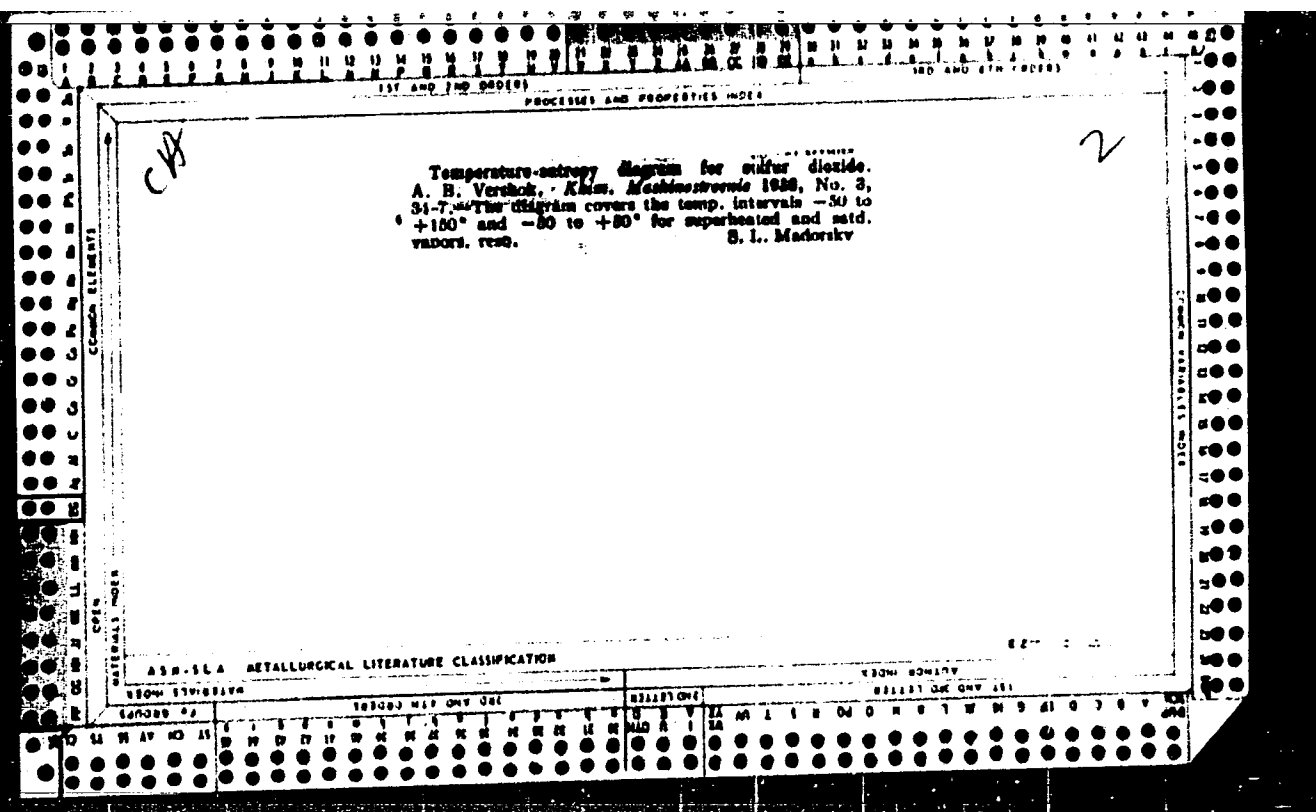


7

Ca

— Rapid determination of metallic lead in litharge. N. Aklin'yan and V. Ya. Vershkovskii. *Zavodskaya Lab.* 6, 441 (1937). — The method is based on the insolv. of Pb in AcOH and depends on the detn. of the Pb sol. formed in the graduated stem of a cylindrical funnel on shaking 5 g. litharge first with 15 cc. alc. and then with the addn. of 50 cc. of 20% AcOH. Chas. Blanc

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION



127 AND 128 000131
PROCESSING AND PROPERTIES INDEX
23

BC

23

ASS-51A METALLURGICAL LITERATURE CLASSIFICATION

127 AND 128 000131

127 AND 128 000131

VERSHININ, V.D. (Moskva)

Control of a drive using one null-indicator performing the function
of two null-indicators. Avtom. i telem. 21 no.10:1387-1392 O '60.

(MIRA 13:10)

(Servomechanisms)

VERSHOK, A.B.

RUMYANTSEV, V.A.; VERSHOK, A.B.; ASLANOV, G.V.

Standardizing piston rings in compressor construction. Sbor.
st. NIIKHIMMASH no.18:103-125 '54. (MLRA 8:9)
(Air compressors) (Piston rings--Standards)

VERSHOK, A.B., inzhener

Calculating release valves of piston vacuum pumps having valve
regulation. Sbor. st. NIIKHIMMASH no.18:57-77 '54. (MIRA 8:9)
(Vacuum pumps)

Vershova

UKRAINE/General Section - Congresses, Meetings, Conferences

A-4

Abs Jour : Referat Zhurn - Biol. No 16, 25 Aug 1957, 67890

Author : Vershova

Title : All-Union Report on Bacterial Fertilizer

Orig Pub : Mikrobiologichnyi Zh. 1956, 18, No 2, 68-71

Abstract : At the beginning of February 1956. 30 reports were made on the theoretical bases of the use of bacterial fertilizer, their effectiveness, technology, preparation, etc. as studied in Kiev.

Card 1/1

- 42 -

VERSHUBSKIY, G.

Moleks. Znanie-sila 38 no.1:20-21 Ja '63.
(Zeolites)

(MIRA 16:3)

VERSHUBSKIY, G. (Minsk)

Against formalism in vital work. Sov.profsoiuzy 7 no.18:29-31
S '59. (MIRA 13:2)
(Minsk--Clothing industry--Technological innovations)

VERSHUBSKIY, G. (g. Alma-Ata)

On the right track. Grazhd.av. 14 no.2:30-31 F '57. (MLRA 10:5)
(Alma-Ata-Construction industry)

VERSHUBSKIY, G.

Disturbers of the peace put things in order. Znan.-sila 38
no.2:26-27 F '63. (MIRA 16:3)
(Ions) (Solution (Chemistry))

VERSHUESKIY, G.

Why does the water flow? Znan.-sila 37 no.12:32-33 D '62.
(MIRA 16:2)

(Liquids)

ACCESSION NR: AT3012131

8/2967/63/000/000/0150/0156

AUTHORS: Myamlin, A. N.; Vershubskiy, V. Yu.; Naumov, E. I.

