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05748

A Universal Device for Measuring the Torsion Angle When Determining the Shear Modulus on a Torsion-testing Machine SOV/32-25-10-37/63

The device described has been used with success since 1953. There is 1 figure.

ASSOCIATION: Kiyevskiy inzhenerno-stroitel'nyy institut (Kiyev Institute of Constructional Engineering)

Card 2/2

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PORTNOV, I.M.

Universal device for measuring the angle of twist in determining the modulus of displacement in torsion testing machines. Zav. lab. 25 no.10:1245 '59. (MIRA 13:1)

1. Kiyevskiy inzhenerno-stroitel'nyy institut.
(Testing machines)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, I.M. (Minsk)

"Dates in Russian radio engineering; a brief chronology" by V.A.Burliand. Reviewed by I.M.Portnov. Vop.ist.est.i tekh. no.8:177-179 '59. (MIRA 13:5)
(Radio) (Burliand, V.A.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

FORTNOV, I. M.

Cupola Furnaces

Tuyere for direct introduction of oxygen into liquid pig iron. Lit. proiz. No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952, Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, I.Ye.

For what purposes are pipes made of fiber-glass anisotropic material suitable? Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:115 '62. (MIRA 16:11)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, I. YE.

AID P - 2712

Subject : USSR/Mining

Card 1/1 Pub. 78 - 9/27

Author : Portnov, I. Ye.

Title : The question of work efficiency of core bits

Periodical : Neft. khoz. v. 33, #6, 21-23, Je 1955

Abstract : At the All-Union Conference of Petroleum Workers, a paper was presented by A. S. Stanishevskiy entitled "Basic Trends in the Construction of High-Efficiency Core Bits". The low efficiency of coring work was there attributed to ineffective core bits and inappropriate lower drilling column section rather than to the method of drilling. The present articles partly disagrees with certain of Stanishevshiy's arguments.

Institution : None

Submitted : No date

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, K.F.

Born by the October Revolution. Neftianik 7 no.11:19 N '62.
(MIRA 16:6)
(Krasnodar—Petroleum research)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, K.F., inzhener.

Mechanization of loading work in holds. Mekh.trud.rab. 10 no.4: 26-27 Ap '56. (Cargo handling) (MLRA 9:7)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, K.I. (Moskva); LIVINSKIY, Yu.V. (Moskva); FADEYEVA, V.I. (Moskva)

Characteristics of the interact on of certain high-melting carbides and their solid solutions with carbon. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.2:147-149 Mr-Ap '61. (MIRA 14:4)
(Nonferrous metal alloys--Metallography)
(Phase rule and equilibrium)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

Portnov, Kh. L.

18 4E2c

Electrode coatings for underwater welding. Kh. L. Portnov. U.S.S.R. 102,508, Apr. 30, 1956. For underwater welding, the electrodes are coated with a mixt. of TiO_2 3-4, hematite 25-30, feldspar 25-30, ferrotitanium 4-6, blast-furnace ferromanganese 28-35, starch 3-7, and Na silicate 20-5% of the sum of the other components.

M. Hosch

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, L.V., starshiy nauchnyy sotrudnik

Oxygen in the chemical industry. Inform. biul. VINITI no.11: 7-8 N '63 (MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kislorodnogo mashinostroyeniya.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

ACC NR: AP7013148 SOURCE CODE: UR/0199/66/007/006/1347/1359

AUTHOR: Portnov, L. Ye.

ORG: none

TITLE: Construction of continuous curves

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 7, no. 6, 1966, 1347-1359

TOPIC TAGS: continuous function, curve geometry, Euclidean space

SUB CODE: 12

ABSTRACT: The continuous mappings $f_1(t)$, $f_2(t)$ ($t \in [a,b]$) into metric space R are said to be equivalent if there are found continuous nondescreasing functions $\varphi_1(t)$, $\varphi_2(t)$ ($t \in [a,b]$) such that $\varphi_1(a) = \varphi_2(a) = a$, $\varphi_1(b) = \varphi_2(b) = b$ and

The author considers that the class of equivalent mappings [a,b] into R defines a continuous curve L in R, and each continuous mapping f(t) ($t \in [a,b]$) from this class is said to be a parametrization of the curve L. The points $f(t_1)$, $f(t_2)$ are considered to be points of the curve if and only if

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ACC NR: AP7013148

The curve L is oriented in the order induced from segment [a, b] by the mapping which defines the curve. The article compares continuous curve L and the function $V(\varepsilon)$, $\varepsilon \in (0, \infty)$, where $V(\varepsilon)$ equals the maximum number of nonintersection arcs of diameter ε contained in L. The article goes on to establish some properties of function $V(\varepsilon)$. This function is used to determine a certain classification of nonrectifiable curves, as well as to solve a problem suggested to the author by Yu. G. RESHETNYAK concerning curves in an n-dimensional Euclidean space. Orig. art. has: 41 formulas. [JPRS: 40,100]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

Methods for the analysis of red phosphorus. S. A. Tokachov and M. A. Portsov. *Z. anal. Chem.* **82**, 122-33; *Zhur. Prikladnoi Khim.* **3**, 635-14(1930). Red P is likely to contain traces of metal salts, As, H_2SO_4, P acids and a small quantity of yellow P. The detns. of total P, P acids and yellow P present certain difficulties and the expts. described in this paper show that the methods hitherto used are far from satisfactory. The following procedures are recommended. *Total P.* To 0.25 g. of sample in a 100 cc. Philips' flask, add 2-3 cc. of water and then, while heating on the water bath with the flask covered, carefully add small portions of a satd. soln. of Br in concd. HNO_3. White vapors should not form on the surface of the water. This treatment requires about 20 min.; the oxidation is incomplete if it is hurried. Evap. the soln. to a small vol. and add 5 cc. more of the Br-HNO_3. Repeat this treatment with Br-HNO_3. Finally evap. till all acid fumes are removed. Add a little hot water, filter and det. H_3PO_4 in the filtrate in the usual manner, eventually weighing as $Mg_2P_2O_7$. *P acids.* Digest 20 g. of sample in a 250 cc. measuring flask with 20 cc. of 2 *N* H_2SO_4 and water. After digesting 12-15 hrs. with shaking, make up to the mark and filter through linen. To 50 cc. of filtrate add 5 cc. of Br-HNO_3 mixt. and det. the P as described above. *Yellow P.* Cover 15-20 g. of sample in a 100 cc. measuring flask with CS_2 and digest 12-15 hrs. with shaking. Filter into a flask filled with CO_2 and keep the funnel also filled with this gas to prevent oxidation. Take 50 cc. of the filtrate, using CO_2 to empty the pipet into a flask contg. Br-aq. Shake and add more Br unless an excess is present as shown by the color. Distil off the CS_2 on the water bath, using a condenser, and to the residue add Br-HNO_3 and continue as in the detn. of total P. *Detn. of H_2O.* Dry in a vacuum desiccator for 1-5-2 days. W. F. H.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

Calcium and magnesium nitrates. M. A. Portnov and A. M. Zhuravlev. Russ. 43,644, July 31, 1935. Dolomite and an amt. of NH_4NO_3 equiv. to the CaO content are treated with liquid NH_3 at 20-40°. The $Ca(NO_3)_2$ soln. formed is sepd., and to the residue is added an amt. of NH_4NO_3 molecularly equiv. to the MgO content; this mixt. is again treated with liquid NH_3 at −40° to form $Mg(NO_3)_2$ soln., which is sepd. from the insol. material and freed from NH_3 by heating.

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

BC

a-1

[Solubility of] nitrates of group II metals in liquid ammonia. M. A. Pontrov. (Coll. Trans. 1st U.S.S.R. Conf. Neo-aq. Solutions, Kiev, 1935, 93—104).—The solubility of $Ca(NO_3)_2.4H_2O$ in liquid NH_3 increases between −70° and 70° and shows a break at −45°, corresponding with the transition to $Ca(NO_3)_2.4NH_3$; at 25° the solid phase is $Ca(NO_3)_2.6NH_3$. Solubility data are also recorded for $Sr(NO_3)_2$ and $Ba(NO_3)_2$; the solubilities are in the order Ca>Sr>Ba at −[illegible]°, and in the inverse order at [illegible]°. Sr and Ba [illegible] do not combine with NH_3 at 0°; they combine with 2·5 and $4NH_3$, respectively, at −12°, and with $8NH_3$ at −25°. Curves connecting solubility with conductivity are recorded. R. T.

