"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A. G.

PODDUBNYY, A. G. -- "The Razorfish of the Rybinskoye Reservoir. (Biological Sketch)." Acad Sci USSR, Inst of the Morphology of Animals imeni A. N. Severtsov, Moscow, 1955 *(Dissertation for the Degree of Candidate in Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

*For the Degree of Candidate in Biological Sciences

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Characteristics of the distribution of intraspecific populations of bream in Rybinsk Reservoir. Vop. ekol. 5:168-169 '62. (MIRA 16:6)

1. Institut biologii vodokhranilishch AN SSSR, Borok.
(Rybinsk Reservoir--Bream) (Fish populations)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Some data on the distribution and age composition of Pelecus cultratus L. in Rybinsk Reservoir. Trudy Biol.sta."Borok" no.2:184-190 '55.
(Rybinsk Reservoir--Carp) (MLRA 9:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Growth characteristics of Pelecus cultratus L. in Rybinsk Reservoir and adjacent reservoirs. Trudy Biol. sta. "Borok" no.3:349-363 '58. (MIRA 11:9)

(Rybinsk Reservoir--Carp) (Volga Valley--Carp)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Reproduction conditions of Pelecus cultratus L. in Rybinsk Reservoir [with summary in English]. Zool. zhur. 37 no.11: 1701-1709 N '58. (MIRA 11:12)

1.Institut biologii vodokhranilishch AN SSSR (Yaroslavskaya oblast', Nekouzskiy rayon).

(Rybinsk Reservoir--Carp)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

A.A.Ostroumov; obituary. Trudy Inst.biol.vodokhran. no.2:3-5 '59. (MIRA 13:5)
(Ostroumov, Aleksandr Alekseevich, 1911-1958)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.; IL'INA, L.K.

Basic results of the ichthyological research on reservoirs of the upper and middle Volga River. Trudy Inst.biol.vnutr. vod. no.9:19-38 '65. (MIRA 19:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

BUTORIN, N.V., kand. geogr. nauk; KURDIN, V.P., ml. nauchn. sotr.; MORDUKHAY-BOLTOVSKIY, F.D., doktor biol. nauk; BEZLER, F.I., kand. biol. nauk; IL'INA, L.K., kand. biol. nauk; GONCHAROV, G.D., doktor biol. nauk; RYABCHENKOV, N.P.; PODDUBNYY, A.G., kand. biol. nauk; MIRASHEV, G., red.

[Fishery atlas of Rybinsk Reservoir] Rybopromyslovyi atlas Rybinskogo vodokhranilishcha. IAroslavl', 1963. 20 p. (MIRA 18:9)

1. Akademiya nauk SSSR. Institut biologii vnutrennikh vod. 2. Institut biologii vnutrennikh vod AN SSSR (for all except Mirashev, Ryabchenkov). 3. Upravlyayushchiy Rybinskogo Gosudarstvennogo tresta rybnoy promyshlennosti (for Ryabchenov).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Duration of the development of the fish stock in the Volga Reservoirs. Trudy Inst. biol. vnutr. vod no.6:178-183 '63

Significance of submerged forests for fish populations of a reservoir. Ibid.:184-194 (MIRA 18:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.; FORTUNATOV, M.A.

Utilization of reservoirs of different geographical zones as fisheries. Vop. ikht. 1 no.4:599-611 '61. (MIRA 14:12)

1. Institut biologii vodokhranilishch AN SSSR, Borok, Yaroslavskoy oblasti.
(Reservoirs)
(Fisheries)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

IL'INA, L.K.; PODDUBNYY, A.G.

Some factors affecting the dynamics of commercial fish schools in Rybinsk Reservoir. Trudy sov. Ikht. kom. no.13:374-380 '61. (MIRA 14:8)

1. Institut biologii vodokhranilishch AN SSSR.
(Rybinsk Reservoir--Fisheries)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.G.

Local schools of bream in Rybinsk Reservoir. Trudy Inst. biol. vodokhran no.3:216-226 '60. (MIRA 14:3)
(Rybinsk Reservoir—Bream)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

GOLIK, V.B.; PODDUBNYY, A.I.

Results of tests of the BSN-110/25 drilling rig in the drilling of rock salt. Sbor. nauch. trud. UkrNIISol' no.7:83-86 '64 (MIRA 18:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, A.F.

RUDIN, V.P., professor; DOBROVINSKAYA, Ye.K.; PODDUBNYY, A.F.

Errors in diagnosing tuberculous meningitis in adults. Vrach. delo no.3:227-231 Mr '57 (MLRA 10:5)

1. Kafedra fiziologii (zav.-prof. V.P. Rudin) Kiyevskogo meditsinskogo instituta.
(MENINGITIS--TUBERCULOSIS)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, F.N.

Use of the reaction of phage titer increase and other methods in detecting dysenterial microbes in water. Zhur. mikrobiol. epid. i immun. 32 no.7: 49-51 Je '61. (MIRA 15:5)

1. Iz Kiyevskogo instituta epidemiologii i mikrobiologii.
(SHIGELLA PARADYSENTERIAE) (BACTERIOPHAGE)
(WATER--MICROBIOLOGY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, F.N.

Study of the specificity and sensitivity of the phage titer growth reaction in tracing dysenterial bacteria in water. Zhur. mikrobiol., epid. i immun. 33 no.1:28-31 Ja '62. (MIRA 15:3)

1. Iz Kiyevskogo instituta epidemiologii i mikrobiologii.
(WATER--MICROBIOLOGY) (SHIGELLA DYSENTERIAE)
(BACTERIOPHAGE)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, F.N.

Detecting dysenterial microbes in the water of the Dnieper River by the phage titer growth reaction and by a bacteriological method. Zhur. mikrobiol., epid. i immun. 33 no.2:102-106 F '62. (MIRA 15:3)

1. Iz Kiyevskogo instituta epidemiologii i mikrobiologii.
(SHIGELLA DYSENTERIAE) (BACTERIO PHAGE)
(DNIEPER RIVER--MICROBIOLOGY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G.V.

Temperature field in the soil beneath the insulating floor of a cold store without cellar. Izv.vys.ucheb.zav.; mat. no.6:101-107 '62. (MIRA 15:12)

1. Kremenetskiy pedagogicheskiy institut.
(Cold storage warehouses) (Soil temperature)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G. V. Cand Phys-Math Sci -- "Certain contact problems of heat conductivity in homogeneous [redacted]-space." L'vov, 1961 (Min of Higher and Secondary Specialized Education UkSSR. L'vov State Univ). (KL, 4-61, 184)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACC NR: AR6019068

SOURCE CODE: UR/0274/66/000/001/A027/A027

AUTHOR: Poddubnyy, G. V.

TITLE: Effect of phase inhomogeneity of the incident field on a scattering cross section of an ideal conducting sphere

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 1A178

REF SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 24, 1965, 59-66

TOPIC TAGS: scattering cross section, phase distortion

TRANSLATION: The effect of phase distortion δ within 0-22.5° on the scattering cross section of an ideal conducting sphere is determined. The parameter during the experiment was $\eta \geq 2$, where

$$\eta = \frac{\sigma}{\pi h}; \; h = \frac{a}{d};$$

a is the radius of the sphere; d is the distance between the source and the sphere. The dispersion field was determined by Kirchhoff's law. An expression was derived for the scattering cross section, taking phase distortion into account, from which, by letting $h = 0$, follows the expression for the scattering cross section for a flat incident wave. A numerical study was made of the expressions derived. It was found that phase distortion up to 22.5° deflects the radar scattering cross section where $2 \leq \eta \leq 4$; in the case of an incident wave it is not over 5% and with an increase in η the effect of

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UDC: 621.371.165

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACC NR: AR6019068

phase distortions decrease; at $\eta \leq 3.5$, their effect does not exceed 1%. Changes in scattering cross sections as functions of parameter η clearly indicate a periodic character and show that the oscillation amplitude of the function gradually alternates with the increase of η and the period of oscillation ≈ 0.5. 3 illustrations, 2 references.

