"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

Adhesion of Polymers. VII. Adhesion of Carboxylated Polymers to Different Types of Substrates

S/190/60/002/011/013/027
B004/B060

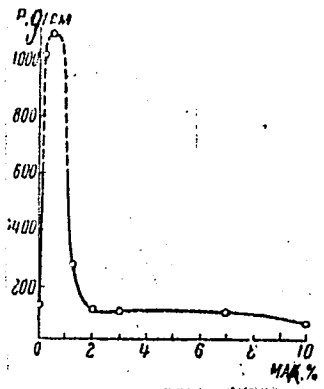

Fig.3: P as a function of methacrylic acid content, for 30% styrene content in the copolymer. Adhesion to polyamide.

Furthermore, the styrene content was varied between 0 and 50% at a constant methacrylic acid content of 1.25%. 2) Adhesion to polyethylene was studied under equal conditions (varying the methacrylic acid content from 0 to 10%, the styrene content likewise from 0 to 50%). The results interpreted in the light of the diffusion theory are as follows: 1, The best adhesion between butadiene-styrene-methacrylic acid copolymer and polyamide was observed at a methacrylic acid content of 0.3 to 1.25%. When the joint is heated, the maximum shifts toward higher methacrylic acid contents. A good initial compatibility was observed between polar rubber and the polyamide, but it deteriorated with increasing methacrylic acid content due to

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Adhesion of Polymers. VII. Adhesion of Carboxylated Polymers to Different Types of Substrates

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stiffening of the chain and consequently reduced diffusion. 2, Increase of styrene content to above 10% reduces the adhesion values due to stiffening of the molecular chain. 3, Adhesion to nonpolar polyethylene is low, except for samples with small methacrylic acid and styrene contents. The adhesion is independent of the polar component content or styrene content and of heating temperature. The low values are caused here by the incompatibility of the polar rubber and the nonpolar polyethylene. The authors thank B. A. Dolgoplosk and V. N. Reykh for having supplied the rubber samples. There are 4 figures, 2 tables, and 10 references: 7 Soviet, 2 US, and 2 British.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: May 9, 1960

Card 4/4

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

S/138/60/000/005/002/012
A051/A029

AUTHORS: Tutorskiy, I.A., Krokhina, L.S., Dogadkin, B.A.

TITLE: The Interaction Between Natural Rubber and Maleic Anhydride

PERIODICAL: Kauchuk i Rezina, 1960, No 5, pp. 3 - 6.

TEXT: The reaction mechanism between natural rubber and maleic anhydride during the rolling process was investigated. The experimental procedure is outlined and the concentration of the maleic anhydride, the distance between the rollers, the temperature of the rollers and that of the oxygen in the medium were studied as to their effect on the addition reaction of the maleic acid and the rubber, as well as the structuralizing process. The results of the experiment are discussed. Both the rate of the gel formation and its maximum amount increase with an increase in the maleic anhydride concentration when the natural rubber is masticated in open air (Fig. 1) The amount of the gel increases until the maleic anhydride is all spent (Fig. 2). It was shown that the addition reaction of the maleic anhydride, when the content of the latter is no more than 5% in the mixture, follows the first order reaction equation. It was also found that in the

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A051/A029

The Interaction Between Natural Rubber and Maleic Anhydride

rolling process of the natural rubber with maleic anhydride, the reactions of addition of the maleic anhydride to the rubber and the structuralizing process are parallel. In rolling with a clearance between the rollers, the structuralizing takes place with an inductive period, which decreases with an increase in the concentration of the maleic anhydride. The rate of the structuralizing during rolling in an argon atmosphere is considerably higher than in air. An increase in the temperature from 20 to 40°C when masticating the rubber in air causes destruction of the formed gel and has no practical effect on the quantity of the added maleic anhydride. There is a linear relationship between the quantity of added maleic anhydride and the amount of formed gel. There are 5 figures and 11 references: 1 Soviet, 4 English, 1 German and 5 French.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M.V. Lomonosov)

Card 2/2

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L 26106-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, I. A.

TUTORSKYI, I. A., SMELY, Z. I. and BISTROV, V. M. (USSR)

Vzaimodeistvie karboksil soderzhashchikh butadien-stirolnykh kauchukov s poliamidami i epsilon-kaprolaktamom
Interaction of carboxyl-containing butadiene-styrene rubbers with polyamides and epsilon-caprolactam
IUPAC S III:224-35

report presented at the Intl. Symposium on Macromolecular Chemistry, Moscow, 14-18 June 60.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

5(4), 15(9) SOV/76-33-6-35/44

AUTHORS: Tutorskiy, I. A., Ginzburg, L. V., Dogadkin, B. A.

TITLE: On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization (O mekhanizme raspada disul'fidov v usloviyakh vulkanizatsii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1401-1408 (USSR)

ABSTRACT: The decomposition mechanism of organic disulphides used as vulcanization accelerators has been insufficiently clarified up to now. It is assumed that a decomposition only takes place on the weaker S-S bindings, and not on the C-S bindings, which has been recently doubted. In the present paper, the decomposition mechanism of the 2,2'-dibenzenethiazolyldisulphide (I) (altax, DBTDS) was investigated under vulcanization conditions by means of the S^{35}-radioisotope. Mixtures of purified Na-butadiene rubber (SKB-50 Shch (for foodstuffs)) containing 1 and 2 parts by weight of (I) to 100 parts of rubber (R) were exposed to vulcanization. In the vulcanization without sulphur, (I) was used on the disulphide bridge marked with S^{35}. The quantity of (I) deposited on (R) was determined radiometrically (Ref 8), whereby the S-quantity deposited

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On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization

from the S-S binding was determined, whereas the total quantity of deposited S was determined by a chemical method. The results obtained show that the quantity of total sulphur exceeds that from the disulphide bridge by more than 2, which points to an asymmetric decomposition of (I). In a vulcanization without sulphur with (I) it seems that, besides the decomposition on the S-S binding, also an asymmetric decomposition on the C-S binding takes place, which also applies to the vulcanization with sulphur (besides (I)). The reaction of the (I) deposition, and that of the sulphur on (R), occur in parallel, and there is a linear function between the quantity of bound S and that of (I). The velocity constant for the (I) deposition on (R) rises linearly with the concentration of (I), but there is a limiting value for the added quantity of (I) (about 75% of the added quantity of (I)), which is independent of the concentration of (I). Data on the composition of the (R)-mixture (Table 1), on the vulcanization with S besides (I) (Table 2), as well as on the distribution of radioactivity between the vulcanizate and the extract

Card 2/3

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SOV/76-33-6-36/44

On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization

(Table 3) are given. There are 6 figures, 3 tables, and 14 references, 11 of which are Soviet.

