Deep seismic sounding...

Kuril'skoy ostrovnoy dugi i prilegayushchikh uchastkov Tikhogo okeana podannym glubinnogo seysmicheskogo zondirovaniya (Some Results of the Study of Crustal Structure in the Kurile Island Arc and Adjoining Parts of the Pacific Ocean from the Data of Deep Seismic Sounding) Izv. AN SSSR, ser. geol., No. 1, 1961) has already indicated that the crust is of the continental type. In the continental-type hodographs the arrival times of the P^0, P* and P waves are at a maximum, the transit time of the P waves being 18 - 19 sec. There are two forms of hodograph; one represents a three-layer crust (sediments - 'granite'-'basalt') for the region near Kamchatka and Sakhalin, while the other corresponds to a granite crust (with local basalt layers) in the north of the Okhotsk Sea. According to the velocity-depth curves the continental-type crust, whose thickness throughout the study area may vary from 20 to 30 km, includes thick or thin sedimentary layers. Oceanic-type hodographs cover areas approximately outlined by the 5 km isobath. The arrival time of the P* and P waves

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Deep seismic sounding...

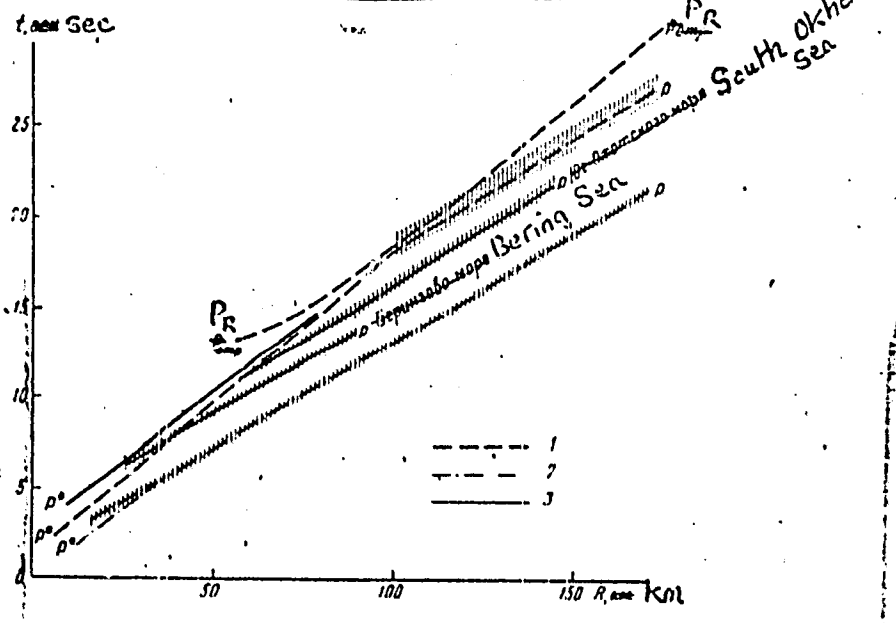

Fig. 9. Principal hodograph types. 1-continental 2-oceanic 3-intermediate striations denote areas where there are different types of hodograph waves; Type 3 characterizes hodographs for the Bering and Okhotsk Seas

Card 9/11

Deep seismic sounding...

is at a minimum and the transit time for the latter waves is ≤ 14 sec. The presence of a thin basalt crust with a thickness of about 5 - 12 km may be inferred from the observational data. The intermediate-type hodographs are representative of the southern part of the Okhotsk Sea and the neighborhood of the Komandorskiye Islands. They are distinguished by the existence of P* and P waves and by the large area in which waves of the first type were recorded; the transit time of the P waves is 15 - 17 sec. The velocity-depth curves resemble those for the continental-type crust in abyssal parts of the Okhotsk Sea, where the sediment thickness appears to be considerable, and those for the oceanic-type crust in the Bering Sea. The authors conclude by stating that a composite interpretation of the data of deep seismic sounding and of gravimetric, aeromagnetic and geologic observations in this region will be made subsequently which may possibly expose the patterns of development of crustal structure and also clarify the conditions and sequence of transition from one type

Card 10/11

Deep seismic sounding...

of crustal structure to another. In addition, they emphasize the desirability of comparing their data with those from other global zones. There are 13 figures and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: R. W. Reitt - Seismic-refraction studies of the Pacific Ocean Basin, p. 1. Crustal thickness of the central equatorial Pacific, Bull. Geol. Soc. Amer., 67, No.12, 1956; M. Talwani, G. H. Sutton and J. L. Worzel - A crustal section across the Puerto Rico Trench, J. Geophys. Res., 64, No. 10, 1959.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Institute of Physics of the Earth, AS USSR)

SUBMITTED: July 24, 1960

Card 11/11

L 10740-63 EWT(1)/BDS—AFFTC/ESD-3—TF

ACCESSION NR: AP3002028 S/0049/63/000/006/0889/0906

55
54

AUTHOR: Ivakin, B. N.; Aver'yanov, A. G.

TITLE: Seismic wave modeling with two-dimensional perforated models in layered nonhomogeneous media

SOURCE: AN SSSR. Izv. Ser. geofizicheskaya, no. 6, 1963, 889-906

TOPIC TAGS: seismic modeling, two-dimensional perforated model, seismic wave propagation

ABSTRACT: Experiments in seismic wave modeling have been carried out on two-dimensional perforated models of nonhomogeneous, layered-homogeneous, and layered-nonhomogeneous media. Two-dimensional models for nonhomogeneous media were designed on the basis of the experimentally derived relationship between wave velocity and the diameter of the holes cut in a 2-mm duralumin sheet forming a triangular grid. In modeling a homogeneous half-space it was found that the divergence function index n for a direct longitudinal wave P varied between 0.5 and 1.5 when source and receiver were located on a free surface; in the three-dimensional model this would correspond to a variation of n from 1 to 2. The

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ACCESSION NR: AP3002028

attenuation patterns of head and refracted waves varied; the head waves showed rapid attenuation, and the refracted waves attenuated rather slowly with increasing distance even at small velocity gradients. To overcome the low resolution of waves caused by long-period oscillations, it is suggested that wide-band transducers be developed which would produce a pulse ranging from 2 to 10 microseconds. Orig. art. has: 16 figures, 4 tables, and 8 formulas.

