP(t)/ETI IJP(c) WG/JD/AT

ACC NR: AP6030950 SOURCE CODE: UR/0181/66/008/009/2547/2548

AUTHOR: Bogdankevich, O. V.; Zverev, M. M.; Pechenov, A. N.; Sysoyev, L. A. 77

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR) B

TITLE: Recombination radiation of ZnS single crystals excited by fast electrons

SOURCE: Fizika tverdogo tela, v. 8, no. 9. 1966, 2547-2548

TOPIC TAGS: solid state laser, zinc sulfide, ultraviolet laser, recombination radiation, electron beam pumping, ELECTRON BEAM

ABSTRACT: Laser action was reported in electron-beam-pumped ZnS single crystals with a large forbidden gap. High-purity hexagonal ZnS specimens were soldered with indium to a copper heat sink kept at liquid N temperature (except in the case of some experiments conducted at room temperature). The electron beam was focused on the polished surface of the specimen at right angles to the two polished ends. The emission recorded by a ZMR-3 monochromator and an FEU-18A photomultiplier was observed in the direction perpendicular to the incident beam. Recombination radiation was observed in the ultraviolet region when ZnS was excited by a pulsed beam of 50-kv electrons at current densities up to 6 amp·cm^{-2}. At increased current densities (6 amp·cm^{-2} and up) and 80K, emission of a line (14 Å wide) at 3300 Å was predominant. The shapes of the light and current pulses were coincident, which would seem to indicate that the life-

Card 1/2

Card 2/2

L 21658-66 EWT(d)/EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6
ACC NR: AR6011596 JD/WW/DJ SOURCE CODE: UR/0137/65/000/012/I107/I107

57
B

AUTHOR: Pedchenko, N. B.

ORG: none

TITLE: UTR-1 24 installation for heat treating 18 rollers for bearings 17 18 using high frequency currents

SOURCE: Ref. zh. Metallurgiya, Abs. 12I781

REF SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp, 44, 1965, 15-16

TOPIC TAGS: metal heat treatment, metal rolling, steel, annealing, austenite, bearing steel, electric current

TRANSLATION: The author describes design of the UTR-1 installation 14 which uses a new method for heat treating ShKh15 18 steel rollers for bearings. The method includes induction heating to austenite in a multiturn inductor, and intense but incomplete cooling in a special spray unit for quenching and self-annealing. The following cycle is used in heat treatment of the rollers: Heating to 900-920° for 8 sec in the case of a 14.5-mm diameter roller or 15 sec in the case of an 18.5-mm diameter roller (the rollers are fed to the inductor in a continuous flow; frequency of inductor current supply is 60-70 kc); quenching in 10-25° water for 3-4 sec for a 14.5-mm roller or 6-7 sec for an 18.5-mm roller; self-annealing temperature 100-110°; holding at 160° for 30-40 minutes in a thermal

UDC: 621.365.52:621.785.545.4

Card 1/2

L 21658-66

ACC NR: AR6011596

screw conveyer for temperature equalization and additional self-annealing. The capacity of the device is 70, 14.5-mm diameter rollers per minute or 50, 18.5-mm diameter rollers per minute. The economic effect for introduction of only one unit is 7200 rubles. A. Babayeva. [JPRS]

SUB CODE: 13

Card 2/2

TIUTYUNNIKOV, A. B. [Tiutiunnykov, A. B.] kand. tekhn. nauk; STRASHOK,
A. F.; GUBENKO, Yu. M. [Hubenko, IU. M.]; PECHENKO, T. I.

Automatic control of the technologically optimum degree of carbonization of bicarbonate suspensions. Khim. prom. [Ukr.] no.1:56-60 Ja-Mr '62. (MIRA 15:10)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii.

(Carbonates) (Carbonization)
(Automatic control)

11(4) PHASE I BOOK EXPLOITATION SOV/1785

Akademiya nauk SSSR. Institut nauchnoy informatsii

Khimiya nefti i gaza (Chemistry of Petroleum and Gas) Moscow, Izd-vo AN SSSR, 1958. 477 p. (Series: Itogi nauki; Khimicheskiye nauki, 2) Errata slip inserted. 3,000 copies printed.

Ed.: G.D. Gal'pern, Doctor of Chemical Sciences; Ed. of Publishing House: I.P. Loskutova; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This book is intended for the specialist working in the field of petroleum chemistry and for the organic chemist working in related fields.

COVERAGE: This is the first volume of the series devoted to the progress made in petroleum and gas chemistry. The first part of this collection contains survey articles compiled by the staff of the Petroleum Institute, AS USSR. The authors are specialists working on methods for the isolation, separation, and identification of sulfur organic compounds in petroleum. The articles give a survey of literature up to 1956 with some coverage of recent research up to 1958. The second part is concerned with the characteristics of high molecular weight compounds and methods for the study of their composition. There are 124 references.

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PART I. THE CHEMICAL COMPOSITION OF THE SULFUR COMPONENTS IN PETROLEUM AND METHODS FOR ANALYZING THEM

Luk'yanitsa, V.G. Methods for the Analysis of Sulfur Compounds in Petroleum and Petroleum Products 13

This article reviews the literature on qualitative and quantitative analysis of sulfur organic compounds in petroleum, on problems dealing with the elementary functional, group, and systematic analysis of sulfur-containing petroleum products, and on methods used in the analysis of sulfuric acid. The author includes tables for the comparison of procedures for the systematic analysis of complex mixtures containing all possible groups of sulfur organic compounds. Special attention is given to modern electrochemical analytical methods in nonaqueous media. There are 18 tables and 582 references, 134 of which are Soviet.

Sergiyenko, S.R., and V.N. Perchenko. Study of the Chemical Structure of Sulfur Organic Compounds in Petroleum by Means of Catalytic Hydrogenation 113
The authors review papers on the methods for the hydrogenation of sulfur organic compounds. The method of catalytic hydrogenation promises to be very effective in the study of the structure of sulfur organic compounds. There are 9 tables and 29 references, 11 of which are Soviet, 3 English, 4 German, and 1 French.

