SHPUNT, S. YA.

"Partial Pressures of NH_3, CO_2 and H_2O over $(NH_4)_2SO_4$ and NH_4Cl Solutions," A. P. Belopol'skiy, S. Ya. Shpunt, I. M. Palkina, Works of the Sci Inst of Fert and Insectofung im Ya. V. Samoylov, 1940, No 144, pp 125-9, Khim Referat Zhur, IV, No 6, 82-3 (1941) (SEE: Inst. Insect/Fung. in Ya. V. Samoylov)

SO: U-237/49, 8 April 1949

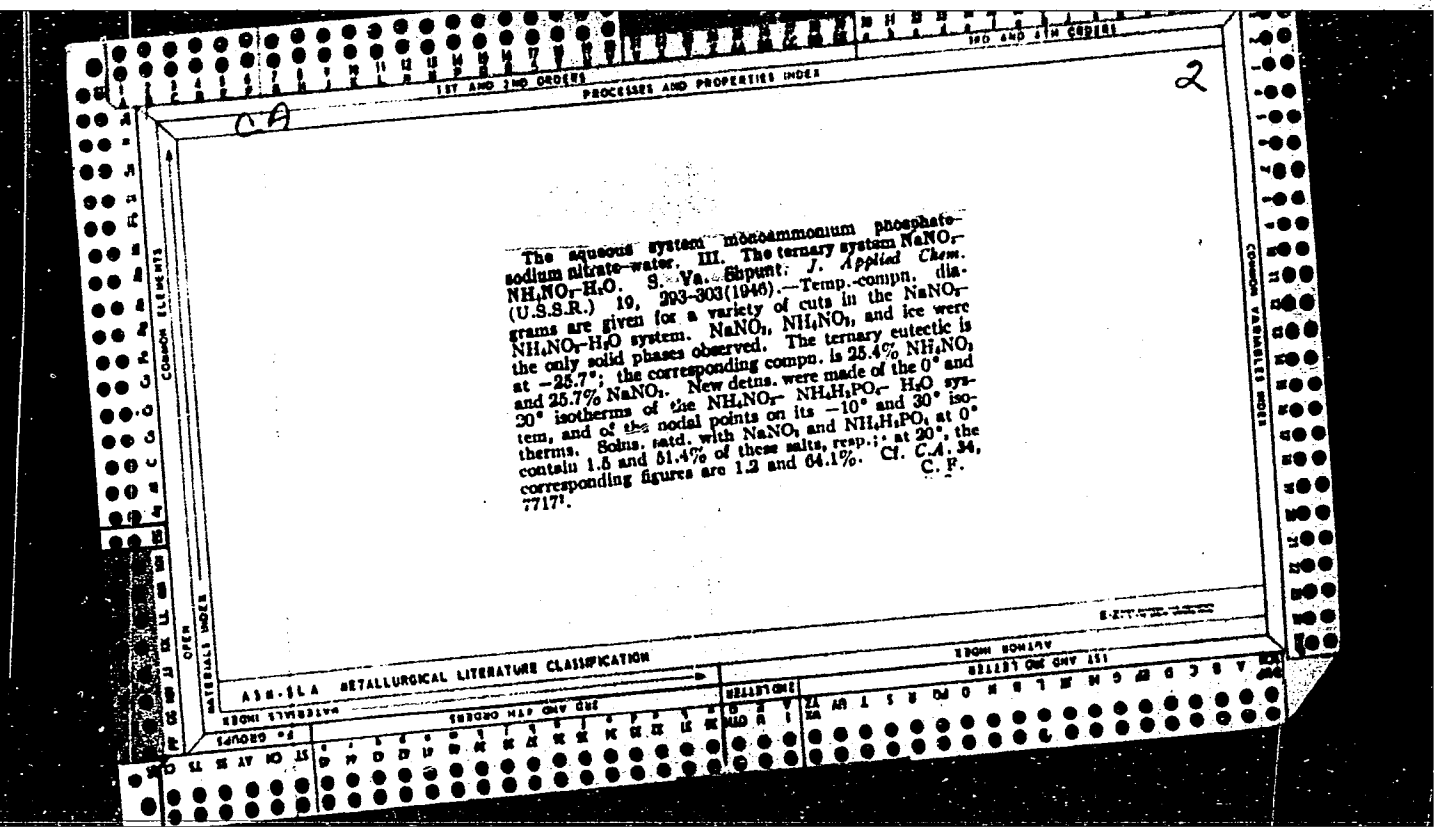
CA

PROCESSES AND PROPERTIES INDEX

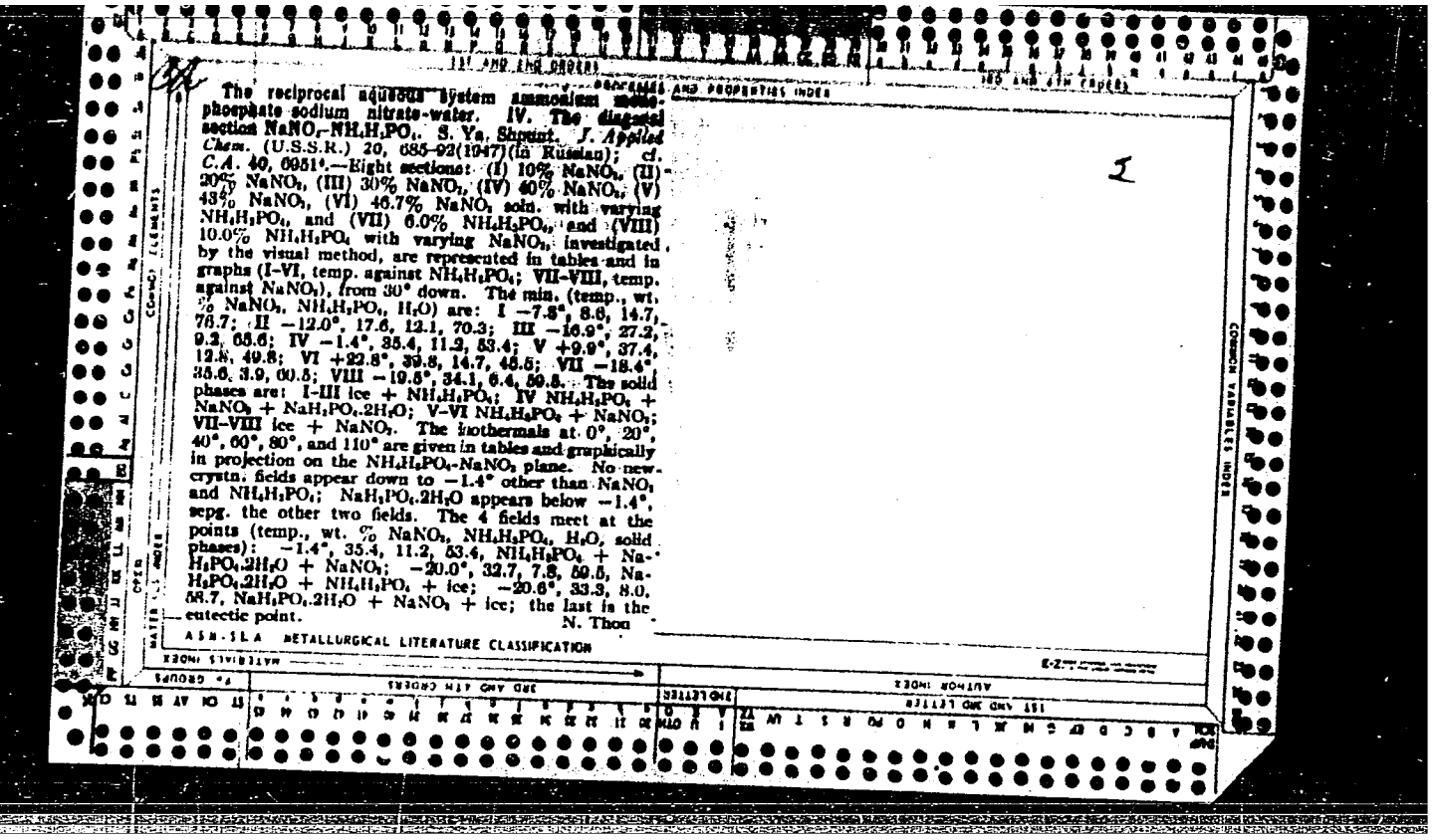
2

Quartenary system K_2SO_4-Na_2SO_4-$(NH_4)_2SO_4$-H_2O at 40°, 25°, and 0°. A. P. Belopol'skii and S. Ya. Shpunt. *J. Applied Chem.* (U.S.S.R.) 18, 624-33(1945)(English summary).—The system K_2SO_4-Na_2SO_4-$(NH_4)_2SO_4$-H_2O was studied at 40°, 25°, and 0°. The results are given diagrammatically and tabularly. The 40° isotherm is characterized by the following fields of satn.: (1) Na_2SO_4, (2) γ-glaserite, (3) $Na_2SO_4.(NH_4)_2SO_4.4H_2O$, (4) $(NH_4, K)_2SO_4$. The tie points of the 40° isotherm correspond to the following phase compns.: (a) solid phases, Na_2SO_4 + $Na_2SO_4.(NH_4)_2SO_4.4H_2O$ + γ-glaserite; soln., Na_2SO_4(22.7%), $(NH_4)_2SO_4$ (17.9%), K_2SO_4 (3.4%); (b) solid phases, $Na_2SO_4.(NH_4)_2SO_4.4H_2O$ + γ-glaserite + $(NH_4, K)_2SO_4$; soln., Na_2SO_4 (11.3%), $(NH_4)_2SO_4$ (35%), K_2SO_4 (1.8%). The 25° isotherm is characterized by the following fields of satn.: (1) $Na_2SO_4.10H_2O$, (2) γ-glaserite, (3) $Na_2SO_4.(NH_4)_2SO_4.4H_2O$, (4) $(NH_4,K)_2SO_4$. Its tie points correspond to the following phase compns.: (a) solid phases, $Na_2SO_4.10H_2O$ + $Na_2SO_4.(NH_4)_2SO_4.4H_2O$ + γ-glaserite; soln., Na_2SO_4 (25.3%), $(NH_4)_2SO_4$ (12.3%), K_2SO_4 (2.8%); (b) solid phases, $Na_2SO_4.(NH_4)_2SO_4.4H_2O$ + γ-glaserite + $(NH_4,K)_2SO_4$; soln., Na_2SO_4 (8.6%), $(NH_4)_2SO_4$ (34.3%), K_2SO_4 (2.4%). The 0° isotherm is characterized by the following fields of satn.: (1) $Na_2SO_4.10H_2O$, (2) $Na_2SO_4.(NH_4)_2SO_4.4H_2O$, and (3) $(NH_4,K)_2SO_4$. Its tie points correspond to the following phase compns.: (a) solid phases, $Na_2SO_4.10H_2O$ + $Na_2SO_4.(NH_4)_2SO_4.4H_2O$ + $(NH_4,K)_2SO_4$; soln., Na_2SO_4 (7.5%), $(NH_4)_2SO_4$ (24.3%), K_2SO_4 (4.1%). The information was secured for use in development of a process of ammonia-soda production with utilization of sulfate liquors. G. M. K.