SUB CODE: 17,20

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, F.N.

Epidemiological analyses of outbreaks of dysenterial diseases caused by water pollution. Vrach. delo no. 3:107-109 Mr '61. (MIRA 14:4)

1. Kiyevskiy institut epidemiologii i mikrobiologii.
(DYSENTERY) (WATER—MICROBIOLOGY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

8(6), 14(6) SOV/91-59-8-4/28

AUTHOR: Poddubnyy, G.L., Engineer

TITLE: The Improvement of Coal Dust Feeders for Boilers

PERIODICAL: Energetik, 1959, Nr 8, pp 7-8 (USSR)

ABSTRACT: At the Krasnogorsk TETs a new dual-screw coal dust feeder was designed and tested. The principal disadvantage of the existing screw-type feeders is the presence of a straight-through duct connecting the coal dust bunker with the pipeline feeding the burners. With a finer grinding of the coal dust, its fluidity will increase. Consequently, the coal dust may flow past the feed screw, if a certain pressure is created at the bunker outlet. This is especially undesireable in direct-flow boilers, where the normal function of automatic controls is disturbed by fluctuations of steam parameters and load. The author claims that scientific research organizations did not give adequate consideration to this problem. A note from the editor says that MEI in cooperation with Mosenergo worked on improvements of coal dust conveyers. The results of this work were published, for example, in "Elektricheskiye stantsii",

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOV/91-59-8-4/28

The Improvement of Coal Dust Feeders for Boilers

1955, Nr 3, and 1956, Nr 4. The coal dust feeder designed at the Krasnogorsk TETs is free of the aforementioned disadvantage. The development of this feeder was necessary when the power plant changed from Chelyabinsk brown coal to Ekibastuz coal (volatile matter 20%, humidity 11%, ash content up to 43%, combustion heat 3700 kcal/kg). The lower reactivity of the Ekibastuz coal required a finer pulverization for firing (R_{88}=16-20% instead of R_{88}=40-45%). For this reason a conveyer was developed. consisting of two opposed feed screws mounted on one common shaft, as shown in a diagram. Each feed screw is located underneath one bunker opening. Since both screws are coiled in the opposite direction, they transport the coal dust to the center where the pipeline leading to the burner is mounted. Two such dual screw conveyers are arranged in parallel underneath two bunker openings, thus each bunker opening supplies two parallel conveyer sections. Two

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

parallel feeders supply two coal dust pieplines. Consequently, four groups of parallel feeders are required for supplying eight burners. The pitch of the screw is 60mm at a diameter of 150mm. Close to the outlet, the pitch is reduced to 55mm. During the initial operation, the coal dust feeder had an output 1.5 times higher than usually at a pitch of 75mm. Therefore, the belt transmission ratio was changed from 1:5 to 1:7, reducing the rpm of the feed screws. As a result, the range in which the rpm numbers may be controlled was expanded considerably. With the old type of screw conveyer, 900 rpm were the maximum permissible motor speed at which a reliable coal dust feeding was provided. With the new dual-screw conveyer, the "critical speed" was increased to 1200 rpm. Investigations of VTI showed that irregularities in the function of the dust conveyer depend on the magnitude of excess pressure at the bunker outlet. Further, a registration of the pressures at the outlets of the dual and the conventional conveyers showed that the dust feed has a pulsating character. With the dual-screw conveyer, these pulses remained equal in time, but they were very irregular with the conventional feeder. The were caused by cavity

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

formation in the receiver section of the conveyer. With the new, dual screw conveyer, an alignement of the receiver walls eliminated the cavity formation. The author presents the following conclusions: A long observation of the work of a 200ton/hour boiler, equipped with dual-screw coal dust conveyers, showed that boiler parameter fluctuations (load, pressure, temperature of superheated steam) were reduced to a great extent in all load ranges. The flexibility and the speed of load pick-up were increased. The uncontrolled flow of coal dust thru the feeder was stopped. Presently all coal dust conveyers of the Krasnogorsk TETs are being reconstructed. The plants manufacturing coal dust conveyers should take into consideration the experience in designing and operating the new coal dust feeders and should begin the production of these feeders on a large scale. There are 1 diagram and 3 Soviet references.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 9184-66 EWT(d)/EWT(l)/EEC(k)-2 GG/WS-2

ACC NR: AR6000133 SOURCE CODE: UR/0058/65/000/008/H016/H016

SOURCE: Ref. zh. Fizika, Abs. 8Zh128

AUTHOR: Poddubnyy, G. V.

ORG: none 44,55

49
B

TITLE: Investigation of the scattering cross section of an ideally conducting sphere irradiated by a plane inhomogeneous electromagnetic wave

CITED SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 22, 1964, 24-42

TOPIC TAGS: electromagnetic wave scattering, scattering cross section, antenna theory

21,44,55

TRANSLATION: The Kirchhoff method is used to investigate the effect of amplitude inhomogeneity of a plane electromagnetic wave on the cross section for scattering from an ideally conducting sphere. The results of numerical calculations are presented and discussed. The reason for solving the problem in such a formulation is the need for determining the requirements that must be imposed on antennas that produce quasiplane fields in the near zone in order to permit investigation of the scattering properties of such bodies under laboratory conditions.

SUB CODE: 20, 09

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G.V. (Odessa)

Derivation of an asymptotic series of a certain class of functions. Izv.vys.ucheb.zav.; mat. no.6:130-134 '65. (MIRA 19:1)

1. Submitted April 21, 1964.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 33589-66 EWT(1)

ACC NR: AR6016248 SOURCE CODE: UR/0058/65/000/011/H018/H018

40
B

AUTHOR: Poddubnyy, G. V.

TITLE: Influence of phase inhomogeneity of the incident field on the scattering cross section of an ideally conducting sphere

SOURCE: Ref. zh. Fizika, Abs. 11Zh132

REF SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 24, 1965, 59-66

TOPIC TAGS: scattering cross section, electromagnetic wave scattering

ABSTRACT: The scattering cross section of an ideally conducting sphere irradiated by a spherical wave is calculated in the Kirchhof approximation; this makes it possible to determine the influence of phase distortion in the case of a sufficiently large distance from the scatterer to the source. [Translation of abstract]

SUB CODE: 20

Card 1/1 82

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

GLIKLIKH, M.O. (Odessa); KRISILOV, A.D. (Odessa); PODDUBNYY, G.V. (Odessa)

Probability approach to the construction of synthesis block in a reading machine. Avtom. i telem. 24 no.11:1514-1518 N '63. (MIRA 16:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G.V.

Approximate solution of the problem of temperature wave propagation in the soil beneath the insulated bottom of a cooler [with summary in English]. Inzh.-fiz. zhur. 4 no.3: 83-91 Mr '61. (MIRA 14:8)

1. Pedagogicheskiy institut, g. Kremenets.
(Boundary value problems)
(Refrigeration and refrigerating machinery)
(Soil temperature)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G. V.

"Heat Transfer in the Ground under the Insulation of a Refrigerator without a Basement."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

GLIKLIKH, M.O. (Odessa); KRISILOV, A.D., (Odessa); PODDUBNYY, G.V. (Odessa)

Study of sign regognition reliability using statistical data analysis. Avtom. i telem. 24 no.8:1090-1099 Ag '63. (MIRA 16:8)

(Automatic control) (Perceptrons)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G. V.

"Application of Duel Integral Equations to the Solution of One Conduction Problem."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G.V.