Karaulova, Ye.N. Oxidation of Sulfur Compounds 130
This review article fills a gap in literature surveys.

It presents systematically the experimental research on oxidation methods for the separation of the sulfur compounds in petroleum. The author includes comparative tables for groups of compounds and for oxidizers used. There are 3 tables and 136 references, 20 of which are Soviet, 77 English, 26 German, 10 French, 2 Italian, and 1 Dutch.

PART II. HIGH MOLECULAR WEIGHT COMPOUNDS OF PETROLEUM

Sergiyenko, S.R. High Molecular Weight Compounds of Petroleum 199

This review covers the study of the composition of high-boiling petroleum fractions. It includes much of the author's own research. Several of the points are debatable and the classification of organic compounds into one large group of "hybrids" is regarded by the editor as improper. A problem which has not yet been solved, namely, the relationship between monomers and polymers in crudes is also treated. It is assumed that there are two basic types of polymers in crudes: the primary and the secondary polymers. N.D. Zelinskiy and K.P. Lavrovskiy indicated that steroids are possible primary compounds. In spite of the view of A.F. Dobryanskiy, asphaltenes, carbenes, and carboids are very often regarded as secondary polymeric components of petroleum. Much space is given to cancerogenic components of petroleum. There are 26 figures, 41 tables, and 247 references, 120 of which are Soviet.

Smirnov, B.A. Use of Infrared Spectroscopy in the Study of the Hydrocarbon Composition of Petroleum and Petroleum Products 414

The author reviews existing literature on infrared spectroscopy in studies of the hydrocarbon composition in crudes and petroleum products. He covers the spectral analysis of individual and group compositions, ranging from gases to heavy oils. A description is given of the possible use of infrared spectroscopy in the analysis of high-boiling fractions and in the classification of hydrocarbon types. There are 81 references, 6 of which are Soviet

SERGIYENKO, S.R.; PERCHENKO, V.N.

Study of the chemical structure of sulfur organic compounds of petroleum using the method of catalytic hydrogenation. Itogi nauki: Khim.nauki no.2:113-129 '58. (MIRA 12:4)
(Sulfur organic compounds)
(Hydrogenation)

5 (3)

SOV/20-128-1-27/58

AUTHORS: Sergiyenko, S. R.; Perchenko, V. N.

TITLE: Hydrogenolysis of Organic Sulfur Compounds as Dependent on Their Structure

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 103-105 (USSR)

ABSTRACT: In the present paper 8 organic sulfur compounds were investigated. A nickel-tungsten sulfide mixture on aluminum oxide was used as a catalyst. The temperature range chosen guaranteed a process of desulfurizing without any secondary or by-processes. From data given in table 1 and figure 1 it results that the organic sulfur compounds investigated may be divided into 3 groups on account of the rate of sulfur separation during the selective catalytic hydrogenation. Dibenzyl sulfide and thiophenol may be classified among the first group of the most readily reacting compounds. The second group consists of aromatic and mixed alkyl-aromatic sulfides. The third group is composed of tetra-substituted thiophenes (dibenzthiophene and tetraphenyl thiophene). The latter proved to be absolutely stable under the assumed conditions (220° and 200 atmospheric hydrogen pressure). If the duration of 50%-desulfurization of dibenzyl sulfide is put equal to 1, the values given in table 2 are obtained for the organic sulfur

Card 1/3

Hydrogenolysis of Organic Sulfur Compounds as Dependent on Their Structure SOV/20-128-1-27/58

compounds investigated. These values characterize the relative rates of desulfurization. Further, the amount of aromatic hydrocarbons which have to form at the separation of the sulfur atom from the sulfur compound is determined in the reaction products (benzene, toluene, ethyl benzene). In all cases investigated about 90% of the respective hydrocarbon were determined. 6.7% of mercaptan were determined in the hydrogenation products of n-butyl phenyl sulfide, whereas with benzthiophene it attained 0.9%. This confirms in the experimental way that the reaction of desulfurization takes place in 2 stages over the mercaptan as intermediate product - $C_6H_5SC_4H_9 \longrightarrow C_6H_5SH + C_4H_{10}$. Diethyl phenyl sulfide and dibenzyl sulfide were synthesized by S. D. Pustil'nikova. Z. K. Zemskova and P. V. Ratnikova participated in the analytical part of the work. Mercaptans were determined by means of potentiometric titration by a method elaborated by I. A. Rubinshteyn and Z. A. Kleymenova. There are 1 figure, 2 tables, and 7 Soviet references.

Card 2/3

PERCHENKO, V. N., Cand Chem Sci -- (diss) "Selective hydrogenolysis of sulforganic compounds of various structures." Moscow, 1960. 12 pp; (Academy of Sciences USSR, Inst of Organic Chemistry im N.D. Zelinskiy); 150 copies; price not given; (KL, 22-60, 132)

SERGIYENKO, S.R.; PERCHENKO, V.N.; MIKHNOVSKAYA, A.A.

Effect of the structure of sulfur organic compounds on the rate of the reactions of oxidation and catalytic hydrogenation. Khim.sera- i azotorg.soed.sod.v neft.i neftoprod. 3:353-361 '60. (MIRA 14:6)

1. Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR.
(Sulfur organic compounds) (Oxidation) (Hydrogenation)

PHASE I BOOK EXPLOITATION SOV/6491

Perchenko, Vladimir Nikolayevich, and Semen Romanovich Sergiyenko

Izbiratel'noye kataliticheskoye gidrirovaniye seraorganicheskikh soyedineniy (Selective Catalytic Hydrogenation of Sulfur Organic Compounds) Ashkhabad, 1962. 91 p. 700 copies printed.

Sponsoring Agency: Akademiya nauk Turkmenskoy SSSR.

Ed. of Publishing House: T. V. Artykova; Tech. Ed.: G. A. Ivont'yeva.

PURPOSE: The book is intended for the study of selective catalytic hydrogenation of waste and side products of processed petroleum.