ASB-SLA METALLURGICAL LITERAT



The aqueous system monoammonium phosphate–sodium nitrate–water. III. The ternary system $NaNO_3$–NH_4NO_3–H_2O. S. Va. Shpunt. *J. Applied Chem.* (U.S.S.R.) 19, 293-303(1946).—Temp.-compn. diagrams are given for a variety of cuts in the $NaNO_3$–NH_4NO_3–H_2O system. $NaNO_3$, NH_4NO_3, and ice were the only solid phases observed. The ternary eutectic is at −25.7°; the corresponding compn. is 25.4% NH_4NO_3 and 25.7% $NaNO_3$. New detns. were made of the 0° and 30° isotherms of the NH_4NO_3–$NH_4H_2PO_4$–H_2O system, and of the nodal points on its −10° and 30° isotherms. Solns. satd. with $NaNO_3$ and $NH_4H_2PO_4$ at 0° contain 1.8 and 51.4% of these salts, resp.; at 20°, the corresponding figures are 1.2 and 64.1%. Cf. *C.A.* 34, 7717¹. C. F.



The reciprocal aqueous system ammonium monophosphate sodium nitrate-water. IV. The diagonal section $NaNO_3$–$NH_4H_2PO_4$. S. Ya. Shpunt. *J. Applied Chem.* (U.S.S.R.) 20, 685–92(1947)(in Russian); cf. *C.A.* 40, 6951⁸.—Eight sections: (I) 10% $NaNO_3$, (II) 20% $NaNO_3$, (III) 30% $NaNO_3$, (IV) 40% $NaNO_3$, (V) 43% $NaNO_3$, (VI) 46.7% $NaNO_3$ soln. with varying $NH_4H_2PO_4$, and (VII) 6.0% $NH_4H_2PO_4$, and (VIII) 10.0% $NH_4H_2PO_4$ with varying $NaNO_3$, investigated by the visual method, are represented in tables and in graphs (I–VI, temp. against $NH_4H_2PO_4$; VII–VIII, temp. against $NaNO_3$), from 30° down. The min. (temp., wt. % $NaNO_3$, $NH_4H_2PO_4$, H_2O) are: I −7.8°, 8.6, 14.7, 76.7; II −12.0°, 17.6, 12.1, 70.3; III −16.9°, 27.2, 9.2, 63.6; IV −1.4°, 35.4, 11.2, 53.4; V +9.9°, 37.4, 12.8, 49.8; VI +22.8°, 39.8, 14.7, 45.5; VII −18.4°, 35.6, 3.9, 60.5; VIII −19.5°, 34.1, 6.4, 59.5. The solid phases are: I–III ice + $NH_4H_2PO_4$; IV $NH_4H_2PO_4$ + $NaNO_3$ + $NaH_2PO_4.2H_2O$; V–VI $NH_4H_2PO_4$ + $NaNO_3$; VII–VIII ice + $NaNO_3$. The isothermals at 0°, 20°, 40°, 60°, 80°, and 110° are given in tables and graphically in projection on the $NH_4H_2PO_4$–$NaNO_3$ plane. No new crystn. fields appear down to −1.4° other than $NaNO_3$ and $NH_4H_2PO_4$; $NaH_2PO_4.2H_2O$ appears below −1.4°, segg. the other two fields. The 4 fields meet at the points (temp., wt. % $NaNO_3$, $NH_4H_2PO_4$, H_2O, solid phases): −1.4°, 35.4, 11.2, 53.4, $NH_4H_2PO_4$ + $NaH_2PO_4.2H_2O$ + $NaNO_3$; −20.0°, 32.7, 7.8, 59.5, $NaH_2PO_4.2H_2O$ + $NH_4H_2PO_4$ + ice; −20.6°, 33.3, 8.0, 58.7, $NaH_2PO_4.2H_2O$ + $NaNO_3$ + ice; the last is the eutectic point.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHPUNT, S. IA.

A.P. Belopol'skii, V.N. Kolycheva, and S. Ia. Shpunt, The system $FeSO_4$-H_2SO_4-H_2O. III The solubility of $FeSO_4 \cdot 7H_2O$ in water solutions of sulfuric acid at temperatures from + 10 to +50°. P. 794.

The solubilities of $FeSO_4 \cdot 7H_2O$ in water solutions of sulfuric acid at temp. below 50° have been studied. The solubility of the heptahydrate decreases considerably with increase of concentration of sulfuric acid and with lowering of temp. It is shown that at 50° heptahydrate if precipitated from the super saturated solution at H_2SO_4 concentrations lying beyond the stable region of existence of hepta and tetrahydrate.

Lab. of Physico-chemical Analysis of the
Scientific Institute of Fertilizers,
Insecticides and Fungicides
August 25, 1947

SO: Journal of Applied Chemistry (USSR) 21, No. 8, August (1948)

CA

2

Solubility of ferrous sulfate in concentrated sulfuric acid at high temperatures. A. P. Belopol'skii and S. Ya. Shpunt. *Zhur. Prikhad. Khim.* 23, 220(1950).—Contrary to Zakharenko and Tsitsorin (*ibid.* 22, 703(1949)), the solid phases in contact with H_2SO_4 above 64° are only $FeSO_4$ monohydrate and anhyd. $FeSO_4$, and only anhyd. $FeSO_4$ at 90°, above 84.1% H_2SO_4. The statement that $FeSO_4 \cdot 7H_2O$ is the solid phase in the range 100-243°, 91% H_2SO_4, is erroneous. Also, oxidation of Fe^{++} to Fe^{+++} can be completely avoided in strong H_2SO_4.

N. Thon

CA

2

The solubility of ferrous sulfate in concentrated sulfuric acid at high temperatures. A. P. Belopolskii and S. Ya. Shpunt. *J. Applied Chem. U.S.S.R.* 23, 225(1950)(Engl. translation).—See *C.A.* 44, 9787h. B. L. M.

13 A

HI-4

Physico-chemical investigation of magnesium phosphate system : MgO P_2O_5 H_2O at 25° and 80°. A. P. Belopolsky, S. Ya. Shpunt, and M. Shul'gina (*J. appl. Chem. USSR*, 1950, **23**, 823–836). The solubility isotherm at 25° for P_2O_5 varying from 0·05 to 70 wt.-% consists of four branches which represent the equilibrium with the following four solids: $MgHPO_4.3H_2O$ (I), $Mg(H_2PO_4)_2.4H_2O$ (II) (the existence of this hydrate is reported for the first time), $Mg(H_2PO_4)_2.2H_2O$ (III), and $Mg(H_2PO_4)_2$ (IV). The invariant points in order of increasing P_2O_5 content are A with solid phases I and II containing 8·3% MgO and 33·1% P_2O_5, A_1 with solid phases II and III containing 4·6% MgO and 53·3% P_2O_5, and A_2 with solid phases III and IV containing 3·2% MgO and 59·6% P_2O_5. The 80°-isotherm consists of three branches at which the solid phases are I, III, and IV. The invariant points have the compositions: A' 11·0% MgO, 44·8% P_2O_5 (solid phases I and III), A_2' 6·0% MgO, 58·5% P_2O_5 (solid phases III and IV). All solutions saturated with different hydrates of anhyd. $MgHPO_4$ and $Mg(H_2PO_4)_2$ are incongruent. The $MgO:P_2O_5$ ratio is always $<1:2$ or $1:1$ respectively, and they are therefore the solutions of the respective phosphates in aq. H_3PO_4. When IV is dissolved in H_2O the hydrate of $MgHPO_4$ is precipitated and H_3PO_4 goes into solution. The solubility of $MgHPO_4$ increases with the content of "free" H_3PO_4 in solution whilst the solubility of IV decreases and the solubilities of II and III pass through a min. The solubility of IV is almost independent of temp. between 25° and 70°, whilst that of $MgHPO_4$ increases with temp. The degree of neutralisation of the first H' ion in H_3PO_4 by MgO in saturated solutions is much higher than in the system $CaO-P_2O_5-H_2O$ for the same content of P_2O_5, hence the decomposition of natural Mg phosphates by acids will proceed much more slowly than of Ca phosphates and the amount of H_2SO_4 required will be much higher in the first case. The degree of neutralisation increases with temp. for equal P_2O_5 concn. The degree of decomposition of IV by water has been calculated for different ratios of IV to H_2O. It is much lower than in the case of $Ca(H_2PO_4)_2$ and is almost independent of temp. between 25° and 80°, whilst it increases strongly with temp. for $Ca(H_2PO_4)_2$. There is no decomposition up to 28·7 g. of IV per 100 g. H_2O. Up to this concn the whole IV goes into solution. $Ca(H_2PO_4)_2$ starts to decompose already at the ratio of 1 g. of anhyd. phosphate per 100 g. H_2O.

I. B. J. Zaks

USSR/Chemistry - Magnesium Compounds Apr 51

"Polytherms of the Triple System $MgO-P_2O_5-H_2O$," S. Ya. Shpuit, A. P. Belopol'skiy, M. N. Shulgina, Physicochem Anal Lab NIUIF (Sci Res Inst of Fertilizers and Insectofungicides)

"Zhur Prik Khim" Vol XXIV, No 4, pp 404-412

Studied isotherms at 0, 10, 50, 58, and 130° of syst experimentally and by interpolation and extrapolation. At 0-130° magnesium diphosphate crystallizes from H_3PO_4 solns as trihydrate. In same temp range, magnesium monophosphate is represented by 2 crystallohydrates: $Mg(H_2PO_4)_2 \cdot 4H_2O$,

182T44

USSR/Chemistry - Magnesium Compounds (Contd) Apr 51

$MG(H_2PO_4)_2 \cdot 2H_2O$ and anhyd salt $Mg(H_2PO_4)_2$. Upper limit of stability of tetrahydrate is 58°. Dihydrate is in stable equil with soln from 10 to 130°. Anhyd salt is stable over entire temp range. Between 0 and 130° found 3 invariant points with 3 solid phases. Constructed polytherms on basis of data found.

182T44

SHPUIT, S. Ya.

CA

6

The polytherm of the ternary system MgO-P_2O_5-H_2O. S. Ya. Shpunt, A. P. Belopolskii, and M. N. Shulgina. *J. Applied Chem. U.S.S.R.* 24, 439–47(1951)(Engl. translation).—From the 0, 10, 50, 58, and 130° isotherms of the ternary system MgO-P_2O_5-H_2O, plotted experimentally as well as by interpolation and extrapolation, it was found that $MgHPO_4.3H_2O$ crystallizes from H_3PO_4 solns. in the 0–130° temp. range. $Mg(H_2PO_4)_2.4H_2O$, $Mg(H_2PO_4)_2.2H_2O$, and $Mg(H_2PO_4)_2$ exist in this same temp. range; the upper limit at which the tetrahydrate is stable is 58°, the dihydrate is in stable equil. with the soln. from 10 to 130°, and the anhyd. salt is stable between 0 and 130°. The polytherm of the MgO-P_2O_5-H_2O system from 0 to 130° was plotted on the basis of the data obtained.

T. R. Z.

Chemical Abstracts
May 25, 1954
General and Physical
Chemistry

Physicochemical research in the field of magnesium phosphates. III. Isotherm at 50° of the quaternary system MgO–CaO–P_2O_5–H_2O. A. P. Belomol'skii, S. Ya. Shmuit, and M. N. Shul'zina. *Zhur. Prikład. Khim.* 26, 277–85(1953); cf. *C.A.* 46, 38435, 44143.—The 2 ternaries MgO–P_2O_5–H_2O and CaO–P_2O_5–H_2O of the quaternary MgO–CaO–P_2O_5–H_2O were previously reported. The data are shown graphically on rectangular coördinates as a double projection of MgO–O–P_2O_5 and CaO–O–P_2O_5. By means of a network of "isomolal" lines (same mol. sum of CaO, MgO, and P_2O_5 per 1000 moles H_2O), the compn. of the soln. within the satd. area is detd. (by means of such network of isomolal lines one projection is sufficient). There are 5 fields of satn.: $MgHPO_4.3H_2O$ (I), $Mg(H_2PO_4)_2.2H_2O$ (II), $Mg(H_2PO_4)_2$ (III), $Ca(H_2PO_4)_2.H_2O$ (IV), and $CaHPO_4$ (V). The 3 transition points are in equil. with the following solid phases: Q_1, I–II–IV; Q_2, I–V–IV; Q_3, II–III–IV. The stable pair at 50° is I + IV. The wt. % relation for MgO, CaO, and P_2O_5 are: Q_1, 10.7, 0.6, 45.0; Q_2, 10.63, 0.7, 45.0; Q_3, 5.8, 0.3, 55.4. The phosphates of Ca affect the soln. of the Mg salts very little. The phosphates of Mg lower the soly. of the Ca salts appreciably. I. Bencowitz

Mef

Shpunt, S. Ya.

