"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N. A.

Mbr., Moscow Inst. Non-Ferrous Metals & Gold im. M. I. Kalinin, -1948-. Mbr., Lab. Metallurgy Noble Metals, Moscow Inst. Non-Ferrous Metals & Gold, -1940-. "Platinum-Mercury System," Dok. AN, 27, No. 5, 1940; "Theory of the Percipitation of Metals from Solutions by Metallic Percipitants," Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 1, 1948; "Kinetics of Metal Plating from Solution and Its Application to the Theory of Hydrometallurgical Processes," ibid., No. 3, 1949.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N.

M

2

*Platinum-Mercury System. I. Plaksin and N. Souvorovskaia (*Acta Physicochim. U.R.S.S.*, 1940, **13**, (1), 83–96).—[In English.] See *Met. Abs.*, this vol., pp. 225, 298.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

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CA

2

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Solubility of platinum in mercury. I. N. Plaksin and N. A. Suvorovskaya. *J. Phys. Chem.* (U. S. S. R.) 15, 978-80(1941).—The soly. of Pt in Hg soln. varies from 0.0205 at. % at 16.5° to 1.08 at. % at 144.0° and 1.77 at 200.0°. Up to the point of heterogeneous transformation at 159.1° the soly. is given approx. by the equation $\log N_2 = k/T$. The soly. increases in the order Pt < Ag < Au. F. W. Rathmann

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

AUTHOR INDEX

Pt GROUPS

3RD AND 4TH ORDERS

2ND LETTER

1ST AND 3RD LETTER

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

Determination of iron in aluminate solutions by a polarographic method. N. A. SUKONOVSKAYA. *Zhur. Prikkad. Khim.*, 17 [3] 156-58 (1944).—The possibility of using the polarographic method of analysis for the determination of iron in aluminate solutions is proved. This method can be applied for checking the express colorimetric method of iron determination, which has been worked out by the central laboratory of the Ural aluminum works.

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CA

7

Application of "inner" electrolysis for the determination of small quantities of copper in metallic aluminum. N. A. Suvorovskaya. *Zavodskaya Lab.* 11, 474(1945).—Treat the metallic Al sample (5-10 g.) with 50-80 ml. of 20% NaOH. Add 15-20 ml. of 10% Na_2S soln. to ppt. completely the Cu and Fe contained in the residue and let stand until the soln. becomes completely clear. Filter the soln., wash the filter, transfer the ppt. with the filter to the beaker used to decomp. the metal, dissolve the ppt. by heating on a sand bath in 30 ml. of HNO_3 (1:1), filter, neutralize the soln. with NH_4OH until a slight turbidity persists, acidify with 4 ml. of H_2SO_4 (1:1), and immerse a pair of electrodes connected with each other. Addn. of satd. NaCl results in a more intensive electrolysis and a more complete pptn. of Cu. Since the content of Fe in the sample usually does not exceed 0.1% in the presence of small quantities of Cu, it is not necessary to transform the Fe into a complex compd. or to reduce it by adding a reducing agent. Pure Al anodes in the form of a plate (48 × 15 × 0.5) were used in all expts. The electrolysis is carried out at room temp., but heating to 70-80° hastens the process. Increasing the temp. to above 80° should be avoided to prevent the oxidation of Cu. In most cases the results obtained by the method of inner electrolysis agreed well with those obtained by electrolysis with an external current. Also in *J. Applied Chem.* (U.S.S.R.) 17, 650(1944). W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

M

2

The System Platinum Mercury. I. N. Plaksin and N. A. Suvorovskaya (*Izvest. Sekt. Platiny*, 1945, 18, 67–76).—[In Russian] Cf. *Met. Abs.*, 1941, 8, 225, 298. Thermal, X-ray, and micrographic analyses were carried out and the solubility of mercury in platinum studied up to 200° C. The results reveal the existence of a solid solution of mercury in platinum up to 23 at. % and three intermetallic compounds: β (73–76 at. % platinum), γ (60–70 at. % platinum), and δ (45–55 at. % platinum). These compounds melt congruently at 485·1°, 236°, and 159·1° C. They correspond to Pt_3Hg, Pt_2Hg, and PtHg.