TITLE: High density digital information recording on magnetic drum

SOURCE: Voprosy* vy*chislitel'noy matematiki i vy*chislitel'noy tekhniki. Moscow, 1963, 150-156

TOPIC TAGS: digital information, magnetic drum, resolving power, magnetic head, floating suspension, lifting force, oscillograph

ABSTRACT: The recording limit for a magnetic drum is shown to be determined by the resolving power of the magnetic head. The resolving power, in turn, depends on the front gap size of the head and the clearance between the head and magnetic carrier. To maintain these small clearances regardless of temperature changes and eccentricity, a floating suspension is proposed for the drum (see Fig. 1 of the Enclosures), with a moving plate or a rotating cylinder applying a lifting force P on the suspended plate in a viscous incompressible medium. Two such drums, 600 and 200 mm in diameter, were investigated with gap size determined by light beam measurements. The drum speed was 30 m/sec and the floating plate was 10 x 15 mm in size. Oscillographic stability studies indicated a stable gap for eccentricities up to

Card 1/4

ACCESSION NR: AT3012131

100 microns. In conjunction with the floating suspension, the design of a small-size magnetic head is presented (Fig. 2 of the Enclosures). The primary winding consists of 45 loops of 0.1 mm conductors (type PEV-2). The secondary winding is a 15 micron copper foil. The system records 16 symbols on 1 mm length. Orig. art. has: 11 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 22Oct63

ENCL: 02

SUB CODE: EE

NO REF SOV: 002

OTHER: 000

Card 2/4

ACCESSION NR: AT3012131

ENCLOSURE: 01

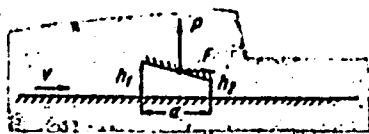


Fig. 1. Schematic of floating suspension

Card 3/4

ACCESSION NR: AT3012131

ENCLOSURE: 02

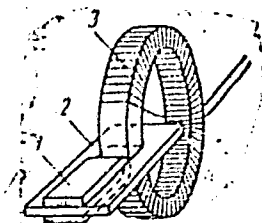


Fig. 2. Magnetic head
1 - principal magnetic head, self-floating
2 - plane linear conductors
3 - transformer

Card 4/4

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80136
S/141/59/002/06/018/024
E192/E382

AUTHORS: Myamlin, A.N., Vershubskiy, V.Yu. and Naumov, E.I.

TITLE: High-density Recording of Digital Information on a Magnetic Drum

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 6, pp 998 - 1004 (USSR)

ABSTRACT: The recording density for digital information on a magnetic drum depends on the construction of the recording head, the magnitude of the gap between the drum and the head, the velocity of the drum relative to the head, duration of the signals to be recorded and the quality and thickness of the magnetic material of the drum. The majority of the above factors are interrelated and the principal factors which limit the density of the information are the geometry of the head and the magnitude of the gap between the head and the magnetic coating of the drum. An attempt was made to improve these factors. A recording head was designed. This is shown in Figure 1. The head is in the form of a horseshoe made of a material having a high permeability. The winding of the head

Card1/4 consists of a single turn which forms also the secondary

4

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S/141/59/002/06/018/024

E192/E382

High-density Recording of Digital Information on a Magnetic Drum

winding of the transformer. The core of the transformer has a diameter of 3 mm. The primary winding of a transformer consists of 45 turns of the wire PEV having a diameter of 0.1 mm. The secondary winding is in the form of a square loop of copper foil having a thickness of 15 μ . The lower portion of this loop enters into the "horseshoe". The width of the pole-pieces of the head is 1 mm. The inductance of the head is 9 μ H. Such heads were investigated with magnetic drums coated with ferro-varnish and nickel-cobalt coatings. It was found that the latter gave a better signal/noise ratio than the former. The repetition period of the recorded pulses varied from 1.5 to 20 μ s, the duration of a pulse being 0.4 to 1.5 μ s. The amplitude of the recorded signal varied from 0 to 4 A. Figures 2 show the oscillograms of some of the recorded signals. In order to reduce the gap between the head and the drum the so-called "floating" suspension of the head was adopted. The suspension system consisted of a fork, a frame and the "floating" block proper. This permitted

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S/141/59/002/06/018/024

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High-density Recording of Digital Information on a Magnetic Drum

the system to set itself in parallel with the generatrix and "follow" the surface of the drum. The suspension system was made as light as possible so that its inertia did not effect the stability of the gap in the presence of an eccentricity in the drum. The system comprised a device which permitted the floating block to be "pressed" to the drum with a predetermined force. The floating block of the magnetic head was investigated with drums having diameters of 200 and 600 mm. The linear velocity of the drums was 30 m/s. Some of the experimental results of these tests are shown in Figures 3; the upper photograph shows the pulses recorded by means of a fixed head, while the lower photograph gives the same pulses recorded by means of a head furnished with a floating suspension. The article contains an appendix devoted to the analytical investigation of the resolving power of the magnetic head (Figure 4). It is shown that the resolution of the head when used for reading can be improved by employing only the H_x - component of the magnetic field (Figure 4). 4

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S/141/59/002/06/018/024

E192/E382

High-density Recording of Digital Information on a Magnetic Drum

There are 5 figures and 5 references, 3 of which are English and 2 are Soviet.

ASSOCIATION: Matematicheskii institut AN SSSR (Mathematical Institute of the Ac.Sc., USSR)

SUBMITTED: July 15, 1959

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Card 4/4

L 07252-67 EWT(d)/EWP(1) IJP(S) BB/GG

ACC NR: AP6018634

SOURCE CODE: UR/0208/66/006/003/0548/0554

AUTHOR: Vershubskiy, V. Yu. (Moscow); Mikhelev, V. M. (Moscow) 38

ORG: none B

TITLE: The use of special coding methods for the increase in capacity of accumulators using magnetic registration 16

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 6, no. 3, 1966, 548-554

TOPIC TAGS: coding, error correcting code, magnetic drum, computer memory

ABSTRACT: Usually the capacity of magnetic recording is increased by augmenting the density of registration. However, in addition to two-level quantization, the magnetic recording allows the use of three natural levels (zeroth and maximum + and - magnetization) and the present authors are guided by this fact in their search for special coding methods which would increase the capacity of magnetic recording devices. The resulting triple-quintuple code allows a reliable registration with a large sign density in spite of possible large, mutually induced distortions. This, together with the known devices for linear separation of signals (I. S. Makarov, Radiotekhnika, 1963, 18, no. 11, 50-60), should increase substantially the capacity of magnetic recording devices. Orig. art. has: 29 formulas and 1 figure.

SUB CODE: 09 37/ SUBM DATE: 04Oct65/ ORIG REF: 005

Card 1/1 *plu* UDC: 519.95

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

21 AND 22 (CROSS)

PROCESSES AND PROPERTIES INTER

CA

Composition of the oil of turpentine: oxides of α - and β -pinenes. N. PRIGOROV AND V. YERASHUK. *J. Russ. Phys.-Chem. Soc.* 61, 445-45 (1929).—The oxidation of unsatd. compds. by the BrO_3H is here considered not only as a method for prepn. of oxides of the α series but also as a reaction of identification of unsatd. compds. Generally the oxides obtained are of normal constitution, which is readily proved by hydration. The oxide of pinene is an exception to this rule, and was investigated with a view to learning more about the pinene fraction of turpentine and its compn. The qualitative investigation deals primarily with the oxide of α -pinene. The reaction of hydration proceeds very readily with even traces of org. and inorg. acids resulting in 85% of solerol, the residue being an oil consisting mostly of campholenic aldehyde. Evidently the tetrahedral ring is split with formation of solerol and the conversion of the latter by a rearrangement into campholenic aldehyde. The formation of solerol may be explained as a result of dehydration of the unstable pinene glycol combined with H_2O in the tetrahedral ring. The pinene fraction proved to contain 85% pinene, 12% isopinene, the oxide of which gives campholenic aldehyde, and 3% β -pinene and an unidentified admixt.