4

Physicochemical research in the field of magnesium phosphates. IV. Isotherms at 50°, 25°, 58°, 10°, and 130° C. for the quaternary system $MgO–CaO–P_2O_5–H_2O$. A. P. Belopol'skii, S. Ya. Shpunt, and M. N. Shul'gina. *Appl. Chem. U.S.S.R.* 27, 387–74(1954)(Engl. translation). See *C.A.* 48, 13393c. H. L. H.

SHPUNT, S. Ya.
SHPUNT, S. YA.

AID - P-91

Subject : USSR/Chemistry

Card : 1/1

Authors : Belopol'skiy, A. P., Shpunt, S. Ya., and Shul'gina, M. N.

Title : Isotherms of the quaternary system $MgO-CaO-P_2O_5-H_2O$ at 50, 25, 58, 10 and 130°

Periodical : Zhur. Prikl. Khim. 27, no. 4, 391-401, 1954

Abstract : The isotherms at 50 and 25° were investigated experimentally; those at 58, 10, and 130° were obtained by inter- or extrapolation. Calcium phosphates affect the solubility of magnesium phosphates in phosphoric acid solutions only slightly. Magnesium phosphates appreciably affect the salting out of calcium phosphates. Three references (U.S.S.R.): 1950-1953. Nine tables; 4 graphs.

Institution : Laboratory for Physicochemical Analysis of the Scientific Research Institute for Fertilizers, Insecticides and Fungicides

Submitted : October 3, 1952

Shpunt S. Ya

AID P - 914

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 5/22

Authors : Belopol'skiy, A. P., Shpunt, S. Ya. and Shul'gina, M. N.

Title : Application of diagrams of the quaternary system $CaO-MgO-P_2O_5-H_2O$ in the manufacture of phosphoric fertilizers from Kara-Tau phosphorites

Periodical : Zhur. prikl. khim., 27, no. 5, 493-500, 1954

Abstract : According to isotherms of the system $CaO-MgO-P_2O_5-H_2O$, monocalcium phosphate is the only salt which crystallizes at 25° and 50°C from the liquid phase of superphosphate on cooling. All the magnesium salts remain in solution. Three tables, 3 diagrams, 5 references (Russian: 1940-54).

Institution : Scientific Research Institute of Fertilizers and Insectifuges. Laboratory of Physicochemical Analysis.

Submitted : N 5, 1952

SHPUNT, S. YA.

USSR/Chemistry - Cement

Card 1/1 Pub. 22 - 36/51

Authors : Simanovskaya, R. E., and Shpunt, S. Ya.

Title : Effect of calcium phosphates on the production of Portland cement

Periodical : Dok. AN SSSR 101/5, 917-920, Apr 11, 1955

Abstract : An analysis is presented of results obtained during the study of the phosphate effect on the process of decomposition of the basic component of a Portland cement batch and on the formation of clinker minerals and cement quality. The physico-chemical properties of various cement systems subjected to the effects of phosphates are discussed. Five USSR references (1947-1953). Tables; graphs.

Institution : The Ya. V. Samoylov Sc. Inst. of Fertilizers and Insectofungicides

Presented by: Academician S. I. Vol'fkovich, November 17, 1954

SHPUNT, S.Ya.; VOSKRESENSKIY, S.K.; ARKHIPOVA, L.N.; MOSTOVICH, F.Ye.

Using phosphoric acid extracted from magnesium salts in the production of double superphosphate. Khim. nauka i prom. 2 no.2:270-271 '57. (MIRA 10:6)

1. Nauchno-issledovatel'skiy institut udobreniy i insektofungitsidov.
(Phosphoric acid) (Phosphates) (Magnesium salts)

SHTUNT, S.Ya.

27 27 27

Isotherm of the quaternary system MgO–P_2O_5–H_2SiF_6–H_2O at 25° (separation of magnesium salts from extracting phosphoric acid)? S. Ya. Shpunt and F. E. Mostovich. *Zhur. Prikład. Khim.* 30, 650–58 (1957); cf. *C.A.* 48, 5632e. —The soly. of $MgSiF_6$ was detd. in solns. of (*a*) H_3PO_4 and (*b*) the quaternary system MgO–P_2O_5–H_2SiF_6–H_2O. The content of MgO of an aq. soln. in equil. with $MgSiF_6.6H_2O$ (I) at 25° decreases from 5.7 to 0.7% as the P_2O_5 content increases from zero to 45.1% and the ratio of P:MgO decreases from 2.83 to 1.4. All of these solns., from the lowest P_2O_5 content to the max. of 57.7% are incongruent in relation to I. Apparently, the salting out of I is affected by this incongruent soln. of MgO in H_3PO_4. (*b*) The equil. of solns. of 2 internal sections passing through several points in the I crystn. field were detd. This gave the necessary isomolar lines (*loc. cit.*). The following crystn. fields were located: I occupying most of the field, $MgHPO_4$, $Mg(H_2PO_4)_2.2H_2O$, and $Mg(H_2PO_4)_2$. At 70–80° I decomp. into MgF_2 and SiF_4, leaving a residue of Mg phosphates suitable for fertilizers. The addn. of I to extg. H_3PO_4 (from the Kara-Tau phosphorites, cf. *C.A.* 48, 10230b) and evapn. to 45% P_2O_5 yielded (about 100%) coarse-cryst. and easily filtrable I.

I. Bencowitz

Short T, S Ya

Isotherms of the reciprocal system ammonium monophosphate-sodium nitrate-water at 30, 20, and 0°. [illegible] 34, 7717; 42, 4439c.—From available data obtained by the visual-polythermal method (*loc. cit.*) and those obtained by the isothermal method the isotherms at 30, 20, and 0° of the quaternary system $NH_4H_2PO_4$–NH_4NO_3–NaH_2PO_4–$NaNO_3$ were constructed. The following were located: 4 fields of crystn., $NaH_2PO_4.2H_2O$, $NaNO_3$, $NH_4H_2PO_4$, and NH_4NO_3; 2 triple points, $NH_4H_2PO_4$-NaH_2PO_4-$NaNO_3$ (*M*) and $NaNO_3$-NH_4NO_3-$NH_4H_2PO_4$ (*N*). As the temp. decreased from 30° the congruent point *M* moved toward the diagonal $NaNO_3$-$NH_4H_2PO_4$, reached it at 0°, and became incongruent; the field $NaH_2PO_4.2H_2O$ increased at the cost of the $NaNO_3$ field. The point *N* was not appreciably affected by the temp. Double salts or solid solns. were not detected.

I. Bencowitz

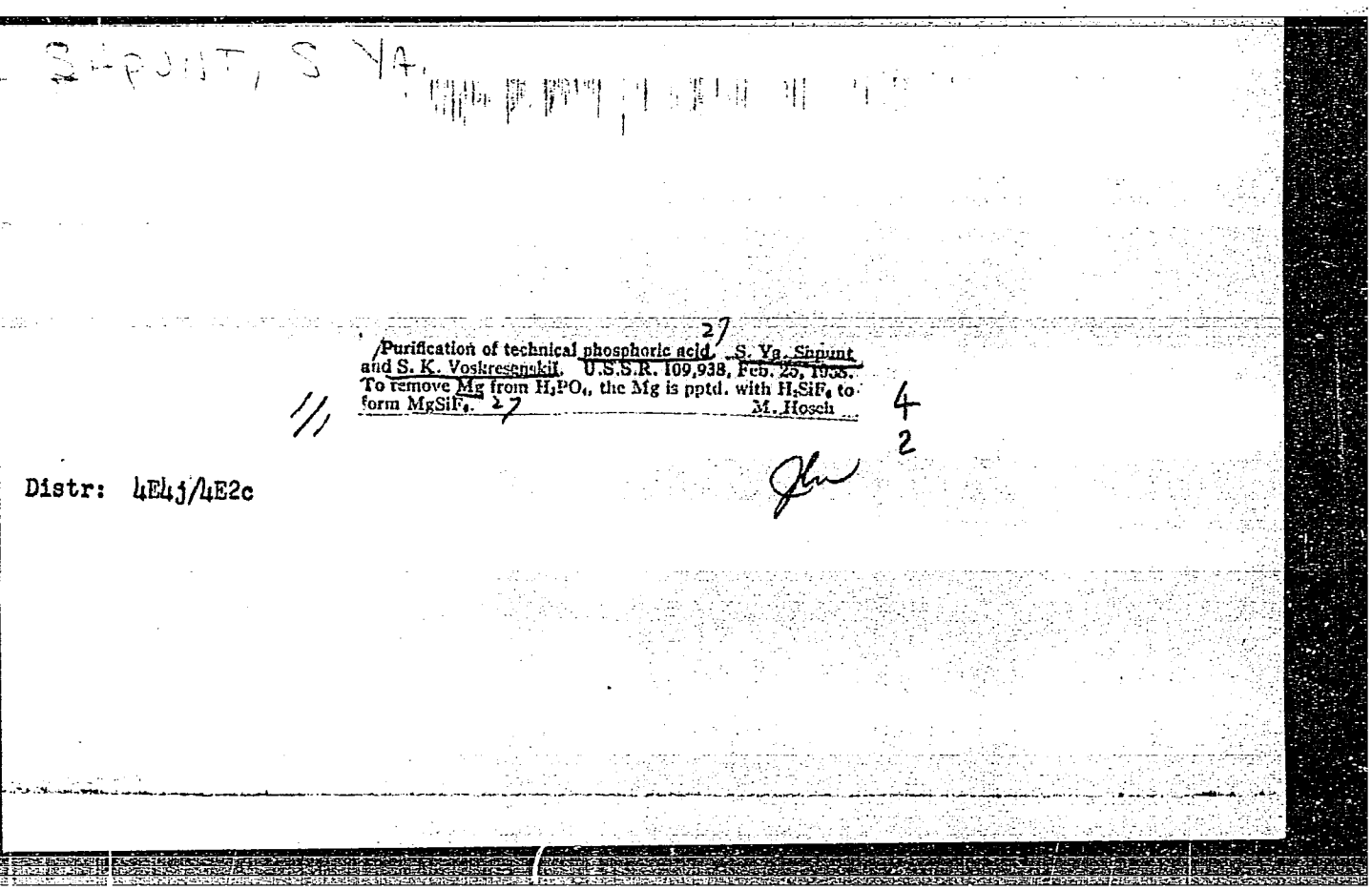
3

AFT

SHPUNT, S.Ya.