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Ca

Beryllium chloride. M. A. Portnov and Ya. E. Seferovich. Russ. 47,084, July 31, 1936. $BeCl_2$ is prepd. by passing Cl through a mixt. of C and Be-contg. ore at elevated temp. and in the presence of univalent metals as catalysts.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

7

Rapid methods of determination of sodium and potassium in the presence of each other. I. Determination of potassium. M. A. Portnov and S. K. Manas'ev. *Zavodskaya Lab.* 6, 1442-7(1937).—In the detn. of K in com. KCl, carnallite and sylvinite and extn. residues (2% KCl) with hexanitrodiphenylamine (I) by the modified Winkel and Maas method (*C. A.* 31, 627[9]), equally good results were obtained by the conductometric and potentiometric titration of the filtrate with HCl. Treat 0.2-0.8 g. of sample (depending on the content of KCl or K_2SO_4) with 20-50 ml. of the standard soln. of Mg salt of I, dil. to a definite vol. (50-100 ml.), filter from the K salt of I and titrate the filtrate with 0.1 *N* HCl. To det. K in an extn. residue with 98-9% NaCl, shake 25 g. of residue with 70% alc. (approx. 40 ml.) for 6-8 min., dil. the filtrate to 50 ml. with alc., evap. 10 cc. of the filtrate to dryness, dissolve the residue in a little H_2O, add the soln. of Mg salt of I and proceed as above. The method is accurate to 0.5-1.5%. The conductometric detn. of K by titration with H_2SiF_6 is based on the reaction: $2KCl + H_2SiF_6 = K_2SiF_6 + 2HCl$. Dissolve 0.2-0.25 g. of sample (contg. a max. 10% NaCl) in 40 ml. of 50% alc. and titrate with 0.2 *N* H_2SiF_6 in 50% alc. Det. the titer of H_2SiF_6 with standard KCl soln.

Chas. Blanc

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CA

2

Physicochemical study of the system lithium nitrate-ammonia. M. A. Poltnov and N. K. Dvilevich. *J. Gen. Chem.* (U. S. S. R.) 7, 2149-53(1937); cf. *C. A.* 30, 6070[9].—The system $LiNO_3$-NH_3 was investigated with the object of electrolyzing $LiNO_3$ from its soln. in liquid NH_3. The same method was used as in the previous work. Soly. of $LiNO_3$ in liquid NH_3 was found as follows (the 1st number represents temp. and the 2nd number soly. of $LiNO_3$ in wt. %): −77.7, 0; −77.8, 3.03; −79.0, 10.73; −80.5, 21.74; −78.5, 24.26; −62.0, 30.62; −63.0, 33.51; −54.0, 35.06; −51.0, 36.70; −28.5, 40.51; −12.0, 42.97; +5.5, 44.28; +3.0, 52.82; −5.0, 54.00, +3.0, 60.86; +7, 62.7; 14.5, 66.38; 12.5, 69.24; 25.0, 70.0; 42.0, 71.60; 119.0, 78.35; 100.0, 82.00; 204.0, 89.61; 204.0, 100.0. The soly. curve shows the compds. $LiNO_3.8NH_3$ in the interval −81° to −52°, $LiNO_3.4NH_3$ in the interval −52° to 8° and $LiNO_3.2NH_3$ in the interval −8° to 12.5°. Sp. grs. of solns. of $LiNO_3$ in NH_3 at 20°, for concns. of $LiNO_3$ (in wt. %) of 0, 16.41, 21.72, 31.80, 35.82, 45.44 and 62.12, were found to be 0.61, 0.742, 0.772, 0.853, 0.886, 0.994 and 1.173, resp. The elec. cond. of satd. solns. of $LiNO_3$ in NH_3 in the interval −33° to 20° and the decompn. voltage of $LiNO_3$ in NH_3 between Pt-Pt and Pt-Ni electrodes at −40°, 0° and 25° were investigated. S. L. Madorsky

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Solubility of salts in liquid ammonia and systems NaCl–NaBr–NH_3; NaCl–$NaNO_3$–NH_3 at 0°. M. A. Portnov and Ya. A. Ravdin. *J. Gen. Chem.* (U. S. S. R.) 7, 2478–85(in French 2485)(1937). For the system NaCl–NaBr–NH_3 the soly. of NaCl and NaBr, resp., in g. per 100 g. soln. is 11.60–0, 10.20–5.94, 8.19–16.07, 6.61–21.26, 5.30–28.32, 4.93–29.92, 4.54–31.91, 4.12–35.42, 3.61–35.96, 1.74–37.85 and 0–39.0. A eutectic appears at 4.25% NaCl, 35.42% NaBr and 60.44% NH_3. For the system NaCl–$NaNO_3$–NH_3 the soly. of NaCl and $NaNO_3$, resp., in g. per 100 g. soln. is 11.60–0, 10.76–3.51, 9.31–11.30, 7.41–18.77, 6.79–21.06, 6.43–22.80, 4.32–41.60, 0.95–49.64, 0.92–50.70, 0.83–55.12 and 0–56.04. A eutectic appears at 0.83% NaCl, 55.12% $NaNO_3$ and 44.05% NH_3. Soly. of NaBr in NH_3 was investigated in the interval −44.5° to +25°, and is shown to increase in this interval from 117.6 g. to 1370 g. per 1000 g. NH_3. Soly. of $NaNO_3$ in NH_3 is shown to increase from 706 g. at −50.5° to 1485 g. at +60° per 1000 g. NH_3. The existence of solid solns. between NaCl and NaBr could not be established. S. L. M.

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BC

B-1-8

Methods of control of bromine production by the aëration method. S. K. Afanasiev, M. A. Portnov, and J. N. Tschepelkin (J. Appl. Chem. Russ., 1937, 10, 1421—1426).—The Sb electrode gives more satisfactory results for measurement of the PH of flowing acidified sea-H_2O at PH 3—4 than does the Hg or W electrode. Stabilisation of the potential is achieved in 15—20 sec., and reproducible results are obtained during at least 6 days of use.

R. T.

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PROCESSES AND PROPERTIES INDEX

eA

Rapid methods for determining sodium and potassium in the presence of each other. II. Determination of sodium. M. A. Portnov and S. K. Afanas'ev. *Zavodskaya Lab.* 7, 421-5(1938); cf. *C. A.* 32, 2456[1].—In the analysis of com. KCl, carnallite, sylvinite and extn. residues, K is pptd. in the soln. with the Mg salt of hexanitrodiphenylamine and the Na in the filtrate is polarographed in the presence of H_3PO_4 and excess Me_4NOH by the Majer method (*C. A.* 27, 2002). Detailed procedures for the detn. of K and Na at various concns. in the solns. are described. Chas. Blanc

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

7

Determination of bromide in the presence of chloride by potentiometric titration. S. K. Afanas'ev, M. A. Portnov, and Yu. N. Chepelkin. *Zavodskaya Lab.* 7, 547-50 (1938).—The Chirkov method (*C. A.* 29, 5771[1]) for the detn. of Br in natural brines by potentiometric titration with HClO in the presence of a little H_2SO_4 and excess KCl or NaCl proved to be accurate to 2%. More consistent and accurate values can be obtained by introducing corrections for the bromide impurities (0.001-0.0015%) in the KCl (NaCl) reagent and for the HClO used in the oxidation of org. impurities in the brine. To det. the latter, a mixt. of brine and HClO soln. in the amts. used in the titration is treated with 5 ml. H_2SO_4 and in 4-5 min. with titrated KI soln. and the liberated I is titrated with $Na_2S_2O_3$. The difference between the total HClO and the vol. of HClO used in the oxidation of bromide gives the amt. of HClO consumed in the oxidation of org. impurities. In the production of Br by oxidizing NaBr-contg. brines with Cl_2 and blowing out Br with air (cf. Stewart, *C. A.* 28, 3180[9]), Cl and Br in the mixt. are detd. by absorbing the vapors in 1% $NaHSO_3$ to form NaCl and NaBr and titrating potentiometrically with 0.1 *N* $AgNO_3$ and Ag-calomel electrode.