One problem of heat conduction in a homogeneous half-space. Inzh.-fiz. zhur. 4 no. 5:27-32 My '61. (MIRA 14:5)

1. Elektrotekhnicheskiy institut svyazi, Odessa.
(Heat--Conductions) (Integral equations)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G. V.

"Heat-transfer into the ground under the insulation of a basementless (bespodval'nyy) refrigerator."

Report presented at the 1st A 11-Union Conference on Heat-and Mass-Exchange Minsk, BSSR, 5-9 June 1961

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, G. V.

"Use of the method of paired integral equations for solving a thermal conductivity problem."

Report presented at the 1st All-Union Conference on Heat- and Mass-Exchange, Minsk, BSSR, 5-9 June 1961.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 11660-66 EWT(d)/T IJP(c)

ACC NR: AP6001822 SOURCE CODE: UR/0140/65/000/006/0130/0134

AUTHOR: Poddubnyy, G. V. (Odessa)

ORG: none

TITLE: Formation of an asymptotic series of a certain class of functions

SOURCE: IVUZ. Matematika, no. 6, 1965, 130-134

TOPIC TAGS: integral function, asymptotic series

ABSTRACT: A modified method is suggested for constructing an asymptotic series of this function: $C(z)=\int_a^b e^{-izw(t)}f(t)\,dt$. The terms are defined in a simple form, and the stationary phase within the integration interval may be absent. A technique is developed for writing an asymptotic expansion of the integral: $\int_0^{\pi/2} e^{iq\cos t} J_n(z\sin t)\sin^m t\cos^r t\,dt$ with q and z $\gg$ 1; this integral is important in solving many diffraction-theory problems. Application of the technique is illustrated by an example in which n = 1, m = 2, r = 0. Orig. art. has: 33 formulas.

SUB CODE: 12 / SUBM DATE: 21Apr64

Card 1/1 UDC: 517.512

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.A., inzh.; KAPSHIN, V.G., inzh.

Installing the main engine of a river ship for carrying dry cargo. Sudostroenie 26 no.2:62-63 (208) Feb '60. (MIRA 14:11)
(Marine engines)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.; YANIKOV, I.; FABRIKOV, G., zhivotnovod; TARASYUK, A.; TSAPLIN, V.; BAKLITSKAYA, Ye., zven'yevaya; GRIDINA, A., doyarka; KRAVTSOVA, Z., telyatnitsa; KOMYAGINA, R., svinarka; SAVEL'YEV, I., chaban; SLADKOMEDOVA, N., ptichnitsa; RUD, M., mekhanizator; GOGIN, S., mekhanizator.

Our collective farm in seven years. Nauka i pered.op.v sel'khoz. 9 no.1:5-9 Ja '59. (MIRA 13:3)

1. Kolkhoz "Ukraina," Kirovskogo rayona Krymskoy oblasti. 2. Predsedatel' kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Poddubnyy). 3. Glavnyy agronom kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Yanikov). 4. Glavnyy mekhanik kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Tarasyuk). 5. Sekretar' partorganizatsii kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for TSaplin).
(Kirovskoye District--Agriculture)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.G.

Architectonics of branches of the pulmonary arteri in children during the first 2 years of life in health and in pneumonia. Zdravookhraneniye 6 no.1:44-49 J-F'63.(MIRA 16:8)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. F.N.Parfent'yeva) Kishinevskogo meditsinskogo instituta.
(PULMONARY ARTERY) (PNEUMONIA) (CHILDREN—DISEASES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.P.; CHEVAZHEVSKIY, A.P., redaktor; FEDOROV, B.M., redaktor; KOLESNIKOVA, A.P., tekhnicheskiy redaktor.

[The DSP-2 log loader] Brevnopogruzhatel' DSP-2 na pogruzke lesa. Moskva, Goslesbumizdat, 1954. 30 p. (MLRA 7:11)
(Lumbering--Machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

Poddubnaya-Arnol'di, Vera Alekseyevna

PODDUBNAYA-ARNOL'DI, Vera Alekseyevna; SEIMZNEVA, Valentina Alekseyevna; BLAGOVESHCHENSKIY, A.V., prof., otvetstvennyy red.; MIKESHIN, G.V., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[Orchids and how to grow them] Orkhidei i ikh kul'tura. Moskva, Izd-vo Akad.nauk SSSR, 1957. 173 p. [With English summary]
(Orchids) (MIRA 11:3)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

29

Physicochemical Investigation of Solutions of Synthetic Rubber. I. Osmotic Pressure of Solutions of Sodium-Butadiene Rubber. (In Russian.) I. I. Zhukov, I. Yo. Podlubnyi, and A. V. Lebedev. *Kolloidnyi Zhurnal* (Colloid Journal), v. 10, Nov.-Dec. 1948, p. 423-430.

Describes new type of osmometer for determination of the molecular weight of high polymers using dynamic and static methods. Method of production of osmotic membranes semipermeable to rubber solutions is indicated. A typical determination was performed using this method; data are tabulated and charted.

All-Union Sci. Res. Inst. Synthetic Rubber im. S. V. Lebedev

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

S. of C. L.

Polymers from Hydrocarbons

Physicochemical researches on rubber solutions. II. Molecular weight and viscosity of sodium butadiene rubber. I. I. Zhukov, L. J. Podbursky, and A. V. Lebedev. *Koll. Zhur.*, 1949, 11, 151-62; *Koll. Zeits.*, 1951, 122, 54. Cf. *Summary*, 1950, 28, 15. Because of the inapplicability of Staudinger's law to synthetic rubber, viscometric estimations of molecular weight lead to erroneous results. Osmometric observations of sodium butadiene rubber polymerised at 20° gave a value for the molecular weight of 720,000 as compared with 410,000 by viscometry. The solvent used was benzene 60%, and isoamyl alcohol 40%. 3S2D21.324

All-Union Sci. Res. Inst. Synthetic Rubber im. S.V. Lebedev

Jan '51

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

The size and shape of the macromolecules of synthetic rubber. I. I. Zhukov, I. Ya. Poddubnyi, and A. V. Lebedev. *Issledovaniya v Oblasti Vysokomolekul. Soedinenii, Doklady 6-oi Konf. Vysokomolekul. Soedineniyam, Akad. Nauk S.S.S.R.* 1949, 238-52.—Examn. of Na-butadiene rubber (polymerized at 20, 40, and 60°) by means of fractional pptn. and detn. of osmotic pressure of solns. in 60% benzene-40% isoamyl alc., along with detns. of viscosities in benzene solns., gave the following values for av. mol. wt.: the lowest fractions, polymerized at 60°, 41,000; the highest, prepd. at 20°, 729,000. The relation of specific viscosity [η] of all samples to the mol. wt. (M) is given by: $[\eta] = 2.7 \times 10^{-4} M^{0.73}$. Thus the Staudinger equation does not apply generally to such rubbers. The results indicate different structural form of the mols. of the low- and the high-mol. ranges. The higher-mol. products either have more coiled chains or have greater extent of branching.

G. M. Kosolapoff

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I. Ya.

USSR.

The molecular-weight distribution of polymers. S. B. Bresler, I. Ya. Poddubnyi, and S. Ya. Frenkel. *Zhur. Tekh. Fiz.* 23, 1921-40(1953).—Three samples of rubber were selected: 2 butadiene polymers with plasticity 0.3 and 0.28 and 1 low-mol. (plasticity 0.5) butadiene-styrene copolymer (Buna-S). A mol.-wt. distribution was obtained by fractional pptn. by methanol from benzene solns. The fractions were dried in a vacuum and weighed. Their mol. wts. were detd. by osmometry, viscometry, and diffusion of light. The resulting step curve of distribution was smoothed out and compared to the curve obtained from ultracentrifuge data by the method described in the preceding abstract. The latter gives more details about the distribution curve. The calcn. of corrections, included in the method, is given in detail. S. Pakswer

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

Poddubnyy, I. Ya.