Isotherms of the mutual aqueous system ammonium monophosphate--sodium nitrate - water at low temperatures, i. e. -10, -15, and -20°. Zhur.prikl.khim. 30 no.8:1148-1159 Ag '57. (MIRA 11:1)

1.Nauchno-issledovatel'skiy institut udobreniy i insktofungisidov.
(Curves isothermic) (Ammonium phosphates)
(Sodium nitrate)



27

Purification of technical phosphoric acid. S. Ya. Sapunt and S. K. Voskresenskii. U.S.S.R. 109,938, Feb. 25, 1958. To remove Mg from H_3PO_4, the Mg is pptd. with H_2SiF_6 to form $MgSiF_6$. 27 M. Hosch

4
2

Distr: 4E4j/4E2c

SIMANOVSKAYA, R.E.; rukovoditel' raboty; SHPUNT, S.Ya.; VODZINSKAYA, Z.V.; KOKINA, Z.I.; PSTUKHOVA, M.G.; NAYDENOVA, V.A.; VAS'YANOV, V.P.; VASIL'YEV, N.F., master; ORLOV, N.N., starshiy apparatchik; NAUMOV, P.M., starshiy apparatchik; TRUPIN, M.P., starshiy apparatchik; VOLKOVA, V.M., starshiy apparatchik; ZORINA, Ye.A.; KIROVA, V.A.; LUTOVA, Z.I., ZENKINA, Z.P., laborant; SEMOKHINA, L.A., laborant; NIKITINA, N.A.

Phosphogypsum and its use in the manufacture of sulfuric acid and portland cement; small-scale operation at the pilot plant of the Scientific Research Institute of Fertilizers and Insectifuges. [Trudy] NIUIF no.160:59-76 '58. (MIRA 12:8)

1.Sotrudniki Nauchnogo instituta po udobreniyam i insektofungisidam (for Simanovskaya, Shpunt, Vodzinskaya, Kokina, Pastukhova, Naydenova). 2.Zamestitel' nachal'nika 3-go tsekha Opytnogo zavoda Nauchnogo instituta po udobreniyam i insektofungisidam (for Vas'yanov). 3.3-y tsekh Opytnogo zavoda Nauchnogo instituta po udobreniyam i insektofungisidam (for Vasil'yev, Orlov, Naumov, Trupin, Volkova, Zorina, Kirova, Lutova, Zenkina, Samokhina). 4.TSentral'naya analiticheskaya laboratoriya Opytnogo zavoda Nauchnogo instituta po udobreniyam i insektofungisidam (for Nikitina).
(Gypsum) (Portland cement) (Sulfuric acid)

SHPUNT, S.Ya.; GUSEVA, Z.I.

Investigating the fusion of mixtures in connection with the manufacture of portland cement and sulfurous anhydride from phosphogypsum (phosphoric anhydride). [Trudy] NIUIF no.160: 77-116 '58. (MIRA 12:8)
(Portland cement) (Sulfur dioxide) (Gypsum)

BERNATSKIY, Yu.P., rukovoditel' raboty; ITKINA, D.Ya.; URUSOV, V.V.; MAKAROVA, Ye.I.; SHPUNT, S.Ya.; NAYDENOVA, V.A.; PASTUKHOVA, M.G. KOKINA, Z.V.; VODZINSKAYA, Z.V.; LAPSHINA, L.V.; VAS'YANOV, V.P.; KUSHNIR, G.F.; NIKITINA, N.A.

Decomposition of phosphogypsum into lime and sulfur dioxide in a sevenmeter rotary kiln. [Trudy] NIUIF no.160:152-180 '58. (MIRA 12:8)

1.Sotrudniki Nauchnogo instituta po udobreniyam i insektofungisidam (for Bernatskiy, Itkina, Urusov, Makarova, Shpunt, Naydenova, Pastukhova, Kokina, Vodzinskaya). 2.Sotrudniki Opytnogo zavoda Nauchnogo instituta po udobreniyam i insektofungisidam (for Lapshina, Vas'yanov, Kushnir, Nikitina).

(Gypsum) (Lime) (Sulfur dioxide)

SOV/78-4-1-33/48

3(2), 5(4)
AUTHORS: Rusadze, A. V., Shpunt, S. Ya.

TITLE: Physico-Chemical Analysis of Phosphates Treated With Nitric Acid; the Quaternary System $CaO-N_2O_5-H_2SiF_6-H_2O$ at 60° (Fiziko-khimicheskiy analiz v oblasti azotnokislotnoy pererabotki fosfatov; chetvernaya sistema $CaO-N_2O_5-H_2SiF_6-H_2O$ pri 60°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 182-193 (USSR)

ABSTRACT: The present paper describes detailed physico-chemical investigations and solubility examinations of fluorine compounds after treatment of phosphate (apatite) with nitric acid. The quaternary system $CaO-N_2O_5-H_2SiF_6-H_2O$ and the ternary systems $CaSiF_6-N_2O_5-H_2O$ and $Ca(NO_3)_2-N_2O_5-H_2O$ were studied by investigating the isotherms at 60°. In the $CaSiF_6-N_2O_5-H_2O$ system the following phases appear: $CaSiF_6 \cdot 4H_2O$ + CaF_2 and $CaSiF_6 \cdot 2H_2O$. Calcium silicofluoride is a stable phase only in the presence

Card 1/3

Physico-Chemical Analysis of Phosphates Treated With Nitric Acid; the Quaternary System $CaO-N_2O_5-H_2SiF_6-H_2O$ at 60°

of a free acid. In the ternary system $Ca(NO_3)_2-N_2O_5-H_2O$ the solubility of calcium nitrate decreases with an increase of nitric acid concentration. The isotherm of the quaternary system $CaO-N_2O_5-H_2SiF_6-H_2O$ is characterized by the following crystallization zones: $Ca(NO_3)_2$, $CaSiF_6 \cdot 4H_2O + (CaF_2)$, $CaSiF_6 \cdot 2H_2O + (CaF_2)$. The presence of CaF_2 and $CaSiF_6 \cdot 2H_2O$ in the solid phase was confirmed by chemical and radiographic analyses. In the presence of $Ca(NO_3)_2$ decomposition of the ion SiF_6^{2-} takes place in nitric acid solutions:

$$SiF_6^{2-} \rightleftharpoons SiF_4 + 2F^-$$

With an increase of $Ca(NO_3)_2$ concentration the amount of calcium fluoride precipitated increases. Calcium silicofluoride does not influence the solubility of calcium nitrate considerably. On the other hand, the solubility of calcium silicofluoride is considerably reduced by calcium nitrate. Calcium nitrate and nitric acid cause the salting out of calcium

Physico-Chemical Analysis of Phosphates Treated With Nitric Acid; the Quaternary System $CaO-N_2O_5-H_2SiF_6-H_2O$ at 60°

silicofluoride. There are 5 figures, 4 tables, and 11 references, 6 of which are Soviet.

SUBMITTED: May 4, 1958

RUSADZE, A.V.; SHPUNT, S.Ya.

60° Isotherm for the system $CaO - N_2O_5 - P_2O_5 - H_2SiF_6 - H_2O$.
Zhur. neorg. khim. 5 no.11:2539-2552 N '60. (MIRA 13:11)
(Lime) (Nitrogen oxide)
(Phosphorus oxide) (Fluosilicic acid)

SHPUNT, S.Ya.; VOSKRESENSKIY, S.K.; ARKHIPOVA, L.N.; LENEVA, Z.I.; Prinimali uchastiye: LI, K.P.; ROGOVA, G.I.; SHADRINA, S.A.; OSIPOVA, T.M.

Decomposition of apatite in fluosilicate acid and the preparation of monocalcium phosphate. Khim. prom. no.10:50-54 O '61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i insektofungitsidov.
(Apatite) (Fluosilicic acid) (Calcium phosphate)

ARKHIPOVA, L.N.; SHPUNT, S.Ya.

Solubility of calcium fluosilicate in aqueous solutions of fluosilicic acid. Trudy NIUIF no.208:55-69 '65.

Hydrolysis of calcium fluosilicate in water at 25°. Ibid.:69-88

Some properties of fluosilicic acid. Ibid.:88-103

(MIRA 18:11)

SHPENT, S.A., ARKHIPOVA, L.N., NENEVA, Z.I., GUSEVA, Z.I.

Decomposition of apatite by hydrofluoric acid with the recovery of phosphoric acid. Khim. prom. 41 no.10:797-798 O '65.
(MIRA 18:11)

SHPUNT, S.Ya.; ARKHIPOVA, L.N.; LENEVA, Z.L.; GUSEVA, Z.I.

Obtaining phosphoric acid by the decomposition of magnium-containing phosphorites with fluosilicic acid. Khim. prom. 42 no.9:674-678 S '65. (MIRA 18:9)

SHPUNTIKOVA, I.M.

Questions on the use and economics of atomic power plants. Energo-khoz. za rub. no.5:46-47 S-O '60. (MIRA 13:10)
(Atomic power plants)

LEBEDEV, B.P., inzh.; SHPUNTIKOVA, I.M.

Glued transformer cores without tie bolts. Energokhoz. za rub. no.6:29-33 N-D '60. (MIRA 14:3)
(Switzerland--Electric transformers)

SHPUNTIKOVA, I.M.

Atomic power plant in Chinon. Energokhoz. za rub. no.6:40-41 N-D '60.
(MIRA 14:3)

(Chinon, France--Atomic power plants)

SHPUNTOV, A. I.

SA

B 64

12

Experimental determination of input impedances of resonators in an H_{01}-excited waveguide. VOLMAN, I. I., AND SHPUNTOV, A. I. *Radiotekhnika*, 2 (*No.* 1) 36–48 (1947) *In Russian.*—The experimental equipment consists of a two-resonator klystron operating on 16 cm and coupled to a rectangular waveguide (40 × 100 mm, critical λ = 20 cm). This has an adjustable piston on one side and a crystal detector feeding an indicator circuit and slidable in a longitudinal slot along the zero current line for a H_{01} wave. To the other end of the waveguide a coaxial line with a shorting plug is fitted; this line can be moved across the waveguide section. The variation of input impedances of the resonator with piston position, travelling wave coeff., and dimensions of the resonator itself are measured and shown to agree with theory.

A. L.

SHPUNTOV, A. I.

Antenna Shields [Radomes] (Obtekali antenn), Izd-vo Sovetskoye Radio, 263 pp, 1950

Book W-22517, 29 Apr 52

LIBIN, V.A. [translator]; SHPUNTOV, A.I., kand. tekhn. nauk, red.; YAKIMENKO, L.P., red.; IOVLEVA, I.A., tekhn. red.

[Antennas with elliptical polarization; theory and practice. Collection of translated articles] Antenny ellipticheskoi poliarizatsii; teoriia i praktika. Sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1961. 355 p. (MIRA 14:6)
(Antennas (Electronics))

SHPUNTOV, N.T.

Modernization of the 1A62, 1D62M, 1A62K screw-cutting lathes.
Stan. i instr. 36 no.8:39-40 Ag '65. (MIRA 18:9)

SHPUNTOVA, M.Ye.; MAKSIMENKO, N.S.; GRANKINA, L.G.

Perfecting pentose and hexose hydrolysis of cottonseed hulls. Gidroliz. i lesokhim. prom. 9 no.4:7-9 '56. (MLRA 9:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti (for Shpuntova). 2. Ferganskiy gidroliznyy zavod (for Maksimenko i Grankina).
(Cottonseed) (Hydrolysis)

SHPUNTOVA, M. E.

Conditions of pentose hydrolysis of hulls from cottonseed. A. P. Zakoshchikov, A. Ya. Kolesova, and M. E. Shpuntova. *Zhur. Prikld. Khim.* 29, 1093-1102(1956).—In hydrolysis of cottonseed hulls at atm. pressure with 4-hr. reaction the concn. of H_2SO_4 can be lowered to 0.7%. At 120° this can be 0.2–0.3%, with product of the same quality as obtained at atm. pressure. Above 120° the quality declines. In initial stages substances which hydrolyze to org. acids dissolve before the pentosans; yield of pentoses at 20–3% level results in 10–11% yield of org. acids. G. M. K.