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

SUBMITTED: December 23, 1957

Card 3/3

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

VASILEV, A.I.; TUTORSKIY, I.A.; DOGADKIN, B.A.

Properties and structure of the products of vulcanizate reaction with styrene. Kauch. i rez. 24 no.10:23-26 '65. (MIRA 18:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova i Nauchno-issledovatel'skiy institut kauchuka i plastmass, Bolgariya.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

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POTAPOV, Ye.E.; TUTORSKIY, I.A.; KHODZHAYEVA, I.D.; DOGADKIN, B.A.

Structure of the product of reaction of resorcinol with hexamethylenetetramine. Kauch. i rez. 24 no.12:19-21 '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, I.A.; BOYKACHEVA, E.G.; POL'SMAN, G.S.; SHABADASH, A.N.; DOGADKIN, B.A.

Structures of cyclic isomers of polyisoprenes. Vysokom. soed. 7 no.8:1394-1399 Ag '65. (MIRA 18:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.

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BEREZKIN, V.G.; ALISHOYEV, V.R.; YERSHOVA, S.N.; TUTORSKIY, I.A.

Effect of the viscosity of stationary liquid phase on the broadening of chromatographic zone. Izv. AN SSSR. Ser. khim. no.9:1711-1712 '65. (MIRA 18:9)

1. Institut neftekhimicheskogo sintesa imeni A.V. Topchiyeva AN SSSR.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, I.A.; MARKOV, V.V.; FEDYUK, O.I.; VITSNUDEL', M B.; DOGADKIN, B.A.

Kinetics of the cyclization of natural and synthetic polyisoprenes induced by phosphorus pentoxide. Vysokom. soed. 7 no.6:953-957 Je '65. (MIRA 18:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

L 1664-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5023684 UR/0076/65/039/009/2157/2162
541.124/.128+547.022

AUTHOR: Tutorskiy, I. A.; Novikov, S. V.; Dogadkin, B. A.

TITLE: Some aspects of the mechanism of chemical reactions of diene polymers

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 9, 1965, 2157-2162

TOPIC TAGS: natural rubber, bromination, chlorination, polymer structure, chemical bonding

ABSTRACT: Chemical reactions of 1,5-polyene systems are characterized by the fact that the products of their reactions are inhomogeneous in composition. Bromination of polyisoprenes was carried out in an attempt to prepare products having 5, 10, 20%, etc. of the theoretical bromine content. The structure of all the products (films) was inhomogeneous. It was postulated that during incomplete bromination, in addition to products containing almost no bromine, other products are formed in which the degree of saturation is very high and may be close to the maximum; subsequently, these components behave like immiscible liquids, and this would account for the inhomogeneity of the structure of the film and its low mechanical strength. Ex-

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L 1664-66

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periments were performed which confirmed this hypothesis. The high-molecular fraction of the product resulting from the reaction of thiobenzoic acid and polyisoprene was found to contain a larger amount of added thiobenzoic acid than did the low-molecular one. The findings indicate that the statistical nature of the reactions studied is altered by the development of intramolecular chain processes. The mechanism of the reactions is explained on the basis of the interaction between double bonds in 1,5-polyene systems. A general mechanism is proposed for the chlorination of diene polymers. Orig. art. has: 1 table.

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

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SUBMITTED: 15May64 ENCL: 00 SUB CODE: GC

NO REF SOV: 008 OTHER: 016

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, I.A.; NOVIKOV, S.V.; DOGADKIN, B.A.

Reaction of polychloroprene with thiobenzoic acid. Dokl. AN SSSR 159 no.2:389-390 N '64. (MIRA 17:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Predstavleno akademikom A.A. Balandinym.

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concluded that the decelerating action of all types of

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AL'TZITSER, V.S.; GUL', V.Ye.; TUTORSKIY, I.A.; SHERSHNEV, V.A.
DOGADKIN, B.A.

Copolymerization of ozonized pulverized vulcanizates with polyester acrylates. Vysokom. soed. 7 no.3:417-419 Mr '65. (MIRA 18:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.

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TUTORSKIY, I.A.; POTAPOV, Ye.E.; KAMALETDINOV, Kh.S.

Recording cryometer for determining the molecular weight of polymers. Zav. lab. 31 no.2:241-243 '65. (MIRA 18:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

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TOPIC TAGS:

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TUTORSKIY, I.A.; SLONIM, I.Ya.; URMAN, Ya.G.; KUDRYAVTSEVA, Ye.P.; DOGADKIN, B.A.

Study of the cyclization of rubber by the method of nuclear magnetic resonance. Dokl. AN SSSR 152 no.3:674-676 S '63. (MIRA 16:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova. Predstavleno akademikom A.A.Balandinym.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

AL'TZITSER, V.S.; SHERSHNEV, V.A.; TUTORSKIY, I.A.; DOGADKIN, V.A.

Chemical modification of vulcanizates. Part 2: Reaction of crushed vulcanizates with p-tert-butylphenyl formaldehyde resin. Vyskom. soed. 5 no.7:1059-1061 Jl '63. (MIRA 16:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova i Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi.
(Vulcanization) (Resins,Synthetic)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, I.A.; MARKOV, V.V.; FOMINA, L.P.; BELYANIN, V.B.; DOGADKIN, B.A.

