

AYDIN'YAN, N.Kh.

Some data on the passage of mercury into solution during the reaction of cinnabar, metallic mercury, and mercury sulfide with distilled and natural water. Trudy IGEM no.46:109-111 '60. (MIRA 14:1)  
(Mercury) (Solubility)

SOKOLOV, I.Yu.; AYDINIYAN, N.M.; BELEKHOVA, V.N.; BRODSKIY, A.A., starshiy nauchnyy sotrudnik; GLEBOVICH, T.A.; DALMATOVA, T.V.; KOMAROVA, A.I.; KOMAROVA, Z.V.; KOPYLOVA, M.M.; KUDRYAVTSEVA, M.M.; LEBINA, R.I.; LOGINOVA, L.G.; MARGOLIN, L.S.; MARKOVA, A.I.; MEDVEDEV, Yu.L.; MILLER, A.D.; MULIKOVSKAYA, Ye.P.; NECHAYEVA, A.A.; OZEROVA, N.V.; PALKINA, I.M.; PETROPANLOVSKAYA, L.A.; POPOVA, T.P.; REZNIKOV, A.A.; SERGEYEV, Ye.A.; SETKINA, O.N.; STEPANOV, P.A.; SUVOROVA, Ye.G. [deceased]; SHERGINA, Yu.P.; PANOVA, A.I., red.izd-va; IVANOVA, A.G., tekhn.red.

[Methodological handbook on the determination of microcomponents in natural waters during prospecting for ore deposits] Metodicheskoe rukovodstvo po opredeleniyu mikrokomponentov v prirodnykh vodakh pri poiskakh rudnykh mestorozhdenii. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр, 1961. 287 p.

(MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii (for Sokolov, Brodskiy, Glebovich, Ozerova, Kudryavtseva, Loginova, Markova, Medvedev, Belekhoval, Palkina,  
(Continued on next card)

SOKOLOV, I.Yu.—(continued) Card 2.

Popova, Petropavlovskaya). 2. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (for Aydin'yan). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki (for Miller, Sergeyev, Margolin). 4. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (for Mulikovskaya, Reznikov). 5. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (for Komarova, A.).  
(Prospecting—Geophysical methods)  
(Water, Underground—Analysis)

AFANAS'YEV, G.D.; AYDIN'YAN, N.KH.

Preliminary data on the distribution of mercury in rocks in the  
Northern Caucasus. Izv. AN SSSR. Ser. geol. 26 no. 7: 101-104, 31 '61.  
(MIRA 14:7)

1. Institut geologii rudnykh mestorozhdeniy, petrografii,  
mineralogii i geokhimii AN SSSR, Moskva.  
(Caucasus, Northern--Mercury)

AYDIN'YAN, N.Kh.

Mercury content in some natural waters, Trudy IGEM no.70:9-14  
'62. (MIRA 15:9)

(Mercury) (Water—Composition)

SAUKOV, A.A.; AYDINLIAN, N.Kh.; VINOGRADOV, V.I.

Migration of mercury in the supergene zone. Trudy IGEM no.70:  
20-29 '62.. (MIRA 15:9)  
(Mercury) (Geochemistry)

AYDIN'YAN, N.Kh.; OZEROVA, N.A.; GIPP, S.K.

Distribution of mercury in recent sediments. Trudy IGEM no.99:  
5-11 '63. (MIRA 16:9)

(Mercury ores)

AYDIN'YAN, N.Kh.; BELAVSKAYA, G.A.

Supergene migration of mercury. Trudy IGEN no.99:12-15 '63.  
(MIRA 16:9)  
(Mercury)



AYDIN'YAN, N.Kh.; SHILIN, L.L.; BELAVSKAYA, G.A.

Distribution of mercury in the rocks and minerals of the Khibiny  
massif. Trudy IGEM no.99:16-25 '63. (MIRA 16:9)  
(Khibiny Mountains--Mercury ores)

SAUKOV, A.A.; GINZBURG, I.I.; PEREL'MAN, A.I.; AYDIN'YAN, N.Kh.;  
SHARKOV, Yu.V.

Vladimir Ivanovich Krasnikov; obituary. Geol. rud. mestorosh.  
5 no.2:141-142 Mr-Apr '63. (MIRA 16:6)

(Krasnikov, Vladimir Ivanovich, 1907-1962)

AYDIN'YAN, N.Kh.

Content of mercury in some waters of the Armenian S.S.R. Izv.AN  
Arm.SSR. Geol. i geog.nauki 16 no.2:73-'75 '63. (MIRA 16:9)

1. Institut geologii rudnykh mestorozhdeniy, mineralogii,  
petrografii i geokhimi. AN SSSR.

VINOGRADOV, A.P.; KORZHINSKIY, D.S.; SMIRNOV, V.I.; SHCHERBAKOV, D.I.;  
AYDIN'YAN, N.Kh.; VINOGRADOV, V.I.; VOL'FSON, P.I.; GENKIY, A.D.;  
DANCHEV, V.I.; LUKIN, L.I.; OZEROVA, N.A.; PEREL'MAN, A.I.; REKHARSKIY,  
V.I.; SMORCHEV, I.Ye.; FEODOT'YEV, K.M.; SHADLUN, T.N.; SHIPULIN, P.K.

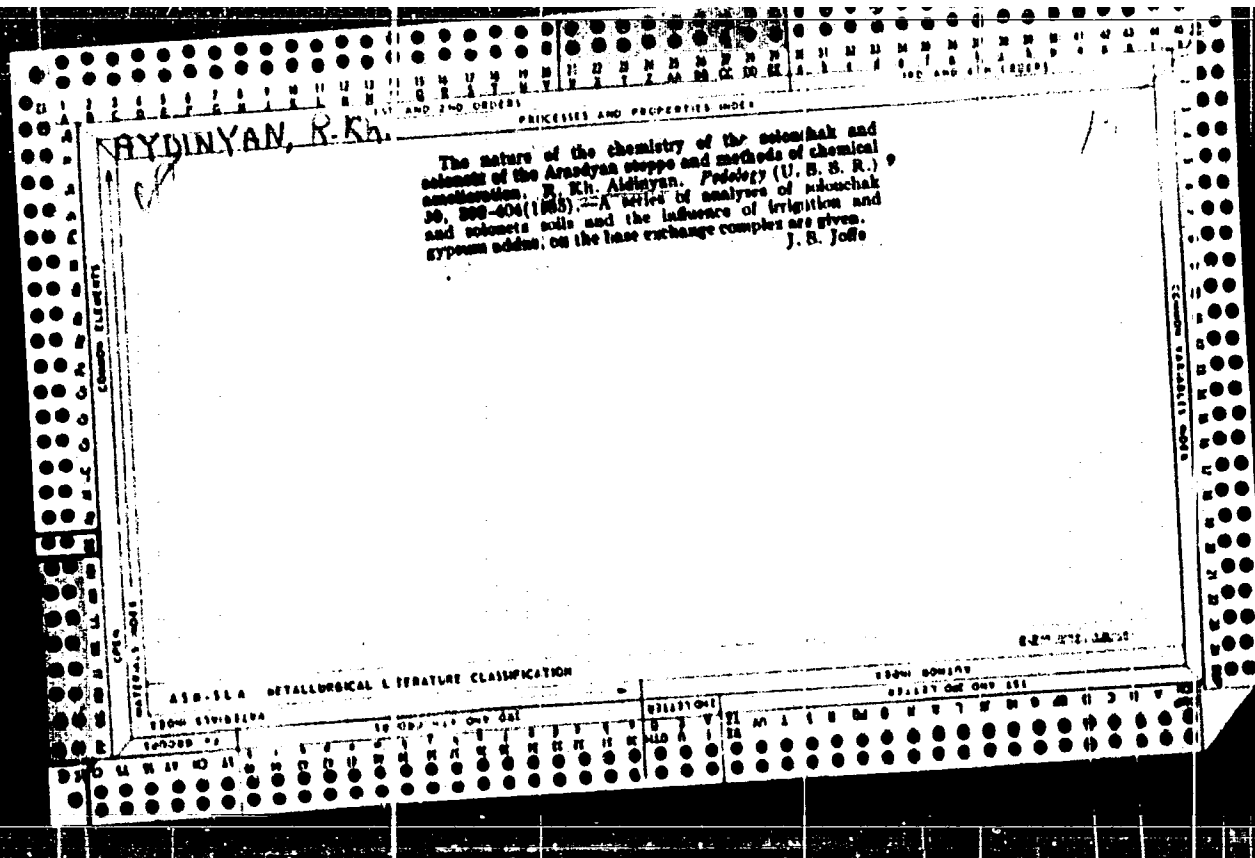
Aleksandr Aleksandrovich Saukov, 1902-1964; obituary. Geol. rud. mestorozh.  
7 no.1;124-125 Ja-F '65. (MIRA 18:4)