COVERAGE: This book is a study of properties, reactions, and chemical structure of waste and side products of catalytic and thermal processing of petroleum. These sulfur-containing organic compounds are considered as hidden reserves in the exploitation of

Card 1/4

Selective Catalytic Hydrogenation (Cont.) SOV/6491

various obtainable commercial products, as a means of increasing raw material utilization, and as a means of effecting an improvement in petroleum processing. Also the optimal conditions for the differentiation of sulfur organic compounds with various structures are studied by the use of selective catalytic hydrogenation reactions. There are 164 references, mostly Soviet.

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Introduction 3

Ch. I. Selective Hydrogenation of Unsaturated Hydrocarbons 6

Card 2/4

Ch. VII. Structure of Sulfur Organic Compounds and Selective Process of Hydrogenation 74

Conclusion 86

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AVAILABLE: Library of Congress

SUBJECT: Chemistry

Card 4/4

PW/ap/ag
3-24-64

L 16150-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RPL JW/RM

ACCESSION NR: AP4043634 S/0020/64/158/002/0404/0407

AUTHORS: Nametkin, N.S.; Corresponding member AN SSSR; Perchenko, V.N.; Grushevenko, I.A. B

TITLE: The possibility of synthesizing organo-silicone compounds containing a three-membered ethyleneimine heterocycle in the hydrocarbon radical

SOURCE: AN SSSR. Doklady*, v. 158, no. 2, 1964, 404-407

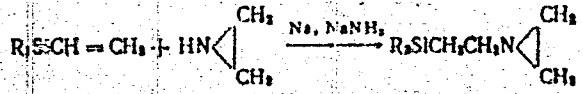
TOPIC TAGS: organo silicone, ethyleneimine, alkenylsilane, addition reaction, alkenylsilane reactivity, ethyleneimine heterocycle, electrophilic agent, nucleophilic reaction, reversible reaction

ABSTRACT: Considerations on polarization of the short carbon-carbon bond in alkenylsilanes and their behavior in addition reactions with thioacids, etc. led to investigations of the reactivity of alkenylsilanes and amines of various structure in addition reactions. The following were investigated: trimethylvinylsilane, triethylvinylsilane, dimethylphenylvinylsilane, methyldiphenylvinylsilane, triethoxyvinylsilane, trimethylallylsilane, trimethyl-γ-butenylsilane, neohexane, π-trimethylsilylstyrene, π-chlorostyrene and their addition

Card 1/2

L 16150-65
ACCESSION NR: AP4045634

reactions with diethylamine and ethyleneimine. The latter proved highly reactive. Catalysts (Na, $NaNH_2$), their quantity, reaction temperature and duration influenced the yield which is tabulated. The reaction proceeded apparently according to the following schema (β position in respect to Si)



The i.r. spectrum of dimethylphenyl-β-(N-ethyleneimine)-ethylsilane is presented; the end products are described. The reaction is reversible upon the addition of electrophilic agents; thus the ethyleneimine addition reaction with alkenylsilanes may belong to the class of nucleophilic reactions. The latter possibility is being investigated. Orig. art. has: 2 tables, 1 figure and 1 formula.

ASSOCIATION: None

SUBMITTED: 19May64 ENCL: 00

SUB CODE: GC, OC, MT NR REF SOV: 001 OTHER: 005

Card 2/2

L 41500-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM
ACCESSION NR: AP4046379 S/0020/64/158/003/0660/0663

20
19
B

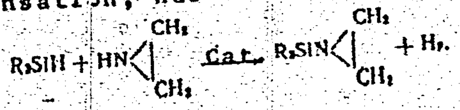
AUTHOR: Nametkin, N. S. (Corresponding member AN SSSR); Perchenko, V. N.; Batalova, L. G.

TITLE: The feasibility of N-(ethylenimino)silane synthesis by the dehydrocondensation reaction

SOURCE: AN SSSR. Doklady, v. 158, no. 3, 1964, 660-663

TOPIC TAGS: silane, ethyleniminosilane, dehydrocondensation, ethylenimine

ABSTRACT: A new preparative method for N-(ethylenimino)silanes, involving dehydrocondensation, has been found:



$$R_3SiH + HN\langle\begin{smallmatrix}CH_2\\CH_2\end{smallmatrix} \xrightarrow{Cat.} R_3SiN\langle\begin{smallmatrix}CH_2\\CH_2\end{smallmatrix} + H_2.$$

The reaction proceeded quantitatively (on evolving hydrogen) at 40--50C in the presence of lithium catalyst. The yield of the nine N-(ethylenimino)silanes prepared varied from 40-80%. Preservation of the

Card 1/2

L 41500-65

ACCESSION NR: AP4046379

ring in the reaction products was confirmed by IR spectroscopy. The results indicate that with regard to the dehydrocondensation reaction, ethyleniminе is a special class as compared to aliphatic and cyclic amines. This fact was confirmed by control experiments with diethyl- or dipropyl-amine or piperidine, which did not react under identical conditions, evidently owing to their greater basicity. The dehydrocondensation rate depended on the substituent on Si; the rate was highest for phenyl and benzyl radicals, lower for aliphatic radicals. In the presence of an ethoxy radical, the reaction did not go unless the temperature was raised to 50C. Orig. art. has: 1 figure, 1 table, and [illegible] formulas.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva Akademii nauk SSSR (Institute of Petrochemical Synthesis, Academy of Sciences SSSR)

SUBMITTED: 19May64 ENCL: 00 SUB CODE: OC, IC

NO REF SOV: 001 OTHER: 005

Card 2/2

L 17901-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 ASD(m)-3/AS(mp)-2 RM

ACCESSION NR: AP4047030 S/0286/64/000/018/0013/0013

AUTHOR: Nametkin, N. S.; Perchenko, V. N.; Batalova, L. G.