Chas. Blanc

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Ca

Rapid determination of sulfate in bisulfite, sulfite and thiosulfate liquors. M. A. Portnov and Yu. N. Chepelkin. *Zavodskaya Lab.* 8, 561-5(1939).—The benzidine method was found to be suitable for detg. SO_4 ions in bisulfite, sulfite and thiosulfate. The content of SO_3, S_2O_3 and SO_4 ions in the mother liquors obtained in the manuf. of thiosulfate can be detd. in about 1 hr. by the combined methods of Kurtenaker-Wollak (cf. *C. A.* 21, 1941) and [illegible] (cf. *C. A.* 20, 3156). B. Z. Kamich

[illegible] J. J. B.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ch

2

The importance of the cation and the anion in the processes of solvation and of solution in liquid ammonia. B. B. Vasil'ev, M. A. Portnov and A. M. Zhuravlev. *J. Gen. Chem.* (U. S. S. R.) 9, 65-8(1939).—The effect of the size of the anion on the soly. and on the solvation in the systems: K salt (KI, KCl, KBr, KNO_3)-NH_3 at −50, −25, 0, +25 and +50° was investigated. Their resp. solubilities in g./1000 g. of NH_3 at −50° were 5, none, 850, none; at −25° 4, [illegible], 1250, 66; at 0° 3, 180, 1800, 105; at +25° 2, 320, 1600, 120; at +50° 1.5, none, 1800, 180. KF is insol. at low temp. (10^{-5} mols /l.) From the results it can be seen that the soly. in NH_3 of a cation of K is greater the greater the radius of its anion. The investigated cations were the nitrates of Mg^{++}, Ca^{++}, Sr^{++}, Ba^{++} in liquid NH_3. Their soly. increases with increase in the radius of the cation. The soly. of $Mg(NO_3)_2$ in g./1000 g. of NH_3 at −40, −30, −20 and −10° were, resp. 30, 20, 20.5, 12. The soly. of $Ca(NO_3)_2$ increased from [illegible] at −60° to 1094 at +50°, that of $Sr(NO_3)_2$ from 100 to 1560 and that of $Ba(NO_3)_2$ from 50 at −30° to 1900 at +50°. Nine references. W. R. Henn

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

H 1

Solubility of zinc and cadmium nitrates in liquid ammonia. D. B. DONSKAJA and M. A. PORTSOV (J. Gen. Chem. Russ., 1939, 9, 526—531).—The solubility curve of $Zn(NO_3)_2$ in NH_3 consists of a no. of branches, corresponding with the ammoniates $Zn(NO_3)_2.10NH_3$ (−75° to −55°), $Zn(NO_3)_2.8NH_3$ (−55° to 0°), $Zn(NO_3)_2.6NH_3$ (0—58°), and $Zn(NO_3)_2.4NH_3$ (>58°). The crit. temp. of solubility is 61°. The solubility rises from −81° to −77·5°, above which it falls continuously. R. T.

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

DC

B-1-6

Polarographic analysis as a method of testing in zinc manufacture. A. A. Kozlova and [illegible] Cu, Fe, Cd, Fe, and Al [illegible] determined, polarographic [illegible] Fe, and Al are [illegible] of Na_2SO_4 and 2 drops of 1% gelatin are added, and the (Cu) and (Cd) determined from a single polarographic [illegible]. The NH_3 ppt. is dissolved in HCl and the solution [illegible]. To one portion (20 ml.) [illegible] and a [illegible] are added, and the solution is [illegible] to reduce Fe^{++}; [illegible] of aq. NH_3, gelatin, and Na_2SO_4, the Fe and Fe^{++} contents are ascertained from two polarographic curves. To the other portion NaOH is added, the filtrate acidified to pH 4, and Al determined in presence of $CaCl_2$ (10—100 pts. per 1 pt. of Al) and gelatin; if the ratio $CaCl_2$: Al cannot be fixed beforehand, a known amount of $AlCl_3$ is added to the solution and the waves before and after such addition are compared.

J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

1

Automatic and electrometric methods of analysis. M. A. Portnov.—*Gosudarst. Inst. Prikladnoi Khim., Sbornik Statei* 1939-40, 100-42(1939); *Khim. Referat. Zhur.* 1940, No. 3, 82-3.—The paper describes methods of electrometric analysis and automatic production control. A method for detg. Cu and Ni in Cu-Ni ores was developed (the error does not exceed 3%). Ti, Cb and Ta can be detd. polarographically. Ti is detd. separately in the presence of hydroxy acids with which it forms complexes (Fe, Al and V do not interfere at wide variations of concns.). A method was developed for detg. Fe, Zn, Ni and Al in bronzes and for the qual. and quant. analysis of the raw material and finished products of Zn production (detn. of Zn, Pb, Cu, Fe, Al_2O_3 and Ca). At larger concns. of Fe and Pb, Al must be sepd. in the form of the aluminate and decompd. by HCl. The remaining elements are detd. separately. The analysis of the elements of the Cu and Fe subgroups (Cu, Cd, Pb, Bi, Cr, Al, Fe), when all are present, is based on treating with excess NaOH (the soln. contains the hydroxides of the remaining elements), dissolving in HCl, pptg. with NH_4OH (the soln. contains Cu and Cd and the ppt. contains Bi^{+++} and Fe^{+++}), dissolving the ppt. with HCl, reducing Fe^{+++} to Fe^{++} by sulfite in the presence of $C_6H_8O_6$. The remaining detns. are made from the solns. The polarographic method of titrating SO_4^{--} is based on making polarograms of solns. of $(MeCO_2)_2Pb$ with or without the addn. of the soln. under investigation and calcg. the amt. of SO_4^{--} from the decrease of the Pb wave length. Sep. detn. of K and Na is carried out by sepg. K with dipicrylamine. The behavior of H, Sb and W electrodes in the potentiometric control of the Karabugaz-Gol Bay brine was investigated. Optimum results were obtained from Sb electrode. Sb electrodes can be used even in strongly acid solns. (pH 2.5). Good results are obtained from potentiometric titration of Na_2SO_3 with the indicator pair Sb-calomel. It is proposed to neutralize Na_2SO_3 to bromothymol blue instead of to phenolphthalein. This gives a product free from soda. Glass electrode-calomel can be used for the production control of $BaSiF_6$ and the Sb-calomel electrode for the control of acid waste waters. Potentiometers developed for the automatic production control of $K_2Cr_2O_7$ are described. A no. of curves of potentiometric detns. and illustrations of potentiometers are given.

W. R. Henn

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

18

Automatic control of dichromate production. M. A. Portnov and S. K. Afanas'ev. *Zavodskaya Lab.* 9, 157-61 (1940).—A study was made of the possibility of using PbO_2, Te and air electrodes for controlling the production of dichromates from monochromates. Best results were obtained with the air-satd. calomel electrode. The change in e. m. f. at the end of the digestion is about 100 mv., with an allowable variation of H_2SO_4 at ≈ 0.5 g./l. A lamp pH-meter is described for continuous control of the digestion. The end of the process is characterized by a content of 1-5% dichromate in the chromate. The evapn. of the dichromate liquors may be controlled continuously with a Pt resistance thermometer in accordance with the temp. of boiling. The first evapn. can be controlled with an accuracy of 150 g./l. and the second with ≈25 g./l. of $Na_2Cr_2O_7.2H_2O$.

B. Z. Kamish

COMMON ELEMENTS

MATERIALS INDEX

COMMON VARIABLES INDEX

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PROCESSES AND PROPERTIES INDEX

CA

Polarographic analysis in the control of zinc production. A. A. Kozlova and M. A. Portnov. *Zavodskaya Lab.* 9, 287-92(1940).—Procedures are described for the polarographic detn. of Cu, Pb, Cd, Zn, Fe and Al in the ore and various metallurgical products. The effects of pH and electrolyte concn. upon the height of the Al wave were detd. The pH should be 3.7–4.18 and the change in coloration at a pH of about 4 is best indicated by a mixed indicator consisting of 1 part of methyl orange and 2 parts of indigocarmine indicator solns. The indifferent electrolyte was 0.1 *N* $CaCl_2$ and it should be used in amts. 2–3 times as large as the soln. for test in the electrolyzer. It is shown that a Ag anode can be used for the detn. of all the above elements.

B. Z. Kamich

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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Determination of small quantities of bromine and bromide in the presence of one another. M. A. Portnov and S. I. El'kina. *Zavodskaya Lab.* 11, 527-30(1945).—The app. used consists of a rheostat with a movable contact, a millivoltmeter, a galvanometer, a Pt electrode, a satd. calomel electrode, and a mixer. When aniline reacts with free Br at pH 1.4–2.2, the end point of the reaction is at 830 mv. To titrate the free Br in the sample, set the app. at 830 mv. and titrate 100 ml. of the soln. with a 0.01 *N* soln. of aniline in dil. H_2SO_4. Near the close of the electrometric titration, the galvanometer needle slowly moves toward the zero point, which it reaches when the bromination is complete. Now, by means of the rheostat set the app. at 900 mv. (for 18°), change the direction of the current, add 5 ml. of 20% H_2SO_4 and 20 g. NaCl. Titrate rapidly with 0.01 *N* NaClO soln. Run a blank titration with the reagents. W. R. Henn

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PORTNOV, M. A.