CHAR. BLANC

ASS. 31A METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		100 AND 4TH ORDERS	
Composition of the oil of turpentine: oxides of α- and β-pinenes. N. PRILIMANOV AND V. YERASHUK. <i>J. Russ. Phys.-Chem. Soc.</i> 61, 448 65(1959). The oxidation of unsatd. compds. by the BzO_2H is here considered not only as a method for prepn. of oxides of the α-series but also as a reaction of identification of unsatd. compds. Generally the oxides obtained are of normal constitution, which is readily proved by hydration. The oxide of pinene is an exception to this rule, and was investigated with a view of learning more about the pinene fraction of turpentine and its compn. The qual. investigation deals primarily with the oxide of α-pinene. The reaction of hydration proceeds very readily with even traces of org. and inorg. acids resulting in 80-85% of sobrerol, the residue being an oil consisting mostly of campholenic aldehyde. Evidently the tetrahedral ring is split with formation of sobrerol and the conversion of the latter by a rearrangement into campholenic aldehyde. The formation of sobrerol may be explained as a result of dehydration of the unstable pinene glycol combined with H_2O in the tetrahedral ring. The pinene fraction proved to contain 85% pinene, 12% isopinene, the oxide of which gives campholenic aldehyde, and 3% β-pinene and an unidentified admixt. CHAR. BLANC					
ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION					
10000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000					

VERSHUK, Vasilii Iosifovich, starshiy nauchnyy sotrudnik; GURICE, Nina Aleksandrovna, kand.tekhn.nauk. Prinimala uchastiye ZARAKOVSKAYA, A.I., nauchnyy sotrudnik. BOGOMOLOV, B.D., red.; SARMAJSKAYA, O.I., red.isd-va; PARAKHINA, N.L., tekhn.red.

[Methods of the analysis of raw materials and products of the wood resin and turpentine industry] Metody analiza syr'ia i produktov kanifol'no-skipidarnogo proizvodstva; prakticheskoe rukovodstvo dlia rabotnikov khimicheskikh laboratorii i otdelov tekhnicheskogo kontrolya. Moskva, Goslesbumizdat, 1960. 190 p. (MIRA 13:9)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskii institut (for Zarakovskaya).
(Gums and resins) (Turpentine)

VERSHUK, V.O.

V Pomoshch' Masteru Podsochki (Aid To The Master Of Gashing, By) V. O. Vershur,
A. A. Nikonov, B. G. Voronenko (1 Dr.) Moskva, Goslesbunizdat, 1952.
191 P. Illus., Diags., Tables.

SO: N/5
729.4
.N6

VERSHUK, V. O.

Coating containers for galinot. V. O. Vershuk, *Lesokhim. Prom.* 1938, No. 3-4, 32-3; *Khim. Referat. Zhur.* 2, No. 4, 132 (1939). To prevent penetration of the galinot into the container, a soln. of animal glue contg. glycerol (plastifier) is applied and then a soln. of 1% alum to tan the glue. In the 2nd method the glue is tanned with K₂Cr₂O₇. Under production conditions the penetration of resin into the container was lowered from 2.5-3% to 0.1-0.2% and the total loss of resin was lowered from 5-6% to 1%. This loss can be further reduced.

W. R. Henn

VERSHUK, V. O.

Coating containers for galipot. V. O. Vershuk, *Lesk-*
him. Prom. 1938, No. 3-4, 32-3; *Khim. Referat. Zhur.* 2,
No. 4, 132 (1939). - To prevent penetration of the galipot
into the container, a soln. of animal glue contg. glycerol
(plasticizer) is applied and then a soln. of $K_2Cr_2O_7$ to tan
the glue. In the 2nd method the glue is tanned with
 $K_2Cr_2O_7$. Under production conditions, the penetration
of resin into the container was lowered from 2.5-3% to
0.1-0.2% and the total loss of resin was lowered from 5-
6% to 1%. This loss can be further reduced.

W. R. Henn

CA

26

Coating containers for galipot. V. O. Vershuk. *Lesh. kim. Prom.* 1938, No. 3-4, 32-3; *Akhim. Refeal. Zhur.* 2, No. 4, 132 (1939). To prevent penetration of the galipot into the container, a soln. of animal glue contg. glycerol (plastifier) is applied and then a soln. of Cr alum to tan the glue. In the 2nd method the glue is tanned with $K_2Cr_2O_7$. Under production conditions the penetration of resin into the container was lowered from 2.5-3% to 0.1-0.2% and the total loss of resin was lowered from 5-6% to 1%. This loss can be further reduced.

W. R. Henn

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

VERSILOVA, E.B.; VOROKHOB, L.A.; DERZHAVIN, V.M. (Moskva, Zh-384,
Moskovskaya ul. 120, kv.8)

Treatment of cryptorchism in children. Vest. khir. 92 no.4:
117-120 Ap '64 (MIRA 18:1)

1. Iz kliniki detskoy khirurgii (zav. - prof. I.K. Murashov)
2-go Moskovskogo meditsinskogo instituta imeni N.I. Pirogov
(rektor - doktor med. nauk M.G. Sirotkina) pri detskoy bol -
nitse imeni N.F. Filatova (glavnyy vrach - L.A. Vorokhobov).

MAKUSHKIN, P.N., kand.med.nauk; VERSILOVA, E.H.

USSR

Gas exchange and energy losses in patients operated on under
potentiated anesthesia. Vest.khir. 87 no.11:96-101 N '61.

(MIRA 15:11)

1. Iz kafedry obshchey khirurgii (zav. - prof. G.P. Zaytsev)
pediatricheskogo fakul'teta 2-go Moskovskogo meditsinskogo insti-
tuta im. N.I. Pirogova. Adres avtorov: Moskva, Pavlovskaya ul.,
d.25, 4-ya gorodskaya bolintsa.

(ANESTHESIA)

(RESPIRATION)

(METABOLISM)

PROCESSES AND PROPERTIES																									
Relations between the blood-brain barrier, composition of cerebrospinal fluid and functional state of the central nervous system. L. S. Shtern. <i>Bull. biol. med. expil. U. R. S. S. I.</i> 412 14(1930); <i>Physiol. Abstracts</i> 22, 971 2. —A brief review of the work of the author and his colleagues. The cerebrospinal fluid is considered to play a dominant role in humoral coordination of the activities of different parts of the central nervous system. M. W. H. The influence of faradic stimulation of the brain upon the excitability of a muscle devoid of nerve connections with the centers. O. Y. Yegorova and A. N. Magnitskii. <i>Bull. biol. med. expil. U. R. S. S. I.</i> 424-6(1930); <i>Physiol. Abstracts</i> 22, 940. —Faradic stimulation of the brain in cats induces a change of chronaxie in the denervated gastrocnemius usually 50% increase, while the threshold is hardly affected. It is concluded that faradic stimulation leads to the formation of chem. substances which pass into the blood stream and influence the functional lability of the muscle. M. W. H.																									
ASH-15A METALLOGRAPHIC LITERATURE CLASSIFICATION																									

EXCERPTA MEDICA Sec 8 Vol 12/9 Neurology Sept 59

4227. CHANGES OF ELECTRICAL ACTIVITY IN THE CEREBRAL CORTEX OF DOGS IN THE REGION OF THE AUDITORY AND MOTOR ANALYSORS DURING THE FORMATION OF MOTOR DEFENSIVE REFLEXES AND THE REVERSAL OF CONDITIONED REFLEXES (Russian text) - Verkhlova O. V., Lab. of Physiol. of the Nerv. System, Inst. of Norm. and Pathol. Physiol., USSR Acad. of Med. Scis., Moscow - ZH. VYSSH. NERV. DEYAT. 1958, 8/3 (437-448) Graphs 5

Study was made of changes in electrical activity of the cerebral cortex in dogs, in the regions of the auditory and motor analysors, during conditioned reflex activity. The results have shown that the elaboration of a motor defensive reflex in a dog to a rhythmical auditory stimulus of low frequency (M-123) brings about the appearance of slow oscillations of bio-potentials of high amplitude, whose rhythm approximates the frequency of conditioned stimulation. The oscillations of bio-potentials appearing under the action of the auditory conditioned stimulus change when the conditioned stimulus is included in the stereotype as a component. At the beginning of differentiation elaboration, the electrical activity of the cortex in the regions of the auditory and motor analysors increases, while in cases of firmly elaborated differentiation it diminishes. In this case the slow oscillations of bio-potentials related to the action of the conditioned stimulus disappear. Changes in bioelectrical potentials of the cerebral cortex have been recorded occurring after the reversal of the meaning of the conditioned stimuli.