TITLE: Preparative method for N-aziridinylsilanes. Class 12, No. 165166 15 B

SOURCE: Byul. izobr. i tovar. znakov, no. 18, 1964, 13

TOPIC TAGS: silane, N-aziridinylsilanes, organosilicon compound, alkali metal

ABSTRACT: An Author Certificate has been issued for a preparative method for N-aziridinylsilanes. Silicon hydrides are reacted with ethylenimine in the presence of an alkali metal catalyst.

ASSOCIATION: none

SUBMITTED: 23Aug63 ENCL: 00 SUB CODE: IC, OC

NO REF SOV: 000 OTHER: 000

Card 1/1

L 57501-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5013755 UR/0020/65/162/002/0347/0349

27
B

AUTHOR: Nametkin, N. S. (Corresponding member AN SSSR); Grushevenko, I. A.; Perchenko, V. N.

TITLE: Conversion of beta-(N-ethylenimino) ethylsilanes at elevated temperatures and in the presence of nucleophilic and electrophilic reagents

SOURCE: AN SSSR. Doklady, v. 162, no. 2, 1965, 347-349

TOPIC TAGS: conversion reaction, silicon, nucleophilic reagent, electrophilic reagent, silicon carbon bond, cyclodimerization, piperazine derivative, ring breakage, aluminum chloride, sodium iodide, reagent, beta disintegration, beta ethylenimino ethylsilane

ABSTRACT: The silicon-carbon bond strength in β-(N-ethylenimino)-ethylsilane at high temperatures and the course of conversion in the presence of nucleophilic and electrophilic reagents has been investigated. The results show that: 1) β-(N-ethylenimino)-ethylsilanes are unaffected by heating to 200 C for 5 hrs; 2) heating to 250-300 C results in the formation of considerable quantities of thermal conversion products; 3) high-molecular-weight products are formed in the piperazine derivatives along with the cyclodimerization products, owing to the breakage of the

Card 1/2

L 57501-65

ACCESSION NR: AP5013755

ethylenimine ring; 4) conversion thoroughness is markedly affected by the rising temperature and length of heating; and 5) piperazine derivative is the only conversion product in the presence of nucleophilic reagent NaI or electrophilic reagent $AlCl_3$. It is shown that synthesized β-(N-ethylenimino) ethylsilanes are resistant to beta disintegration at sufficiently high temperatures, i.e., 200-300 C, as well as to the action of nucleophilic and electrophilic reagents. The fact that the cyclodimerization of β-(N-ethylenimino)-ethylsilanes in the presence of $AlCl_3$ yields only piperazine derivatives is ascribed to the special interaction between the silicon atom and the nonshared pair of nitrogen electrons. This point of view is confirmed by experiments with β-(N-ethylenimino)-ethylbenzene. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 19Dec64 ENCL: 00 SUB CODE: OC, TD

NO REF SOV: 001 OTHER: 006

Card 2/2

L 3685-66 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) RM

ACCESSION NR: AP5007565 UR/0020/65/160/005/1087/1089

35 32 B

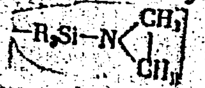
AUTHOR: Nametkin, N. S. 44,55 (Corresponding member AN SSSR); Parshenko, V. N.; 44,55 Batalova, L. G. 44,55

TITLE: Cyclodimerization of N-ethyleniminosilanes 7,44,55

SOURCE: AN SSSR. Doklady, v. 160, no. 5, 1965, 1087-1089

TOPIC TAGS: organic imine compound, organic synthetic process, silane, polymerization

ABSTRACT: Thermal transformations of N-ethyleniminosilanes,


$R_3Si-N<$ CH_2 / CH_2

are studied. The experiments were done at 200, 250 and 300° in sealed ampules. At 250°, triethyl ethyleniminosilane undergoes transformations which result in the formation of N,N'-bis-(triethylsilyl)-piperazine. Dimethylphenyl, methyldiphenyl, methyldibenzyl, diethylphenyl and ethyldiethoxy ethyleniminosilanes undergo transformations in similar conditions with various yields of N,N'-disilyl-substituted piperazines. The nature of silicon radicals has a considerable effect on the yield

Card 1/2

Card 2/2

L 22752-66 EWT(m)/EWP(j)/T IJP(c) RM UR/

ACC NR: AP6010111 (A) SOURCE CODE: 0190/66/008/003/0476/0480

AUTHORS: Sorokin, G. V.; Nametkin, N. S.; Perchenko, V. N.

63
B

ORG: Institute of Petrochemical Synthesis, AN SSSR (Institut neftekhimicheskogo sinteza AN SSSR)

TITLE: Polymerization of ethylene using $TiCl_4$ + Al $(iso\text{-}C_4H_9)_3$ catalyst in the presence of silanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 3, 1966, 476-480

TOPIC TAGS: ethylene, polymerization catalyst, polymerization rate, silane, chain polymer, polyethylene, silicon

ABSTRACT: The effect of silanes of various structures on ethylene polymerization with $TiCl_4$+ Al (iso $C_4H_6)_3$ as a catalyst was analyzed. The maximum polymerization rate was observed at the equimolar ratio of the $Al(iso\text{-}C_4H_9)_3$ and silane. The activation effect of silane with one hydrogen at the Si atom is much higher than that of silanes with two hydrogens at the Si atom, which could be explained by the chain termination caused by the entrance of corresponding silanes with two hydrogens into the polymer chain. It was shown that the content of Si in polytethylene samples prepared with $TiCl_4$+ Al $(iso\text{-}C_4H_9)_3$ depends on the nature of silanes. Orig. art. has: 3 figures and 1 table.

Card 1/2 UDC: 66.095.26+678.742

2

Card 2/2 UVL

L 22752-66

ACC NR: AP6010111

[Based on author's abstract]

[NT]

SUB CODE: 07, 11/ SUBM DATE: 02Apr65/ ORIG REF: 002/
OTH REF: 002/

Card 2/2 ovt

L 23191-66 EWT(m)/EWP(j) RM

ACC NR: AP6009489 UR/0020/66/167/001/0106/0108

AUTHOR: Nametkin, N.S. (Corresponding member AN SSSR); Perchenko, V.N.; Grushevenko, I.A.; Kuzneva, G.L.