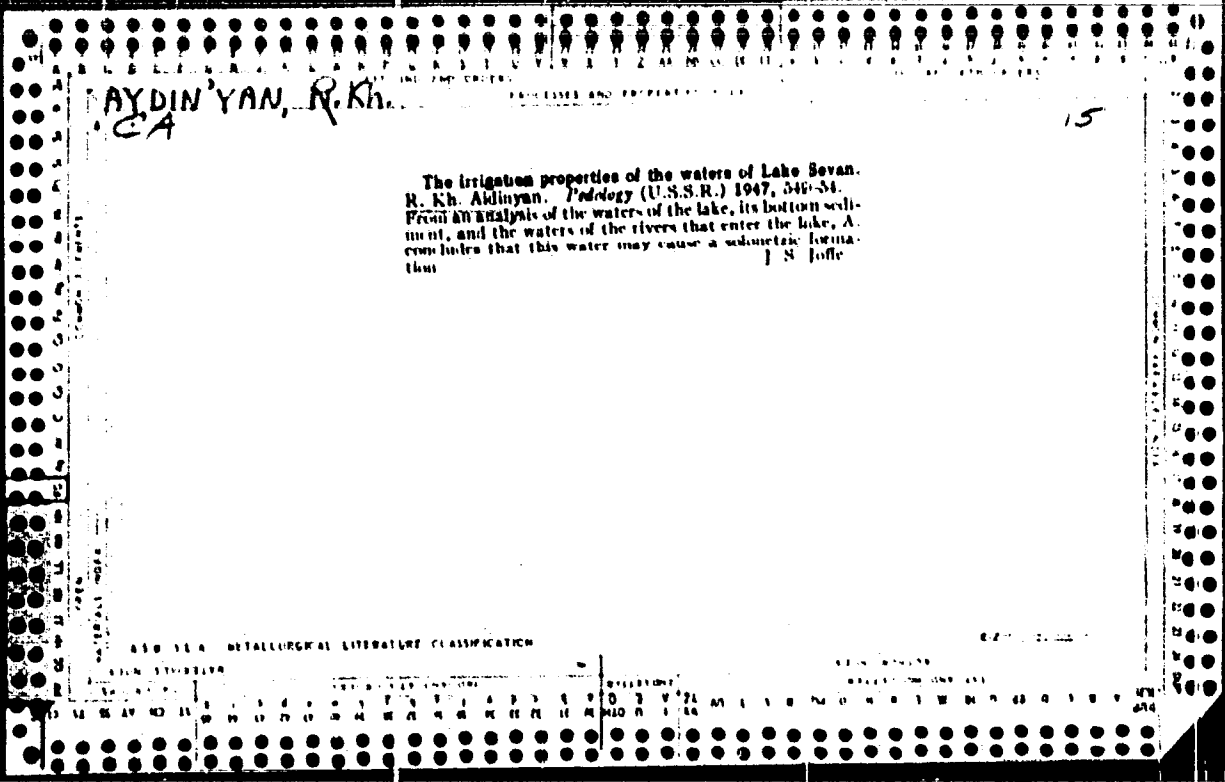
AYDINYAN, R. A.

AYDINYAN, R. A. "The Problem of Affection of Animals by Means of High-Voltage Pulse Currents." Cand Med Sci, Central Inst for the Advanced Training of Physicians, 19 Jan 54. (Vechernyaya Moskva, 7 Jan 54)

SO: SUM 168, 22 July 1954

<p>RAYDIN'YAN, R. KH  <i>cu</i></p>												<p>PROCESSES AND PROPERTIES</p>											
<p>The influence of phosphates on the cation-exchange capacity of the fundamental soil types of the U. S. S. R. R. Kh. Ahitnyan. <i>Khimicheskiy Sotsialist. Zemelovediya</i> (Moscow) 1955; No. 4, 13-22.—Soils of the chernozem, gray forest steppe, podzolic, solonchaks, chestnut and red earth zones were sohd. with Na, treated with NaH<sub>2</sub>PO<sub>4</sub> or NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>, the absorbed P was detd., the soils were electrodynamic and the exchange capacity was detd.</p>												<p>15</p>											
<p>The red soil absorbed appreciable quantities of P and increased the exchange capacity. Treatment of chernozem with NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> decreased the exchange capacity from 24.8 milliequiv., as detd. by NH<sub>4</sub>Cl treatment, to 20.9 milliequiv.</p>												<p>T. B. Joffe</p>											
<p>459.55A METALLURGICAL LITERATURE CLASSIFICATION</p>																							
<p>APPROVED FOR RELEASE: 06/06/2000</p>												<p>CIA-RDP86-00513R000102620019-0"</p>											







HYDROLYSIS, R. Ch.  
CA

8'

Material exchange and formation of mineral colloids in the first stages of soil formation on massive crystalline substructures. M. Kh. Alimyan. Doklady Akad. Nauk S.S.S.R. 07, 720-722 (1970). Growth of moss and lichen on rock showed that the ash of the plants is much higher in P and Ca than is the rock structure; the excess may reach 500-1000%. Similar, but less pronounced accumulation is observed with K, Mg, Fe, and Mn, followed in descending order by Al, Na, and Si, on basalts. Growths on selenite have a similar distribution but Al and Fe exchange the places on the scale and Ti is added at the lower end. Such activity of the plants results in formation of humus-enriched "melkozem" soil, capable of cation exchange of 10-50 milliequivalents per 100 g., which is 10-20% soil, with Ca X-ray exam. of the colloidal

fractions of this material shows the presence of montmorillonite in all specimens, as well as mica, quartz, and illite. The ion-exchange capacity of the colloids is 70-110 milliequivalents per 100 g. The vegetation in such colloids and the mineral synthesis may be ascribed to biogenic processes.  
G. M. Kosolapoff

Soils Inst. in V.V. Dokuchaev, AS USSR

CA AYDIN'YAN, R. KH.

**Minerals of procoloidal soil fractions** R. Kh. Ahdinyan.  
*Doklady Akad. Nauk S.S.S.R.* 23, 201-219 (1962). The  
 secondary minerals formed in the soil during its evolution  
 and weathering are usually capable of swelling, etc. in the  
 presence of H<sub>2</sub>O. Soil specimens fractionated as to particle  
 size, indicate the presence of several fractions (by d) in the  
 particle size range 0.2-20 μ, with some 10% composed of  
 lighter minerals. This range covers the presence of mont-  
 morillonite, quartz and mica, feldspars, kaolinite, and fer-  
 ruginous minerals. The smaller particles are generally more  
 rounded in shape. The amt. of org. matter adsorbed on  
 soil specimens shows a progressive increase with decrease  
 of d. After removal of humus by H<sub>2</sub>O<sub>2</sub>, the adsorbability  
 begins to some extent. (i) M. Komarov

AYDIN YAN, R. Kh.

The exchange of mineral constituents between the forest vegetation and chernozem soil of the Kuznetskaya steppe.

R. Kh. Aydinyan. <i>Pochvedeniye</i> 1933, No. 9, 49-51.	Comparative studies were made in the shelter belts of the forest steppe, the composition of nutrients supplied by them, and that of the chernozem adjoining these belts. The K of the leaf-litter is fixed and is used again by the forest species. Maples return annually to the soil 12 kg. CaO, 10 kg. K <sub>2</sub> O, and 5 kg. P <sub>2</sub> O <sub>5</sub> /ha. Oaks follow closely to the maple in return of minerals. Birch supplies less minerals, but 40% of the amount is CaO. Thus far, very little evidence of pedroformation is found in the shelter belts.
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J. S. Jaffe

AYDINYAN, R.K.

Composition of the soil of mesaow-steppes vegetation of the Steppes: effect on the formation of mineral and colloids. R. K. Aydinyan (Pochvovedeniye, 1954, No. 1, 45-51).—From decaying surface vegetation K, P, Ca, Mg, Na, and Mn are strongly leached into the soil. The ratio  $SiO_2 : R_2O_3$  in living and dead roots falls with increasing depth of soil. In the A<sub>1</sub> horizon Si, Ca, Al (or Mg) are the chief mineral elements with smaller proportions of K, P, and Fe. In the A<sub>2</sub> and B<sub>1</sub> horizons Ca minerals predominate. Mn oxides occur in all horizons. Minerals accumulate largely in the upper layers of soil and the presence of much Al and Fe may lead to the formation of secondary clay minerals, thus explaining the low  $SiO_2 : R_2O_3$  ratio. Soils & Fertil. (A. G. P.).

AYDINYAN R. K.

Distribution of  
from the soil  
107, 741-743).  
plants was isolated  
and the activity  
found at 118cm  
found in only one  
activity was high  
leaves and in bud  
which <sup>45</sup>S was absent  
supply soil elements  
mineral fertilizers  
rather than in s

in mineral elements  
R. Kh. Aidinyan  
One strand of  
in soil to which  
of leaves and roots  
times up to 3  
of the leaf level  
for <sup>45</sup>S in the  
leaves and in bud  
which <sup>45</sup>S was absent.  
Particular  
attention should  
be paid to particular  
parts of the root system  
along the r

in the tea plant after their absorption  
(Dokl. Akad. Nauk SSSR, 1960,  
No. 10, p. 195). The root system of 8-year-old  
tea plants in which <sup>45</sup>S and <sup>45</sup>Ca had been absorbed  
at different levels was determined  
5 days thereafter. The <sup>45</sup>S was  
found in the most rapidly growing parts of the  
plant, chiefly in the leaf veins, from  
parts of the root system probably  
introduced evenly around tea plants.  
R. Trauscor

Росквзрмны Инст. им. В. В. Докучаева

AYDINYAN, R.Kh.