1/2

Systematic polarographic analysis of cations. I. Conditions for determination of the copper and iron subgroups. M. A. Portnov and A. A. Kozlova. *Zhur. Anal. Khim.* 2, 346-52(1947).—Cu^{++} and Cu^{+} were detd. $E_{d.e.}$, $E_{1/2}$, and h (height of wave). $E_{d.e.}$ for Cu concns. of 0.00003-0.00715 N was −0.40 to −0.43 v.; $E_{1/2}$ for the same concns. was −0.46 to −0.51 v. The supporting electrolytes, NaCl, KCl, $BaCl_2$, $CaCl_2$, $(NH_4)_2SO_4$, and NH_4NO_3 had practically no effect on $E_{d.e.}$ nor on h (22.5-25.0 mm.). Only NaCl lowered $E_{d.e.}$ to 0.36 v. This phenomenon will be investigated further. In ammoniacal tartrate soln., the $E_{d.e.}$ and h of Bi remained practically const. In the presence of 0.1 N solns. of inert salts, $E_{d.e.}$ = −0.60 to −0.70 v., h = 37.5-41.0 mm. The effect of concn. of a neutral salt on the $E_{d.e.}$, $E_{1/2}$ and h of Bi was studied with NH_4NO_3. As the concn. of the salt increased $E_{d.e.}$ became more pos. and h decreased. $E_{1/2}$ detd. in HCl soln. changed with the concn. of HCl. For Pb, the relation between h and concn. was directly proportional in an acid, alk., and ammoniacal tartrate media. In alk. solns. Sn, Sb, and As did not affect the h-concn. relationship of Pb, Sn greatly affected the reduction potential ($E_{d.e.}$ changed from approx. −0.72 to −0.044 v.), Cr and Al had no effect. In acid solns. $CaCl_2$ affected $E_{1/2}$ and h of Pb. In detg. Cd in an ammoniacal soln., a change in the concn. of Cd did not affect the reduction potential; an increase in the concn. of NH_4OH shifted the $E_{d.e.}$ and $E_{1/2}$ toward more neg. values, while h decreased somewhat; the nature of the supporting electrolyte had no effect on the reduction potential but h decreased somewhat with an increase in the concn. In acid soln. an increase in the concn. of Cd above 0.02 N shifted $E_{1/2}$ considerably toward pos. values. In detg. trivalent Fe, the concn. of the supporting electrolyte $(NH_4)_2SO_4$ had practically no effect on $E_{d.e.}$ and h. The concn. of KNa tartrate strongly affected $E_{d.e.}$ and h. In detg. Al with $CaCl_2$ as supporting electrode, h decreased as $CaCl_2$ increased. Up to a $CaCl_2$ concn. of 2.7 N, $E_{1/2}$ remained const., above this concn. $E_{1/2}$ became more neg. Cr gave 2 waves both unaffected by concn. $Cr^{+++} \rightarrow Cr^{++}$, $E_{1/2}$ approx. −0.95 v. and $Cr^{++} \rightarrow Cr$ $E_{1/2}$ −1.59 v. The

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first $E_{1/2}$ remained unaffected by the concn. of the supporting electrolyte, $E_{1/2}$ of the second wave shifted with the concn. of the supporting electrolyte. It is recommended to det. Cr in the presence of 0.1-0.2 N $CaCl_2$, in a stream of H, at a pH 3.0-5. II. Conditions for the analysis of the arsenic subgroup. M. A. Portnov and V. P. Povelkina. *Ibid.* 3, 85-91(1948).—Detn. of Sn was attempted in HCl, H_2SO_4, alk. KNa tartrate, and H_2SO_4 + EtOH solns. The best results were in HCl solns. A sample of Sn was dissolved in 6-8 N HCl and the soln. was dild. to 1 N HCl. As supporting electrolyte $BaCl_2$ or NaCl was used. Prior to taking of polarograms H was passed through the soln. for 1 hr. Under these conditions the height of the Sn^{++} wave is proportional to its concn. in soln. Equally good results were obtained in a soln. of 1 part 5 N H_2SO_4 and 1 part of EtOH using Na_2SO_4 or K_2SO_4 as supporting electrolyte and carrying out the analysis under H. EtOH reduced the height of wave. In the absence of H, the height of the Sn^{++} wave was reduced to zero after 3 hrs. Trivalent Sb was detd. in 10 N H_2SO_4, $E_{1/2}$ −0.2 v., in an oxalate soln., $E_{1/2}$ 0.4 v., in a 10-20% alk. soln. $E_{1/2}$ −0.2 v., in a neutral soln. $E_{1/2}$ −0.6 v., and in a soln. consisting of 1 part of H_2SO_4 and 1 part of EtOH, $E_{1/2}$ −0.27 v. The supporting electrolyte should be Na_2SO_4 or K_2SO_4, the soln. should contain 2-3 drops of gelatin, and the detn. should be carried out under H. Trivalent As in H_2SO_4 soln. gave 3 waves. The 3rd is unstable. In an alk. soln. As could not be detd. In a H_2SO_4 + EtOH soln. As gave 3 waves of which only the 1st, $E_{1/2}$ −0.64 v., is reliable. When Sn, Sb, and As are present together, they are readily detd. in a soln. of 1 part 5 N H_2SO_4 and 1 part EtOH and contg. 3-4 drops of 1% gelatin soln. M. Hosch

2/2 M.A. Portnov & A.A. Kozlova

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Br. ...

C-1 Inorganic, Pure & Applied

1360. **Bromine, bromide, and bromate: determination (in mixtures).** M. A. Portnov and S. I. Elkina (*Zavod. Lab.*, 1947, 13, 411—413; *J. Tech. Ind., Manchr.*, 1948, 8, A 614).—A procedure for determining mg. quantities of Br, Br', and BrO_3' in the same sample with an accuracy of 10% or better is based on step-by-step potentiometric titration up to the e.m.f. val. at the equivalence point. Br is titrated first with standard aniline solution. BrO_3' is then determined by addition of excess of $SbCl_3$ and back-titration with standard $KBrO_3$. Br' is determined by titration with standard hypochlorite. A tabulation of results is given for various concns. of the three substances. R. B. CLARKE.

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PROCESSES AND PROPERTIES INDEX

Rapid method for determining fluorine. M. A. Portnov and S. I. El'kina. *Zavodskaya Lab.* 13, 822-4(1947).—The potentiometric titration previously described (*C.A.* 40, 2414[8]) can be used for detg. small quantities of F in sol. fluorides. The soln. should be neutral to methyl orange and should be dild. to contain 40-120 mg. F per l. To 50 ml. of the soln. add 50 ml. EtOH, 3 drops of 0.1 *M* $K_4Fe(CN)_6$, and the proper amt. of $KCe(Fe(CN)_6)$ suspension (prepd. by mixing equiv. amts. of $Ce(NO_3)_3$ and $K_4Fe(CN)_6$ and decanting) so that the titrated soln. will contain the solid phase of the suspension. With Pt and satd. calomel electrodes, set the instrument at 150 mv. and add standardized $Ce(NO_3)_3$ soln. until the pointer of the galvanometer reaches zero. Titration should be made at room temp. R. Z. Kamich

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PROCESSES AND PROPERTIES INDEX

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Systematic Analysis of Cations by the Polarographic Method. II. Conditions for Determination of the Elements of the Arsenic Subgroup. (In Russian.) M. A. Portnov and V. P. Povelkina. *Zhurnal Analiticheskoi Khimii* (Journal of Analytical Chemistry), v. 3, Mar.-Apr. 1948, p. 85-91.

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CA

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Systematization of polarographic analysis of cations. III. Determination of elements of the copper, arsenic, and iron subgroups when present together. M. A. Portnov and A. A. Koslova. *Zhur. Anal. Khim.* 4, 89–95 (1949); cf. *C.A.* 43, 7377*a*.—An outline is given of an analytical scheme for the analysis of a soln. contg. Cu, Bi, Cd, Pb, As, Sb, Sn, Cr, Al, and Fe. The entire analysis is carried out with 5 aliquots and only one sepn. It was borne out that in the same supporting electrolyte of the same concn. $E_{1/2}$ is independent of the concn. (c) of the ion being detd., unless c becomes large (more than 0.02 N). The nature and concn. of the supporting electrolyte do affect $E_{1/2}$. In this respect 3 cases are possible. (1) The ions of the supporting electrolyte do not react with the ions being detd., in which case $E_{1/2}$ is practically unaffected if c is relatively small, 0.1–1 N. (2) The ions of the supporting electrolyte react with the ions being tested in which case complexes are formed and $E_{1/2}$ depends on the concn. of the supporting electrolyte (cf. 34, 5783[9]). (3) The reduction of the ion being detd. is a secondary reaction while the reduction of H is primary. Of such reactions, the $E_{1/2}$ of As^{+++} was studied. Here, depending on the acid concn., $E_{1/2}$ varied from −0.4 to −0.96 v. The relation between the height of wave (h) and c was studied at concns. of 5×10^{-2}–5×10^{-6} N. At such c and supporting electrolyte concns. of not over 1 N, the relation between h and c was a straight line. Given the same medium h differed for various ions. M. Hosch

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Portnov, M.A.