Cyclization of diene polymers. Part 1: Cyclization of natural rubber in phenol solution. Vysokom.soed. 5 no.4:593-597 Ap '63. (MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

(Rubber) (Cyclization)

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

S/190/63/005/004/018/020
B101/B220

AUTHORS: Tutorskiy, I. A., Markov, V. V., Fomina, L. P., Belyanin, V. B., Dogadkin, B. A.

TITLE: Cyclization of diene polymers. I. Investigation of the cyclization of natural rubber dissolved in phenol

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 4, 1963, 593-597

TEXT: Mixtures of 100 parts by weight non-plasticized natural rubber, 165 phenol and 7.50 P_2O_5 were heated at 180°C and the changes of intrinsic viscosity and degree of unsaturation owing to cyclization of the rubber were studied along with the UV and IR spectra. Results: (1) The intrinsic viscosity decreases rapidly within the first 5 hr, but afterwards only slowly. (2) The rate at which rubber dissolves in phenol is much higher in the presence of P_2O_5 than in pure phenol. (3) The yield of acetic acid in the oxidation of rubber with chromic acid depends on the time of cyclization. It decreases very rapidly within the first 4 hr, but then remains constant. (4) The degree of unsaturation is after cyclization only about 25 % of the degree of unsaturation of the initial

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Cyclization of diene ...

rubber. (5) The 275 - 280 mμ band with 278 mμ maximum in the UV spectrum as well as the 690 and 740 cm^{-1} bands and the bands in the 1500 - 1600 cm^{-1} region in the IR spectrum prove that the cyclorubber contains bound phenol. There are 6 figures.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: October 24, 1961

Card 2/2

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

DOGADKIN, B.A.; TUTORSKIY, I.A.; TUGOV, I.I.; AL'TZITSER, V.S.; KROKHINA, L.S.; SHERSHNEV, V.A.

Chemical modification of vulcanizates. Part 1: Interaction between vulcanizates and styrene, methyl methacrylate, and isoprene. Vysokom. soed. 3 no.5:729-733 My '61. (MIRA 14:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova i Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi.
(Polymers)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

VAKULA, V.L.; TUTORSKIY, I.A.; SMELAYA, N.I.; SMELYY, Z.; VOYUTSKIY, S.S.

Polymer adhesion. Part 8: Adhesion to polyamide of graft and modified polymers obtained from carboxylated butadiene-styrene rubbers and ε-caprolactam and its derivatives. Vysokom.soed. 3 no.5:775-782 My '61. (MIRA 14:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.
(Polyamides) (Adhesion) (Polymers)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

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B110/B220

15.9000 1436, 2209

AUTHORS: Dogadkin, B. A., Tutorskiy, I. A., Tugov, I. I., Al'tzitser, V. S., Krokhina, L. S., Shershnev, V. A.

TITLE: The chemical modification of vulcanizates. I. The reaction of vulcanizates with styrene, methyl methacrylate, and isoprene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 5, 1961, 729-733

TEXT: The chemical modification of vulcanizates is completely new and hardly mentioned in literature. The purpose of the present paper was to study the chemical modification process caused by copolymerization of the vulcanizates with the monomer. Natural rubber (I) or a mixture of natural rubber and butadiene styrene rubber СКС-30 (SKS-30) (II) were disintegrated to particles of about 1 mm, scrubbed in the Soxhlet with acetone, and filled into a weighed ampulla. The monomer (purified styrene, methyl methacrylate, or isoprene) was added in quantities assuring the uniform swelling of the vulcanizate. Then the ampulla was sealed and heated in

Card 1/8

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

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B110/B220

The chemical...

an oil thermostat. Conversion of monomer and yield in graft polymer were determined by weight. The product of copolymerization was extracted with the hot solvent of the formed homopolymer: methyl ethyl ketone for polystyrene, acetone for polymethyl methacrylate, benzene for polyisoprene. In order to initiate the copolymerization process the vulcanizates were ozonized first of all in a suspension of CCl_4 to introduce functional (probably peroxide) groups. One has made use of the ozonizer developed by the Kafedra gazovoy elektrokhimii MGU im. Lomonosova (Department for Gas Electrochemistry of the Moscow State University imeni Lomonosov). The experimental temperatures were: 60, 100, 110, 150, and 180°C. The curves of kinetic copolymerization of non-ozonized I and II are represented in Figs. 2a and 6. In case the vulcanizate had been ozonized previously, a large fraction of the isoprene added polymerized already at 60°C. A considerable part of the polymerized isoprene forms with the vulcanizate a graft polymer (Fig. 6). Also for the copolymerization of methyl methacrylate with vulcanizate, its previous ozonizing raises the reaction rate and yield in graft polymer (Fig. 7). The active centers of the rubber existing in the vulcanizate (double bonds and α-methylene groups)

Card 2/8

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The chemical...

are able to act as branching points in the chain of the trimeric polymer and, thus, form the graft polymer. Moreover, the initial polymerization may be effected by oxygen-containing groups existing on the surface of the crushed vulcanizate. The surface increase effected by adsorption of monomers on the crushed polymerizate also accelerates the reaction. When polymerizing the non-ozonized vulcanizates with styrene at 150-180°C, the polymerization reaches its maximum already after the first 2 to 3 hr and then remains constant, since the thermopolymerization of styrene is practically completed. With a decrease in temperature of polymerization the yield in copolymers increases as compared to the total monomer polymerized. Yu. M. Yemel'yanov assisted in the experiments. There are 7 figures and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The two references to English-language publications read as follows:

Ref. 1: R. I. Ceresa, W. F. Watson, Trans. and Proceed 35, 19, 1959.
Ref. 4: I. Green, E. F. Sverdrup, Industr. and Engng. Chem. 48, 2138, 1956.

Card 3/8

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

22566
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B110/B220

The chemical...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova (Moscow Institute of Fine Chemical Technology imeni Lomonosov) Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (All-Union Scientific Research Institute of Film Materials and Artificial Leather)

SUBMITTED: July 25, 1960

Fig. 2: kinetics of copolymerization: Legend: a) Vulcanizate of natural rubber with styrene; б) vulcanizate of natural + SKC-30 rubber with styrene. Full-line curves = styrene conversion; broken-line curves = yield in graft polystyrene. Temperature of polymerization: 1) = 110°C; 2) = 150°C; 3) = 180°C. c) time of polymerization, hr.

