

LEVINA, S.A.; YERMOLENKO, N.F.

Adsorptive activity and the structure of gels of sesquioxides
as affected by heat treatment. Sbor. nauch. rab. Inst. khim. AN BSSR
no.6:145-153 '58. (MIRA 11:11)
(Adsorption) (Colloids) (Hydroxides)

YERMOLENKO, N.F.; LEVINA, S.A.

Structure, adsorption, and catalytic activity of ferric hydroxide gel
as a function of the mode of its precipitation. Sbor. nauch. rab.
Inst. fiz.-org. khim. AN BSSR no. 7:49-56 '59. (MIRA 14:4)
(Iron hydroxide)

5(3)

SOV/79-29-6-32/72

AUTHORS:

Levina, S. A., Yermolenko, N. P., Pansevich-Kolyada, V. I.

TITLE:

Ferric Hydroxide, a Catalyst of the Reaction of the Condensation of Acetone to Diacetone Alcohol (Gidrat oksid azheza-katalizator reaktsii kondensatsii acetona i diacetonyy spirta)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1920 - 1925 (USSR)

ABSTRACT:

The diacetone alcohol is obtained by condensation of acetone in the presence of catalysts. As such catalysts the hydroxides of the alkali metals (Refs 1-4), of calcium (Refs 5,6), barium (Ref 7), and some other products (Refs 8,9) are used. In the present paper the authors for this purpose used ferric hydroxide prepared in a suitable way (Ref 10). The synthesis was carried out according to the usual laboratory method (Ref 11). In the experiment many samples of ferric hydroxide were used, which were prepared by precipitation with ammonia from sulfate in different ways. The structure of the samples was determined, and their catalytic activity was compared with the activity of barium hydroxide. It was found that it was possible to obtain ferric hydroxide of different adsorption and catalytic

Card 1/2

Ferric Hydroxide, a Catalyst of the Reaction of the
Condensation of Acetone to Diacetone Alcohol

SOV/79-29-6-32/72

activity according to the mode of preparation. The activity rises with decreasing content of the ion SO_4^{2-} . It was thus confirmed that the use of ferric hydroxide as catalyst for the condensation of acetone to the diacetone alcohol is possible. The constant of the condensation rate in the presence of the most active sample of ferric hydroxide (Sample II in table 1) is twice higher than in the presence of barium hydroxide (Tables and Figures). There are 4 figures, 3 tables, and 17 references, 6 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Belorusskoy SSR (Institute of Chemistry of the Academy of Sciences, Belorusskaya SSR)

SUBMITTED: March 3, 1958

Card 2/2

KOMAROV, V.S.; LEVINA, S.A.; KURNYCHIK, L.A.

Effect of the nature of the medium on the catalytic conversion
of acetone into diacetone alcohol. Dokl. AN BSSR 4 no. 5:206-209
My '60. (MIRA 13:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
Predstavleno akademikom AN BSSR N.F.Yermolenko.
(Acetone) (Propanone)

LEVINA, S.A.

Structure, and adsorption and catalytic activity of nickel hydroxide as related to production method. Dokl. AN BSSR 4 no.7:291-294 J1 '60. (MIRA 13:8)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akad. AN BSSR N.F. Yermolenko. (Nickel hydroxide)

LEVINA, S.A.; SHIRINSKAYA, L.P.; ZARETSKIY, M.V.; YERMOLENKO, N.F.

Structure and adsorption properties of cation-substituted forms of CaA zeolite. Dokl. AN BSSR 6 no.3:164-167 Mr '62. (MIRA 15:3)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Zeolites) (Ion exchange)

S/250/62/006/003/003/004
1001/1201

AUTHOR: Levina, S. A., Shirinskaya, L. P., Zaretskiy, M. V. and Yermolenko, N. F.
TITLE: Structure and adsorption properties of CaA-zeolites having cation exchanged forms
PERIODICAL: Akademiya nauk Belaruskay SSR, Doklady, v. 6, no. 3, 1962, 164-167

TEXT: The work was carried to study the properties of native zeolites. Samples of zeolite CaA 202-291, from the Gorkiy base of VNIINP were dried for several hours and then ground and sifted through a screen ($d = 0.25-0.1$ mm). Portions of 0.5 g of the zeolite were shaken for an hour at 20°C with a solution of the corresponding nitrate or chloride salts and left for 48 hrs. The amounts of displaced Ca were determined by the oxalate method or complexometrically. The following zeolites were prepared by cation exchange: Na(Ca), Li(Ca), K(Ca), Zn(Ca), Mg(Ca), Ni(Ca), Sr(Ca), Cd(Ca), Pb(Ca), Ba(Ca), Bi(Ca) NH_4 (Ca), Co(Ca), Rb(Ca). An X-ray tube ECB-4 (BSV-4) was used with an iron anticathode to determine the structure of the samples. The roentgenograms were taken by the Debye method in a high resolving power camera BPC-3 (VRS-3). β -radiation was not filtered. The adsorption capacity of the samples with respect to water and methyl-alcohol was determined by means of a quartz spring balance, in vacuo.

The authors conclude: (1) No complete exchange occurs under the given conditions. (2) CaA-zeolites as well as their substituted forms have a simple cubic lattice structure of the type Linde 4A. (3) Changes in the

Card 1/2

Structure and...

S/250/62/006/003/003/004
1001/1201

period of the lattice are established with the exchange of Ca for other ions. (4) A partial destruction of the crystal lattice occurred in some cation-exchange of zeolites Ca A. (5) Adsorption capacity can be increased by a partial substitution of Ca-ions in zeolites 5A for Li, Mg and Na ions.

The most important English-language references are: R. M. Barrer, Proc. Chem. Soc., April 1958, 99-112; R. M. Barrer, W. M. Meier, Trans. Faraday Soc., 54, 7, 1958, 1074; R. M. Milton, Pat. U.S.A. 2882244, 14/04, 1959; J. H. Estes, Pat. U.S.A. 2847280, 12/05, 1958. There is 1 table

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AS BSSR).

SUBMITTED: December 11, 1961

Card 2/2

S/250/62/006/005/006/007
1001/1002

AUTHORS: Levina, S. A., Yermolenko, N. F. and Plyushchevskiy, N. I.

TITLE: Investigation of mechanical strength and of adsorption activity in granulated native zeolites of different brands

PERIODICAL: Akademiya nauk Belaruskay SSR. Doklady, v. 6, no. 5, 1962, 311-312

TEXT: Granulated zeolites were heated to 350°C for 6 hrs and tested for crushing. Their sorptive activity was determined afterwards by adsorption of methyl alcohol and water vapors in vacuo by means of a quartz spring balance. There is no direct connection between the increase of binding material in the granulated samples and their strength. The strength may increase very slightly but the activity drops down considerably. Preliminary wetting for 6 hrs provides granules comparable in strength with granules of Linde firm. The activity losses are about 2%. Wetting for 24 hrs increases the strength of the granules, but losses of activity reach 8%. Additional wetting increases neither strength nor activity. Addition of organic or inorganic material did not show any positive results. There are 2 figures.



ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AS BSSR)

SUBMITTED: December 28, 1961

Card 1/1

S/250/62/006/008/002/002
1042/1242

AUTHORS: Levina, S. A., Plyushchevskiy, N. I., and Ermolenko, N. F.

TITLE: Electron microscopic investigation of the crystallization process of Type 4A zeolite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 6, no. 8, 1962, 500-502

TEXT: An aluminosilicate gel was prepared by mixing solutions of sodium aluminate and silicate; it was aged for one hour at room temperature, then heated at 95-100°C for three hours to attain complete crystallization. The resulting crystalline powder was found by X-ray diffraction to be identical with industrial Type 4A zeolite. Electron microphotographs were taken of seven samples collected at various stages of the process. The original jelly-like mass acquired a reticular structure after 10 min and a well-formed net pattern after one hour at room temperature. Distinct solid crystals appeared after subsequent heating for one hour and 35 min. There is one figure.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AS BSSR)

SUBMITTED: March 22, 1962

Card 1/1

LEVINA, S.A.; YERMOLENKO, N.P.; PLYUSHCHEVSKIY, N.I.

Study of the mechanical strength and adsorption activity
of granulated zeolites of various brands produced in the
U.S.S.R. Dokl. AN BSSR 6 no.5:311-312 My '62. (MIRA 15:6)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Zeolites)

ACCESSION NR: AT4001412

S/3029/63/000/000/0015/0019

AUTHOR: Malashevich, L. N.; Levina, S. A.; Yermolenko, N. F.

TITLE: Ion-exchange in certain synthetic zeolites

SOURCE: Ionoobmen i sorbtsiya iz rastvorov. Minsk, 1963, 15-19

TOPIC TAGS: molecular sieve, ion exchange, cation exchange, adsorption, selective adsorption, separation, lithium ion, potassium ion, ammonium ion, silver ion, cesium ion, zeolite; natural zeolite, synthetic zeolite, cation exchanger, zeolite 13X, zeolite no. 20, zeolite P, cation, bond energy, ionic radius, ion exchange equilibrium, distribution coefficient, equilibrium constant

ABSTRACT: The authors compared zeolite 13X and a type P zeolite (see Barrer et al., J. Chem. Soc. 195, 1959) which they synthesized (No. 20) with respect to the selective adsorption of the monovalent cations Li^+ , K^+ , NH_4^+ , Ag^+ and Cs^+ . Equilibrium exchange was carried out by the static method without estimating the ionic strength of the solutions. K and Na were determined photometrically; Ag by Volhard's method. The results are shown in Figs. 1 and 2 of the Enclosure. As indicated by the distribution curves, the selective adsorption of the cations decreased in the order $Ag > K > NH_4 > Cs > Li$ for zeolite 13X and the order $Ag > K > Li$ for zeolite No. 20, the selectivity coefficient of the Ag ion being 49 in each case.

