S/020/62/142/006/017/019
B101/B144

Composition of boron alumosilicate ...

($\varphi_{H^+} = \varphi^0 + \vartheta \log a_{H^+}$) to the sodium function: $\varphi_{Na^+} = \varphi^0 + \vartheta \log K a_{Na^+}$. This results in the relation: $-\log K = (\varphi_{H^+} - \varphi_{Na^+})/\vartheta - \log(a_{H^+}/a_{Na^+})$. A dependence of K on the ratio between the strong acids and the sum of strong and weak acids in the glass was found. $-\log K$ is a unique function of the molar part, a, of the strong acids in the glass: $a = [B_2O_3(\%) + Al_2O_3(\%)]/[Na_2O(\%) + CaO(\%)]$. The transition from the hydrogen to the sodium function occupies a wide zone of the diagram in glasses with a comparable content of strong and weak acids, and a narrow one in glasses with a prevailing content of either strong or weak acids (Fig. 3). There are 3 figures, 1 table, and 8 references: 7 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: B. Lengyel, E. Blum, Trans. Farad. Soc., 30, 461 (1934).

ASSOCIATION: Nauchno-issledovatel'skiy khimicheskiy institut Leningradskogo gosudarstvennogo universiteta im. A. A. Zhdanova (Scientific Research Chemical Institute of the Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: March 11, 1961

Card 2/3

NIKOL'SKIY, B.P.; SHUL'TS, M.M.; BELYUSTIN, A.A.

Influence of the nature of the second glass-forming oxide on the sodium and potassium electrode functions of silicate glasses. Dokl.AN SSSR 144 no.4:844-848 Je '62. (MIRA 15:5)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
2. Chlen-korrespondent AN SSSR (for Nikol'skiy).
(Electrodes, Glass) (Oxides)

S/054/63/004/001/010/022
B101/B215

AUTHORS: Stefanova, O. K., Shul'ts, M. M., Materova, Ye. A., Nikol'skiy, B. P.

TITLE: The e. m. f. of galvanic cells containing ion exchange diaphragms

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1963, 93-99

TEXT: The galvanic cell

$$Ag\,|\,\underset{\text{solution 1}}{\overset{AgCl}{\_\_\_}}\,,\ ACl,\ BCl\,|\ \underset{I}{\text{diaphragm}}\ |\ \underset{II}{ACl,\ BCl,\ \overset{AgCl}{\_\_\_}}\ |\ \underset{\text{solution 2}}{\ }\ Ag \quad (1)$$

where A and B are univalent metals or hydrogen, is studied. The diaphragm is taken as being permeable only to cations. The change in free energy caused by the transport of solvent is not taken into consideration. Based on a paper by G. Scatchard (J. Amer. Chem. Soc., 75, 2883, 1953).

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$$E = \frac{RT}{F} \ln \frac{a^2_{\pm\,(BCl)_1} + \frac{\bar{u}_A}{u_B} K a^2_{\pm\,(ACl)_1}}{a^2_{\pm\,(BCl)_2} + \frac{\bar{u}_A}{u_B} K a^2_{\pm\,(ACl)_2}} \qquad (6)$$

is obtained for the e. m. f.; a being the activity coefficients of the ions and $\bar{u}$ being their mobility in the diaphragm. The effect of incomplete dissociation on the validity of Eq. 6 is discussed, and the equation whose validity can be determined qualitatively by plotting the curve e. m. f. versus composition of solution is checked experimentally. Substitution of the transport numbers t'_i and t''_i of ions in the surface layer of the diaphragm in Eq. 6 yields

Card 2/3

The e. m. f. of galvanic cells ...

$$E = \frac{RT}{F} \ln \frac{a^2_{\pm(BCl)_1} + \frac{t_A}{t_B} a^2_{(BCl)_1}}{a^2_{\pm(BCl)_2} + \frac{t_A}{t_B} a^2_{(BCl)_2}} \qquad (9)$$

$$= \frac{RT}{F} \ln \frac{a^2_{\pm(BCl)_1}}{a^2_{\pm(BCl)_2}} \cdot \frac{1 + \frac{t_A}{t_B}}{1 + \frac{t_A}{t_B}} = \frac{RT}{F} \ln \frac{a^2_{\pm(BCl)_1}}{a^2_{\pm(BCl)_2}} \cdot \frac{t_B}{t_B}.$$

Hence it follows that there is no need to measure the mobility of ions within the diaphragm nor to study the equilibrium in the membrane - solution system for calculating the e. m. f. of cell (1). It is quite sufficient to determine the number of transport of A^+ and I^+ ions through the membrane.

SUBMITTED: October 1962

Card 3/3

NIKOL'SKIY, B.P.; SHUL'TS, M.M.

New concepts of the ion exchange theory of glass electrodes.
Part 1. Vest. LGU 18 no.4:73-86 '63. (MIRA 16:3)
(Electrodes, Glass) (Ion exchange)

NIKOL'SKIY, B.P.; SHUL'TS, M.M.; BELYUSTIN, A.A.

New concepts of the ion exchange theory of glass electrodes. Vest. LGU 18 no.4:86-93 '63. (MIRA 16:3)
(Electrodes, Glass) (Ion exchange)

STEFANOVA, O.K.; SHUL'TS, M.M.; MATEROVA, Ye.A.; NIKOL'SKIY, B.P.

Electromotive force of galvanic cells with ion exchange membranes.
Vest. LGU 18 no.4:93-98 '63. (MIRA 16:3)
(Electric batteries) (Electromotive force) (Ion exchange)

STEFANOVA, O.K.; MATEROVA, Ye.A.; NIKOL'SKIY, B.P.

Ion-exchange and electrochemical properties of sulfo cation exchangers in solutions of some 1-1 charge electrolytes. Dokl. AN SSSR 150 no.3:604-607 My '63. (MIRA 16:6)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
2. Chlen-korrespondent AN SSSR (for Nikol'skiy).
(Ion exchange)
(Electrolyte solutions)

ACCESSION NR: AT4040548 S/0000/64/000/000/0106/0115

AUTHOR: Nikol'skiy, B. P.; Shul'ts, M. M.; Peshekhonova, N. V.; Parfenov, A.I.; Mazurin, O. V.

TITLE: Lithium-cesium-lanthanum silicate electrode glass for pH determinations

SOURCE: Soveshchaniye po khimii redkikh elementov. Leningrad, 1961. Khimiya redkikh elementov (Chemistry of rare elements); doklady* soveshchaniya. Leningrad, Izd-vo Leningr. univ., 1964, 106-115

TOPIC TAGS: glass, electrode glass, pH measurement, hydrogen electrode, silicate glass, rare earth oxide, glass electrical conductivity, lithium oxide, cesium oxide, lanthanum oxide

ABSTRACT: The authors investigated the effect of the oxides of Li, Cs and La on the limits of linearity of the relationship between pH and electrode potential, as well as the specific electrical conductivity and chemical stability, of electrodes made from glass formed by oxide systems of progressing complexity: $Li_2O - SiO_2$,

Card 1/2

BELYUSTIN, A.A.; PISAREVSKIY, A.M.; SHUL'TS, M.M.; NIKOL'SKIY, B.P.

Glass electrode sensitive to the change in oxidation potential of solution. Dokl. AN SSSR 154 no.2:404-406 Ja'64. (MIRA 17:2)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova. 2. Chlen-korrespondent AN SSSR (for Nikol'skiy).

GERASIMOV, Yakov Ivanovich, prof.; DREVING, Vladimir Petrovich; YERMIN, Yevgeniy Nikolayevich; KISELEV, Andrey Vladimirovich; LEBEDEV, Vladimir Petrovich; PANCHENKOV, Georgiy Mitrofanovich; SHLYGIN, Aleksandr Ivanovich; NIKOL'SKIY, B.P., prof., retsenzent; SHUSHUNOV, V.A., prof., retsenzent; LUR'YE, G.Ye., red.; SHPAK, Ye.G., tekhn. red.

[Course in physical chemistry] Kurs fizicheskoi khimii. [By] IA.I.Gerasimov i dr. Moskva, Goskhimizdat, 1963. Vol.1. 624 p. (MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Gerasimov, Nikol'skiy).
2. Kafedra phizicheskoy khimii Leningradskogo gosudarstvennogo universiteta (for Nikol'skiy, Shushunov).

NIKOL'SKIY, B.P.; MATEROVA, Ye.A.; SKABICHEVSKIY, P.A.

Ion exchange and the electrochemical properties of zirconyl phosphates. Dokl. AN SSSR 152 no.6:1360-1362 O '63.
(MIRA 16:11)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
2. Chlen-korrespondent AN SSSR (for Nikol'skiy).

20220-65 EWT(m)/EPF(c)/EWP(t) Pr-4/Pr-4 JN
ACCESSION NR: AP4049099 S/0078/64/009/011/1407/1408

AUTHOR: Nikol'skiy, B. P.; Zakharyevskiy, M. S.; Pendin, A. A.

TITLE: Determination of ferrocene

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 11, 1964, 1407-1408

TOPIC TAGS: ferrocene determination, ferriferro system, Nernst equation, ferricinium cation, redoximetric analysis

ABSTRACT: A redoximetric method for the quantitative determination of ferrocene in acetic acid solution is described. The oxidative potential of the ferriferro system in 2 N HCl at an overall concentration of the iron salt of 10^{-3} M strictly obeys the Nernst equation and does not depend, within wide limits, on additions of the other reagents up to 2 M. This property of the ferri-ferro system permits a quantitative determination of ferrocene in acetic acid solution in the presence of the ferricinium cation, as well as calculation of the purity of the ferrocene preparation. A solution with a known concentration of $FeCl_3$ in 2 N HCl is added to the ferrocene solution in acetic acid. The precipitating ferrocene redissolves during oxidation by the iron salt. The oxidation potential is determined relative to a saturated calomel electrode. The error was 0.6%, although it could reach ±2% for less careful determinations. Orig. art. has: 1 table and 2 formulas.

Card 1/2

L 10229-65
ACCESSION NR: AP4049099

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova (Leningrad State University)

SUBMITTED: 27Jan64 ENCL: 00 SUB CODE: OC

NO REF SOV: 002 OTHER: 002

2/2

GR[illegible]OVSKIY, A.A.; NIKOLAYEVA, B.P. MARKHATOV, B.A.

Complex formation in nonaqueous solvents. Part 28. Acetic acid distribution between water and carbon tetrachloride. Radiokhimiia 7 no.5:572-575 '65. (MIRA 18:10)

NIKOL'SKIY, B.P.; [illegible], M.V.; [illegible], N.I.

Study of complex formation by means of dialysis. Part 2: Deriving an equation for the determination of the reaction equilibrium constant. Radiokhimiia 7 no.5:570-579 '65.