ASSOCIATION: Akademiya nauk SSSR. Institut fiziki Zemli (Academy of Sciences SSSR. Institute of Physics of the Earth)

SUBMITTED: 07Aug62 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 011 OTHER: 000

Card 2/2

[illegible] BOOK EXPLOITATION

Akademiya nauk SSSR. Institut fiziki zemli im. O. Yu. Shmidta

[illegible]

copies printed. Responsible editors: Ye. I. Gal'perin, I. P. Kosminskaya; Editor of the publishing house: S. I. Masarskiy; Technical editors: Ye V. Makrai, S. [illegible]kova

TOPIC TAGS: area seismic sounding, earth crust, geophysics, international geophysical year, ocean, seismic wave

PURPOSE AND COVERAGE: This monograph is devoted to studies by the method of deep seismic sounding [illegible] in the zone of transition from the Asiatic continent to the Pacific Ocean (Kamchatka, the Kuril peninsula, Bering Sea, etc.) during the International Geophysical Year (IGG,). The material is presented as a collection of individual chapters, although all are devoted to a single problem and are

Card 1/4

essentially parts [illegible] one book. The authors express their gratitude to Professor

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102610008-3"

literature

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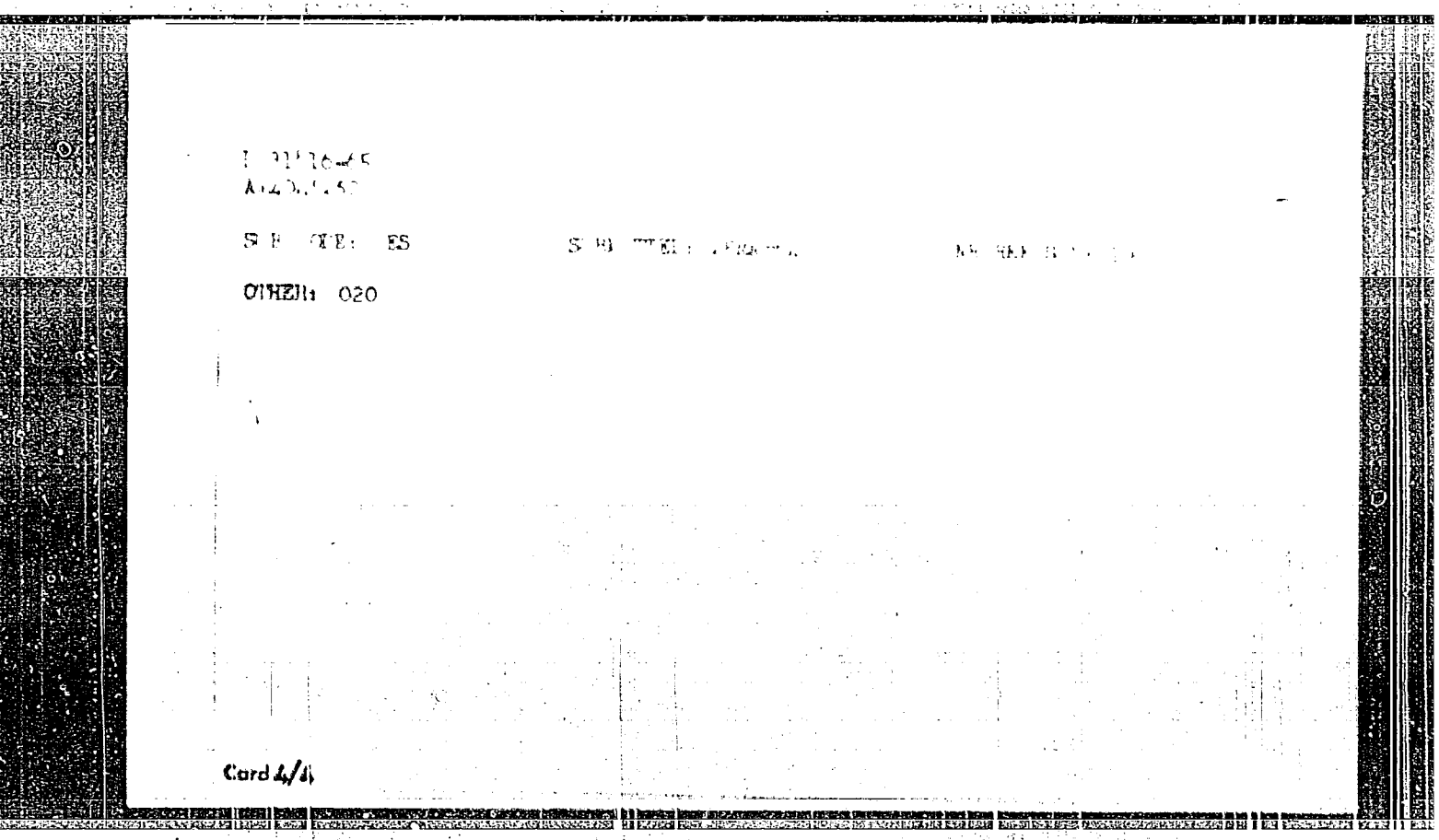

Card 4/4

OLENEV, Nikolay Mikhaylovich; AVER'YANOV, A.G., redaktor; PERMINOV, S.V., redaktor; GENNAD'YEVA, I.M., tekhnicheskiy redaktor

[Storage of petroleum, petroleum products and gas] Khranenie nefti, nefteproduktov i gaza. Leningrad, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1954. 617 p. (MLRA 8:4)
(Petroleum--Storage) (Petroleum products--Storage)
(Gas, Natural--Storage)

AVER'YANOV, A.G.

Necessity of reducing air samples from industrial buildings to the average level. Gig. i san. 21 no.9:93 S '56. (MLRA 9:10)
(AIR--ANALYSIS)

AVKR'YANOV, A.G.; GRIMITLIN, M.I.

Dust collectors used in surface grinding. Stan.i instr. 28 no.4: 38-39 Ap '57. (MLRA 10:5)
(Dust collectors) (Grinding and polishing)

[redacted], A.P., [illegible] air pollution

Analysis of the air on industrial premises polluted by several harmful substances, Gig. i san., 22 no.5:44-47 My '57. (MLRA 10:9)

(AIR POLLUTION

[illegible] gases, dusts, or admissible quantities & effectiveness ventilation)

(VENTILATION

effectiveness in [illegible] air pollution)

AVER'YANOV, Aleksey Grigor'yevich; GRIMITLIN, Mikhail Iosifovich; IOFINOV, German Abramovich; KOUZOV, Petr Arkad'yevich, NL'TKHMAN, Yevgeniy Meyerovich; KLYACHKO, L.S., kand. tekhn. nauk, spets. red.; RAKOV, S.I., tekhn. red.

[Engineering practices in studying ventilation installations in industry] Nauchno-tekhnicheskii opyt issledovaniia ventiliatsionnykh ustanovok v promyshlennosti. [Moskva] Izd-vo VTsSPS Profizdat, 1958. 165 p. (MIRA 11:7)

(Factories--Heating and ventilation)

TIMOFEYEVA, Ol'ga Nikolayevna; EL'TERMAN, Yevgeniy Mikhaylovich; IOFINOV, German Abramovich; AVER'YANOV, A.G., spetsred.; DENISOVA, I.S., red.; KOROBOVA, N.D., tekhn.red.

[Local exhaust ventilation in electric welding shops] Mestnaia vytiazhnaia ventiliatsiia pri elektrosvarochnykh rabotakh. Moskva, Profizdat, 1961. 139 p. (MIRA 15:5)
(Electric welding—Safety measures)
(Factories—Heating and ventilation)

AVER'YANOV, A.G., kand.tekhn.nauk; EL'TERMAN, Ye.M., kand.tekhn.nauk; VEKSLER, G.S., inzh.