SHPUNTOVA, M.Ye.

Conference on high molecular compounds. Gidroliz. i lesokhim. prom. 10 no.3:31 '57. (MLRA 10:5)

1. Nauchnyy sotrudnik Vsesoyuznogo nauchno-issledovatel'skogo instituta gidroliznoy i sul'fitno-spirtovoy promyshlennosti.
(High molecular compounds)

ZAKOSHCHIKOV, A.P.; KOLOSOVA, A.Ya.; SHPUNTOVA, M.Ye.

Pentose hydrolysis of cottonseed hulls. Zhur.prikl.khim. 29 no.7:1093-1102 Jl '57. (MIRA 10:10)
(Hydrolysis) (Cottonseed)

SHPUNTOVA, M.Ye.; SHNAYDER, Ye.Ye.; CHEPIGO, S.V.

Combinated hydrolysis of vegetable matter by concentrated sulfuric acid. Uzb. khim. zhur. no.381-92 '58. (MIRA 11:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sul'fitnospirtovoy i gidroliznoy promyshlennosti.
(Lignin) (Hydrolysis) (Sulfuric acid)

ODINTSOV, P.N.; KALNIN'SH, A.I. [Kalnins, A.]; KAL'NINA, V.K.; CHEPIGO, S.V.; SHNAYDER, Ye.Ye.; SHPUNTOVA, M.Ye.

Hydrolysis of plant materials by concentrated sulfuric acid. Gidroliz. i lesokhim.prom. 14 no.3:1-4 '61. (MIRA 14:4)

1. Institut lesokhozyaystvennykh problem i khimii drevesiny Akademii nauk Latviyskoy SSR (for Odintsov, Kalnin'sh, Kal'nina). 2. Nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno spirtovoy promyshlennosti (for Chepigo, Shnayder and Shpuntova).
(Hydrolysis) (Wood---Chemistry)

BELEN'KIY, S.I.; KLIMOVA, Z.K.; SHPUNTOVA, M.Ye.; CHEREMUKHIN, I.K.

Rapid continuous inversion of pentose hydrolyzates. Gidroliz. i lesokhim. prom. 14 no.7:25-27 '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti (for Belen'kiy, Klimova, Shpuntova).
2. Ferganskiy gidrolizhnyy zavod (for Cheremukhin).
(Pentoses)
(Hydrolysis)

SHPUNTOVA, M.Ye.; SHNAYDER, Ye.Ye.; CHEPUGO, S.V.; LAZAREVA, L.V.; MASLOVA, L.G.; ROSHCHINA, V.I.; Prinimali uchastiye: PAVLENKO, V.M., starshiy laborant; GERASIMOVA, L.I., starshiy laborant

Pentose hydrolysis of cottonseed hulls and corncobs with hexose hydrolyzates. Sbor.trud. NIIGS 11:7-15 '63. (MIRA 16:12)

NAYDENOV, A.K.; SHNAYDER, Ye.Ye.; SHPUNTOVA, M.Ye.

Dryer for cellolignin obtained from corncobs. Gidroliz. i lesokhim. prom. 16 no.6:7-10 '63. (MIRA 16:10)

1. Moskovskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta galurgii.

SHPUNTOVA, M.Ye.

In the Scientific Council for the Study of the Utilization of Pentosan-Containing Raw Materials. Gidroliz. i lesokhim. prom. 17 no.6:29-31 '64. (MIRA 17:12)

1. VNIIsintezbelok.

SHPUR, M.B.

Certain conclusions resulting from work experience with fluorographic apparatus. Vest.rent.i rad. no.5:84-85 S-O '53. (MLRA 7:1)
(X rays--Apparatus and supplies)

: USSR

: Cultivated Plants - Industrial, Oleiferous, Sugar. M

: Ref Zhur Biol., No.14, 1958, No.63902

: Shpanik, F. D.

:

: Problems of Agricultural Technique for Winter Rape.

: Kratkiye itogi raboty (Kirovogradsk. gos. s.-kh. opytn. st.) za 1931-1955 gg. Vyp. 1. Kiyev, 1957, 79-87

: On the basis of trials carried out during 1937-1940 at Yampol'-Podol'sk base in Vinnitskaya oblast', it is recommended to sow winter rape on bare or occupied fallow with wide-row method with 45 cm space between the rows, to apply potash and phosphorus fertilizers, autumn dressing and full hilling. -- Ye. A. Geydel'berg

Card: 1/1

SHPURIK, F.L.

USSR/Cultivated Plants - General Problems. H.

Abs Jour : R.. Zhur - Biol., No 10, 1958, 44007

Author : Fedorovskiy, M.T., Shpurik, F.L.

Inst : Kirovograd State Agricultural Testing Station.

Title : Characteristics of the Natural Conditions of the Region Covered by the Activities of the Station.

Orig Pub : Krafkiye itogi rabot/ (Kirovogradsk, gos. s.-kh. opyt. st.) za 1931-1955 gg. vyp. 1, Kiyev, 1957, 7-16

Abstract : No abstract.

Card 1/1

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5289

Author: Tikhonov, V. A., Kintsel', L. A., Suvorova, O. F., Shpynova, L. G.

Institution: L'vov Polytechnic Institute

Title: Change in Composition of Liquid Phase in the Cement-Water System

Original Publication: Dokl. L'vovsk. politekhn. in-ta, 1955, 1, No 2, 88-92

Abstract: Sulfite-alcohol vinasse lowers the concentration of lime in the liquid phase of the cement-water system, which prevents reduction in strength on mixing of such compounded binders as building gypsum -- Portland cement, anhydride cement -- Portland cement, flooring plastergypsum -- Portland cement, alumina cement -- Portland cement, alumina cement -- lime. Thermographic analysis, determinations of chemically combined water, volumetric weight and free lime, have shown a change in composition of the hydration products of Portland cement, due to action of sulfite-alcohol vinasse and calcium chloride.

Card 1/1

TIKHONOV, V.A., inzhener; SHIFNOVA, L.G., inzhener.

Rapid hardening high-strength concretes for making precast reinforced concrete elements. Bet. i zhel.-bet. no.4:132-136 Ap '57. (MLRA 10:6)

(Concrete)

S/081/61/000/023/043/061
B138/B101

15.3200

AUTHORS: Tikhonov, V. A., Shpynova, L. G.

TITLE: Strength gain accelerators instead of hydrothermal treatment for concrete

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 23, 1961, 355, abstract 23K381 (Dokl. L'vovsk. politekhn. in-ta., v. 2, no. 2, 1958, 128 - 132)

TEXT: The article presents the results of the investigation of additions of $CaCl_2$ and LST6 (SSB) to concretes setting in various different circumstances (stored in water, in moist filings, steam blow, and steamed at pressures of 2 and 7 gauge at.) 2% $CaCl_2$ and 0.25% SSB per weight of cement were added respectively. Combined additions of 2% $CaCl_2$ and 0.25% SSB were also tested. The tests were carried out with sand mortars 1:3 and 1:1:3 concretes. White cement and Portland cement of various screening grades from the Nikolayev Plant were used as the binding agents. The combined addition of $CaCl_2$ and SSB was found to promote a

Card 1/2

SHPYNOVA, L. G. Cand Tech Sci -- (diss) "Effect of the conditions of solidification and the addition of substances lowering surface tension upon changes in the structure of cement rock stones." Len, 1959. 18 pp with illustrations (Min of Higher Education USSR. Len Order of Labor Red Banner Technological Inst im Lensovet), 120 copies (KL, 41-59, 105)

30217
S/081/61/000/019/054/085
B117/B110

15.3200

AUTHORS: Tikhonov, V. A., Shpynova, L. G.

TITLE: Effect of warm-moist treatment on the change in phase composition of Portland cement

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 315 - 316, abstract 19K311 (Dokl. Mezhvuz. konferentsii po izuch. avtoklavn. materialov i ikh primeneniyu v stroye, L., 1959, 102 - 109)

TEXT: The authors studied changes in the composition of hydrosilicates and hydroaluminates of calcium under conditions of warm-moist setting by means of DTA methods, microscopic and electron-microscopic analyses. Primarily, C_2SH_2, lime, and some CSH are formed by hydration of C_3S in a moist room. Steaming at atmospheric pressure accelerates the crystallization of hydrosilicates. α- and β-hydrates of C_2SH_2, lime, tobermorite, and afwillite are formed by steaming. Then the amount of α-hydrate increases. After 7 hr steaming, C_3S can be observed in aqueous suspension,

Card 1/3

Effect of warm-moist treatment...

with the electron microscope, in the form of spherolites and needle crystals. In alcoholic suspension, it has the form of rhombic and rectangular plates. After prolonged steaming, the sensitivity of hydrosilicates to the suspension decreases. After 35 hr steaming, mainly rectangular plates are observed, while the number of rhombic plates decreases strongly. C_2SH_2-α-hydrate is mainly formed by hydration of C_2S under conditions of warm-moist treatment. Other hydrates are present in small quantities. The resulting hydrosilicates are less subject to hydrolysis in water than the hydration products of C_3S. The hydration product of pure C_3A is cubic C_3AH_6 under any conditions of setting. In cement paste, solution, and concrete, C_3A yields hexagonal hydroaluminates and $Al(OH)_3$ gel by hydration under conditions of warm-moist treatment. The composition of hydration products of pure C_4AF is not changed by warm-moist treatment. In paste, solution, and concrete, however, i.e., with elimination of the hydration heat, hexagonal hydroaluminates and a colloidal mass are formed instead of the cubic ferric hydroaluminate.

Card 2/3

30217
S/081/61/000/019/054/085
B117/B110

Effect of warm-moist treatment...

Spherolites are only observed when stirring C_3A and C_4AF preparations with water. In Portland cement setting at room temperature, no interaction between clinker minerals takes place during the first period. It only begins after prolonged setting and at elevated temperature. The increase in strength of cement stone due to hydrothermal treatment can be explained by the change in phase composition of hydrosilicates and a slightly more accelerated crystallization of newly formed structures.
[Abstracter's note: Complete translation.]

Card 3/3

ANDRIYEVSKIY, A.I., doktor tekhn.nauk; TIKHONOV, V.A., dots.; SHPYNOVA, L.G.; NABITOVICH, I.D.

Electron microscopic testing of hydration hardening of unslaked lime. Stroi.mat. 5 no.3:33-35 Mr '59. (MIRA 12:5)
(Lime--Testing)

L 39929-65 EWP(e)/EWT(m)/EWP(w)/EPF(n)-2/EWG(m)/EWA(d)/EPR/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4/Ps-4/Pu-4 IJP(c) JD/JG/AT/WH

ACCESSION NR: AR5000708 S/0081/64/000/017/M004/M005 41 B

SOURCE: Ref. zh. Khimiya, Abs. 17M33

AUTHOR: Voronin, N. I.; Bresker, R. I.; Shrabman, D. I.

TITLE: Phase transformations during siliconizing annealing and their effect on the properties of carborundum heaters

CITED SOURCE: Sb. Silikaty i okisly v khimii vysokikh temperatur. M., 1963, 269-280

TOPIC TAGS: carborundum, silicon carbide, heater manufacture, silicon carbide phase composition, siliconizing annealing, heater conductivity, heater mechanical property, carbon black, coking

TRANSLATION: The authors note that during the manufacture of heaters from silicon carbide, the siliconizing annealing has a significant effect on their phase composition and physicomechanical and electrical properties. Siliconizing annealing is carried out in electric resistance ovens by two methods: 1) around a carbon pipe, and 2) by passing a stream directly across the heater. Annealing of heaters around a pipe was tested on compositions containing 70% finely dispersed SiC, 12-

Card 1/2

ment of their useful properties. R. Bresker

SUB CODE: MT ENCL: 00

Card 2/2

SHRABSHTEYN, B.A., inzh.