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Distr: 4E4j

Automatic control methods in nitro-compound production. M. A. Portnov and B. I. Tomilov. Khim. Prom. 1957, 287-91.—A thermochem. method was developed for a continuous automatic detn. of spent acid in $PhNO_2$ production, contg. 60-69% H_2SO_4, up to 5% HNO_3, and about 0.6% $HONOSO_3$. As reagent 63% p-phenolsulfonic acid, 23% H_2SO_4, and 14% H_2O was used. The app. for the automatic control is shown schematically. The error in the HNO_3 detn. was ±5%, with the H_2SO_4 concn. variations of ±1.5% in the spent acid, and a total $HONOSO_3$ concn. of up to 0.7%. The same app. was used for the automatic regulation of the $NO_2ClC_6H_4$ washings, which permitted a 2-3-fold reduction in the amt. of wash water. An addnl. water saving could be achieved by using the washings from the soda treatments for the acid washing, reducing 4-5-fold the total amt. of water effluent which would require special treatment. W. M. Sternberg

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PORTNOV, M.A.

579. Potentiometric determination of p-nitrotoluene in m-nitrotoluene. M. A. Portnov and B. I. Tomilov (K. E. Voroshilov Sci. Res. Inst. of Organic Intermediates and Dyestuffs, Rubezhnoe). *Zhur. Anal. Khim.*, 1957, 12 (3), 402–405.—After reduction of the m-nitrotoluene containing ≯3% of p-nitrotoluene with Zn and dil. H_2SO_4, portions of the soln. are titrated potentiometrically with $NaNO_2$ and $KBrO_3$. From the amounts required, the concn. of p-nitrotoluene can be calculated.

G. S. SMITH

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PORTNOV, M.A.

676. Refractometric method of production control of intermediates and dyestuffs. I. Determination of p-chloronitrobenzene in o-chloronitrobenzene. M. A. Portnov and L. A. Muzychenko (K. E. Voroshilov Sci. Res. Inst. of Organic Intermediates and Dyestuffs, Ruberzhnoe). *Zhur. Anal. Khim.*, 1957, 12 (3), 406–410.—With mixtures of o- and p-nitrochlorobenzene containing 0, 10, 50, 67 and 90% of the *para* compound, the rate of change of refractive index with temp. at 40° to 70° is 0·0005. At const. temp. a change in the content of 1% changes the refractive index by 0·00018. From the results the composition of a mixture can be determined from measurements of refractive index to an accuracy of ±1% of the sample wt.

G. S. Smith

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

AUTHORS: Portnov, M.A., Sheyn, S.I. 32-12-7/71

TITLE: The Application of the Potentiometric Method of Titration When Determining the Free Alkalis in Phenol Solutions and Melts of Aromatic Sulpho-Acids (Primeneniye potentsiometricheskogo metoda titrovaniya pri opredelenii svobodnoy shcheloch v rastvorakh fenolov i plavakh aromaticheskikh sul'fokislot).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1417-1420 (USSR)

ABSTRACT: In the introduction the importance of the determination of the free alkali in the solutions is stressed in this paper, as in certain cases this determination is decisive for finishing of the reaction; in other cases certain solutions must not contain a high content of free alkalis. The respective methods developed by Spitsyn and Markus (refractometric methods) and by Margin and Usanovich (with application of platinum electrodes) are referred to in this paper. Examination of the conditions for the potentiometric determination of the free alkali in the melts of monosulphoacids of benzene and naphtalene by titration of the corresponding solution by means of an antimony electrode is the task of this paper. Proceeding from the fact that β naphtol and phenol are weak acids, it is assumed that the pH(0.1-m) determination can be carried out by the following formula:

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The Application of the Potentiometric Method of Titration When Determining the Free Alkalis in Phenol Solutions and Melts of Aromatic Sulpho Acids 32-12-7/71

$pH = \frac{1}{2} pK_{..} + \frac{1}{2} pK_{\chi} + \frac{1}{2} \lg c_0$. If $pK_{\chi} = 9,6$, then the value for $pH \sim 11,3$ is here obtained for naphtolate and, somewhat higher, for phenolate (at $pK_{\chi} = 9,9$). If therefore a naphtolate- or phenolate-solution is titrated with a free alkali content of up to $pH = 11$, the free alkali alone is obtained. If it is assumed that the degree of discharge of α-naphtol is = 99,99%, the naphtolate solution has to be titrated up to $pH \approx 5$, because $pH = pK_{.} - 4 = 9,6 - 4 = 5,6$. It is on this fact that the method mentioned was based (an example of the application of this method is given). In conclusion it is pointed out that this method corresponds to the conditions prevailing in practice and that it permits an accuracy of up to ± 5%. There are 3 figures, 2 tables, and 4 Slavic references.

ASSOCIATION. Branch of the Institute for Organic Semifinished Products and Dyes (Filial instituta organicheskikh poluproduktov i krasiteley).

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Card 2/2 1. Phenol solutions-Alkalis determination 2. Titration-Potentiometric method-Application 3. Monosulfoacids-Benzine

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AUTHORS: ~~Portnov, M. A.~~ Candidate of Technical Sciences, Krasnosel'skiy, V. N., SOV/64-58-4-16/20

TITLE: Investigation of Glass Electrodes for the Automatic Control of the Production of Betanaphthol (Issleaovaniye steklyannykh elektrodov dlya avtomaticheskogo kontrolya proizvodstva betnaftola)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 4, pp. 255-257 (USSR)

ABSTRACT: The present paper investigates high-temperature glass electrodes which can be used up to temperatures of 100°; M. D. Kravchenko and A. D. Starikova cooperated in the experimental part. The glass electrodes made of usual "electrode-glass" of the type "Korning 015", MacInnes, Yuz and others have some disadvantages; the first experiments for the production of a useful glass composition carried out by Sokolov and Pasynskiy (Ref 2) and Perley (Ref 1) showed that the additions of cesium- and rubidium oxide to lithium glass improve its quality and permit measurements up to 90° in alkaline medium. The present paper investigates

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Investigation of Glass Electrodes for the Automatic Control of the Production of Betanaphthol SOV/64-58-4-16/20

domestic types of glass electrodes worked out by A. S. Benevol'skiy at the TsLA (Central Laboratory for Automation) of the MChM. The electrodes had the following composition: SiO_2 - 64%, LiO_2 - 26%, Cs_2O - 2%, BaO - 3%, Nd_2O_3 - 3%, La_2O_3 - 2%; the investigations were carried out at the interval pH = 1 - 12 at 50 - 90°. The authors supply data on the technique of the investigations and they mention the results obtained. From these data may among other things be seen that a preliminary soaking of the electrodes does not bring about any change, while the hydrogen function dE/dpH at a certain temperature remains constant within a wide pH-range. The maximum deviation of the EMF of the electrode in the same buffer did not exceed 12 mV, independent of the previous operation conditions. The reproducibility of the electrodes with an automatic pH-meter is given as ± 0,4 pH. There are 5 figures, 5 tables, and 2 references, 1 of which is Soviet.

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Investigation of Glass Electrodes for the Automatic Control of the Production of Betanaphthol SOV/64-58-4-16/20

ASSOCIATION: Rubezhanskiy filial nauchno-issledovatel'skogo instituta organicheskikh poluproduktov i krasiteley imeni K. Ye. Voroshilova (Rubezhnoye Branch of the Scientific Research Institute for Organic Semiproducts and Dyes imeni K. Ye. Voroshilov)

1. Naphthalems--Synthesis 2. Glass electrodes--Applications
3. Heat resistan glass--Applications

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ACC NR: AP6023197 SOURCE CODE: UR/0243/66/000/001/0041/0044

AUTHOR: Baulina, E. A.; Keymakh, R. Ya.; Kudryavtsev, V. I.; Portnov, M. A. 43 B

ORG: All-Union Scientific Research Chemicopharmaceutical Institute im. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy intitut); All-Union Scientific Research Experimental Design Institute of Food Machine-Building, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya)

TITLE: Physicochemical and automatic methods of analysis and control in the production of medicinal preparations. Report nine. Method of control of the division of racemates into optically active isomers

SOURCE: Meditsinskaya promyshlennost' SSSR, no. 1, 1966, 41-44

TOPIC TAGS: isomer, optic activity, crystallization, amine, filtration, temperature control, pharmacology, polarimeter, chemical reaction kinetics, automatic control equipment

ABSTRACT: An automatic method for the control of the division of racemic D, L-threo-1-(p-nitrophenyl)-2-amino-1,3-propanediol, an intermediate product in the production of levomycetin, has been developed. The division of the racemate into optically active isomers is carried out by the method of their successive crystallization from the reaction mass containing an aqueous solution of the racemate. The formation of a solid phase during the crystallization process

Card 1/2 UDC: 615.4-073.55

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, M.A.