—N. A.

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OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

A

C

1-53. Extraction of Selenium From Ores. I. N. Plaksin, N. A. Suvorovskaia, and A. V. Astafiena. *Journal of Applied Chemistry (U.S.S.R.)*, v. 19, no. 7, 1946, p. 668-672. (In Russian.)

The nature of the detrimental effect of selenium upon the cyanidation of gold-bearing selenious ores. Treatment with chloride of lime eliminates the difficulty and also facilitates the separation of selenium from the ores. A flow sheet is proposed.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

9

Treatment of gold-bearing selenium ores. I. N. Plaksin, N. A. Suvorovskaya, and A. V. Astaf'eva. U.S.S.R. 68,306, Apr. 30, 1947. The ore is first treated in an aq. soln. of an oxidizer, e.g., Ca hypochlorite to oxidize Se. The oxide is leached out, and the residue is cyanidated. M. Hosch

COMMON ELEMENTS

OPEN

MATERIALS INDEX

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1ST AND 2ND LETTER

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N. A.

USSR/ Metals
Precipitants
Solutions

Jan 1948

"Theory of the Precipitation of Metals from Solutions by Metallic Precipitants" I. N. Plaskin, Corr Mem, Acad Sci USSR; N. A. Suvorovskaya, O. K. Budnikov, Moscow Inst Nonferrous Metals and Gold imeni M. I. Kalinin, 8 pp

"Izv Akad Nauk SSSR, Otdel Tekh Nauk" No 1, p. 131-138

Speed of precipitation of one metal by another can be determined not only by duration of the relation, but on basis of state and dimensions of the surface of the precipitate, temperature, and composition of the solution. Studies conducted on basis of related displacement of metals regarding qualitatige study of the process and study of kinetics and mechanics of the reaction. Published, 6 May 1947

PA 43/43T74

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

CA

7

Kinetics of the precipitation of metals from solutions and its application to the theory of hydrometallurgical processes. I. N. Plaksin and N. A. Suvorovskaya (Moskov. Inst. Tsvetnykh Metallov i Zolota im M. I. Kalinina). *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1949, 407-12.--Pptn. of Au by Zn from a soln. contg. 2.5 g. Au/ton, NaCN 0.05, 0.135, 0.20%, at ~20°, is accompanied by evolution of H_2 (in 24 hrs., 0.7455, 3.3550, 3.4138 cc. H_2, resp., for 0.0057, 0.0182, 0.0115% Zn dissolved), indicating H_2 polarization of the Zn. In the presence of H_2O_2, 0.08 g.-equiv. 1 l., as depolarizer, the reaction (decrease of the amt. of Au in soln. from an initial 2.6 g./ton) in 0.06% NaCN is of the 1st order, with the rate const. k = 0.0564 min.$^{-1}$/sq. cm./ml., at ~20° (up to 150 min., Au down to 2.0 g./ton). For the pptn. of Cu by Fe, from a $CuSO_4$ soln. of an initial concn. of ~2.9 g. Cu/l., in the presence of H_2SO_4 0.133, 0.296, 0.655 g./l., the 1st-order k = 0.11, 0.23, 0.21 min.$^{-1}$/sq. cm./ml., at 25°. The role of diffusion is demonstrated by the effect of stirring, thus, without stirring and with 200 and 300 r.p.m., k = 0.016, 0.20, and 0.396. There is no visible evolution of H_2, and the concn. of O_2 falls from ~10 to ~6 mg./l. during the 1st 45 min., and then remains const.

N. Thon

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SAGRADYAN, Aza L'vovna; PLAKSIN, I.N., redaktor; VERIGO, K.N., redaktor; YEZDOKOVA, M.L., redaktor; TRITSKIY, A.V., gornyy inzhener, retsenzent; SUVOROVSKAYA, N.A., kandidat khimicheskikh nauk, retsenzent; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor.