Determining inleakage and pressure losses in KB-1 - type condensers used in pneumatic conveying systems. Tekst. prom. 18 no.1:40-42 Ja '58. (MIRA 11:2)

(Pneumatic tube transportation)

SHRABSHTEYN, B.A., inzh.; KARELOV, Ye.M., inzh.

Pneumatic conveying of cotton from PSB-1 feeder-mixers. Tekst. prom. 18 no.6:34-36 Je '58. (MIRA 11:7)
(Pneumatic tube transportation) (Cotton machinery)

SHRABSHTEYN, B.A., inzh.

Introduction of group separators. Tekst. prom. 19 no.11:67-69 N '59. (MIRA 13:2)
(Spinning machinery)

SHRABSHTEYN, G.

Machine-Tractor Stations*Accounting

Introducing the elements of cost accounting in machine-tractor station tractor brigade operations. MTS 12 no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952 1953. Unclassified.

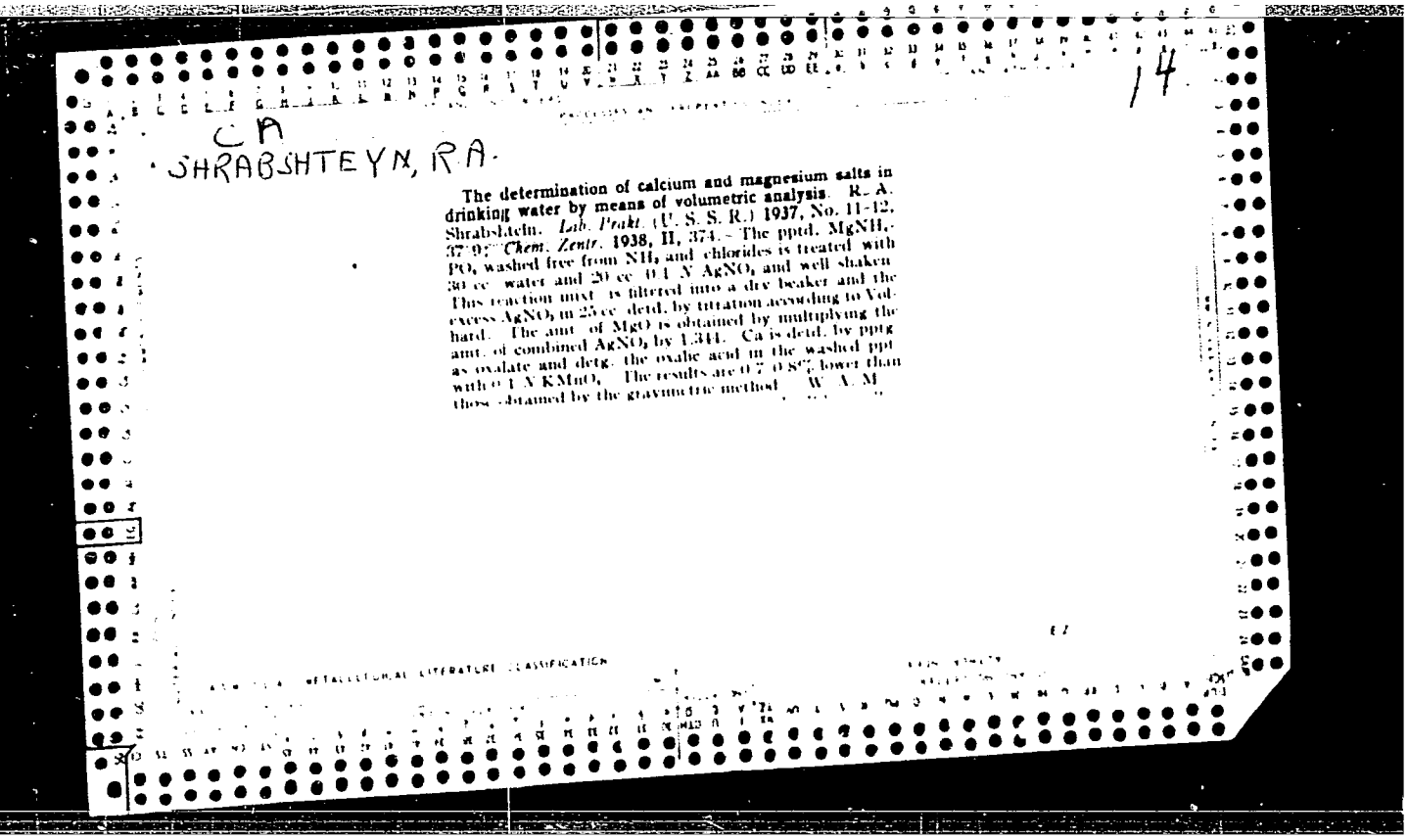
SHRABSHTEYN, I. dots.; CHERKESOV-TSYBIZOV, A., starshiy prepodavatel'; MILYUKOV, M.; prepodavatel'; [illegible] kand. ekon. nauk; LAPINA, N.

"Economics of transportation by sea" by S.F.Koriakin, I.L.Bernshtein, IU.F.Ellinskii. Reviewed by I. Shrabshtein and others. Mor.flot 20 no.10:46-48 O '60. (MIRA 13:10)

1. Odesskiy institut inzhenerov morskogo flota (for Shrabshteyn, Cherkesov-TSybizov, Milyukov). 2. Nachal'nik Planovogo otdela Baltiyskogo parokhodstva (for Borisov). 3. Nachal'nik Planovo-ekonomicheskogo otdela Kanonerskogo zavoda (for Lapina).

(Shipping)

(Koriakin, S.F.) (Bernshtein, I.L.) (Ellinskii, IU.F.)

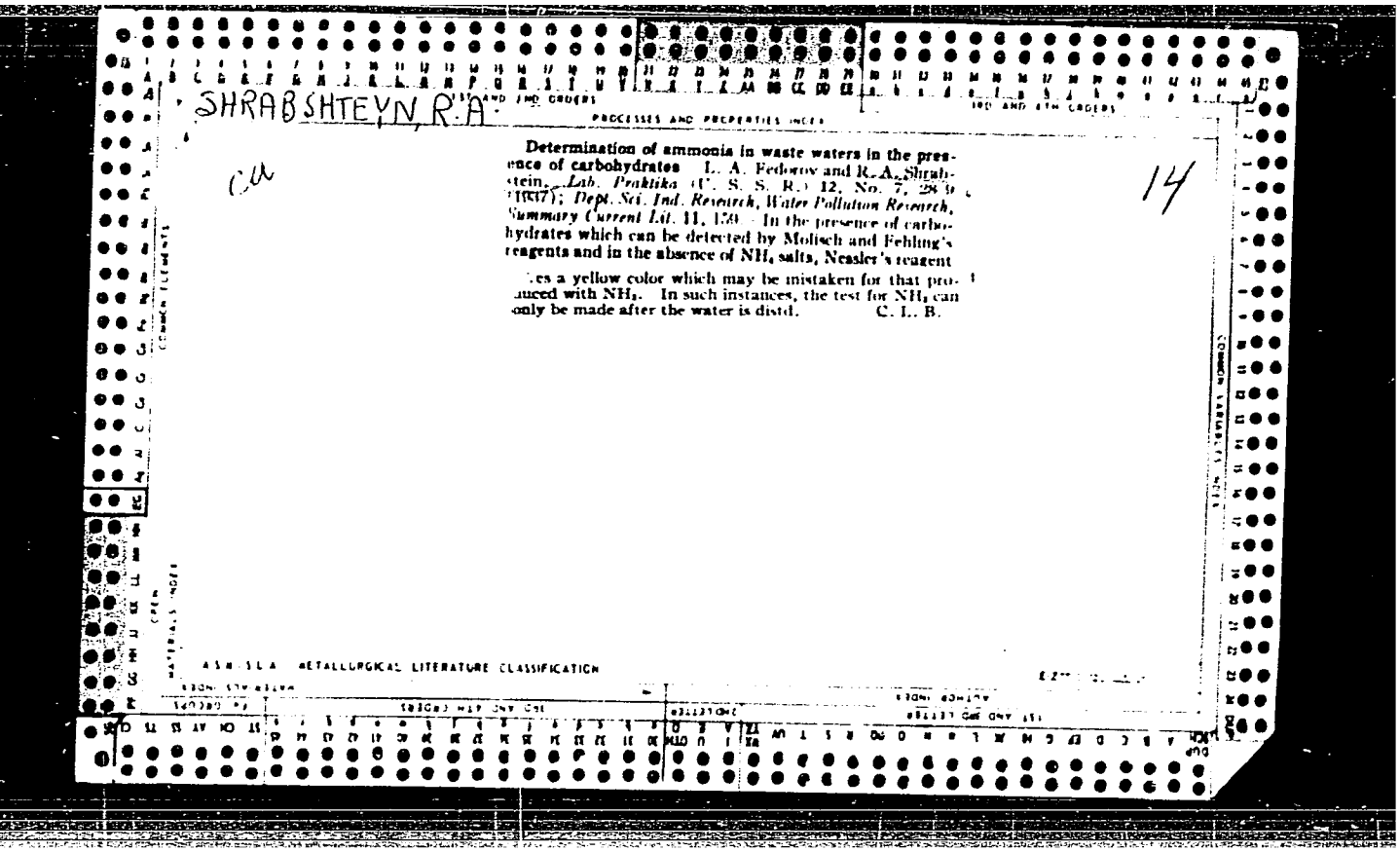


CA

SHRABSHTEYN, R.A.

14

The determination of calcium and magnesium salts in drinking water by means of volumetric analysis. R. A. Shrabshtein. *Lab. Prakt.* (U. S. S. R.) 1937, No. 11-12, 37-9; *Chem. Zentr.* 1938, II, 374.—The pptd. $MgNH_4PO_4$ washed free from NH_3 and chlorides is treated with 30 cc water and 20 cc 0.1 N $AgNO_3$ and well shaken. This reaction mixt. is filtered into a dry beaker and the excess $AgNO_3$ in 25 cc detd. by titration according to Volhard. The amt. of MgO is obtained by multiplying the amt. of combined $AgNO_3$ by 1.344. Ca is detd. by pptg. as oxalate and detg. the oxalic acid in the washed ppt. with 0.1 N $KMnO_4$. The results are 0.7–0.8% lower than those obtained by the gravimetric method. W. A. M.



SHRABSHTEYN, R.A.

CU

14

Determination of ammonia in waste waters in the presence of carbohydrates L. A. Fedorov and R. A. Shrabstein. *Lab. Praktika* (U. S. S. R.) 12, No. 7, 28-9 (1937); *Dept. Sci. Ind. Research, Water Pollution Research, Summary Current Lit.* 11, 130.—In the presence of carbohydrates which can be detected by Molisch and Fehling's reagents and in the absence of NH_4 salts, Nessler's reagent ces a yellow color which may be mistaken for that produced with NH_3. In such instances, the test for NH_3 can only be made after the water is distd. C. L. B.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

SHRABSHTEYN, R.A.; OSTROUKHOVA, L.A.