34
B

ORG: Institute of Petrochemical Synthesis im. A.V. Topchiev AN SSSR (Institut neftekhimicheskogo sinteza AN SSSR)

#4,5

TITLE: Addition of amines with various structures to vinyl silanes

SOURCE: AN SSSR. Doklady, v.167, no.1, 1966, 106-108

TOPIC TAGS: silane, amine, chemical reaction, heterocyclic base compound, primary aromatic amine, primary aliphatic amine

ABSTRACT: The aim of the work was to investigate the possibility of the addition to triethyl vinyl silane of other heterocyclics, as well as aliphatic and aromatic amines--diethylamine, n-propylamine, piperidine, pyrrolidine, monomethylanilin, and pyrrole. The article gives a detailed description of the laboratory procedures used to synthesize the following compounds: β-(N-n-propylamine)-ethyltriethyl silane; β-(N-diethylamine)-ethyltriethyl silane; β-(N-piperidyl)-ethyltriethyl silane; and, β-(N-piperidyl)-ethyltriethyl silane. Synthesis with monomethylanilin and pyrrole were carried out under analogous conditions in the presence of metallic lithium and of previously prepared amides of pyrr-

2

Card 1/2 UDC: 547.1'3

L 23191-66

ACC NR: AP6009489

ole and monomethylanilin; however, none of the experiments yielded addition products. Orig. art. has: none.

SUB CODE: 07/ SUBM DATE: 04Aug65/ ORIG REF: 001/ OTH REF: 003

Card 2/2 *Lc*

[illegible]NKO, V.I., kand. tekhn. nauk; KOZ[illegible]INYKH, G.[illegible], inzh.

Effect of an additional loading impulse on the dynamics of the KVG-25 boiler level regulation. Sudostroenie 30 no.9:2-3 S '64.
(MIRA 17:[illegible])

ACC NR: AP6018950 (A,N) SOURCE CODE: UR/0126/66/021/006/0937/0939

AUTHORS: Chechernikov, V. I.; Pechennikov, A. V.; Iuliu Pop

ORG: Moscow State University im M. V. Lomonosov (Moskovskiy gosuniversitet)

TITLE: Magnetic properties of cerium-scandium alloys

14 27 27

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 6, 1966, 937-939

TOPIC TAGS: magnetic alloy, magnetic susceptibility, cerium base alloy, scandium ferromagnetism, antiferromagnetism

ABSTRACT: The magnetic susceptibilities of seven cerium-scandium alloys are investigated as functions of temperature. The subject is of interest as it was noticed earlier by V. I. Chechernikov and Iuliu Pop (FMM, 1964, 18, 363) that, at certain temperatures, cerium alloys exhibit coexistence of ferro- as well as antiferromagnetism. The temperature interval chosen for the study was 77 to 1100K which includes the region of polymorphic transformation. Before measurements were taken, the alloys were annealed at 500C for 240 hours. The magnetic susceptibility was measured by balanced scales with mechanical compensation described by Iuliu Pop and V. I. Chechernikov (PTE, 1964, No. 5, 180). The results of the investigation are shown in Fig. 1. Apparently, the magnetic properties of alloys with high

Card 1/2

UDC: 538.22:546.65+546.631

ACC NR: AP6018950

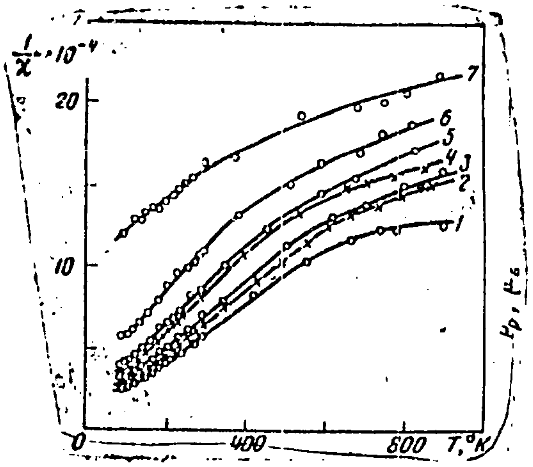


Fig. 1. $1/\chi$ as function of T for Ce-Sc alloys: 1 - 9; 2 - 17; 3 - 41; 4 - 49; 5 - 65; 6 - 80; 7 - 90 at. % of Sc; remainder consists of Ce.

cerium content are determined by localized 4f electrons. Orig. art. has: 2 figures.

SUB CODE: 11,20/SUBM DATE: 28Dec64/ ORIG REF: 003

Card 2/2

CHECHERNIKOV, V.I.; PECHENNIKOV, A.V.; YAREMBASH, Ye.I.; KALITIN, V.I.

Magnetic properties of praseodymium selenides. Izv. AN SSSR. Neorg. mat. 1 no.12:2138-2139 D '65. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet i Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. Submitted July 12, 1965.

BALANEVSKAYA, A.E.; BERGER, L.I.; PECHENNIKOV, A.V.; CHECHERNIKOV, V.I.

Magnetic properties of a series of ternary semiconductor compounds of the $A^{I}B^{III}C^{VI}_{2}$ type with chalcopyrite structure. Izv. AN SSSR. Neorg. mat. 1 no.12:2165-2166 D '65.

(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv. Submitted July 8, 1965.

CHECHERNIKOV, V.I.; PECHENNIKOV, A.V.; KALITIN, V.I.; YAREMBASH, Ye.I.

Magnetic properties of single and polycrystalline praseodymium diselenide $PrSe_2$. Zhur.eksp. i teor.fiz. 49 no.5:1399-1401 N '65. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet.

L 15203-66 EWT(m)/EWP(w)/ETC(F)/EWG(m)/T/EWP(t)/EWP(b) IJP(c) RDW/JD/JG

ACC NR: AP6001230 SOURCE CODE: UR/0363/65/001/012/2138/2139

AUTHOR: Chechernikov, V.I.; Pechennikov, A.V.; Yarembash, Ye. I.; Kalitin, V.I.