AUTHORS: Nel'son, K. V., Poddubnyy, I. Ya., 20-3-34/59

TITLE: The Structure of Molecular Chains of Polyisoprenes, as Revealed by Infrared Absorption Spectra (Issledovaniye struktury molekulyarnykh tsepey poliizoprenov po infrakrasnym spektram pogloshcheniya)

PERIODICAL: Doklady Akad. nauk SSSR, 1957, Vol. 115, Nr 3, pp. 545-547,(USSR)

ABSTRACT: In the entire problem of the synthesis of caoutchoucs with prescribed properties the study of the influence of the polymerisation conditions on the structure and spatial configuration of the basic link of the molekular chains is rather important. In the present paper the mircostructure of a series of polyisoprene caoutchoucs was investigated according to the method of infrared spectra. Such ones from a catalytic polymerisation (SKI) which, according to their physical-mechanical properties, are a near approach towards natural caoutchoucs are investigated as well as emulsion polyisoprenes which were produced by polymerisation under the influence of free radicals. The formation of 4 various structures of macromolecule links is possible. They differ in the position of the double binding with regard to the basic chain as well as in the spatial configuration of the atoms with regard to the double binding: 1,2;3,4; Cis-1,4 and Trans-1,4. From the data of table 1 it can be concluded that all investigated SKI caoutchouc patterns have a high content of Cis-configurations (up to 75% of the total amount of the 1,4-links of the molecular chains). Thus it is furthermore shown

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20-3-34/59

The Structure of Molecular Chains of Polyisoprenes, as Revealed by Infrared Absorption Spectra.

that the existence of smaller branches in this polymer is on the whole due to the connections in the 3,4-position (isoprenyl groups) The number of 1,2-links is low here (1-1,5%). The microstructure of the emulsion-isoprene-caoutchoucs is to a certain extent influenced by the polymerisation temperature. In such produced at -47-0° the 1,4-links are entirely built in a Trans-position. A further rise of temperature leads to the occurrance of a certain amount of Cis-1,4-links. It increases monotonously with the temperature rise and amounts to 8% at+5o°. The content of 1,2-and 3,4-links remains practically constant in this temperature range. The authors obtained from the above mentioned data a total analytic expression on the strength of which a relative content of the corresponding microstructural elements for all polymerisation temperatures can be computed. From the (here given) equations it appears that in the range of polymerisation temperature of from -47-+5o° the formation of Trans-configurations is energetically more favorable than that of Cis-configurations. With regard to the prolongation of the chain in the 1,4-position, compared to the 1,2-connections, the activation heat- and entropy values favor the formation of a basic chain with inner double bindings C = C. From the relative content of the 1,2-and 3,4 connections one can conclude as to the regularity of the molecular chains from the standpoint of their structure which

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The Structure of Molecular Chains of Polyisoprenes, as Revealed by Infrared Absorption Spectra. 20-3-34/59

may be "head to tail" or "head to head". This content was in the experiments approximatively the same in each case. This leads to the final conclusion that the macromolecules of the caoutchouc SKI form mainly regular chains consisting on the whole of Cis-1,4-links which are jointed in s head-tail position, whereas the molecular chains of the emulsion polyisoprenes consist of irregularly alternating Trans-1,4-links which with the same probability are joined in both positions (head-tail and head-head). The former case causes the ability of the SKI isoprene caoutchoucs to crystallize in the case of extension. There are 4 Slavic references.

PRESENTED BY: Academician Kargin, V. A., February 2, 1957

SUBMITTED: Jan. 30, 1957

AVAILABLE: Library of Congress

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.Ya.; GRECHANOVSKIY, V.A.

Sedimentation constant in "ideal" solvents as dependent on concentration. Dokl. AN SSSR 153 no.5:1122-1124 D '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva. Predstavleno akademikom V.A. Karginym.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I. Ya.

5

APSE Degree of branching of macromolecules of [illegible]

[illegible]

that the influence of the [illegible] on the degree of branching of polybutadiene-butadiene-styrene copolymers and polyisoprene prepared in the presence of [illegible] [illegible]

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

MOSEVITSKIY, M.I.; BRESLER, S.Ye., prof., nauchnyy rukovod.; PODDUBNYY, I.Ya., prof., nauchnyy rukovod.

[Study of the polymerization of diene hydrocarbons catalyzed by metallo-organic compounds and their complexes, based on an analysis of the distribution of molecular weights of polymers; author's abstract of a dissertation submitted for the candidate degree in the physical and mathematical sciences] Issledovanie polimerizatsii dienovykh uglevodorodov, kataliziruemoi metallo-organicheskimi soedineniiami i ikh kompleksami, na osnovanii analiza molekuliarno-vesovykh raspredelenii polimerov; avtoreferat dissertatsii na soiskanie uchenoi stepeni kandidata fiziko-matematicheskikh nauk. Leningrad, Vses.nauchno-issl.in-t sinteticheskogo kauchuka im. S.V.Lebedeva, 1958. 11 p. (MIRA 12:10)
(Polymerization) (Molecular weights)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNIY, I. Ya.

"Verzweigungsgrad von Makromolekulen synthetischer Kautschuke, die unter verschiedenen Bedingungen hergestellt wurden."

paper presented at the Intl. Symposium on Macromolecular Chemistry, Prague, 9-15 Sept 1957.

Leningrad Sci. Res. Inst. of Synthetic Rubber im Lebedev.

Kautschuk und Gummi, No. 1, 1958.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

64-58-2-1/16

AUTHOR: Poddubnyy, I. Ya.

TITLE: The Molecular Structure of Synthetic Rubbers (Molekulyar=naya struktura sinteticheskikh kauchukov)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 1-9 (USSR)

ABSTRACT: The present work deals in detail with the influence of the molecular weight on the molecular distribution, the ramification of the molecular chain and the structure or the spatial configuration resp. of the main chain on the properties of synthetic rubber. After observations taken from references the author gives data of some investigations. He investigated the influence of temperature on the production of rubber, the proportion of the various molecular fractions of the finished product serving as measurment factor; the results were graphically represented. From the obtained investigation results it can be seen that in comparative experiments with divinyl-styrene rubber a decrease of the low-molecular fractions (M=2o ooo-4o ooo) takes place when the polymerization temperature is reduced from 5o to 5°C; at the same time an improvement of quality of the finished product is achieved. The following experi=

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64-58-2-1/16

The Molecular Structure of Synthetic Rubbers

ments with sodium-divinyl rubber as well as the investiga= tions changing the amount of the vulcanization regulator and the conditions of plastification also point out that the presence of the above mentioned low-molecular fractions has a negative influence on the quality. On the other hand it was found that in the presence of a greater amount of molecular fractions with especially high molecular weight the normal improvement of elasticity did not take place and a bad miscibility of the polymerizate with active fillers was noticed. As the chain-ramifications of the macro-mole= cular chain are especially important for the properties of the rubber data are given on the kind of ramifications and the factors acting on them. For the quantitative determina= tion of the kind of ramification or the degree of ramifica= tion resp. some more or less exact methods are at hand. The author especially points out the theory of polymorphous solutions and the method by Flory (Refs. 12, 44). From the mentioned results of the investigations of the polymeriza= tion of divinyl rubber can be seen that the temperature influence on the degree of ramification essentially depends

