USSR / Cultivated Plants. Fodder Grasses and Root Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6294

Author : Pakhomova, L. M.
Inst : Acad. Sci. USSR, Sibirian Branch
Title : Characteristics of the Water Content in Perennial Grasses

Orig Pub : Izv. Sibirsk. otd. AN USSR, 1958, No 1, 141-149

Abstract : Experiments were carried out at the botanical garden near Ufa with red clover, sickle alfalfa, sainfoin (Hungarian and Trans-Caucasian), white sweet clover (Melitotus alba) smooth and meadow brome, slender wheatgrass, Roegneria fibrosa, crested wheatgrass and Agro-pyron umbricatum. They were sowed without cover in the spring of 1953 and 1954. The content of water in leaves of perennial grasses

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USSR / Cultivated Plants. Fodder Grasses and Root Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6294

diminished until the end of the vegetation period. This process is related to the aging of plasmatic colloids in tissues. Leaves of perennial leguminous grasses contain more water than those of cereals. Leaves of wild perennial grasses contain less water than those of cultivated ones. The perennial grasses are disposed in the following order, according to the content of water in their leaves: among the leguminous - sweet clover, Hungarian, hybrid and Trans-Caucasian sainfoin, red clover, alfalfa blue hybrid, sickle alfalfa; among the cereals: crested wheat-grass and Agro-pyron umbricatum, smooth brome, Roegneria fibrosa and slender wheat-grass. The water retaining capacity diminished

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USSR / Cultivated Plants. Fodder Grasses and Root Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6294

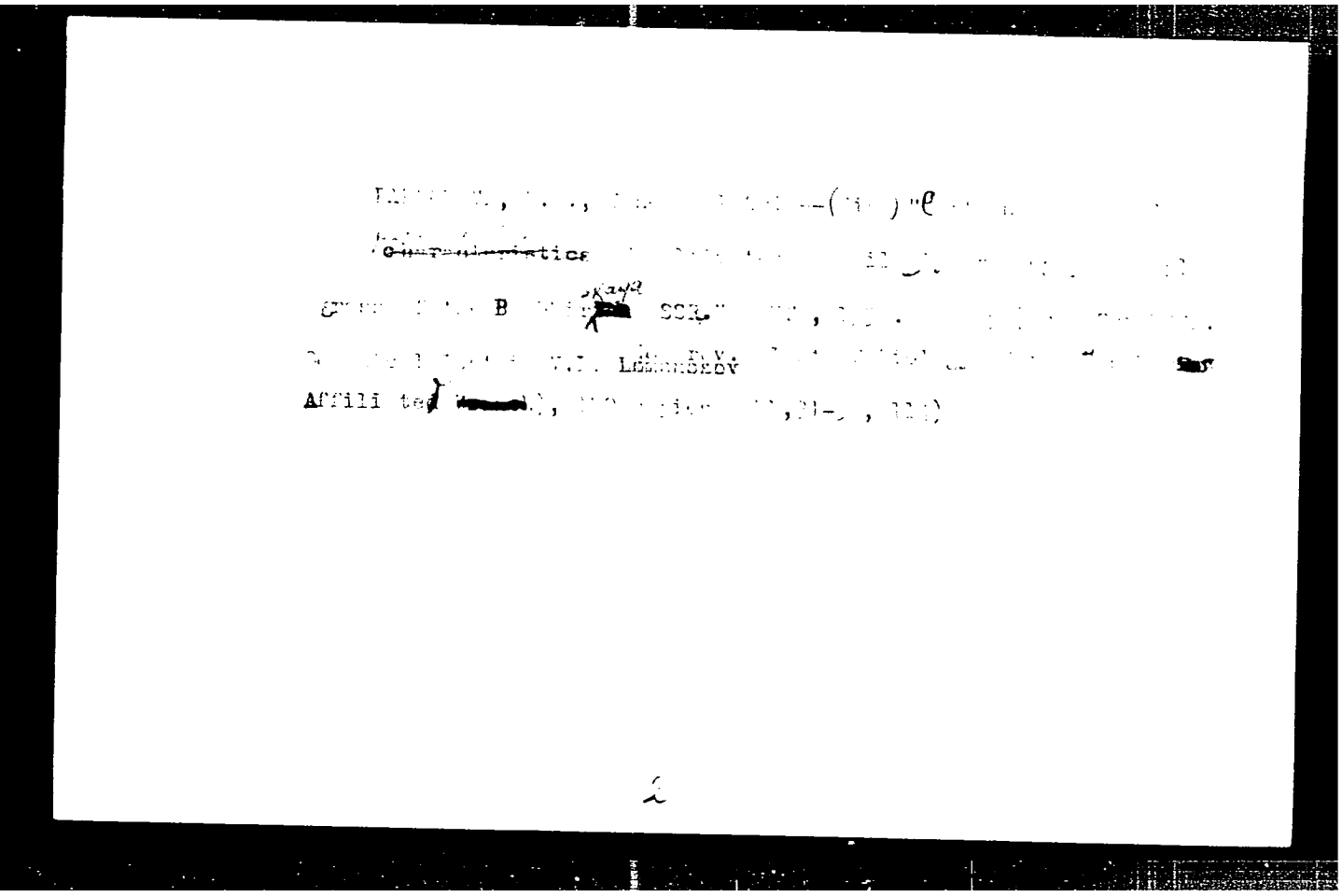
in the blooming phase in cereal perennial grasses and clover; it increased in sweet clover, sainfoin and alfalfa. The water retaining capacity of varieties and ecological types of red clover, hybrid and sickle alfalfa and smooth brome diminished with age. The author came to the

DOBRUNOV, L.G.; PAKHOMOVA, L.M.; FAYZULLIN, A.D.

Control of sugar beet growth and maturation under conditions of a shorter vegetation period. Fiziol. rast. 9 no.3:379-384 '62.
(MIRA 15:11)

1. Institute of Biology of Bashkirian Affiliate of U.S.S.R. Academy of Sciences, Ufa.

(Bashkiria—Sugar beets)



PAKHOMOVA, L.M.

Features in the water cycle of perennial grasses. Izv. Sib. otd. AN SSSR no.1:141-149 '58. (MIRA 11:8)

1.Bashkirskiy filial AN SSSR.
(Bashkiria--Grasses) (Plants--Transpiration)

NOSOV, M.P.; VDOVICHENKO, A.A.; PAKHOMOVA, L.N.

Effect of the conditions of the medium on spontaneous changes in the anisotropy of unoriented nylon fibers. Izv.vys.ucheb. zav.; tekh.tekst.prom. no.2:19-23 '63. (MIRA 16:6)

1. Kiyevskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna.
(Nylon--Testing)

L 10421-67 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6022916 (A) SOURCE CODE: UR/0413/66/000/015/0088/0088

AUTHORS: Pichko, P. V.; Sarancha, Ye. T.; Pakhomova, L. S.; Derevyanko, R. Ya.

ORG: none

TITLE: A method for obtaining a modified carbamide resin. Class 39, No. 181440

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 88

TOPIC TAGS: resin, carbamide, acetic acid, aldehyde

ABSTRACT: This Author Certificate presents a method for obtaining a modified carbamide resin by treating carbamide resin with aldehyde. To increase its resistance to water, the resin is modified with croton aldehyde in the medium of acetic acid.

SUB CODE: 11/ SUBM DATE: 12Apr65

Card 1/1 bp

UDC: 678.652'.41:21-9:547.381

KRUGLOV, B.I. [Kruhlov, B.I.]; PAKHOMOVA, L.S.

Hydrogenation of crotonaldehyde, a by-product of acetaldehyde production. Khim. prom. [Ukr.] no.3:21 Jl-S '64.
(MIRA 17:12

SERENKOV, G.P.; PAKHOMOVA, M.B.

Biochemical investigation of two diatom species. Vest.Mosk. un.Ser.biol., pochv., geol., geog. 14 no.2:39-46 '59. (MIRA 13:4)

1. Kafedra biokhimii rastenii, Moskovskogo gos. universiteta. (Diatoms)

PAKHOMOVA, M.G.

"Amygdalus L." by R.V. Zamyslova, A.S. Lozina-Lozinskaia in "Trees and shrubs of the U.S.S.R.," vol.3. Reviewed by M.G. Pakhomova. Bot. zhur. 43 no.7:1049-1051 Jl '58. (MIRA 11:9)

1. Institut genetiki i fiziologii rasteniy Akademii nauk Uzbekskoy SSR, Tashkent.

(Almond)
(Zamyslova, R.V.)
(Lozina-Lozinskaia, A.S.)

PAKHOMOVA, M.G.

New finds of the hybrid Amygdalus kalmykovii O. Lincz. Bot. zhur. 43 no.4:569-571 Ap '58. (MIRA 11:6)

1. Institut genetiki i fiziologii rasteniy Akademii nauk Uzbekskoy SSR, s. Lunacharskoye.
(Tashkent Province--Almond)

IAKHCMOVA, M. G.

IAKHOVOVA, [illegible]. G. "The A[illegible] Trees [illegible] in Connection [illegible] for their Utilization in the Tree [illegible]." [illegible] the Central Asia State U. [illegible] Central Asia State [illegible] V. I. Lenin. Tashkent, [illegible]. (Dissertation for the Degree of Candidate [illegible] Sciences)

So: Knizhnaya Letopis', No. [illegible], [illegible].

PAKHOMOVA, M.G.

Systematic position of some Amygdalus species. Uzb. biol. zhur. no. 6:14-18 '60. (MIRA 14:2)

1. Institut genetiki i fiziologii rasteniy AN UzSSR.
(ALMOND)

PAKHOMOVA,M.G.