Complex formation studied by means of dialysis. Part 3: Determination of the first constant of hydrolysis of cadmium and zinc acetates. Ibid.:623-625 (MIRA 18:10)

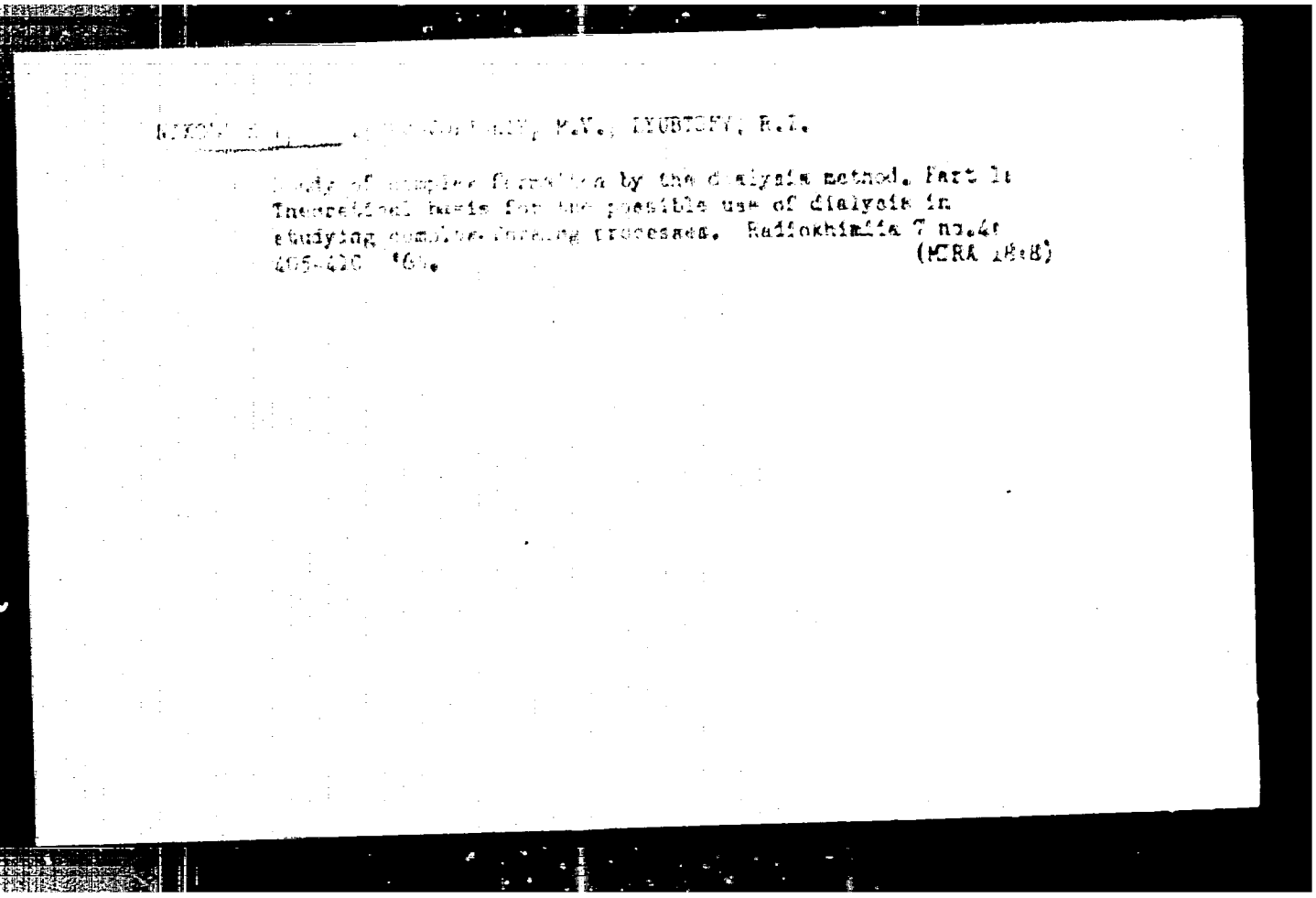
NIKOL'SKIY, B.P.; PENDIN, F.A.; ZAKHAR'YEVSKIY, M.S.

Electrode reversible toward a ferricinium cation. Dokl. AN SSSR 160 no.5:1131-1132 F '65. (MIRA 18:2)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
2. Chlen-korrespondent AN SSSR (for Nikol'skiy).

NIKOL'SKIY, B.P.; POGVOL'SKIY, M.V.; KRYLOV, L.I.

Partial thermodynamic equilibria in nonequilibrium systems. Part 1: Reaction of plutonium with hydrogen peroxide in the presence of various ligands. Radiokhimiia 7 no.3:298-305 '65. (MIRA 18:7)



[illegible], M.V., IYUBIMOV, B.I.

[illegible] by the dialysis method. Part 1: Theoretical basis for the possible use of dialysis in studying complex-forming processes. Radiokhimiia 7 no.4: 405-420 '65. (MIRA 18:8)

BOBROV, V.S.; LUTUGINA, N.V.; MOLODENKO, P.Ya.; ZAKHAR'YEVSKIY, M.S.; STEPANOVA, O.K.; ZELYUSTIN, A.A.; MATEROVA, Ye.A.; NIKOL'SKIY, B.P., otv. red.; POZDYSHEVA, V.A., red.

[Theoretical and practical guide to laboratory work in physical chemistry] Teoreticheskoe i prakticheskoe rukovodstvo k laboratornym rabotam po fizicheskoi khimii. [Leningrad] Izd-vo Leningr. univ. Pt.1. 1965. 197 p. (MIRA 18:12)

1. Leningrad. Universitet. 2. Chlen-korrespondent AN SSSR (for Nikol'skiy).

NIKOL'SKIY, B.P., glav. red.; GRIGOROV, O.N., doktor khim. nauk, red.; PORAY-KOSHITS, B.A., doktor [redacted] nauk, [redacted] red.; ROMANKOV, P.G., red.; FRIDRIKHSBERG, D.A., kand. khim. nauk, red.; RABINOVICH, V.A., kand. khim. nauk, red.; RACHINSKIY, F.Yu., kand. khim. nauk, red.; ZAYDEL', A.N., doktor fiz.-mat. nauk, red.; ZASLAVSKIY, A.I., kand.khim. nauk, red.; MORACHEVSKIY, Yu.V., prof., red.; GRIVA, Z.I., red.; KOTS, V.A., red.; TOMARCHENKO, S.L., red.

[Chemist's handbook] Spravochnik khimika. 2., izd., perer. i dop. Moskva, Khimiia. Vol.4. 1965. 919 p. (MIRA 19:1)

1. Chlen-korrespondent AN SSSR (for Nikol'skiy, Romankov).

L 39089-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/JG/WW

ACC NR: AP6022877 (N) SOURCE CODE: UR/0186/66/008/002/0189/0197

37

AUTHOR: Nikol'skiy, B. P.; Il'yenko, Ye. I.

ORG: none

TITLE: Study of the hydrolysis of nitrate complexes of nitrosoruthenium

SOURCE: Radiokhimiya, v. 8, no. 2, 1966, 189-197

TOPIC TAGS: ruthenium compound, organic nitroso compound, hydrolysis

ABSTRACT: The hydrolysis of nitrate complexes of nitrosoruthenium was studied in the 1-11 pH range by potentiometric titration. The Ru^{106} radioisotope was used for the radiometric analysis of ruthenium. The hydrolysis was found to take place in two steps. The first (fast) step forms new Ru species corresponding to new conditions in the medium and is associated with a sharp change of the pH. The second (slow) step involves the polymerization of these Ru species which were formed by the first step. The redistribution and formation of new Ru species in the second step occur to a much lesser degree than in the first. Hydrolysis at both room temperature and higher temperatures forms products of similar composition, the difference lying chiefly in the degree of polymerization, and hence in the solubility of the products; the composition of the basic units from which the polymers are built is the same in both cases at the same pH values. No hydrolytic precipitates are formed at room temperature, but at the

UDC: 546.96'172.6'175:542.938

Card 1/2

L 39083-66
ACC NR: AP6022877

water bath temperature, nitrosoruthenium precipitates out. The composition of the hydrolytic precipitate varies with the pH and the time; the pH determines the composition of the polymer units, and the time determines the degree of polymerization. Cationic and anionic forms of nitrosoruthenium complexes were found to exist in the 2-6 pH range. A diagram of the formation of hydrolytic forms of nitrate complexes of nitrosoruthenium is shown in Fig. 1. Orig. art. has: 9 figures.

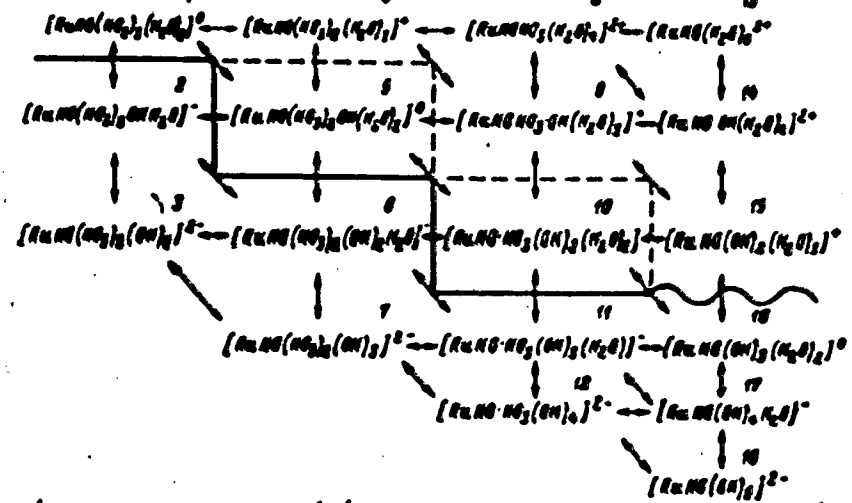


Fig. 1.

SUB CODE: 07/ SUBM DATE: 20Jul65/ ORIG REF: 007/ OTHER REF: 006

Card 2/2 mlp

ACC NR: AP7012439 SOURCE CODE: UR/0079/66/036/012/2048/2052

AUTHOR: L'vova, T. I.; Pendin, A. A.; Shirko, K. D.; Nikol'skiy, B. P.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: Standard thermodynamic constants of the reduction of the (ferricenylmethyl) trimethylammonium cation to the (ferrocenylmethyl)trimethylammonium cation with hydrogen in an aqueous solution

SOURCE: Zhurnal obshchey khimii, v. 36, no. 12, 1966, 2048-2052

TOPIC TAGS: ferrocene, aqueous solution, hydrogen, electrochemical analysis, cation

SUB CODE: 07

ABSTRACT: (Ferrocenylmethyl)trimethylammonium perchlorate (F^+ClO_4) was prepared by precipitation of an F^+I solution with $KClO_4$. On the basis of the curves of potentiometric titration of F^+ClO_4 with $K_2Cr_2O_7$ or H_2O_2, the normal potential of the system F^+ cation - (ferricenylmethyl)trimethylammonium cation F^{++} in an 1 N KCl solution was 0.604 ± 0.001 v. The standard redox potentials of F^{++} - F^+ at 15, 25, and 35° were determined from the relations between the e.m.f. of the cell Pt/F^{++}, F^+; KCl/glass electrode and the ionic strength of the solution at these temperatures. On the basis of the data obtained, the

Card 1/2 UDC: 546.171.1:541.138.2

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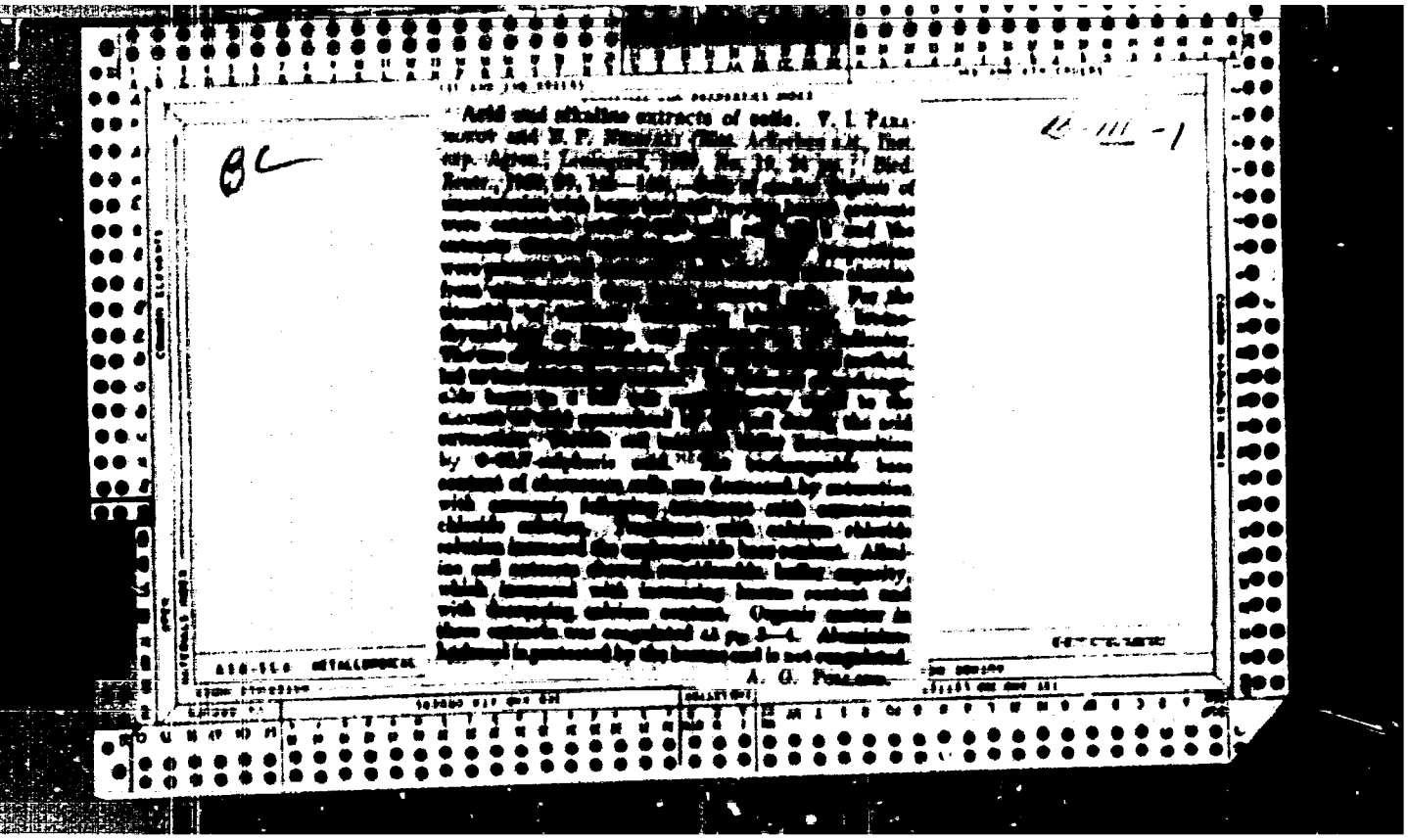
ACC NR: AP7012439