Card 1/3

ACCESSION NR: AT4001412

The marked difference between the selectivity coefficients of K and LI on zeolite No. 20 (3.54 and 0.03, respectively) may make this resin useful in the separation of these two alkali metals. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 21Nov63

ENCL: 01

SUB CODE: MA, CH

NO REF SOV: 004

OTHER: 009

Card 2/3

ACCESSION NR: AT4001412

ENCLOSURE: 01

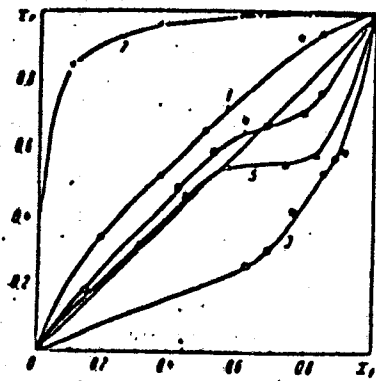


Fig. 1. Cation distribution curves on zeolite 13X:
1 - K⁺, 2 - Ag⁺, 3 - Li⁺,
4 - NH₄⁺, 5 - Cs⁺.

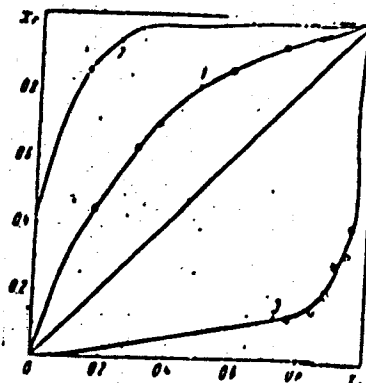


Fig. 2. Cation distribution curves on zeolite No. 20:
1 - K⁺, 2 - Ag⁺, 3 - Li⁺.

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ACCESSION NR: AT4001415 S/3029/63/000/000/0052/0057

AUTHOR: Levina, S. A.; Plyushchevskiy, N. I.; Yermolenko, N. F.

TITLE: Effect of ultrasonic waves on crystallization of zeolites

SOURCE: Iqnoobmen i sorbtsiya iz rastvorov. Minsk, 1963, 52-57

TOPIC TAGS: zeolite, molecular sieve, synthetic zeolite, zeolite 4A, preparation, crystallization, hydrothermal crystallization, gel, alumino silica gel, sodium aluminates, sodium silicates, crystal formation, network structure, ultrasonic treatment, gel aging, heat treatment, crystallization rate, adsorption activity, ultrasonic waves

ABSTRACT: A study was made of the effect of ultrasonic irradiation (18 kilocycles/sec for 3 min.) on the crystallization of zeolite 4A. The crystallization process was followed by examining specimens under the electron microscope. Crystallization was not accelerated if ultrasonic treatment was carried out immediately after the alumino-silicate gel had been prepared. Prolonging the time of treatment to 30 min. also had no effect on the crystallization rate. However, when samples were treated for 30 min. after 1 hr. of aging at room temperature and then heated for 1 hr. and 30 min. at 80-100C, crystallization was complete in 3 hrs. as compared with 6 hrs. for the control. Thus, ultrasonic treatment is effective in accelerating the crystallization rate only if cross-linked lattices are present in the gel.

Card 1/2

ACCESSION NR: AT4001415

In this case, ultrasonic treatment accelerates packing in cross-linked lattices and the appearance of nucleation centers for crystallization. The adsorptive activity of treated crystals was the same as that of untreated crystals. Orig. art. has; 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 21Nov63

ENCL: 00

SUB CODE: MA, CH

NO REF SOV: 005

OTHER: 000

Card 2/2

LEVINA, S.A.; MALASHEVICH, L.N.; YERMOLENKO, N.F.

Adsorption of dyes by synthetic zeolites. Koll. zhur. 25 no.5:
567-571 3-0 '63. (MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk.

YERMOLENKO, N.P.; LEVINA, S.A.; MELASH VICH, L.N.

Cation exchange of bivalent metals on a synthetic 13X-type
zeolite. Dokl. AN BSSR 7 no.11:756-759 N '63. (MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

YF-11A KC-135A, C-130A, C-119, C-117, C-112, C-111, C-110, C-109, C-108, C-107, C-106, C-105, C-104, C-103, C-102, C-101, C-100, C-99, C-98, C-97, C-96, C-95, C-94, C-93, C-92, C-91, C-90, C-89, C-88, C-87, C-86, C-85, C-84, C-83, C-82, C-81, C-80, C-79, C-78, C-77, C-76, C-75, C-74, C-73, C-72, C-71, C-70, C-69, C-68, C-67, C-66, C-65, C-64, C-63, C-62, C-61, C-60, C-59, C-58, C-57, C-56, C-55, C-54, C-53, C-52, C-51, C-50, C-49, C-48, C-47, C-46, C-45, C-44, C-43, C-42, C-41, C-40, C-39, C-38, C-37, C-36, C-35, C-34, C-33, C-32, C-31, C-30, C-29, C-28, C-27, C-26, C-25, C-24, C-23, C-22, C-21, C-20, C-19, C-18, C-17, C-16, C-15, C-14, C-13, C-12, C-11, C-10, C-9, C-8, C-7, C-6, C-5, C-4, C-3, C-2, C-1.

synthesis of the... their constitution, structure and reaction properties. IUPAC. AN
BOOK 2 no. 3:394-397, 1964.

(CIFA 17:10)

. T... ..

LEVINA, S.A.; YEMKOLENKO, N.P.; MALASHEVICH, L.N.; PROKOPOVICH, A.A.

Some substituted forms of the NaX zeolite. Dokl. AN BSSR 8 no.7:
452-454 '64. (MIRA 17:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

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26182

S/081/61/000/012/005/028
B105/B202

AUTHORS:

Levina S. A., Yermolenko N. F., Sidorovich M. A.

TITLE:

Effect of the composition and the conditions of formation on the structure and the catalytic properties of the mixed gels of iron, nickel, and cobalt hydroxides

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 12, 1961, 81, abstract 126549 (Sb. nauchn. rabot. In-t obshch. i neorgan. khimii AS BSSR, 1960, vyp. 1, 140-146)

TEXT: The structure and the catalytic activity of the mixed gels Fe_2O_3 and $Ni(OH)_2$ as well as of the pure and mixed gels $Co(OH)_2$ and $Fe(OH)_2$ were studied. It was demonstrated that the mixed hydrates of iron and nickelic oxides are finely porous. By an admixture of 6.5% Ni to $Fe(OH)_3$ the catalytically most active sample was obtained whose activity was 2.4 times greater than that of $Fe(OH)_3$. Pure $Co(OH)_2$ samples are compared with a low specific surface and low catalytic activity. The order
Card 1/2

Effect of the composition and the ...

26182
S/081/61/000/012/005/028
B105/B202

J

and rate of precipitation does not essentially influence the structure of the Co(OH)_2 samples investigated. The admixture of 0.94% Co(OH)_2 to Fe(OH)_3 increases the activity of the sample as compared to that of pure Fe(OH)_3 1.8 times. [Abstracter's note: Complete translation.]

Card 2/2

RUDENKO, L.A.; LEVINA, S.B.

Effect of the place of cultivation on the carbohydrate content
of gramineous plant seeds in germination. Sbor. bot. rab. Bel.
otd. VBO no.2:97-102 '60. (MIRA 15:1)
(Carbohydrate metabolism) (Germination)
(Gramineae)

PROCESSES AND PROPERTIES INDEX

Effect of platinum on the adsorptive properties of charcoal in electrolyte solutions. N. Levine, A. Frumkin and A. Lunov. Acta Physicochim. U. R. S. S. J. 3:7-412 (1955) (in German); J. Phys. Chem. U. S. S. R. 7 (in Press) (1956) (in Russian). — When platinum charcoal in a H₂ atm. is placed in a NaCl soln. it adsorbs NaOH but not Cl⁻, while in an O atm. HCl is adsorbed and NaOH remains in soln. The same effects are obtained simply by shaking small pieces of smooth Pt metal with unplatimized charcoal. The charge over the whole charcoal surface equals is transferred over the whole charcoal surface producing H⁺ (or OH⁻) ions which then adsorb alkali in acid. The amount of adsorption is somewhat less than corresponds to the potential of the Pt-H electrode but increases again when more fresh Pt is added. Similar effects the Pt is also indicated by its failure to act when added to a second sample of charcoal in salt soln. Similar effects are observed when Pt was, platimized Pt, Pt black or platimized charcoal is added to unplatimized charcoal. In all cases the whole charcoal surface is recharged and no longer adsorbs acid from acid or salt solns. in a H₂ atm. while the unplatimized charcoal only acid in O or only alkali in H₂ even though only a small fraction of the surface is Pt-covered. The dependence of the adsorption upon the Pt content of the charcoal is due to a lowering of the Pt-H potential as a result of partial poisoning of the Pt surface when the Pt content is small, and hence disappears for large Pt content.