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on the nature of the exciter. Experiments carried out to investigate the influence of sodium and potassium on the degree of ramification in polymerizations of divinyl rubber showed a much greater effect of potassium with a raise of temperature during the process than was the case with so= dium. As investigations of the microstructure are important to solve the problems of high-quality rubber a number of res= pective hints are given. The first investigations of this kind were already carried out by S. V. Lebedev, while A. I. Yakubchik and others observed the direct function between the resistance to cold and the content of side-divinyl groups in the macromolecules of vinylrubber. The latter of divinyl and divinyl emulsion rubber obtained at various temperatures, by improving the method of ozonization using chromatography. A. L. Klebanskiy (Ref. 83) also used the ozonization method in investigations of chloroprene rubber and found that the macromolecule practically only consists of 1,4 groups. Among other it is found that the capability for such an high orientation and crystallization in expan= sions is exhibited by those polymers the macromolecules of which have the most regular chain structure in linear di=

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rection. An isoprene rubber with a content of from 5-7% 1,2- and 3,4-groups almost shows no difference from natural rubber with regard to its resistivity and elasticity. The author points out the interesting phenomenon that an emulsion-poly-isoprene in spite of its content of 1,2- and 3,4-groups shows a small resistivity in unfilled mixtures with 1,4 groups which are all in transposition, owing to a disorder of the latter. Natta and his collaborators (Ref. 99) of late synthetized a polymer with especially regular structure called "isotactic" and "syndiotactic". The latter was, for instance, synthetized as 1,2-polybutadiene and represents withe powders with a melting point at 12o°C or 154°C resp.
There are 7 figures and 1oo references, 44 of which are Soviet.

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1. Synthetic rubber--Molecular structure

Card 4/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY I.Ya.

Molecular structure of synthetic rubbers. Khim. prom. no.2:65-73 Mr '58. (MIRA 11:5)

(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOV/138-58-11-2/14

AUTHORS Nel'son, K. V; Poddubnyy, I. Ya; Krupyshev, M. A. and Stepanova, Z. D.

TITLE: Investigations on the Micro-Structure of Butadiene Rubbers (Issledovaniye mikrostruktury divinilovykh kauchukov)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 11, pp 3 - 5 (USSR)

ABSTRACT: S. V. Lebedev et al. (Ref.1 - 3) determined the influence of the polymerisation temperature on the content of side chains (vinyl groups) in butadiene rubbers obtained by polymerisation with Li, Na and K. With the aid of this data, dependence of the glass temperature of butadiene polymers on the number of monomer chains, added in the 1,2 position, could be determined (Refs. 5 and 6). The micro-structure of polymers can be defined effectively by analysing their absorption spectra in the infra-red region. Results are given on the dependence of the micro-structure of butadiene rubbers, obtained by catalytic polymerisation, on the conditions of their preparation, the nature of the initiator (Li, Na and K) and the temperature of the process. The infra-red spectra between 800 - 1,000 cm^{-1} were analysed. The polymer molecule in buta-

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SOV/138-58-11-2/14

Investigations on the Micro-Structure of Butadiene Rubbers

diene rubbers shows three types of addition to the C=C bond; in the 1,2-, trans-1,4- and cis-1,4- position. If the addition occurs in the 1,2-position absorption occurs in the 909 cm^{-1} band; heptene-1 was taken as a standard. Analysis of the trans-1,4 configuration showed absorption in the 967 cm^{-1} band; in this case trans-octene-3 and trans-decene-5 were taken as standard. All samples were tested in CS_2 solutions on a VIKS-MZ apparatus with a NaCl prism. The samples were prepared by Z. A. Khrenovaya. The average experimental error was ±5%. The lithium-sodium- and potassium-butadiene polymers were prepared by polymerising butadiene when the temperatures of the thermostat were as follows:- 5, 10, 20, 30, 40 and 60°C. Neozone D (2%) was added to the polymer samples after the gaseous products had been separated under vacuum. The glass temperature, viscosity and physico-mechanical properties of the samples were determined (Table 1). After purification and vacuum drying at room temperature, 1% of solutions in CS_2 were prepared. Data on the quantitative determination of the micro-structure of the rubbers is given in Table 2. The polymerisation temperature influences the micro-structure

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Investigations on the Micro-Structure of Butadiene Rubbers

of lithium-butadiene rubbers (Fig.1). The micro-structure of sodium butadiene rubbers, prepared at various temperatures, is similarly affected (Fig.2). On increasing the polymerisation temperature a decrease in the addition in the 1,2 position and an increase in the number of chains in the cis-1,4 position can be observed. The trans-1,4 configuration does practically not change, and remains at approximately 15%. Hardly any changes occur in the investigated temperature interval in the micro-structure of potassium butadiene rubbers (Fig.3). The ratio:

$$\frac{\text{trans-1,4}}{\text{cis-1,4}}$$

for all samples was $\sim$3 (trans-1,4 $\sim$30% and cis-1,4 $\sim$10%) These results agree with data published by A.I.Yakubchik

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOV/138-58-11-2/14

Investigations on the Micro-Structure of Butadiene Rubbers

et al. (Refs. 2 and 3). There are 2 Tables, 5 Figures and 11 References: 3 English and 8 Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (Research Institute for Synthetic Rubber im. S. V. Lebedev)

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.Ya.; REYKH, V.N.; STAROVOYTOVA, Ye.I.; NAZAROV, V.G.

Importance of molecular weight of polymers on some physical and mechanical properties of vulcanizates from them. Kauch. i rez. 17 no.2:6-11 F '58. (MIRA 11:4)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva.
(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

BRESLER, S.Ye.; KOROTKOV, A.A.; MOSEVITSKIY, M.I.; PODDUBNYY, I.Ya.

Investigation of catalytic polymerization of diene hydrocarbons by means of molecular-weight distribution of polymers. Zhur. tekh. fiz. 28 no.1:114-131 Ja '58. (MIRA 11:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.
(Polymerization)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

BRESLER, S.Ye.; MOSEVITSKIY, M.I.; PODDUBNYY, I.Ya.; CHESNOKOVA, N.N.

Study of the mechanism of polymerization of isoprene by a complex catalyst on the basis of molecular weight distributions of polymers. Zhur. tekh. fiz. 28 no.11:2487-2492 N '58. (MIRA 12:1)

(Isoprene) (Polymerization)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOV/20-120-3-27/67

AUTHORS: Poddubnyy, I. Ya., Erenburg, Ye. G., Starovoytova, Ye. I.

TITLE: On the Structure of the Vulcanisation-Network in Carboxyl-Containing Polymers (O stroyenii setki vulkanizatov karboksilsoderzhashchikh polimerov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 3, pp. 535-538 (USSR)

ABSTRACT: As is known, the physical and mechanical properties of rubber are dependent upon the molecular structure of the initial polymers. The structure of the vulcanization network is not of a less importance in this respect. Such rubber kinds are of special interest for the examination of the latter, the macromolecules of which contain small amounts of functional groups, as for example carboxy groups. (Ref 1). When such polymers are vulcanized with metal oxides, highly elastic rubber types are produced with an extraordinary high elasticity in unfilled mixtures. The specific physical and mechanical properties of such vulcanisates are apparently connected with the particular nature of the structure of their

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOV/20-120-3-27/67

On the Structure of the Vulcanisation-Network in Carboxyl-Containing Polymers

vulcanization network. This structure was determined by the authors by means of an equilibrium swelling method (Ref 3). It appears from the results of the work that the vulcanization of carboxyl-containing polymers by metal oxides is practically not connected with the formation of normal chemical compounds, which correspond to the structure of medium magnesium-, potassium-, and zinc salts of high-molecular acids. All the more probably the "salt network" is produced (according to an assumption by V. A. Kargin) because of the formation of compounds of the type of basic salts, which on the grounds of their bad solubility in the polymer either form crystalline agglomerates or remain linked with the oxide particles distributed in the polymer. In this case the strength of the vulcanization bindings should be dependent upon the solubility of these salts in the polymer, that is to say, that it should decrease with increasing solubility. The authors determined that the solubility of the salts decreases considerably in the order Mg > Ca > Zn by choosing magnesium-, potassium-, and zinc oleates and isooctane as compounds representing a model of the system "high-molecular salt - polymer". This fact proves the above

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SOV/20-120-3-27/67

On the Structure of the Vulcanisation-Network in Carboxyl-Containing Polymers

mentioned view concerning the nature of the cross links produced in the vulcanization, which apparently play the part of a peculiar "active filling substances". There are 3 figures, 1 table, and 3 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev)

PRESENTED: January 31, 1958, by V. A. Kargin, Member, Academy of Sciences, USSR

SUBMITTED: December 18, 1957

1. Synthesis rubber--Structural analysis 2. Polymers--Applications 3. Vulcanization--Analysis 4. Metal oxides--Applications

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 24833-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4049486 S/0020/64/159/002/0365/0368

AUTHOR: Bresler, L.S., Kropacheva, Ye. N., Poddubny*y, I.Ya., Sokolov, V.N.