Results of the investigation of ventilating systems for the brush painting of compartments. Sudostroenie 28 no.5:51-55 My '62. (MIRA 15:7)

(Ships—Painting)

AVER'YANOV, A.P.; STAKHURSKIY, A.Ye., red.; KOVSHOVA, O.N., red.izd-va; LEBEDEV, O.S., tekhn.red.

[Model of the A-1 glider] Model' planera A-1. Moskva, M-vo kul'tury RSFSR, Izd-vo "Detskii mir", 1959. 1 fold. (Prilozhenie k zhurnalu "IUnyi tekhnik," no.7(49))

(MIRA 14:1)

1. TSentral'naya stantsiya iunykh tekhnikov, Moscow.
(Gliders (Aeronautics)--Models)

AVIER'YANOV, B.

On a return visit. Sov.profsoiuzy 4 no.8:85-87 Ag '56.(MLRA 9:10)
(Scotland--Relations (General) with Russia) (Russia--Relations (General) with Scotland)

AVER'YANOV, B.

Sidestepping vital problems. Sov. profsoiuzy 18 no.21:43-44 N '62. (MIRA 15:11)

1. Zaveduyushchiy mezhdunarodnym otdelom Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.
(Great Britain--Trade unions--Congresses)

AVER'YANOV, G.B.

A simple transformer of a single-phase current into a three-phase current. Politekh.obuch. no.11:75-76 N '57. (MIRA 10:10)
(Electric transformers)

AVER'YANOV, G.B. (g. Kirovograd)

Three-phase generators used for demonstrations. Politekh.obuch. no.10:47-48 O '58. (MIRA 11:11)
(Electric generators--Design and construction)

AVER'YANOV, G.B.

Two devices for the subject "Atomic structure". Fiz.v shkole 20 no.1:78-80 Ja-F '60. (MIRA 14:10)

1. 27-ya srednyaya shkola, Kirovograd.
(Nuclear physics--Study and teaching)

AVER'YANOV, G.P.; GAVRILOV, N.M.; SHAL'NOV, A.V.

Design relationships for a double-helix wave guide. Uskoriteli no.6: 91-99 '64. (MIRA 18:2)

AVER'YANOV, G.V. (g. Kirovograd, USSR).

Demonstration model of the asynchronous motor and electric meter. Fiz. v shkole 16 no.6:53-54 N-D '56. (MLRA 9:12)

(Electric motors, Induction)
(Electric meters)

AVER'YANOV, I. G.:

AVER'YANOV, I. G.: "On irregularities in the operation of tunnel cone covers." Min Higher Education USSR. Moscow Inst of Chemical Machine Building. Moscow, 1956.
(Dissertation for the Degree of Candidate in Sciences)
Technical

So: Knizhnaya Letopis', No. 18, 1956

AVER'YANOV, I. G.

PHASE I BOOK EXPLOITATION SOV/3922

Usyukin, Ivan Petrovich, Ivan Grigor'yevich Aver'yanov, Vladimir Semenovich Gorokhov, Anatoliy Maksimovich Gorshkov, Aleksandr Vasil'yevich Zakharov, and Nikolay Kasparovich Yelukhin

Mashiny i apparaty ustanovok razdeleniya vozdukha metodom glubokogo okhlazhdeniya; atlas konstruktsiy (Machinery and Apparatus for Air Separation by Low-Temperature Refrigeration; Atlas of Designs) Moscow, Mashgiz, 1959. 189 p. Errata slip inserted. 5,000 copies printed.

Ed.: I.P. Usyukin, Doctor of Technical Sciences, Professor; Reviewers: I.K. Kondryakov, Candidate of Technical Sciences, and M.P. Malkov, Doctor of Technical Sciences, Professor; Eds.: P.M. Ionov, Engineer, B.N. Bol'shakov, and N.S. Kasperovich; Managing Ed. for Catalogs and Albums: K.A. Ponomareva, Engineer; Tech. Ed.: A.Ya. Tikhanov.

PURPOSE: This atlas is intended as a design manual for students of schools of higher technical education and can be used by planning and design offices and scientific research institutes in the study of problems of low-temperature refrigeration and the use of oxygen as a means of raising industrial output.

Card 1/12

10(2) . SOV/64-59-3-14/24

AUTHORS: Aver'yanov, I. G., Candidate of Technical Sciences, Aksel'rod, L. S., Candidate of Technical Sciences

TITLE: Conditions for Regular Work with Cupola Bottoms (Usloviya ravnomernoy raboty kolpachkovykh tarelok)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 3, pp 64-70 (USSR)

ABSTRACT: In recent times several papers on the conditions necessary for a regular effervescence in columns with bottoms have been examined (Refs 1-5, 8-12), and among other things it is stated that an increase of the gas supply changes the irregular effervescence into a regular one by using the whole bottom area. The investigation results are given with regard to the reasons for an irregular action of cupola bottoms and the conditions for a regular effervescence which took place in the air - water system. The experiments were carried out on a unit specially designed, where canal bottoms (CB) and bottoms with round cupolas (BC) were examined, as well as (CB) of a fractioning column for pyrogases designed according to the standards of the NIIkhimmash (Ref 6). In the case of the (BC) the experiments proved that the observations described in

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publications (Refs 10-12) were right, in the case of the (CB) a different character of irregularity was observed. A sketch of a (CB) is given (Fig 3) and the occurring irregular effervescence is explained by this sketch. An analogy is stated between the character of the function of the relative specific weight of the gas emulsion, the speed of the gas stream and the height of the liquid layer in (BC) and the grid bottoms. The derivation of the equation (15) is given for computing the gas speed at which a regular effervescence of the (BC) is initiated. Together with the explanations of the reasons for an irregular effervescence on the bottoms it is mentioned that the supposition (Refs 10-12) of a promoted overrunning is wrong. Finally some calculation examples and the corresponding data are given by means of a (CB) of a water cooling scrubber of the oxygen plant BR-5. There are 8 figures and 12 references, 9 of which are Soviet.

USYUKIN, I.P.; AVERIYANOV, I.G.; UVAROVA, A.P.; Prinimali uchastiye: DOLGOV, A.A.; CHEPEPKOVA, A.A.

Continuous method of the production of ammonium bicarbonate. Khim.prom. no.10:723-728 O '62. (MIRA 15:12)
(Ammoniumcarbonate)

AVER'YANOV, I.I., inzh.

Industrial methods of producing sanitary engineering fittings.
Transp. stroi. 8 no.9:17-19 S '58. (MIRA 11:10)
(Pipe)

AVER'YANOV, I.I.

Construction of prefabricated reinforced concrete water towers. (MIRA 14:9)
Vod. i san. tekh. no.1:5-9 Ja '61.
(Water towers)

AVER'YANOV, I.I., inzh.