standard thermodynamic constants of the reduction of F^{++} to F^{+} with hydrogen at 25°C were determined at $\Delta G^{\circ} = -15.17 \pm 0.3$ kcal., $\Delta H^{\circ} = -21.1 \pm 0.3$ kcal., and $\Delta S^{\circ} = -23 \pm 1$ entropy units. The titration data indicated that the $F^{+} \rightarrow F^{++}$ reaction was electrochemically reversible. Orig. art. has: 2 figures and 4 formulas. [JPRS: 40,422]

2/2

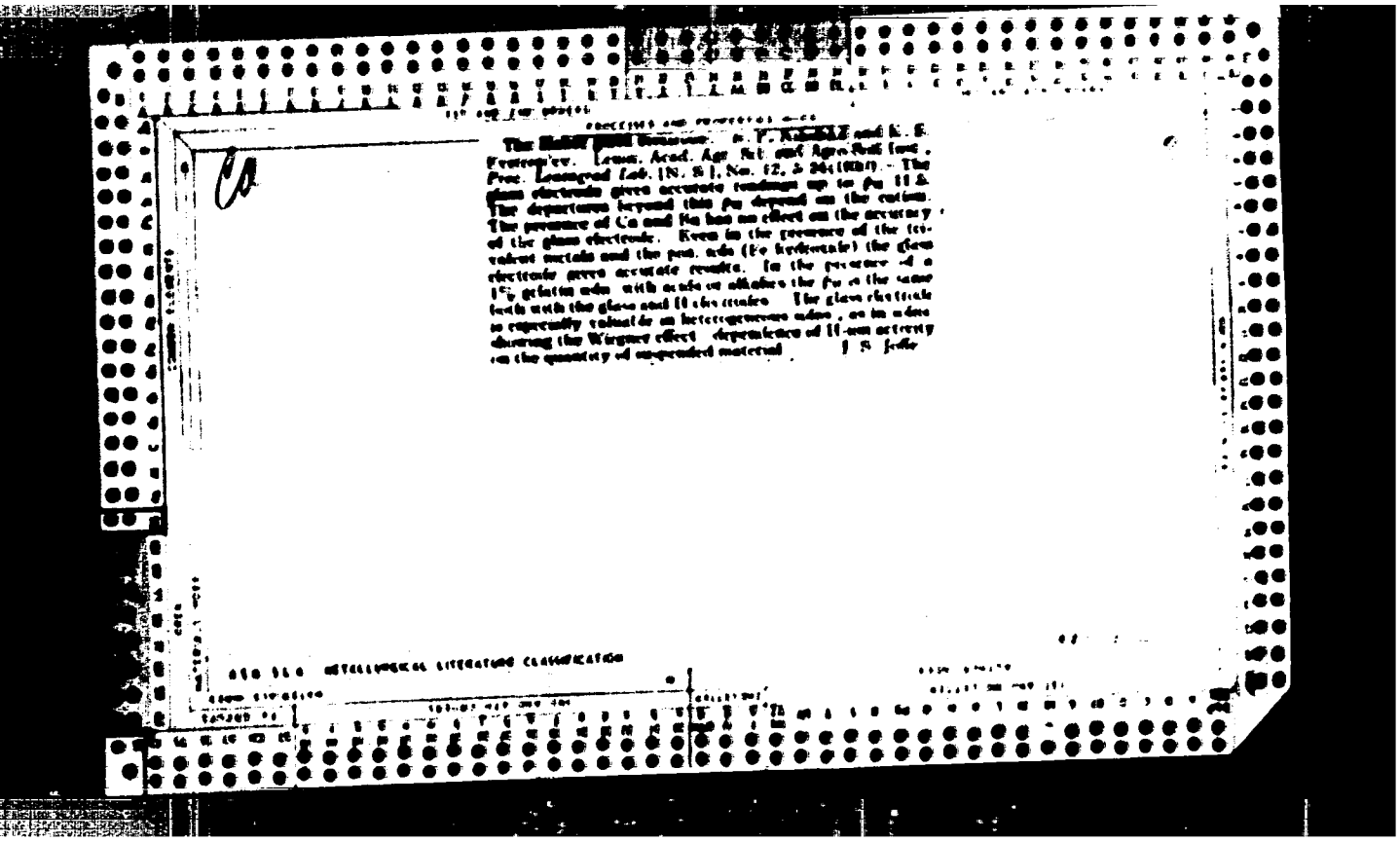


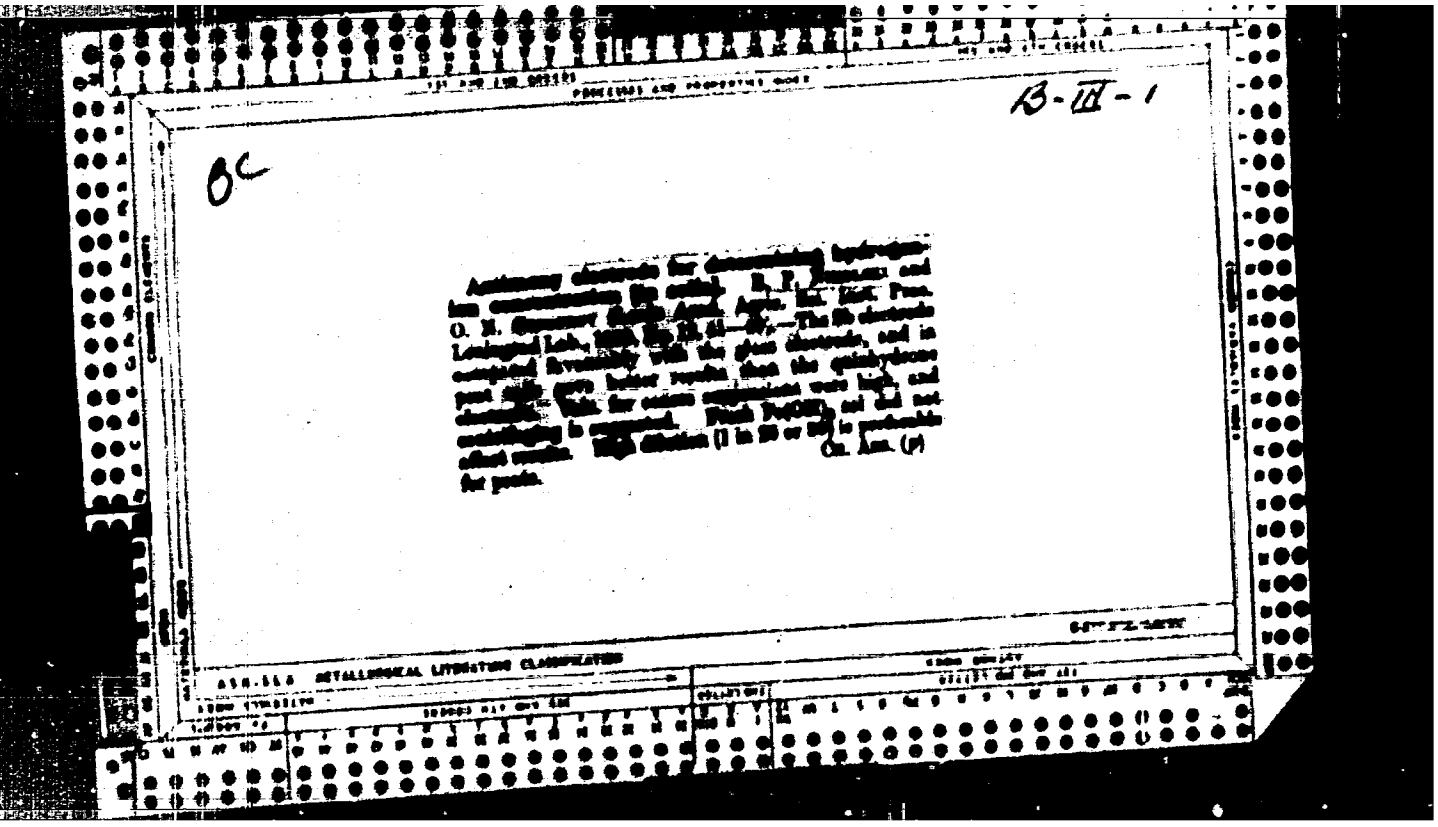
Acid and alkaline extracts of soils. V. I. P...

8C

4-III-1

A. G. P...





Ca

15

A comparative study of the methods used in determining the active acidity of soils. I. Theory. [illegible] Lenin. Acad. Agr. Sci. and Agro-Soil Inst., Proc. Leningrad Lab. [N. S.], No. 11, 31-4(1930).—A review and theoretical discussion on the application of the colorimetric and potentiometric—H, Sb, quinhydrone and glass electrode—methods for the detn. of active soil acidity. II. The glass electrode. B. P. Nikol'skii and K. S. [illegible] Ibid. 57-73; cf. C. A. [illegible].—A no. of soil types have been tested for p_H by various methods. The results show that the glass electrode is far superior to other methods. If the quinhydrone electrode is to be used the soil should be in the form of a paste and added portions of quinhydrone should not influence the reading. The Sb electrode gives fairly reliable results in suspensions or centrifuged solns. The presence of coarse material in the suspension impedes the accuracy. It yields poorer results in soil than in aq. soln.