Automatic control of pH in the production of corasole and aminazine. Med.prom. 13 no.12:29-35 D '59. (MIRA 13:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(HYDROGEN-ION CONCENTRATION) (CHLORPROMAZINE) (METRAZOLE)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, M.A.; ZHELOKHOVTSEVA, A.M.; MIKHALEV, V.A.

Physicochemical and automatic methods of techological control in the production of medicinal preparations. Report No.2: Automatic control of pH during the process of production of p- -acetylamino- -hydroxypropiophenone. Med.prom. 16 no.5:43-49 My '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(PROPIOPHENONE) (HYDROGEN ION CONCENTRATION) (DRUG INDUSTRY)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, M.A.

Conference on the measurement of pH. Med.prom. 14 no.2:61-63 F '60. (MIRA 13:5)

(HYDROGEN-ION CONCENTRATION)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

8(5) SOV/105-59-3-4/27

AUTHORS: Mamikonyants, L. G., Candidate of Technical Sciences, Portnoy, M. G., Engineer

TITLE: Investigation of the Synchronizing Process of Water-wheel Generators (Issledovaniye protsessa sinkhronizatsii gidrogeneratorov)

PERIODICAL: Elektrichestvo, 1959, Nr 3, pp 18-23 (USSR)

ABSTRACT: This is a short report on the results of an analysis of the synchronizing process of water-wheel generators, which were connected to the grid by self-synchronizing. The investigations were carried out with a mathematical electronic simulator of the type IPT-5. The calculations with this simulator were carried out with the collaboration of N. B. Glagoleva and M. P. Rogovskaya. At first the phenomena occurring during synchronizing are described qualitatively, then the investigations with the simulator are briefly discussed. The conditions of synchronizing were investigated with the simulator for generators with and without transverse damping circuits. In accordance with the self-synchronizing method the generator was connected to a powerful grid across reactive resistances of different magnitude. The active resistance of the stator circuit was not taken into account. The investigations substantiate the fact that without doubt it is highly expedient to use mathematical simulators in the

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SOV/105-59-3-4/27

Investigation of the Synchronizing Process of Water-wheel Generators

analysis of complicated electromechanical transients in electrical machines. The most important results of this study can be summarized as follows: 1) The synchronizing of generators with customary parameters will always proceed successfully, if the absolute value of the mechanical torque is smaller then the average asynchronous torque in that slip range, where the slip exceeds the critical value corresponding to the time constant T'_d. 2) The mechanical torque which ensures successful synchronizing is larger if under initial conditions this torque is directed as the average asynchronous torque, and it is smaller, if the two torques are directed oppositely. This circumstance is of paramount practical importance in machines which are not fitted with damper circuits in the rotor. 3) If no excitation is present or if it increases slowly a "time" synchronizing of the machine is possible at angles, which approach $\pi/2$ or $-\pi/2$. This kind of synchronizing is caused by the dynamic reactive torque. Afterwards the machine proceeds into a stable equilibrium or it falls out of step.- There are 7 figures, 2 tables, and 9 references, 6 of which are Soviet.

Card 2/3

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SOV/105-59-3-4/27

Investigation of the Synchronizing Process of Water-wheel Generators

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenergetiki (All-Union Scientific Research Institute of Electrical Power Engineering)

SUBMITTED: September 27, 1958

Card 3/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

L 37660-66 EWP(k)/EWT(d)/EWP(h) EWP(1 EWP(v) BC/GD

ACC NR: AT6012354 SOURCE CODE: UR/0000/66/000/000/0190/0201

AUTHOR: Gurevich, I. M.; Obolenskiy, V. N.; Portnov, M. L.; Pshenichnikov, A. M.; Khvoles, V. A.

ORG: none

36
B+1

TITLE: Complex tele-information system for industrial plants 14

SOURCE: Nauchno-tekhnicheskaya konferentsiya po sredstvam promyshlennoy telemekhaniki, Moscow, 1963. Promyshlennaya telemekhanika (Industrial telemechanics); materialy konferentsii. Moscow, Izd-vo Energiya, 1966, 190-201

TOPIC TAGS: remote control system, supervisory control system, industrial automation

ABSTRACT: Developed by the Central Scientific Research Institute of Complex Automation (TsNIIKA), a system for transmission of discrete and continuous information over a distance up to 20 km is briefly described. The system is intended for connecting individual automatic machines and plants with their control computers and also with the dispatcher's desk; it is designed for a chemical combine whose

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ACC NR: AT6012354

individual parts are scattered over an area. The system includes the equipment for transmission and reception of information, for data processing, insertion into and withdrawal from the computers; the central dispatcher's station equipment includes digital display panels, scaling devices, parameter-deviation signaling devices and recorders, and integral-parameter and statistical-data recorders. Block diagrams of principal parts of the system are explained. Orig. art. has: 6 figures.

SUB CODE: 09,13/SUBM DATE: 08Jan66

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

ADRASHEV,G.R., kand.tekhn.nauk; BARAM,Kh.G., kand.tekhn.nauk; VAS'KOVSKIY,S.Ye., inzh.; VOSTRIKOV,N.A., inzh.; IVANOV,N.A., inzh.; NANKIN,G.A., inzh.; POLYAK,A.Ya., kand.tekhn.nauk; BOLTINSKIY,V.N., akademik,red.; VOLKOV,G.I., inzh.,red.; LEVYKIN, N.N., kand.tekhn.nauk,red.; PORTNOV, M.N., kand.tekhn.nauk, red.; BUD'KO, V.A., red.; TRUKHINA, ~~O.N., tekhn.~~ red.

[Tractor performance at increased speeds] Traktornye raboty na povyshennykh skorostiakh. Moskva, Sel'khozgiz, 1961. 174 p. (MIRA 15:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Tractors)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

YEL'YASHKEVICH, Samuil Abramovich; LEVYKIN, N.N., red.; FILIPPOV, A.I., red.; ZHUK, Ya.M., red.; ZHEGALOV, I.S., red.; ZINOV'YEV, G.P., red.; KOLYSHEV, P.P., red.; PORTNOV, M.N., red.; KHUDYAKOV, M.A., red.; PEVZNER, I.M., red.; SOBOLEVA, Ye.M., tekhn. red.

[Handbook on television receivers] Spravochnik po televizionnym priemnikam. Izd.3., perer. i dop. Moskva, Izd-vo "Energiia," 1964. 271 p. (MIRA 17:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, ~~M.N.,~~ kand. tekhn. nauk; ORA, A.[translator]; MARTSON, H., red.; PEDARI, J., tekhn. red.

[Instructions for the maintenance of an SK-3 combine] Kombaini CK-3 tehnilise hooldamise eeskirjad. Tallin, Eesti riiklik kirjastus, 1961. 43 p. (MIRA 15:5)
(Combines (Agricultural machinery))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich, kand. tekhn. nauk; KOBYLYAKOV, L.M., red.; ROZIN, M.A., red.; PROKOF'YEVA, L.N., tekhn.red.

[Self-propelled combines and windrowers; textbook for compulsory education in machinery operation] Samokhodnye kombainy i riadkovye zhatki; uchebnoe posobie dlia mekhanizatorskogo vseobucha. Moskva, Sel'khozizdat, 1963. 238 p. (MIRA 17:2)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich, kand.tekhn.nauk; KOBYLYAKOV,L.M., red.; PERSON,M.N., tekhn.red.