New species of almond from the Kara-Tyube Range. Bot.mat.Gerb. 16:198-206 '54. (MLRA 8:9)
(Kara-Tyube Range--Almond)

PAKHOMOVA, M. M.

4

Glass spectrograph with a plane grating and of high light-gathering power—its applications in Raman spectroscopy. Ya. S. Bobovich and M. M. Pakhomova. *Doklady Akad. Nauk S.S.S.R.* 92, 0[redacted] translation issued as *U.S. Atomic Energy Commission* NSF-tr-222, 4 pp. (1954)).—The spectrograph, constructed on a single-beam principle, has a 100 mm. by 90 mm. diffraction grating with 1200 lines per mm. and 70% of the energy in the first order. The collimator is an achromatic lens of 80 mm. diam. and a focal length of 450 mm. The objective lens of the camera has a light-gathering power of 1:2 at a focal length of 150 mm. The dispersion of 42 A. per mm. can be nearly doubled with larger-diam. lenses. This app. decreases exposure time to less than 0.1 that of the three-prism spectrograph. Powders and solid solns. have been studied in the region of 700 to 1800 cm.$^{-1}$ with the 5461-A. Hg line and cross complimentary filters to reduce the large amount of parasitic light reflected from the sides of the crystallites. The work was carried out in diffused reflected light.

Paul W. Kehres

PAKHOMOVA, M.M.

*RT-984 (A glass spectrograph with a plane grating and of high light-gathering power. Some of its applications in Raman spectroscopy) Svetosil'nyi stekliannyi spektrograf s ploskoi diffraktsionnoi reshetkoi i nekotorye ego primeneniia v kombinatsionnoi spektroskopii. DOKLADY AKADEMII NAUK SSSR, 92(5): 947-950, 1953.

PAKHOMOVA, M.M.

B. T. R.
June 1954
Instrumentation and Laboratory Apparatus

(2 Physicists)

8214*. Glass Spectrograph of High Light Power With a Flat Diffraction Grid and Certain Applications of It in Combination Spectroscopy. (Russian.) Ya. S. Bobovich and M. M. Pakhomova. *Doklady Akademii Nauk SSSR*, v. 98, no. 5, Oct. 11, 1954, p. 947-950.
Principle and advantages. Table, graphs. 5 ref.

PAKHOMOVA, M. M.

(2)

12745 A Glass Spectrograph With a Plane Grating and of High Light-Gathering Power. Scope of Its Applications in Raman Spectroscopy. Ya. S. Bobovich and M. M. Pakhomova. *National Science Foundation Translation*, no. 232, Feb. 1954, 4 p. (From *Doklady Akademii Nauk SSSR*, v. 92, 1953, p. 947-950.)

Previously abstracted from original. See item 8214, v. 3, June 1954.

10/8/54

SERENKOV, G.P.; PAKHOMOVA, M.V.

Studying nucleic acids in Scenedesmus quadricauda grown in light and darkness. Vest. Mosk. un. Ser. 6: Biol., pochv. 16 no.1:40-44 Ja-F '61. (MIRA 14:4)

1. Kafedra biokhimii rasteniy Moskovskogo universiteta.
(ALGAE) (NUCLEIC ACIDS)
(PLANTS, EFFECT OF LIGHT ON)

PAKHOMOVA, M.V.; SERENKOV, G.P.

Effect of light and darkness on the chemical composition of the green alga Scenedesmus quadricauda. Vest. Mosk. un. Ser. 6: Biol., pochv. 17 no.4:44-47 Jl-Ag '62. (MIRA 15:9)

1. Kafedra biokhimii Moskovskogo universiteta.
(Algae) (Plants, Effect of light on)

SEREIKOV, G.P.; PAKHOMOVA, M.V.

Studying the chemical composition of the green alga Dunaliella salina Teod. Vest. Mosk. un. Ser.6: Biol., pochv. 16 no.3:22-26 My-Je '61. (MIRA 14:6)

1. Kafedra biokhimii rasteniy Moskovskogo gosudarstvennogo universiteta.

(Algae)
(Plants--Chemical composition)

SERENKOV, G.P.; PAKHOMOVA, M.V.

Study of carbohydrates in some species of algae. Nauch. dokl. vys. shkoly; biol. nauki no. 1:167-171 '61. (MIRA 14:2)

1. Rekomendovana kafedroy biokhimii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(ALGAE) (CARBOHYDRATES)

L 31192-66 EWT(1) SCTB DD

ACC NR: AP6022606 SOURCE CODE: UR/0218/65/030/006/1204/1212

AUTHOR: Pakhomova, M. V.; Zaytseva, G. N.; Al'bitskaya, O. N.

ORG: Soil Biology Faculty, Moscow State University im. M. V. Lomonosov, Moscow (Biologo-pochvennyy fakul'tet Gosudarstvennogo universiteta)

TITLE: Studies on acid-soluble phosphates in Chlorella vulgaris in relation to rate of cell division and nitrogen source

SOURCE: Biokhimiya, v. 30, no. 6, 1965, 1204-1212

TOPIC TAGS: phosphate, chlorella, plant reproduction, ester, nonmetallic organic derivative, nitrate, urea, plant chemistry

ABSTRACT: The acid-soluble polyphosphate fraction of a Chlorella vulgaris culture consists mostly of triphosphates. Rapidly multiplying cells (flow rate 160 ml/hour) contain a greater variety of sugar phosphates (glucose-1- and 6-phosphates, fructose-6-phosphate, fructose-1,6-diphosphate), with ribose-5-phosphate predominating, than do slowly multiplying cells (flow rate 100 ml/hour). Among the free nucleotides, AMP, ADP, ATP, UMP, UDP, UTP, GMP, GDP, GTF, and CMP have been identified. A number of nucleotide derivatives are also present: AMP-peptides, UMP-peptides, UDP-peptide, UDP-acetylglucosamine, UDP-acetylgalactosamine, UDP-uronic acid, ADP-glucose, ADP-galactose, and GDP-mannose. Thus, Chlorella, like other microorganisms and higher plants, contains a great variety of free nucleotides and their

Card 1/2 UDC: 577.150.11

L 31192-66
ACC NR: AP6022606

derivatives. Adenylic and uridylic derivatives are predominant; guanylic and cytidylic nucleotides are much less abundant.

Rapidly multiplying Chlorella cells contain six times more nucleoside-triphosphates and especially GPT than do slower growing cells. Slowly multiplying cells grown on urea have a high content of AMP and UMP derivatives and nucleotide-peptides. Chlorella cells grown on nitrate have more guanosine and cytidylic acid derivatives than when grown on urea. Orig. art. has: 1 figure and 3 tables. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 26Feb65 / ORIG REF: 007 / OTH REF: 019

Card 2/2 CC

PAKHOMOVA, M.V.

MD

The [illegible] composition of some species of diatoms. G. P. [illegible] and M. V. Pakhomova. Vestnik Moskov. Univ. 10, No. 12, Ser. [illegible] Nauk No. 8, [illegible](1955).—Chromatographic [illegible] showed that Thalassiosira [illegible] and T. [illegible] contain not one but several protein components which are composed of 18 known amino acids and 3 unknown ones. Thus the proteins of the diatoms are complex and comparable to those of higher organisms. Relatively high content of dicarboxylic amino acids and lysine is found in them, the latter being close to the content of lysine in some bacteria. Nucleic acid content is about 5%; these are ribo- and deoxyribonucleic acids. Purine nucleotides predominate over the pyrimidine type. G. M. Kosolapoff

(2)

KARDO-SYSOYEVA, Ye.K.; PAKHOMOVA, M.V.

Nature of frost resistance in plants. Fiziol. rast. 7 no.4:423-427 '60. (MIRA 13:9)

1. Yamal Experimental Station of the Far North Scientific-Research Agricultural Institute.
(Plants--Frost resistance)

ACC NR: AP7007507 SOURCE CODE: UR/0444/66/000/005/0035/0038

AUTHOR: Yurina, Ye. V.; Pakhomova, M. V.

ORG: Zoological-Entomological Laboratory, Moscow State University (Zoologo-entomolo-gicheskaya laboratoriya Moskovskogo gosudarstvennogo universiteta); Department of Plant Biochemistry, Moscow State University (kafedra biokhimii rasteniy Moskovskogo gosudarstvennogo universiteta)

TITLE: The effect of nitrogen feeding sources on the growth of the green alga Asteromonas gracilis Artari and its biochemical composition

SOURCE: Moscow. Universitet. Vestnik. Seriya VI. Biologiya, pochvovedeniye, no. 5, 1966, 35-38

TOPIC TAGS: nitrogen fertilizer, ~~feeding~~, algae, plant growth, plant chemistry, photosynthesis, DNA, RNA

ABSTRACT: Investigations of the effect of nitrogen feeding sources on the growth *A. gracilis* studied the following indices: growth rate of cultures grown on various nitrogen sources (urea and ammonium nitrate), photosynthesis intensity, and biochemical analysis. Data showed that culture growth rate was significantly higher in the urea culture (20% increase in biomass

Card 1/3 UDC: 581.133:582.26

quantity) than in ammonium-nitrate cultures. Photosynthesis intensity of *A. gracilis* increased an average 30% in urea cultures as compared to ammonium-nitrate cultures (see Table 1). It was established that maximum

Table 1. The effect of nitrogen feeding source on the photosynthesis intensity of *A. gracilis*