P. H. Rothmann

ABSTRACTS METALLURGICAL LITERATURE

CLASSIFICATION

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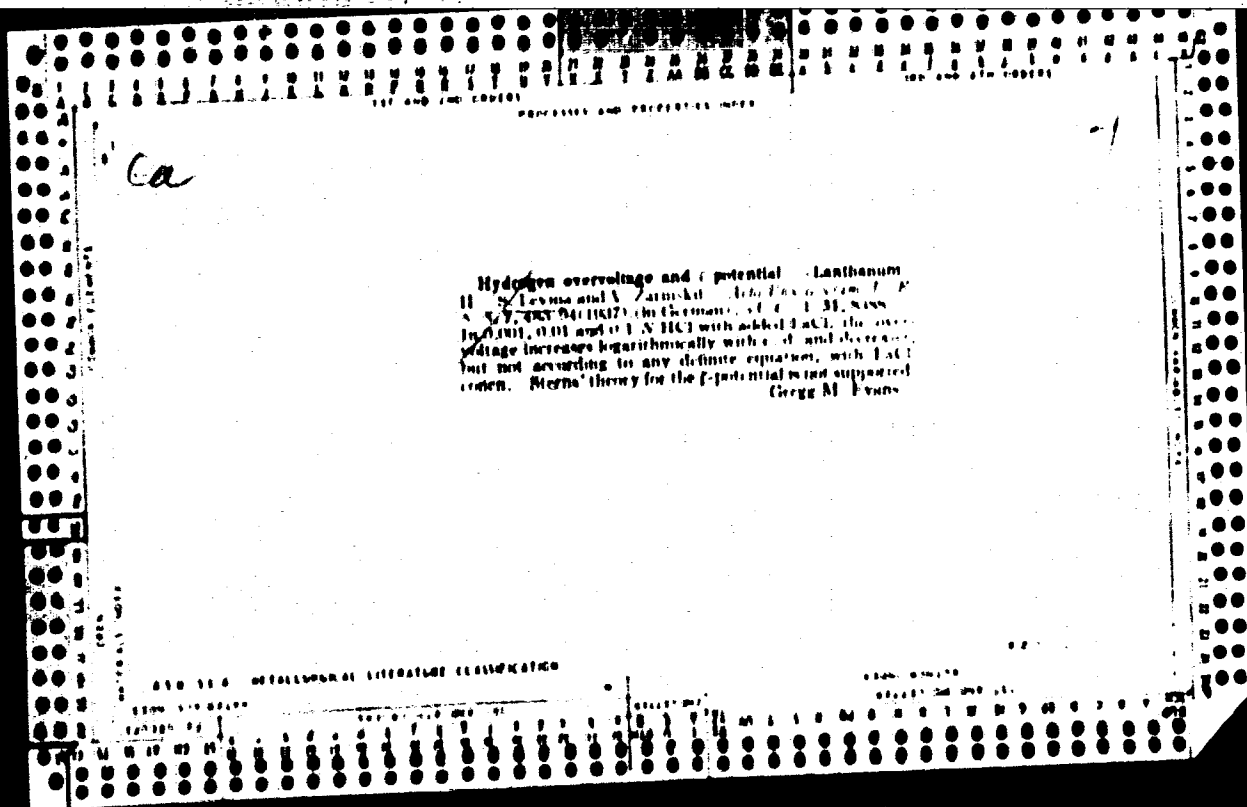
PROCESSING AND PROPERTIES INDEX

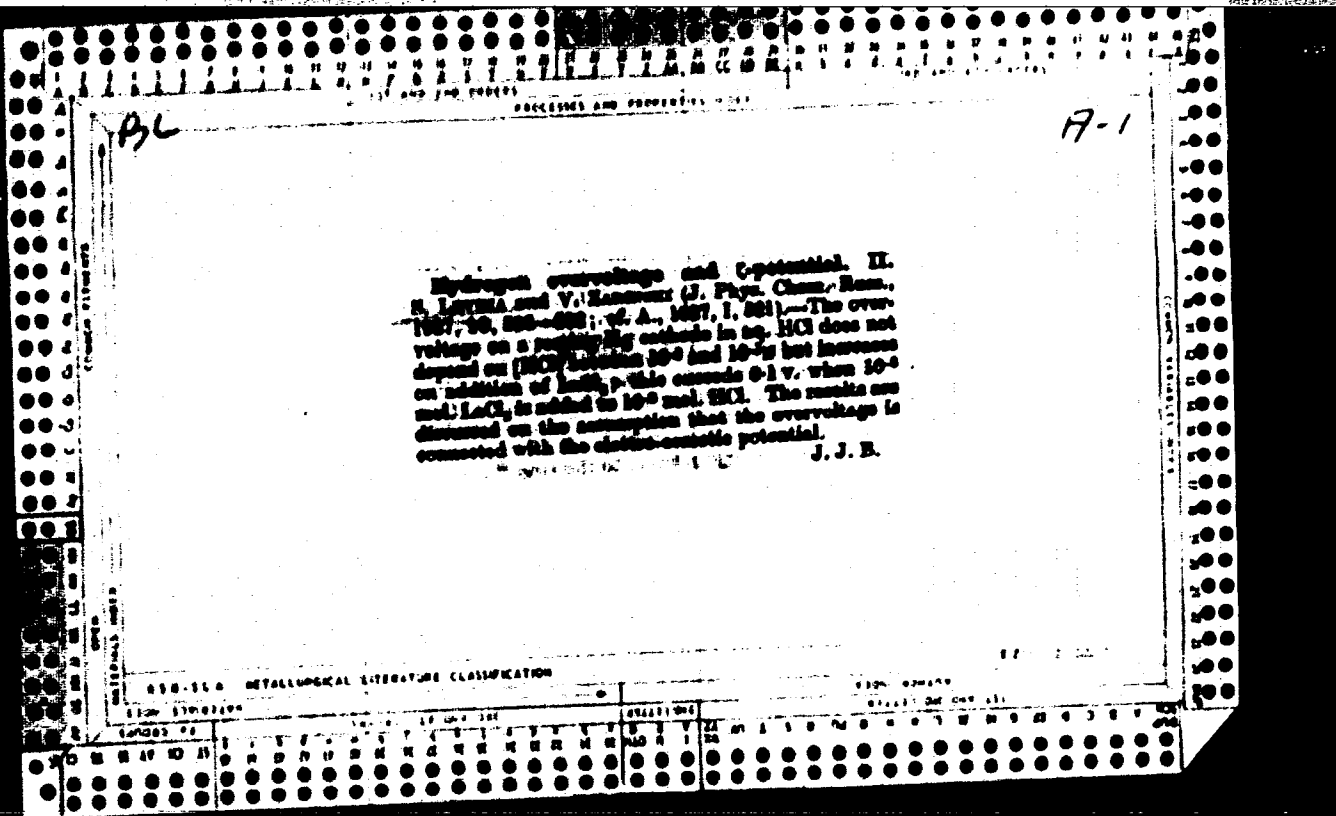
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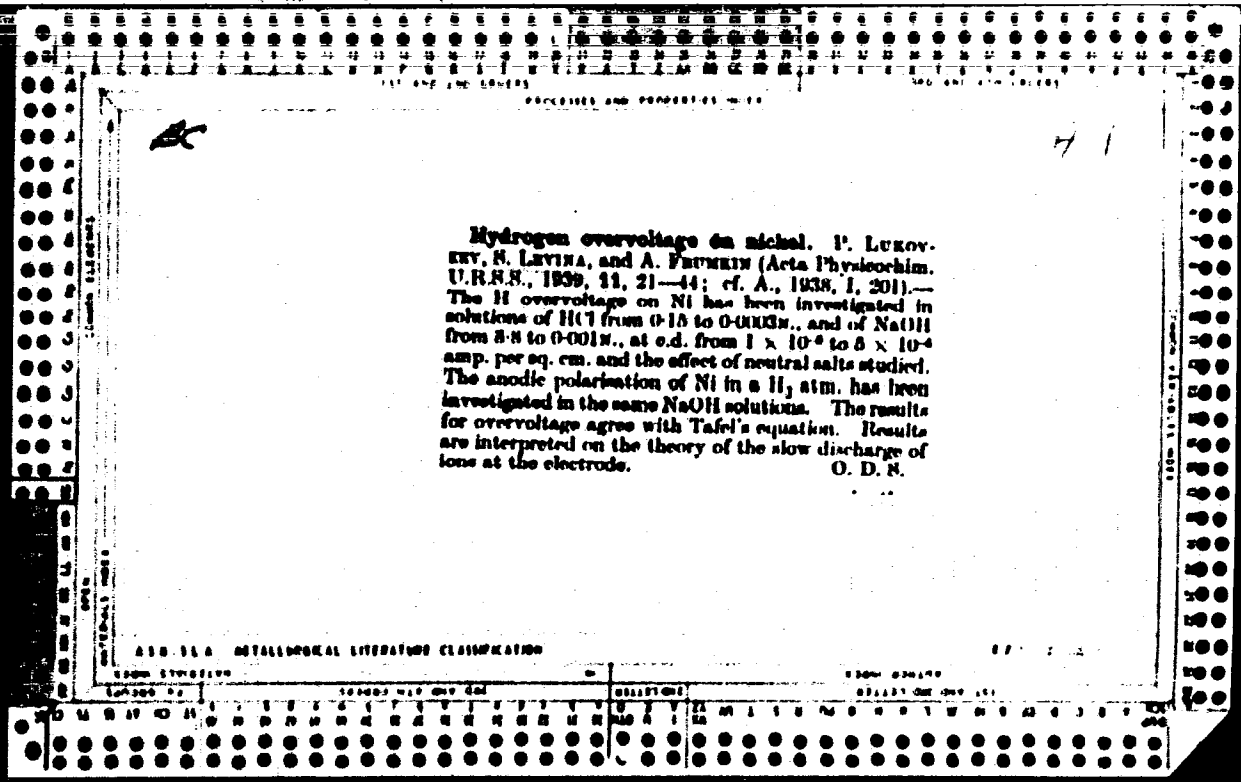
*Hydrogen Over-Voltage at Mercury (Electrode) and the ζ -Potential. I. M. Levin and W. Szymony (*Zets Physicochimica U.R.S.S.*, 1937, 8, (4), 401-404) [In German] A method is described for determining hydrogen over voltage (η) at a stationary mercury electrode, and values of η are given, in the form of curves, for 0.01N, 0.01N, and 0.1N solutions of hydrochloric acid with current densities of 10⁻⁴ to 10⁻⁶ amp. cm². The effect of impurities in the cathode surface is investigated. J. S. G. T.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