Card 4/8

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

ACCESSION NR: AP5008234

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15.1124 1581, 1436, 2209

22569
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B110/B220

11,2210

AUTHORS: Vakula, V. L., Tutorskiy, I. A., Smelaya, N. I., Smelyy, Z., Voyutskiy, S. S.

TITLE: Adhesion of polymers. VIII. Adhesion to polyamide of graft and modified polymers obtained from carboxylic butadiene styrene rubbers and ε-caprolactam and its derivatives

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 5, 1961, 775-782

TEXT: B. A. Dogadkin et al. (Kolloidn. Zh. 20, 43, 1958) proposed an intermediate polymer as binding agent in order to increase the binding strength between natural and butadiene styrene. The diffusion of the chains of the natural rubber of the graft polymer into the natural rubber and the diffusion of the butadiene styrene rubber chains into the butadiene styrene rubber would give a firm bond. Correspondingly, the graft polymers produced by V. A. Kargin, Kh. U. Ustanov, and B. I. Aykhodzhayev from styrene and viscose showed a strong adhesion to rubber. Thus, graft and modified polymers on the basis of carboxylic butadiene styrene rubbers (CBSR) and ε-caprolactam and its derivatives would be able to increase the

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Adhesion of polymers...

adhesion of CBSR to polyamide considerably. The authors studied the adhesive properties of the above graft and modified polymers whose synthesis has been described previously by the second author (Ref. 3: Mezhdunarodnyy Simpozium po makromolekulyarnoy khimii (International Symposion of Macromolecular Chemistry), Moscow, June 1960, sektsiya III, p. 224). Their structure has been ascertained by means of infra-red spectrum and chemical determination of nitrogen and carboxyl. The films of the polymers and the polyamide were glued together and then submitted to a heat treatment of up to 100°C and tested for exfoliation by means of the dynamometer of TsNIKZ. Tables 1 to 3 show the results (A = adhesion, K = cohesion, C = miscellaneous character of destruction of the binding agent). The tested polymers of the structure

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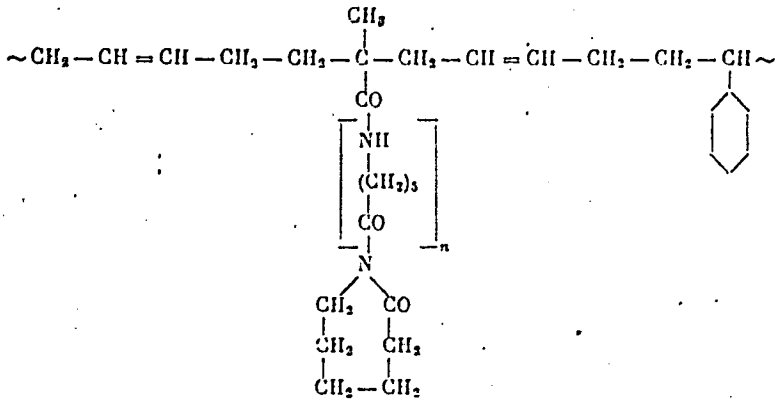

showed various lengths of the polyamide chains graft at the carboxyl groups and various frequencies of their sequence in the length of the macromolecule. If all carboxyl groups of the CBSR are substituted by long

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Adhesion of polymers...

polyamide chains (e.g. 12 caprolactam members), the adhesion to the polyamide is reduced. The introduction of groups of higher polarity (CONH) than the COOH group causes an increased rigidity and reduced diffusibility by starting intra- and intermolecular reactions. In case the chains are short (3 caprolactam members) for the same quantity of polyamide, the number of individual ends diffusing into the polyamide increases. Temperature rise increases the Brownian movement and, thus, the adhesion. The strongly polar CONH groups of the graft polymer have twice as much cohesive energy as the COOH groups of the CBSR; they cause a particularly close chain packing and enable the forming of hydrogen bonds. S-12 gave good binding results, since it contains a definite amount of bound monomers. Modified CBSR polymers containing still some methyl ester of the ε-amino caproic acid were studied. Also in this case, the cohesive power of these polymers surpasses that of the initial polymers, but their adhesion is independent of the amount of ester. The introduction of polyamide chains into CBSR containing more than 30% of styrene reduces the adhesion due to increasing rigidity. Increase of the contact temperature increases the adhesion and maintains the adhesive character of exfoliation. As compared to the initial polymers, the cohesion is also higher.

Card 4/10

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B110/B220

Adhesion of polymers...

The kinetic character of the adhesion results also from its increase with increasing temperature. Thus, adhesion is fundamentally dependent on polymers of similar polarity in highly elastic or viscous state, i.e. with sufficient molecular mobility. Polymers modified by the methyl ester of ε-amino caproic acid (S-24 and S-25) (S-24 and S-25) are more adhesive than polymers with polyamide chains (S-17 and S-19) (S-17 and S-19). In the absence of styrene, a slight addition of caprolactam does not deteriorate the adhesive properties of rubber. The binding force between the rubber (SKS-ZOA) and ordinary material (0.5 kg/cm) increased for material impregnated with graft polymer from CBSR and polyamide to 0.95 kg/cm. For (SKB) rubber and caprone tissue impregnated with butadiene polymer modified by ε-caprolactam monomer (polymer S-33 (S-33)), the binding force amounted to 0.8 kg/cm (0.4 kg/cm without impregnation). The specimens tested were produced by V. G. Rayevskiy in the NIIRP. There are 1 figure, 3 tables, and 9 Soviet-bloc references.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov

Card 5/10

22569

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, M. S.

"An Original Method of Machining in Gage Making,"
Stanki I Instrument 17, no. 1, 1946

BR-52059019

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

25729. Prostaya Skhema Zadayushchego Generatora. Radio, 1949, No. 8, s. 33-35.

SO: Letopis' Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O

33136

Izmeritel'naya Liniya. (Sposob Graduirovki Ukv Priyomnika I Peredatchika). Radio, 1949, No 10, c. 36-39.

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

Tutorskiy, O.