Phosphate compounds absorbed by soil colloids and their availability  
to the tea plant. Dokl.AN SSSR 111 no.1:182-184 M-D '56.  
(MLRA 10:2)

1. Pochvennyy institut imeni V.V.Dokuchaeva Akademii nauk SSSR.  
Predstavleno akademikom N.I.Vol'fkovichem.  
(Tea) (Soil chemistry) (Phosphates)

*AYDINYAN, R.M.*

AYDINYAN, R.M.

Method of determining the total amount of sulfur in soils, minerals, plants, and organic compounds [with summary in English]. Pochvovedenie no.9:49-59 S '57. (MIRA 10:12)

1. Pochvennyy institut im. V.V.Dokuchayeva AN SSSR.  
(Sulfur) (Chemistry, Analytical--Quantitative)

SOV/7-59-4-6/9

3(8)  
AUTHOR:  
TITLE:

Aydinyan, R. Kh.

The Distribution of Rare Alkalis in Colloids of Soils and the Participation of Vegetation in This Process (Raspredeleniye rednikh shchelochey v kolloidakh pochv i uchastiye rastitel'nosti v etom protsesse)

PERIODICAL: Geokhimiya, 1959, Nr 4, pp 346 - 357 (USSR)

ABSTRACT:

This paper was presented at the Pervyy delegatskiy s"yezd pochvovedov SSSR (First Delegate Congress of the Soil Scientists of the USSR) on May 16, 1958 in Moscow. The content of lithium, rubidium, and cesium in red earth, yellow earth, brown earth (Table 1), common black earth, black earth on basalt, and alluvial timbered steppe earth of a tea plantation (Table 2) were investigated. The determination was carried out by means of spectrum analysis; samples of each soil type were investigated from different depth and different degree of dispersion (0.2 $\mu$ , 0.2 - 2 $\mu$ , 2 - 100 $\mu$ ). A considerable increase of the contents on rare alkalis was found with increasing dispersion and towards the surface. Frequently no rubidium and cesium at all could be determined in the coarsest fraction 2 - 100 $\mu$ . After heating of the soil

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The Distribution of Rare Alkalis in Colloids of Soils and the Participation of Vegetation in This Process SOV/7-59-4-6/9

samples up to 170° less Rb is extracted by 0.2 N HCl from the colloid fraction (Table 3) which is probably due to the occupation of a free lattice space with octahedral coordination by the dehydrated rubidium ion. Further the content on rare alkalis in the tea plant (Tables 4 and 5) and in various steppe plants (Tables 6 and 7) were investigated. Like potassium also rubidium is particularly concentrated in the first leaves and in the parenchyma and is probably able to replace potassium in the organism. The parenchyma always contains more rubidium and cesium than the later growing leaves, the blossoms, and the roots. Under natural conditions lithium, rubidium, and cesium are considerably leached out from the leaves fallen off, and the dead roots of the vegetation and certain humus horizons are enriched with them (Tables 8 and 9). With the soil formation the elements mentioned are concentrated again in the colloid fraction. The author expresses his gratitude to D. I. Ivanov for his advice in the spectrum analysis.

Card 2/3

The Distribution of Rare Alkalies in Colloids of Soils and the Participation of Vegetation in This Process SOV/7-59-4-6/9

There are 9 tables and 16 references, 11 of which are Soviet.

ASSOCIATION: Pochvennyy institut im. V. V. Dokuchayeva AN SSSR, Moskva  
(Soil Institute imeni V. V. Dokuchayev, AS USSR, Moscow)

SUBMITTED: May 20, 1958

Card 3/3

81h19

S/020/60/132/06/53/068  
B011/B126

21.5000  
AUTHOR:

Aydinyan, R. Kh.

TITLE:

Radioautographs of the Soil Profile Whilst Studying the  
Movements of Phosphates in Soil

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,  
pp. 1413 - 1415

TEXT: The author asks whether phosphorus moves in soil, and what im-  
portance this can have. He wanted to answer this radioautographically  
in soils of natural composition by using  $P^{32}$ . The experiment was carried  
out in the yellow earth of tea-sovkhoz Dagonys, Krasnodar kray.  $Na_2HP^{32}O_4$   
was introduced under the corona of the tea bush once as an aqueous solu-  
tion over a surface of 30 x 30 cm. The  $P_2O_5$  concentration on the above  
surface was 3.5 g with a radioactivity of 800  $\mu$  Curie. Phosphorus is  
weakly bound from the surface down. It was strongest at a depth of 3 to  
10 cm, where 80-90% of the phosphorus introduced was bound. Radioactivity

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Radioautographs of the Soil Profile Whilst  
Studying the Movements of Phosphates in Soil

S/O20/60/132/06/53/068  
B011/B126

decreased rapidly with depth.  $P^{32}$  penetrated to a depth of 28 cm. This means that in spite of the narrow limit of the change in the  $SiO_2 : R_2O_3$  ratio in the soil colloids, and in spite of the presence of active Al- and Fe-forms, which could bind phosphorus, it moved even so in the whole soil profile. The ways and forms of phosphorus movement can be very diverse: as focuses, as very finely disperse colloids, along the roots, and finally, biologically, for example through root secretion. The author calculated the concentration of migrated  $P^{32}$  at a depth of more than 10 cm as 2-3 mg  $P_2O_5$  per 100 g of soil. Apparently this phosphorus served as food for the tea bush. This was proved by the particularly strong absorptior of  $P^{32}$  in the small hairs of the roots and in the flesh, that is in the tender sprouts together with the leaves. The small hairs of the roots come from a depth of 15-25 cm, and thus from below the zone of maximum phosphate accumulation. This shows the great importance of the small quantities of P, which penetrated into deeper soil horizons. Since most of the roots of the tea bush are concentrated in the layer from 10-30 cm deep, it is clear that the migrated phosphorus was their

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Radioautographs of the Soil Profile Whilet      S/020/60/132/06/53/068  
Studying the Movements of Phosphates in Soil      B011/B126

main food. From these results the author concludes that in order to estimate the correct P demand of the tea bush, the mobile phosphorus must not only be considered in the "field"-horizon, but also in deeper horizons. The author mentions papers by P. S. Kossovich (1909) and Domontovich (1928). There are 1 figure and 6 Soviet references.

ASSOCIATION: Pochvennyy institut im. V. V. Dokuchayeva Akademii nauk SSSR (Soil Institute imeni V. V. Dokuchayev of the Academy of Sciences, USSR)

PRESENTED: January 26, 1960, by I. V. Tyurin, Academician

SUBMITTED: January 21, 1960

X

Card 3/3

AYDINYAN, S. A.

24451

AYDINYAN, S. A. Posledstviya travm cherepa i ego soderzhimogo Sbornik nauch. Traktov (Yerevansk. nauch.-issled. Inst ortopedii i vosstanovit. Khirurgii), 1, 1949, S. 22-27.

SO: Letopis, No. 12, 1949.

AYDINIAN, S. A.

24391 AYDINIAN, S. A. Klinicheskoye proyavleniye dremlyushchey yasnovoy infektsii na fonde starykh ognestrel'nykh raneniy. Sbornik nauch. Trudov (Yeravansk. nauch.-issled. III-? ortopedii i vosstanovit. Khirurgii), 1, 1949, S. 66-75.

SO: Letopis, No. 32, 1949.

ANDINYAN, S. A.

24322 ANDINYAN, S. A. Sluchay pozdnego proyavleniya anaerobnoy infektsii mozga  
posle travmaticheskogo povrezhdeniya cherepa i mozga. Sbornik nauch. Trudov  
(Yerevansk. nauch.-issled. IIT ortopedii i vosstanovit. Khirurgii), 1,  
1949, S. 113-16.

SC: Letopis, No. 32, 1949.



1 17171-66 EWT(I)/EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6032236

SOURCE CODE: UR/0023/66/000/003/0354/0359

AUTHOR: Aidla, A.--Aidla, A.; Kirs, Ya.--Kirs, J.