58

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of Sciences, SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Magnetic properties of praseodymium selenides

27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 12, 1965, 2138-2139

TOPIC TAGS: praseodymium compound, selenide, magnetic moment, magnetic susceptibility, Curie point

16 27

ABSTRACT: The magnetic properties of the selenides PrSe, Pr_3Se_4, Pr_2Se_3, and Pr_4Se_7 were studied. The magnetic susceptibility was measured in the 80 — 800K range. Above room temperature, the measurements were made in a 10^{-4} mm Hg vacuum to prevent oxidation. Fig. 1 shows the reciprocal magnetic susceptibility versus temperature. The Curie-Weiss law $X = C/(T - \theta_p)$ was obeyed by all the samples. If the paramagnetic Curie point θ_p is determined from the experimental data, and the effective atomic magnetic moment P_p is then calculated, it is found that these values change in proportion to the praseodymium content. The magnetic moments correspond to the magnetic moment of Pr^{3+} ion, i.e., $3.3\mu_B$. The Curie point θ_p is positive in Pr_3Se_4, Pr_2Se_3, and Pr_4Se_7, and negative in PrSe and $PrSe_2$; this is due to the appearance of antiferromagnetic interaction in the latter two compounds. It is

Card 1/2

UDC: 546.656'231:538.11

Card 2/2

CHERNOV, N.N., kand. tekhn. nauk; TKACH, I.T., inzh.; GOTLIB, A.D., doktor tekhn. nauk, rukovoditel' raboty; Prinimala uchastiye: PECHENNIKOVA, I.S., inzh.

Comparing the performance of blast furnaces in plants of the Dnieper Economic Region. Met. i gornorud. prom. no.4:6-10 Jl-Ag '63. (MIRA 16:11)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz (for Chernov). 2. Pridneprovskiy sovet narodnogo khozyaystva (for Tkach).

S/0137/63/000/012/D035/D035

ACCESSION NR: AR4014146

SOURCE: RZh. Metallurgiya, Abs. 12D214

AUTHOR: Ostrenko, V. Ya.; Dferov, V. M.; Geyko, I. K.; Pechennikova, I. S.; Lagutina, R. V.; Kirvalidze, N. S.

TITLE: Hot rolling of pipes from EP38, EP39, and EI993 steels

CITED SOURCE: Sb. Proiz-vo trub. M., Metallurgizdat, vy*p. 9, 1963, 5-12

TOPIC TAGS: Steel pipe hot rolling, pipe steel composition, steel pipe rolling

TRANSLATION: Chemical compositions of the indicated steels to be used in production and the mechanical properties of the tube blanks are given. The mechanical properties of these steels are examined in detail. The mechanical properties of the pipes obtained are indicated, and recommendations designed to improve the quality of the pipes are given for the procedure of their hot rolling.

DATE ACQ: 09Jan64 SUB CODE: ML ENCL: 00

Card 1/1

ACCESSION NR: AR4014147 S/0137/63/000/012/D037/D037

SOURCE: RZh. Metallurgiya, Abs. 12D224

AUTHOR: Rogov, M. B.; Yuferov, V. M.; Goncharvo, I. A.; Lagutina, R. V.; Prikhodchenko, G. M.; Pechennikova, I. S.; Prudkova, R. A.

TITLE: Experience in making cold-rolled pipes from EP38, EP39, and EI993 ferritic-martensitic steels

CITED SOURCE: Sb. Proiz-vo trub. M., Metallurgizdat, vyp. 9, 1963, 40-48

TOPIC TAGS: Ferritic martensitic steel, steel pipe cold rolling, steel pipe cold drawing

TRANSLATION: The following conclusions were reached on the basis of industrial experience in producing the indicated pipes: (1) In order to obtain a satisfactory surface of cold-rolled and cold-drawn pipes with a wall thickness of 1 mm made from EP38 and EP39 steel, the tube blanks should be turned and bored. Turning of blanks from EP38 and EP39 steel for tubes with a wall thickness of

Card 1/2

ACCESSION NR: AR4014147

1 mm can be replaced by the usual repair by means of files. (2) The heat treatment of hot-rolled pipes from EP38, EP39, and EI993 steel should be carried out by annealing prior to cold deformation. A. Leont'yev.

DATE ACQ: 09Jan64 SUB CODE: ML ENCL: 00

Card 2/2

L 35171-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
S/0191/64/000/010/0013/0016
ACCESSION NR: AP4046895

24
22
B

AUTHOR: Kan'kovskaya, Ye. N.; Dmitriyenko, S. S.; Pechennikova, T. I.

TITLE: Structure of phenol-formaldehyde resins subjected to thermal treatment

SOURCE: Plasticheskiye massy, no. 10, 1964, 13-16

TOPIC TAGS: phenol formaldehyde resin, triphenyl methane, thermal treatment, infrared spectrum, phenolphthalein, ultraviolet spectrum, resol resin, aurin, fluorescein, polymer structure, polymer aging, resin coloration

ABSTRACT: The effect of thermal treatment on phenol-formaldehyde resins was investigated by infrared, ultraviolet and visible light. The preparation of the sample is described since, in such studies, the thickness of the resin films must remain almost unchanged at 1-1.5μ during the thermal treatment (aging) and the surface of the samples must be open on one side. Infrared spectra were first taken on the UR-10 apparatus for resol resins in the region of 1100-1800 cm^{-1}. After the sample was slowly heated during the course of 1 hour and kept at 140-150C for 15 min., the thermally treated sample was again subjected to spectral analysis (1100-1800 cm^{-1}) in order to detect the structural changes causing the

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L 25471-65

ACCESSION NR: AP4040895

coloration of the resin during heating. The phenol content in the resin was also determined spectroscopically to study its oxidation during treatment with acid and alkali. The spectral analysis showed that chemical reactions, such as redox reactions, take place during the thermal treatment of resins with the formation of triphenyl methane groups which are detected as a peak at 1655 cm^{-1}. If for a freshly synthesized resin, this peak appears weakly, it increases sharply after the first heat treatment and especially after the second. The presence of triphenyl methane groups is also responsible for the coloration of phenol-formaldehyde resins during heating. In the visible and ultraviolet spectra of these resins, peaks characteristic of these groups also appear. To check the data obtained, spectra were also recorded with model dye compounds such as aurin, fluorescein and phenolphthalein, which contain similar groups. A comparison of the different spectra for phenol, resins and the model compounds permits one not only to identify the groupings of the triphenyl methane type in thermally treated phenol-formaldehyde resins, but also to determine their structure. In the spectra of phenol, treatment under different conditions produced no differences in its molecular structure. Thus, the presence of free phenol in the resin must not be considered as the main cause of coloration. "Thanks are due to L. N. Yerokhina for taking the spectra." Orig. art. has: 6 figures and 7 formulas.