AID P - 4448

Subject : USSR/Radio

Card 1/1 Pub. 89 - 15/20

Author : Tutorskiy, O.

Title : Measuring resonance with heterodyne indicators

Periodical : Radio, 5, 44-46, My 1956

Abstract : A detailed description of the instrument operating on current passing through a selenium rectifier and consisting of a generator and an optical indicator, measuring the resonance curves. Two tables summarize data on cables. Three diagrams.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

107-5-35/54

AUTHOR: Tutorskiy, O.

TITLE: Heterodyne-Type Resonance Indicator Measurements (Izmereniya s geterodinnymi indikatorami rezonansa)

PERIODICAL: Radio, 1956, Nr5, pp. 44-46 (USSR)

ABSTRACT: A description of the circuit diagram, construction, and applications of a heterodyne resonance indicator (HRI). HRI is essentially a single-tube SHF oscillator having an indicator in its grid circuit. A current dip in the indicator occurs when the oscillator coil is in resonance with an external circuit coupled to it. Simple circuit diagrams, parts data, and constructional hints are given in the article. A milliammeter or type 6E5C tuning indicator is used as a visual indicator.

HRI is useful for tuned circuit measurements, for spurious resonance circuits in an apparatus, for determination of electrical length of a section of cable, for antenna and transmission-line measurements, for quartz measurements, etc.

There are 3 figs and 2 tables in the article.

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Card 1/1

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

PA 51/49T95

TUTORSKIY, O.

USSR/Radio Jun 49
Radio Receivers
Radio Waves, UHF

"An Ultrashort-Wave Receiver," O. Tutorskiy, 3 pp

"Radio" No 6

Three-tube superregenerative receiver designed to receive UHF amateur transmitters (70-72 MC) and UHF broadcast stations. Moscow and Leningrad set owners can also receive sound transmission from television stations. Moscow set owners can receive Moscow FM station (46 MC) and sound transmission from the television center (57 MC) with an indoor antenna.

51/49T95

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

25729

Prustaya skhema zadaywshchego gene ratdra. Radio, 1949, No. 8. s. 33-35.

N. Svetotekhnika.-Sm. 25744.

SO: LETOPIS' No. 34

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

PA 150T96

USSR/Radio - Calibration of Receivers Oct 49
Instruments, Measuring

"A Measuring Line," O. Tutorskiy, 4 pp

"Radio" No 10

At present, ultrashort-wave signal generators or wave meters are not available to most amateurs or even to a majority of radio clubs. Author describes how a measuring line, consisting of two parallel conductors about 6-8 cm apart with a sliding contact moving along them, can be used for calibrating receivers and transmitters. Unit described permits waves of the order of

150T96

USSR/Radio - Calibration of Receivers Oct 49
(Contd)

4-5 meters (70-72 mc) to be measured with a measuring line of $\frac{1}{2}$ wave length (2-2.5 meters).

150T96

TUTORSKIY, O.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

155T101

USSR/Radio - Radio Transmitters
Short Wave

Jan 50

"A Short-Wave Transmitter," O. Tutorskiy, Lab, Cen DOSARM Radio Club, 5 pp

"Radio" No 1

Describes (with diagrams and photographs) simplified, three-stage short-wave transmitter for amateurs with output of 5-15 watts, depending on band used. Operation is by key only and on five amateur bands in the range 1.76-30.8 mc. Transmitter has 6SJ7 or 6AG7 self-excited oscillator, 6V6 doubler-tripler, and 6P3 (6L6) amplifier-doubler stage, with 5Ts4S rectifier.

155T101

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

FA 159T102

USSR/Radio - Radio Transmitters, Crystal Controlled
Radio, Amateur — May 50

"An Ultrahigh-Frequency Club Transmitter," O. Tutorskiy, Lab of Cen DOSARM Radio Club, 4½ pp

"Radio" No 5

Describes importance of UHF club transmitter for operation within city limits. Facilitates development of UHF amateur activity, useful for checking UHF receivers, experimenting with directional antennas, etc. Gives data and

[redacted] 159T102

USSR/Radio - Radio Transmitters, Crystal Controlled (Contd) — May 50

schematic diagrams for suitable transmitter with two alternative quartz-oscillator circuits.

[redacted] 159T102

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

1. TUTORSKIY, O. G.

2. USSR (600)

4. Technology

7. Simplest amateur designs, Moskva, Gosenergoizdat, (1951?)

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

PA 190T102

USSR/Radio - Short-Wave Jun 51

"Receiving Radiotelegraph Signals on a Broadcast Receiver," O. Tutorskiy

"Radio" No 6, pp 35-37

Describes 2d oscillator circuit used as adapter on broadcast receivers having short-wave bands to bring in amateur radio-telegraph stations. Adapter unit was tested with "T-689" and "Ural-49" receivers and many distant short-wave stations were received.

190T102

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

"Noiseless receiver tuning."

So. Radio, Vol. 9, p. 55, 1952

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

"An antenna amplifier."

So. Radio, Vol. 12, p. 29, 1952

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

Radio, Short-Wave-Stations

Amateur ultrashort wave radio station. Radio No. 4, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, O.

Amateur ultrashort-wave radio stations. (Developed by the laboratory of the Central radio club of the All-Union Volunteer Society for Assistance to the Army, Aviation and Navy.) Radio no.6:35-38 Je '53. (MLRA 6:6)
(Radio, Short-wave-Stations)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIY, Oleg Georgiyevich; TRANDAFILOVA, I.A., red.; BLAZHENKOVA, G.I., tekhn.red.

[Ultrashort wave amateur radio communications; a book for beginners in ultrashort wave technique] Radioliubitel'skaia sviaz' na UKV; kniga dlia nachinaiushchego ul'trakorotkovolnovika. Moskva, Izd-vo DOSAAF, 1958. 88 p. (MIRA 12:6)
(Radio, Shortwave)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTORSKIĬ, O. G.

Simple amateur radio transmitters and receivers, model UKV.

Moskva, Gos. energ. izd-vo, 1952.