48

ORG: Institute of Physics and Astronomy, Academy of Sciences, Estonian SSR (Institut fizika i astronomii Akademii nauk Estonskoy SSR)

476

TITLE: Thermally and optically stimulated phenomena in cadmium sulfide single crystals

SOURCE: AN EstSSR. Izvestiya. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 3, 1966, 354-359

TOPIC TAGS: cadmium sulfide, semiconductor, thermoluminescence, thermoelectricity, optical flash, photoconductivity, photoelectricity, thermal stimulation, optical stimulation

ABSTRACT: Thermoluminescence, thermoelectric current, optical flash, and optical quenching of photoconductivity and luminescence were experimentally investigated in a number of CdS single crystals grown from the vapor phase by sublimation in an argon stream. Two brands of CdS were used as starting materials: one specified "for semiconductors" with a  $3 \times 10^{-5}$  g/g silver activator content, the other "for phosphors," to which silver was introduced in the process of growing. The excitation was effected by the 365-nm mercury line. In the case of thermal stimulation, the heating rate was 0.3 degrees/sec. Optical flash and photoconductivity quenching were stimu-

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ACC NR: AP6032236

lated by an SPM-1 monochromator and an incandescent bulb. Three types of crystals were distinguished on the basis of the luminescence spectra at 77K: 1) crystals with an intense edge emission and a relatively weak long-wave (red and orange) luminescence; 2) crystals with orange emission; and 3) crystals with green, orange, and red emission of comparable intensity. Red emission was observed in crystals of the second and third types at room temperature. A nearly simultaneous quenching of the green emission and the photoelectric current occurred in the crystals of the first type. This is explained by the assumption that the green emission results from recombination of a free electron with holes trapped on levels close to the valence zone. The thermal release of holes leads to the quenching of green emission and photoconductivity. The thermoluminescence curve in crystals of the first and third type roughly follows the curves of the thermoelectric current. It appears that both phenomena are caused by the release of carriers from the same trapping centers. Since the sign of the photoelectric current in CdS, in general, must coincide with the sign of equilibrium conductivity, it follows from the experimental data that both the thermoluminescence and the thermoelectric current result from the release of electrons from their trapping centers. The optical flash and conductivity quenching were found to have common stimulation spectra, while the optical flash was not accompanied by a conductivity surge. This suggests that the optical flash is tied to the release of holes from local levels within the energy gap. The differing spectra of thermoluminescence and optical flash observed in a number of crystals may be explained by the fact that the first phenomenon has an electron nature and the second, a hole character. The infrared quenching of the red emission is apparently related to the infrared quenching

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ACC NR: AP6032236

of photoconductivity, both being the result of the release of holes from the response centers. It is possible that IR radiation releases holes directly from the red luminescence centers, since the optical flash was observed only in crystals having at least a weak red luminescence band. Generally, the authors hold that the luminescence of CdS can arise from the release of both trapped electrons and holes. The authors thank A. Ruut for growing the crystal specimens. Orig. art. has: 6 figures. [FP]

SUB CODE: 20/ SUBM DATE: 24Nov65/ ORIG REF: 004/ OTH REF: 016/ ATD PRESS:  
5090

Card 3/3 b1g

21011

9,4177 (also 1138, 1147)

26.2421

S/058/61/A00/005/p25,p50  
A001/A101

AUTHORS: Nymm, U.K., Aydia, A.K.

TITLE: The photoelectric polarization of mixed phosphors; zinc and cadmium sulfides

PERIODICAL: Referativnyy zhurnal. Fizika, no 5, 1961, 181, abstract 5V385 ("Tr. In-ta fiz. i astron. AN EstSSR", 1960, no 12, 249 - 261, Engl. summary)

TEXT: The authors studied photoelectric polarization in mixed phosphors ZnS.CdS-Cu. The main attention was paid to spectral regularities of photoelectric polarization in this series of phosphors and to determination of the sign of photocurrent carriers. A close correlation was found between the excitation spectrum of photoelectric polarization and other spectra of the same specimens. It turned out that intrinsic photoeffect in the fundamental absorption band is caused mainly by free electrons. X

[Abstracter's note: Complete translation.]

Card 1/1

NIYAZOV, A.N.; AYDZHINOVA, M.A.

Synthesis of naphthylcyclohexylketones. Izv. AN Turk. SSR. Ser. fiz.-  
tekh., khim. i geol. nauk no.4:119-120 '63. (MIRA 17:2)

1. Institut khimii AN Turkmenskoy SSR.

AYENSHTEIN, A. I. (Narodnaya Respublika Bolgariya)

Indicator of maxima. Iss. tekhn. no. 8:29-30 Ag '60. (MIRA 13:9)  
(Electric measurements)

L 6265-66

ACC NR: AP5026753

SOURCE CODE: UR/0286/65/000/017/0028/0028

INVENTOR: Ayerbukh, M. I. *aw*

23  
8

TITLE: A method for measuring the spectrum of spatial field harmonics of circular moderating structures. (Class 21, No. 174233 [announced by Saratov Polytechnical Institute (Saratovskiy politekhnicheskii institut)])

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 28

TOPIC TAGS: spectrum analyzer, harmonic analysis

ABSTRACT: This Author's Certificate introduces a method for measuring the spectrum of the spatial field harmonics of circular moderating structures with respect to the frequency spectrum of the detector current using a phase-sensitive changeover switch. The shape of the detector current is restored in conformity with the momentary distribution of the field of the shf wave along the moderating structure, and measurements are accelerated by feeding the shf power coming from a probe rotating uniformly along the circular moderating structure to the detector. The polarity of the detector is automatically changed by the phase-sensitive switch at points which correspond to nodes in the standing wave. The signal from the detector is then fed to a low-frequency spectrum analyzer.

SUB CODE: EC/

SUBM DATE: 29Jun64/

UJC: 621.317.7

ORIG REF: 000/

OTH REF: 000

Card 1/1 *Rds*

*4 Yek. IV ML*  
KAGAN, S.Z.; VOLKOVA, T.S.; FILIPPOV, I.V.; AEROV, M.E.

Testing an experimental commercial rotary-disk extractor  
for dephenolizing tar waters. Gaz. prom. 7 no.4:13-17'62  
(MIRA 17:7)



AYEROV, V.Ye.; FEDOROV, B.I.

Measurements of turbulent nonisothermic flows. Trudy LPI  
no.230:139-142 '64. (MIRA 17:6)

ACCESSION NR: AT4041819

S/2563/64/000/230/0139/0142

AUTHOR: Ayerov, V. Ye.; Fidorov, B. I.

TITLE: Measurements of turbulent non-isothermal flow

SOURCE: Leningrad. Politehnicheskly Institut. Trudy\*, no. 230, 1964.  
Tekhnicheskaya gidromekhanika (Technical hydromechanics), 139-142

TOPIC TAGS: hot-wire anemometer, heat exchange, mass exchange, turbulence, turbulent flow, anemometer, non-isothermal flow

ABSTRACT: Some of the relationships in the combined processes of heat and mass exchange in a general hydrodynamic field are investigated. It was previously established that when these processes occur separately, turbulence in a flow increases the intensity of heat and mass exchange. In the present study, a hot-wire anemometer with a feedback amplifier of the type ATA-2, built by G. V. Smirnov, was used in measurements of non-isothermal flow. A short discussion is given on the precautions and corrections necessary in the use of this type of anemometer. One of the basic factors in the investigation of the influence of mass exchange on heat exchange is the influence of flow temperature on the degree of turbulence. This was investigated in an aerodynamic set-up of a closed type at zero, positive and negative pressure gradients. The results are shown in Fig. 1 of the enclosure  
Card 1/4

ACCESSION NR: AT4041819

and indicate clearly that the degree of flow turbulence decreases with increasing temperature. This is explained by an increase in medium viscosity with increasing temperature, which leads to a decrease in amplitude of the turbulent pulsation of the flow. In the absence of a gradient, an increase in temperature from 20 to 130C leads to a decrease in turbulence by a factor of two. As shown in Fig. 2 of the Enclosure, an increase in the Reynolds number causes a considerable reduction in the degree of turbulence in a cold or heated flow. This is, however, an unexpected result which should be investigated further. It is concluded that the hot-wire anemometer ATA-2 can be very useful in the investigation of non-isothermal flow. Orig. art. has: 3 figures and 2 formulas.

ASSOCIATION: Leningradskiy politekhnicheskiy Institut Im. M. I. Kalinina  
(Leningrad Polytechnical Institute)

SUBMITTED: 00

ENCL: 02

SUB CODE: ME

NO REF SOV: 005

OTHER: 002

Card

2/4

ACCESSION NR: AT4041819

ENCLOSURE: 01

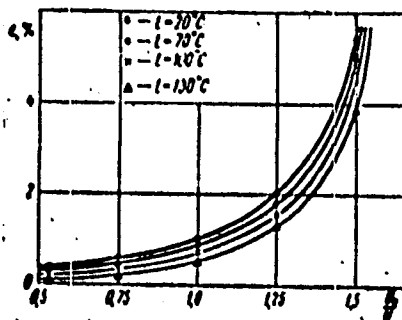


Fig. 1. Dependence of turbulence on the relative rate of flow at various temperatures.

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ACCESSION NR: AT4041815

ENCLOSURE: 02

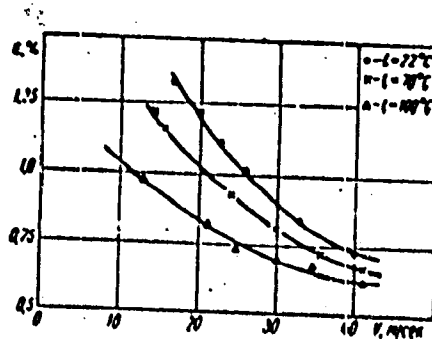


Fig. 2. Dependence of turbulence on the Reynolds number at various temperatures.