[Grain combines] Zernovye kombainy. Izd.3.,perer. i dop. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 344 p. (MIRA 14:5)

(Combines (Agricultural machinery))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich, kandidat tekhnicheskikh nauk; LAVROVSKIY, K.F., redaktor; DZHATIYEV, S.G., tekhnicheskiy redaktor

[For the young combine operator; manual for students in grades 8-10 of the secondary school] IUnomu kombaineru; posobie dlia uchashchikhsia VIII-X klassov srednei shkoly. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1956. 200 p. (MIRA 10:4)
(Combines (Agricultural machinery)--Handbooks, manuals, etc.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

NIZHEGORODOV, A.I.; PORTNOV, M.N., red.; DEYEVA, V.M., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[People, machinery, and crop yields] Liudi, tekhnika, urozhai. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1960. 46 p. (MIRA 14:7)
(Farm mechanization)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

DUBROVSKIY, V.A., inzhener, ; KOBYLYAKOV, L.M., inzhener; MEL'NIK, S.A., inzhener, otvetstvennyy redaktor; PORTNOV, M.N., redaktor; BALLOD, A.I., tekhnicheskiy redaktor

[Manual for leaders of tractor brigades] Spravochnik brigadira traktornoi brigady. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 804 p. (MLRA 9:11)

(Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich.

Combines; textbook for combine-operators schools. 6. izd. Moskva, Sel'khozgiz, 1941.
Collation of the original: 415 p.

Microfilm AC-94

1. Combines (Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich.

Detachable combines. Moskva, Gos, izd-vo sel'khoz. lit-ry, 1951. 319 p.

1. Combines (Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich

Grain combines; textbook Moskva, Gos. izd-vo sel'khoz. lit-ry, 1954. 263 p. (Uchebniki i uchebnye posobiia dlia podgotovki sel'skokhozisistvennykh kadrov massovoi kvalifikatsii) (55-28465)

S699.P63

1. Combines (Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

pORTNOV, M. N.

5707. PORTNOV, M. N. Vremennyye Pravila Tekhnicheskogo Ukhoda Za Samokhodnym Kombaynom S-4. Razrabot. M. N. Portnovym. Krasnoyarsk. 1954. 28s. s Ill. 21sm. (Glav. Upr. Mts. M-Va Sel'skogo Khoz yaystva SSSR). 2.700 Ekz. B.Ts.-N a Obl. Avt. Razrabotki Nr Ukazan. (54-57198) 631.354.2-7

SO: Knizhnaya, Letopis, Vol. 1, 1955

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, Mikhail Naumovich, kandidat tekhnicheskikh nauk; KRYUKOV,V.L., redaktor; KOBYLYAKOV,L.M., redaktor; BALLOD,A.I., tekhnicheskiy redaktor

[Grain combines] Zernovye kombainy. Moskva, Gos.izd-vo selkhoz. lit-ry, 1955. 347 p. (MLRA 9:1)
(Combines (Agricultural machinery))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, MIKHAIL NAUMOVICH

N/5
723.1
.P82

Portnov, Mikhail Naumovich
Zernovyye Kombayny (Grain Combines)
Moskva, Sel'Khozgiv, 19
V. Illus., Diagrs.
At head of title: Uchebniki I
Uchebnyye Posobiya Dlya Podgotovki.
Sel'Skokhozyaystvennykh Kadrov Massovoy Kvalifikatsii.
Lib. Has: 1944
1955

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, MIKHAIL NAUMOVICH

N/5
723.1
.P82

Zernovyye, kombayny (Grain combines) Moskva, sel'khozgiz, 1954.
263 p. illus., diagrs.
"Literatura:" p. 262

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, M.N.

[Grain combines]Zernovye kombainy. 2., perer. izd. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 355 p. (MIRA 16:1)
(Combines (Agricultural machinery))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, MIKHAIL NAUMOVICH

Samokhodnyy kombayn (The mobile combine) 3 izd. Moskva, Sel'khozgiz, 1952
279 p. illus., diagrs.
"Literatura": p. 280.

N/5
723.1
.p8
1952

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

FORTNOV, Mikhail Naumovich.

Pritsepnyye Kombayny [Trailer Combines] 2 izd. Moskva, Sel'khozgiz, 1952 255 p. illus., diagrs., tables.

N/5
723.1
.P7
1952

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, O.M.

Optimum number of erecting cranes and the duration of assembly operations. Prom. stroi. 40 no.5:37-39 '62. (MIRA 15:5)

1. Nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii stroitel'nogo proizvodstva Akademii stroitel'stva i arkhitektury USSR.
(Cranes, derricks, etc.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, P., starshiy inzhener po standartnym domam

Standard houses for the population. Sel'.stroi. 15 no.1:16 Ja '60. (MIRA 15:7)

1. Glavnoye upravleniye po mezhrespublikanskim postavkam tovarov narodnogo potrebleniya pri Gosplane SSSR.
(Housing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, P.

Commerce in prefabricated houses. Sov. torg. 33 no.6:26-31 Je. '59. (MIRA 12:8)
(Buildings, Prefabricated)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

MOISEYEV, B.; PORTNOV, P.

Guarantees of the quality of goods. Sov.torg. 34 no.7:14-17 Jl '61. (MIRA 14:7)

(Commercial products--Standards)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, R.A.

NESIS, A.I., PORTNOV, R.A. (Karaganda)

Case of pulmonary cancer with osteoarticular lesions. Klin.med. 36 no.4:120-121 Ap'58 (MIRA 11:5)

1. Iz kliniki fakul'tetskoy terapii (zav.-dotsent A.V. Ivanova) Karagandinskogo meditsinskogo instituta i Karagandinskoy oblastnoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach K.Sh. Dzhantasov)

(LUNG NEOPLASMS, pathol.
osteoarthropathy (Rus))
(BONE AND BONES, pathol.
osteoarthropathy in lung cancer (Rus))
(JOINTS, pathol.
same)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

KALYUZHNAYA, L.D.; PORTNOV, S.M.; MAYKO, I.I.; LYSENKO, Z.A.; BRYANSKAYA, A.M.

Antagonistic properties of actinomyces isolated from soils in the Ukraine. Antibiotiki 7 no.3:19-24 Mr '62. (MIRA 15:3)
(ANTINOMYCES)
(UKRAINE--SOILS--MICROBIOLOGY)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

KALYUZHNAYA, L.D.; BRYANSKAYA, A.M.; LITOVCHENKO, Ye.F.; [illegible], I.G.; LYSENKO, Z.A.; MAYKO, I.I.; PORTNOV, S.M.

Isolation and study of actinomycetes-antagonists from soils of some Ukrainian provinces. Mikrobiologiia 31 no.4:654-661 Jl-Ag '62. (MIRA 18:3)

1. Kiyevskiy institut epidemiologii i mikrobiologii.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

MAYKO, I.I.; FORTNOV, S.M.

Distribution of actinomycetes-antagonists in the soils of Transcarpathian Province as related to the altitude above the sea level. Mikrobiologiia 33 no.1:107-111 Ja-F '64. (MIRA 17:9)

1. Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, V., podpolkovnik; BELIKOV, M.A., podpolkovnik, redaktor; SRIBNIS, N.V., tekhnicheskiy redaktor.

[The individual approach in the training of soldiers] Individual'nyi podkhod v vospitanii voinov. Moskva, Voen. izd-vo Ministerstva obor. SSSR, 1954. 61 p. (Microfilm) (MIRA 9:5)
(Military education)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOY, V.A.

Design of eccentric heads for machining internal grooves. Stan.i instr. 33 no.9:14-16 S '62. (MIRA 15:9)
(Machine tools—Attachments)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

L 15897-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/JW/RM

ACC NR: AP6001996 SOURCE CODE: UR/0170/65/009/006/0729/0734

AUTHOR: Verba, M. I.; Portnov, V. D.

ORG: Energy Institute, Moscow (Energeticheskiy institut)

TITLE: Thermal conduction of a chemically reacting ternary gas mixture

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 6, 1965, 729-734

TOPIC TAGS: irreversible thermodynamics, thermal conduction

ABSTRACT: The authors consider a gaseous system contained between two plates having temperatures T and T + Δ T. Since a temperature gradient exists between the plates, in the presence of the reaction a concentration gradient of dissociation and undissociated molecules exists at each point of space. The heavy undissociated molecule diffuses into the region at the higher temperature, and dissociates there, absorbing heat. The light dissociation products diffuse back into the zone of lower temperature and there recombine, evolving heat. As a result of interdiffusion in this cyclic process, the heat transfer in the direction opposed to the temperature gradient increases. In the analysis of the thermal conduction of the reacting gases, thermal diffusion and the Dufour effect are also taken into account.

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L 15897-66

ACC NR: AP6001996

The steady state of this cyclic process in a ternary system reacting chemically in accordance with the equation $A \rightleftharpoons B + C$ is considered, and an equation for the thermal conduction of this system is derived by means of methods of irreversible thermodynamics. Orig. art. has: 29 formulas.