TITLE: Mechanism of polymerization of dienes under the influence of complex cobalt catalysts

SOURCE: AN SSSR. Doklady*, v. 159, no. 2, 1964, 365-368

TOPIC TAGS: diene polymerization, cobalt catalyst, butadiene polymerization, cationic polymerization, polymerization catalyst, polyisoprene, polybutadiene

ABSTRACT: This work was undertaken to clear up contradictions in the literature: Various catalyst systems were employed in the polymerization of isoprene and butadiene in benzene: LiC_4H_9; $AlCl_2C_2H_5$ with cocatalyst HCl; $TiCl_4$ with cocatalyst HCl or H_2O; TiI_4 + Al (iso-C_4H_9)$_3$, and Co naphthenate or an alcoholic complex of cobalt chloride in the presence of AlCl (iso-C_4H_9)$_2$. To interrupt the polymerization, $C_2H_5OH^3$ (45 and 700 mcuries/mole) was added in amounts of 10-20 moles per mole of catalyst. Results show that the polymer formed under the influence of an anionic catalyst is radioactive during decomposition with $C_2H_5OH^3$ and its radioactivity during deactivation with $CH_3C^{14}H_2OH$ is connected solely with the carbonyl groups. However, polyisoprene obtained in the presence

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L 24833-65

ACCESSION NR: AP4049486

of cationic catalysts adds tritium as well as tagged alkoxyl. The presence of a tag in a polymer after decomposition of the catalyst by ROH^3 and its absence when treated with alkoxyl-tagged alcohol cannot yet serve as proof of the anionic mechanism of chain growth. However, when the polymer adds a tagged alkoxyl, the chain can carry only a positive charge, i.e., polymerization is cationic whether H from ROH^3 adds to the polymer or not. Such a case was observed during polymerization of dienes with Co catalysts. During de-activation of Co catalysts with anhydrous $C_2H_5OH^3$, the polymer showed no radioactivity; in the presence of Co naphthenate containing water, radioactive polybutadiene was obtained. Diene polymerization in the presence of Co catalyst systems thus has a cationic mechanism. It is probable that initiation proceeds by the addition of a free proton, since during the use of anhydrous ROH^3, isotopic exchange of tritium with polymer was not observed. Orig. art. has: 2 tables and 6 chemical equations.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 21May64 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

83561

S/020/60/134/001/013/021
B004/B060

5.3830 also 2109,2209

AUTHORS: Bresler, S. Ye., Mosevitskiy, M. I., Poddubnyy, I. Ya., Shi Guan-i

TITLE: Special Features of the Mechanism of the Limitation of Molecular Chains in the Polymerization Under the Action of Complex Catalysts

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 1, pp. 117 - 120

TEXT: The authors studied the polymerization of isoprene by means of a complex catalyst prepared from $Al(iso\text{-}C_4H_9)_3$ and $TiCl_4$. The molecular weights of the polymerization products were determined by ultracentrifuge. The authors found that the polymers obtained exhibited a very low spread of their molecular weight, and macromolecules with a molecular weight below 200,000 - 300,000 were almost completely lacking. They explain this phenomenon by the heterogeneity of the reaction. During its growth the polymer chain is linked at one end to the catalytic complex on the catalyst surface, and is therefore restricted in its formation.

Card 1/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

Special Features of the Mechanism of the Limitation of Molecular Chains in the Polymerization Under the Action of Complex Catalysts

83561

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B004/B060

When tearing off the macromolecule from the surface there occurs an increase ΔS in the formation entropy. The authors found that ΔS increases with the number z of the kinetic segments of the polymer chain: $\Delta S = k\sqrt{z}$ (1) (k = Boltzmann constant). At the active end of the polymer chain there is the alkyl- or halogen-alkyl compound of aluminum, which forms a catalytic complex with $TiCl_4$ on the catalyst surface by means of an intermolecular bridge. The entropy of this intermolecular bond is only 10 - 15 kcal/mole, and therefore this bond constitutes the weakest spot of the complex. On this spot the macromolecule is torn off with a simultaneous dissociation of the complex. This dissociation is discussed, and for the ratio between the probability x saying that the polymer molecule is in solution and the probability x - 1 saying that it is bound to the catalyst surface, equation (3) is written down: $x/(1 - x) = \exp -(\Delta U - T\Delta S)/kT$. ΔU is the energy required for the tearing off of the macromolecule from the surface. From (1) and (3), equation (4) was found for the distribution of the molecular weights in the polymer: $dw/dM = \left\{\sqrt{M/rM_o}\exp(-\Delta U/kT + \sqrt{M/rM_o})\right\}/2\left\{1 + \exp(-\Delta U/kT\right.$

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

83561

Special Features of the Mechanism of the Limitation of Molecular Chains in the Polymerization Under the Action of Complex Catalysts

S/020/60/134/001/013/021
B004/B060

$+ \sqrt{M/rM_0})\}^2$, where w is the part by weight, r is the number of monomeric members, and M_0 is the molecular weight of the monomer. This distribution can be represented by a curve whose dispersion coefficient $\delta M/M$ is given by equation (5) $\delta M/M \simeq 3kT/\Delta U$. At $\Delta U \simeq 10 - 15$ kcal/mole the dispersion coefficient is about 0.1, i.e. very small. Fig. 1 shows the molecular weight distribution in the polymer, Fig. 2 the kinetics of the polymerization of isoprene 1) with catalyst of $Al(iso\text{-}C_4H_9)_3$ and $TiCl_4$ at a ratio of 1 : 1, which was 24 h old; 2) with the same, but freshly prepared catalyst, and 3) with catalysts having an excess of triisobutyl aluminum. In the cases 2) and 3) the catalysts still contained free triisobutyl aluminum, transfer reactions occurred, and also fractions of low molecular weight developed. As opposed thereto, polymers having a very narrow distribution of molecular weights can be prepared by means of catalyst 1). There are 2 tables and 3 references: 1 Soviet, 1 Italian, and 1 French.

Card 3/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

Special Features of the Mechanism of the Limitation of Molecular Chains in the Polymerization Under the Action of Complex Catalysts

83561

S/020/60/134/001/013/021
B004/B060

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev). Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of Macromolecular Compounds of the Academy of Sciences USSR)

PRESENTED: April 20, 1960, by V. G. Kargin, Academician

SUBMITTED: March 21, 1960

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 05129-67 EWP(j)/EWT(m) IJP(c) RM

ACC NR: AP6027734 (A) SOURCE CODE: UR/0020/66/169/004/0832/0834

AUTHOR: Babitskiy, B. D.; Grechanovskiy, V. A.; Poddubnyy, I. Ya.; Smirnova, I. N.; Dolgoplosk, B. A.