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L 8835-66 EWT(1)/ETC/1PF(n)-2/EN3(m) WW  
ACC NR: AT5027200

UR/0000/65/000/000/0143/0147 66  
44,55 44,55 44,55 44,55 BT/

AUTHOR: <sup>44,55</sup> Ayerov, V. Fe.; <sup>44,55</sup> Martynenko, O.G.; <sup>44,55</sup> Revzin, I.S.; <sup>44,55</sup> Fedorov, B.I.

ORG: <sup>44,55</sup> Heat and Mass Transfer Institute, AN BSSR, Minsk (Institut teplo-1 massoobmena AN BSSR)

TITLE: Effect of the turbulizing of a stream of air on heat transfer in a radiator

SOURCE: AN BSSR. Institut teplo-1 massoobmena. Teplo-1 massoobmen tel s okruzhayushchey gazovoy sredoy (Heat and mass exchange of bodies with the surrounding gaseous medium). Minsk, Nauka i Tekhnika, 1965, 143-147

TOPIC TAGS: heat transfer, engine radiator, <sup>21,44,55</sup> turbulent heat transfer

ABSTRACT: Existing experimental data show that the use of a previously turbulized stream of air in various types of industrial heat exchangers can substantially increase their efficiency. Experiments were carried out on heat exchange in an oil radiator of the automobile type, with different degrees of turbulizing of the stream of air being blown through it. Hot oil from the lubricating system of a motor was circulated through a tube plate radiator. The article shows a sketch of the

Card 1/2

L 8835-66

ACC NR: AT5027200

experimental setup. At constant loads and constant revolutions of the motor and the fan, measurements were made of the temperature of the walls of the radiator tubes as well as of the temperature of oil and air at the inlet and outlet of the radiator. In addition to the temperature measurements, determinations were made of the velocity field and the degree of turbulence of the stream of air before and after the radiator. Thermodynamic calculations based on the experimental data show that the efficiency of a radiator using a "pusher" fan increased by 25% on the average. The authors conclude that the installation of "pusher" fans on transport vehicles would permit a significant reduction in the size and weight of the radiator, which would make possible a substantial saving of nonferrous metal. Orig. art. has: 3 figures and 1 table

SUB CODE: ME/

SUBM DATE: 02Jul65/

ORIG REF: 004

OTH REF: 003

EVR  
Card 2/2

L 44250-66 EWP(m)/UWP(f)/T LP(c) W/RM

ACC NR: AP6013277 (A) SOURCE CODE: UR/0413/86/000/008/0078/0078

INVENTOR: Kaufkol' d. R.; Aylfert, V.

34  
B

ORG: none

TITLE: Preparation of heat-resistant plastics. Class 39, No. 180793<sup>15</sup>

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 78

TOPIC TAGS: plastic, heat resistant plastic

ABSTRACT: This Author Certificate introduces a method for obtaining heat-resistant plastics from high-molecular polyformaldehyde with blocked terminal hydroxy groups by the addition of various heat-, light-, and oxidation-resistant agents. Such plastics would be suitable for reworking by hot molding. The polymer is supplemented with 4, 4' -diaminostilbene to obtain whiter plastics. [LD]

SUB CODE: 11/ SUBM DATE: 18Dec64/

Cord 1/1/MT UDC: 678.644.141.073.048.2



ACCESSION NR: AP4000156

S/0294/63/001/002/0318/0320

AUTHOR: Filimonov, B. S.; Kryukova, M. G.; Teplov, S. V.; Ayrystov, A. A.

TITLE: Test stand for studying heat transfer in the flow of liquid aluminum in a pipe

SOURCE: Teplofizika vy\*sokikh temperatur, v. 1, no. 2, 1963, 318-320

TOPIC TAGS: heat transfer, liquid aluminum heat exchanger, liquid metal, liquid aluminum, aluminum heat transfer, heat exchanger, liquid metal coolant, coolant, fluid flow

ABSTRACT: A test stand has been designed for heat-transfer studies with liquid aluminum. The use of liquid aluminum as a heat-transfer agent in heat exchangers operating at temperatures exceeding 1200C is being investigated since difficulties are encountered with alkali metals at such temperatures. Fig. 1 of the Enclosure shows the test assembly. An induction-type electromagnetic pump with a traveling magnetic field (capacity 3 m<sup>3</sup>/hr) was specially

Card 1/3

ACCESSION NR: AP4004156

developed for the assembly. Two types of heating can be used: an electric nichrome heater, which will heat the pipe uniformly at a heat flux of  $5 \times 10^6$  kcal/m<sup>2</sup>·hr, or an electron bombardment heater, which will give higher heat fluxes. Thermal expansion of the graphite parts is compensated by means of slyphon expansion joints. All parts of the assembly in contact with the aluminum are made from pyrolytic graphite. Preliminary testing for 200 hr with individual test runs of up to 12-hr duration showed the design to be satisfactory and the assembly suitable for heat transfer studies. Orig. art. has: 1 figure.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo  
(Power Engineering Institute)

SUBMITTED: 15Apr63

DATE ACQ: 26Dec63

ENCL: 01

SUB CODE: PR

NO REF SOV: 000

OTHER: 000

Card 2/3

KOS'KO, F.A.; AYGISTOV, Z.Kh.

We shall prevent losses in animal husbandry. Veterinaria  
41 no.1:8-10 Ja '64. (MIRA 17:3)

1. Nachal'nik Upravleniya veterinarii Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov Belorusskoy SSR (for Kos'ko). 2. Glavnyy veterinarnyy vrach Upravleniya veterinarii Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov Belorusskoy SSR (for Aygistov).

AYGISTOVA, S. KH.

USSR/Chemistry- Butadiene  
Chemistry- H ydrolysis

Feb 49

" Addition of Alpha- Halogen (Chlorine) Ethers to Butadiene," A. H. Pudovik, V. I. Nikitina, S. Kh. Aygistova, Lab Org Chem, Kazan State U, 3 pp

" Zhur Obshch Khim" Vol XII , No 2

Studies addition of chloromethylethyl, chloromethylbutyl and chloromethylisobutyl ethers to butadiene. Separates and lists characteristics of 1.2 and 1.4 addition products. Shows that hydrolysis of alphahalogen ethers proceeds in various forms in dependence upon molecular weight of halogen ether radical. Studies isomerization of ethoxychloropentenes and butoxychloropentenes at various temperatures and concentrations of zinc chloride.

Submitted 22 Oct 47.

PA 46/49721

AYGISTOVA, S.Kh.; LAZAREV, G.L.; TIMERKAYEVA, Z.P.

Analysis of the operation of a high-frequency electric desalting unit on field No.1 of the Oil Field Administration of the Al'metyevsk Petroleum Trust. Nefteprom. delo no.9:19-23 '63. (MIRA 17:4)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut i Neftepromyslovoye upravleniye "Al'met'yevneft".

ZHELONKIN, A.I.; KINZHEV, A.R.; AYDINTOVA, S.Kh.

Change in the basic parameters of the oils of certain fields  
in the eastern part of the Tatar A.S.S.R. and western Bashkiria.  
Geol. nefti i gaza 8 no.3:26-30 Mr '64. (MIRA 17:6)

AYGLER, Q. Cand Phys-Math Sci--(diss) "Redistribution of electron density in crystals (Ge and CdS) as a result of <sup>an</sup>external effect." Leningrad, 1958. 12 pp. (Leningrad State Order of Lenin Univ. in A.A.Zhdanov), 150 copies. (KL, 38-58, 104).

2

AUTHOR: Lyglar, G. G.

7/77-23-1-10

TITLE: **Effect** of a Magnetic field on the distribution of light conductivity in CdS crystals (Vzglyaniye magnitnogo polya na raspredeleniye elektronnoy plotnosti v kristallakh CdS)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1981, Vol 28, <sup>Nr 9,</sup> pp. 1931-1934 (USSR)

ABSTRACT: The paper by Shuvalov (Ref 1) contains an experimental proof of the existence of laws governing the dependence of the conductivity and the electron density distribution in CdS crystals. In order to gather further experience bearing on this relation the influence of the magnetic field upon the conductivity of CdS crystals and upon the electron density distribution in their lattice was investigated. The samples were produced according to the Frerich -(Frerikh) method (Ref 2). The yellow color exhibited by the crystals is typical of the hexagonal modification. They had a platelt shape, **the greatest dimension** of which coincided with the hexagonal axis. Since the dark conductivity proved to be small the investigation was limited to a study of the **effect** of the magnetic field on the light conductivity of CdS monocrystals. The light

Card 1/3



SOV/57-28-1-10/33

**Effect** of a magnetic field on the Distribution of Electron Density in CdS Crystals

conductivity was excited by disperse radiation from an incandescent bulb. It obtained values in

the order of  $10^7$  Ohms.cm. An increase of the resistance along the c axis was found in crystals placed in a magnetic field directed along the hexagonal axis. This effect, however, does not vary linearly as the increase of the field, and the resistance shows no saturation tendency not even in fields of 11 000 G. In order to explain the effect of the magnetic field upon the distribution of electron-density versus the field strength function, Eisenberg-(Vaynsberg) diagrams were recorded by CdS crystals along the c axis.