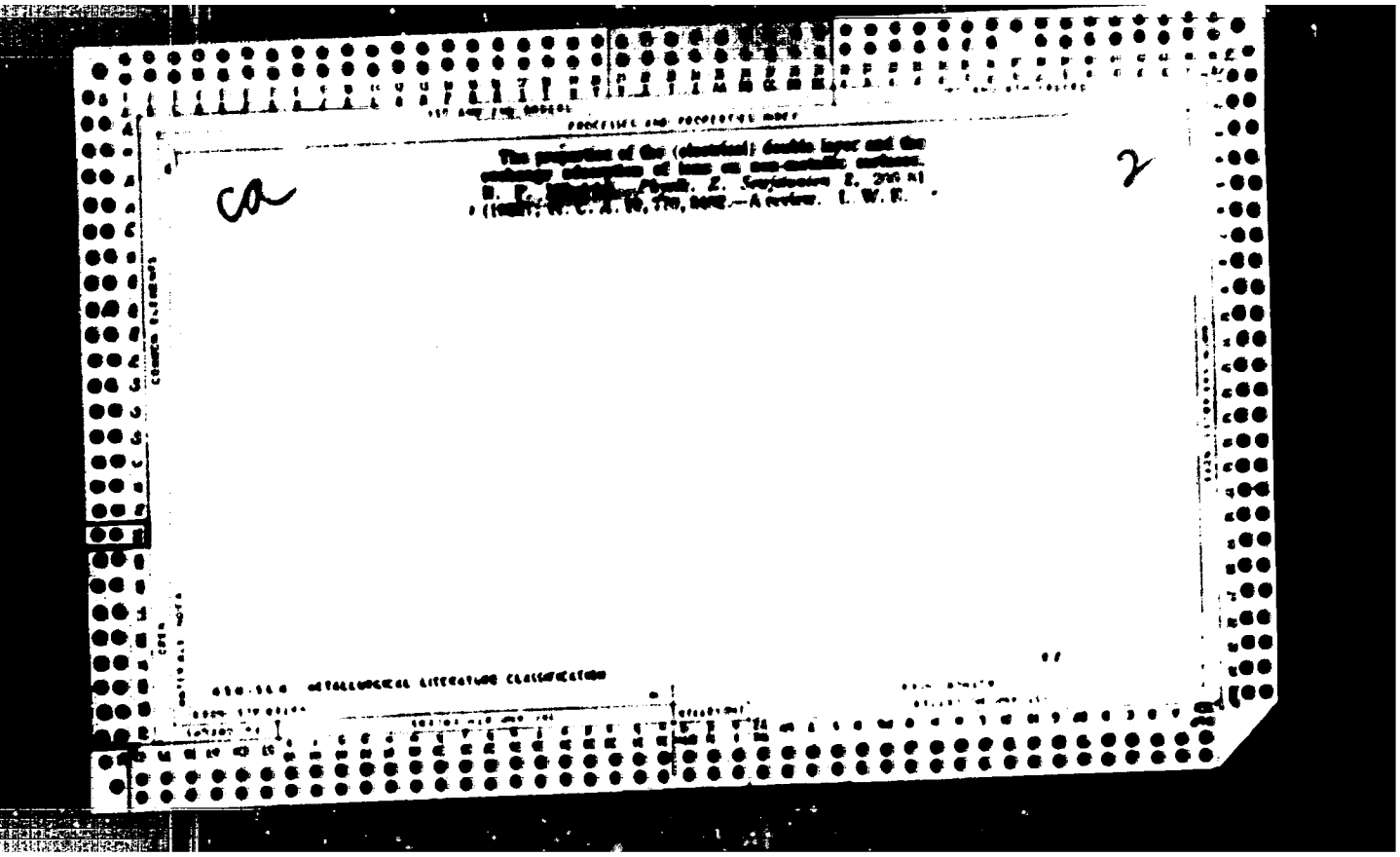
J. S. Joffe

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

15

Comparative investigations on various methods for measuring soil pH. B. P. [illegible]. *Proc. 2nd Intern.* [illegible] *Congr.* [illegible] 1-[illegible] (in German).—Tabulated data with a very brief discussion of results obtained on 8 soils varying in humus content and texture, by means of (I) the Haber glass electrode, (II) the Hildebrand H_2 electrode, (III) the same with streaming H_2, (IV) the quinhydrone electrode with quinhydrone specially synthesized, the first potential reading, (V) the same, with further addn. of quinhydrone until potential was const., (VI) Merck's quinhydrone, the first reading, (VII) the same with further addn. of quinhydrone to const. potential, (VIII) Sb electrode prepd. by electrodeposition from Me_2CO upon amalgamated Pt wire, and the following colorimetric methods: (IX) Universal indicator "Selkhongiz," (X) technic of Michaelis and (XI) Clark. The measurements were on both H_2O and N KCl exts. of soil, ratio 1:2.5, prepd. by shaking for 2 hrs., letting stand overnight, again shaking and letting stand 1 hr. Most of the partly settled suspension was then poured off. A part was tested as "suspension" (a), another portion centrifuged (b) for application of colorimetric as well as electrometric methods. The remainder of the original suspension was tested as "mud" (c). I furnished closely reproducible indications on suspension a and c, and is believed to be the most accurate method. With centrifugate b, agreement was better with KCl than with H_2O exts., the former being more acid and better buffered. [illegible] indicated higher pH values except with an acid peat and a [illegible] contg. $CaCO_3$. In consequence of [illegible] was satisfactory in removal of CO_2 by streaming H_2. [illegible] IV, V, VI and VII furnished good indications with some soils, but were subject to errors with others. With [illegible] the last, the observations of [illegible] and Crowther (cf. C. A. 26, 4871 and preceding abstr.) as to the effects of [illegible] were confirmed. The data do not indicate much advantage in using specially prepd. rather than com. quinhydrone. With soils permitting good measurement by the quinhydrone method, the apparent equil. potential is the more accurate. In general, quinhydrone indications with the lighter suspension a were better than those with the heavier c, and the use of centrifugate b was best with "bad" soils. With "good" soils, b was inferior because inadequately buffered. Indications of VIII were quite satisfactory, although it appears to be subject to errors from suspended solids and salts, not adequately investigated. With centrifugates from peat soils, it was more satisfactory than methods in which quinhydrone was used. Of the colorimetric methods, IX is insensitive, although in practice almost as good as X and XI. In general, these were unsatisfactory, for the reason that they can be applied only to clear exts., insufficiently buffered to resist change in pH from addn. of indicators. With any method for detg. pH of soil, it is advantageous to operate with as narrow a soil: soln. ratio as possible, to secure max. buffering. Clear exts. are very poorly buffered as compared with soil suspensions.

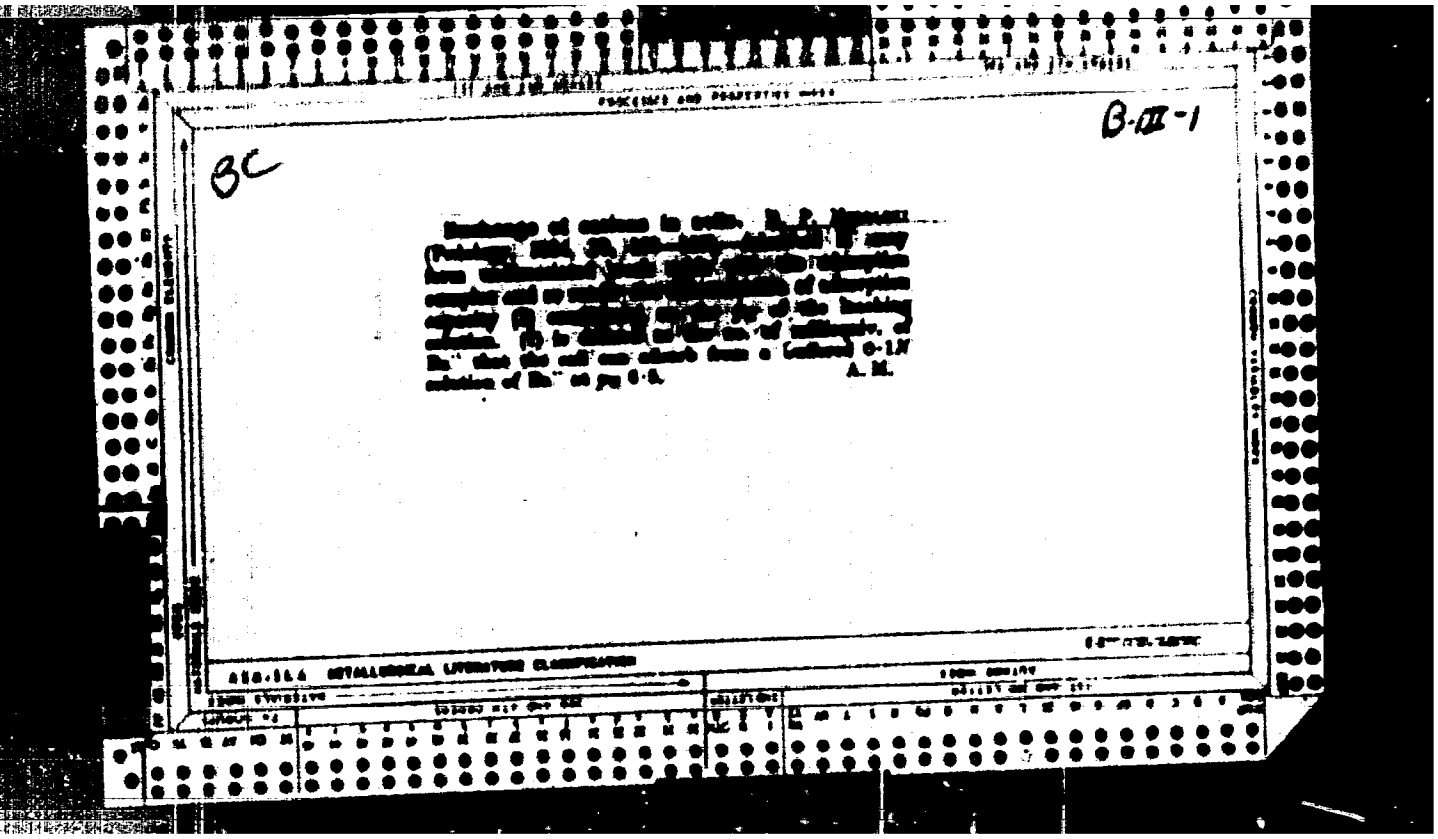
C. L. [illegible]



[illegible] determination of potassium. O. P. [illegible] and I. N. Lavrov. *Proc. Leningrad Dept.* [illegible] 17, 45-[illegible] ([illegible]). – K is pptd. as $K_2CaFe(CN)_6$ and the excess $Ca_2Fe(CN)_6$ is titrated potentiometrically with standard $ZnSO_4$ soln. The soly. of the ppt. is reduced by the addn. of EtOH-$CaCl_2$. With a K content between 40 and 120 mg. the error is not more than 0.5 mg. Na, Mg, Ca, sulfate, carbonate and nitrate do not interfere. Details of the prepn. of $Ca_2Fe(CN)_6$, the method of titration and calcn. of results are given.

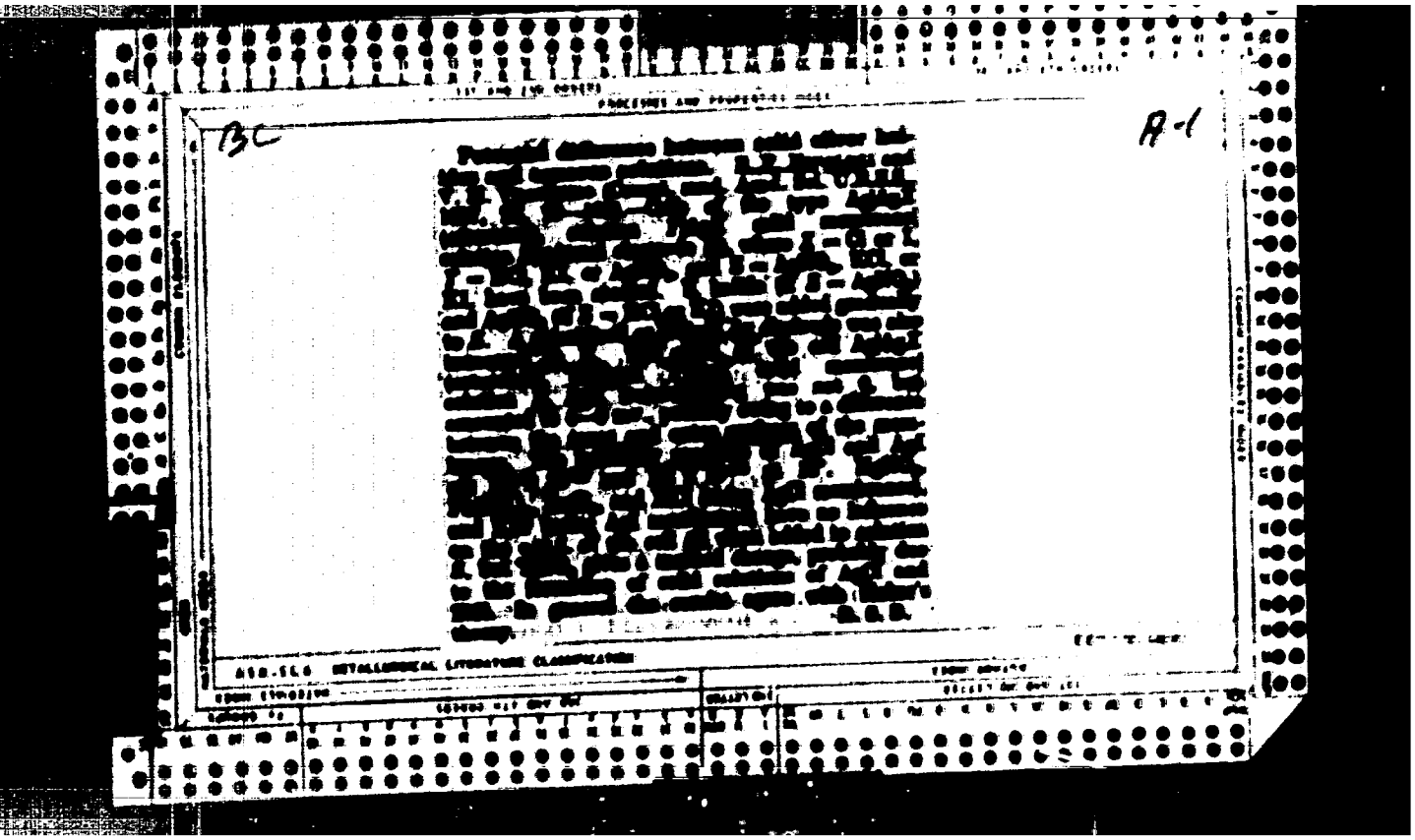
B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Theory of the glass electrode. I. Theoretical. B. P. Nikol'skii. J. Phys. Chem. (U. S. S. R.) 10, [illegible] ([illegible]).—The equation $E = E^{\circ} + (RT/F) \ln (a_{H^+} + K a_{Na^+})$ where E is e. m. f., a activity and K an exchange const. for H^+ and Na^+ ions, is derived. II. Effect of boric anhydride and aluminum oxide on the electrode properties of glass. B. P. Nikol'skii and T. A. Tolmacheva. Ibid. 504-12.—B_2O_3, and still more Al_2O_3, produce deviations from the glass-hydrogen electrode function because of an increase in the difficulty of ion exchange in the presence of these oxides. Li, K and Ba ions have little effect on glass electrodes, especially if of MacInnes glass. III. Transfer from the hydrogen electrode function into the sodium function. Ibid. 513-23.—For a large variety of glasses, with increasing pH and in the presence of much Na^+ or Li^+ the glass electrode goes over from the H^+ to the Na^+ (or Li^+) function, and the more rapidly the more strongly the Na^+ and weakly the H^+ are held in the glass. F. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION



Laws of the exchange of ions between a solid phase and a solution. B. P. Nikol'skii and V. I. Paramonova. *Uspekhi Khim.* 8, 1486-67 (1939).—Theoretical and review of the Russian and non-Russian literature. General laws of ionic exchange reactions, the chem. mechanism of exchange as governed by the mass law, ion activity, valence and the Gibbs chem. potentials, and the adsorption mechanism as governed by the Gibbs adsorption isotherm and chem. potential are developed and discussed. Since the interacting forces between the ions and the media rather than their relative locations are the governing factor, both mechanisms lead to the same law: $a_1^{1/z_1}/a_2^{1/z_2} = k a_1'^{1/z_1}/a_2'^{1/z_2}$, where a = activity, z = valence, $'$ = concn. in the resp. dissolved state. Exptl. data on the exchange of ions of equal and unequal valence, K^+ and NH_4^+ on black earth, Cd^{++} and Ba^{++} on bentonite, and K^+ and Na^+ on glauconite, agree with the values calcd. from theory. The significance of exchange adsorption in geochem., pedology, water softening and soil science is discussed.

F. H. Rathmann

AIR-SLA METALLURGICAL LITERATURE CLASSIFICATION

The theory of the Wiegner and Pallmann suspension effect. N. P. Nikol'skii. *Pochvy* (U. S. S. R.) 1939, No. 9, 136-42.—A critical analysis of the Wiegner-Pallmann equation $a_H = a^0{}_H + K$ which is supposed to take care of the suspension effect on the pH measurements. The effect generally noted is explained on the basis of a Donnan equil. set up between the supernatant liquid and a suspension. Cf. C. A. 26, 1484. J. S. Joffe

METALLURGICAL LITERATURE CLASSIFICATION

CA

The equivalence of base exchange of soils. [illegible] and V. I. Paramonova. Chemization Socialistic Agr. (U. S. S. R.) 9, No. 4, 60(1940); Chem. Zentr. 1940, II, [illegible]. —An equiv. exchange is obtained when the soil is treated with an unbuffered soln. Then the buffer proper ties of the soil soln. play a role in the cation exchange of a soil. At const. pH of the buffer soln. the cations do not exchange in an equiv. ratio. The quantity of the adsorbed bases is influenced by the other bases in the buffer soln. By leaching an unsatd. soil with an unbuffered soln. of neutral salts an equiv. base exchange is effected. The pH of the soln. is lowered to an extent detd. by the nature and concn. of its cations. By satg. samples of the same soil with various cations, or with various concns. of the same cation to the same pH, various values of exchange acidity are obtained. The hydrolytic acidity is related to the unequiv. exchange of the cations used for its detn. Its nature is explained by curves showing the behavior of pH in satg. the soil with various cations, or with various concns. of the same cation. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

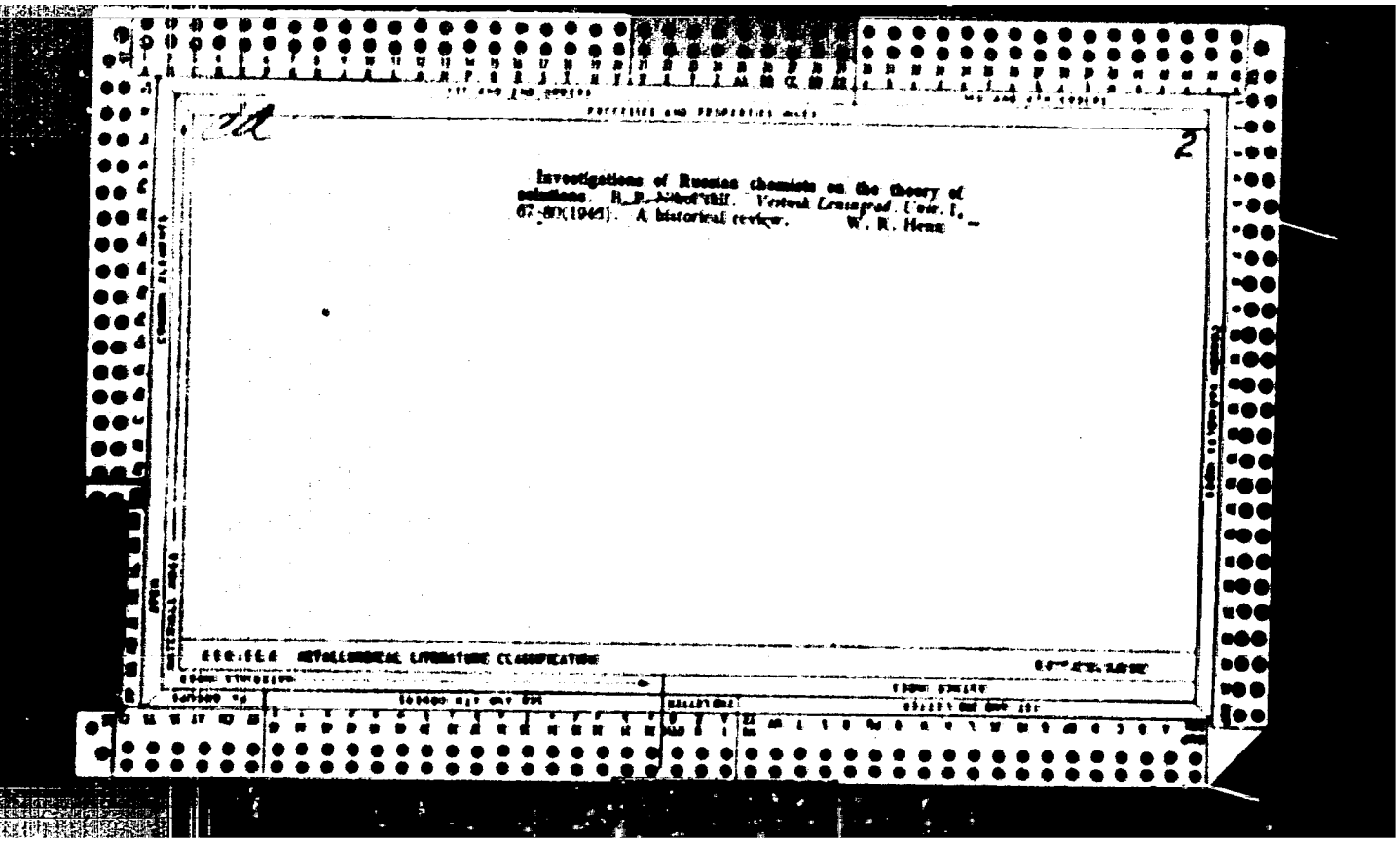
CA

2

PROCESSES AND PROPERTIES INDEX

Dependence of the absorption of barium ions by silica gel on the pH and the concentration of the solution. B. P. Nikol'skii and O. N. Grigorov. *Doklady Akad. Nauk S.S.S.R.* [illegible] (1948).—The absorption, G, of Ba^{++} ions, in g.-equiv. per kg. silica gel, detd. by the change of acidity of the soln. at equil. and by gravimetry of the Ba taken up by the gel, in suspn. with 2 g. silica gel prepd. by treatment of [illegible] with H_2SO_4, in buffered solns. 0.1 N and 0.01 N in Ba^{++}, pH 3.01–10.37, is [illegible] up to pH 8 and then rises rapidly with rising pH; e.g., 0.1 N, pH 3.01, [illegible], 10.36, 10.37, G = 0.0[illegible], 0.1[illegible], [illegible], 1.[illegible], 2.[illegible], [illegible]. This is consistent with previous findings with Na^{+} and Ca^{++} ions. If, in analogy with Freundlich's expression $G = f\,(pH - \frac{1}{2}\log a)$, where a = equil. activity of Ba^{++}, then, at const. G, at two different a' and a'', the corresponding pH difference pH' − pH'' = $\frac{1}{2}\log (a'/a'')$; hence, on 10-fold diln., the same G should be found at two pH values differing by 0.5 unit. This is confirmed by the data. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Investigations of Russian chemists on the theory of solutions. [illegible] Vestnik Leningrad. Univ. [illegible] 67-80(1946). A historical review. W. R. Henn

Q-5

USSR/Farm Animals. Poultry.

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101268

Author : Fedorovskiy, N.P., Gubarev, F.A., Nikol'skiy, B.S.

Inst : -

Title : Digestive Processes in the Intestines of Turkey-Hens.

Orig Pub: Ptitsevodstvo, 1958, No. 1, 26-30

Abstract: Chronic fistulas were inflicted in 6 Bronze breed turkey-hens at the terminal end of their duodenums. The chyme which was secreted from these fistulas was examined before feedings, during feedings, and after feedings, following certain intervals. The method of coloring food was used. The time which elapsed until such colored feed became visible was determined, as well as its transference speed, chyme quantity

Card 1/2

NIKOL'SKIY, B.S.; GROMOV, A.M., kand.sel'skokhozyaystvennykh nauk

Use of donor blood components by chicken recipents. Agrobiologiia no.1:125-131 Ja-F '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ptitsevodstva, g. Zagorsk, Moskovskaya oblast'.
(Poultry) (Blood--Transfusion)

NIKOL'SKIY, B. S.

Nikol'skiy, B. S. - "Auxiliary photoelastic equipment", Trudy Rost. n/D in-ta s.-kh. mashinostroyeniya, Issue 4, 1948, p. 57-64.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

Dec 52

NIKOL'SKIY, [redacted] B. S.

USSR/Metallurgy - Welding, Equipment

"Electric Riveting Heads With Impulse Feed," Docent B. S. Nikol'skiy, Cand Tech Sci; Engr A. V. Alekseyev

Avtogen Delo, No 12, pp 14-16

Describes portable riveter, designed by authors with following major characteristics: arc excitation by automatic break of electrode; feeding electrode before welding by number of impulses; interruption of welding due to natural arc break over flux; supplying electrode feeding electromagnet through motor interrupter which gives intermittent impulse current. Kinematic diagram is presented and discussed.