[Control of technical processes in flotation plants] Kontrol' tekhnologicheskogo protsessa flotatsionnykh fabrik. Pod red. I.N.Plaksina. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 496 p. (MLRA 8:1)

1. Chlen-korrespondent AN SSSR (for Plaksin)
(Flotation)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

Name: SUVOROVSKAYA, Nataliya Aleksandrovna

Dissertation: Theoretical bases for the dislodgment of certain metals from solutions by other metals

Degree: Doc Tech Sci

Affiliation: /Not indicated/

Defense Date, Place: 21 Dec 53, Council of Moscow Inst of Nonferrous Metals and Gold imeni Kalinin

Certification Date: 15 Jun 57

Source: BMVO 17/57

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

YUKHTANOV, Dmitriy Mikhaylovich; SUVOROVSKAYA, N.A., redaktor; MIKHAYLOVA, V.V., tekhnicheskiy redaktor.

[Production of selenium and tellurium] Proizvodstvo selena i tellura. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 95 p. (MLRA 8:8)
(Selenium) (Tellurium)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA

Inst Mining Acad Sci USSR

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, Natal'ya Aleksandrovna; TITOV, Valeriy Ivanovich; BRODSKAYA, Valentina Mikhaylovna; VASIL'YEV, Pavel Ivanovich; LIPSHITS, Bella Moiseyevna; ELENTUKH, Mariya Pavlovna; TROITSKAYA, M.I., kand.tekhn. nauk, retsenzent; POMERANTSEV, I.N., kand.tekhn.nauk, retsenzent; KOZHUKHOVA, M.A., kand.tekhn.nauk, retsenzent; VAGINA, N.S., red.; KOSOLAPOVA, E.F., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.red.

[Technical analysis in nonferrous metallurgy] Tekhnicheskii analiz v tsvetnoi metallurgii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 567 p. (MIRA 11:2)
(Nonferrous metals--Metallurgy)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N. A.

137-1958-2-2603

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 57 (USSR)

AUTHOR: Suvorovskaya, N. A.

TITLE: Using Iron in the Precipitation of Gold (Primeneniye zheleza dlya osazhdeniya zolota)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsvetn. met. i zolota i VNITO tsvetn. metallurgii, 1957, Nr 26, pp 35-40

ABSTRACT: In the experiments conducted, Au was precipitated by iron in an acidified cyanide solution. Acidification was produced with concentrated H_2SO_4, which was added until an acid reaction occurred. The precipitation of the Au from the acidified solutions was accomplished either by stirring with Fe shavings or by filtering the solution through a layer of Fe shavings densely packed in a special crucible. The solution filtered through at a speed of approximately 15 cm/min. Complete precipitation of the Au by the iron in the acidified solution occurred only under certain conditions (closed apparatus, strong ventilation). G. S.

Card 1/1 1. Gold--Precipitation 2. Iron--Applications

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

PLAKSIN, I.N.; SUVOROVSKAYA, N.A.; SHIKHOVA, V.V.; VOSKRESENSKAYA, M.M.

Stability of certain collectors in acid media. Izv. vys. ucheb. zav.; tsvet. met. no.2:23-26 '58. (MIRA 11:8)

1. Moskovskiy institut tsvetnykh metallov i zolota i Moskovskiy institut stali.

(Flotation)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SOV/163-58-2-15/46

AUTHORS: Plaksin, I. N., Suvorovskaya, N. A., Pashkov, A. B.