Culture, number of cells / 1 cm^3	Series 1		Series 2	
	µl O_2	%	µl O_2	%
C—$1 \cdot 10^6$	13,5±0,3	100	15,0±0,7	100
M—$1 \cdot 10^6$	16,1±0,5	123	20,3±0,5	136

photosynthetic intensity occurs in the immature period of the culture when its density is small, and that intensity drops significantly as density increases. Data on the chemical composition of algae are presented in Table 2. Quantitative content of RNA changes sharply during culture growth

ACC NR: AP7007507

Table 2. Chemical composition of algae (in % to organic part of algae)

Culture, number of cells/1 cm^3	General	Protein	Non-protein	RNA	DNA	Protein	RNA	DNA	Total nucleic acid	Carbohydrate	General phosphorus	Raw fat	Ash content*
M—$2 \cdot 10^6$	8,27	6,91	1,36	0,47	0,054	43,18	2,84	0,32	3,16	6,45	1,15	24,24	13,6
M—$4 \cdot 10^6$	7,90	7,20	0,70	0,17	0,047	45,0	1,01	0,28	1,29	6,59	0,84	36,18	8,93
C—$2 \cdot 10^6$	8,38	6,70	1,68	0,57	0,046	41,87	3,46	0,27	3,73	6,51	1,28	23,46	15,2
C—$4 \cdot 10^6$	8,45	7,32	1,13	0,43	0,051	45,75	2,61	0,30	2,91	7,20	1,21	29,44	18,5

*Ashes are calculated in % to absolutely dry weight of algae.

and development. RNA content is 2.5 times greater in a younger culture grown on urea with $2 \cdot 10^6$ kl/cm^3 density than in a culture with $4 \cdot 10^6$ kl/cm^3 density. A similar reduction of RNA was also noted in ammonium-nitrate cultures. The large quantity of RNA in both investigated cultures with $2 \cdot 10^6$ kl/cm^3 density confirms the higher level of biochemical activity in the young algae cells. Quantitative content of DNA, proteins, fats, and polysaccharides neither changes during culture growth nor depends essentially on nitrogen source. Orig. art. has: 1 figure and 2 tables. [SW]

SUB CODE: 06/ SUBM DATE: 10Dec65/ ORIG REF: 004/ OTH REF: 002
ATD PRESS: 5117

Card 3/3

PAKHOMOVA, M.V.; SERENKOV, G.P.

Nucleotide composition of ribonucleic acid in the green algae Dunaliella salina. Dokl. AN SSSR. 144 no.6:1390-1393 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im M.V.Lomonosova
Predstavleno akad. A.I.Oparinym.
(Nucleic acids) (Algae)

PAKHOMOVA, M.V.

Biochemical study of some algal species. Bi[illegible]. MOIP. Otd. biol. 69 no. 3:110-126 My-Je '64. (MIRA 17:7)

SERENKOV, G.P.; PAKHOMOVA, M.V.

Nucleotide composition of desoxyribonucleic and ribonucleic acids in some algae and higher plants. Nauch. dokl. vys. shkoly; biol. nauki no.4:156-161 '59. (MIRA 12:12)

1.Rekomendovana kafedroy biokhimii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(Nucleic acids) (Plants--Chemical composition)

SERENKOV, G.P.; PAKHOMOVA, M.V.

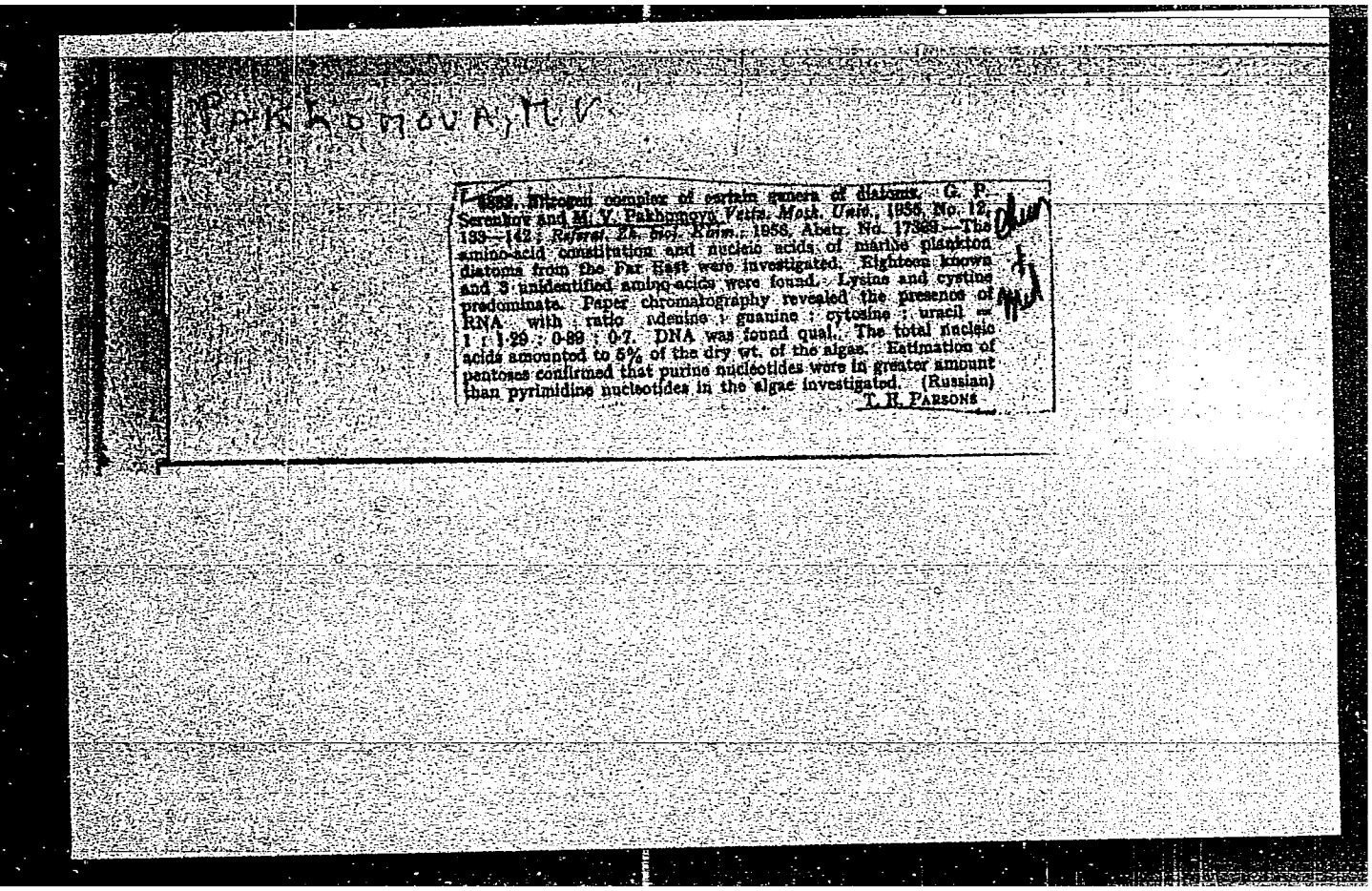
Study of the nitrogen complexes of a few diatoms. Vest.Mosk. un.10 no.12:133-142 D '55. (MLRA 9:5)

1. Kafedra biokhimii rasteniy.
(Diatoms) (Algae)

SKRYNKOV, G.P.; PAKHOMOVA, M.V.; BORISOVA, I.G.

Comparative biochemical study of two species of green algae. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 12 no.3:77-85 '57. (MIRA 10:12)

1. Kafedra biokhimii rasteniy Moskovskogo gosudarstvennogo universiteta. (ALGAE)



1488. Nitrogen complex of certain genera of diatoms. G. P. Sarsailov and M. V. Pakhomova. *Vestn. Mosk. Univ.*, 1958, No. 12, 139–142; *Referat. Zh. Biol. Khim.*, 1958, Abstr. No. 17369.—The amino-acid constitution and nucleic acids of marine plankton diatoms from the Far East were investigated. Eighteen known and 3 unidentified amino-acids were found. Lysine and cystine predominate. Paper chromatography revealed the presence of RNA with ratio adenine : guanine : cytosine : uracil = 1 : 1·29 : 0·89 : 0·7. DNA was found qual. The total nucleic acids amounted to 5% of the dry wt. of the algae. Estimation of pentoses confirmed that purine nucleotides were in greater amount than pyrimidine nucleotides in the algae investigated. (Russian)

T. R. Parsons

ACC NR: AP7000572 SOURCE CODE: UR/0218/66/031/006/1237/1246

AUTHOR: Pakhomova, M. V.; Darkanbayeva, G. T.; Zaytseva, G. N.

ORG: Biological Soil Department of the State University im. M. V. Lomonosov, Moscow (Biologo-pochvennyy fakul'tet Gosudarstvennogo universiteta)

TITLE: Effect of light and darkness on the content of acid-soluble phosphor compounds in the green alga Scenedesmus obliquus Kutz

SOURCE: Biokhimiya, v. 31, no. 6, 1966, 1237-1246

TOPIC TAGS: algae, light biologic effect, plant chemistry, plant metabolism, biosynthesis, nucleic acid, phosphate, phosphorylation

ABSTRACT: Levels of acid-soluble phosphor compounds, including inorganic phosphates, phosphorylated sugars and nucleotides, were investigated in green alga Scenedesmus obliquus Kutz grown under dark and light conditions. Light cultures growing in glass flasks on a modified Beneke culture medium with a 1% glucose solution were exposed to fluorescent lighting (1000 to 2000 lux, 25 to 27°) for 24 hrs daily over a 7-day period, and the dark cultures under similar conditions were exposed to darkness for 20 days. Air containing 5% CO_2 was blown into the flasks. Daily cell counts were recorded, and following the culture growth periods, the algae were separated from the culture medium by centrifuging. The acid-soluble phosphate compounds were extracted

UDC: 581.132

Card 1/2

PAKHOMOVA, N.B.; ARSAYEV, M.I.; IVANOV, V.F.; KUROCHKIN, S.S.; MAMIKONYAN, S.V.