Joining thin pipes in sanitary engineering operations. Mont. i spets. rab. v stroi. 23 no.10:25-26 O '61. (MIRA 14:10)

1. Orgtransstroy.

(Pipe joints)

29510
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AUTHORS: Serov, V. I., Pereshivkin, V. A., Andreyev, M. F., Aver'yanov, I. K.

TITLE: Investigation of the $Be^9(d,t)Be^8$ reaction

PERIODICAL: Atomnaya energiya, v. 11, no. 5, 1961, 440 - 442

TEXT: The authors measured the differential triton production cross section at an angle of emission of 17^0 and an angular distribution between 0 and 150^0 for E_d = 1.125 - 3.8 Mev. The deuterons accelerated by an electrostatic generator hit the beryllium target of 100 - 150 $\mu g/cm^2$ which was placed in the center of a magnetic spectrometer with inhomogeneous field. This spectrometer analyzed the emitted tritons with energies up to E_t = 5.4 Mev. Faster tritons were slowed down by a foil. A thin CsI crystal with a photomultiplier served as a particle detector. A 50-channel pulse-height analyzer recorded the momentum spectrum of the particles. The differential triton production cross section as a function of E_d showed a small resonance peak at E_d = 1.37 Mev and a marked one at E_d = 2.85 Mev.

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Investigation of the..

	E_{res}, Mev	E
$Be^9(n,\alpha)He^6$	2.6	2.43
$Be^9(p,n)B^9$	2.3	
$Be^9(d,t)Be^8$	2.33	
$Be^9(\alpha,n)C^{12}$	2.75	
$Be^9(p,\gamma)B^{10}$	3.14	3.04
$Be^9(d,t)Be^8$	3.10	
$Be^9(\alpha,n)C^{12}$	3.08	

Results indicate that the configuration of the compound nucleus corresponds to the system "initial excited nucleus + incident particle". The authors thank the team of V. A. Ivanov as well as V. V. Kuzyanov for assistance. There are 5 figures, 1 table, and 6 references: 1 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: R. Smither. Phys. Rev., 107, 196 (1957); M. Juric. Phys. Rev., 98, 85 (1955); R. Heft, W. Libby. Phys. Rev., 100, 799 (1955); F. Ajzenberg-Selove, T. Lauritsen. Nucl. Phys., 11, No. 1, 1 (1959).

SUBMITTED: May 8, 1961

Card 3/3

AVER'YANOVA, I.M.

Mineralogy of the processes of beryl alteration. Mat. po min. Kol'. poluost. 2:140-142 '62. (MIRA 16:4)

(Kola Peninsula—Beryl)

AVER'YANOV, I. P.

"Extraction of Construction Sand," Ugol', No. 2, 1948. Engr. Construction of "Yagunovskoy' Mine., Kemerovo.

1. AVERYANOV, I. F.

2. USSR (600)

4. Coal Mines and Mining

7. Experience in filling cave-ins occuring during mining with shields in winter, Ugol' 28, no. 3, 1953.

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

AVER'YANOV, I.P.

The quality of bulkheads. Ugol' 30 no.9:38-40 S '55. (MLRA 8:12)

1. Kuzbasspetstrest
(Coal mines and mining--Safety measures)

AVER'YANOV, I.P.

Device for catching and removing unwashable impurities from slurry (hydraulic stone remover). Ugol' 31 no.1: 39 Ja '56. (MIRA 9:4)

1.Kuzbasspetstrest.
(Kuznetsk Basin--Hydraulic mining)

AVER'YANOV, I.P.

Rocks of the "green tuff" type in the northeastern part of Kunashir Island. Trudy Sakh. kompl.nauch.-issl. inst. AN SSSR no.10:76-82 '61. (MIRA 15:6)

(Kunashir Island—Volcanic ash, tuff, etc.)

44832
S/560/62/000/014/003/011
A001/A101

3,1800

AUTHORS: Aver'yanov, I. P., Kasatkin, A. M., Liventsov, A. V., Markov, M. N., Merson, Ya. I., Shamilev, M. R., Shervinskiy, V. Ye.

TITLE: The measurement of Earth's thermal radiation into space during the total eclipse of February 15, 1961, from an altitude geophysical automatic station

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no. 14, 1962, 49 - 56

TEXT: To improve calculational methods of determining radiation of the atmosphere at high altitudes, the study of optical properties of its upper layers, using the measurements of its thermal radiation, is necessary. These studies have been conducted in the USSR since 1958 by means of altitude geophysical rockets. The article describes one of these experiments performed during the total solar eclipse of February 15, 1961, in the middle part of the European part of the USSR. The general scheme of the experiment is shown in Figure 1 and the block-diagram of the device mounted on an altitude geophysical automatic

Card 1/4

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A001/A101

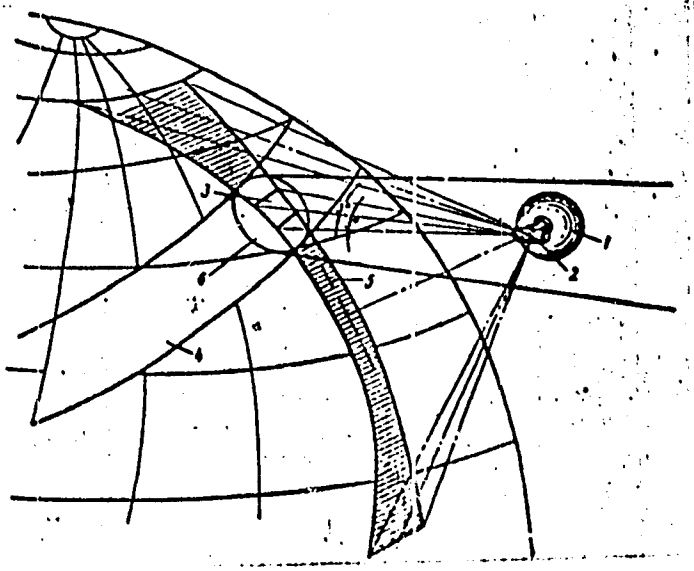

Figure 1. The scheme of an experiment
Legend: 1 - Altitude geophysical automatic station; 2 - recorder of Earth's radiation; 3 - area on the Earth whose radiation is being measured; 4 - belt of total eclipse phase; 5 - band of scanning; 6 - lunar umbra.

Card 3/4

AVER'YANOV, I.P.

"Cocarde" formations in hydrothermally altered rocks in the central crater of the Ebeko Volcano. Izv. AN SSSR.Ser.geol. 28 no.5:82-88 My '63. (MIRA 17:4)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya AN SSSR.

AVER'YANOV, L.P.

Sulfur-containing variety of pr pylitized r cks in Paramushir Island (Kurile Islands). Izv. AN SSSR. Ser.geol. 29 no. 2: 101-107 F '64. (MIRA 17:5)

1. Laboratoriya vulkanologii Sakhalinskogo kompleksnogo nauchno-issledovatel'skogo instituta Sibirskogo otdeleniya AN SSSR, poselok Novo-Aleksandrovsk, Sakhalin.

AVER'YANOV, I.P.