(11, 8)

EXCERPTA MEDICA Sec 2 Vol 12/5 Physiology May 59

1909. CHANGES OF ELECTRICAL ACTIVITY IN THE CEREBRAL CORTEX OF DOGS IN THE REGION OF THE AUDITORY AND MOTOR ANALYSORS DURING THE FORMATION OF MOTOR DEFENSIVE REFLEXES AND THE REVERSAL OF CONDITIONED REFLEXES (Russian text) - Versilova O. V. Lab. of Physiol. of the Nerv. System, Inst. of Norm. and Pathol. Physiol., USSR Acad. of Med. Scis., Moscow - ZH. VYSSH. NERV. DEYAT. 1958, 8/3 (437-448) Graphs 5

Study was made of changes in electrical activity of the cerebral cortex in dogs, in the regions of the auditory and motor analysors, during conditioned reflex activity. The results have shown that the elaboration of a motor defensive reflex in a dog to a rhythmical auditory stimulus of low frequency (M-120) brings about the appearance of slow oscillations of bio-potentials of high amplitude, whose rhythm approximates the frequency of conditioned stimulation. The oscillations of bio-potentials appearing under the action of the auditory conditioned stimulus change when the conditioned stimulus is included in the stereotype as a component. At the

1907

beginning of differentiation elaboration, the electrical activity of the cortex in the regions of the auditory and motor analysors increases, while in cases of firmly elaborated differentiation it diminishes. In this case the slow oscillations of bio-potentials related to the action of the conditioned stimulus disappear. Changes in bioelectrical potentials of the cerebral cortex have been recorded occurring after the reversal of the meaning of the conditioned stimuli. (11, 8*)

VERSILOVA, O. V.
A. N. MAGNITSKI, Trudy Vsesoyuz. Inst. Eksp. Med. 1, No. 2, 137-9

VERSINSKIJ, S.

Resistance of welded angles to shock in railroad cars constructed of Martin and Bessemer steels, p. 275, ZVARANIE, (Ministerstvo hutneho prumyslu a rudnych bani a Ministerstvo strojarstvo) Bratislave, Vol. 3, No. 8/9, Sept. 1954

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

VERSKOI, JÁNOS

3

SECRET
This document contains information on the life and work of János Verskoi, a Hungarian-born American physicist and nuclear engineer. It is classified "Secret" because it contains information that is so classified by the original source.

① of

VERSKOVSKIY, B. I., PODGORETSKIY, M. I.

"Statistical Characteristics of Instruments With Feedbacks Embodying
a Source of Radiation"

paper presented at the All-Union Seminar on the Application of Radioactive
Isotopes in Measurements and Instrument Building, Frunze (Kirgiz SSR),
Jun⁹ 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

I 05296-67 EWT(m)/EMP(t)/ETI IJP(c) JD

ACC NR: AR6031881

SOURCE CODE: UR/0058/66/000/006/E085/E085

AUTHOR: Kal'venas, S. P.; Pozhela, Yu. K.; Parshelyunas, I. V.; Versotskas, A. P.; Baravikas, V. V.

TITLE: Warmup of current carriers and their recombination on the surface of germanium in strong electric fields 26
B

SOURCE: Ref. zh. Fizika, Abs. 6E657

REF SOURCE: Lit. fiz. sb., v. 5, no. 4, 1965, 529-542

TOPIC TAGS: current carrier warming up, current carrier recombination, current carrier concentration, germanium

ABSTRACT: It has been ascertained that in n-Ge, starting with fields of the order of 1 kv/cm, considerable variations in carrier concentrations take place owing to the field dependence of the hot carrier recombination rate on the surface. In cases when mechanical defects or recombination centers related to the presence on the surface of dry oxide exists on the surface; there occurs a growth of current carrier concentration caused by the field. In the case of "neutralization" of the oxide recombination centers by water molecules, current carrier concentration in the

Card 1/2

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ACC NR: AR6031881

specimen decreases considerably. An increase in the coefficient of ambipolar diffusion of current carriers with the field has been detected in the 1—4 kv/cm field range. It is demonstrated experimentally that regardless of the type of the current carrier determining the surface conductivity of Ge etched in hydrogen peroxide, the degree of current carrier heat-up at the surface is lower than within the bulk. [Translation of abstract]

SUB CODE: 20/

Card 2/2

eqh

MIKOYAN, A.; IGNATOV, N.; KOROVUSHKIN, A.; GARBUZOV, V.; KABKOV, Ya.;
KUDRYAVTSEV, A.; BORYCHEV, I.; VOROB'YEV, V.; SVESHNIKOV, M.;
USHAKOV, V.; MIROSHNICHENKO, B.; ZENCHENKO, N.; BABUSHKIN, V.;
NIKITKIN, N.; PODSHIVALENKO, P.; ZOTOV, M.; VOSKRESENSKIY, A.;
KAZANTSEV, A.; KORDYUKOV, A.; NOSKO, P.; PLESHAKOV, S.; VERSOV, A.;
ROMASHOV, A.

I.N. Kazakov; obituray. Den. i kred. 19 no.3:95 Mr '61.
(MIRA 14:3)
(Kazakov, Ivan Nikolaevich, 1907-1961)

KHRGIAN, A.Kh.; KUZNETSOV, G.I.; KONDRAT'YEVA, A.V.; NASILOV,
D.I., otv. red.; VERSTAK, G.V., red.

[Collection of articles] Sbornik statei. Moskva,
Nauka. No.8. 1965. 89 p. (MIRA 18:3)

1. Akademiya nauk SSSR. Mezhduevdomstvennyy reofizicheskiy
komitet. II razdel programmy MGG. Meteorologiya.

VERSTAKOV, G.V., kand. tekhn. nauk; SHIF, I.M., kand. tekhn. nauk; MAKSIMOVA,
I.M., inzh.

Degree and character of the wear of the rope in single and double-
layer winding on a drum. Bezop. truda v prom 8 no.11:37-39 N '64.
(MIRA 18:2)

1. Permskiy politekhnicheskii institut.

BABADZHANOV, Pulat Babadzhonovich; KRAMER, Yefim Naumovich;
FEDYNSKIY, V.V., doktor fiz.-matem. nauk, otv. red.;
VERSTAK, G.V., red.; GUS'KOVA, O.K., tekhn. red.

[Collection of articles of the Intergovernmental Committee
for the Execution of the International Geophysical Year]
Sbornik statei Mezhdunarodnogo komiteta po provedeniiu
Mezhdunarodnogo geofizicheskogo goda. Moskva, Izd-vo AN SSSR.
No.12[Methods and some results of photographic studies of
meteors] Metody i nekotorye rezul'taty fotograficheskikh is-
sledovaniy meteorov. 1963. 140 p. (MIRA 17:2)

1. Akademiya nauk SSSR. Mezhdunarodnyy komitet po pro-
vedeniyu Mezhdunarodnogo geofizicheskogo goda. V razdel prog-
rammy MGG. Ionosfera i meteory.