LEVINA, S. D.
ca

Adsorption of electrolytes on charcoal. S. D. Levina. *Vysokk. Kinet.* 6, 195-212 (1944).— Review and discussion with 51 references. The relation between adsorption and the structure of variously prep. charcoals, and the facts of H₂ and O₂ atoms on the ads. of electrolyte adsorbed are considered. F. H. Rathmann

2

METALLURGICAL LITERATURE CLASSIFICATION

ADDITIONAL	CLASSIFICATION	INDEX	REMARKS

LEVINA, S-J

542. Circulation pump of glass, S.D. Levina (Zavod. Lab., 1940, 9, 1048-1049). -The piston of the pump is a glass tube filled with Fe shavings; it is periodically lifted and lowered by an electro-magnet. J.J.B.

PROCESSING AND REPRODUCTION UNIT

117 AND 118 000103

A

4

Hydrogen overvoltage on nickel in solutions of acids.
 A. Logran and S. Lovén: *Acta Physicochim. U. S. S. R.* 12, 343-83(1940) (in English); cf. *C. A.* 34, 12591.
 The $\eta - \log i$ curves, where η is the overvoltage and i the c. d., in H_2SO_4 , HCl and HBr solns. are initially horizontal and then obey Tafel's equation $\eta = a + b \log i$ with $b = 0.100$ to 0.103 without obtaining a "satn. current" value. The a values are practically the same in all 3 acids; no adsorption of Cl or Br ions on Ni is observed; $\Delta\eta$ is about 65 mv. for $c_1:c_2 = 10:1$ from $c = 1 N$ down to $c = 0.01 N$, and decreases at lower concns.
 P. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION

627

A-1

1. C

Overvoltage of hydrogen on nickel in acid solutions. A
 Ferguson and W. L. Lippitt (J. Phys. Chem., 1910, 14, 211)
 (16) Overvoltage of hydrogen on nickel in acid solutions
 amp per sq. cm. At higher current densities, the overvoltage
 in all solutions and rises to 0.100 in each solution. The
 values of η are identical in HCl, H₂SO₄, and H₂SO₄; they
 increase with dilution in HCl, H₂SO₄, and H₂SO₄ and are inde-
 pendent of it at lower currents. It falls slightly with η at
 low current and mostly rises at slightly at higher. At higher
 the overvoltage is due to a polarization of H⁺ ions but
 the mechanism at low current is obscure.

PROCESSING AND PROPERTY NOTES

41

Exchange reaction between deuterium and hydrogen on nickel. *S. Levine, J. Inorg. Phys. Chem.* 1955, 10, 201-204. Contrary to the results of Hinshelwood and Charnock (A. 1934, 1, 284), the rate const. of the exchange reaction between D₂ and H₂ on Ni in aq. NaOH increases from 0.0219 at 0°C to 0.0426 at 6.6°C. NaOH. F. I. U.

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
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LEVINN, S. D.

C 1

9

Separation of mercury from antimony-mercury ore
S. D. Levina and K. A. Goldest. USSR 67,130,
Sept. 29, 1961. Hg is distd off at 125-127° under 20
mm. Thus Hg can be distd off without almost of
Sb, and antimed Fe app can be used. M. Hirsch

ATO SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

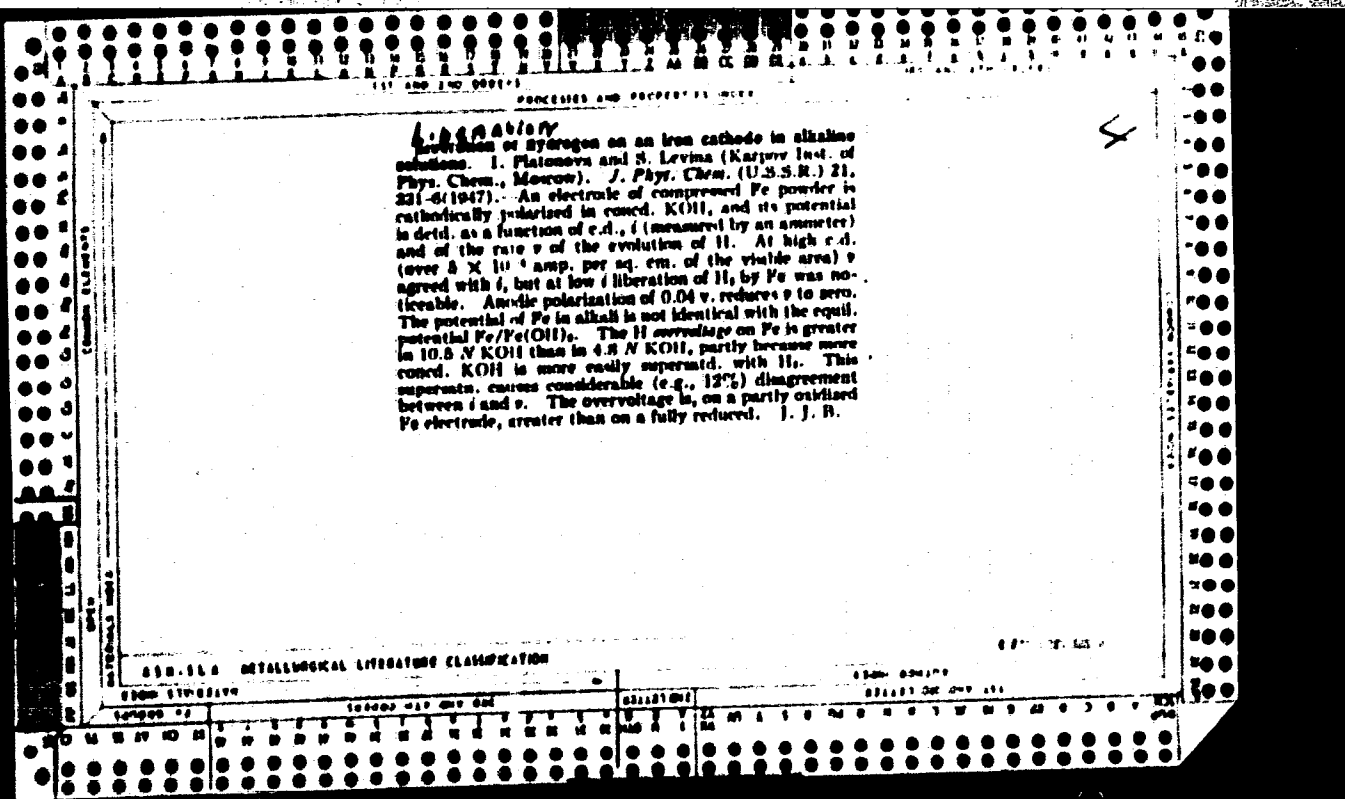
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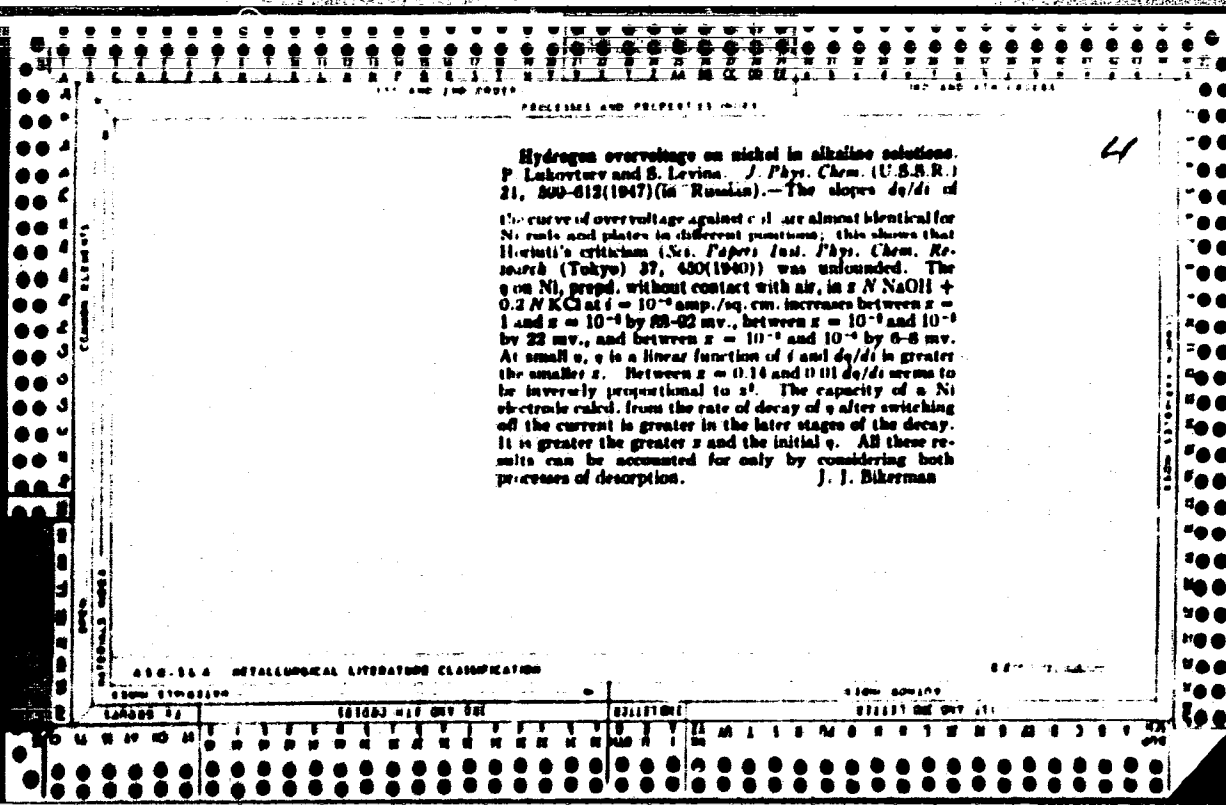
The behavior of iron electrode in alkaline solutions at low temperatures. E. Kalmytova and S. Levina (Karpov Inst. Phys. Chem., Moscow). *J. Phys. Chem. (U.S.S.R.)* 21, 225-23(1947)(in Russian). - An electrode of compressed Fe powder was polarized in KOH, d. 1.24-1.30. The hydrogen overvoltage η was greater the lower the temp. The temp. coeff of η was, e.g., 1.7 milliv. per degree between 30 and 50°, 3.0 between 20 and 10°, and 4.2 between 0 and -10°, all at a const. c.d. (not given). Presumably, Fe is covered with an oxide film the reduction of which is slower the lower the temp. The existence of this film is made probable also by the following exp. When an Fe electrode is discharged from about 0.150 v. (relative to H electrode in KOH) to about 0.5 v. at -25° and the system then rapidly heated to room temp., the potential first decreases to about 0.3 v. and then increases again to 0.5 v. . . this increase is attributed to growth of oxide film also at room temp. The stability of this film at low temp. explains the low capacity of Edison's storage battery below 0°.