266T45

NIKOL'SKIY, B.S., mladshiy nauchnyy sotrudnik

Measuring scale for the waves of an electrocardiogram. Trudy VIEM 22:350-354 '59. (MIRA 13:10)
(Electrocardiography) (Measuring instruments)

NIKOL'SKIY, B. S., Cand Bio Sci -- "Biophysical interpretation of an electrocardiogram of cattle." Mos, 1961. (Mos Vet Acad of Min of Agr RSFSR) (KL, 8-61, 238)

KLESMET, O.I.; VOLIK, F.Ye., veter. vrach; MAKRUSHIN, P.V., kand. veter. nauk; LOSHKIN, N.I., kand. biolog. nauk; NIKOL'SKIY, B.S., mashchyy sotrudnik

Laboratory practice. Veterinariia 38 no.7:80-84 Jl '61. (MIRA 16:8)

1. Respublikanskaya veterinarno-bakteriologicheskaya laboratoriya Latviyskoy SSR (for Klesmet). 2. Veterinarno-bakteriologicheskaya laboratoriya, Melitopol' (for Volik). 3. Saratovskiy zooveterinarnyy institut (for Makrushin). 4. Vsesoyuznyy institut eksperimental'noy veterinarii (for Loshkin, Nikol'skiy).
(Listeriosis) (Aureomycin)
(Milk—Analysis and examination)

NIKOL'SKIY, B. S. and LOZHKIN, N. I. (All-Union Institute of Experimental Veterinary Medicine and the Candidate of Biological Sciences)

"Graduated test tube for the determination of acidity of milk".

Veterinariya, Vol. 38, no. 7, July 1961, pp. 84

NIKOL'SKIY, B.V., polkovnik meditsinskoy sluzhby

Conference of physicians from the Crimea group of the sanatoriums of the Ministry of Defense. Voen.-med. zhur. no.6:96 Je '61. (MIRA 14:8)

(CRIMEA—SANATORIUMS) (MEDICINE, MILITARY)

NIKOL'SKIY, Boris Vasil'yevich; MILYAVSKIY, David Borisovich; FIBIKH, V.V., red.; SHLEPOV, V.K., red.izd-va; GINZBURG, R.Ya., tekhn. red.

[Operation and repair of electric motors in metallurgical plants] Ekspluatatsiia i remont elektrodvigatelei na metallurgicheskikh zavodakh. Moskva, Metallurgizdat, 1964. 121 p. (MIRA 17:2)

POPOV, Dmitriy Aleksandrovich prof. [deceased]; KORCHUNOV, Nikolay Grigor'yevich prof.; KUKLINOV, Boris Alekseyevich, dots.; MENSHUTKIN, Yakov Grigor'yevich, dots.; KUVALDIN, Boris Ivanovich, dots.; ALYSHEV, Ivan Fedorovich, dots.; SHCHELKUNOV, Valentin Vasil'yevich, dots.; NIKOL'SKIY, Boris Vasil'yevich, dots.; KORUNOV, M.M., prof., retsenzent; DOROKHOV, B.A., red.

[Land transportation of lumber] Sukhoputnyi transport lesa. [By] D.A.Popov i dr. Moskva, Goslesbumizdat, 1963. 863 p. (MIRA 17:5)

NIKOL'SKIY, B.V.

Reaction of the cardiovascular system to solar irradiation and sea bathing and their importance in climatotherapy. Vop. kur. fizioter. i lech. fiz. kul't. 28 no.3:234-237 My-Je '63. (MIRA 17:5)

1. Iz Yaltinskogo sanatoriya (nachal'nik V.I. Gribanov) Ministerstva oborony SSSR.

NIKOL'SKIY, D.

The construction of machinery operations. Prof.-tekh. obr. 13 no.11:13-14 N '56. (MLRA 9:12)

1. Prepodavatel' tekhnicheskogo uchilishcha no.9, Moskva.
(Machinery--Construction)

ZAKHVATKIN, V.K.; KOZLOVSKIY, V.A.; NIKOL'SKIY, D.A.; USHAKOV, M.V.

Conclusions drawn from experience in planning and building concentration plants. Tsvet.met. 27 no.6:5-19 N-D '54. (MLRA 10:10)

1. Institut Mekhanobr.

(Ore dressing)

SOV/137-57-10-18566

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 16 (USSR)

AUTHORS: Derkach, V.G., Nikol'skiy, D.A.

TITLE: Features of Foreign Mills for the Dressing of Magnetite Ores (Osobennosti zarubezhnykh fabrik dlya obogashcheniya magnetitovykh rud)

PERIODICAL: Obogashcheniye rud, 1956, Nr 5, pp 53-58; Nr 6, pp 36-47

ABSTRACT: An effort is made to generalize the data on new foreign mills for the dressing of lean magnetite ores. The magnetite ores dressed at mills in Silver Bay and Erie (U.S.A.) and at Sydvaranger, Norway, are quartzites low in Fe similar to the lean magnetitic quartzite ores of the Krivoy Rog basin. The chemical composition of these ores is presented, as is a dressing flowsheet envisaging 2-stage concentration, the 1st stage yielding tailings only, and the 2nd tailings and concentrate. However, the flowsheet of the mill at Marmora, Canada, which treats ore coarsely disseminated with gangue minerals differs from those of the former 3 by the fact that it provides for dry magnetic concentration of the large classes of ore with the purpose of separating the coarsely disseminated gangue.

Card 1/2

SOV/137-57-10-18586

Features of Foreign Mills for the Dressing of Magnetite Ores

Approximate production indices are given for the work of these mills and data on the consumption of electrical energy and water per t initial ore, consumption of rods and balls, lining, and oil for the drying of 1 t of concentrate. The equipment of the mills is described and its performance characteristics are adduced. A plan and profile of the coarse crushing department, a longitudinal section through the medium crushing department, and a plan and profile of the main building at the Erie mill are presented.

S.M.

Card 2/2

FADEYEV, Vasiliy Ivanovich; PEROV, V.A., nauchnyy red.; GALITA, Ye.G., red.; NIKOL'SKIY, B.A., retsenzent; FEUMKIN, F.S., tekhn.red.

[Modern equipment for the crushing and comminution of ores] Sovremennoe oborudovanie dlia drobleniia i izmel'cheniia rud. Leningrad, 1959. 241 p. (Leningrad. Nauchno-issledovatel'skii i proektnyi institut mekhanicheskoi obrabotki poleznykh iskopaemykh. Trudy, no.123). (MIRA 13:7)
(Crushing machinery) (Ore dressing--Equipment and supplies)

DENISENKO, V. P. (Veterinary Doctor, Gvardeiskii District, Kaliningrad Oblast') and NIKOL'SKIY, D. L. (Veterinary Doctor, City of Bogodukhov, Khar'kov Oblast').

"Sacral anesthesia in a Midwife's practice"...

Veterinariya, vol. 39, no. 8, August 1962 pp. 52

NIKOL'SKIY, D. N.

IL'YENKO, M.S.; GREBENYUK, A.I.; NIKOL'SKIY, D.N.; STANISLAVSKIY, N.A., inzhener, redaktor; BAYBAKOV, A.B., laureat Stalinskoy premii, inzhener, retsenzent.

[Calculation and design of gears, worm gears and reduction gears; a handbook] Raschet i proektirovanie zubchatykh i cherviachnykh peredach i reduktorov; spravochnoe rukovodstvo. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry. [Ukr. otd-nie] 1953. 589 p. (MLRA 7:7)

(Gearing--Handbooks, manuals, etc.)

NIKOLSKIY, K.M., professor, doktor tekhnicheskikh nauk

Method of successive approximation (method of Shverin) as a theoretical foundation for dimensioning of railroad car bodies with closed shell-like frames. Acta techn Hung 41 no.1/2:91-106 '62.

1. Institut transportnogo mashinostroyeniya, Bryansk.

PENIONZHKE'ICH, E. E.; POLETSKIY, V. A.; NIKOLSKIY, E. S.

"Effect of Heterogeneous Blood on Recipient's Organism under Vegetative Hybridization of Farm Poultry"

Report submitted for the Twelfth World's Poultry Congress, Sydney, Australia 10-18 Aug 1962

S/169/62/000/009/028/120
D228/D307

AUTHORS: Voronin, Yu. A., Nikol'skiy, E. V. and Trigubov, A. V.

TITLE: One way of calculating head waves associated with curvilinear interfaces

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 28, abstract 9A187 (Geologiya i geofizika, no. 1, 1962, 135-143)

TEXT: The range of applicability of the approximate method suggested by S. A. Fedotov (RZhGeofiz, no. 2, 1958, 954) for calculating the intensity of head waves, formed at a curvilinear interface, is discussed. The method is based on the use of the radial method's formulas, derived for head waves in the case of flat boundaries, the divergence arising at the expense of the boundary's curvature being additionally taken into account. The length of the head wave ray resting on the boundary is replaced by that of the corresponding section of the curved boundary. It is pointed out that the method is inapplicable, when there are corner points at the boun-

Card 1/2

VORONIN, Yu.A.; NIKOL'SKIY, E.V.; TRIGUBOV, A.V.

Difference hodographs of the head wave for a circular interface. Geol. i geofiz. no.11:74-85 '62. (MIRA 16:3)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(Hodograph) (Seismic waves)

MEDASHKOVSKIY, I.Yu.; NIKOL'SKIY, E.V.; POTAP'YEV, S.V.

Testing the methodology of transformed head waves for studying the Paleozoic basement in the southern part of the West Siberian Plain. Trudy Inst. geol. i geofiz. Sib. otd.AN SSSR no.16: 113-134 '62. (MIRA 16:9)
(West Siberian Plain—Seismic prospecting)

NIKOL'SKIY, E.V. (Novosibirsk)

Reflection of plane elastic waves from an arbitrary inhomogeneous layer in the case of normal incidence. PMTF no.4: 66-74 Jl-Ag '64. (MIRA 17:10)

ACC NR: AT6005064 (N) SOURCE CODE: UR/0000/65/000/000/0190/0204

AUTHOR: Nikol'skiy, E. V.

ORG: none

TITLE: Solving the direct and inverse problems of seismic waves in a one-dimensional medium in the case of normally incident plane waves

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut geologii i geofiziki. Metodika seysmorazvedki (Methods of seismic prospecting). Moscow, Izd-vo Nauka, 1965 190-204

TOPIC TAGS: seismic modeling, mathematic model, seismic prospecting, seismogram interpretation, seismic wave, SHOCK WAVE REFLECTION

ABSTRACT: The effects produced by repeated multiple reflections within an inhomogeneous layer are discussed. In seismic prospecting, there are two closely related problems to be dealt with in interpreting a total wave field: 1) theoretical calculation of the total wave field in models of media with arbitrary parameters; and 2) methods for interpreting the total wave field probably differing from methods used previously which were based on separation of the wave field into different types of waves. The present article deals chiefly with the first problem. Exact and approximate methods for computing the total wave field of a plane wave reflected from an arbitrary inhomogeneous layer are discussed. It is assumed in the direct (first) problem for media in which drops in wave resistance are small (not more than three) that the total field of the reflected wave can be replaced by the

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ACC NR: AT6005064

field of a wave reflected once, i.e., multiple reflections within an inhomogeneous layer can be neglected. Limiting the investigation to waves reflected only once within the layer introduces an error of not more than 10% of the total wave field. This assumption is extended to the approximate solution of the inverse problem. If the total field of a reflected wave is regarded as the field of a reflected once wave and the inverse problem is solved on that assumption, the velocity profile obtained in this way will closely approximate the original profile. This proposition is supported by computed results. It is concluded that a complex model can be represented by a set of layers in which wave resistance can be described as a linear function of depth; an algorithm for determining the weighting function is given for this case. A formula is also given for determining the frequency response of the medium; a different scheme is given for cases in which multiple reflections within the layer must be considered in the direct problem. Orig. art. has: 29 formulas, 6 figures, and 3 tables.