In the evaluation of the results obtained from density measurements the same procedure was adopted as in reference 1. In these experiments the conductivity decreased with an increasing magnetic field. It is emphasized that the evidence found in reference 1 is to the effect that electron bridges were produced by the action of illumination or of heating, whereas in this study a destruction of the electron bridges was found to be the cause of the reduction of conductivity. A. A. Lebedev, Member, Academy of Sciences, USSR, constantly encouraged the author and made valuable suggestions. There

Card 2/3

Effect of a Magnetic field On the Distribution of Electron Density in  
id. systems

1977-2-2-10/33

see 1 table and 2 references, 1 of which is Soviet.

ASSOCIATION: LGU, Kafedra elektrofiziki, Rentgenovskaya laboratoriya  
(Leningrad State University, Chair of electrophysics, X-Ray  
laboratory)

Card 3/3

AYGORN, M.A.

Possibility to improve the "signal-noise" ratio of photographic images.  
Part 1: Theoretic basis of the method of fractional signal accumulation.  
Zhur.nauch. i prikl.fot. i kin. 9 no.4:289-296 J1-Ag '64.

(MIRA 17:10)

1. Institut problem peredachi informatsii AN SSSR.

KARAPETYAN, N.G.; BOSHNYAKOV, I.S.; KHAYKINA, Kh.S.; AYIRYAN, L.S.

Use of chloroprene-nitrile latex for the manufacture of benzene  
and oil-resistant gloves. Kauch. i rez. 20 no.1:42-43 Ja '61.

(MIRA 14:3)

(Clothing, Protective) (Rubber goods) (Chloroprene)

AYKASHIV, I.

Kitchen ranges operating on liquefied gas. Obshchestv. pit.  
no. 8:15-16 Ag '60. (MIRA 14:4)

1. Direktor trста stolovykh, Penza.  
(Penza—Restaurants, Lunchrooms, Etc.—Equipment and supplies)  
(Liquefied petroleum gas)

KARAPETIAN, V.M.; AYLAZUNI, G.A.

The TSM-180/10 oil-filled power transformer. Biul.tekh.-ekon.  
inform. no.11:40-41 '58. (MIRA 11:12)  
(Electric transformers)

AYKAZYAN, A. K.

Characteristics of eggs developing in the body of male mulberry silkworms. Nauch. dokl. vys. shkoly; biol. nauki no. 3:33-34 '62. (MIRA 15:7)

1. Rekomendovana kafedroy zoologii Yerevanskogo gosudarstvennogo universiteta.

(SILKWORMS) (OVARIES--TRANSPLANTATION)

SARKISYAN, S.M.; AYKELYAN, A.K.

Possibility of obtaining offspring from eggs developed in a male organism. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 12 no.1:91-93 za '59. (MIRA 12:2)

1. Kafedra zoologii biologicheskogo fakul'teta Yerevanskogo gosudarstvennogo universiteta.  
(Ovaries--Transplantation) (Silkworms)



SARKISYAN, S.M.; TUMASYAN, L.A.; AYKAZYAN, A.K.

Materials on the biology of the salva moth (*Golechia malvella* Hb.).  
Nauch. trudy Erev. un. 69 Ser. biol. nauk no.8:29-34 '59.

(MIRA 14:9)

1. Kafedra zoologii Yerevanskogo gosudarstvennogo universiteta.  
(MOTHS) (COTTON DISEASES AND PESTS)

ALCHUDZHAN, A.A.; MAITIKYAN, M.A.; AYKAZYAN, A.M.

Mixed adsorption catalysts of dehydrogenation. Report No.1:  
Pd/SiO<sub>2</sub> as a catalyst of cyclohexane dehydrogenation. Izv.AN  
Arm.SSR. Khim.nauki 16 no.4:303-314 1963.

Mixed adsorption catalysts of dehydrogenation. Report No.2:  
Pd-Ag/SiO as a catalyst of cyclohexane dehydrogenation. 315-325  
(MIRA 16:9)

1. Yerevanskiy politekhnicheskiy institut imeni Karla Marksa,  
kafedra obshchey i analiticheskoy khimii.

ACCESSION NR: AP4030385

S/0171/64/017/002/0131/0136

AUTHORS: Aykazyan, E.A.; Arakelyan, N.M.; Isabekyan, S.Ye.

TITLE: Voltamperometric measurements of electrode polarization in a liquid hydrogen fluoride medium

SOURCE: AN ArmSSR. Izvestiya. Khimicheskiye nauki, v. 17, no. 2, 1964, 131-136

TOPIC TAGS: hydrogen fluoride, anhydrous hydrogen fluoride, electrolyte, voltamperometry, electrode polarization, polarographic curve, compensation potentiometry, auxiliary electrode, rotating disk electrode, reference electrode, three electrode potential registration, perfluoroorganic acid

ABSTRACT: Anhydrous liquid HF is an excellent solvent for inorganic salts and organic substances, forming solutions with good electrolytic properties. The electrochemical method of fluoridation is also being used in the manufacture of perfluoroorganic acids. The process however has been poorly studied, mainly because of the lack of appropriately resistant measuring equipment. An earlier con-

Card 1/3

ACCESSION NR: AP4030385

structured cell with a rotating angular electrode for obtaining polarographic curves (2 electrodes) had the disadvantage of a sharp ohmic potential drop. The new electrolytic cell for voltametric measurements, described in this paper, uses 3 electrodes, measuring the potential by the compensation method; this avoids the above disadvantage. The measuring electrode consists of a rotating platinum or nickel disk, so that only one side serves as electrode (1000 r.p.m.). The equipment consists of 4 interconnected fluoroplast-4 containers: (a) the electrolytic cell with the disk electrode to be polarized, (b) the auxiliary electrode (100 times the surface of the disk electrode), (c) the reference electrode, and (d) serves for the preparation of the solution. The procedure is described (initial nitrogen treatment for removing air and humidity). The polarization curves  $i$ ,  $\varphi$  ( $i$  - specific current in milliamperes/cm<sup>2</sup>,  $\varphi$  - disk electrode potential in volts) in a HF medium containing 0.1 moles of KHF<sub>2</sub> were determined visually by an automatic self-scriber and are figured for a varying amount of water. They show flattening upon liberation of oxygen from water in solution and a steep slope afterwards, corresponding to fluorine liberation. Orig. art. has: 3 figures.

Card 2/3

ACCESSION NR: AP4030385

ASSOCIATION: Institut organicheskoy khimii AN ArmSSR (Institute of  
Organic Chemistry, AN ArmSSR)

SUBMITTED: 25Sep63

DATE ACQ: 07May64

ENCL: 00

SUB CODE: CH

NR REF SOV: 001

OTHER: 001

Card 3/3

AIKAZYAN, E.; ISANEKYAN, S.; DURGARYAN, A.

Polarographic behavior of polyhalogen organic compounds. Reduction of methyl pentachloroethyl ketone. Izv. AN Arm.SSR. Khim.nauki 18 no.1:114-117 '65. (MIRA 18:5)

I. Institut organicheskoy khimii AN ArmSSR.

AYKAZYAN, Ye. A.

The Determination of the Coefficient of Diffusion of Hydrogen  
by an Electrochemical Method. E. A. Aykazyan and A. I. Fedorova. (Doklady Akad. Nauk S.S.R., 1952, 88, (1), 1137-1140). (In Russian). The coefficient of diffusion of molecular hydrogen was determined by studying the ionization of the latter on polished and platinum disc electrodes in various electrolytes.

of

AYKAZYAN, Ye. A.

Journal of Physical Chemistry

Vol XXXI, No 1, 1957

THE ELECTROCHEMICAL OXIDATION AND REDUCTION OF SOME ORGANIC COMPOUNDS AT THE ROTATING DISC ELECTRODE

Ye. A. Aykazyan and Ya. S. Pleskov (Moscow)

Summary

*Chem*

The kinetics of the anodic oxidation of hydroquinone and ethyl and butyl alcohols and of the cathodic reduction of quinone were investigated with the help of a rotating disc electrode. Diffusion coefficients were calculated from the values of diffusion limiting currents on the basis of V. Levich's theory; the diffusion coefficients of hydroquinone and quinone in 2N HCl at 21° C are equal resp. to  $0.91 \cdot 10^{-5}$  and  $1.10 \cdot 10^{-5}$  cm<sup>2</sup>/sec.

The velocity of oxidation of ethanol and butanol on platinum at sufficiently high potentials is limited by the activated adsorption step and decreases with increasing anodic polarization. At small ethanol concentration ( $5 \cdot 10^{-3}$  M) the oxidation rate decreases with increasing rotation speed which points to an autocatalytic mechanism of the process.

*6*  
*1-4E4j*  
*Im day*



AYKAZYAN, E. A.

USSR/ Chemistry - Physical chemistry

Card 1/2 Pub. 22 - 31/52

Authors : Frumkin, M. N. Academician., and Aykazyan, E. A.