J. J. Bikerman

METALLURGICAL LITERATURE CLASSIFICATION

62-55.8	62-55.8	62-55.8	62-55.8
62-55.8	62-55.8	62-55.8	62-55.8
62-55.8	62-55.8	62-55.8	62-55.8
62-55.8	62-55.8	62-55.8	62-55.8





FDD PA 169T16

LEVINA, S. D.

USSR/Chemistry - Electrolysis, Equipment Aug 50

"Portable Hydrogen Electrode," S. D. Levina, Inst
of Phys Chem, Acad Sci USSR

"Zavod Lab" Vol XVI, No 8, p 1014

Describes H half-element which does not change its
potential for 6 months and may be used as portable
electrode. For normal H electrode 2N-sulfuric
acid is used as solution. If potential becomes
unstable and it cannot be reinstated by changing
solution and by passing of fresh H, metal member
of electrode must be platinized again.

169T16

LEVINA, S. D.

USSR/Chemistry - Oxide Films

Apr 52

"Oxide Films on High Alloy Steels," S. D. Levina,
R. Kh. Burshteyn, Inst of Phys Chem, Moscow, Acad
Sci USSR

"Zhur Fiz Khim" Vol XXVI, No 4, pp 555-559

Eliminated oxide film from Cr-Ni steel by re-
duction with hydrogen. Established that adsorption
of oxygen at room temp on the sample in question
was 1.6 times lower than on pure iron. Increase
of adsorption of oxygen on steel with increased
temp is considerably less pronounced than on pure
iron.

21729

7

CA

Evolution of hydrogen on an iron electrode in alkali solutions under high pressures. B. Levina and A. Orlov (Inst. Phys. Chem. Acad. Sci., U.S.S.R., Moscow). Doklady Akad. Nauk S.S.S.R. 83, 118-10(1958); cf. CA, 41, 6475h. — The dependence of the rate of evolution of H₂ on the e.d. on the potential of the Fe electrode in an alkali soln. being a straight line with a slope of 0.01 v., this process must be an irreversible one. The stationary potential of — 0.045 v. in a 0.5 N KOH soln. cannot be identical with the reversible potential Fe/Fe(OH)₂, OH⁻, which is rather close to — 0.070 v. where the rate of liberation of the Fe becomes zero. On the basis, evolution of H₂, due to soln. of Fe, should come to a halt only under pressures of the order of 300-400 atm. In exper. with Fe electrodes of alk. storage batteries, in 4.5 N KOH, in an autoclave, at 30°, the pressure was found to increase steadily up to about 400 atm. The potential evol. from th. limiting pressure is — 0.075 v., very close to the value predicted from Frumkin's electrochem. theory of soln. of metals. N. Thon

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929610015-8

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929610015-8"

L. V. V. H., S. D.

USSR/Physical Chemistry - Electrochemistry.

B-12

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18712

Author : ~~Levina, S.D.~~
Title : On the Action of Added Inhibitors When Iron is Being Dissolved in Alkaline Solutions.

Orig Pub : Zh. prokl. khimi, 1956, No 9, 1353-1358

Abstract : Inhibitive action of SiO_2 , Na_2HPO_4 and tannin (I) on dissolution of Fe in 5 n. KOH was studied. Electrodes were obtained by pressing Fe-powder, containing not more than 0.2-0.3% of admixtures, into a sheath made of perforated ribbon, under pressure of 400 atm. The values of electrochemical capacitance of electrodes were compared. They were reduced in a pure solution of KOH and in solutions of KOH with admixtures left in the same solutions for two-three weeks at 20° or for 2-3 days at 40°. It was established that the most favorable concentrations of admixtures which allow to reach passivation of the electrode

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USSR/Physical Chemistry - Electrochemistry.

B-12

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18712

and preservation of its electrochemical activity are 0.3-0.1% for SiO_2 and Na_2HPO_4 and 1-2% for tannin. When the concentrations of these admixtures are higher the dissolution of Fe is decreases greatly but, simultaneously, the electrochemical activity of electrodes becomes sharply lower. Overpotential (η) of hydrogen increases in the presence of SiO_2 (1%), Na_2HPO_4 (1%) and tannin (3.5%) by 15, 30 and 40 mv, respectively. Admixture of 7% of tannin lowers (η) by 12 mv. Slowing down of the rate of dissolution of iron observed in the case of Na_2HPO_4 and tannin can be explained by the increasing of hydrogen overpotential. The author comes to conclusion that passivating action is due to substances which are able to give stable surface compounds with Fe oxides.

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LEVINA, S.D.; KALISH, T.V.

Action of atomic hydrogen on polarized electrodes in electrolyte solutions. Dokl. AN SSSR 109 no.5:971-974 Ag. 1956.
(MIRA 9:10)

1. Predstavleno akademikom A.N. Frunkinym.
(Hydrogen) (Electrolysis)

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929610015-8"

AUTHOR:
TITLE:

LEVINA, S.D., MORROV, P.M.
Glass Cook for Working with Liquids and a Vacuum. (Steklyannyy kran dlya rabot s zhidkost'yu i vakuumom, Russian)
Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 744-745 (U.S.S.R.)

PERIODICAL:

ABSTRACT:

Glass cooks were produced for laboratory use by means of which any damage caused by lubricating oils or by exposure to air is excluded. The ground parts of the cook are connected with the stopper by means of an axis. The ground parts are lubricated. If the cook separates two parts of an apparatus and the apparatus contains a liquid, the cook is lubricated by the liquid. A side tube leads to the vacuum. In the case of poisonous oil vapors only the second cook is used, in which case the lubricant does not penetrate into the interior of the apparatus because the ground parts are on the outside of the apparatus.

ASSOCIATION:

Institute for Physical Chemistry of the Academy of Science of the U.S.S.R.

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Library of Congress

Card 1/1

LEVINA, S.D.; L'VOVA, T.N.