Chemical composition and caloric value of broths made with bones. Vop.pit. 15 no.4:51 Jl-Ag '56. (MLRA 9:9)

1. Iz Vinnitskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(MEAT EXTRACT)

L 45814-66 EWT(m)

ACC NR: AR6023259 SOURCE CODE: UR/0058/66/000/003/A053/A053

AUTHOR: Chikovani, G. Ye.; Shrabshteyn, S. A. 40 B

TITLE: Semi-automatic instrument for the processing of photographs of tracks in a cloud chamber 19

SOURCE: Ref zh. Fizika, Abs. 3A457

REF. SOURCE: Sb. Fiz. chastits vysok. energiy. No. 1. Tbilisi, Metsniyereba, 1965, 97-103

TOPIC TAGS: cloud chamber, particle track, track analysis, computer coding/ST-2M perforator

ABSTRACT: A semi-automatic projector is described for the measurement of the coordinates of points of the track on cloud-chamber photographs. The results of the measurements are punched on tape in the code called for by the computer. Service markers (the number of the frame, the origin of the coordinates of the track etc.) are punched manually on the keyboard of the ST-2M apparatus. A block diagram of the apparatus is presented, the control circuits, the reversing cell, the delay block, and the pulse-shaping block, and the printing control circuit are presented. [Translation of abstract]

SUB CODE: 20, 09

Card 1/1 hs

GARIBASHVILI, D.I.; GRIGALASHVILI, T.S.; KAKHIDZE, G.P.; CHIKOVANI, G.Ye.; SHRABSHTEYN, S.A.

Multichannel pulse analyzer for an ionization calorimeter on capacitive memory cells and a system of information output. Fiz. chast. vys. energ. no.1:105-109 '65.

(MIRA 18:12)

L 15164-66

ACC NR: AP5027018 SOURCE CODE: UR/0120/65/000/005/0106/0107

AUTHOR: Chikovani, G. Ye.; Shrabshteyn, S. A.

ORG: Institute of Physics, AN GruzSSR (Institut fiziki AN GruzSSR)

TITLE: Using an ST-2M telegraph receiver for extracting information from counters

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 106-107

TOPIC TAGS: counter, pulse counter, scaler, printer

ABSTRACT: The use of an ST-2M teletype apparatus with an automatic STAP attachment is described for extracting information (experimental data) from a semi-automatic processor of cloud-chamber diagrams. The information is delivered either in printed form (if the information in the counters is kept in a binary-decimal code) or as a 5-track perforation of a 17-mm punch tape. Each punch tape "line" (one print character) takes 7 pulses: one starting, 5 code, and one stop pulse. A ShI-27 step-by-step switch whose spindle is mechanically coupled to the teletype is used for control; among other advantages, this arrangement obviates the necessity of synchronizing the scanning frequency with the teletype rpm's. A control circuit of

Card 1/2

UDC: 681.142.62

Card 2/2

L 15163-66 EWT(d)/EWP(1) IJP(c) BB/GG/JXT(BF)

ACC NR: AP5027019 SOURCE CODE: UR/0120/65/000/005/0107/0109

AUTHOR: Chikovani, G. Ye.; Shrabshteyn, S. A.

ORG: Institute of Physics, AN GruzSSR (Institut fiziki AN GruzSSR)

TITLE: Punch-tape to standard punch-card information transcription

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 107-109

TOPIC TAGS: information processing, punch card, punch tape

ABSTRACT: A circuit is described which permits transcribing information (experimental data) from a 5-track 17-mm punch tape to a standard 80-column punch card by means of an M-20 input puncher and a STAP transmitter attachment to an ST-2M telegraph apparatus. The circuit controls tape transport and scanning by means of a 4-bank step-by-step switch. A similar switch controls intermediate storage thyratrons. "In conclusion, the authors wish to thank A. Kongolidi and V. Kutsiya for their help in wiring the circuits." Orig. art. has: 3 figures.

SUB CODE: 09 / SUBM DATE: 02Sep64 / ORIG REF: 002

FW

Card 1/1 UDC: 681.142.62

KORYAKIN, Sergey Fedorovich, kand. ekon. nauk, dots.; BERNSHTEYN, Iosif L'vovich, kand. ekon. nauk, dots.; Prinimal uchastiye: BELINSKIY, Yu.P., st. prep.; SHRABSHTEYN, Ye.A., dots., retsenzent; CHERKASOV-TSIBIZOV, A.A., st. prepod., retsenzent; MILYUKOV, M.A., st. prepod., retsenzent; NOZHAROV, N.D., kand. ekon. nauk, retsenzent; MAKAL'SKIY, I.I., kand. ekon. nauk, retsenzent; KREMER, B.A., inzh., retsenzent; PETRUCHIK, V.A., kand. ekon. nauk, red.; GUBERMAN R.L., kand. ekon. nauk, red.; RODIN, Ye.D., kand. ekon. nauk, red.; DUBCHAK, V.Kh., inzh., red.; MARTIROSOV, A.Ye., inzh., red.; PALYUSHKIN, V.A., inzh., red.; BELOV, M.I., doktor geogr. nauk, red.; SINITSYN, M.T., inzh., red.; KOLESNIKOV, V.G., kand. tekhn. nauk, red.; ZAMAKHOVSKIYA, A.G., kand. ekon. nauk, red.; KUZ'MIN, T.P., inzh., red.; NEMCHIKOV, V.I., kand. tekhn. nauk, red.; GEKHTBARG, Ye.A., inzh., red.; FILIPPOV, K.D., red.; KUGLOVA, Ye.N., red.

[Economics of the merchant marine] Ekonomika morskogo transporta. Izd.2., perer. i dop. Moskva, Transport, 1964. 527 p. (MIRA 18:1)

KHAN, G.A.; SHRADER, E.A.

Studying the adsorption of flotation reagents by means of electrokinetic measurements. Izv.vys. ucheb. zav.; tsvet. met. no.1:41-47 '58. (MIRA 11:6)

1. Moskovskiy institut tsvetnykh metallov i zolota, Kafedra obogashcheniya poleznykh iskopayemykh.
(Flotation) (Adsorption--Measurement)

PLAKSIN, I.N.; SHRADER, E.A.

Quantitative determination of dixanthogen by the polarographic method. Izv.vys.ucheb.zav.; tsvet.met. 5 no.1:41-43 '62.
(MIRA 15:2)

1. Institut gornogo dela AN SSSR.
(Flotation—Equipment and supplies) (Polarography)

PLAKSIN, I.N.; SHRADER, E.A.

Interaction between microlite and certain reagents in flotation. Dokl. AN SSSR 162 no.1:147-149 My '65. (MIRA 18:5)

1. Institut gornogo dela im. A.A.Skochinskogo. 2. Chlen-korrespondent AN SSSR (for Plaksin).

PLAKSIN, I.N.; SOLNYSHKIN, V.I.; SHRADER, E.A.

Reaction of struverite and accompanying minerals with oleic acid. Dokl. AN SSSR 162 no.4:879-882 Je '65. (MIRA 18:5)

1. Institut gornogo dela im. A.A.Skochinskogo. 2. Chlen-korrespondent AN SSSR.

Dissertation: "On the Problem of Constructional Forms for the Frames of Four-Axle Box Cars."

6/2/50

Moscow Order of the Labor Red Banner Electromechanical Inst of Railroad Engineers imeni F. E. Dzerdzhinskiy

SO Vecheryaya Moskva
Sum 71

SHRADYUK, G.F.
25797

Vyshe Kachestvo Lechebnoy Pomoshi. Zdravookhraneeniye Kazakhstana, 1948, No. 4, S. 1-4

SO: LETOPIS NO. 30, 1948

[redacted], K. .

"Review of K. S. Yefimov's Book 'Auxiliary Geographical Indexes'," Ia. v-s. Geograf. Obshch., 71, No. 2, 1939.

[illegible], P. P.

Reclamation of land

Problems in the study of bottom lands, their economic utilization and improvement. Pochvovedenie no. 5, 1952

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

KUTS, Anatoliy Stepanovich; SHRAG, Nikolay Il'ich; VITVITSKIY, M. [Vitvits'kyi, M.], red.; GRIFF, M., tekhn. red.

[Lvov economic administration region] L'vivs'kyi ekonomichnyi administratyvnyi raion. L'viv, Knyzhnovo-zhurlal'ne vyd-vo, 1958. 117 p. (MIRA 11:7)

(Lvov Economic Region)

[illegible], Ya.[illegible], [illegible], [illegible]

On A.[illegible].Konson's book. [illegible] (MIRA 1[illegible])

1. Kafedra ekonomiki, organizatsii i planirovaniya mashinostroitel'nykh predpriyatiy L'vovskogo politekhnicheskogo instituta.

1. SHMAG, V. I.

2. USSR (600)

4. Irrigation

7. Fall saturation irrigation in the central chernozem provinces. Pochvovedenie No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953, Unclassified.

1. MAZHAROV, P.P.; VASIL'YEV, V.M.; SHRAG, V.I.

2. USSR (600)

4. Mazharov, P.P.

7. "Saturation irrigation." P.P. Mazharov, Reviewed by V.M. Vasil'ev, V. Shrag. Pochvovedenie no. 4, 1953.

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

SHRAG, V.I. (Moskva); DOLGOV, S.I. (Moskva); Zaydel'man, F.R. (Moskva).

Problem of irrigating soils with a pebbly substratum [with German summary in insert]. Pochvovedenie no.5:67-79 My '56. (MLRA 9:9)
(Irrigation) (Soils)

SHRAG, V.I.

Classification of flood lands of the forest zone. Pochvovedenie no.5:66-69 My '59. (MIRA 12:8)
(Alluvial lands)

SHRAG, V.I.; ZAYDEL'MAN, F.R., kand. sel'khoz. nauk, red.

[Classification of floodland soils and their brief characteristics from the viewpoint of agricultural land improvement]Klassifikatsiia poimennykh pochv i ikh kratkaia agromelioirativnaia kharakteristika. Moskva, Rosgiprovodkhoz Gosvodkhoza RSFSR, 1961. 105 p. (MIRA 15:9)
(Alluvial lands)

SHRAGE, L.Ya.

Safety measures in the construction of urban gas mains.
Stroi. truboprov. 8 no.9:30-31 S '63. (MIRA 16:11)

1. Trest Rosgazstroy.

USSR/Cultivated Plants - Potatoes, Vegetables, Melons. II-5

Abs Jour : Ref Zhur - Biol., No 2, 1958, 39305

Author : Shragin, D.I.

Inst : Fruit-Vegetable Institute imeni I.V. Michurin

Title : The Utilization of Bottomland for Irrigated Vegetable Crops.

Orig Pub : Tr. Plodoovoshchn. in-ta im. I.V. Michurina, 1956, 9, 201-223.

Abstract : The characteristics of the bottomlands of the Voronezh, Tsna, Chelnovaya, Bityug and Vorona rivers in the Voronezh oblast are given in this paper. Suggestions on the utilization of these lands for vegetable crops are also furnished in this paper, as well as data gathered by the Fruit- and Vegetable Institute on the utilization of ground waters in bottomlands by artificial sprayings. As a result of

Card 1/2

SHRAGIN, I.V.

On certain operators in generalized Orlich spaces. Dokl. AN SSSR 117 no.1:40-43 N-D '57. (MIRA 11:3)

1. Moskovskiy oblastnoy pedagogicheskiy institut. Predstavleno akademikom S.L.Sobolevym.
(Operators (Mathematics)) (Spaces, Generalized)

SHRAGIN, I. V.

20-1-9/42

AUTHOR: SHRAGIN, I.V.