55 p. (53-28134)

TK9956.T755

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

BOKOV, V.A.; KIZHAYEV, S.A.; [illegible]; [illegible]OV, A.[illegible]

Antiferroelectric and magnetic properties of [illegible]
Fiz. tver. tela 6 no.[illegible] 0 '64. (MIRA [illegible]2)

1. Institut poluprovodnikov AN [illegible], Leningrad.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

ACCESSION NR: AP4028463 S/0181/64/006/004/1240/1242

AUTHORS: Tutov, A. G.; Myshl'nikova, I. Ye.; Parfenova, N. N.; Bokov, V. A.; Kizhayev, S. A.

TITLE: New compounds in the systems Bi_2O_3-Me_2O_3(Fe^{3+}, Al^{3+}, Ga^{3+}, Mn^{3+})

SOURCE: Fizika tverdogo tela, v. 6, no. 4, 1964, 1240-1242

TOPIC TAGS: Bi_2O_3-Fe_2O_3, Bi_2O_3-Al_2O_3, Bi_2O_3-Ga_2O_3, Bi_2O_3-Mn_2O_3, orthorhombic crystal, unit cell, cell parameter, magnetization, paramagnetic, antiferromagnetic

ABSTRACT: The authors have undertaken a study of compounds combining Bi_2O_3 with the sesquioxides of Fe, Al, Ga, and Mn because of the lack of data on these substances. Among iron compounds they obtained $Bi_2O_3 \cdot 2Fe_2O_3$. In the Al and Ga compounds they synthesized an isomorphous series. Chemical analyses were not made (because of small quantities produced) but similar formulas were assumed ($Bi_2O_3 \cdot 2Al_2O_3$ and $Bi_2O_3 \cdot 2Ga_2O_3$). For Mn, results indicate a composition of $Bi_2O_3 \cdot 2Fe_2O_3$.4. The specific gravity of the latter crystal (by picnometer is 7.33, of the Fe

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

ACCESSION NR: AP4028463

mineral 6.81. Single crystals were obtained of all these compounds. Ceramic samples were also obtained of the Fe compound. The specific gravity of these samples is 6.53. The Al and Ga compounds formed transparent, rectangular, light green prisms. The Fe and Mn minerals proved to be orthorhombic, with cell parameters of a = 7.88 Å, b = 8.40 Å, c = 6.00 Å and a = 7.47 Å, b = 8.52 Å, c = 5.75 Å respectively. Magnetization of the Fe compound, measured in a field reaching a maximum of 8000 oersteds, rises with temperature and passes through a maximum at 265K before descending. No residual magnetization was observed. This suggests that at 265K the mineral undergoes a transition from the paramagnetic to the antiferromagnetic state. "In conclusion, the authors express their thanks to Professor G. A. Smolenskiy for his interest in the work." Orig. art. has: 1 figure.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 23Nov63 DATE ACQ: 27Apr64 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

TUTOV, A.G.; MYL'NIKOVA, I.Ye.; PARFENOVA, N.N.; BOKOV, V.A.; KIZHAYEV, S.A.

New compounds in the systems Bi_2O_3-Me_2O_3(Fe^{3+},Al^{3+},Ga^{3+},Mn^{3+}). Fiz. tver. tela 6 no. 4:1240-1242 Ap '64. (MIRA 17:6)

1. Institut poluprovodnikov AN SSSR, Leningrad.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

24.7900

S/020/60/135/004/013/037
B019/B077

AUTHOR: Zaslavskiy, A. I., and Tutov, A. G.

TITLE: Structure of a New Antiferromagnetic Compound, $BiFeO_3$

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 4, pp. 815 - 817

TEXT: The antiferromagnetic compound $BiFeO_3$ which is described in this paper was produced along with other compounds at the Institute of Semiconductors of the AS USSR. Conventional ceramic techniques were applied for the production. Preliminary firings were carried out at 750° and 800° C, respectively specimens in powder form showed that the $BiFeO_3$ unit cell is nearly cubic and has a slight rhombohedral distortion. Detailed structural and crystallographic data as obtained from these powder patterns are tabulated and discussed. The structure of $BiFeO_3$ is assumed to be of perovskite type. The authors thank Ye. S. Sher and L. L. Vasil'yeva for supplying the preparation, and Professor G. A. Smolenskiy for his interest in this work.

Card 1/5

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

89020

Structure of a New Antiferromagnetic Compound, $BiFeO_3$

S/020/60/135/004/013/037
B019/B077

N. V. Belov and G. B. Bokiy are mentioned. There are 1 figure, 2 tables, and 5 references: 1 Soviet.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors, Academy of Sciences USSR)

PRESENTED: June 20, 1960, by A. F. Ioffe, Academician

SUBMITTED: June 20, 1960

Card 2/5

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757620009-4

S/020/60/135/004/013/037
B019/B077

Межплоскостные расстояния и интенсивности порошкограммы $BiFeO_3$

hkl *	$d_{оп}$	$d_{выч}$	$I_{оп}$	$I_{выч}$	hkl	$d_{оп}$	$d_{выч}$
100	3,946	3,957	140	120	400	0,9889	0,9892
110	2,809	2,812	171	192	322	0,9685	0,9685
$10\bar{3}$	2,782	2,785	161	182	410	0,9621	0,9620
111	2,308	2,307	23	23	$40\bar{1}$	0,9580	0,9575
$10\bar{1}$	2,273	2,278	65	65	411	0,9375	0,9372
200	1,976	1,978	100	100	$41\bar{1}$	0,9319	0,9322
210	1,775	1,776	72	60	$30\bar{3}$	0,9289	0,9282
$20\bar{1}$	1,761	1,763	37	31	331	0,9149	0,9148
211	1,626	1,629	45	40	$33\bar{1}$	0,9088	0,9092
$21\bar{1}$	1,613	1,613	83	75	$31\bar{3}$	0,9041	0,9037
$11\bar{2}$	1,607	1,608	42	38	420	0,8885	0,8882
220	1,405	1,406	24	33	$40\bar{2}$	0,8813	0,8815
$20\bar{2}$	1,390	1,392	23	32	421	0,8693	0,8691
221	1,330	1,330	7	8	$42\bar{1}$	0,8644	0,8643
300	1,319	1,319	6	7	$41\bar{2}$	0,8618	0,8611
$21\bar{2}$	1,314	1,313	36	39	332	0,8518	0,8515
310	1,254	1,255	29	34	$33\bar{2}$	0,8427	0,8425
$30\bar{1}$	1,248	1,248	28	33	$32\bar{3}$	0,8403	0,8404
311	1,200	1,200	9	5	422	0,8147	0,8143