Origin of carbonate rocks in Caradoc sediments of the Selety-
Stepnyak region in northern Kazakhstan. Biul. MOIP. Otd.
geol. 34 no.5:81-93 8-0 '59. (MIRA 14:6)
(Kazakhstan—Rocks, Carbonate)

67943

5.4600
~~5(4), 21(8)~~

AUTHORS:

Levina, S. D., Kalish, T. V.S/020/60/130/03/025/065
BC04/B011

TITLE:

The Influence of Radiolysis on the Potential of the Nickel Electrode¹ in an Alkaline Solution in Dependence on the Composition of the Gas Phase

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 3, pp 573-576 (USSR)

ABSTRACT:

The authors found in reference 1 that the potential arising on the action of atomic hydrogen under atmospheric pressure on a nickel electrode in an alkaline solution is by 45 - 60 mv more negative than is the potential of the reversible hydrogen electrode. In the present paper they investigated the behavior of the Ni-electrode under the simultaneous action of atomic hydrogen, atomic oxygen and OH radicals produced by radiolysis. The apparatus which made it possible to carry out the experiments in vacuum or at a certain gas pressure is illustrated in figure 1. The nickel electrodes were reduced at 400° in hydrogen atmosphere and were stored in H until the time of the experiment. 0.68 N NaOH served as alkaline solution. Radiolysis took place by means of an X-ray tube which supplied an energy ✓

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The Influence of Radiolysis on the Potential of
the Nickel Electrode in an Alkaline Solution in
Dependence on the Composition of the Gas Phase

S/020/60/130/03/025/065
B004/B011

of $6.8 \cdot 10^{16}$ ev/sec per cm^3 of solution. Figure 2 shows the change with time of the electrode potential in the case of repeated connecting and disconnecting the radiation. The initial potential is by about 250 mv more positive than that of the reversible H-electrode, under the action of radiation it first shifts by about 200 mv in a negative direction, and slowly turns more positive after a few minutes. When radiation is disconnected, a shift occurs in the negative direction. This procedure can be repeated by connecting and disconnecting the radiation, until the electrode is coated with a thick oxide layer. The potential shifts observed are explained by initial adsorption of H and the subsequent action of the oxidizing substances forming in the solution, whose concentration increases with the duration of the irradiation. The reaction course in the solution, the formation and the decomposition of H_2O_2 are still to be investigated. The curves drawn in the presence of neon (6 - 10 torr) agree with the curves drawn in

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The Influence of Radiolysis on the Potential of
the Nickel Electrode in an Alkaline Solution in
Dependence on the Composition of the Gas Phase

S/020/60/130/03/025/065
B004/B011

the absence of gas. Figure 3 shows the behavior of the nickel electrode in the presence of gaseous hydrogen (60 torr, 6 torr) and H + He (1 + 6 torr). In this case, only slight changes of potential occur with connecting and disconnecting of the radiation; this potential almost coincides with the one of reversible H-electrode in the case of H + He. The still present low potential fluctuations are explained by thermal effects and redox processes. The authors mention Ts. I. Zalkind and V. I. Veselovskiy (Refs 3,4), and N. A. Shumovskaya and R. Kh. Burshteyn (Ref 5). They thank Academician A. N. Frumkin and P. I. Dolin for discussing the experimental data. There are 3 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: October 7, 1959 by A. N. Frumkin, Academician

SUBMITTED: September 28, 1959
Card 3/3

S/020/60/132/05/46/069
B004/B011

24,7700
AUTHORS: Levina, S. D., Lobanova, K. P., Plate, N. A.

TITLE: Electric Properties of Systems Consisting of Polymers¹ and Metals

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5, pp. 1140-1143

TEXT: The authors proceed from papers by A. T. Vartan'yan (Refs. 1, 2), A. V. Topchiyev, M. A. Geyderikh, B. E. Davydov, V. A. Kargin, et al. (Ref. 5) who had dealt with the influence of the introduction of metal atoms in polymers on their physical properties. The authors wanted to study the electric properties of compositions in which the metal particles are surrounded by a nonconductive polymeric layer. The problem was to be solved whether electron transitions are possible under such conditions. The authors used highly disperse iron powder which was obtained from iron oxide by reduction by means of hydrogen at 450-500°C, and passivated by dipping into benzene. Plates were pressed from iron powder and polyisoprene (natural rubber) for the first experiments. The dependence of

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Electric Properties of Systems Consisting
of Polymers and Metals

S/020/60/132/05/46/069
B004/B011

$\log \sigma$ (σ = electrical conductivity) on $1/T$ of a sample with 20% of rubber was linear between $+50^{\circ}\text{C}$ and -40°C , as is typical of semiconductors. The thermo-emf ($5 \mu\text{v}/\text{deg}$) and the Hall constant had the same sign as p-type semiconductors. Similar results were obtained with iron and polystyrene. In order to obtain a more uniform distribution of the polymer, the iron was subjected to a vibrational grinding process in monomeric medium according to the method devised by V. A. Kargin and N. A. Plate. The monomers used were isoprene, styrene, methyl methacrylate, and acrylonitrile. Polymerization occurred in consequence of vibrational grinding. The results (Table 1, Fig. 1) show that in this case the thermo-emf and the Hall constant had the sign of the n-type semiconductors. It is concluded therefrom that in vibrational grinding, beside the more uniform distribution, there occurs also another type of bond between metal and organic substance. The authors mention papers by R. Kh. Burshteyn, M. I. Pavlova, and S. L. Kiperman (Refs. 6, 7), N. A. Shurmovskaya and R. Kh. Burshteyn (Ref. 8), and thank A. N. Frumkin, Academician, V. A. Kargin, Academician, and R. Kh. Burshteyn, Professor, for their assistance and advice. There are 1 figure, 1 table, and 9 references: 7 Soviet and 2 British.

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Electric Properties of Systems Consisting
of Polymers and Metals

S/O20/60/132/05/46/069
B004/B011

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of
Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: February 24, 1960, by A. N. Frumkin, Academician

SUBMITTED: February 24, 1960

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Card 3/3

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3/020/61/141/003/013/021
B101/B117

AUTHORS: Levina, S. D., Lobanova, K. P., and Vannikov, A. V.

TITLE: Effect of thermal action on systems consisting of polymers and disperse metals

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 662-664

TEXT: In a previous paper (DAN, 132, 1140 (1960)) it was shown that systems of organic polymers and highly disperse metals have semiconductor properties. These systems are characterized by low electric resistance. p-type and n-type semiconductors were prepared by changing the method of production. (The type of semiconductor was determined on the basis of the thermo-emf.) The system Fe - polyisoprene yielded p-type semiconductor when precipitating the finished polymer from benzene solution. If polymerization was conducted by vibration grinding, n-type semiconductors were produced. The present study deals with the systems Fe - polyisobutylene (I) and Fe - polyethylene (II). (I) was introduced from 1% toluene solution into the system. Samples with 10, 20, and 30% (I) were prepared. With 10% (I), the specific resistance was $1 \cdot 10^{-2}$ ohm-cm, with

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Effect of thermal action ...

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20%, $1 \cdot 10^{-1}$ ohm·cm. The sign of current carriers corresponded to that of p-type semiconductors. The temperature dependence of the specific resistance was like that in metals. Therefore, it is assumed that metal particles were in contact during molding. With 30% (I), the resistance was $> 1 \cdot 10^4$ ohms. If this system was heated in vacuo at 180-200°C, it acquired new properties. At room temperature, the specific resistance dropped to 2-4 ohm·cm. Electrical conductivity dropped with decreasing temperature, and the function $\log \sigma - (E_a/T)$ behaved as in impurity semiconductors. The curve for this function consisted of two sections with different values of the activation energy ΔE : between 0 and 180°C, $\Delta E = 0.07$ ev, between 0 and -50°C, $\Delta E = 0.66$ ev. This system was an n-type semiconductor. Electrical conductivity of pure (I) changes between 30 and 160°C linearly, and returns to the initial value during cooling. Thus, the behavior of the system Fe - (I) is not due to a change of (I) because of thermal treatment. It is concluded that n-type semiconductors obtained by vibration grinding of Fe + polyisoprene were formed by heat during grinding. The system Fe - (II) obtained by precipitation of (II) from o-xylene solution at 140°C was also heated in vacuo at 250°C for a considerable time. Resistance was 14 ohm·cm at room temperature. The

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samples showed no semiconductor properties. Only after grinding and molding the samples once more and heating them in vacuo for a longer period, a behavior was observed similar to that of the system Fe - (I). The easier structural change of (I) during heating is explained by the tertiary C atom. A paper by V. A. Kargin, N. A. Plate (Vysokomolek. soyed., 1, 330 (1959)) is mentioned. There are 2 figures and 9 references: 6 Soviet and 3 non-Soviet. The three most recent references to English-language publications read as follows: D. D. Eley, Res. in Appl. Ind., 12, 293 (1959); A. Epstein, B. S. Wildi, J. Chem. Phys., 32, 324 (1960); Semiconductors, Ed. N. B. Hannay, Am. Chem. Soc., Monogr., N. Y., 1959.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences USSR)
PRESENTED: July 11, 1961, by A. N. Frumkin, Academician
SUBMITTED: July 8, 1961

X

Card 3/3

LEVINA, S.D.; KALISH, T.V.

Effect of atomic hydrogen on the potential of nickel and mercury electrodes in electrolyte solutions. Zhur. fiz. khim. 36 no.9: 1926-1931 S '62. (MIRA 17:6)

1. Institut elektrokhemii AN SSSR.

LEVINA, S.D.; LOBANOVA, K.P.; BERLIN, A.A.; SHERLE, A.I.