GERASIMOV, I.P., akader.ik, otv. red.; BULANZHE, Yu.D., doktor
fiziko-matem. nauk, otv. red.; MESHCHERYAKOV, Yu.A.,
kand. geogr. nauk, otv. red.; VERSTAK, G.V., red.;
GUSEVA, A.L., tekhn. red.

[Recent crustal movements] Sovremennye dvizheniia zemnoi
kory; sbornik statei. Moskva, Izd-vo AN SSSR. No.1. 1963.
382 p. (MIRA 17:1)

(Earth--Surface)

KHVOSTIKOV, I.A.; BEN'KOVA, N.P., doktor fiz.-matem. nauk, otv. red.;
MIRTOV, B.A., kand.viz.-matem.nauk, otv. red.; VERSTAK, G.V.,
red.; ISAKOVICH, T.D., red.; PODOL'SKIY, A.D., red.; POLENOVA,
T.P., tekhn. red.

[Papers]Sbornik statei. Moskva, Izd-vo Akad. nauk SSSR.
No.11[Physics of ozonosphere and ionosphere]Fizika ozono-
sfery i ionosfery. 1963. 662 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Mezhdovedomstvennyy geofizicheskiy ko-
mitet. V razdel programmy MGG.

(Atmosphere, Upper)

KRASOVSKIY, V.I., doktor fiziko-matematicheskikh nauk, otv.red.;
VERSTAK, G.V., red.; RYLINA, Yu.V., tekhn.red.

[Spectral, electrophotometrical and radar research of aurorae and night airglow; collected articles. Section 4 of the program of the international Geophysical Year (aurorae and night airglow) Spektral'nye elektrofotometricheskie i radiolokatsionnye issledovaniia poliarnykh siliarii i svecheniia nochnogo neba; sbornik statei. IV razdel prigrammy MGG (poliarnye siliarii i svechenie nochnogo neba). Moskva. [In Russian with summaries in English.] No.5. 1961. 58 p. (MIRA 14:5)

1. Akademiya nauk SSSR. Mezhdunarodnyi komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda.
(Aurorae) (Night sky)

SHERBALIN, N.V., otv.red.; VERSTAK, G.V., red.; MAKUNI, Ye.V., tekhn.red.

[Seismological research; collection of articles] Seismicheskie issledovaniia; sbornik statei. XII razdel programmy MGQ (seismologia). Moskva. No.4. 1960. 135 p.

(MIRA 13:12)

1. Akademiya nauk SSSR. Mezhdunarodnyi komitet po provedeniyu
Mezhdunarodnogo geofizicheskogo goda.
(Seismological research)

KALININ, Yu.D., doktor fiz.-matem. nauk, otv. red.; VERSTAK,
G.V., red.

[Collection of articles] Sbornik statei. Moskva, Izd-vo
AN SSSR. No.4. Geomagnitnye vozmushcheniia. 1960. 51 p.
(MIRA 18:11)

1. Akademiya nauk SSSR. Mezhdunarodnyi komitet po
provedeniyu Mezhdunarodnogo geofizicheskogo goda. III razdel
programmy MGG. Zemnoy magnetizm.

SOV/124 58-4 4785

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 4, p 156 (USSR)

AUTHOR: Verstakov, G. V.

TITLE: Method and Samples of Calculation for Strength of Mine hoist Drum Shells (Metod i primery rascheta na prochnost' obolochek barabanov shakhtnykh pod'yemnykh mashin)

PERIODICAL: Nauchn. tr. Molotovsk. gorn. in-t, 1956, Nr 1, pp 77-99

ABSTRACT: It is proposed that the design calculation for strength of a mine-shaft hoist drum shell be conducted as that of an axisymmetric circular cylindrical shell. In the determination of the specific pressure P of the cable on the shell of the drum on the basis of formulas by B. A. Merozov (TsNITMASH, 1949, Vol 27) the values of the C and λ coefficients entering the P equation are represented graphically. Using the well known solution for a cylindrical shell clamped along the contour of its ends the author presents formulas for the determination of bending moments, transverse forces, and cross-sectional displacements of the shell. Deformations of the face plates of the drum are not taken into consideration. A solution is described for a continuous as well as for a partial uniform

Card 1/2

SOV/124-58-4-4785

Method and Samples of Calculation for Strength of Mine-hoist (cont.)

loading of the shell along its length. In the second load condition it is proposed that the partial load be replaced by a load distributed along the entire length of the drum and having a magnitude determined according to formulas proposed by the author without any derivation. In the case of a shell reinforced by ring stiffeners the author proposes calculation by means of a substitution of a rigiditywise equivalent shell without rings. Expressions are given for the thickness of such a shell. According to the author the method proposed above affords a more exact determination of stress and strain values than the currently used method of B. A. Morozov. In conclusion, a calculation procedure according to the described method is given for a drum and 3 samples of stress determination are given. Bibliography: 6 references.

D. Ye. Iskritskiy

1. Hoists--Equipment
2. Hoists--Mechanical properties
3. Cylindrical shells--Mathematical analysis

Card 2/2

VERSTAKOV, G.V.

Actual wear of cables in cases of two-layer winding of drums in
vertical hoisting installations. Zap. Len. for. inst. 34 no.1:
181-186 '57. (MLRA 10:9)
(Mine hoisting) (Wire rope)

GIMMEL'FARB, B.M.; KREYTER, B.M., glavnyy red.; SHATALOV, Ye.T., zamestitel' glavnogo red.; YEROFEEV, B.N., red.; ZENKOV, D.A., red.; KRASNIKOV, V.I., red.; NIFONTOV, R.V., red.; SMIRNOV, V.I., red.; KHRUSHCHOV, V.I., red.; YAKZHIN, A.A., red.; MARKOV, P.M., red.; VERSTAK, G.V., red.; AVERKIYEVA, T.A., tekhn. red.

[Prospecting for phosphorite deposits] Razvedka mestorozhdenii fosforitov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр. 1957. 65 p. (Metodicheskie ukazaniia po proizvodstvu geologo-razvedochnykh rabot, no.5). (MIRA 11:1)

(Phosphorites) (Prospecting)

BELOUSOV, Vladimir Vladimirovich; VEROTAK, G.V., red.

[Crust and the upper mantle of the continents] Zemnaia
kora i verkhniaia mantiia materikov. Moskva, Nauka,
1966, 120 p. (MJRA 19:1)

VERSTAKOV, G.V., dotsent

Study of the operation of vertical hoists with two-layer winding of ropes on a drum in mines of the Kizelugol' Combine. Izv. vys. ucheb. zav.; gor. zhur. no.11:131-137 '61. (MIRA 15:1)

1. Permskiy politekhnicheskii institut. Rekomendovana kafedroy gornoy mekhaniki.

(Kizel Basin--Mine hoisting)

VERSTAKOV, A.I., Cand Tech Sci — (diss) "Study of car weights and the
development of methods of ^{checking them} ~~their~~ verification." Nov, 1958. 11 pp (Committee
of Standards, Measures, and ^{and} ~~Meas~~ Instruments ^{under} ~~at~~ the Council of Min USSR,
All-Union Sci Res Inst of Metrology (in D.I. Mendeleev) 115 copies
(KL, 24-58, 118)

VERSTAKOV, A.I.