TITLE: Employing Ion Exchange for Separating Copper From Solutions (Primeneniye ionnogo obmena dlya vydeleniya medi iz rastvorov)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, No 2, pp. 95-97 (USSR)

ABSTRACT: The possibility of the selective separation of copper from solutions, produced in hydrometallurgical processes, by means of ion exchange is described. The main component accompanying copper is in most cases iron. The cationites C, BC, KU-1, KU-2 and the anionites AN-1, AN-2, EDE-10 and AB-16 are used for the separation of copper from iron. The results obtained showed that the selective sorption from sulfuric acid solution on the anionite AB-16 is the most intense, and that by means of this anionite a separation of copper is possible. The exchange resin was converted to the chloride form. The flow rate of the dropped in solution was 18-20 drops a minute. The results obtained showed that the anionites proved to be the best suited ion exchangers in the separation of copper from iron from

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SOV/163-58-2-15/46

Employing Ion Exchange for Separating Copper From Solutions

weakly acid solutions.
There are 2 tables and 5 references, 2 of which are Soviet.

ASSOCIATION: Institut gornogo dela AN SSSR (Mining Institute, AS USSR)

SUBMITTED: November 29, 1957

Card 2/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

18 (5) SOV/163-59-2-13/48

AUTHORS: Plaksin, I. N., Suvorovskaya, N. A., Shikhova, V. V.

TITLE: Conditions for the Separation of Copper From Hydrometallurgical Solutions (Usloviya vydeleniya medi iz gidrometallurgicheskikh rastvorov)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 69-73 (USSR)

ABSTRACT: Copper was separated from hydrometallurgical flotation solutions by electrolysis. The electrochemcial operation scheme for the determination of the potential and the amperage of the electrolysis process are given in figure 1. The electrolysis container consists of plexiglass (Fig 2). Electrolytic copper was used as cathode and Armco iron as anode. The optimum concentrations of the main components (Cu, H_2SO_4) in the solution were detected. The influence of $CuSO_4$ on the electrolysis process is given in figure 3; the results are summarized in table 1. A considerably acid medium influences the electrolysis process negatively. The separation of copper from solutions with different sulphuric acid concentrations

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

Conditions for the Separation of Copper From Hydrometallurgical Solutions SOV/163-59-2-13/48

and mixing rates was investigated and the results are given in figure 4 and tables 3 and 4. There are 4 figures, 4 tables, and 3 Soviet references.

ASSOCIATION: Institut gornogo dela Akademii nauk SSSR (Mining Institute of the Academy of Sciences, USSR)

SUBMITTED: July 17, 1958

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, M. A.

"On the Utilization of New Ion Exchange Resins in Hydrometallurgy."

report presented at the Conference on Benefication of Useful Minerals, sponsored by the Learned Council of the IGD, AS USSR, Balakhash/Karagands, 29 Nov - 4 Dec 1960.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

PLAKSIN, Igor' Nikolayevich; OKOLOVICH, Anna Mikhaylovna; NAZAROVA, Galina Nikitichna; SUVOROVSKAYA, N.A., otv.red.; GADZHINSKAYA, M.A., red.izd-va; BERESLAVSKAYA, L.Sh., tekhn.red.

[Use of certain alkylarylsulfonates as frothers in the flotation of nonferrous ores] Primenenie nekotorykh alkilarilsul'fonatov v kachestve penoobrazovatelei pri flotatsii rud tsvetnykh metallov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 103 p. (MIRA 14:3)

(Flotation--Equipment and supplies)
(Nonferrous metals)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N.A., doktor tekhn.nauk; LOPATINA, G.I., inzh.

Separation of beryllium from accompanying elements by means of ion-exchange chromatography. Nauch.soob.Inst.gor.dela 6: 30-31 '60. (MIRA 15:1)

(Beryllium) (Ion exchange)
(Chromatographic analysis)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N.A., doktor tekhn.nauk; VOSKRESENSKAYA, M.M., kand.tekhn. nauk; MEL'NIKOVA, T.A., inzh.