Electric properties of the systems consisting of tetracyanoethylene
and metal powders. Dokl.AN SSSR 145 no.3:602-604 JI '62.
(MIRA 15:7)

1. Institut elektrokhimii AN SSSR. Predstavleno akademikom
A.N.Frumkinym.

(Ethylene) (Metals)

LEVINA, S.S.

Formation and paleogeographic control of the distribution of
Ordovician phosphorites in northern Kazakhstan. Min. syr'ia
no.10:8-32 '64. (MIRA 18:3)

LEVINA, S.D.

Phosphorite potential of Middle Paleozoic red beds in the Northern
Caucasus. Min. syr's no.10:69-85 '64.

(MIRA 18:3)

LEVINA, S.I.; SERGEYEV, Yu.V.

Pathogenesis of primary hypertension of the lesser circulation.
Kardiologiya 4 no.6:75-78 N-D '64. (MIRA 18:8)

1. Gosital'naya terapevticheskaya klinika (zav. - doktor med.nauk P.N.Yurenev) ped'atricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova i Gorodskaya klinicheskaya bol'nitsa Nr. 64 (glavnyy vrach G.V.Rodygina).

FRUMKIN, A.N.; SHUMILOVA, N.A.; KABANOV, B.N.; LEVINA, S.D.

Revekka Khaimovna Burshtein; on her sixtieth birthday, Zhur.
fis. khim. 38 no.5:1390-1391 My '64.

(MIRA 18:12)

SHMELEVA, T.A.; GRIGOR'YEVA, N.V.; PAVLOV, S.A.; LEVINA, V.I.

Use of polyacrylates for the strengthening of the skin of
sheep pelts. Kozh.-obuv. prom. 7 no.9:33-35 S '65.

(MIRA 18:9)

LEVINA, Ye.N.

Method of luminescent antibodies for studying the antigenic structure of bacteria. Izv. AN SSSR. Ser. biol. no.6:909-912 N-D '65. (MIRA 18:11)

1. Institut epidemiologii i mikrobiologii im. N.F. Gamalei AMN SSSR.

L. 6349-65 EEP(a)/EPA(a)-P/ENT(a)/ESP(i)/EWP(i)/T/EST(i)/EEP(k)

AUTHOR: Levina, S. D.; Rotenberg, Z. A.; Lobanova, K. P.; Astakhova, I. I.

ACC NR: AP6035591

SOURCE CODE: UR/0364/66/002/011/1343/1345

AUTHOR: Levina, S. D.; Astakhov, I. I.; Lobanova, K. P.; Rotenberg, Z. A.

ORG: Institute of Electrochemistry, Academy of Sciences, SSSR, Moscow (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Crystalline structure of phthalocyanine and the conductivity of systems which consist of metal coated with phthalocyanine film

SOURCE: Elektrokhiimiya, v. 2, no. 11, 1966, 1343-1345

TOPIC TAGS: phthalocyanine, crystal structure analysis, cobalt, semiconducting film, nickel

ABSTRACT: The author report that the electrophysical properties of metal powders or polished metals coated with thin phthalocyanine films are being studied at their laboratory. The films are obtained by treating metals with phthalonitrile vapors at temperatures from 250 to 400C. The systems obtained have differing crystalline structure (α and β modifications) and varying semiconducting properties. The purpose of the present study was to investigate the structure of the films and to coordinate the data obtained with the conductivity. Cobalt and nickel were selected as substratum metals. The results obtained indicate that there is no

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UDC: 621.315.592:547

ACC NR: AP6035591

unequivocal relationship between the crystalline modification of both nonmetallic phthalocyanine forms and metal derivatives and the conductivity. Further investigations are being conducted to elucidate the role of other factors necessary besides the type of crystallinity for obtaining either p- or n-type conductivity of phthalocyanine films.

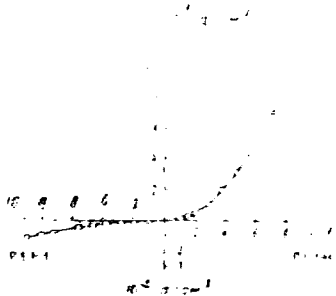
SUB CODE: 07,11 / SUBM DATE: 08Apr66 / ORIG REF: 006 / OTH REF: 006

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Card 1/4

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may be observed with two contacts, one of which is capable of initiating



MAKEDONSKIY, Nikolay Vasil'yevich; LEVINA, S.G., red.

[Laboratory work in the course "Metallurgy of founding"
section "Alloys"] Laboratornyi praktikum po kursu "Metal-
lurgiya liteinogo proizvodstva, razdel "Splavy." Minsk,
Vysshaya shkola, 1964. 198 p. (MIRA 18:3)

BEL'SKIY, Yevgraf Iosifovich; LEVINA, S.G., red.

[New materials in engineering; lecture course for engineers and technicians of the motor-vehicle and tractor industries] Novye materialy v tekhnike; kurs lektsii dlia inzhenerno-tekhnicheskikh rabotnikov avtotraktorostroeniia. Minsk, Vysshiaia shkola, 1964. 107 p. (MIRA 18:1)

KURDYUKOV, Yegor Grigor'yevich; LEVINA, S.G., red.

[Cabinet and carpentry work] Stoliarne-plotnichnye raboty. Minsk, Vysshaya shkola, 1965. 346 p.
(MIRA 18:8)

LYUBOSHITS, Moisey Il'ich; ITSKOVICH, Georgiy Mikhaylovich;
TATUR, G.K., doktor tekhn.nauk, retsenzent; BARANOVSKIY,
N.V., kand. tekhn. nauk, nauchn. red.; LEVINA, S.G., red.

[Manual on the strength of materials] Spravochnik po
soprotivleniiu materialov. Minsk, Vysshaia shkola, 1965.
343 p. (MIRA 18:5)

GALITSKY, A.B.; LEVINA, S.I.

Vascular origin of trophic ulcers and application of ultrasound as preoperative treatment to plastic surgery. Acta chir. plast. (Praha) 6 no.4:271-278 '64.

1. Surgical Hospital (Director: Prof. A.V. Gulyayev), Paediatric Faculty, Second Moscow Pirogov Medical Institute and Department of Pathology (Director: S.I. Levina) of the LXIV Municipal Clinical Hospital (Chief physician: G.V. Rodyghina), Moscow (USSR).

AKSEL'ROL, O.N.; LEVINA, S.I.

Results of infant feeding with raw skimmed breast milk. Vopr.pediat.
19 no.1:26-29 1951. (CML 20:7)

1. Leningrad.

YASAKOVA, O.I.; kandidat meditsinskikh nauk; LEVINA, S.I.

Method of determining prothrombin time during anticoagulant therapy. Lab.delo no.4:19-20 Jy-Ag '55. (MLBA 8:8)

1. In fakul'tetskoy terapevticheskoy kliniki (dir.prof. B.P. Kuleshevskiy) Sverdlovskogo meditsinskogo instituta.
(ANTICOAGULANTS, therapeutic use,
prothrombin time determ. in control)
(PROTHROMBIN TIME, determination,
in anticoagulant ther.)

LEVINA, S.I.

Abnormal development of the bile ducts simulating in its clinical aspects gastric and duodenal ulcers. Sov.med. 21 Supplement:20 '57. (MIRA 11:2)

1. Iz patologoanatomicheskogo otdeleniya Moskovskoy klinicheskoy bol'nitsy imeni A.A.Ostroumova.
(BILE DUCTS--ABNORMALITIES AND DEFORMITIES)

YESIPOVA, I.K., prof.; LEVINA, S.I., mladshiy nauchnyy sotrudnik

Primary hypertension of the lesser circulation in children.
Vop. okh. mat. i det. 7 no.2:44-49 F '62. (MIRA 15:3)

1. Iz otdela eksperimental'noy patologii i biologii (zav. -
prof. I.K. Yesipova) Instituta eksperimental'noy biologii i
meditsiny (dir. - prof. Ye.N. Meshalkin) Sibirskogo otdeleniya
AN SSSR.

(HYPERTENSION)
(PULMONARY CIRCULATION)

LEVINA, S. I. (Novosibirsk)

Glomus anastomoses of the lung in some congenital heart defects.
Ark. pat. no.8:18-24 '61. (MIRA 15:4)

1. Iz otdela eksperimental'noy biologii i patologii (rukovoditel' -
prof. I. K. Yesipova) Instituta eksperimental'noy biologii i
meditsiny (dir. - prof. Ye. N. Meshalkin) Sibirskogo otdeleniya
AN SSSR.

(HEART—ABNORMALITIES AND DEFORMITIES)
(LUNGS—BLOOD SUPPLY)

POLOTSKAYA, Ye.L., kand. med. nauk; LEVINA, S.I.

Isolated allergic myocarditis. Sov. med. 27 no.1:50-54 Ja '64.
(MIRA 17:12)

1. Kafedra gospiatal'noy terapii (zav.- doktor med. nauk P.N. Yurenev) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i Gorodskoy klinicheskoy bol'nitsy No.64 (glavnyy vrach G.V. Rodygina).

LEVINA, S.I.