ORG: none

35
B

TITLE: Some regularities in the change of the molecular weight distribution of cis-1,4 polybutadienes obtained under the influence of Ziegler-Natta catalysts

SOURCE: AN SSSR. Doklady, v. 169, no. 4, 1966, 832-834

TOPIC TAGS: polybutadiene, catalytic polymerization, molecular weight, titanium compound, organoaluminum compound

ABSTRACT: The complex Ziegler-Natta catalyst $TiI_4+Al(iso-C_4H_9)_3$ was used to synthesize cis-1,4-polybutadienes. The effect of the degree of conversion of the monomer, concentration of the catalyst $TiI_4 + Al(iso-C_4H_9)_3$ and polymerization temperature on the molecular weight and molecular weight distribution (MWD) of the polymers formed was studied. The MWD was determined from sedimentation rates in a "Phywe" centrifuge. Samples obtained at various stages of polymerization at 25°C showed that independently of the degree of conversion of the monomer, beginning with the smallest experimentally measurable degree of conversion (~15%), the MWD of the polymers does not change, i. e., the process is a steady one. The catalyst and monomer concentrations do not affect the steadiness of the process. The latter is affected, however, by a

Card 1/2 UDC: 66.095.265+678.744

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 05129-67

ACC NR: AP6027734

drop in the polymerization temperature to 15°C, and in this case the molecular weight increases with the degree of conversion. The molecular weight of cis-1,4-polybutadienes increases with the initial concentration of the monomer and with decreasing initial concentration of the catalyst. As the temperature drops, the nature of the change in molecular weight as a function of these two concentrations remains the same. It is concluded that the polymerization of butadiene over TiI_4+Al(iso-C_4H_9)$_3$ at 15°C and below involves the "live"-chain mechanism, whereas at higher temperatures an increasingly important role is played by chain-limiting reactions. Orig. art. has: 4 figures.

SUB CODE: 07/ SUBM DATE: 13Jan66/ ORIG REF: 004/ OTH REF: 004

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 07923-67 EWT(m)/EWP(j) IJP(c) GG/RM

ACC NR: AP6031156 (AN) SOURCE CODE: UR/0190/66/008/009/1549/1555 28 B

AUTHOR: Poddubnyy, I. Ya.; Aver'yanov, S. V.

ORG: All-Union Scientific Research Institute of Synthetic Rubber im. S. V. Lebedev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka)

TITLE: Cross linking reactions in polysiloxane chains of different structure induced by gamma radiation

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 9, 1966, 1549-1555

TOPIC TAGS: polymer cross linking, polysiloxane, vulcanization, elastomer

ABSTRACT: A study has been made of the effect of a side group at the silicon atom as well as of the presence and nature of hetero-groups in the basic chain on the vulcanization efficiency of both filled and unfilled siloxane rubbers induced by gamma radiation. The relation between the structure and heat resistance of polysiloxane rubber was established and a method of increasing its heat resistance is recommended. The possible mechanism of the reactions described above are discussed. The results confirm the significant role of vulcanization in solving the problem of preparation of heat resistant elastomers. Orig. art. has: 4 figures and 1 table. [Based on authors' abstract] SUB CODE: 11/SUBM DATE: 26Jul65/ORIG REF: 007/ OTH REF: 003/ UDC: 678.01:54+678.84

Card 1/1 lvmb

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

YEVDOKIMOV, V.F.; PODDUBNYY, I.Ya.; KUZIN, I.A.

Apparatus for automatic potentiometric and conductometric titration. Zav.lab. 31 no.10:1274-1275 '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

L 14502-66 EWT(m)/EWP(j) RM

ACC NR: AP6006364 (A) SOURCE CODE: UR/0413/66/000/002/0096/0096

INVENTOR: Aver'yanov, S. V.; Poddubnyy, I. Ya.; Aver'yanova, L. A.; Trenke, Yu. V.

ORG: none

TITLE: Thermal stabilization of polysiloxanes 7 44,55 Class 39, No. 178109 15 54 B

SOURCE Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 96

TOPIC TAGS: polysiloxane, thermal stability, dialkyl sebacate

ABSTRACT: An Author Certificate has been issued for a preparative method for the thermal stabilization of polysiloxanes, involving the use of dialkyl sebacates as the stabilizing additives. 15 [BO]

SUB CODE: 11/ SUBM DATE: 09Dec63/ ATD PRESS: 4199

PC

Card 1/1 UDC: 678.84:678.048

2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

SOKOLOV, V.N.; RAPPOPORT, L.Ya.; PODDUBNYY, I.Ya.; APUKHTINA, N.P.

Role of water in the synthesis of urethane polymers on the basis of polyesters. Vysokom.soed. 7 no.7:1258-1263 Jl '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Lebedeva.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

BRESLER, L.S.; KROPACHEVA, Ye.N.; PODDUBNYY, I.Ya.; SOKOLOV, V.N.

Mechanism of diene polymerization under the effect of complex catalysts based on cobalt compounds. Dokl. AN SSSR 159 no.2: 365-368 N '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva. Predstavleno akademikom V.A. Karginym.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

BABITSKIY, B.D.; KORMER, V.A.; PODDUBNYY, I.Ya.; SOKOLOV, V.N.; CHESNOKOVA, N.N.

Tracer method study of the stereospecific polymerization of butadiene in an aqueous medium in the presence of rhodium chloride. Dokl. AN SSSR 162 no.5:1060-1062 Je '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva. Submitted November 30, 1964.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I. Y.

4
4E20(j)
2 May

5718. Investigation of molecular-weight distribution in rubber-like polymers. S. E. BREESLER, I. Y. PODDUBNYI and S. Y. FRENKEL. *Zhur. Tekh. Fiz.*, 1953, 23, 1521–40; *Rubb. Chem. Technol.*, 1957, 30, 507–27; Cf. *Rubb. Abs.*, 1955, abs. 2801. An English translation now appears. 3S2D21MD23.324

1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.Ya.; GRECHANOVSKIY, V.A.; [illegible]SKIY, M.I.; PODALINSKIY, A.V.

Hydrodynamic parameters and molecular weight distributions of divinylstyrene copolymers in an "ideal" solvent. Vysokom.soed. 5 no.7:1042-1048 Jl '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V.Lebedeva.
(Styrene polymers)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AP3003793 S/0190/63/005/007/1042/1048

AUTHORS: Poddubnyy, I. Ya.; Grechanovskiy, V. A.; Mosevitskiy, M. I.; Podalinskiy, A. V.

TITLE: Study of hydrodynamic parameters and molecular weight distributions of divinylstyrene copolymers in an "ideal" solvent

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 7, 1963, 1042-1048

TOPIC TAGS: intrinsic viscosity, divinyl styrene copolymer fraction, molecular weight distribution, sedimentation constant, diffusion coefficient, polarization interferometer

ABSTRACT: The sedimentation, diffusion, and intrinsic viscosity of divinylstyrene copolymer fractions in an ideal solvent (n-octane at 21C) were investigated on the basis of data determined from an ultracentrifuge using the rational method for molecular weight distribution. An independent method for calculating sedimentation constant and the diffusion coefficient is given by

$$M = \frac{S_0}{D_0} \cdot \frac{RT}{1 - \bar{v}\rho}$$

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AP3003793

The diffusion coefficient was measured by means of a polarization interferometer. In all experiments the solution concentration did not exceed 0.05%. Empirical laws expressing the sedimentation constant S, diffusion coefficient D, and intrinsic viscosity η were found as functions of the molecular weight M in the molecular weight region 5×10^4 to 8×10^5; these are

$$S_0 = 1{,}59 \cdot 10^{-2} M^{0.50},$$
$$D_0 = 1{,}49 \cdot 10^{-4} M^{-0.50}.$$

and

$$[\eta]_0 = 1{,}62 \cdot 10^{-3} M^{0.50}.$$

In the molecular weight theory of Flory-Mandelkern given by the equation

$$M = \frac{S_0 [\eta]^{1/2}}{\Phi^{1/2} p^{-1}} \cdot \frac{N \eta_0}{1 - \bar{v}_2 \rho},$$

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AP3003793

a value of 2.36×10^6 was found for the parameter $\Phi^{1/2}_{p-1}$.
The sedimentation constant of all fractions investigated was found to depend upon the entire range studied (0.1-0.4%). Expressions for S as a function of M have been determined for finite concentrations and shown to be applicable to molecular weight distribution calculations without extrapolating to infinite dilution. Orig. art. has: 15 equations, 7 figures, and 5 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 30Dec61 DATE ACQ: 08Aug63 ENCL: 00

SUB CODE: GC, MA NO REF SOV: 008 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

FISHER, S.L.; PERMINOV, A.M.; RADCHENKO, I.I.; PODDUBNYY, I.Ya.; LOBACH, M.I.; BELGORODSKIY, I.M.; Prinimali uchastiye: VALENINA, V.F.; GRECHANOVSKIY, V.A.; UKHALOV, N.T.; ATLASOVA, L.A.; SIRE, Ye.M.; PANOV, P.I.