Alunite of altered rocks in the Vernadskii Range of Paramushur Island (Kurile Islands). Geol. rud. mestorozh. 7 no.2:102-106 Mr-Ap '65. (MIRA 18:7)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya AN SSSR.

AVER'YANOV, [illegible]

New data on the volcanic sediments of [illegible]. Dokl. AN SSSR 163 no.4:959-962 Ag '65. (MIRA 18:8)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya AN SSSR. Submitted April 26, 1965.

S/181/62/004/006/022/051
B104/B112

21.2420

AUTHORS: Baryshev, N. S., and Aver'yanov, I. S.

TITLE: Photoelectric properties of artificial PbS single crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1525-1528

TEXT: The photoelectromagnetic effect and the photoconduction of artificial p- and n-type PbS single crystals with carrier concentrations of $8 \cdot 10^{16}$-$8 \cdot 10^{18}$ cm^{-3} were investigated. The photoelectromagnetic effect was measured in fields of up to 15,000 oe, and its temperature dependence was determined by means of a special cryostat. The measurements were made in liquid nitrogen vapor. The photoconduction was determined in the modulated light (390 cps) of an incandescent lamp (300 w). The carrier lifetime was found to be 10^{-7}-10^{-10} sec. For samples with a carrier concentration $< 2 \cdot 10^{18}$ cm^{-3}, the concentration dependence of the carrier lifetime may be described by $\tau \cdot p^2 = 3 \cdot 10^{27}$ $cm^{-6} \cdot sec$, where p is the concentration. Recombination levels are determined from the temperature

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AVER'YANOV, I.S.; BARYSHEV, N.S.; BARU, V.G.; YUDINA, G.N.

Some data on the production of lead sulfide single crystals.
Fiz. tver. tela 4 no.9:2349-2354 S '62. (MIRA 15:9)

1. Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova, Leningrad.
(Lead sulfide crystals)

39980
S/181/62/004/008/025/041
B102/B104

24,7700

AUTHORS: Andramonov, V. S., Baryshev, N. S., and Aver'yanov, I. S.

TITLE: Influence of copper on the properties of lead sulfide single crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 8, 1962, 2223-2226

TEXT: Bloom and Kröger (Philips Res. Rep. 12, 281, 1957) have studied the Cu diffusion into monocrystalline PbS in hydrogen atmosphere. The authors of the present paper do the same, but in vacuo. Monocrystalline p-type PbS samples of $1 \cdot 2.5 \cdot 5$ mm^3, covered on one side with electrolytic Cu, were placed in evacuated ampoules (10^{-5}-10^{-6} mm Hg), annealed at 150-450°C for some hours, and then rapidly cooled to room temperature. The depth of the p-n junction was determined by thermoelectric probing. The temperature dependence of the diffusion coefficient can be described by $D = .4.6 \cdot 10^{-4} \exp(-8230/RT) \text{cm}^2 \cdot \text{sec}^{-1}$; in H_2 atmosphere it was

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$D = 5 \cdot 10^{-3} \exp(-7130/RT) cm^2 \cdot sec^{-1}$, i. e. diffusion occurred much more rapidly than in the vacuum. For 300°C $D_{H_2} : D_{vac} \simeq 25$. The volt-ampere characteristics of the p-n junctions of several specimens with different annealing temperatures form a bundle of straight lines with a break at the origin; these are almost coincident in the (++) quadrant and strongly divergent in the (--) quadrant. The effect of the copper impurity on the electrical properties was studied with n-type samples obtained from p-type with $p = 1.3 \cdot 10^{18} cm^{-3}$ by copper diffusion. Hall effect and conductivity were measured between room and nitrogen temperature. In this range the Hall constant remained almost constant and the mobility satisfied the law $\mu_n = AT^{-m}$, m=2, 3. The activation energy of the Cu donor levels was 0.04 ev, this value being almost twice as high as that obtained by Bloem and Kröger. The carrier lifetime in samples with $n \sim 10^{18} cm^{-3}$ was $\simeq 3 \cdot 10^{9}$ sec. There are 3 figures.

L 05631-67 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/GG

ACC NR: AP6024505 SOURCE CODE: UR/0181/66/008/007/2258/2260

AUTHOR: Baryshev, N. S.; Vdovkina, Ye. Ye.; Martynovich, A. P.; Nesmelova, I. M.; Tsitsina, N. P.; Aver'yanov, I. S.

ORG: none

TITLE: Deep energy levels in indium antimonide

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2258-2260

TOPIC TAGS: indium compound, antimonide, impurity level, forbidden band, Hall effect, carrier density, carrier lifetime, photoconductivity, photoelectromagnetic effect

ABSTRACT: The authors have investigated certain electric properties of single crystals of InSb with uncompensated-impurity density 10^{12} - 10^{16} cm^{-3}. The positions of the deep levels in the forbidden band were determined, the concentrations of the corresponding centers obtained, and their recombination properties investigated. The test consisted of measuring the Hall effect and the conductivity in p-type crystals grown by the Czochralski method and doped with germanium, or else obtained by multiple zone melting, in the interval 55 - 300K. The temperature dependence of the Hall coefficient shows, for samples with uncompensated-acceptor density lower than 10^{14} cm^{-3}, the presence of two regions of quenching (below the Hall inversion point and at low temperatures) and a sloping region between them. The results are explained by assuming the existence of three levels (shallow donor and acceptor levels and a deep donor level), the degree of filling of which depends on the temperature. To obtain

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L 05631-67

ACC NR: AP6024505

the deep levels, the transmission of several samples with carrier density $n \lesssim 10^{14}$ cm^{-3} was investigated at 55 and 77K in the spectral interval 5 - 15 μ. A weak absorption band was observed near 9.3 μ, and it is attributed to the ionization of the deep levels. Measurements of the stationary photoelectromagnetic effect and the photoconductivity were used also to investigate the temperature dependence of the lifetime of the carriers, and the results obtained agreed with the published data. The authors thank K. Ya. Shtivel'man for a useful discussion. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 23Nov65/ ORIG REF: 004/ OTH REF: 007

Card 2/2

AVER'YAN V, I. Ya.

AVER'YAN V, I. Ya. "Improving the branding of karakul sheep," Karakulevodstvo, 1949, No. 3, p. 32-36

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

AVER'YANOV, I.YA., MALYSHEV, P. P., BUDAGOV, S. M.

Ratio of sexes in karakul lambs under varying condtions of development of parents. Kar. i zver., 5, No. 1, 1952.

SO: MLRA, June 1952.

1. AVER'YANOV, I. Ya.

2. USSR (600)

4. Karakul Sheep

7. Carrying out the impregnation of karakuls on a high zootechnical level. Kar. i zver. 5 No. 5, 1952.

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

Ayar'yanov I. Ya.

USSR / Farm Animals. Small Horned Stock. Q-2

Abs Jour: Ref Zhur-Biol., No 23, 1958, 105646.

Author : Ayar'yanov, I. Ya.
Inst : Not given.
Title : Characteristics of the Fine-Wool-Coarse-Wool Hybrid Sheep of the Buryat-Mongolskaya Autonomous SSR and Tasks of Sheep Breeding in the Republic.