Card 2/3

L 35471-65

ACCESSION NR: AP4046895

has: 6 figures and 7 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: OC, MT

NO REF SOV: 003 OTHER: 007

Card 3/3

L 52128-65 EPF(c)/EPR/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 RM/WW

ACCESSION NR: AP5015283 UR/0286/65/000/009/0066/0066

31
B

AUTHORS: Kan'kovskaya, Ye. N.; Dmitriyenko, S. S.; Pechennikova, T. I.

TITLE: A method for obtaining phenolformaldehyde resins. 15 Class 39, No. 170655 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 66

TOPIC TAGS: resin, phenol, formaldehyde, aluminum compound

ABSTRACT: This Author Certificate presents a method for obtaining phenolformaldehyde resins by condensing phenol with formaldehyde in the presence of an aluminum salt. To obtain light resistant and heat resistant resins, aluminum sulfate is used as the aluminum salt. 15 15

ASSOCIATION: Volgogradskiy nauchno-issedovatel'skiy institut tekhnologii mashinostroyeniya (Volgograd Scientific Research Institute of Machine Construction Engineering)

SUBMITTED: 17Feb64 ENCL: 00 SUB CODE: OC, MT

NO REF SOV: 000 OTHER: 000

Card 1/1

L 43907-65 EEC(b)-2/EWG(r)/EEC(k)-2/EWA(h)/EWA(k)/EWP(k)/EWT(l)/EWT(m)/EEC(t)/FBD/
EWG(m)/EWP(b)/T/EWA(m)-2/EWP(t) Pf-4/Pi-4/Pl-4/Pm-4/Pn-4/Po-4/Pz-6/Peb SCTB/
IJP(c) RDW/AT/WG/JD/JG

UR/0020/65/161/005/1059/1059

ACCESSION NR: AP5011524

[illegible] (Corresponding member, AN SSSR); Bogdankevich, O. V.; Pechenov, [illegible] 10

[illegible] O. A.; Salayev, [illegible] 55

[illegible] by fast electrons b

[illegible]

[illegible] v. 161, no. 5, 1965, 1059

[illegible] gallium selenide,

TOPIC TAGS: laser, semiconductor laser, stimulated emission, [illegible] electron beam laser, coherent light 21

ABSTRACT: Achievement of laser action in a III-VI semiconductor (GaSe) pumped by an electron beam is reported. Samples of p-type GaAs with a carrier concentration of 5×10^{15} cm^{-3} and resistivity of ~200 ohm/cm at 300K were cleaved to form two plane-parallel faces. Monocrystalline samples 1 mm thick or less, cooled by liquid nitrogen, were bombarded with a 2-μsec 200-kev electron beam directed to the cleaved surface at an angle of 70 degrees. Emission observed in the direction perpendicular to the surface was recorded by a spectrograph. The emission spectrum extending between 5870 Å and 6150 Å showed four peaks. The maximum was observed at 5925 Å, indicating that laser action is generated by interband recombination (the forbidden gap of GaAs at 77K is 2.09 ev). Fig. 1 of the Enclosure shows that the

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L 43907-65

ACCESSION NR: AP5011524 2

line at 5925 Å narrows with increasing current density of the beam. The displacement of the line toward the long wavelength region at high current densities was attributed to heating. When the cleaved surfaces were silvered, the line width of the peak decreased to one-half its value and additional peaks appeared at 5960 Å and 5983 Å. Orig. art. has: 1 figure. [CS]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences SSSR); Institut fiziki Akademii nauk AzSSR (Physics Institute, Academy of Sciences AzerbSSR)

SUBMITTED: 21Aug64 ENCL: 01 SUB CODE: SS

NO REF SOV: 002 OTHER: 002 ATD PRESS: 3248

Card 2/3

L 7012-66 EWT(m)/EPF(c)/EWP(j) RM

ACC NR: AP5026778 44,5 SOURCE CODE: UR/0286/65/000/017/0067/0067

INVENTOR: Kan'kovskaya, Ye. N.; Dmitriyenko, S. S.; Pechennikova, I. I. 44,55 44,55 44,55

TITLE: A method for stabilizing phenolformaldehyde resins. 15,44,5 Class 39, No. 174354 15 [announced by Volgograd Scientific Research Institute of Machine Building Technology (Volgogradskiy nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya)] 44,55

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 67

TOPIC TAGS: phenolformaldehyde, resin, stabilizer additive

ABSTRACT: This Author's Certificate introduces a method for stabilizing phenolformaldehyde resins by introduction of metal compounds as stabilizing additives. 15 The thermal stability and resistance to light are improved both in the phenolformaldehyde resins and in articles manufactured from them by using dilaurate-di-n-butyl or dicaprinate-di-n-butyl as the stabilizing additive.

UDC: 678.632.021.122

SUB CODE: GC,MT,OC/ SUBM DATE: 17Feb64/ ORIG REF: 000/ OTH REF: 000

Card 1/1

L 23079-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AP6009431 SOURCE CODE: UR/0075/66/021/003/0260/0263

AUTHOR: Knizhek, M.; Pechenkova, V.