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$31\bar{1}$	1,191	1,192	18	11	$42\bar{2}$	0,8065	0,8065
222	1,138	1,139	14	18	$22\bar{4}$	0,8041	0,8043
320	1,102	1,102	13	9	430	0,7952	0,7951
$30\bar{2}$	1,092	1,092	13	8	500	0,7914	0,7914
321	1,066	1,066	22	22	$40\bar{3}$	0,7878	0,7878
$32\bar{1}$	1,058	1,058	22	22	431	0,7817	0,7815
$31\bar{2}$	1,053	1,054	22	22	$43\bar{1}$	0,7776	0,7775
					$50\bar{1}$	0,7745	0,7746
					$31\bar{4}$	0,7728	0,7729

* *hkl* — ромбоэдрические индексы.

Таблица 2

1 Ион	Соседи 2	Число соседей 3	Расстояние в кХ 4	Сумма ионных радиусов * в кХ 5
Bi^{3+}	O^{2-}	6	2,785 (в слое) 2,812 (между слоями)	2,70
Fe^{3+}	O^{2-}	6	1,978	2,03
O^{2-}	O^{2-}	4	2,785 (в слое) 2,812 (между слоями)	2,72

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Legend to Table 1: Interplanar spacings and intensities of $BiFeO_3$ powder patterns; 1) rhombohedral indices.
Legend to Table 2: Interatomic distances with ionic radii according to N. V. Belov and G. B. Bokiy (Ref. 5); 1) ion; 2) neighboring ion; 3) number of neighboring ions; 4) distance in kX; 5) sum of ionic radii in kX.

X

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BOKOV, V.A.; [illegible], [illegible], [illegible], I.Ye.; [illegible], [illegible]
[illegible]

Antiferroelectric and ferroelectric phase transitions in $Pb_{10.5}W_{0.5}O_3$. Izv. AN SSSR. Ser. fiz. 29 no.6:929-932 Je '65. [illegible]

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KIZHAYEV, S.A.; TUTOV, A.G.; BOKOV, V.A.

Structure and magnetic properties of $TlMnF_3$. Fiz. tver. tela 7 no.9:2868-2873 S '65. (MIRA 18:10)

1. Institut poluprovodnikov AN SSSR, Leningrad.

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AUTHOR: Bokov, V. A.; Kizhayev, S. A.; My*l'nikova, I. Ye.; Tutov, [illegible] A. G.

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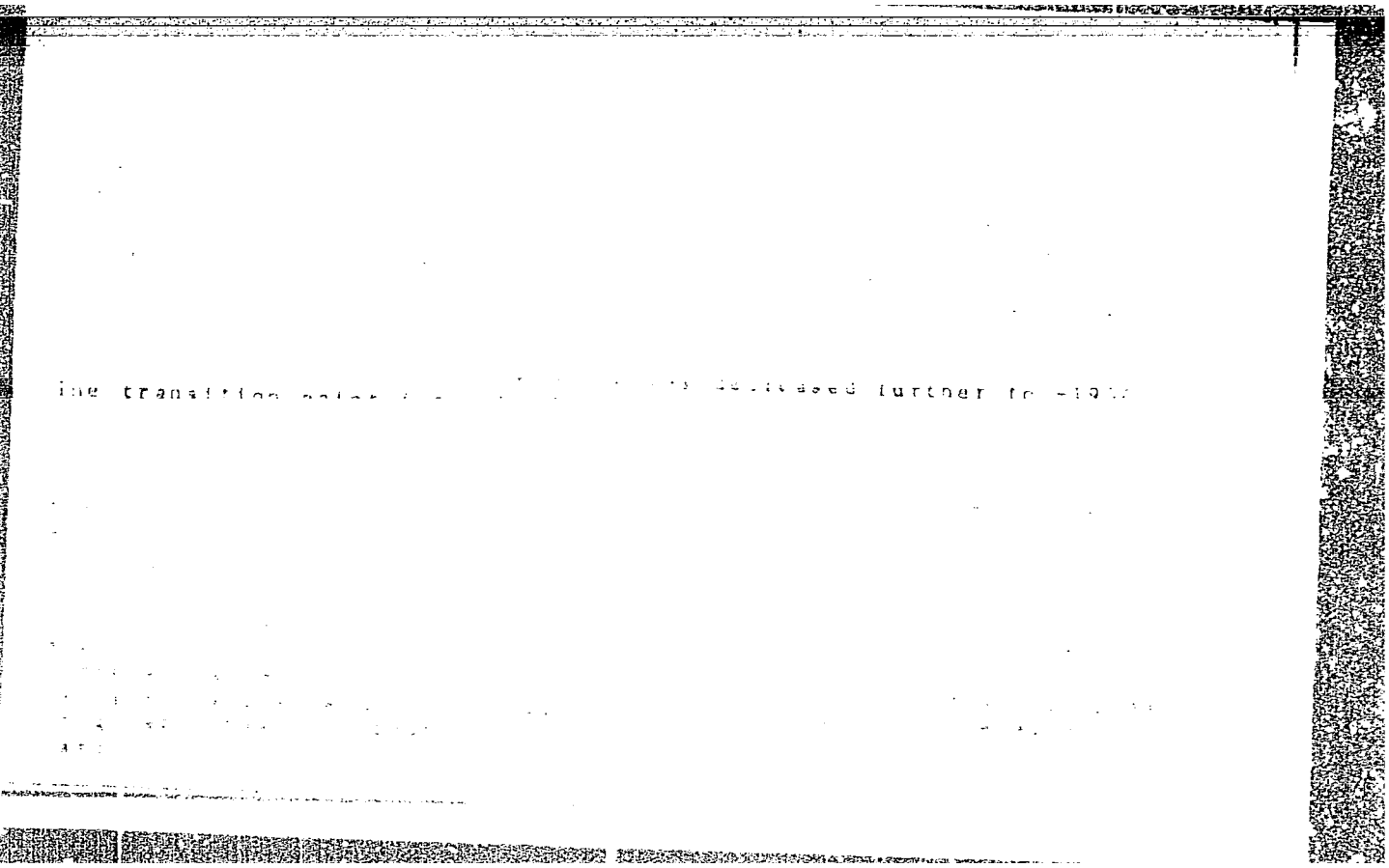

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KRAYNIK, N.N.; KHUCHUA, N.P.; BEREZHNOY, A.A.; TUTOV, A.G.