Orig Pub: V sb.: Materialy po izuch. proizvodit. sil Buryat-Mong. ASSR, vyp. 3, Ulan-Udo, 1957, 355-407.

Abstract: In 1956, the kolkhozes of the Buryat-Mongolskaya Autonomous SSR possessed 90% purebred sheep, including 40% sheep with uniform wool (fine and semi-fine). The further development of fine-wool sheep breeding is conditioned by an improved feeding of sheep. It is recommended that, in addition to pasture feeding, hay, silage and

Card 1/2

AVER'YANOV, I.Ya., kand.sel'skokhozyaystvennykh nauk; AMAROV, G.S.

Feeding calves by the group method in the whole milk zone.
Zhivotnovodstvo 21 no.2:17-22 F '59. (MIRA 12:3)

1. Nauchno-issledovatel'skiy institut Zemledeliya Tsentral'nykh rayonov nechernozemnoy polosy. (Calves)

AVER'YANOV, Ivan Yakovlevich, kand.sel'skokhoz.nauk; AZAKOV, Georgiy Semenovich; DOBYCHINA, I.N., red.; DEYEVA, V.M., tekhn.red.; TRUKHINA, O.N., tekhn.red.

[Practice of having one cow feed several calves] Vyrashchivanie teliat metodom gruppovogo podsosa. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1960. 56 p. (MIRA 14:2)
(Calves--Feeding and feeds)

AVER'YANOV, I. Ye.

Mechanics must plan their work well. Tabak 13 no. 2, 1952

SO: MIRA. June 1952.

FILIPPOVICH, Z.S.; PETRIK, K.G., mukh. otdela; AVERIYANOV, K.G., rukovoditel' rabot ; Prinimali uchastiye: KACHANOVSKAYA, Z.I.; GANTMAN, Ya.I.; KHUSID, B.S.; GORBACHEVSKAYA, M.S.

Increasing the coefficient of utilization of fresh fruit and berries in the winemaking, juice and liqueur-and-vodka industries. Trudy BNIIPPT no.4:129-144 '61. (MIRA 17:10)

AVERYANOV, K.K. and KASHIRSKAYA, E.G.

"Significance of Inoculating Against Typhoid During Several Years," 1947.

Centrl. Sci. R[illegible]. Lab. Hyg. & Epidemiol. Ministry of Communicationsx.

FEDOROV, A.P., insh.; AVER'YANOV, L.I., insh.; KHLOPOTOV, F.N., insh.

Modernizing the E-302 excavators. Stroi. i dor. mashinostr. 3 no. 7:3-6 Jl '58. (MIRA 11:8)
(Excavating machinery)

FEDOROV, A.P.; AVER'YANOV, L.I.; KHLOPOTOV, N.N.; ANDRYUSHIN, A.K.

Steering gears of single-engine rubber-tired excavators and cranes. Stroi. i dor.mashinostr. 4 no.2:3-5 F '59.
(MIRA 12:2)
(Excavating machinery) (Cranes, derricks, etc.)

FEDOROV, A.P., insh.; KHLOPOTOV, N.N., insh.; AVER'YANOV, L.I., insh.

New excavators with a 0.15m^3-capacity bucket. Stroi.i dor. mashinostr. 4 no.10:6-8 O '59. (MIRA 13:2)
(Excavating machinery)

AVER'YANOV, L.I., inzh.; BULANOV, A.A., inzh.; FEDOROV, A.P., inzh.; KHLOPOTOV, N.N., inzh.

All-purpose excavator mounted on a self-propelled chassis. Stroi. i dor.mashinostr. 5 no.7:3-5 Jl '60. (MIRA 13:7)
(Excavating machinery)

AVDR'YANOV, [illegible]

Dissertation: "The Problem of the Formation of Silicate Deposits in Locomotive Boilers." Cand Chem Sci, Novocherkassk Polytechnic Institute imeni Sergo Ordzhonikidze, Novocherkassk, 1953. (Referativnyy Zhurnal-Khimiya, No 9, Moscow, May 54)

SO: SUM 318, 23 Dec 1954

DUROV, S.A., prof., doktor khim. nauk; AVER'YANOV, L.N., kand. khim. nauk

Formation of deposits containing magnesium silicate (serpentine) under the conditions of a steam boiler. Trudy RIIZHT no.28: 148-155 '59. (MIRA 16:7)

(Boilers--Incrustations)
(Feed water purification)

AVER'YANOV, M.A.

Insufficient attention is given to the introduction of a new instrument. Izm.tekh.no.3:93-94 My-Je '56. (MLRA 9:9)
(Manometer)

AVER'YANOV, M.A., red.; KUZNETSOVA, M.I., red. izd-va; MATVEYEVA, A.Ye. tekhn. red.

[Instructions 266-55 for checking VU viscosimeters used for determining relative viscosity] Instruktsiia 266-55 po poverke viskozimetrov VU dlia opredeleniia uslovnoi viazkosti. Izd. ofitsial'noe. Moskva, 1958. 10 p. (MIRA 14:5)

1. Russia(1923- U.S.S.R.) Komitet standartov, mer i izmeritel'nykh priborov.
(Viscosimeter--Testing)

AVER'YANOV, N.; KONDRAT'KOV, Ye.

The oldest leather worker. Leg. prom. 17 no.1:51 Ja '57. (MLRA 10:2)

(Egorkin, Nikolai Ivanovich, 1881-)

BULANIN, V.I., kand. tekhn. nauk; AVER'YANOV, N.N., nauchnyy red.; VASIL'YEV, A.V., red. izd-va; GURDZHIYEVA, A.M., tekhn. red.

[Leningrad -- city of technical progress] Leningrad - gorod tekhnicheskogo progressa. Leningrad, Ob-vo po rasprostraneniiu polit. i nauchn. znanii RSFSR, Leningr. otd-nie, 1957. 27 p. (Leningrad) (MIRA 11:9)

AVER'YANOV, N.N.

AID P - 910

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 1/22

Author : Aver'yanov, N. N.

Title : The most important tasks of the chemical industry

Periodical : Zhur. prikl. khim., 27, no. 5, 469-472, 1954

Abstract : Editorial stressing the necessity of developing mineral fertilizers, toxic chemicals for pest and weed control, and other chemicals. The importance of the cooperation of scientists and industrial workers is pointed out. The number of chemists must be increased and their qualifications improved.

Institution : None

Submitted : No date

L 19960-63 EWT(1)/BDS--AFFTC/ASD

ACCESSION NR: AP3007287 S/0051/63/015/003/0434/0436

AUTHOR: Sivkov, A.A.; Aver'yanov, N.Ye.