Apparatus for detecting coincidences of relativistic charged particles. Nauch.-tekh.sbor.Gos.izd-va lit. v obl. atom. nauki i tekh. no.4: 89-98 '62. (MIRA 16:10)

KUROCHKIN, S.S.; MAMIKONYAN, S.V.; PAKHOMOVA, M.B.; SALOV, S.P.; TUCHINA, A.S.

New analyzer. Nauch.-tekh.sbor.Gos.izd-va lit. v obl. atom. nauki i tekh. no.4:61-71 '62. (MIRA 16:10)

PAKHOMOVA, N. G. and SKRIPKINA, N. A. (Veterinary Surgeons, Novocherkassk Zooveterinary Institute), RESHETNYAK, V. Z. (Professor).

"To the question of trichomoniasis of domestic fowls".

Veterinariya, Vol. 37, No. 9, p. 41, 1960.

RESHETNYAK, V.Z., prof.; PAKHOMOVA, N.G., veterinarnyy vrach;
SKRIPKINA, N.A., veterinarnyy vrach

Trichomoniasis in poultry. Veterinariia 37 no.9:41-44
S '60. (MIRA 14:11)

1. Novocherkasskiy zooveterinarnyy institut.
(Trichomoniasis)
(Poultry—Diseases and pests)

PAKHOMOVA N.G.

RESHETNYAK, V.Z., doktor veterinarnykh nauk; PAKHOMOVA, N.G., veterinarnyy vrach; LYUTOV, N.F., veterinarnyy vrach; SKRIPKINA, N.A., veterinarnyy vrach.

The tick Hyalomma scupense p.sch.as a vector of the pathogen of anaplasmosis in cattle. Veterinariia 33 no.9:39-40 S '56. (MLRA 9:10)

1.Novocherkasskiy zooveterinarnyy institut.
(Anaplasmosis) (Ticks as carriers of disease)

ACCESSION NR: AR4041560 S/0274/64/000/004/B108/B109

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz'. Svodny*y tom, Abs. 4B674

AUTHOR: Pakhomova, N. L.; Rastegayeva, G. I.

TITLE: Influence of thermomagnetic treatment in weak fields on the anisotropy of manganese ferrite

CITED SOURCE: Tr. Mosk. in-ta inzh. zh.-d. transp., vy*p. 165, 1963, 5-15

TOPIC TAGS: manganese ferrite, anisotropy, weak field, thermomagnetic treatment, hysteresis loop, crystal anisotropy

TRANSPORTATION: Rectangular nature of hysteresis loop is caused by crystal magnetoelectric anisotropy of ferrite. With anisotropy there is also connected time of polarity reversal. Study of influence of thermomagnetic treatment in weak magnetic fields on anisotropy of magnetically-soft manganese ferrite was conducted in magnetic field under two different conditions: above the Curie point and below the Curie

Card 1/2

ACCESSION NR: AR4041560

point. 1. t = 200° C (purposely below the Curie point for $MnO \cdot Fe_2O_3$); external magnetic field H = 1000 oersteds, annealing time τ = 32 hours with subsequent cooling of sample at rate of 1.5° per minute under continuous action of magnetic field. 2. t = 450° C (purposely above the Curie point); external magnetic field H = 1200 oersteds; annealing time τ = 6 hours with subsequent cooling of sample at rate of 1° per minute under continuous action of magnetic field. Analysis of curves of momentum taken after heat treatment of sample under condition 1 showed that anisotropy of sample remained constant. Thermomagnetic treatment under condition 2 led to creation of predominant direction of light magnetization along one of the space diagonals of a cube, which is parallel to the field effective during annealing. It is possible to estimate constant of anisotropy evoked by thermomagnetic treatment: $k_T \approx -3.6 \cdot 10^3$ ergs/cm^3. Magnitude of this constant is one order less than magnitude of constant of magnetic-crystal anisotropy. Magnetic-crystal anisotropy of manganese ferrite at room temperatures appears noticeable only in fields higher than 1000 oersteds. Bibliography: 10 references.

SUB CODE: MM, SS ENCL: 00

Card 2/2

BRYUKHATOV, N.L.; PAKHOMOVA, N.L.

Isothermal magnetic reversal of iron-nickel ferrites by rotation.
Izv. vys. ucheb. zav.; fiz. 8 no.6:130-133 '65.
(MIRA 19:1)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta.
Submitted May 23, 1964.

L 21836-65 EWT(m)/EWP(t)/EWP(b) ESD(dp)/IJP(c) JD

ACCESSION NR: AT5001333 S/2649/63/000/165/0005/0015

AUTHOR: Pakhomova, N. L., Rastegayeva, G. I.

TITLE: The effect of thermomagnetic processing in weak fields on the anisotropy of manganese ferrite

SOURCE: Moscow. Institut inzhenerov zheleznodorozhnogo transporta. Trudy, no. 165, 1963. Nekotoryye voprosy fiziki tverdogo tela (Some problems in the physics of solids), 5-15

TOPIC TAGS: ferrite, manganese ferrite, ferrite anisotropy, thermomagnetic processing

ABSTRACT: The influence of thermomagnetic processing on the anisotropy of magnetically hard materials (cobalt, cobalt-zinc, and other ferrites) was studied earlier by various researchers (e.g., R. F. Penoyer, L. R. Bickford, Phys. Rev., 108, no. 2, 271, 1957; S. I. Iida, Appl. Phys., 31, 2515, Suppl., 1960). Such ferrites were annealed in strong (above saturation value) magnetic fields. The present article discusses the influence of thermomagnetic processing in weak magnetic fields on the anisotropy of the magnetically soft $MnOFe_2O_3$. X-ray analyses showed that the sample used was indeed a monocrystal with a somewhat

Card 1/2

L 21836-65

ACCESSION NR: AT5001333

deformed cubic lattice. The first constant of the magneto-crystalline anisotropy of manganese ferrite has a value of $-3 \cdot 10^4$ erg/cm^3. The results showed that the thermomagnetic processing of the sample above the Curie point in weak magnetic fields generated a uniaxial anisotropy along the direction of the external magnetic field active during the annealing process. The anisotropy constant due to the thermomagnetic processing was about $-3.6 \cdot 10^3$ erg/cm^3. At room temperatures the magneto-crystalline anisotropy of manganese ferrite appeared noticeably only in fields above 1000 oe. In external fields below 1000 oe one finds mostly the anisotropy corresponding to the geometrical shape of the sample. Finally, thermomagnetic processing did not change the magneto-crystalline anisotropy of manganese ferrite. Orig. art. has: 7 formulas, 8 figures and 1 table.

ASSOCIATION: Institut inzhenerov zhelezhnodorozhnogo transporta, Moscow (Institut of Railroad Transportation Engineers)

SUBMITTED: 19Jun61 ENCL: 00 SUB CODE: SS, EM

NO REF SOV: 002 OTHER: 008

Card 2/2

ACCESSION NR: AP4043379 S/0181/64/006/008/2510/2514

AUTHORS: Bryukhatov, N. L.; Pakhomova, N. L.; Potakova, V. A.

TITLE: On the effect of thermomagnetic working on the anisotropy and electric resistivity of iron-nickel ferrites

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2510-2514

TOPIC TAGS: magnetic anisotropy, ferrite material, electric resistivity, orientation, metalworking

ABSTRACT: In order to ascertain which ions participate in the production of the preferred orientation in thermomagnetic working of iron-nickel ferrites with a small excess of iron, the authors investigated single-crystal and polycrystalline samples for anisotropy and electric resistivity. The investigations reported to date do not indicate the mechanism whereby induced uniaxial magnetic anisotropy is produced by thermomagnetic working. The methods of

Card 1/3

ACCESSION NR: AP4043379

producing the samples and their compositions are described. The magnetic crystalline and induced anisotropies were investigated by a torque method, and the electric resistivity was measured by a two-probe compensation method. The results show that during the course of the thermomagnetic working of the ferrites pairs of magnetically-interacting ions become oriented along the tetragonal axis of the spinel lattice, and this results in the induced magnetic anisotropy and in a reduction of the electric resistivity. The induced anisotropy increases with the increasing content of Fe^{2+} ions. The main role in the orientation process is played by the Fe^{2+} ions, since the orientation produced by diffusion of the ions. The electric resistance tests show that samples which do not have many ions of Fe^{2+} do not respond to thermomagnetic working. When these ions are present, the thermomagnetic working reduces the electric resistivity. The change in electric resistivity is thus also connected with the ordering of the Fe^{2+} ions. Orig. art. has: 3 figures, 3 formulas, and 3 tables.

Card 2/3

ACCESSION NR: AP4043379

ASSOCIATION: Moskovskiy institut inzhenerov zheleznodorozhnogo transporta (Moscow Institute of Railway Transport Engineers)

SUBMITTED: 23Dec63 ENCL: 00

SUB CODE: SS NR REF SOV: 001 OTHER: 007

Card 3/3

PAKHOMOVA, N. L.