TITLE: On Some Operators in Generalized Orlicz Spaces (O nekotorykh operatorakh v obobshchennykh prostranstvakh Orlicha)

PERIODICAL: Doklady Akad.Nauk SSSR, 1957,Vol.117,Nr 1,pp.40-43 (USSR)

ABSTRACT: If a non-linear integral equation of Hammerstein

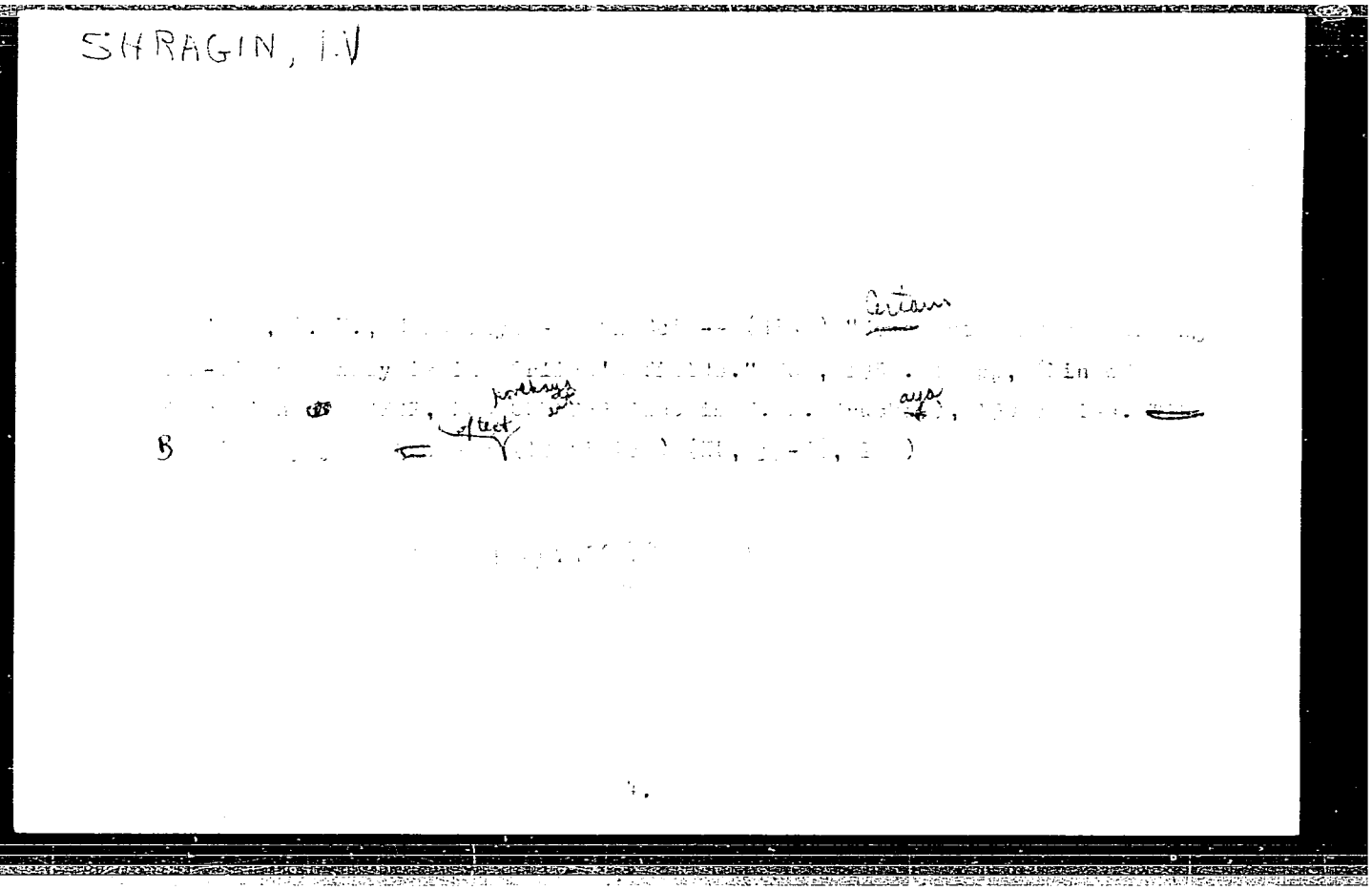
$$u(x) = \Gamma u \equiv \int_B K(x,y)g(u(y),y)dy ,$$

is given, then the operator Γ is the product of a linear integral operator $Au = \int_B K(x,y)\, u(y)\, dy$ and of the operator $hu = g(u(x),x)$. In the present paper the author investigates the conditions under which h is weakly continuous.

Let M (u) be one of the Young functions, L^M a generalized Orlicz-space defined according to Orlicz, furthermore let be $d = \sup \{u \in [0,\infty): M(u) < \infty\}$. Now if there are given two arbitrary Orlicz-spaces L^M and L^{M_1}, then the author introduces the auxiliary functions

$f_c(v) = \sup \{u \in [0,d): M_1(uv) \geqslant c\, M(u)\}$ and $F_c(v) = v f_c(v)$,

Card 1/2



16(1) SOV/155-58-2-22/47

AUTHOR: Shragin, I.V.

TITLE: On a Nonlinear Operator (Ob odnom nelineynom operatore)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 2, pp 103-105 (USSR)

ABSTRACT: The author considers the operator h, in the Soviet literature often denoted as the Nemytskiy-operator:

$$hu = g(u(x),x),$$

where $g(u,x)$ is a real function. Let C be the space of continuous functions and $L^M = L^M(F)$ be an Orlicz space generalized in the sense of Zaanen. Let L_M^f be a subspace of L_M to which there belong all functions with absolutely continuous norms. Let L_P be the class of all functions $u(x)$ for which $\int_F P\left[|u(x)|\right] dx < \infty$, where F is a bounded closed set with the Lebesgue measure in the finite-dimensional Euclidean space and $P(u)$ is a nonnegative, not decreasing function defined on $[0,\infty)$.

Theorem 1: In order that h transforms C into L^M it is necessary

Card 1/2

AUTHOR: Vaynberg, M.M., Shragin, I.V. 20-120-5-3/67

TITLE: The Operator of Nemytskiy and its Potential in Orlicz-Spaces (Operator Nemytskogo i yego potentsial v prostranstvakh Orlicha)

PERIODICAL: Doklady Akademii nauk SSSR, Vol 120, Nr 5, pp 941-944 (USSR) 1958

ABSTRACT: The Nemytskiy operator h and its potential f, already investigated for several times by one of the authors [Ref 1,2,3] (especially in connection with the nonlinear integral equations of the type of Hammerstein) are considered in the Orlicz-spaces generalized according to Zaanen [Ref 5]. The authors give necessary and sufficient conditions that h transfers functions of the classes L^{M}, L_{M}, $L_{M}^{\varkappa}$ into such ones of L^{M_1}, L_{M_1}, $L_{M_1}^{\varkappa}$. Furthermore, conditions for the boundedness and continuity of h as well as conditions for the continuity and weak semicontinuity of f are given. Altogether ten theorems are formulated.
There are 12 references, 7 of which are Soviet, 3 Polish and 2 Dutch.

ASSOCIATION: Moskovskiy oblastnoy pedagogicheskiy institut imeni N.K.Krupskoy (Pedagogical Institute of the Moscow Oblast imeni N.K.Krupskaya)

PRESENTED: February 7, 1958, by S.L.Sobolev, Academician
SUBMITTED: February 7, 1958
1. Topology 2. Operators (Mathematics)

Card 1/1

VAINBERG, M.M.; SHRAGIN, I.V.

New theorems for nonlinear operators and equations. Uch. zap.MOPI 77:131-144 '59. (MIRA 13:5)
(Integral equations) (Operators (Mathematics))

VAINBERG, M.M.; SHRAGIN, I.V.

Nemytskii's operator in Orlicz's generalized spaces. Uch.zap. MOPI 77:145-160 '59. (MIRA 13:5)
(Operators(Mathematics)) (Spaces, Generalized)

88884

S/044/60/000/007/040/058
C111/C222

16.4600

AUTHOR: Shragin, I.V.

TITLE: The Nemytskiy-operator from C into L^M

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 153-154. Abstract no.7878. Uch.zap.Mosk.obl.ped.in-ta, 1959, 77, 161-168

TEXT: Let F be a bounded closed set of the n-dimensional Euclidean space, C be the space of functions being continuous on F, $L^M=L^M(F)$ be the Orliecz space generalized according to Zaanen, and L_M^χ be a subspace of L^M (abstract 7879). Let $g(u,x)$ be the function generating the Nemytskiy operator h, $hu = g(u(x),x)$, and $a_\alpha(x) = \sup_{|u|\leq\alpha} |g(u,x)|$, $x \in F$.

The author proves the following theorems: 1. In order that h acts from C into L^M (from C into L_M^χ) it is necessary and sufficient that $a_\alpha(x) \in L^M$ ($a_\alpha(x) \in L_M^\chi$) for every $\alpha \geqslant 0$. 2. If h acts from C into L^M then it acts from L^∞ into L^M and is bounded from C into L^M. 3. Let P(u) be a nonnegative nondecreasing function defined on $[0,\infty]$; let L_p be the

The Nemytskiy-operator... S/044/60/000/007/040/058
C111/C222

class of all real functions u(x) for which $\int_F P(|u(x)|)dx < \infty$, Then, for the fact that h acts from C into L_p it is necessary and sufficient that $a_\alpha(x) \in L_p$ for every $\alpha \geqslant 0$. 4. If h acts from C into L_M^χ then it is continuous and weakly continuous. 5. In order that h maps the space C into itself it is necessary and sufficient that the following condition is satisfied: (1): $g(u,x)$ is continuous in all arguments in every point of the topological product $(-\infty,+\infty) \times F'$, where F' is the derivative set of the set F. 6. In order that h is bounded from C into C it is necessary and sufficient that $g(u,x)$ on $[-\alpha,+\alpha] \times (F \setminus F')$ is bounded for every $\alpha \geqslant 0$ and that the condition (1) is satisfied. 7. In order that h is continuous or weakly continuous from C into C it is necessary and sufficient that $g(u,x)$ is continuous on $(-\infty,+\infty) \times F$.

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 2/2

88885

S/044/60/000/007/041/058
C111/C222

16.4600

AUTHOR: Shragin, I.V.

TITLE: On the weak continuity of the Nemytskiy operator in generalized Orliecz spaces

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 154. Abstract no.7879. Uch.zap.Mosk.obl.ped.in-ta, 1959, 77, 169-179

TEXT: Let B be a set with a finite or infinite measure in the finite-dimensional Euclidean space; let $L^M = L^M(B)$ and $L^{M_1} = L^{M_1}(B)$ be generalized Orliecz spaces according to Zaanen. It is assumed that the function M(u) of Jung is finite for every finite u. Let L_M be the class of real functions u(x) for which $\int_B M(|u(x)|)dx$ is finite; let L_M^χ be a subspace of L^{M_1} consisting of functions u(x) for which $\int_B M(k|u(x)|)dx < \infty$ for every $k > 0$. The author investigates the linear operator H, Hu=b(x)u, where b(x) is a real function measurable on B and the Nemytskiy operator

Card 1/3

On the weak continuity...

h, hu = g(u(x),x).
Lemma: In order that H acts from L_M^{χ} into LM it is necessary and sufficient that the following condition is satisfied: (1) for certain positive c and λ it holds $f_c(\lambda|b(x)|) \in L_M$, where

$$f_c(v) = \sup_{0 \leq v \leq \infty} \{u : 0 \leq u < \infty,\ M_1(uv) \geq cM(u)\}.$$

The author uses a special construction for the proof. From the given lemma it follows that if H acts from L_M^{χ} into L^{M_1} then it acts from L^M into L^{M_1} and it is bounded.
Theorem: For the weak continuity of the operator h from L_M^{χ} into L^{M_1} it is necessary and sufficient that for almost all $x \in B$ it holds $g(u,x) = a(x)+b(x)u$, $-\infty < u < +\infty$, where $a(x) \in L^{M_1}$ and b(x) satisfies the condition (1).
It is remarked that the given criterion for the weak continuity of

Card 2/3