Determination of beryllium in minerals and ores. Nauch.soob. Inst.gor.dela 6:63-66 '60. (MIRA 15:1)
(Beryllium--Analysis)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

KUZNETSOVA, Yu.S. (Moskva); PLAKSIN, I.N. (Moskva); SUVOROVSKAYA, N.A. (Moskva)

Extraction of rare earths from hydrochloric acid solutions.
Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:59-61 Jl-Ag '62.
(MIRA 15:8)

(Rare earths) (Hydrochloric acid)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

LOPATINA, G.I.; PLAKSIN, I.N., nauchnyy rukovoditel'; SUVOROVSKAYA, N.A., doktor tekhn.nauk, nauchnyy rukovoditel'

Use of ion exchange for exchange for extracting minerals. Nauch. soob.IGD 14:142-143 '62. (MIRA 16:1)

1. Chlen-korresponddent AN SSSR (for Plaksin).
(Ion exchange) (Ore dressing)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

ACCESSION NR: AR4015684 S/0081/63/000/023/0129/0129

SOURCE: RZh. Khimiya, Abs. 23G68

AUTHOR: Suvorovskaya, N. A.; Voskresenskaya, M. M.

TITLE: Determination of lithium in products containing both lithium and beryllium

CITED SOURCE: Nauchn. soobshch. In-t gorn. dela im. A. A. Skochinskogo, v. 16, 1962, 23-25

TOPIC TAGS: lithium, lithium determination, quantitative analysis, beryllium, colorimetry, berillon ZIRYe A, toron

TRANSLATION: A method is described for the determination of Li and Be in Li-Be ores, consisting of the separation of Be as beryllium hydroxide, followed by the colorimetric determination of Be and Li using berillon ZIRYe A for beryllium and toron for lithium. A 0.2 g sample is heated for 30-40 minutes at 900-1000C; after cooling and treatment with a mixture of 10 ml HF + 5 drops H_2SO_4 + 3 drops HNO_3, the mixture is evaporated, mixed with water and again evaporated to dryness. The residue is heated for 1-2 minutes to a

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ACCESSION NR: AR4015684

dark red color, extracted with hot water, and filtered. The filter is washed with cold water and the filtrate diluted with water to 100 ml. To 50 ml of the obtained solution, NH_4OH is added to a slight odor and the mixture is left for 20-30 minutes. The precipitated $Be(OH)_2$ is filtered off and washed with water. Several drops of NH_4OH are added to the filtrate, which is then heated to boiling; boiling is continued until the odor of NH_3 disappears. After cooling, the filtration is repeated and the filtrate is checked for the complete separation of Be compounds by a qualitative reaction with berillon. When Be is absent, the filtrate is diluted to 100 ml with water and Li is determined colorimetrically by means of toron in an aliquot. For the Be determination, the Be $(OH)_2$ precipitate is dissolved in hot HCl (1:1), the filter is washed with HCl (1:1) and hot water, and the solution obtained is neutralized, first with NaOH pellets and then with a 10% solution of NaOH and diluted with water to 100 ml. Be is determined colorimetrically in an aliquot by means of berillon ZIRYe A. At low concentrations of Be (0.0001 — 0.009%), the Morin method is used after a preliminary separation of Be from solution by the titanium phosphate method. Good results were obtained in the determination of 0.3-4.7% Li_2O_3 and 0.003-1.4% BeO_2. L. Guzeyeva

DATE ACQ: 09Jan64 SUB CODE: IC ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

L 40796-65 EPA(e)-2/EWT(m)/EPF(c)-2/EWG(m)/EWP(t)/EWP(b) Pt-10/Pu-4
IJP(c) RWH/JD/JG/RM
ACCESSION NR: AP4047872 S/0279/64/000/005/0098/0100

AUTHOR: Suvorovskaya, N. A. (Moscow); Shidlova, T. V. (Moscow); Shmarinova, [illegible] (Moscow)

[illegible] exchange

[illegible] 1964, 98-100

TOPIC TAGS: [illegible] alkaline

ABSTRACT: The authors discuss the separation of Li from alkaline ions and Mg [illegible] which proved [illegible] and effective. For that purpose they [illegible]