4

(2)

Vibrational spectra and computation of the potential energy parameters of deuterioethylenes. L. M. Sverdlov and N. L. Pakhomova. *Doklady Akad. Nauk S.S.S.R.* 91, 51–4 (1953). Engl. translation issued as *U.S. Atomic Energy Comm.* NSF-tr-90, (1953)).—The 15 consts. of a quadratic potential function for the planar vibrations of ethylene and the deuterioethylenes were obtained by the method of El'yashevich (allowance for anharmonicity being made). The calcd. and observed wave nos. agreed to within ± 6 cm.$^{-1}$ as av. error and 28 cm.$^{-1}$ as the max. error. The reciprocal force coeffs. which are invariant for a transformation of coördinates were also calcd. H. J. B.

10/15/54

PAKHOMOVA, N.V.

8 9

The [illegible] and [illegible] (1953).—On the basis of a [illegible] of the spectra of C_2H_4 and C_2D_4, the new interpretation of the spectra for the ethylene mol. have been potential energy consts. for the ethylene mol. have been calcd. as have the frequencies and the form of the normal vibrations for all deuteriated ethylenes, C_2H_4, C_2D_4, C_2H_3D, C_2HD_3, cis-$C_2H_2D_2$, trans-$C_2H_2D_2$, and 1-$C_2H_2D_2$.

R. D. Kross

2

PAKHOMOVA, N. L.

USSR

539.132 : 541.57

4768. An [illegible] of [illegible] and [illegible] of [illegible] of [illegible] AND [illegible] Doklady Akad. Nauk SSSR, 94, No. [illegible] In Russian. [illegible] U.S. [illegible]

[illegible] C_2H_4 and C_2D_4 [illegible] in 1949 [illegible] From the [illegible] of [illegible] are [illegible] of [illegible] the [illegible] the [illegible] error being 6 cm^{-1} and [illegible] 28 cm^{-1}. The C=C bond [illegible] is $14{\cdot}2 \times 10^{6}\ cm^{-2}$ ([illegible] dyne/cm) that for the C–H bond $8{\cdot}63 \times 10^{6}\ cm^{-2}$ (5·[illegible] $\times 10^{5}$ dyne/cm), and that for the relative twisting of the CH_2 groups $0{\cdot}755 \times 10^{6}\ cm^{-2}$ ($0{\cdot}445 \times 10^{5}$ dyne/cm). The modified interpretations of the spectra agree with those of Arnett and Crawford [Abstr. 4252 (1950)] and Lancaster, Inskeep and Crawford [Abstr. 6128 (1951)], except for the value of $\nu_{?}(B_{1u})$ for C_2H_4, given here as 3076 cm^{-1}, and for interchange of assignment of ν and ν for $C_2H_2D_2$ of ν and ν for C_2HD_3, and of ν and ν for cis-$C_2H_2D_2$.

J. HAWGOOD

5 Ch

RDW PM

PAKHOMOVA, N. L.

IRmL

345
VIBRATIONAL SPECTRA AND CONSTANT POTENTIAL ENERGY OF ETHYLENE AND ITS DEUTERIUM SUBSTITUTE. L. M. Sverdlov and N. L. Pakhomova. Zhur. Eksptl. i Teoret. Fiz. 25, 64-78(1954) Kn. (In Russian)

On the basis of a new interpretation of the vibrational spectra of C_2H_4 and C_2D_4, the constant potential energy of the ethylene molecule was calculated, and the frequency and form of the normal vibration of all D-substituted ethylenes was obtained. (tr-auth)

USSR/Physics - Oscillatory Spectra, Deuterium 1 Jul 53

"Interpretation of Oscillatory Spectra and Computations of Constants of Potential Energy of Deuteroethylenes," L. M. Sverdlov, N. L. Pakhomova, Saratov State U im Chernyshev

DAN SSSR, Vol 91, No 1, pp 51-54

Computed frequencies of deuteroethylenes by method of Yel'yashev (M. V. Volkenshteyn, M. A. Yel'yashev et al, "Kolebaniya Molekul" (Molecular Oscillations) (1949)) and used experience by

266T95

previous writers (R. Arnett, B. Crawford, J Chem Phys 18, 118 (1950)). Compare computed and observed results in tables. Presented by Acad G. S. Landsberg, 7 May 53.

PAKHOMOVA, N.L.

4

(2)

5629 **An Interpretation of Vibration Spectra and Computation of the Potential Energy Parameters of Deuteroethylenes.** L. M. Sverdlov and N. L. Pakhomova. *National Science Foundation Translation,* no. 80, Sept. 1953. 4 p. (Original in *Doklady Akademii Nauk* SSSR, v. 91, no. 1, July 1953, p. 51-54.)

By using frequency relationship of uneven vibrations proposed by Arnett and Crawford calculations were made of force coefficients corresponding to uneven vibrations. Tables. 8 ref.

11/19/54

BRYUKHATOV, N.L.; PAKHOMOVA, N.L.

Induced anisotropy in crystals of iron-nickel ferrites with an excess of iron. Kristallografiia 9 no.4:521-526 Jl-Ag '64. (MIRA 17:11)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta.

SVERDLOV, L.M.; PAKHOMOVA, N.L.; LANDSBERG, G.S., akademik.

Interpretation of vibration spectra and computation of the permanent potential energy of deutero-ethylenes. Dokl. AN SSSR 91 no.1:51-54 Jl '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Landsberg). 2. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshevskogo. (Ethylenes)

PAKHOMOVA, N. L.

Nuclear Sci. Abs. V-7 Jan 30, 1953 Physics

AN INTERPRETATION OF VIBRATION SPECTRA AND COMPUTATION OF THE POTENTIAL ENERGY PARAMETERS OF DEUTEROETHYLENES. L. M. Sverdlov and N. L. Pakhomova. Translated from Doklady Akad. Nauk S.S.S.R. 91, 51-4(1953). 4p. (NSF-tr-60; D-91 51)

The deformation vibrations of the B_{1g} and B_{1u} types of symmetry in the C_2H_4 and C_2D_4 spectra were re-evaluated. On the basis of this interpretation the force constants were calculated by the method of variation of parameters. The agreement of the calculated frequencies of deuterated ethylenes with the observed frequencies is good. (J.S.R.)

6-16-54 CMI

FD 406

PAKHOMOVA, N. L.

USSR/Physics - Oscillatory spectra of ethylene

Card 1/1

Author : Sverdlov, L. M., and Pakhomova, N. L.

Title : Oscillatory spectra and potential energy constants of ethylene and its deuterium substitutions

Periodical : Zhur. eksp. i teor. fiz. 26, 64-78, Jan 1954

Abstract : On the basis of the new interpretation of the oscillatory spectra of C_2H_4 and C_2D_4 the author computes the potential energy constants of the ethylene molecule. Also calculates the frequencies and forms of the normal oscillations of all the deuterium ethylenes. Demonstrates the faultiness of the interpretation of Gallaway and Barker, as followed by M. V. Vol'kenshteyn, M. A. Yel'yashevich, B. I. Stepanov, and G. Gertsberg. Establishes a new theoretical basis of interpretation. Employs the Mayants method of iteration for the calculation of frequency and form of normal oscillations.

Institution : Saratov State University

Submitted : July 6, 1953

[illegible] SOURCE CODE: UR/0000/66/000/000/0103/0107

ACC NR: [illegible]

AUTHOR: Bryukhatov, N. L.; Pakhomova, N. L.

ORG: none

TITLE: Inductive anisotropy in iron-nickel ferrites with high concentration of nickel

SOURCE: Vsesoyuznoye soveshchaniye po ferritam. 4th, Minsk. Fizicheskiye i fiziko-khimicheskiye svoystva ferritov (Physical and physicochemical properties of ferrites); doklady soveshchaniya. Minsk, Nauka i tekhnika, 1966, 103-107

TOPIC TAGS: ferrite, magnetic anisotropy, thermomagnetic effect, external magnetic field

ABSTRACT: The mechanism involved in the development of monoaxial induced anisotropy
was investigated on a monocrystalline specimen of $Ni_{0.75}Fe^{2+}_{0.12}Fe_{2.0}O_4$ in the form
of a sphere 7.155 ± 0.005 mm. The subject was of interest as very little is known
about this process in Fe-Ni ferrites with high Ni content. Subsequent to measurements
of the first anisotropic constant, K_1 = -29.8 x 10^3 erg/cm^3 in the [100] plane and K_1
= -29.5 x 10^3 erg/cm^3 in the [110] plane (second anisotropic constant was very small),
the specimen was subjected to a thermomagnetic treatment described in detail. The
curves of the momentum before and after treatment in the planes [100] and [110] at
various angles with respect to [001] are given and analyzed. It is suggested that

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L 10757-67

ACC NR: AT6020979

during the thermomagnetic treatment of iron-nickel ferrites with a low concentration of Fe^{2+} ions an orientation of the ferrous ion pairs occurs. The axes of the interacting pairs are located along edges of a cube. Thus, the ferrous ions form a simple cubic lattice. Quantitative distribution of the ion pairs is determined by the angles between the magnetic field and the edges of the cube. The monocrystalline specimen employed in this study was prepared by T. M. Perekalina in the Crystallographic Institute, AN SSSR. Orig. art. has: 9 figures.

SUB CODE: 11, 20/ SUBM DATE: 22Dec65/ OTH REF: 007

L 25638-65 EPF(n)-2/EWT(m)/EWP(b)/EWA(d)/EWP(t) Pu-4 IJP(c) JD/JG/WB 31
ACCESSION NR: AP5004359 S/0076/65/039/001/0181/0184 22 B

AUTHOR: Pakhomova, N. M.; Maksimova, N. P.; Nefedova, I. D.; Krasil'shchikov, A. I.