Title : The kinetics of ionization of molecular hydrogen on a Pt electrode and the role of anions

Periodical : Dok. AN SSSR 100/2, 315-318, Jan 11, 1955

Abstract : Investigation was conducted to determine the relation between the current density of molecular hydrogen ionization on a disc-type smooth Pt electrode and the potential and nature of the anion at various rates. The hydrogen dissolved was kept in equilibrium with the hydrogen at atmospheric pressure.

Institution : The M. V. Lomonosov State University, Moscow

Submitted : October 8, 1954

Periodical : Dok. AN USSR 100/2, 315-318, Jan 11, 1955

Card 2/2 Pub. 22 - 31/52

Abstract : It was found that the processes of ionization of adsorbed H and discharge of H ions are practically in reverse order and that the rate of the process on the whole is determined by the hydrogen adsorption and desorption stages. The effect of the anions was found to be the strongest when the electrode potentials were most positive. Ten references: 9 USSR and 1 German (1935-1952). Graphs.

5(4)

AUTHORS: Frumkin, A. N., Aykazyan, E. A. SOW/62-59-2-4/40

TITLE: Kinetics of Ionization of Molecular Hydrogen on a Platinum Electrode (Kinetika ionizatsii molekulyarnogo vodoroda na platinovom elektrode)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 2, pp 202-213 (USSR)

ABSTRACT: In the present paper the density of the ionization current of hydrogen was investigated in dependence on the overvoltage in solutions of 1N H<sub>2</sub>SO<sub>4</sub>, 1N NaOH, 1N HCl, 1N HBr and 1N KJ + 0.1N HCl on a rotary (120 to 20,000 rotations per minute), disk-shaped, plain and platinized Pt electrode. The high rotation rate of the electrode made it possible to leave out the diffusion limitations and to reach a limit at which the ionization rate of hydrogen is determined by a kinetic stage. A kinetic inhibition occurs at low potential values and is the more pronounced the more intense the adsorption of anions is and the slower the potential is put on. At sufficient positive potentials the transition from the diffusion stage into the kinetic one takes place within a

Card 1/3

Kinetics of Ionization of Molecular Hydrogen on a  
Platinum Electrode

SOV/62-59-2-4/40

very limited numerical range of the electrode rotations per second. This indicates that the order of magnitude of the reaction of hydrogen is near the zero potential. The results obtained can be interpreted by the assumption that only the active part of the surface, where the adsorption rate of  $H_2$  reaches a sufficient magnitude, takes part in the electrochemical process. On the active part of the surface an adsorption equilibrium with molecular hydrogen is attained which corresponds to a considerable number of electrons. The rate of the summary process is determined by a certain stage which follows adsorption, e.g. by the ionization rate of the adsorbed hydrogen or by the surface diffusion of the atoms proceeding from the centers where adsorption takes place to those where ionization occurs. The adsorption of anions causes a reduction of the active part of the surface. There are 8 figures, 1 table, and 28 references, 14 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

Card 2/3

5(4) SOV/76-33-5-9/33  
AUTHOR: Aykazyan, E. A. (Yerevan)  
TITLE: On the Passivation of the Platinum Electrode (O passivatsii platinovogo elektroda)  
PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5, pp 1016 - 1022 (USSR)  
ABSTRACT: In this investigation the polarization curves were measured on a rotating platinum disc electrode in various electrolytes over a wide potential range. Figures 1-6 show the measuring results for 1-n-HBr, 1-n-H<sub>2</sub>SO<sub>4</sub>, 1-n-HCl, and 1-n-HClO<sub>4</sub>. Hysteresis was determined in the case of HCl and H<sub>2</sub>SO<sub>4</sub> which depends on whether the overvoltage of hydrogen ionisation is measured in rising or falling direction. The second maximum which appears in HClO<sub>4</sub> could also be observed in H<sub>2</sub>SO<sub>4</sub> with a slow change of voltage. The results prove the explanations previously found by the author together with A. N. Frunkin (Refs 6,7) according to which the passivation process is the result of the decrease of the active sectors of the electrode surface caused by anion adsorption. The intermediate maxima of HClO<sub>4</sub>

Card 1/2

On the Passivation of the Platinum Electrode

SOV/76-33-5-9/33

and  $H_2SO_4$  are explained by the effect of two factors: adsorption of anions, and oxidation of platinum; in this sector a temporary desorption of anions takes place in connection with the occurrence of the less passivating platinum oxides. Hydrogen is probably ionized electrochemically at the sectors which are not desactivated by oxides; besides, hydrogen can also be slowly oxidized by the oxides. The author thanks Academician A. N. Frumkin for suggesting the investigation and for advice given. There are 10 figures and 16 references, 10 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 19, 1957

Card 2/2

S/171/60/013/004/001/004  
E142/E265

AUTHORS: Aykazyan, E. A. and Arakelyan, R. A.

TITLE: Electrode Processes in Acetonitrile. Part 1:  
Anodic Separation of Chlorine on Platinum in  
Acetonitrile Solutions of Hydrogen Chloride

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Khimichesk-  
iye nauki, 1960, Vol. 13, No. 4, pp. 225-234

TEXT: Acetonitrile can be used as solvent in organic  
electro-chemistry as it has a comparatively high dielectric  
constant (38.8 at 20°C), low viscosity and is of liquid consist-  
ency between -40°C and 82°C. Various investigators used aceton-  
itrile as a solvent when testing the electric conductivity of  
different substances (Ref. 4). S. Wawzonek and M. E. Runner  
(Ref. 5) used acetonitrile during polarographic experiments with  
various salts. Other investigations, where the compound was  
used as solvent, are reviewed briefly (Refs. 6-10). In the  
present investigation the acetonitrile was purified and dried  
(moisture content not more than 0.01%). The preparation of the  
various salts (sodium perchlorate, tetraethylammonium perchlorate  
/sic/, tetraethylammonium fluoride and lithium chloride) is

Card 1/3

S/171/60/013/004/001/004  
E142/E265

Electrode Processes in Acetonitrile. Part 1: Anodic Separation of Chlorine on Platinum in Acetonitrile Solutions of Hydrogen Chloride

outlined. The polarographic curves were obtained by the method described by A. I. Frumkin (Ref. 15). A microammeter, a micro-voltmeter and a semi-automatic potentiometer were used in the experiments, which were conducted at a temperature of  $20 \pm 1^\circ\text{C}$ . The characteristic forms of the polarisation curves in the above mentioned salts (Figs. 1-5) are discussed; they agree with data quoted by G. J. Janz and S. S. Danyluk (Ref. 11) who stated that hydrogen chloride, dissolved in acetonitrile, behaves as a weak electrolyte. Marked passivation of the Pt-electrode occurs at 1.8 to 2.3 V potentials which indicates that at these values processes may take place which lead to the oxidation of the platinum surface. Acetonitrile, unlike water, is inert to electrochemical oxidation and reduction. The compound cannot be used for the preparation of electrolytic oxygen. The unstable compound  $\text{Cl}_2\text{O}_8$  is formed from chlorine tetroxide, the former decomposing

Card 2/3



SOV/115-58-5-19/36

AUTHOR: Aykhenbaum, B.L.

TITLE: Change in the Checking System for Temperature Measurement (Ob izmenenii poverochnoy skhemy v oblasti izmereniya temperatur)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 5, p 42 (USSR)

ABSTRACT: The author discusses various types of thermo-couples currently used for measuring temperatures and proposes the use of Class III standard platinum-rhodium/platinum thermocouples for checking base-metal thermocouples.

Card 1/1

AYKHENVAL'D, E.L.

AID P - 1907

Subject : USSR/Engineering

Card 1/1 Pub. 29 - 12/25

Author : Aykhenval'd, E. L., Eng.

Title : Sizes of piston rings

Periodical : Energetik, no.2, 19-20, F 1955

Abstract : While repairing engines it may be necessary to make new piston rings, the size and characteristics of which depends on various prerequisites. The author provides the needed formulae and precalculated table for guidance in making proper size rings for steam and internal combustion engines.

Institution: None

Submitted : No date

DONSKOY, S.M.; ZEMSKOV, N.Ya.; OSFENOV, V.I.; POTAPOV, A.I.;  
UDALIKHINA, A.S.; YAKOSHUK, D.Ya.; VAYNER, M.S.; VERVYI,  
Ye.A.; CHURKIN, D.I.; GERASIMOV, K.A.; ZIBRIN, D.A.;  
AYKHENVAL'D, Ye.L.; KOZLOV, A.I.; BULANOV, A.G.;  
OSTROVSKAYA, L.N.; TAUBES, I.S.; PETROV, Z.I.; POTEPALOV,  
V.A.; PECHONYY, A.D.; TROFINOVA, A.S., tekhn. red.

[Development of power engineering in the Tatar A.S.S.R.]  
Razvitiie energetiki Tatarskoi ASSR. Kazan', Tatarkos knizhnoe  
izd-vo, 1961. 145 p. (MIRA 15:2)

1. Tatar A.S.S.R. Sovet Narodnogo khozyaystva. Upravleniye  
energeticheskoy promyshlennosti.  
(Tatar A.S.S.R.—Power engineering)

AYKHENVAL'D, Ye.L.