Changes in the pulmonary vessels in some congenital heart defects.
Vop. pat. i reg. org. krov. i dykh. no.1:90-110 '61 (MIRA 18:7)

LEVINA, S.I. (Moskva, V-162, Sirotskiy per., d.16, korp.2, kv.185)

Pathological anatomy of Eisenmenger's syndrome. Grud. khir. 2
no.5:58-64 3-0 '60. (MIRA 16:5)

1. Iz instituta eksperimental'noy biologii i meditsiny (dir. -
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BOGOMIL'SKIY, R. D., kand. med. nauk; LEVINA, S. M.

Nonanginal chronic tonsillitis in children. Vest. otorin. no.3:63-69
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ZVIAGINTSEVA, S.G., prof.; BAKMANOVA, V.F., kand.med.nauk; GROMOVA, R.V.;
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imeni F.E. Dzerzhinskogo (glavnyy vrach A.N. Kudryasheva).
(HEART--DISEASES)

AUTHOR
TITLE

LEVINA, S.N.

20-1-4/64

PERIODICAL

On a Solution of the Oscillation Equation on the Total Time Axis
(O reshenii uravneniya kolebaniya na vsej osi vremen - Russian)
Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 1, pp 18-20 (U.S.S.R.)

ABSTRACT

The author attempts in the paper under review to find the solution of the equation $u_{tt} - \Delta u - cu = 0$ under the boundary condition $u|_{x=0} = f$

and under the presupposition of $x \geq 0$. The other three-dimensional coordinates and the time variable t vary, from $-\infty$ to $+\infty$, in accordance with a class of functions that is described in detail in the paper under review. If there are more than one dimension, then an attempt to solve this problem with the aid of the classical method will encounter serious difficulties, because the characteristic surface of the equation (which intersects with a provisionally given oriented surface) forms an unlimited domain. In the case of one dimension only, it is possible to obtain the solution of the above problem from the solution of Cauchy's problem for the equation $u_{tt} - u_{xx} = 0$ under the initial conditions $u|_{x=0} = f(t)$, $u_x|_{x=0} = F(t)$, $-\infty < t < \infty$.

The solution of this problem has the following form:

$$u(t,x) = \frac{f(t+x) + f(t-x)}{2} + \frac{1}{2} \int_{t-x}^{t+x} F(\tau) d\tau.$$

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On a Solution of the Oscillation Equation on the Total Time Axis. 20.1-4/64

f and F being arbitrary, this equation - in general - is of no physical significance, because the values of the function u in the moment t depend on the values of the initial functions f and F in moments later than t. The postulate as to the absence of physical discrepancies is sufficiently satisfied if $F(t) = f'(t)$, $-\infty < t < \infty$. Thus the unambiguity of the solution of the problem for the equation $u_{tt} - u_{xx} = 0$,

$x > 0$, $-\infty < t < \infty$ is guaranteed by a single initial condition and by the condition of the independence of the values of the solution from the values of the initial functions in the moments following the determination of the solution. With the aid of the methods, based on the bilateral Laplace transformation, of the operational calculus it is possible to solve the problem for two and three dimensions with the term cu. The operational calculus make s it possible to determine the equivalence of the condition of independence and of a condition listed in the beginning of the paper under review, this latter condition being, in its essential features, a radial condition. Then the paper under review also determined the solution of the equation $u_{tt} - u_{xx} - u_{yy} - cu = 0$ under the boundary condition $u|_{x=0} = f(t, y)$, $-\infty < y < \infty$, $-\infty < t < \infty$ and under an additional condition.

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S/044/62/000/008/021/073
C111/C333

AUTHOR: Levina, S. N.

TITLE: The operator solution of some problems of mathematical physics on the entire time axis.

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1962, 51, abstract 8B233. ("Uch. zap. Tul'sk. gos. ped. in-t", 1960, no. 7, 113-137)

TEXT: The oscillations of a string $u_{tt} - u_{xx} = 0$ in the domain $x > 0$ are considered first; from the expression u_{xx} which solves the problems with the boundary conditions

$$u|_{x=0} = f(t), u'_x|_{x=0} = F(t), -\infty < t < \infty$$

the author obtains a condition which guarantees the independence of the solution at the time t_1 from the values of the initial conditions at the time $t > t_1$. It is shown that this condition is equivalent to the uniform convergence, relative to t , of the solution $u(x,t)$ to zero for $t \rightarrow +\infty$. The connection with the radiation condition of Sommerfeld and the principle of limiting absorption due to Ignatovskiy is proven. Using bilateral Laplace transformation, the existence and
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The operator solution of some . . .

uniqueness of the generalized solution (i. e., the original of the solution of the image equation) of the following problem (which is denoted as the problem on the entire time axis). Determine in the domain $x > 0$ in the class of solutions which tend to zero for $x \rightarrow +\infty$, uniformly relative to t , the solution of the equation $u_{tt} - u_{xx} - cu = 0$ which satisfies the boundary value condition $u|_{x=0} = f(t)$, $-\infty < t < \infty$. Here it is required of $f(t)$: $|f(t)| < c_1 e^{\sqrt{c}t}$ for $t > 0$ and $|f(t)| < c_2 e^{(\sqrt{c} + \alpha)t}$ for $t < 0$, $\alpha > 0$. Analogous to this one-dimensional problem is the plane problem for the equation $u_{tt} - u_{yx} - u_{yy} - cu = 0$.

[Abstracter's note: Complete translation.]

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S/520/59/000/022/009/021
E073/E535

24.7960 (1147,1158,1160)

AUTHOR: Levina, S.S.TITLE: Physical Nature of the Ferromagnetic²¹ Low Temperature²¹
Transformation in Alloys of the System Mn-Ge ✓1PERIODICAL: Akademiya nauk SSSR. Ural'skiy filial, Sverdlovsk,
Institut fiziki metallov, Trudy, no.22, 1959, pp.67-68

TEXT: Alloys of the system Mn-Ge, containing from 40 to 52.5 at.% Ge, consists of Mn_3Ge_2 crystals and a eutectic which is a mixture of Mn_3Ge_2 and Ge. ³ Alloys containing over 52.5 at.% Ge consist of crystals of Ge and the eutectic $Mn_3Ge_2 + Ge$ (Zwicker and Schubert, Ref.1). I. G. Fakidov, N. P. Grazhdankina and V. N. Novogrudskiy (Izv. AN SSSR, ser.fiz., 1956, 20, No.12, 1509) and also S. D. Margolin and I. G. Fakidov (FMM, 1957, 5, No.2,368) observed that alloys of the system Mn-Ge containing Mn_3Ge_2 undergo ferromagnetic transformation in the region of very low³ temperatures. In order to elucidate the physical nature of low temperature transformation, alloys containing 40, 60 and 70 at.% Ge were produced and investigated by means of the Kurnakov pyrometer (Refs.4 and 5). The specimens were produced according to a method described by S. D. Margolin and I. G. Fakidov (FMM,1957,5,No.2,368).
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E9653
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E073/E535

Physical Nature of the Ferromagnetic Low Temperature Transformation
in Alloys of the System Mn-Ge

By means of differential-thermal analysis with the Kurnakov pyrometer, the transformations were established which relate to type I phase transitions, i.e. processes that are accompanied by release or absorption of heat. Ge was used as a comparison standard for alloys of the system Mn-Ge. The specimen and the standard were placed in powder form in an ampoule made of molybdenum glass, which in turn was placed in slots inside a lead sphere which had a high thermal inertia. The sphere could be moved along the vertical inside a cylindrical Dewar vessel, the position of which could be fixed to any height above the surface of the liquid nitrogen. The temperature was measured by means of a copper-constantan differential thermocouple. The ampoules were hermetically sealed to prevent condensation of moisture on the specimen and the standard. A temperature-time graph, Fig.1, plotted for a Mn-Ge alloy containing 40 at.% Ge indicates that a thermal effect occurs at $t = 160^{\circ}\text{C}$. For alloys containing 60 to 70 at.% Ge the temperature-time graphs are similar. Analysis of the thermal effects shown on the temperature-time graphs pertaining to Mn-Ge alloys containing 40,60 and
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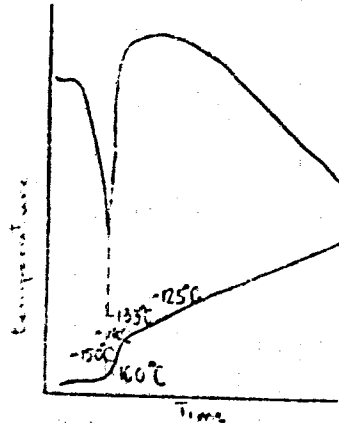
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E073/E535

Physical Nature of the Ferromagnetic Low Temperature Transformation in Alloys of the System Mn-Ge

70 at.% Ge indicates that low temperature ferromagnetic transformation in alloys of the Mn-Ge system relate to type I phase transitions. There are 1 figure and 5 references: 4 Soviet and 1 non-Soviet.

(Note: This is a complete translation)

Fig.1



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LEVINA, S.S.; PISARZHEVSKIY, O.N., nauchnyy red.; FOMINA, Ye.N., red.;
VASIL'YEVA, L.P., tekhn. red.

[Physics and chemistry; annotated index of popular scientific literature] Fizika i khimiya; ukazatel' nauchno-populiarnoi literatury. Izd.3., dop. i perer. Moskva, Gos. biblioteka SSSR im. V.I.Lenina. 1963. 150 p. (MIRA 16:9)
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