Nature of phase transitions in solid solutions of $BiFeO_3$ - $PbFe_{1/2}Nb_{1/2}O_3$. Fiz. tver. tela 7 no.1:132-142 Ja '65. (MIRA 18:3)

1. Institut poluprovodnikov AN SSSR, Leningrad.

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ASSOCIATION: none

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L 10760-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/JW/GG

ACC NR: AP5022747 SOURCE CODE: UR/0181/65/007/009/2868/2871

AUTHOR: Kizhayev, S. A.; Tutov, A. G.; Bokov, V. A.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Structure and magnetic properties of $TlMnF_3$

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2868-2871

TOPIC TAGS: thallium compound, manganese compound, fluoride, x ray analysis, crystal structure, magnetic property

ABSTRACT: Data are given from x-ray and magnetic studies of a new compound, $TlMnF_3$. The specimens were produced by mixing saturated aqueous solutions of thallium fluoride and manganese fluoride. [illegible] and CrK were used for the x-ray studies with photographic and ionization recording. It was found that the new compound has [illegible] rovskite structure. The lattice has a cubic cell with a parameter $a = 4.250 \pm 0.001$ angstroms. The interplanar spacing and radiation intensities of $TlMnF_3$ are tabulated for various Miller indices. The magnetic susceptibility of the compound is plotted as a function of temperature from 65 to 520°K. This curve shows a maximum at 85°K which is apparently due to a transition to the antiferromagnetic state. The authors are

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ACC NR: AP5022747

grateful to G. A. Smolenskiy for interest in the work, and also thank V. B. Mironov, A. N. Lazarev and A. S. Barsukov for furnishing the specimens. Orig. art. has: 1 figure, 5 formulas, 2 tables.

SUB CODE: 20,07/ SUBM DATE: 23Apr65/ ORIG REF: 001/ OTH REF: 005

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ZASLAVSKIY, A.I.; TUTOV, A.G.

Structure of a new antiferromagnetic, $BiFeO_3$. Dokl. AN SSSR 135 no.4:815-817 '60. (MIRA 13:11)

1. Institut poluprovodnikov Akademii nauk SSSR. Predstavleno akademikom A.F.Ioffe.

(Bismuth ferrate)

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ZASLAVSKIY, A.I.; ZVINCHUK, R.A.; TUTOV, A.G.

X-ray study of the polymorphism of Ta_2O_5. Dokl. AN SSSR 104 no.3: 409-411 S '55. (MLRA 9:2)

1.Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova. Predstavlene akademikom N.V.Belovym.
(Tantalum oxides) (Crystallography)

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TUTOV, E. E.

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AVRASIN, Ya.D., kandidat tekhnicheskikh nauk; BERG, P.P., professor, doktor tekhnicheskikh nauk, BERNSHTEYN, M.L., kandidat tekhnicheskikh nauk; GEHEROZOV, P.A., starshiy nauchnyy sotrudnik; GLINER, B.M., inzhener; DAVIDOVSKAYA, Ye.A., kandidat tekhnicheskikh nauk; YELCHIN, P.M., inzhener; YEREMIN, N.I., kandidat fiziko-matematicheskikh nauk; IVANOV, D.P., kandidat tekhnicheskikh nauk; KNOROZ, L.I., inzhener; KOBRIN, M.M., kandidat tekhnicheskikh nauk; KORITSKIY, V.G., dotsent; KROTKOV, D.V., inzhener; KUDRYAVTSEV, I.V., professor, doktor tekhnicheskikh nauk; KULIKOV, I.V., kandidat tekhnicheskikh nauk; LEPETOV, V.A., kandidat tekhnicheskikh nauk; LIKINA, A.F., inzhener; MATVEYEV, A.S., kandidat tekhnicheskikh nauk; MIL'MAN, B.S., kandidat tekhnicheskikh nauk; PAVLUSHKIN, N.M., kandidat tekhnicheskikh nauk; PTITSYN, V.I., inzhener [deceased]; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk, RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; RYABCHENKOV, A.V., professor, doktor khimicheskikh nauk; SIGOLAYEV, S.Ya., kandidat tekhnicheskikh nauk; SMIRYAGIN, A.P., kandidat tekhnicheskikh nauk, SUL'KIN, A.G., inzhener; TUTOV, I.Ya., kandidat tekhnicheskikh nauk, KHRUSHCHOV, M.M., professor, doktor tekhnicheskikh nauk; TSYPIN, I.O., kandidat tekhnicheskikh nauk; SHAROV, M.Ya., inzhener; SHERMAN, Ya.I., dotsent; SHMELEV, B.A., kandidat tekhnicheskikh nauk; YUGANOVA, S.A., kandidat fiziko-matematicheskikh nauk; SATEL', E.A., doktor tekhnicheskikh nauk, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor

[Machine builder's reference book] Spravochnik mashinostroitelia; v shesti tomakh. izd-vo mashinostroit. lit-ry. Vol.6. (Glav. red.toma E.A.Satel'. Izd. 2-oe, ispr. i dop.) 1956. 500 p. (MLRA 9:8)
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CHEREPKOV, B.M., inzh.; TUTOV, N.M., inzh.

Effective foundations for pedestrian bridges. Transp.stroi. 10 no.2:27-28 F '60. (MIRA 13:5)
(Bridges--Foundations and piers)

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