38

B

ORG: Scientific Research Institute of Radio Engineering im. A. S. Popov, Prague, Czechoslovakia (Nauchno-issledovatel'skiy institut tekhniki svyazi)

TITLE: Spectrophotometric determination of copper in gallium arsenide, gallium metal, and arsenic metal using neocuproine

SOURCE: Zhurnal analiticheskiy khimii, v. 21, no. 3, 1966, 260-263

TOPIC TAGS: copper, gallium arsenide, gallium alloy, arsenic mineral, dimethyldichlorosilane, spectrophotometric analysis, chloroform

ABSTRACT: A spectrophotometric method for detecting copper in semiconductive gallium arsenide, gallium metal, and arsenic metal using 2,9-dimethyl-1,10-phenanthroline (neocuproine) is described. A yellow complex of copper (L. N. Rozanova, G. A. Katayev, Zh. prikl. khimii, 37, 2574, 1959), which is formed in a citric acid medium, is extracted by chloroform. The determinable minimum calculated according to the Kaiser-Specker method by the standard deviation of a blank is $0.26 \mu g$ of copper in 5 ml. It corresponds to the copper content of 2.6×10^{-5}%

Z

Card 1/2 UDC: 543.70

L 23079-66

ACC NR: AP6009431

at the sample weight of 1 g. Three or four simultaneous determinations take from three to four hours. Orig. art. has: 1 table. [Based on author's abstract] [NT]

SUB CODE: 07,11/ SUBM DATE: 03Jul65/ ORIG REF: none OTH REF: 010/

Card 2/2 ULR

KUDRYAVTSEV, Ye.M.; GIPPIUS, Ye.F.; PECHENOV, A.N.; SOBOLEV, N.N.

Determining the matrix element of the dipole moment of the electron transition in the violet system of cyanogen bands. Part 2. Teplofiz. vys. temp. 1 no.2:218-227 S-O'63. (MIRA 17:5)

1. Fizicheskiy institut imeni P.N. Lebedeva AN SSSR.

ACCESSION NR: AP4038432 S/0294/64/002/002/0181/0187

AUTHORS: Gippius, Ye. F.; Kudryavtsev, Ye. M.; Pechenov, A. N.; Sobolev, N. N.; Fokeyev, V. P.

TITLE: Determination of the red cyan-band system electronic transition dipole moment matrix element

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 2, 1964, 181-187

TOPIC TAGS: absorption spectrum, shock wave, dipole moment, absorption band, matrix element, carbon dioxide, nitrogen

ABSTRACT: The investigation is a continuation of research on the determination of the matrix element of the dipole moment of the electronic transition of the violet system of the CN bands (Teplofizika vy*sokikh temperatur v. 1, no. 1, 73, 1963; no. 2, 1963; no. 3, 1963). The absorption spectrum of the red system of the cyan band is obtained behind the front of the reflected shock wave in a mix-

Card 1/3

ACCESSION NR: AP4038432

ture of CO and N_2. The square of the matrix element of the dipole moment of the electronic transition is determined from the measured integral absorption coefficients in the wavelength region 6,330--6,550 Å and is found to be 0.19 ± 0.09 atomic units. The ratio of the squares of the matrix elements for the violet and for the red bands is obtained from the integral intensities of the bands (1,0) of the red system and (0, 1) of the violet system of cyan, in the spectrum of an arc with carbon electrodes burning in air. Its value is found to be 1.9 ± 0.6. The value obtained for the square of the matrix element of the red dipole moment calculated from this ratio, and from the value obtained for the violet band earlier, agrees with the value obtained in the present work by measurements with the aid of a shock tube. The ratio does not agree with calculations by King and Swings (Astrophys. J. v. 101, 6, 1945) if allowance is made of the Franck-Condon factors. The reason for the discrepancy are discussed. "In conclusion the author is thankful to V. N. Kolesnikov for useful advice, A. T. Matachun and L. L. Sabsovich for solving the

Card 2/3

ACCESSION NR: AR4040822 S/0058/64/000/005/D025/D026

SOURCE: Ref. zh. Fizika, Abs. 5D190

AUTHOR: Kudryavtsev, Ye. M.; Gippius, Ye. F.; Pechenov, A. N.; Sobolev, N. N.

TITLE: Definition of matrix element of dipole moment of electron transition of violet system of bands of cyanogen. I.

CITED SOURCE: Teplofiz. vy*sokikh temperatur, v. 1, no. 1, 1963, 73-84

TOPIC TAGS: matrix element, dipole moment, electron transition, cyanogen, cyanogen band

TRANSLATION: It is established that by x-raying, by a pulse source of light, a mixture of CO and N_2, heated to 5000-7000° K with a reflected shock wave, it is possible to register the absorption spectrum of the violet system of bands of CN and, consequently, to determine the matrix element of the dipole moment of electron transition

Card 1/2

ACCESSION NR: AR4040823 S/0058/64/000/005/D026/D026

SOURCE: Ref. zh. Fizika, Abs. 5D191

AUTHOR: Kudryavtsev, Ye. M.; Gippius, Ye. F.; Pechenov, A. N.; Sobolev, N. N.

TITLE: Definition of matrix element of dipole moment of electron transition of violet system of bands of cyanogen. II.

CITED SOURCE: Teplofiz. vy*sokikh temperatur, v. 1, no. 2, 1963, 218-227

TOPIC TAGS: matrix element, dipole moment, electron transition, cyanogen, cyanogen band, radioscopy

TRANSLATION: There is described the installation used for obtaining absorption spectrum of violet system of CN bands during radioscopy with a pulse source of a mixture of gases CO and N_2, heated by a reflected shock wave to a temperature of 4000 - 6000° K. This spectrum is used for measurement of rotary

Card 1/2

ACCESSION NR: AR4040823

temperature of CN. Results of measurement of temperature of gas by two independent methods [by absorption spectra and by generalized methods of conversion (cf. abstract No. 5 D190)] coincide with the data of gas-dynamic calculation. Bibliography: 16 references.

SUB CODE: NP, OP ENCL: 00

Card 2/2