TITLE: Optical-acoustical resonant chamber 21 #3

SOURCE: Optika i spektroskopiya, v.15, no.3, 1963, 434-436

TOPIC TAGS: infrared absorption, optical cavity, acoustical spectroscopy

ABSTRACT: The authors built and tested an optical-acoustical resonant chamber intended for measuring infrared absorption of vapors. Unlike the usual small fixed volume cavities, the new chamber has a variable volume. It consists (see figure in Enclosure 01) of a metal cylinder 1, capped at one end by a window 2 transparent to infrared, a moveable piston 3, a microphone 4 mounted on the piston and a rod 5 for displacing the piston. In one series of experiments the working volume was filled with a mixture of air and gasoline vapor; in another series with pure air (in this case a smoked mica plate covered the window). In view of the fact that the available microphone had two selective response peaks - at 550 and 840 cps - the infrared beam was modulated at one or the other of these frequencies. The purpose of the experiments was to find the chamber length corresponding to

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resonance at the above frequencies. Curves for the pick-up signal versus chamber length are reproduced; these show a sharp peak for each of the modulation frequencies. Evaluations indicate that the present chamber is several times more sensitive than conventional optical-acoustical chambers. Some possible auxiliary uses of the chamber are suggested. Orig.art.has: 3 figures.

ASSOCIATION: none

SUBMITTED: 20Nov62 DATE ACQ: 09Oct63 ENCL: 01

SUB CODE: PH NO REF SOV: 014 OTHER: 001

Card 2/2

AVER'YANOV, P.D., inzhener.

Modernized concrete pump B-15M. Elek.sta. 25 no.1:46-47 Ja '54.
(MLRA 7:1)
(Pumping machinery)

AVER'YANOV, P.D., inzhener.

Tipper for railroad flatcars. Mekh. sta. 28 no.6:68 Je '57.
(Railroads--Cars--Maintenance and repair) (MLRA 10:8)

AVER'YANOV, P.D., inzhener.

Mobile concrete mixer. Elek.sta. 28 no.9:79-80 S '57. (MIRA 10:11)
(Mixing machinery)

AVER'YANOV, P.D., inzh.

Combined pneumatic and mechanical raising of cement. Energ. stroi. no.3:102-104 (13), 1960. (MIRA 14:9)
(Cement plants--Equipment and supplies)

5c

L 24214-65 EWT(m)/EPF(c)/EPF(n)-2/EPR Pr-4/Pu-4/Pu-4 DM

ACCESSION NR: AP5001267 S/0089/64/017/006/0452/0463 B

AUTHOR: Feynberg, S. M.; Dollezhal', N. A.; Vorob'yev, Ye. D.; Tsykanov, V. A.; Yemel'yanov, I. Ya.; Gryazev, V. M.; Kochenov, A. S.; Bulkin, Yu. M.; Ageyenkov, V. I.; Aver'yanov, P. G.

TITLE: Physical and exploitational characteristics of the SM-2 reactor 19

SOURCE: Atomnaya energiya, v. 17, no. 6, 1964, 452-463

TOPIC TAGS: research reactor, reactor/SM-2 reactor characteristic, nuclear reactor

ABSTRACT: The paper is a summary of the SSSR # 320 report at the International Conference on Peaceful Uses of Atomic Energy in Geneva, 1964. The reactor SM-2 was designed for a wide range of investigations in nuclear physics, solid state physics, metallurgy, radiation chemistry, physics and technology of nuclear reactor construction, and other fields of science and technology. The reactor was described in Atomnaya Energiya 8, 493 (1960). The thermal neutron flux is 2.5×10^{15} n/cm^2, sec at 50,000 kw. The fast neutron flux with energy larger

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L 24214-65

ACCESSION NR: AP5001267 0

than 1 Mev in the active zone exceeds 10^{15} n/cm^2. sec. Orig. art. has: 9 figures

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 004 OTHER: 000

Card 2/2

AVER'YANOV, P.K., inzh.

Assembly of the structural elements of an aluminum plant. Mont. i spets.rab.v stroi. 24 no.11:4-5 N '62. (MIRA 15:12)

1. Ministerstvo stroitel'stva RSFSR.
(Volgograd—Aluminum plants)

AVER'YANOV, P.K., inzh.; MARKOVA, N.I., inzh.

Erection of a three-span metal bridge across the Moskva River. Mont. i spets. rab. v stroi. 23 no.11:11-13 N '61. (MIRA 16:7)

1. Glavstal'konstruktsiya, Minstroy RSFSR.
(Moskva River--Bridge construction)

BUDAGOVSKIY, A.I.; AVER'YANOV, S.A., doktor tekhn. nauk, prof., otv. red.

[Evaporation of soil moisture] Isparenie pochvennoi vlagi. Moskva, Izd-vo "Nauka," 1964. 242 p. (MIRA 17:6)

15.9205 2109,2209

S/138/60/000/009/002/012
A051/A029

AUTHORS: Poddubnyy, I.Ya.; Kartsev, V.N.; Aver'yanov, S.B.; Trenke, Yu.V., Aver'yanova, L.A.; Yevdokimov, V.F.

TITLE: The Vulcanization of Polydimethylsiloxane Rubber Using γ-Radiation

PERIODICAL: Kauchuk i Rezina, 1960, No. 9, pp. 5 - 15

TEXT: Vulcanizates produced by the ionizing radiation method were found to have improved properties, since the formation of transverse bonds at relatively low temperatures can be accomplished without the use of chemical vulcanizing agents (Ref. 1 - 6). The vulcanization process of polydimethylsiloxanes is accomplished according to the free-radical mechanism (Refs. 1,4,7,8,2,5,6,10, 11 - 14). The results are cited of experimental work conducted in order to increase the temperature-stability of polymethylsiloxane (KT (SKT)-based vulcanizates and to improve their physico-mechanical properties by using the radiation method of vulcanization combined with a change in the preparation of the rubber mixture and by introducing new components into the rubber composition. Co^{60} with an activity of 1,450g -equ. of radium was used as the source of the gamma-emmision. The dose was 0.28 - 0.72 Mr/h. It is pointed out that the characteristic feature of radiation vulcaniza-

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85655

S/133/60/000/009/002/012
A051/A029

The Vulcanization of Polydimethylsiloxane Rubber Using γ-Radiation

tion appears to be the absorption energy by the filler, the possibility of further redistribution of the energy by the polymer and the filler and the formation of a chemical bond between them. Rubbers with satisfactory tensile and elastic properties could be obtained by the radiation vulcanization of SKT in combination with the introduction of various additives into the rubber mix containing γ-333 (U-333) powdered silica gel after a lengthy period of thermal aging at 300°C. These rubbers were found to exceed vulcanizates and those obtained earlier by the radiation method in their thermal resistance. By further refining the rubber mixture increases in the thermal resistance could be achieved. Radiation vulcanizates of polymethylsiloxane rubber filled with furnace carbon black could be produced with relatively high physico-mechanical properties and an elevated thermal resistance. The vulcanizates were current-conducting. Radiation vulcanizates of polymethylsiloxane rubber filled with powdered silica gel and furnace carbon blacks are much superior to the peroxide vulcanizates in their temperature stability. At a temperature of 200°C radiation vulcanizates of SKT rubber were obtained with considerably high physico-mechanical properties. The tensile properties of radiation vulcanizates filled with U-333 powdered silica gel could be considerably increased by introducing iron oxides or zirconium oxides into the rubber mix-

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The Vulcanization of Polymethylsiloxane Rubber Using γ-Radiation

ture, as well as by preliminary refining of the rubber mixtures increasing their homogeneity. They surpass the corresponding peroxide vulcanizates in their thermal resistance in closed systems at an elevated pressure and are characterized by their higher values of elasticity restoration after various periods of thermal aging, by their lower values of residual compression deformation at 150-200°C, by a lower weight loss during thermal aging and a somewhat higher frost-resistance. They do not differ from the peroxide vulcanizates in their dielectric properties, hardness, elasticity and tear-resistance. The authors recommend their method for the production of highly heat-resistant radiation vulcanizates of polymethylsiloxane rubber in the manufacture of articles intended for use under conditions of long-lasting temperature effect of up to 300°C. There are 9 tables, 5 figures and 16 references: 4 Soviet, 11 English, 1 German.