SUB CODE: 08/ SUBM DATE: 30Sep65/ ORIG REF: 008/ OTH REF: 003

Card 2/2

ACCESSION NR: AP5018194 UR/0207/65/000/003/0063/0067

AUTHOR: Nikol'skiy, E. V. (Novosibirsk)

TITLE: Reflection of plane unsteady waves from an arbitrary nonhomogeneous half-space. Acoustic case

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1965, 63-67

TOPIC TAGS: wave propagation, plane wave, acoustic wave, wave reflection, Cauchy problem, self similar solution

ABSTRACT: The propagation of a plane unsteady wave at fixed angle α_0 relative to a half-space is discussed, with parameters as arbitrary functions of a single coordinate x. Let the x-axis divide the two half-spaces 1 and 2 (see Fig. 1 on the Enclosure) such that 1 is homogeneous and 2 is nonhomogeneous. At any given time t three wave fronts exist: a) plane front of oncoming wave, b) plane front of reflected wave, and c) curvilinear front of the refracted wave. It is assumed that each ray of the oncoming wave satisfies the Fermat principle $d\tau(x)/dx = \text{const} = \sin\alpha_0/c_0$ and that the propagation process is self-similar with velocity $v^0 = v_0 \cos\theta_0$ along the x-axis such that the displacement U can be expressed by

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ACCESSION NR: AP5018194

$U(\xi, z, t) = U(\xi, \tau)$ ($\xi = t - (x/v_0)\sin\alpha_0 r$). The governing differential equations become

[illegible]

To solve these equations three different methods are proposed, which consist of solving the equations

$$\sin\alpha(\tau)\frac{\partial U_1(\xi,\tau)}{\partial\xi} + \cos\alpha(\tau)\frac{\partial U_1(\xi,\tau)}{\partial\tau} = [illegible]$$

$$\sin\alpha(\tau)\frac{\partial U_2(\xi,\tau)}{\partial\xi} + \cos\alpha(\tau)\frac{\partial U_2(\xi,\tau)}{\partial\tau} + [illegible]\cos\alpha(\tau)\,U_2(\xi,\tau) = 0,$$

[illegible]

or

$$\frac{\partial^2 U_1(\xi,\tau)}{\partial\tau^2} + 2p(\tau)\frac{\partial U_1(\xi,\tau)}{\partial\tau} = \frac{\partial^2 U_1(\xi,\tau)}{\partial\xi^2}$$

with some auxiliary conditions. The reflected wave is expressed by the continuous

Card 2/4

ENCLOSURE

APSO18194

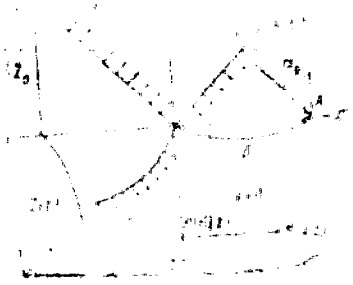

FIG.

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ACCESSION NR: AP5018194

function f(t) which for a piece-wise continuous p(t) can be divided into continuous and discontinuous components U_1 and U_2 [illegible]. For τ given by [illegible], an approximate solution is constructed for the wave field by letting $\xi = k\Delta\xi$ and $\tau = n\Delta\tau$ and $\Delta\xi = \Delta\tau$. Orig. art. has: 34 equations and 1 figure.

ASSOCIATION: none

SUBMITTED: 02Aug63 ENCL: 01 SUB CODE: GP

NO REF SOV: 002 OTHER: 00

KOMONYUK, B.I., kand.ekonom.nauk; NIKOL'SKIY, F., kand.fetor.nauk

Special features in the postwar development of fuel and power engineering bases in the German Federal Republic. Teploenergetika no.4:88-90 Ap '60. (MIRA 13:8)
(Germany, West--Fuel)

44836

S/560/62/000/014/008/011
A001/A101

3.5110

AUTHORS: Kondrat'yev, K. Ya., Gayevskaya, G. N., Nikol'skiy, G. A.

TITLE: The vertical profile of radiation balance and its components in the free atmosphere in day-time

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no. 14, 1962, 86 - 94

TEXT: The authors describe a set of day-time measurements of radiation balance and its components and their studies of the structure and composition of the atmosphere (temperature, pressure, humidity, ozone content), troposphere and stratosphere. A special automatic equipment for lifting by a balloon was designed. This set of equipment makes it possible to perform continuously measurements and recording of summary, direct solar and reflected radiation, radiation balance and total ascending radiation flux, total ozone content, temperature, humidity and pressure of air, and temperature of actinometric and recording devices. Standard Yanishevskiy's pyranometers and balance-meters are used. The instruments are described and the method of recording the results is indicated. Two ascents were

Card 1/2

ACCESSION NR: AT4033372 S/2960/63/000/002/0113/0126

AUTHOR: Badinov, I. Ya.; Gal'tsev, A. P.; Nikol'skiy, G. A.

TITLE: The spectroscopic method for the integral determination of the water vapor content in a column of the atmosphere

SOURCE: Leningrad. Universitet. Problemy* fiziki atmosfery*, no. 2, 1963, 113-126

TOPIC TAGS: meteorology, atmospheric physics, water vapor, atmospheric heat regime

ABSTRACT: No instrument has yet been developed which can be used to determine the water vapor content accurately in a column of the atmosphere; an instrument flow has been developed which is superior to previous instruments used for this purpose. The principle of operation is measurement of the ratio of intensities in two sectors of the solar spectrum. One part of the spectrum is selected in the absorption band of water vapor and the other outside the band, but as close as possible to the first (0.94μ and about 0.88μ). The instrument employs a compensation method of measurement involving the equalization of two light fluxes passing through light filters onto two identical receivers. Fig. 1 of the Enclosure shows the optical system of the instrument. The theory of the instrument is described briefly. Experimental measurements have shown that it can be used to determine the total content of water vapor with an accuracy to 4-5%. Construction of the calibration curve

Card 1/3

ACCESSION NR: AT4033372

requires use of extensive radiosonde data. Measurements can be made almost continuously since the time required for one measurement is less than one minute. The instrument can be used under any conditions because it is small, weighs only 600 g and is of simple design. Orig. art. has: 7 formulas and 9 figures.

ASSOCIATION: Leningradskiy universitet (Leningrad University)

SUBMITTED: 00 DATE ACQ: 23Apr64 ENCL: 01

SUB CODE: AS NO REF SOV: 007 OTHER: 006

Card 2/3

ACCESSION NR: AP4009627 S/0293/63/001/003/0448/0459

AUTHOR: Kondrat'yev, K. Ya.; Gayevskaya, G.N.; Nikol'skiy, G. A.

TITLE: Balloon based studies of radiation balance in the Earth's surface-atmosphere system

SOURCE: Kosmicheskiye issledovaniya, v. 1, no. 3, 1963, 448-459

TOPIC TAGS: radiation balance, atmosphere, actinometric measurement, weather balloon, balloon based measurement, radiation balance profile, radiation balance analysis, meteorology

ABSTRACT: Standard actinometric measurements (radiation flux, loop oscillograph N-700, continuous recording; air temperature, platinum resistance thermometer; radiation detector temperature, thermocouple; air pressure, atmospheric pressure counter of the radiosounding equipment) were taken during 11 ascents of free balloons between June 7, 1961 and Nov. 22, 1962 to a maximum altitude of approximately 30 km. Vertical profiles were compiled for the radiation balance and its components for summer and fall seasons. Analysis of the obtained data indicates that the sharpest variations occur in the lower atmospheric layer, which stretches to an altitude of 11 to 12 km in the summer and 8 to 9 km in the fall.

Card 1/2

ACCESSION NR: AP4009627

Short-wave balance ranged from 0.24 to 1.39 cal·cm^{-2}·min^{-1}, total balance from 0.145 to 0.99 cal·cm^{-2}·min^{-1}, across all measurements. Albedo fluctuated from 15 to 35% during summer measurements at maximum altitude. "In conclusion, the authors express their deep gratitude to I.V. Andreyev, N.M. Yevdokimova and S.V. Maryushkin for their participation in flight preparations and the processing of the data obtained." Orig. art. has: 10 graphs, 2 tables.

ASSOCIATION: None

SUBMITTED: 20Feb63 DATE ACQ: 30Jan64 ENCL: 00

SUB CODE: AS NO REF SOV: 002 OTHER: 000

2/2

Card

BADINOV, I. Yu.; GAYEVSKAYA, G. N.; NIKOLSKIY, G. A.; FEDOROVA, M. P.

"Balloon investigations of radiation fluxes in the free atmosphere."

report presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

L 17810-66 EWT(1) GW
ACC NR: AT6007607 SOURCE CODE: UR/2960/65/000/003/0018/0023

AUTHOR: Kondrat'yev, K. Ya.; Cayevskaya, G. N.; Nikol'skiy, G. A.

ORG: none

TITLE: The radiation balance of the atmosphere

SOURCE: Leningrad. Universitet. Problemy fiziki atmosfery, no. 3, 1965, 18-23

TOPIC TAGS: radiation balance, shortwave radiation, outgoing thermal radiation, effective radiation, direct solar radiation

ABSTRACT: The radiation balance of the atmosphere is the difference between the radiation balances of the earth's surface and atmosphere system and the balance of the ground. It is equal to the difference between the short-wave radiation absorbed in the atmosphere and the difference between the outgoing thermal radiation and the effective radiation of the ground. Both radiations forming the radiation balance of the atmosphere are variable in individual atmospheric layers, which causes the diurnal and seasonal changes in the balance. The mean annual radiation balance of the earth-and-atmosphere system is positive in the latitude belt with $\phi < 40°$. The radiation balance of the ground is positive except at the polar caps. The diurnal rate of the atmospheric radiation balance is positive in the daytime and negative at night. The state of atmospheric radiation balance depends upon the balance character of individual atmospheric layers. Measurements in the summer of 1962 showed that the radiation

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L 09178-67 EWT(1) RM/GW SOURCE CODE: UR/0362/66/002/004/0380/0393

ACC NR: AP7002321

AUTHOR: Kondrat'yev, K. Ya.; Nikol'skiy, G. A.; Yesipova, Ye. N. 31

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: Balloon investigations of radiation fluxes in the free atmosphere

SOURCE: AN SSSR. Izvestiya. Fizika atmosphery i okeana, v. 2, no. 4, 1966, 380-393

TOPIC TAGS: solar radiation, meteorology

ABSTRACT: Data from four ascents of a group of actinometric instruments on high-level balloons have been used for the first time in an analysis of the character of the vertical profiles of the radiation balance and all its components (including fluxes of scattered radiation and long-wave radiation) in daytime at heights to 25-32 km. The method is described briefly and data are given illustrating the relation between the different components of the radiation balance. The authors discuss the results of computations of the radiation changes of temperature, revealing a considerable mutual compensation of the radiant fluxes of heat caused by short-wave and long-wave radiation. Data from measurements of direct solar radiation were used in computations of aerosol attenuation and analysis of the vertical profile of the aerosol component of the atmosphere. The following are analyzed separately: direct solar radiation, total radiation, scattered radiation, reflected radiation,

UDC: 551.521.12

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ACC NR: AP7002321

albedo, fluxes of long-wave radiation and the radiation balance, radiant heat flux, attenuation of direct solar radiation by an aerosol. For example, it was found that in summer the value of the aeroso' component of attenuation of direct solar radiation was greater by a fac.or of approximately two than in the autumn and the atmosphere is more stratified. In autumn the principal maxima in the distribution of an aerosol are observed at heights of 2-3 and 15-18 km. In summer the maximum attenuation is at 1-2, 7-8, 10-12 and 18 km. In almost all the ascents above 24 km there was an appreciable increase of the aerosol concentration. Orig. art. has: 14 figures. [JPRS: 36,285]

SUB CODE: 04 / SUBM DATE: 19Oct65 / ORIG REF: 003 / OTH REF: 005

Card 2/2 mat

GOSSE, N.P., inzh.; KISLUKHIN, S.V., inzh.; NIKOL'SKIY, G.A., inzh.; POPOV, G.S., inzh.; SHAKHOVTSEV, V.I., nauchnyy red.; VAGNER, A.A., red.; RUKOVA, A.P., red.; KOVAL'SKAYA, I.F., tekhn. red.; VILOGRADOV, Ye.A., tekhn. red.; IL'YUSHENKOVA, T.P., tekhn. red.