TITLE: Anodic behavior of titanium-niobium alloys

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 1, 1965, 181-184

TOPIC TAGS: titanium, titanium alloy, niobium containing alloy, alloy corrosion, alloy anodic behavior, alloy passivation

ABSTRACT: The anodic behavior of Ti-Nb alloys in 5N H_2SO_4 at 25C has been investigated. Additions of 2 and 10% Nb decrease the density of the critical passivation current from 222 μamp/cm^2 for unalloyed Ti to 116 and 71 μamp/cm^2 (see Fig. 1 of the Enclosure). However, these additions do not appreciably affect the current density in the passive region. An addition of 35% Nb decreases the critical passivation current density to 7.5 μamp/cm^2 and also the current in the passive region. Additions of 10 and 35% Nb shift the steady potential toward more positive values, from -0.37 to -0.32 and -0.23 v, but at 2% Nb the steady potential becomes more negative. Orig. art. has: 3 figures. [MS]

Card 1/3

L 25638-65
ACCESSION NR: AP5004359

ASSOCIATION: Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of the Nitrogen Industry)

SUBMITTED: 19Dec63 ENCL: 01 SUB CODE: MM

NO REF SOV: 004 OTHER: 003 ATD PRESS: 3185

Card 2/3

PAKHOMOVA, N. V.

PAKHOMOVA, N. V.: "The power engineering of certain processes in solutions of hypochlorites." Min Higher Education USSR. Leningrad Order of Labor Red Banner Technological Inst imeni Leningrad Soviet. Leningrad ,1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN CHEMICAL SCIENCE)

So.: Knizhnaya letopis' No 15, 1956, Moscow

AUTHORS: Flis, I. Ya., Mishchenko, K. P., SOV/78-3-8-10/38
Paknomova, N. V.

TITLE: The Thermochemistry of the Dissociation of Sulfuric Acid and Hypochlorous Acid in Aqueous Solutions (Termokhimiya dissotsiatsii sernoy i khlornovatistoy kislot v vodnom rastvore)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1774-1780 (USSR)

ABSTRACT: By means of thermochemical tests the reaction of solutions of sodium hypochloride with sulfuric acid was investigated. The heat effect of the reaction $ClO^- + H^+ \longrightarrow HClO$ and $OH^- + HSO_4^- \longrightarrow SO_4^{2-} + H_2O$ was calculated. The thermochemical investigations of the processes in hypochloride solutions were combined with a calorimetric and potentiometric method. This method is also applicable in the investigation of thermochemical reactions with other instable systems. The potentiometric determinations were performed with platinum electrodes and their results make it possible to correct the values found

Card 1/3

The Thermochemistry of the Dissociation of Sulfuric Acid and Hypochlorous Acid in Aqueous Solutions

SOV 78-3-8-10/48

by the thermochemical analysis The heat effect of the neutralization of diluted solutions of sulfuric acid at 10, 25, 35 and 50° C was determined. From the data the dissociation constant of HSO_4^- was computed. The average of the computed heat effect for the corresponding temperatures is the following: At 10°C = -16,01 ± 0,04 kcal/gram equivalent,

at 25°C = -15,74 ± 0,04 kcal/gram equivalent,

at 35°C = -15,61 ± 0,08 kcal/gram equivalent,

at 50°C = - 15,32 ±0,04 kcal/gram equivalent

The dissociation heat of the chloric acid in aqueous solutions was investigated. From the experimental results the thermodynamic characteristic of this process in the temperature range of 10 - 50°C was found:

At 10°C = 5,90 ± 0,05 kcal/mol

at 25°C = 5,70 ± 0,04 kcal/mol

at 35°C = 5,40 ± 0,05 kcal/mol

Card 2/3

The Thermochemistry of the Dissociation of [illegible] Sulfuric Acid and Hypochlorous Acid in Aqueous Solutions

at 50°C = 9,0 ± 0,04 kcal/mol.

The dissociation process of the chloric acid is of an endothermic nature.

There are 5 figures, 6 tables, and 27 references, 11 of which are Soviet.

SUBMITTED: July 15, 1957

Card 3/3

SOV/78-3-8-11/48

AUTHORS: Flis, I. Ye., Mishchenko, K. P., Pakhomova, N. V.

TITLE: The Calculation of the Fundamental Thermodynamic Values for ClO^-_{aq} and $HClO_{aq}$ at 25° Centigrade (Vychisleniye osnovnykh termodinamicheskikh velichin dlya ClO^-_{aq} i $HClO_{aq}$ pri 25°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1781-1784 (USSR)

ABSTRACT: Thermochemical testings were performed of the reaction $ClO^-_{aq} + H_2O_{2\,aq} \longrightarrow Cl^-_{aq} + H_2O + O_2$ at 10, 25, 35, and 50° centigrade. The results obtained at 25° centigrade were used for the calculation of the calorimetric testings. Based on their own results the fundamental thermodynamic values for ClO^-_{aq} and $HClO_{aq}$ at 25° centigrade were calculated:

$\Delta H^\circ_{298(ClO^-_{aq})} = -25{,}73$ kcal/g-ion

$\Delta H^\circ_{298(HClO_{aq})} = -31{,}37$ kcal/mol

$\Delta Z^\circ_{298(HClO_{aq})} = -19{,}17$ kcal/mol

Card 1/2

The Calculation of the Fundamental Thermodynamic Values for ClO^-_{aq} and $HClO_{aq}$ at 25° Centigrade

$\Delta Z^\circ_{298(ClO^-_{aq})}$ = - 9,21 kcal/g-ion

$S^\circ_{298(HClO_{aq})}$ = 25,84 E.ye.

$S^\circ_{298(ClO^-_{aq})}$ = 11,36 E.ye.

There are 2 tables and 16 references, 12 of which are Soviet

SUBMITTED: June 10, 1957

Card 2/2

KLEBANOV, G.S.; NAYDIS, F.B.; PAKHOMOVA, N.V.

Extraction of bromine from waste products of synthomycin production. Med. prom. 16 no.1:28-34 Ja '62. (MIRA 15:3)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(BROMINE)
(CHLOROMYCETIN)

FLIS, I.Ye.; MISHCHENKO, K.P.; PAKHOMOVA, N.V.

Thermochemistry of dissociation of sulfuric and hypochlorous acids in aqueous solutions. Zhur. neorg. khim. 3 no.8: 1772-1780 Ag '58. (MIRA 11:9)
(Sulfuric acid) (Hypochlorous acid) (Thermochemistry)

FLIS, I.Ya.; MISHCHENKO, K.P.; PAKHOMOVA, N.V.

Calculations of the important thermodynamic quantities for ClO^-_{aq} and $HClO_{aq}$ at 25°C. Zhur. neorg. khim. 3 no.8:1781-1784 Ag '58. (MIRA 11:9)

(Hypochlorous acid)

PAKHOMOVA O. S.

K-5

Category : USSR/Optics - Physical Optics

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4938

Author : Shklyarevskiy, I N , Miloslavskiy, V.K., Pakhomova, O.S., Ryazanov, A.N.

Title : Interferometric Method for Determining the Dispersion of Liquids in the Ultraviolet Region

Orig Pub : Uch. zap. Khar kovsk. un-ta, 1955, 6, 147-150

Abstract : The previously described (Referat Zh. Fizika, 1955, 23123) interferometric method for determining the dispersion of liquids and solids, based on the application of the lines of equal chromatic order, has been expanded to determine the dispersion of liquids in the ultraviolet region. The investigated liquid is introduced into a gap between aluminized quartz plates, which are attached to the slit of an ISP-22 quartz spectrograph. The thickness of the gap is regulated by means of screws. The resultant spectrogram is used to determine the wavelengths of many interference lines, to determine their interference order, and knowing the thickness of the gap, to calculate the index of refraction for many wavelengths. The order of the interference is determined by filling the gap half with

Card : 1/2

Category : USSR/Optics - Physical Optics

K-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4838

liquid and half with air and obtaining on the spectrogram two systems of lines. The accuracy of the measurement is 5×10^{-4}. The above method requires small amounts of substance and is applicable to absorbing liquids.

Card : 2/2

Pakhomova O.S.

AUTHORS: Broude, V.L., Pakhomova, O.S. and Prikhot'ko, A.F.

TITLE: Effect of deformations on the spectra of crystals. 51-3-7/24
(Vliyaniye deformatsiy na spektry kristallov).

PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy), 1957, Vol.2, No.3, pp.323-329 (U.S.S.R.)

ABSTRACT: Deals with the effect of planar tension on the absorption spectra of benzene, naphthalene, anthracene and CdS at the liquid hydrogen temperature (20.4 K). The sample were thin films held in a crystal holder. The assembly had a quartz lens for photographing spectra of various parts of the sample. The whole assembly was rotatable and was placed in a cryostat with quartz windows. The spectra were obtained with a quartz spectrograph whose dispersion was 2.9 Å/mm at about 2600 Å. To study the CdS spectra glass optical parts were used. An Iceland spar polarizer made it possible to obtain simultaneously spectra for two mutually perpendicular directions of the electric vector vibrations. A krypton lamp was used as a source and the iron spectrum for calibration. Naphthalene crystalline films rigidly fixed between two quartz plates behaved differently for different thicknesses of the film. Above 2-3 μ thickness these films cracked on cooling to 20.4 K. Thinner films exhibited

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Effect of deformations on the spectra of crystals. (Cont.) 51-3-7/24

spectral displacement towards ultraviolet when compared with freely supported samples. This spectral displacement was accompanied by widening and weakening of bands and strong polarization of the originally weakly polarized "molecular" M bands (see the preceding paper). If the films were very thin (0.01 μ) only the spectral displacement occurred. Similar behaviour with strongly developed polarization effects was observed for anthracene films. Benzene films also behaved essentially in the same way as naphthalene but both the spectral displacement and polarization effects occurred only in thin (0.2 - 0.5 μ) films. In CdS displacement and intensity redistribution of absorption lines occurred for crystals under tension. The explanation of these effects lies in the large difference of linear thermal expansion coefficients of the quartz holders (2×10^{-7} deg^{-1}) and of the organic crystals ($1\text{-}2 \times 10^{-4}$ deg^{-1}). Cooling to 20.4 K from room temperature produced an extension of 5% in the rigidly held crystal films. In thicker films the extension is non-uniform across the sample thickness being largest at the planes of contact with the quartz plates. This non-uniformity which produces lattice distortions, accounts for the displacement, weakening and widening of

Card 2/3

PAKHOMOVA, O. S.