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

1. AVER'YANOV, S.F.

2. USSR (600)

"Calculation of Hydraulic Properties of Channels with Parabolic and Elliptic Cross Sections." Nauchnyye zapiski moskavskog gidromeliorativnogo Instituta imeni Vil'yams, Volume XIV, 1948 (35-46)

9. Meteorologiya i Giarologiya, No. 3, 1949.
[redacted] Report U-2551, 30 Oct 52

AVER'YANOV, S.F.

AVER'YANOV, S.F. "Calculation of the drying action of deep drainage ditches", Nauch. zapiski (Mosk. gidromeliorat. in-t im. Vil'Yamsa), Vo. XV, 1948 p 11-52

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

AVER'YANOV, S. F.

22444. AVER'YANOV, S. F. Upravleniye rezhimom gryntovykh vod vblizi gidrotekhnicheskikh sooruzheniy. Gidrotekhn. Stroit-vo, 1949, No. 7. S 1-6 - Bibliogr. 11 nazv.

SO: LETOPIS' No. 30, 1949

AVER'YANOV, S. F.

USSR/Physics - Ground Waters
Permeability, Ground

11 Nov 49

"Dependence of Water-Permeability of Soil Upon Its Content of Air," S. F. Aver'yanov, Moscow Hydro-Melioration [Soil Improvement] Inst. imeni V. R. Vil'yams, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 2

Considers movement of fluid under conditions of three-phase system: ground-fluid-gas, for case of incomplete saturation of soil. Two-phase case (complete saturation in ground-fluid system) has already been solved satisfactorily. Submitted 8 Sep 49 by Acad A. I. Nekrasov.

157T76

158T86

USSR/Physics - Hydraulics 21 Nov 49
Ground Waters

"Approximate Evaluation of the Role of Filtration in the Zone of the 'Capillary Border,'" S. F. Aver'yanov, Moscow Hydro-Melioration [Soil Improvement] Inst imeni Vil'yams, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 3

In practical hydrotechnical construction and "melioration" (drainage, irrigation, conservation, etc.) many ground waters with "free" surface possess comparatively large horizontal extension. Such flow is characterized by presence

158T86

USSR/Physics - Hydraulics (Contd) 21 Nov 49

between earth's surface and ground waters' surface, of a zone of incomplete saturation of the ground in which moisture moves parallel to main ground flow. Submitted 6 Nov 49 by Acad A. I. Nekrasov.

158T86

AVER'YANOV, S. F.

AVER'YANOV, S. F.

Soviet hydrology. Izv. AN SSSR Otd. tekh.nauk no. 6, 1952.

SO: MIRA. November 1952.

1. AVER'YANOV, S. F.

2. USSR (600)

4. Drainage

7. Speeding up the drawing off of excess surface waters in agricultural drainage. Dokl. Ak. sel'khoz. 17, no. 10, 1952.

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

AVER'YANOV, S.F., kandidat tekhnicheskikh nauk.

Seepage calculation of bank-protected dams. Gidr.stroi. 23 no.8: 37-39 '54. (MLRA 8:1)
(Dams)

location of a water [illegible]

The value of the filtration losses, taking into account the influence of the standing depth of soil waters, is determined from the formula

$$Q_\phi = \alpha Q_0 \quad (0 \leq \alpha \leq 1)$$

where Q_ϕ is the maximum value of steady filtration losses from long acting channels and α is the coefficient which allows for the supporting influence of soil waters.

Author gives a transcendental equation and a graph which make it possible to determine the coefficient α to two decimal places. For the maximum value of the losses the following formula is given

$$Q_\phi = k_1 \left(k + 0.5 \frac{H_k}{B}\right)(B + 2h_0) \left[\frac{m^3}{\text{days}} \text{ per lin. m}\right]$$

1/2

AVERYANOV, S. F.

where B is the width of the channel according to the reduction of water; h_0 the depth of the water in it, in cm; and H_k is the maximum height of the capillary rise in cm; k is the coefficient of capillary penetration for full moisture content, but taking into account the compressed air. An example is illustrated.

P. F. Filchakov,
Academy Reference Manual
Translation, courtesy Ministry of Supply, Finland

AVERYANOV, S.F.

USSR

V 3438. Averianov, S. F. Approximate computation of the capacity of rivers at confluences of drainage systems (in Russian), *Gidrotekh. i Melior.* 7, 5, 40-52, May 1955.

Method is based on the determination of roughness coefficient from local measurements. Deviation of river reaches from prismatic form is used for corrections to the backwater curves. Water conveyance is computed for a board-full river. Article is of interest for hydraulic engineers. S. Kolupaila, USA

KOSTYAKOV, Aleksey Nikolayevich; FAVORIN, Nikolay Nikolayevich; AVER'YANOV, Sergey Fedorovich; KOCHINA, P.Ya., otvetstvennyy redaktor; PAVLENKO, N.I., redaktor izdatel'stva; ASTAF'YEVA, T.A., tekhnicheskiy redaktor

[The effect of irrigation systems on ground water movement; a collection of articles] Vliianie orositel'nykh sistem na rezhim gruntovykh vod; sbornik. Moskva, Izd-vo Akademii nauk SSSR. Pt.1. 1956 449 p. (MLRA 10:1)

1. Chlen-korrespondent AN SSSR (for Kochina, Kostyakov)
(Irrigation) (Water, Underground)

AVER'YANOV, S. F.

1411. Aver'ianov, S. F., Hydraulic design of channels of curvilinear cross section (in Russian), *Izv. Akad. Nauk USSR, Otd. tekh. Nauk* no. 1, 54-58, Jan, 1956.

Parabolas of higher power and ellipse are applied to cross sections of channels excavated by dredging. The size of channel is computed for required area and side slope at certain levels, mostly at the surface. Formulas are derived for determination of wetted perimeter; a table of these values for different powers is presented. Principle of the best hydraulic section is adopted, with a minimum length of wetted perimeter. This is an extension of a previous article by same author (1948).

S. Kolupaila, USA