Manufacture of butadiene-styrene (methyl-styrene) rubber according to the iron-trilon-rongalite compounding formula with the use of rosin emulsifiers. Kauch.i rez. 22 no.1:9-15 Ja '63. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V.Lebedeva.
(Rubber, Synthetic) (Styrene)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

PODDUBNYY, I.Ya.; GRECHANOVSKIY, V.A.; PODALINSKIY, A.V.

Hydrodynamic parameters and molecular weight distribution of cis-1,4-polyisoprene. Vysokom. soed. 5 no.10:1588 O '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AT4033977 S/0000/63/000/000/0003/0008

AUTHOR: Poddubny*y, I. Ya.; Erenburg, Ye. G.; Kartasheva, G. G.

TITLE: The weight and dimensions of polyhexafluoroamyleneadipinate macromolecules

SOURCE: Geterotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Heterochain macromolecular compounds); sbornik statey. Moscow, Izd-vo "Nauka," 1963, 3-8

TOPIC TAGS: polyhexafluoroamyleneadipinate, fluorinated polyester, macromolecule, molecular weight, polymer, polymer weight, polymer dimensions, fluorinated polyester

ABSTRACT: To fill the existing gap in reliable data on the weight and dimensions of macromolecules of fluorinated polyesters, the authors undertook to determine the weight, dimensions and flexibility of, and molecular weight distribution in, macromolecules of polyhexafluoroamyleneadipinate. In the 16 fractions, obtained from two adipinate samples by fractional precipitation with methyl alcohol, the molecular weight was determined indirectly from the characteristic viscosity and light scattering which were measured with a conventional Ostwald viscosimeter for volatile solvents at 20C and a Tsvetkov visual polarization nephelometer,

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AT4033977

respectively, and substituted in the expression

$$cH/\tau = 1/\overline{M}_w + 2A_2c \qquad (1)$$

where $\overline{M}_w$ is the mean molecular weight of the fraction, c is concentration in g/100 ml, τ is the solution turbidity, A_2 is the second virial coefficient, and H is the optical constant of the system. Benzene was found to be an ideal thermodynamic solvent at 20C and was used in the tests. A curve of the molecular weight distribution shows that the polymer possesses a relatively low polydispersion ($\overline{M}_w/\overline{M}_n = 1.27$) and molecular weights of 60000 and 77000 (two samples). "The authors thank I. M. Dolgopol'skiy and A. A. Dobina for providing the samples." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 18Apr62 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: OC NO REF SOV: 006 OTHER: 011

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420007-9

ACCESSION NR: AP3003794 S/0190/63/005/007/1049/1053

AUTHORS: Poddubny*y, I. Ya.; Grechanovskiy, V. A.; Mosevitskiy, M. I.

TITLE: On the method for determining molecular weight distributions of cis-1,4-polybutadienes from sedimentation data in "ideal" solvent

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 7, 1963, 1049-1053

TOPIC TAGS: polybutadiene, complex catalyst, sedimentation constant, polymer, infinite dilution, hexane, heptane

ABSTRACT: The sedimentation characteristics of two cis-1,4-polybutadiene specimens in near-ideal solutions, obtained by polymerization of various complex catalysts, have been investigated. The first specimen, D-1, was obtained on complex catalyst $Al(iso\text{-}C_4H_9)_3 + TiI_4$ and the second, D-2, on $Al(iso\text{-}C_4H_9)_3 + CoCl_2$. IR spectroscopy indicates that both polymers contain 90% cis-1,4. The solvent was a 1:1 mixture (by volume) of hexane and heptane. It is shown that the concentration dependence of the sedimentation constant S(o) persists over a wide range in the vicinity of the Θ point. The sedimentation constant is determined as a function of the molecular weight M, thus, for D-1 $S|_{c=1}^{mg/ml} = 6{,}24\cdot10^{-2}M^{0.40}$; and for D-2, $S|_{c=1}^{mg/ml} = 4{,}44\cdot10^{-2}M^{0.44}$; $S|_{c=1}^{mg/ml} = 12{,}5\cdot10^{-2}M^{0.33}$; $S|_{c=1}^{mg/ml} = 5{,}51\cdot10^{-2}M^{0.40}$.

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Radiation vulcanization of heterosiloxane rubber. Kauch. i rez. 22 no.8:1-8 Ag '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva.

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PODDUBNYY, I.Ya.; GRECHANOVSKIY, V.A.; MOSEVITSKIY, M.I.

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1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Lebedeva.
(Butadiene polymers) (Sedimentation analysis)

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1. Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V.Lebedeva.
(Formamide) (Dimethylamine) (Isoprene)

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PODDUBNYY, I.Ya.; GRECHANOVSKIY, V.A.

Effect of chain branching on the character of the molecular weight dependence of the hydrodynamic parameters of macromolecules. Vysokom soed. 6 no.1:64-68 Ja'64. (MIRA 17:5)

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Effect of the association of polybutadiene macromolecules in various solvents. Dokl. AN SSSR 148 no.2:384-387 Ja '63. (MIRA 16:2)

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(Butadiene polymers) (Molecular association)

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GRECHANOVSKIY, V.A.; DOLGOPLOSK, B.A.; KROPACHEVA, Ye.N.; PODDUBNYY, I.Ya.; STERENZAT, D.Ye.; KHRENNIKOVA, Ye.K.

Molecular weight distribution of steroregular polybutadiene obtained by polymerization in the presence of "cobalt" systems. Dokl.AN SSSR 144 no.4:792-794 Je '62. (MIRA 15:5)

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(Butadiene) (Polymerization) (Cobalt compounds)

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A051/A126

15.9201

AUTHORS: Fisher, S. L., Perminov, A. M., Radchenko, I. I., Poddubniy, I. Ya., Lobach, M. I., Belgorodskii, I. M.

TITLE: Production of butadiene-styrene (methylstyrene) rubbers according to an iron-trilon-rongalite composition using a colophony emulsifier

PERIODICAL: Kauchuk i rezina, no. 1, 1963, 9 - 15

TEXT: Effective compositions of polymerization have been introduced by the authors for emulsion rubbers-iron-pyrophosphate and iron-trilon-rongalite, satisfying industrial requirements. The suggested compositions are less sensitive to foreign admixtures contained in disproportionated colophony. The industrial production of the iron-trilon complex is easier than that of the iron-pyrophosphate complex. The described composition was used first at the Kuybyshev SR Plant in 1961 for the production of butadiene-methylstyrene rubber CKMC -30 APKM -15 (SKMS-30 ARKM-15). The suggested composition has been perfected by further intensifying the polymerization process and improving the rubber qualities. The experiments were conducted using: 92 - 94% butadiene-rectificate; 98% methylstyrene; 99.4% styrene; colophony, disproportionated with acidic number 165, con-

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