20-6-19/42

AUTHORS: Bragin, O. V., Broude, V. L., Zoteva, S. V., Liberman, A. L. Pakhomova, O. S., and Pryanishnikova, M. A.

TITLE: Spectral Method of Determination of the Number and Position of Side Chains in the Molecules of Benzene Homologues (K voprosu o spektral'nom metode ustanovleniya chisla i polozheniya bokovykh tsepey v molekulakh gomologov benzola)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 6, pp. 961 - 964 (USSR)

ABSTRACT: In an earlier work the second author and the fourth one have shown that the ultraviolet absorption spectra of crystals of benzene homologues at 77°K (= temperature of liquid nitrogen) may be used for the purpose mentioned in the title. The result may be obtained quickly and by a small quantity of substance (some hundreth grams). These spectra consist of series of narrow strips which are, in compounds with the same position of the side chains, of the same type, independent of the length and the ramification of these chains. If the spectra of these compounds which have a similar substitution type within the molecules are put together, such as the first absorption strips (corresponding to the pure-electronic transition) lie together, also the following will do the same. Therewith also the relative strip-intensities are reproduced. This phenomenon was proved on a great number of examples of the monoalkylbenzene-order,

Card 1/3

Spectral Method of Determination of the Number and Position of Side Chains in the Molecules of Benzene Homologues

as well as for some simplest o- and p-dialkylbenzenes. In the present work further informations on the affirmation of the regularity mentioned are quoted. The physical characters of the hydrocarbons investigated are concentrated in table 1. It has been pointed out that the same spectrum type with the growing side chain length will be preserved. (1, 2, 4-trialkylbenzene - figure 1 A). The correspondence of the spectra of p-di-isopropylbenzene and p-xylene confirms the fact that the state branched out of both chains does not influence the position of the absorption bands. This analogy also is retained for the case that a double-binding, which is not conjugated with the benzene nucleus, is introduced into a side chain. (Comparison of ethyl- and propyl-mesitylenes with allyl-mesitylenes - figure 1 B). Quite another picture will be at an immediate conjugation of the double-binding with the benzene nucleus. So, the absorption spectrum of the 2-methyl--phenylpropene-1 also is interrupted in the temperature of the nitrogen. Here the absorption intensity is much higher, than in the case of all the other investigated substances. In spite of a same symmetry of the spectra of alkyl- and alkylene-mesitylenes (figure 1 B) and of monoalkylbenzenes (figure 1 C) an essentially dif-

PAKHOMOVA, O.

BROUDE, V.L.; YEREMENKO, V.V. [IEremenko, V.V.]; MEDVEDEV, V.S.; PAKHOMOVA, O.S.; PRIKHOT'KO, A.P.

Effect of deformations on the electron spectra of crystals [in Ukrainian with summary in English]. Ukr. fiz. zhur. 3 no.2:232-238 Mr-Ap '58. (MIRA 11:6)

1. Institut fiziki URSR.
(Crystals--Spectra) (High pressure research)

AUTHORS: Broude, V.L., Izrailevich, Ye.A., ... , ... , ... Prikhot'ko, A.F., and ...

TITLE: On Electron Spectra of Aromatic Hydrocarbons ... Derivatives at 20°K (Ob elektronnykh spektrakh ... uglevodorodov i ikh deyterirovannykh proizvodnykh pri 20°K)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 11.-1.. (...)

ABSTRACT: The present paper is the first of a series on ... absorption spectra of deuterated compounds and ... molecular and crystal structure produced by deu... the hyperfine structure and to observe the small isotopic ... measurements were made at 20°K. The work report... is ... extension of the application of the deuteration ... isotopic exchange of hydrogen with liquid deuteri... a solution of KND_2 in liquid ND_3 (Refs 4-10). ... in Table 1 which shows that using such methods all ... in diphenyl, naphthalene, toluene, n-xylene, durene ... hexamethylbenzene may be replaced by deuterium. ... followed the method described in Ref 10, which gives ...

Card 1/3

On Electron Spectra of Aromatic Hydrocarbons and Their Deuterated [illegible]

calculation of the number of replaced hydrogen atoms [illegible] molecule. The last column of Table 1 shows that the [illegible] only a little from the total number of hydrogen atoms [illegible] molecule in question. The following hydrocarbons were [illegible] benzene, toluene, m-xylene, n-xylene, mesitylene, durene, [illegible] naphthalene, phenanthrene, diphenyl. The constants, such as [illegible] boiling point, refractive index, of the original and deuterated substances are given in Table 2. Using polarized light [illegible] obtained the electron spectra of the crystals listed in Table [illegible] (both in deuterated and non-deuterated forms). Measurements were [illegible] at 20°K and the results are shown in Figs 1-7. The spectral shifts produced by deuteration are due, firstly to changes in the [illegible] of molecules, and secondly to changes in the crystal structure. The first produce spectral shifts towards the short wavelengths by [illegible] 100-200 cm^{-1} and a decrease of frequencies of the molecular vibrations by a factor of 1.04-1.15. The crystal structure changes the [illegible] the polarization ratios for the absorption bands and in the [illegible] splitting between strongly polarized bands. A.L. Liberman (Institute of Organic Chemistry, Academy of Sciences of the U.S.S.R.) prepared [illegible] benzene and alkylbenzenes. A.I. Shatenshteyn and Ye.A. Izrailevich

Card 2/[illegible]

SOV/51-5-2-3/26

On Electron Spectra of Aromatic Hydrocarbons and their Deuterated Derivatives at 20°K

(Physico-Chemical Institute imeni Karpov) prepared deuterated compounds. V.L. Broude, M.I. Onopriyenko, O.S. Pakhomova and A.F. Prikhot'ko (Institute of Physics, Academy of Science of the Ukrainian S.S.R.) obtained and interpreted the electron spectra. The authors thank Yu. Antonchik for density measurements of the deuterated hydrocarbons and P. Manochkina for help in deuteration of the hydrocarbons. There are 7 figures, 2 tables and 16 references, 14 of which are Soviet, 1 American and 1 English.

ASSOCIATION: Institut fiziki AN UkrSSR; Fiziko-khimicheskiy institut im. Karpova (Institute of Physics, Academy of Sciences of the Ukrainian S.S.R.; Physico-Chemical Institute imeni Karpov)

SUBMITTED: July 16, 1957

Card 3/3 1. Hydrocarbons-d--Spectrographic analysis 2. Ultraviolet spectrum --Applications

SOV/51-5-2-4/26

AUTHORS: Brodin, M.S., Pakhomova, O.S. and Prikhot'ko, A.F.

TITLE: Absorption of Light by Stilbene Crystals at 20°K (Pogloshcheniye sveta kristallami stil'bena pri 20°K)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 123-127 (USSR)

ABSTRACT: The authors obtained and analysed the absorption spectrum of crystalline stilbene at 20°K. The crystals were prepared by sublimation and were attached to quartz glass plates. The spectra were photographed in polarized light using an ISP-22 quartz spectrograph. A hydrogen lamp with a "uviol" window or a krypton lamp GSVD-120 were used as light sources. Iron spectrum was used for calibration. A FEU-18 photomultiplier was used as the receiver. Photographs of the two polarized components of the absorption spectrum (at 20°K) of a stilbene monocrystal, 0.2 μ thick, are shown in Fig 1. Fig 2 gives the absorption curve of a stilbene crystal at 20.4°K for vibrations parallel to the N_p axis. Fig 3 gives the absorption spectra of a stilbene crystal (curve 1) and a solid solution of stilbene in tolane (curve 2) at 20°K (vibrations parallel to the N_g axis). The authors make the following deductions from Fig 3. (1) The intensity of the first (purely electronic) band, as compared with the other bands, is considerably greater in the

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Absorption of Light by Stilbene Crystals at 20°K SOV/5-5-2-4/26

crystal spectrum than the intensity of the corresponding band in the solid solution spectrum. (2) 770 cm^{-1} vibration frequency is present in the pure crystal spectrum. The same vibration has a frequency of 745 cm^{-1} in the solid solution of stilbene in dibenzyl but it is absent in the solid solution of stilbene in tolane. (3) The bands corresponding to the harmonics of the 1590 cm^{-1} vibrations are stronger than the fundamental bands in the N_g-component of the pure crystal spectrum, but they are weaker in the solid solution spectra. The authors used crystals in optical contact with quartz plates or layers produced by melting between two quartz plates. In both cases cooling to the liquid-hydrogen temperature produced considerable mechanical strain due to the difference between the thermal expansion coefficients of quartz and stilbene. Such strains affect polarization of separate bands and their spectral position. The vibrational structure, however, is practically unaffected but the purely electronic bands are altered considerably and this has to be allowed for in making of any deductions. There are 3 figures and 5 Soviet references.