SUB CODE: 20 / SUBM DATE: 16Feb65 / ORIG REF: 001 / OTH REF: 006

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

LEBEDEV, P.D., prof., doktor tekhn. nauk; VERBA, M.I., dotsent, kand tekhn. nauk; LEONCHIK, B.I., inzh.; PORTNOV, V.D., inzh.; SADCHIKOV, O.V., inzh.

Drying of heated inorganic solutions by spraying. Izv. vys. ucheb. zav.; energ. 2 no.2:111-116 F '59. (MIRA 12:7)

1.Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy sushil'nykh i teploobmennykh ustanovok.
(Drying)

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L 29853-66 EWT(1)/EWT(m)/ETC(f)/EWP(j)/T IJP(c) DS/WW/RM

ACC NR: AP6012682 SOURCE CODE: UR/0170/66/010/004/0516/0519

AUTHOR: Verba, M. I.; Portnov, V. D.

ORG: Moscow Power Institute, Moscow (Energeticheskiy institut)

69
B

TITLE: Heat conductivity of a multicomponent gas mixture in the presence of equilibrium chemical reactions

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 4, 1966, 516-519

TOPIC TAGS: heat conductivity, chemical reaction, chemical equilibrium, gas dynamics

ABSTRACT: In the presence of chemical reactions between the components of a gas mixture, heat and mass transfer must be investigated by introducing transforms for the flow of mass and energy:

$$J_i = K_i - x_i \sum_{k=1}^{f} K_k \quad (i = 1, 2, 3, \ldots, f), \tag{1}$$

$$J_q = -h \sum_{i=1}^{f} K_i. \tag{2}$$

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L 29853-66

ACC NR: AP6012682

In the absence of external forces, the basic equation for transfer of mass energy is written in the form:

$$K_i = -\sum_{k=1}^{f} a_{ik} \cdot \operatorname{grad} \psi_k \quad (i = 1, 2, 3, \ldots, f). \qquad (3)$$

By an extended mathematical development, based on the above premises, the article formulates a method for calculation of the effective value of the heat conductivity coefficient. The method is said to differ from previously proposed methods in that it takes into account not only diffusion but also thermodiffusion components. Orig. art. has: 24 formulas.

SUB CODE: 20/ SUBM DATE: 19Oct65/ ORIG REF: 001/ OTH REF: 005

Card 2/2

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SOV/143-59-2-14/19

5(2)

AUTHORS: Lebedev, P.D., Professor, Doctor of Technical Sciences; Verba, M.I., Docent, Candidate of Technical Sciences; Leonchik, B.I.; Portnov, V.D. and Sadchikov, O.V., Engineers

TITLE: The Drying of Heated, Inorganic Solutions by Means of Spraying (Sushka raspyleniyem podogretykh neorganicheskikh rastvorov)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 2, pp 111-116 (USSR)

ABSTRACT: When drying heat-resistant, inorganic solutions by spraying them into a stream of hot flue gases, the heat and mass exchange processes may be considerably intensified by heating the solution to a temperature somewhat below its boiling point prior to spraying, maintaining an adequate pressure in the pipeline. A more intensive dehydration is observed with a sudden reduction of the pressure of the heated liquid when the latter leaves the sprayer. The dehydration process is achieved, by the heat of

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The Drying of Heated, Inorganic Solutions by Means of Spraying

the drying agent (flue gas), and by the interior heat of the atomized particles. The preliminary heating of the solution causes a reduction of the viscosity and surface tension, and consequently, it changes the character of the intermediate-phase surfaces and with them the spray dispersion. Thereby the basic laws are disturbed which are valid for the dispersion of a cold liquid flow. For investigating the basic thermal and hydrodynamic peculiarities of this drying process, an experimental, semi-industrial drying chamber was built at the Kafedra sushil'nykh i teploobmennykh ustroystv MEI (Chair of Drying and Heat-Exchange Equipment of MEI). The drying chamber was built in such a way that one parameter of the process could be changed while all the others were kept constant. Provisions were made to perform the drying in a direct flow and in a counterflow of flue gas, or to feed the drying gases from the sides of the chamber. Figure 1 shows a diagram of the drying unit. The basic series of

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The Drying of Heated, Inorganic Solutions by Means of Spraying

tests was conducted with centrifugal sprayers. A total of 60 experiments was made for which a 50% salt solution was used as experimental liquid. The liquid consumption was changed from 70-260 kg/h, the temperature of the liquid was varied from 75-300°C, the pressure of the liquid from 50-150 atm. The temperature of the flue gases was varied from 190-550°C. Kerosene was used as a fuel for heating the drying chamber. Since preliminary heating of the liquid causes a faster crystallization of the dispersed particles, the interaction of the flue gas components with the product is less intensive than when using a cold liquid. The increase of the sulfur content of the dried material did not exceed the maximum permissible value of 0.06% SO_4. The processing of the experimental data and their analysis showed that the most favorable drying conditions were obtained at a liquid temperature of 280°C, and at an initial gas temperature of 460°C. The irrigation factor was 0.1 kg of the solution per kg

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The Drying of Heated, Inorganic Solutions by Means of Spraying

of dry gas. The specific fuel consumption for 1 kg of the product was 200-250 g/kg - product. The mass exchange factor was 12-20 kg/m^3 hour. When spray drying cold liquids the mass exchange factor at the same temperature of flue gases amounted to 8-12 kg/m^3 hour. The effectiveness of interphase surface which means the dispersion of atomized particles. So far, peculiarities of flowing out and disintegrating of a heated liquid stream were not considered in the works of Soviet and foreign scientists. The authors established some characteristical hydrodynamic phenomena of this process and some calculated suggestions for the design of sprayers will be subject of future investigations. The authors mention only the four types of sprayers used during their experiments: a centrifugal sprayer with one tangential inlet, a centrifugal sprayer with two tangential inlets, a centrifugal sprayer with a special conical atomizer and a conical nozzle. The

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The Drying of Heated, Inorganic Solutions by Means of Spraying

experiments with the centrifugal sprayers showed that their output was reduced by 30-40% when the liquid was heated to 260-290°C, in comparison with the cold liquid. The authors came to the conclusion that the preliminary heating increases the drying efficiency of heat-resistant inorganic liquids. The preliminary heating of the liquid prior to spraying permits the use of flue gases of fuels with a low sulfur content as a drying agent. There are 2 tables, 1 diagram, 1 graph, and 2 Soviet references.

ASSOCIATION: Moskovskiy ordena Lenina energeticheskiy institut (Moscow Lenin Order-Power Engineering Institute)

PRESENTED: Kafedra sushil'nykh i teploobmennykh ustanovok (Chair of Drying and Heat Exchange Equipment)

SUBMITTED: November 26, 1958

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SHAGIYEV, R.G.; PORTNOV, V.I.

Using pressure build-up curves to determine the parameters of a layer and some features of the water drive system. Trudy MINKHiGP no.33:107-121 '61. (MIRA 15:1)
(Petroleum geology)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

REPIN, N.N.; D'YACHUK, A.I.; PORTNOV, V.I.

Effect of a pressure increase produced by the natural separation of the components of two- and three-phase mixtures in a closed system. Neft. khoz. 41 no.3:43-44 Mr '63. (MIRA 17:11)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

PORTNOV, V.I.

Study of Shkapovo flowing wells being exploited with bottom pressure lower than saturation pressure. Trudy VNII no.25: 131-145 '59. (MIRA 15:4)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.
(Shkapovo region--Oil reservoir engineering)

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SHVIDLER, M.I.; RAKHIMKULOV, I.F.; PORTNOV, V.I.

Determination of the parameters of a layer from pressure build-up curves. Neft.khoz. 39 no.8:49-56 Ag '61. (MIRA 14:7)
(Oil reservoir engineering)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

USENKO, V.F.; SHAYEVSKIY, Yu.I.; PORTNOV, V.I.

Analysis of temperature measurements along the bore of wells operating below saturation pressure. Nefteprom. delo no.2: 21-25 '63 (MIRA 17:7)

1. Neftepromyslovoye upravleniye "Aksakovneft'".

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001342520019-4

SHAYEVSKIY, Yu.I.; USENKO, V.F.; PORTNOV, V.I.

Results of investigating wells of the Shkapovo oil field at pressures below the saturation pressure. Nefteprom. delo, no.4:3-7 '64. (MIRA 17:6)

1. Neftepromyslovoye upravleniye "Aksakovneft'" i Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

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BELYUSTIN, A.V.; PORTNOV, V.N.

Effect of borax on the rate of growth of alum crystals from a solution. Rost krist. 4:36-38 '64. (MIRA 17:8)

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