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L 40796-65
ACCESSION NR: AP4047872

has: 4 tables

ASSOCIATION: None

SUBMITTED: 25Jan64 ENCL: 00 SUB CODE: MM, GC

NR REF SOV: 004 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

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CA

13

Fat acid emulsions. G. A. El'kishek and N. A. Suvorovskaya. Russ. 39,299, Oct. 31, 1934. An aq. soln. of olein soap is heated to 50° (150-200 g. fat acid per l.), and mixed with a 20-30% aq. soln. of $(NH_4)_2SO_4$ taken in such proportion as to have 6.6 to 7.4 g. of dry $(NH_4)_2SO_4$ per 28.2 g. of oleic acid.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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CA

PROCESSES AND PROPERTIES INDEX

26

Increase of the drying properties of oils and fats. N. A. Suvorovskaya and Simova. *Byull. Leko-Krasochnoi Prom.* 1938, No. 4, 42-5; *Khim. Referat. Zhur.* 2, No. 2, 128(1939).—"Ryzhik" mushroom, tobacco, corn, sunflower and seal oils were oxidized with air at 150° and dehydrated at 280° in the presence of 3% of Zn and 1.5% of Al_2O_3. In all cases a hardening of the film was observed (as compared with the polymerized or with the only oxidized oils) as well as an increase of the I no. Extn. of the oxidized and dehydrated oils with acetone yielded a fraction similar to linseed oil. The possibility of completely replacing linseed oil with the semidrying oils has not been proved, but in some cases the semidrying oils can be used with success.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

25

Production of acid-resistant enamels. N. A. Suvorovskaya, Simova and Rybina. *Byull. Obmen Opyt. Lakokrasochnoi Prom.* 1939, No. 6 7, 28.—An oil soln. resin prepd. from phenol and butyraldehyde was condensed with an alkyd resin. An enamel prepd. from the resulting resin showed no change after contact for 6 months with 15% H_2SO_4. David Aclony

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

BC

B-II-8

NONDRYING AND SEMI-DRYING OILS IN THE VARNISH TRADE. N.A. Suvorovskaja (Prom. Org. Chim., 1939, 6, 227-231).—Formulae for prep. of varnishes with treated non-drying oils are given. (R.T.)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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CA

26

Gasoline refinery wastes in black varnishes. N. A. Suvorovskaya. *Byull. Obmen Opyt. Lakokrasochnol Prom.* 1939, No. 10, 23-4.—Cracking residues contg. 50-70% nonvolatile products were (*a*) copolymerized with raw linseed oil in ratios of 2:1, 1:1 and 1:2 at 280° for 6-8 hrs.; (*b*) cracking residues were polymerized at 200-80° forming a resin m. 60-80°; (*c*) cracking residues were oxidized at 200-80° until a resin m. 60-80° was formed. (*a*) yields a varnish, while (*b*) and (*c*) yield a hard brittle resin incompletely sol. in oils. The higher the m. p. of these resins the greater their brittleness and the poorer their soly. Insulating varnishes can be prepd. from (*a*) which are at least as good as those prepd. from asphalt or gilsonite.

David Aelony

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

21

Determination of volatile combustible matter in fuels.
N. A. Suvorovskaya. *J. Applied Chem.* (U.S.S.R.) 19,

607-8(1946)(in Russian).—Porcelain crucibles and elec. furnaces can be substituted for the conventional Pt crucibles over gas burners. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

739. DETERMINATION OF VOLATILE COMBUSTIBLE MATTER IN FUELS.
Suvorovskaya, N. A. (J. Appl. Chem. (U.S.S.R.), 1946, 19, 607-608; Chem. Abstr., 1947, 41, 2551-2552).

Porcelain crucibles and electric furnaces can be substituted for the conventional Pt crucibles over gas burners.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

5(3) SOV/63-4-3-3/31

AUTHOR: Suvorovskaya, N.A., Candidate of Technical Sciences

TITLE: Epoxide Resins in the Varnish and Paint Industry

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 3, pp 303-312 (USSR)