Card 2/2

ASSOCIATION: Institut fiziki, AN UkrSSR, g. Kiyev (Institute of Physics, Academy of Sciences of the Ukrainian S.S.R., Kiyev)

SUBMITTED: September 14, 1957 1. Stilbene crystals--Preparation 2. Single crystals--Spectrographic analysis

L 15005-66 EWT(l)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD/WW/GG

ACC NR: AP6001644 SOURCE CODE: UR/0051/65/019/006/0916/0922

AUTHOR: Prikhot'ko, A. F.; Pakhomova, O. S.

82
23

ORG: none

21,44,55

TITLE: Absorption of light by alpha-oxygen in the 34,000-41,000 cm^{-1} region at 4°K

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 916-922

TOPIC TAGS: absorption spectrum, oxygen, cryogenics, molecular physics, LIGHT ABSORPTION

ABSTRACT: The absorption spectra of crystalline oxygen were photographed by using layers of condensate produced by cooling a stream of gas on a collector which was cooled by liquid helium. The collector was a flat quartz window and the cooled layer was located in the vacuum chamber of a cryostat. Quartz spectrographs with low dispersion were used. The light source was a krypton lamp. A comparison of crystal spectra showed that most of the absorption in the 34,000-41,000 cm^{-1} region is due to excitation of molecules to the $^3\Sigma_u^+$ state. A transition which is forbidden in the free molecule appears in the spectra of condensed phases as a forced dipole transition. The vibrational levels in the spectra of the crystal and gas are tabulated

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and the positions of the pure electron transitions are calculated. The greatest differences between the crystal and gas spectra are in the fine structure of the members of the principal and subordinate series. Each electron-vibrational gas absorption line in the crystal shows a triplet of narrow lines accompanied by satellites. The absorption intensity in the $^3\Sigma_g^- \rightarrow {}^3\Sigma_u^+$ transition of the O_2 molecule is extremely low in the gas at normal pressure and is linearly pressure-dependent at low pressures; in the compressed gas, the absorption intensity increases as the square of the pressure; in the crystal, the absorption intensity is extremely high--equivalent absorption layers of gaseous oxygen at normal pressure and crystalline oxygen differ by a factor of 5,000. The mechanism responsible for these phenomena is exchange interaction which is extremely active due to the participation of molecules in the $^3\Sigma_u^+$ state. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 07,20/ SUBM DATE: 03Aug64/ ORIG REF: 000/ OTH REF: 005

OC

Card 2/2

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S/044/61/000/012/053/054
C111/C222

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AUTHOR: Pakhomova, V. A.

TITLE: The graphic determination of partial derivatives of some functions of several variables

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1961, 54, abstract 12V326. ("Tr. Novosib. in-ta inzh. zh.-d. transp.", 1960, vyp. 18, 157-169)

TEXT: The author refers to his previously published paper (A new method of graphically calculating functions of several variables, Scientific Reports no. 2, НИИЖТ (NIIZhT), Novosibirsk, 1958, according to which a function of n variables in the form

$$U(x,y,z,\ldots k,t) = f_1(x) \cdot f_2(y) \cdot f_3(z) \cdot \ldots \cdot f_{n-1}(k) \cdot f_n(t)$$

can be represented by n plane curves. Each is a function of one of the variables. The remaining (n-1) variables are given the same constant values. After these curves, the author constructs the curves of the derivatives

$$\frac{\partial u}{\partial x}, \quad \frac{\partial u}{\partial y} \quad \ldots \quad \frac{\partial u}{\partial t}.$$

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The graphic determination of partial ..

and after this he constructs the curves of the second order derivatives.

$$\frac{\partial^2 U}{\partial x \partial y}, \quad \frac{\partial^2 U}{\partial x \partial z}$$

etc. Examples are given. Scale-relations are considered.

[Abstracter's note: Complete translation.]

Card 2/2

KNYAGINICHEV, M.I.; BOLKHOVITINA, Yu.R.; Prinimali uchastiye: MYASOYEDOVA, T.V.; PAKHOMOVA, V.F.

Specific rotation of starch and the products of its decomposition during hydrolysis with solutions of hydrochloric acid and aluminum chloride. Biokhimiia 27 no.1:9-14 Ja-F '62. (MIRA 15:5)

1. Technological Institute of the Refrigeration Industry, Leningrad.
(STARCH) (HYDROCHLORIC ACID) (ALUMINUM CHLORIDE)

PAKHOMOVA, V.I.

Antifreeze poisoning during World War II. Farm.i toks.10 no.3. 48-49 My-Je '47. (MLRA 7:2)

1. Iz kafedry sudebnoy meditsiny (zaveduyushchiy - professor I.V.Slepyshkov) Kuybyshevskogo meditsinskogo instituta.
(Anti-freeze solutions--Toxicology)

PAKHOMOVA, V. P., Master Agric Sci — (diss) "The method of selection of winter rye at the Kmar'kov Section Station." Kmar'kov, 1957, 22 pp. (Min Agric USSR. Kmar'kov Agric Inst im. V. V. Dokuchayev), 120 copies.

(KL, No 40, 1957, p.94)

PAKHOMOVA, V.P.

25820

25820. PAKHOMOVA, V.P. Semenovodstvo [illegible] [illegible]dovskoy [illegible]. Seleksi[illegible] i [illegible]istvo, 1949, No 8, s. 7-11

SO: Let[illegible]opis' Zhurn[illegible]'n[illegible] [illegible], Vol. [illegible], [illegible]

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

YUR'YEV, V.Ya. [IUr"iev, V.IA.], akademik, dvazhdy Geroy Sotsialisticheskogo Truda; PAKHOMOVA, V.P., kand.ekonom.nauk

Winter hardiness of certain rye varieties. Visnyk sil'hosp.nauky 4 no.8:21-24 Ag '61. (MIRA 14:7)

1. Ukrains'kiy ordena Lenina naukovo-doslidniy institut roslinnitstva, selektsii i genetiki.
(Rye) (Plants--Frost resistance)

NIKITIN, P.I.; PAKHOMOVA, V.V.; LUNEVA, K.K.

Disinfection and disinfestation of bedding made from synthetic materials. Zh. mikrobiol. 40 no.7:13-18 Jl '63 (MIRA 17:1)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnoy gigiyeny Glavnogo sanitarnogo upravleniya Ministerstva putey soobshcheniya.

PAKHOMOVA, Ye. A.

Pakhomova, Ye. A. -- "Investigation of the General Rules for Vulcanization of Bulky Rubber Articles." Cand Tech Sci, Moscow Inst of Fine Chemical Technology, Moscow 1953. (Referativnyy Zhurnal--Khimiya, No 1, Jan 54)

So: SUM 168, 22 July 1954

LAYNER, D.I.; BAZHENOVA, L.A.; AGAFONOVA, A.V., Prinimali uchastiye: PAKHOMOVA, Ye.F., inzh.; KORSUNSKAYA, K.N., inzh.

Effect of various additions on the modification and recrystallization temperature of zinc. Trudy Giprotsvetmetobrabotka no.20:81-96 '61. (MIRA 15:2)

(Zinc—Metallurgy) (Crystallization)

PAKHOMOVSKIY, V.I. (Yelat'ma Ryazanskoy oblasti)

Organizaing the work of rural medical and obstetrical stations in [medical] attendance for children. Fel'd. i akush. 27 no.4:40-42 Ap '62. (MIRA 15:6)
(CHILDREN--CARE AND HYGIENE)

PAKHOMYCHEV, A.I. DECEASED c1960 1961/2

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HYGIENE

S/051/62/012/005/004/021
E039/E120

AUTHORS: Alentsev, M.N. (deceased), and Pakhomycheva, L.A.

TITLE: The connection between absorption and luminescence spectra and the yield of anti-Stokes luminescence

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 565-570

TEXT: The supposition that the luminescent quantum yield must be constant for all regions of excitation and the conclusion, reached by other workers, that the thermodynamic and statistical laws are not violated by anti-Stokes excitation, are investigated experimentally. The luminescent spectra for an alkaline solution of fluorescein are compared for Stokes (λ = 366 mmk) and anti-Stokes (λ = 546 and 578) excitation over the range 17600-18000 cm^{-1}. The ratio of spectral intensities $i_{366}/i_{546,\ 578}$ is shown to remain constant at a value of ~ 20. The relative quantum yield with excitation at λ = 366 mmk and λ = 546 and 578 mmk is calculated and shown to equal 8.5, confirming the data of previous workers. Absorption and luminescent spectra are compared using the formula:

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L 47042-65 EWG(j)/EWT(l)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4/Pi-4 IJP(c)
JD/JG

ACCESSION NR: AP5007548 S/0368/65/002/001/0082/0084

AUTHOR: Cherepnev, A. A.; Pakhomycheva, L. A.

TITLE: Influence of cerium additive on the luminescence spectrum of the luminor $SrSO_4$-Sm^{3+}

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 1, 1965, 82-84

TOPIC TAGS: luminor, luminor activation, strontium sulfate luminor, cerium

ABSTRACT: The authors observed a sharp change in the luminescence spectrum and an increase in the brightness of the luminor $SrSO_4$-Sm when small amounts of cerium were added. The luminor was excited by a mercury light with ultraviolet filter, and its luminescence spectra were photographed with a spectrograph. A noticeable change occurred even upon addition of 10^{-2} Ce, and additional samarium lines appeared. Although the phenomenon is similar to sensitization, in fact the addition of cerium changes the structure of the luminescence center. It is assumed that the phenomenon can be attributed to the effect of oxygen associated with oxidation-reduction processes in cerium oxides, with formation of a luminor. In particular, the specific chemical properties of cerium are such as to facilitate transitions

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