~~SECRET~~

Checking railway track scales. Izv.tekh.no.1:54-56 Ja-F '57.
(MLRA 10:4)

(Weighing--Machines)

VERSTIN, G., inzh.

Eight-year school for 480 students. Sel'. stepi. 16 no.1:
insert:1-4 Ja '62. (MIRA 16:1)
(Schoolhouses)

TIMOFEYEV, Ya.; LUKASHEVICH, N., inzh.; VERSTIN, G., inzh.; IVASHCHENKO, V., inzh.

Readers' letters. Sel'.stroil. no.8:27 Ag '62. (MIRA 15:11)

1. Glavnyy spetsialist Respublikanskogo gosudarstvennogo instituta po proyektirovaniyu sel'skokhozyaystvennogo stroitel'stva (for Timofeyev).

(Construction industry)

VERSTIN, G., inzh.

Standard plans of schools for 320 and 160 students. Sel'.stroj.
15 no.4:insert:4 p.Ap '60. (MIRA 16:1)
(Schoolhouses)

VERSTIN, G., inzh.

Erection of rural schools in Smolensk Province. Sel'. stroi.
15 no.3:4 Mr '60. (MIRA 16:2)
(Smolensk Province—Rural schools)

VERSTIN, G., inzh.

Kindergarten and nursery school made of slabs on the state farm
"Zarya Kommunizma". Sel'. stroi. no.6:14 Je '62. (MIRA 15:7)
(Podol'sk district—Nursery schools)
(Podol'sk district—Kindergartens)

VERSTIN, G.

Initiative in the construction of rural schools. Sel'stroi.
15 no.1:6-7 Ja '60. (MIRA 15:7)

1. Nachal'nik proizvodstvennogo otdela upravleniya kapital'nogo
stroitel'stva Ministerstva prosveshcheniya RSFSR.
(Orel Province--Rural schools)

VERSTIN, G., inzh.

Combined preschool institutions. Sel'. stroi. 15 no.1: supplement: p.1-2
Ja '61. (MIRA 14:3)
(Kindergartens) (Day nurseries)

ABLOVA, E., arkhitektor; VERSTIN, G., inzh.; DANILOVA, F., inzh.;
SHAPIRO, D., inzh.

Experimental frame-slab school on the state farm "Zaria
Kommunizma." Sel'. stroi. no.12:8b-10 D '62.
(MIRA 16:1)

(Moscow Province—Schoolhouses)
(Precast concrete construction)

VERSTIN, Grigoriy Il'ich; FUKIROV, Valeriy Vyacheslavovich; VORONINA, T.V., redizd-va; CHERSTNEVA, N.V., tekhn. red.; KOSHELEV, A.Ye., tekhn. red.

[Building schools and preschool institutions in rural areas]
Stroitel'stvo shkol i doskol'nykh uchrezhdenii v sel'skoi
mestnosti. Moskva, Gosstroizdat, 1963. 191 p.

(MIRA 16:11)

(Rural schools--Design and construction)

VERSTNER, V.N.

Electron diffraction examination using the EM-3 electron microscope. Izv.AN SSSR.Ser.fiz.20 no.7:834-837 J1 '56. (MLBA 9:11)
(Electron microscopy)

Difficulties encountered in the determination of the pH of saponin solns. *Eug. O. K. Verstrate. Natuurw. Tijdschr. 19, 30-3 (1927)*.—The pH of alk. saponin solns. can be detd. with the quinhydrone electrode by use of a smooth Pt electrode. The saponins are adsorbed by the Pt black of the H electrode, however. Addn. of NaCl, KCl, Na_2SO_4 or buffer solns. prevents this adsorption, and satisfactory pH measurement can be obtained if these salts are added. A novel electrode vessel is described for use where H bubbling through the soln. would change the concn., as by removal of the saponins in foam.
W. Gordon Rose

VERT, L.V.; CHEKHOVSKAYA, T.P., red.izd-va; HUDAKOVA, N.I., tekhn.red.

[Instructions on safety engineering for painters] Pamiatka
po tekhnike bezopasnosti dlia maliara. Izd.3. Moskva, Gos.
izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1961.
15 p. (MIRA 15:2)
(Painting, Industrial--Safety measures)

VERT, Lev Vladimirovich; ROZANTSEV, Sergey Nikolayevich; CHIBRIKOV, Georgiy Nikolayevich; ALEKSEYEV, S.A., red.; CHURINOV, A.I., red. izd-va; PYRKINA, N.F., tekhn. red.

[Management of apartment houses] Eksploatatsiia shilykh domov. Moskva, Izd-vo kommun. khoz. RSFSR, 1960. 229 p. (MIRA 14:7)
(Housing management)

VERT, Lev Vladimirovich; PROTSENKO, D.I., red.; GUROVA, O.A., tekhn.red.

[Safety engineering in the maintenace and repair of houses] Tekhnika
bezopasnosti pri ekspluatatsii i remonte zhilykh zdaniy. Moscow,
Izd-vo M-va kommun. khoz. RSFSR, 1957. 168 p. (MIRA 11:3)
(Building--Safety measures)

VERT, Zh. L.
VE

Journal of the Institute of Metals
Vol. 21 Part 7
Mar. 1954
Structure

*X-Ray Structural Investigation of Deposited Ni-Pd Deposits Obtained by Electrolysis. Yu. D. Kondrashev, I. P. Tvardovsky, and Zh. L. Vert (*Doklady Akad. Nauk S.S.S.R.*, 1951, 78, (4), 729-731).—[In Russian]. Dispersed Ni-Pd electrodeposits were prepared from baths contg. PdCl_2 , NiSO_4 , NaNO_3 , and $(\text{NH}_4)_2\text{SO}_4$, acidified with a little H_2SO_4 , with c.d. = 70 m.amp./cm.². Ni deposited at a c.d. of 1 amp./cm.² was also investigated. All specimens were analysed chemically (accuracy 0.5%), Pd being determined by pptn. with dimethylglyoxime in acid soln., Ni in the filtrate by Chuguev's method. For the X-ray investigation, KCl was used as standard for Ni-rich alloys, and Ni for Pd-rich alloys, the standard being ground, annealed at 400° C. in a current of H₂, mixed with the specimen, and packed in a 0.7-mm.-dia. cellulose capillary. The lattice const. were determined with an accuracy of $\sim 0.001 \text{ \AA}$, and the values remained almost const. from 0 to 30-35 at.-% Ni, which conflicts with the results obtained by Hultgren and Zapffe (*Trans. Amer. Inst. Min. Met. Eng.*, 1939, 133, 58; see *M.A.*, 6, 307). This const. value is not due to absorption of H₂, for the lattice const. is the same after anodic polarization. It is also unchanged after annealing the alloys for 12 hr. at 400° C. in a current of N₂. In alloys contg. 25-35% Ni, decompn. into 2 phases was often observed, but annealing transformed the system into a single phase. The degree of dispersion was calculated by taking the mean of 5 values of the single-crystal dimensions, obtained for 5 lines of the X-ray picture. The curve of crystal size against compn. had a min. at ~ 70 at.-% Ni, the min. value being $\sim 90 \text{ \AA}$. Single crystals of

pure Ni were much larger than those of pure Pd prepared under the same conditions. The crystals of both the alloy and pure metals are elongated in the [111] direction, i. to the layers of closest packing; thus for the Pd-20% Ni alloy, the dimensions (Å.) for index lines 111, 200, 220, 311, and 222 were 157, 88, 126, 97, and 140, resp. The curve showing the degree of distortion of the lattice has a flat max. at 60-60 at.-% Ni; pure Ni deposited at 70 m.smp./cm.² showing no distortion. The Ni deposited at 1 amp./cm.² had a single-crystal size of 310 Å., with a mean displacement of atoms of 0.30 Å.—G. V. E. T.