ABSTRACT: Epoxide resins have a great future, because the ethylene oxide ring is highly reactive and can interact with reagents containing active hydrogen [Ref 1]. The raw material for these resins are multi-atomic phenols and compounds containing the epoxide group, like epichlorohydrin, butadiene dioxide, the diglycide ether of glycerol, etc. The resins are prepared by condensating dioxydiphenylpropane with epichlorohydrine in an alkaline medium. The reaction between the epoxide group and the phenolic hydroxyl is strongly exothermic. The number of phenolic hydroxyls is reduced during synthesis (Table 1). At 200°C the number of epoxide groups decreases more rapidly than the number of phenolic hydroxyls (Figure 1). Epoxide resins of high molecular weight are produced by taking less than 2 moles of epichlorohydrine per 1 mole of dioxydiphenylpropane. In the USSR the following epoxide resins are produced: ED-5, ED-6, E-40, E-41, E-49 and E-30. In Czechoslovakia resins

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of the type "Upon" are manufactured. For hardening glycide esters, compounds with an amino-group are employed. In the presence of primary and secondary amines an interaction of the epoxide group with the amino-groups takes place. The action of a tertiary amine depends on the structure of the organic radical at the nitrogen atom and on its steric hindrance. In the hardening of epoxide resins by primary and tertiary amines stoichiometric ratios show optimum effects. Ethylene diamine, diethylaminopropylamine, pyridine, etc, are the hardening agents which are used on a broad scale. Epoxide coatings hardened by polyamines have a high chemical resistance. They dry at room temperature, but the best properties are obtained by hot drying. The uneven surface, which is the drawback of these coatings, is avoided by preliminary condensation of the epoxide resin with the amine. The hardening of epoxide resins may be obtained by the addition of 3% of triethanolamineborate [Ref 25]. Other hardening agents are polyamides which give a high impact resistance, good gluing properties, a high dielectric resistance, etc. Resins hardened by amines are not elastic enough. Plasticizers, like low-molecular thiokols, are added, therefore. Optimum effects are reached at a content of 33 - 50% of thiokol in the epoxide resin. Organic acids are used for the esterification of epoxide resins with increased molecular weight. The process may be controlled by changing the tempe-

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rature of the synthesis. Anhydrides of organic acids produce heat resistant resins. Epoxide compounds hardened by hexachloroendomethylene are heat-resistant at 200°C for a long time. The resins may be modified by fatty acids from vegetable oils. It is recommended to add isocyanates, melamino- and urea-formaldehyde groups for binding non-esterified hydroxyl groups. Eleostearic acid improves the physical-chemical properties of the varnishes. The characteristics of resins modified by fatty acids are given in Reference 29. The partial esterification of "Epon 1001" by lauric acid produces an alkyd-epoxide resin with improved light resistance. Investigations of the infrared spectrum has shown that the epoxidation proceeds principally in the side chain. The principal tasks of the Soviet varnish and paint industry are the development of new technological processes, the application of new reagents, the rational selection of catalysts and the broadening of the raw material base.

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84981
S/065/60/000/007/005/008/XX
E194/E484

26.2192

AUTHORS: Sentyurikhina, L.N., Oparina, Ye.M., Rubtsova, Z.S. and Suvorovskaya, N.A.

TITLE: Solid Lubricant Coatings

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No.7, pp.24-29

TEXT: Published work, mostly foreign, on solid lubricants is briefly reviewed. The original experimental work described here was concerned with molybdenum disulphide. Solid lubricants have poor protective properties, the lubricating film if once damaged may not be easily replaced and they do not extract heat. Their service life may be increased by binding them to the metallic surface by appropriate treatment. Very finely divided powders are necessary to secure good adhesion to metals. The surface to be treated must also be of good finish and the present tests were made with surface finishes classes 10 to 12, i.e. with average height of roughness of 0.05 to 0.1 microns. The usual methods of depositing solid lubricants on metal surfaces are described. The choice of binder is discussed, the most heat resistant resins produced in the USSR being silicone and combinations of silicones with acrylic and