Simplified regenerative heating of feed water. Energetik  
9 no.9:16-17 S '61. (MIRA 14:9)  
(Feed water)

AYKHENVAL'D, Yo.L., inzh.

Installation of a mixing heater. Energotik 10 no.3:21-22 Mr  
'62. (MIRA 15:2)

(Feed water)  
(Boilers--Equipment and supplies)

AYKHENVAL'D, Ye.L.

Decrease in superheating of delivered steam. Energetik 11  
no.1:6 Ja '63. (MIRA 16:1)  
(Heating from central stations) (Electric power plants)

YERKHANVAL'D, Ye.L. inzh.

Experienced in the prevention of sediment formation in con-  
densers. Elek. sta. 35 no.3:77-79 Mr '64. (MIRA 17:6)

АЙКНОДЖАЙЕВ, В. И.

АЙКНОДЖАЙЕВ, В. И. -- "The Influence of the Formation of Cross Connections and Texture on the Mechanical Properties of Guttapercha." Min Chemical Industry USSR, Order of Labor Red Banner Sci Res Physicochemical Institute imeni L. Ya. Karlov, Moscow, 1956. (Dissertation for the Degree of Candidate of Chemical Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow



AYKIDZHAYEV, B. I., Master Chem Sci -- (USSR) "The Effect of the Texture and Cross  
Bond Formations on the Mechanical Properties of Gutta-Percha" Moscow, 1957. 16 pp,  
(Min Chem Industry USSR, L. Ya. Karpov<sup>M</sup> Sci-Res Enyb-Chem Inst), 1~~0~~0 copies  
(KL, No 37, 1957, p. 94)

AYKHODZHAYEV, B.I.; SOGOLOVA, T.I.; KARGIN, V.A., akademik

Influence of the conditions of structure formation on the mechanical properties of gutta-percha. Izv. AN Uz. SSR Ser. khim. nauk no.1:49-54 '57. (MIRA 13:10)

(Gutta-Percha)

76-10-26/34

The Dependence of the Mechanical Properties of Gutta Percha on the Degree of Structurization and the Temperature

ture) the mechanical properties are determined immediately by the structurization degree. Gutta percha vulcanized at 143° C in a crystalline state has at each temperature doses of combined sulphur. In these dosages the complex of mechanical properties characteristic of crystalline polymers is coupled with an increased value of the deformation inclination. There are 11 figures, 2 tables, 6 Slavic references.

ASSOCIATION: Physical Chemical Institute imeni L.Ya.Karpov  
(Fiziko-khimicheskiy institut imeni L.Ya. Karpova)

SUBMITTED: October 3, 1956

AVAILABLE: Library of Congress

Card 2/2

76-11-26/35

- The Dependence of the Mechanical Properties of Structured Gutta-Percha on the Conditions for the Forming of Cross Linkages

of classification the polymers which were made amorphous have various different properties. It is shown that the vulcanization of gutta-percha in the crystalline state causes no noticeable reduction of the degree of crystallization. Even with a content of 5.6% of bound sulphur gutta-percha retains its crystalline structure. It is shown that gutta-percha which was vulcanized in the crystalline state, becomes noticeably amorphous after additional heating beyond melting point followed by cooling down. The data obtained here distinctly show the dependence of the properties of gutta-percha on the depth of crystallization as well as on the degree of structural formation, and thus the peculiarities of structural formation in the crystal polymer are made plausible. There are 8 figures, 3 tables, and 10 references, 8 of which are Slavic.

ASSOCIATION: Moscow Physical-Chemical Institute imeni L.Ya.Karpov (Fiziko-khimicheskiy institut im. L.Ya.Karpova, Moskva)

SUBMITTED: October 3, 1956

AVAILABLE: Library of Congress  
Care 2/2

AKHMEDOV, K.S.; AYKHODZHAYEV, B.I.

Investigation of properties of hydrolyzates from cotton hulls.  
Uzb.khim.zhar. no.5:57-61 '58. (MIRA 12:2)

1. Institut khimii rastitel'nykh veshchestv AN UzSSR.  
(Cotton) (Hydrolysis)

AUTHORS: Kargin, V. A., Member, Academy of Sciences, SOV/20-120-6-31/59  
USSR, Sogolova, T. I., Aykhodzhayev, B. I.

TITLE: Properties of Guttapercha in Amorphous State (Svoystva gutta-  
perchi v amorfnom sostoyanii)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 6,  
pp 1277 - 1279 (USSR)

ABSTRACT: In the paper under review it is attempted to determine the influence of the degree of ordering of chain molecules upon the properties of a polymer. Guttapercha, which is a natural crystalline polymer, was used in this investigation. Different states of ordering could be fixed by a vulcanization at different temperatures. The vulcanization was carried out at 143° by finely dispersed sulfur, at 70° and 20° in S<sub>2</sub>Cl<sub>2</sub> vapors and at 20° by mixing a solution of guttapercha in CCl<sub>4</sub> and by mixing a solution of S<sub>2</sub>Cl<sub>2</sub> in ether. Data concerning the initial and the guttapercha vulcanized under different conditions are presented in a table. By means of fixing the different states of guttapercha at different temperatures it was possible to determine

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Properties of Guttapercha in Amorphous State

SOV/20-120-6-31/59

the mechanical properties of guttapercha during the transition from the completely disordered state into the completely ordered state. According to the evidence presented the degree of amorphism of structured crystalline polymers is not only dependent upon the quantity of the formed transverse bindings, but to a high degree also upon the state of the polymer during the structuration process. The smaller the structuration of the polymer, the less thorough will be the subsequent crystallisation. At a given content of bound sulfur two completely different types of bound guttapercha with entirely differing mechanical and physical properties can be obtained. At higher vulcanization temperatures a better ordered arrangement of the chain molecules is fixed. This corresponds to an increased deformability, to smaller values of Young's modulus and of the vitrification temperature. There are 1 figure, 1 table, and 11 references, 7 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im.L.Ya.Karpova (Physicochemical Institute imeni L.Ya.Karpov)

Card 2/3

Properties of Gutta-percha in Amorphous State

SOY/20-120-6-31/59

SUBMITTED: March 4, 1958

1. Polymers--Properties    2. Polymers--Molecular structure    3. Polymers  
--Temperature factors    4. Polymers--Mechanical properties

TITLE: Gutta-percha

Card 3/3



KARGIN, V.A.; USMANOV, Kh.U.; AYKHODZHAYEV, B.I.

Obtaining graft polymers by cellulose ozonation. Vysokom.soed.  
1 no.1:149-151 Ja '59. (MIRA 12:9)

1. Fiziko-khimicheskii institut im. L.Ya.Karpova i Institut khimii  
rastitel'nykh veshchestv AN UzSSR.  
(Polymers) (Cellulose)

KARGIN, V.A.; SOGOMOVA, T.I.; AYKHODZHAYEV, B.I.

Effect of the structure developing process on the crystalline  
state of gutta-percha. Vysokom.soed. 1 no.4:539-541 Ap '59.  
(MIRA 12:9)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.  
(Gutta-percha)

USMANOV, Kh.U.; AYKHODZHAYEV, B.I.; AZIZOV, U.O.

Preparation of graft polymers of cellulose by irradiation  
with Co <sup>60</sup>. Vysokom.soed. 1 no.10:15'70 0 '59.  
(MIRA 13:3)  
(Cellulose) (Polymers) (Cobalt--Isotopes)

# AYKHODZHAYE, B.I.

PHASE I BOOK EXPLOITATION

SOV/984

International symposium on macromolecular chemistry. Moscow, 1960.

Международный симпозиум по макромолекулярной химии СССР, Москва, 14-18 июня 1960 г.; докладная информация. Доклады. Секция III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries) Section III. (Moscow, 14-18 June 1960) 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchange resins, semiconductor materials, etc., ion exchangers, grafting polymerization reactions, properties and chemical interactions of high molecular weight, and the effects of various factors on polymerization, and the degradation of high molecular compounds. No particularities are mentioned. References given follow the articles.

Ushakov, Kh. E., G. M. Ruzitsky, and R. S. Tillyavskiy (USSR). The Radiation Method of Copolymerizing Acrylonitrile with Polybutene and Perylene. 170	170
Maklakov, S. M., G. M. Galaktionov, I. V. Zhuravleva, and P. E. Grigorenko (USSR). Grafting of Carboxylic and Amino Acid Resins onto Polymers. 184	184
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Lazar, M., R. Rado, and Th. Pavlinec (Czechoslovakia). Grafting Methyl Methacrylate onto Polypropylene and Polyethylene. 214	214
Tatarskiy, I. A., Z. I. Savel'yev, and V. M. Evstakhov (USSR). The Interaction of Carbonyl Compounds with Styrene-Styrene Copolymers with Polyamides and $\epsilon$ -Caprolactam. 224	224
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Kyakov, V. I., N. Ya. Leshchins, Y. J. Yanov, (USSR). Oxidation of Cellulose in Chains of Cellulose Molecules. 311	311
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