[Electric equipment and devices of motor vehicles; catalog and reference book] Avtotraktornoe elektro-oborudovanie i pribory; katalog-spravochnik. Moskva, TSentr.in-t nauchno-tekhn.informatsii mashinostroeniia. Pt.1. 1961. 371 p. (MIRA 14:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po koordinatsii nauchno-issledovatel'skikh rabot. 2. Nauchno-issledovatel'skiy eksperimental'nyy institut avtotraktornogo elektrooborudovaniya i priborov (for Gosse, Kislukhin, Nikol'skiy, Popov). 3. Direktor Nauchno-issledovatel'skogo eksperimental'nogo instituta avtotraktornogo elektrooborudovaniya i priborov (for Shakhovtsev).
(Motor vehicles—Electric equipment)

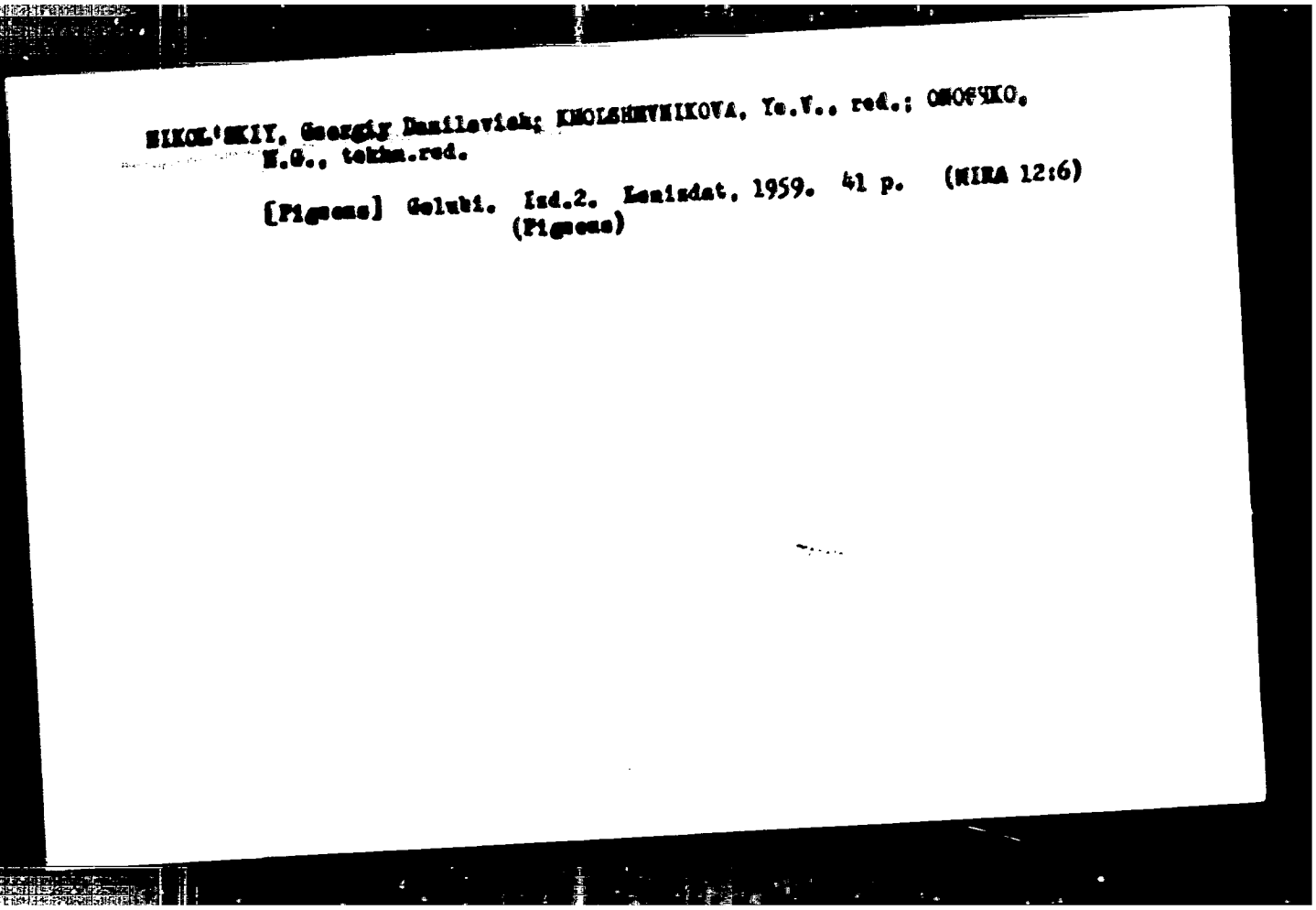
GOSSE, N.P., inzh.; KISLUKHIN, S.V., inzh.; NIKOL'SKIY, G.A., inzh.; POPOV, G.S., inzh.; SHAKHOVTSEV, V.I., nauchnyy red.; RUNOVA, A.P., red.; VAGNER, A.A., red.; ALEKSEYEVA, T.V., tekhn. red.

[Electrical equipment and instruments for automobiles and tractors; a reference catalog]Avtotraktornoe elektrooborudovanie i pribory; katalog-spravochnik. Moskva, TsINTIMASH. Pt.2. 1962. 378 p. (MIRA 15:9)

1. Russia (1923- U.S.S.R.)Gosudarstvennyy komitet po koordinatsii nauchno-issledovatel'skikh rabot. 2. Nauchno-issledovatel'skiy eksperimental'nyy institut avtotraktornogo elektrooborudovaniya i priborov (for Gosse, Kislukhin, Nikol'skiy, Popov).
(Tractors—Electric equipment)
(Automobiles—Electric equipment)

NIKOL'SKIY, G.B.

Biological bases for the salmon fishery of the Far East. Trudy Okean. kom. 3:126-127 '58. (MIRA 11:8)
(Soviet Far East--Salmon fishing)



NIKOL'SKIY, Georgiy Danilevich; KHOLSHEVNIKOVA, Ye.V., red.; OKOF'KO, N.G., tekhn.red.

[Pigeons] Golubi. Izd.2. Leningrad, 1959. 41 p. (MIRA 12:6)
(Pigeons)

NIKOL'SKIY, Grigoriy Grigor'yevich, kand.tekhn.nauk; POZHIN, Aleksandr Panfilovich, inzh.; IVANOV-SKOBLIKOV, P.V., inzh., red.; KUZNETSOVA, M.M., tekhn.red.

[Vermiculite and its use in construction] Vermikulit i ego primenenie v stroitel'stve. Leningrad, 1959. 17 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'naia promyshlennost', vyp.13). (MIRA 13:4)
(Vermiculite)

S/081/61/000/022/048/076
B101/B147

AUTHORS: Nikol'skiy, G. G., Pozhmin, A. P.

TITLE: Testing of vermiculite, technology and use of vermiculite-base concrete products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 312 - 313 abstract 22K326 (Sb. "Stroit. materialy", L., 1961, 35 - 37)

TEXT: A method was devised for testing vermiculite of new deposits for its utilizability for producing sound-absorbing and heat-insulating materials. It was found possible to produce heat-insulating pieces without addition of asbestos which is an expensive and rare material. Heat-insulating vermiculite-base materials containing no asbestos can be produced from a charge to which foam is added for better workability. Only 75 - 150% water are added to the charge. In this case, the workability of the mixture is higher than with an addition of 15 - 20% of asbestos. The products are formed at 0.1 kg/cm^2 and then dried according to the binder used. Subsequently they were treated in the autoclave or fired. The quality of these products does not lag behind that of asbestos-containing products and their

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NIKOL'SKII, G.M.

RT-951 (The structure of solar corona on 25 February 1952) Struktura solnechnoi korony 25 fevralia 1952 g.
ASTRONOMICHESKII ZHURNAL, 30(3): 286-294, 1953.

NIKOL'SKIY, G.

Sun - Corona

Structure of the solar corona of February 25, 1952, according to photographs of the Chilean expedition of the Kiev Astronomical Observatory. Astron. zair. No. 132, '52.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

NIKOL'SKIY, G. M.

NIKOL'SKIY, G. M. --"Investigation of the Solar Corona which was Observed on 25 February 1952 and 30 June 1954." Min Higher Education USSR, Kiev State U imeni T. G. Shevchenko, Kiev, 1955 (Dissertation For the Degree in Physicomathematical Sciences)

SO: Knizhnaya letopis' No. 37, 10 September 1955

NIKOL'SKIY, G.M.

Structure of the solar corona on February 25, 1952. Astron.zhur. 30 no. 3:286-294 My-Je '53. (MLRA 6:5)

1. Kievskiy gosudarstvennyy universitet imeni T.G. Shevchenko. (Sun--Corona)

Studies the principal structural peculiarities of the corona by utilizing a schematic drawing of the corona made according to negatives taken during the expedition of the Kiev Astronomical Observatory to Chile. Discusses a possible way to solve problems of the existence and stability of coronal forms. Thanks to Prof S.K.Vsekhsyvatskiy for advice.

257T68

NIKOLSKIY, G. M.

AID - P-237

Subject : USSR/Astronomy

Card : 1/1

Authors : Nikolskiy, G. M., and Ponomarev, Ye. A.

Title : A Remark on the Article of V. A. Krat "Dissipation of the Solar Corona and Corpuscular Radiation"

Periodical : Astron. zhur., v. 31, 2, 191-196, Mr - Ap 1954

Abstract : A general criticism of Krat's article in which the sources of several ideas expressed by the author are exposed and the names of the original authors cited. Unproved statements made by Krat, the authors think, may even damage the fundamental idea of the geoactive fluxes of the corona. 16 references (since 1939), 12 Russian.

Institution : Kiev State University

Submitted : No date

NIKOL'SKIY, G.M.

Photometry of the solar corona of February 25, 1952. Astron. zhur. 31 no.4 372-386 Jl-Ag '54. (MLRA 7:8)

1. Kafedra astronomii Kiyevskogo gosudarstvennogo universiteta.
(Sun--Corona) (Photometry, Astronomical)

VSEKHSVYATSKIY, S.K.; NIKOL'SKIY, G.M.

Observations of the lunar eclipse of January 18/19, 1954. Astron.tsir. no.146:5-7 F '54. (MLRA 7:6)

1. Kafedra astronomii KGU. 2. Odesskaya Astronomicheskaya observatoriya. (Eclipses, Lunar--1954)

NIKOL'SKIY, G.M.

NIKOL'SKIY, G.M.

Observations of the total solar eclipse of June 30, 1954, from an airplane. Astron.tsir. no.151:5-6 Jl '54. (MLRA 8:3)

1. Ekspeditsiya kafedry astronomii Kievskogo Gosuniversiteta (Korolets).

(Eclipses, Solar—1954)

NIKOL'SKIY G. M.

NIKOL'SKIY G. M.--"Investigation of the Solar Corona which was Observed of 25 February 1952 and 30 June 1954." (Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Min Higher Education USSR, Kiev State U imeni T. G. Shevchenko, Kiev, 1955.

* Physicomathematical Sciences

SO: Knizhnaya Letopis' No. 37, 10 September 1955.

NIKOL'SKIY, G.M.

AID P - 431

Subject : USSR/Astronomy

Card 1/1 Pub. 8, 10/16

Author : Nikol'skiy, G. M.

Title : Photometry of the Solar Corona February 25, 1952

Periodical : Astron. zhur., v. 31-4, 372-386, Jl-Ag 1954

Abstract : A small equatorial instrument was used as a coronograph with a clock movement and a yellow filter, and isophotos and distribution of brightness obtained. Special attention is given to the NE streamer and its dissipation. Formulae, 12 graphs, 7 tables, 11 references.

Institution : Chair of Astronomy, Kiyev State University

Submitted : July 12, 1953

VSEKHSVYATSKIY, S.K.; NIKOL'SKIY, G.M.; PONOMARENY, Ye.A.; CHERNOVICHENKO, V.I.

On the problem of corpuscular solar radiation. Astron.zhur.32 no.2: 165-176 Mr-Ap '55. (MLRA 8:5)

1. Kafedra astronomii Kiyevskogo gosudarstvennogo universiteta.
(Solar radiation)

NIKOL'SKIY, G.M.

VSEKHSVYATSKIY, S.K.; NIKOL'SKIY, G.M.

Structure of the solar corona of June 30, 1954. Astron.zhur.32 no.4:354-358 Jl-Ag'55. (MLRA 8:10)

1. Kiyevskiy Gosudarstvennyy universitet, Kafedra astronomii
(Sun--Corona)