1. TVERDOVSKIY, I.P., VERT. Zh. L.
2. USSR (600)
4. Hydrogen
7. Adsorption and solution of hydrogen by dispersed nickel-palladium alloys. Dokl AN SSSR No. 2 1953.

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

USSR.

The adsorption and solution of hydrogen by disperse nickel-palladium alloys. I. P. Iverdovskii and Zh. I. Verkh. Doklady Akad. Nauk S. S. R. 83: 805-806 (1983).
The adsorption and soln. of H₂ by Ni-Pd electrodes of varying compn. was measured by detg. the loading curves as described earlier (C.A. 47, 87634). The disperse Ni-Pd electrodes were prepd. electrolytically. The curves show that an increase in the Ni content of the electrode decreases the amt. of H₂ dissolved, or adsorbed by the electrode.

State Inst. Applied Chemistry

Vert, Zh. L.

USSR/ Chemistry - Properties of metals

Card 1/1 Pub. 147 - 19/27

Authors : Vert, Zh. L., Iverdovskiy, I.P.

Title : Solution and adsorption of hydrogen by dispersed Pd-Ag alloys

Periodical : Zhur. fiz. khim, 28/2, 317-327, Feb 1954

Abstract : The sorption of hydrogen by Pd-Ag alloys in dispersed state was investigated at 20°C. It was found that the solubility of hydrogen by Pd-Ag alloys at room temperature decreases monotonously in proportion to the increase in the Ag content and reaches zero in alloys containing 72 - 75% Ag. The amount of hydrogen adsorbed (expressed in gram-atoms of H per 1 gram-atom of alloy), remains constant for all alloys which are capable of dissolving H. The adsorbability of blacks containing more than 72 - 75% Ag decreases linearly with the increase in Ag-content. A calculation of H-solubility isobars in alloys showed that the absorption maximum at a reduced pressure is shifted from Pd to alloys with 30% Ag. Twenty-one references: 2-USSR; 12-German and 1-USA (1915-1953). Tables; graphs.

Institution : State Institute of Applied Chemistry

Submitted : May 17, 1953

VERT, Zh. L.

USSR/Chemistry - Ion Exchange

Card 1/2

Authors : Materova, E. A., Vert, Zh. L., and Grinberg, G. P.

Title : Ion exchange in organo-aqueous solutions

Periodical : Zhur. Ob. Khim, 24, Ed. 6, 953 - 965, June 1954

Abstract : The process of ion exchange was investigated in alcohol-water and acetone-water solutions. It is shown that F. L. Nikol'skiy's isotherm equation is well applicable to exchange processes in organo-aqueous solutions. The ion exchange process was investigated in dynamic conditions in aqueous and organo-aqueous solutions. The exchange process in an organo-aqueous medium has a much higher rate than in water and the rate increases with the increase in the content of the organic substance in the solution. The swelling of SBS cationate was determined in relation to the composition of the solution. It was found that the swelling increases linearly

Zhur. Ob. Khim., 24, Ed. 6, 953 - 965, June 1954

(Additional Card)

Card 2/2

Abstract : with the increase in the content of the organic component (acetone or alcohol) in the solution. Seven references. Tables, graphs.

Institution : State University, Leningrad

Submitted : January 29, 1954

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859520018-2

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859520018-2"

VERT, Zh.L.: KAMENTSEV, M.V.

Formation of sulfides during the interaction of ferrous sulfide
with metal oxides. Zhur.neorg.khim. 1 no.3:489-498 Mr '56.

(MLRA 9:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i
shlifovaniya VNIIASh, Leningrad.
(Sulfides) (Oxides)

VERT, 2h, L.

The introduction of subsonic jet engines into the
and aircraft industry has led to the development of
the jet engine.

WJ

VERT. Zh. L.; KAMENTSEV, M.V.

Sulfide formation in the reaction of ferrous sulfide with metal
oxides. Part 2. Interaction of FeS with LiO_2 in presence of carbon.
Zhur.ob.khim. 26 no.2:307-312 F '56. (MLRA 9:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i
shlifovaniya.

(Iron sulfides) (Silica)

VERT, Zh.L.; MOSEVICH, I.A.; TVERDOVSKIY, I.P.

X-ray-diffraction study of hydrogen solubility in disperse and
compact palladium. Zhur. fiz. khim. 39 no.5:1061-1064 My '65.
(MIRA 18:8)

1. Leningradskiy institut prikladnoy khimii.

VENT, M.D.; F. G. GILMAN, A.A.; T. D. GILMAN, A.A.

Measurement of limiting currents on some cation-exchanging
membranes in the hydrogen form. Trudy GIKH no.49:261-269
162. (MIRA 17:11)

TVARDOVSKIY, I.P.; VERT, Zh.I.; KARPOVA, R.A.; LIPETS, T.V.; ROSEVICH, I.A.;
STETSSENKO, A.I.

Hydrogen evolution overvoltage on certain palladium alloys as
dependent on the interatomic distance. Trudy GIPKH no.49:210-
214 '62.
(MIRA 17:11)

VERT, ZH.L.; MOSEVICH, I.A.

Decomposition of formic acid by the dispersed alloys
Pd-Cu, Pd-Ag, Pd-Au. Trudy GIPKH no.49:244-249 '62.
(MIRA 17:11)

MOSEVICH, I.A.; TVERDOVSKIY, I.P.; VERT, Zh.L.

Catalytic hydrogenation and electrochemical reduction of
quinone on disperse palladium-gold alloys. Zhur. fiz. khim.
37 no.12:2683-2687 D '63. (MIRA 17:1)

1. Gosudarstvennyy institut prikladnoy khimii.

TVERDOVSKIY, I.P.; VERT, Zh.L.; KARPOVA, R.A.; MOSEVICH, I.A.; STETSENKO, A.I.

Electrochemical preparation of dispersed binary alloys of palladium
with metals of VIII and IB groups. Zhur. prikl. khim. 36 no.5:
1040-1045 My '63. (MIRA 16:8)

1. Gosudarstvennyy institut prikladnoy khimii.
(Palladium alloys) (Electroplating)

FLIS, I.Ye. (Leningrad); VOROB'YEV, I.M. (Leningrad); Prinimal uchastiye
VERT, Zh.L. (Leningrad)

Kinetic studies of processes taking place on the platinum electrode
in hypochlorite solutions. Zhur.fiz.khim. 37 no.8:1805-1812 Ag
'63. (MIRA 16:9)

1. Leningradskiy tekhnologicheskii institut tsellyulozno-bumazhnoy
promyshlennosti.

(Electrodes, Platinum) (Hypochlorites)

L 12648-63 BDS/EWP(q)/EWT(m) AFFTC/ASD JD/HW-2
ACCESSION NR: AF3002699 3/0080/83/036/002/1040/1045

AUTHOR: Tverdovskiy, I. P.; Vert, Zh. L.; Karpova, R. A.; Mosovich, I. A. and Stetsenko, A. I.

TITLE: Electrochemical extraction of dispersed binary alloys of palladium with
metals of groups 8 and 1B

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 5, 1963, 1040-1045

TOPIC TAGS: palladium, binary alloy, Pt, Rh, Au, Ni, Cu, Co, Fe

ABSTRACT: In examining the physico-chemical and catalytic properties of palladium-base binary alloys, electrolytic methods of extraction of metal dispersed particles of groups 8 and 1B were studied. Experimental results were obtained only for the system Pd-Ni when the introduction of nickel in palladium at 30-35% was not accompanied by a change in lattice constant. In the zone of richer nickel the sizes of the elementary cell of dispersed alloys coincided approximately with parameters of the compact forms according to data of Hultgren and Lapfe (Trans. A.I.M.E. 133, 1939, 58). Use of solutions on the basis of nitric group of palladium permitted extracting alloys Pd-Cu, Pd-Ni, Pd-Co and Pd-Pb not only by joint electrolysis, but also by chemical precipitation. Means of extraction of dispersed ions by formate or sodium hypophosphate, hydrazine salts, etc. (Fig. art. res. Card 1/2). Association: St. Inst. of Applied Chemistry

VERT, Zh.L.; MOSEVICH, I.A.; TVERDOVSKIY, I.P.

Electrochemical determination of the heat of adsorption of hydrogen on a dispersed palladium electrode. Dokl. AN SSSR 140 no.1: 149-152 S.O '61. (MIRA 14:9)

1. Gosudarstvennyy institut prikladnoy khimii, g. Leningrad.
Predstavleno akademikom A.N.Frumkinym.
(Hydrogen) (Palladium) (Heat of adsorption)

27212

S/081/61/000/014/008/030

B106/B110

54700

1273 also 1274

AUTHORS: Tverdovskiy, I. P., Mosevich, I. A., Vert, Zh. L., Karpova, R. A.

TITLE: Overvoltage of hydrogen separation and catalytic properties of disperse Pd-Cu, Pd-Ag, and Pd-Au alloys

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1961, 87, abstract 146607. (Sb. tr. Gos. in-ta prikl. khimii, no. 46, 1960, 229 - 239)

TEXT: The values of η on disperse Pd-Cu, Pd-Ag, and Pd-Au alloys were compared with their catalytic activities to clarify the relationship between the hydrogen overvoltage η on metals and the processes of electrochemical reduction and catalytic hydrogenation of organic compounds. For the systems studied, the dependence of η (or the constant a of the Tafel equation) on the alloy composition is characterized by two sections appearing on each curve; the η -value begins rising strongly only after addition of 70 - 75% of the second component to the palladium. The absolute η -values are similar for Pd-Cu and Pd-Ag alloys over the whole range of compositions; on Pd-Au

Card 1/2

27212

S/081/61/000/014/008/030

B106/B110

Overvoltage of hydrogen separation and ...

alloys, η lies much lower, especially in the range of 50 - 0% Pd. In Pd-Cu and Pd-Ag alloys with $< 60\%$ of the metal group I, the η -values and the rate constants of hydrogenation and electrical reduction of maleic acid are constant. In Pd-Au alloys in the range of 55 - 70% Au, a sharp decrease in catalytic activity corresponds to a constant η -value. The authors found a qualitative relationship between the catalytic activity, η , and the electron structure of the alloys investigated. From the same point of view, they considered the reactions of decomposition of NaH_2PO_2 and H_2O_2 .

[Abstracter's note: Complete translation.]

X

Card 2/2

26874

S/081/61/000/013/007/028
B105/B201

26.2521

AUTHORS: Vert Zh. L., Tverdovskiy I. P.

TITLE: Dissolution of hydrogen with Pd - Fe and Pd - Co alloys

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1961, 87, abstract
136664. (Sb. tr. Gos. in-ta prikl. khimii, 1960, vyp. 46,
169-175)

TEXT: In continuation of the papers (RZhKhim, 1960, No. 2, 3760; No. 12, 46084; No. 13, 51109) the authors investigated the solubility of hydrogen (HS) in the electrodeposited alloys Pd - Fe in the range of 0 - 32.8% of Fe and Pd - Co in the range of 0 - 51.2% of Co at 20°C. This was done by the method of measuring the charge curves (CC). The CC sections corresponding to HS and to the adsorption of hydrogen were subdivided by experiments with the same electrode but different electrolytes (H₂SO₄ and HCl). The extent and the relative disposition of CC are indicative of the monotonic reduction of HS and of the strength of the compound M - H with decreasing Pd content of the alloy in the pressure range studied. The

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S/081/61/000/013/007/028
Dissolution of hydrogen with Pd - Fe and ...B105/B201

influence of Fe and Co on the character of sorption is almost the same. The amount of hydrogen, the dissolution of which corresponds to a complete occupation of the d-band of Pd in the alloy by electrons, was calculated from the extent of the sloping CC sections. The slope of the corresponding curves makes it possible to estimate the number of electrons promoted by an atom of the introduced metal into the d-band (RZhKhim, 1955, 1903; 1960, 46084); for Fe and Co, the values 0.95 and 0.98 were found accordingly. [Abstracter's note: Complete translation.]

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1273 also 1274

S/081/61/000/014/007/030
B106/B110

AUTHORS: Vert, Zh. L., Karpova, R. A., Kosheleva, T. V., Tverdovskiy,
~~I. P.~~

TITLE: Overvoltage of hydrogen separation on disperse Pd-Ni alloys

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1961, 87, abstract
146606. (Sb. tr. Gos. in-ta prikl. khimii, no. 46, 1960,
240 - 244)

TEXT: The results of measurement of the hydrogen overvoltage η on disperse Pd-Ni alloys in 0.8 N NaOH at 24°C are described over a wide range of i by the Tafel equation (coefficient $b = 0.14 - 0.15$ v). The value of η at constant i rises on Pd-Ni transition, and is independent of the alloy composition in the ranges with the following nickel contents (in %): 0-25, 25-75, 75-100. An investigation of the sorption of hydrogen by disperse Pd-Ni alloys (RZhKhim, no. 1, 1954, 192) has shown that the extension of the first range coincides with the complete filling of the d-level of Pd with electrons. It is assumed that the symmetrical position of the ranges

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with constant γ -value as dependent on the alloy composition is related with the uniform structure of the external electron levels in Pd and Ni. The curve for the dependence of γ on the distance between adjacent metal atoms in the alloys also shows sections with constant γ -values. [Abstracter's note: Complete translation.]

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TVERDOVSKIY, I.P.; VERT, Zh.L.; KARPOVA, R.A.; MOSEVICH, I.A.

Solubility of hydrogen in alloys of palladium with silver, copper,
and gold. Trudy GIPKH no.42:182-198 '59. (MIRA 13:10)
(Palladium-silver alloys) (Palladium-copper alloys)
(Palladium-gold alloys)
(Hydrogen)

MOSEVICH, I.A.; TVERDOVSKIY, I.P.; VERT, Zh.L.

Hydrogen overvoltage on disperse palladium-gold alloys. Trudy GIPKH
no.42:199-204 '59. (MIRA 13:10)

(Palladium-gold alloys)

(Overvoltage)

(Hydrogen)

VERT, Zh.L.; TVERDOVSKIY, I.P.; MOSEVICH, I.A.

Hydrogen overvoltage on disperse palladium-silver alloys. Trudy
GIPKH no.42:209-211 '59. (MIRA 13:10)
(Overvoltage) (Palladium-silver alloys)
(Hydrogen)