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Solid Lubricant Coatings

epoxide polymers. The hardening treatment used depended on the properties of the binder, the temperatures ranged from 150 to 350°C, depending on the resin used. The choice of solvent for deposition of resin and solid lubricant is important, ethanol was used in the tests because it is particularly convenient for use with the molybdenum disulphide which was used. Data on the permissible dilution of the resin with ethanol is given in Table 1. Tests were made with suspensions of molybdenum disulphide ranging in concentration from 6 to 37%, and the relationship between film thickness and molybdenum disulphide concentration is given in Table 2. Uniform films could not be obtained with molybdenum disulphide concentration below 10%. The adhesion of the solid lubricant coatings to metal surfaces was assessed by adhesiometers of the Deryagin and Orlov systems, by a press tool and in other ways. However, difficulty was experienced in making the assessment because the film could not be removed as a thin sheet. Information about resistance of the coating to rubbing was obtained in an instrument in which a shaft rotating at constant speed is pressed against a sheet coated with solid lubricant. As soon as the film of solid

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SUVOROVSKAYA, N.A.; TYURIN, B.F.; ZYUZINA, Yu.D.; NAZAROVA, Yu.G.

Studying the effect of hardeners on the characteristics of epoxy resin base coatings. Lakokras.mat.i ikh prim. no.5:4-10 '62. (MIRA 16:1)

(Protective coatings--Testing) (Epoxy resins)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

KUZ'KIN, Sergey Fedorovich; NEBERA, Vladimir Petrovich; TAUBMAN, A.B., retsenzent; SUVOROVSKAYA, N.A., otv. red.; MAKRUSHINA, Ye.A., red.izd-va; BOLDYREVA, Z.A., tekhn. red.; LOMILINA, L.N., tekhn. red.

[Synthetic flocculants in dewatering processes] Sinteticheskie flokulianty v protsessakh obezvozhivaniia. Moskva, Gosgortekhizdat, 1963. 243 p. (MIRA 17:1)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKAYA, N.A., doktor tekhn.nauk; VOSKRESENSKAYA, M.M., kand.tekhn. nauk

Determining sodium hexametaphosphate as a peptizing agent. Nauch. soob. IGD 19:27-29 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

KARAVAYEVA, S.D.; SENATSKAYA, G.S.; SUVOROVSKAYA, N.A.

Determination of rhenium in various rhenium-containing products. Vest. AN Kazakh. SSR 21 no.1:51-56 Ja '65.
(MIRA 18:7)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

L 10312-66 EWT(1)/EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b) IJP(c) DS/JD/JG/AT/RM

ACC NR: AP6000097 SOURCE CODE: UR/0360/65/000/002/0033/0040

AUTHOR: Karavayeva, S. D.; Suvorovskaya, N. A.

44,55 44,55

ORG: None

50
B

21, 44, 55

TITLE: Mechanism of anion-exchange sorption of rhenium and molybdenum on AV-17 ion exchanger

27 44,55 27

SOURCE: AN KazSSR. Izvestiya. Seriya khimicheskikh nauk, no. 2, 1965, 33-40

TOPIC TAGS: rhenium compound, molybdenum compound, ion exchange, sorption

ABSTRACT: Neutral solutions of $KReO_4$ and $Na_2MoO_4 \cdot 2H_2O$ were used with the strongly basic anion exchanger AV-17(6) in the Cl^- form having the active groups $(CH_3)_3N^+$. The sorption rate of rhenium and molybdenum was studied as a function of temperature; as the latter rose, equilibrium in the anion-exchange reaction was reached faster because of a faster diffusion of the ions from the solution to the anion exchanger. The temperature dependences of the rate constants and the activation energies found indicate that the anion-exchange process studied is a diffusional one. The calculated diffusivities of ReO_4^- and $MoO_4^=$ confirmed that the rate of the exchange process for both rhenium and molybdenum is determined by the diffusion of the ions into the granules of the adsorbent. Orig. art. has: 8 figures, 5 tables, and 2 formulas.

SUB CODE: 07 / SUBM DATE: 21Sep64 / ORIG REF: 010 / OTH REF: 012

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

PANFILOVA, T.A.; SUVOROVSKAIA, N.A.; TSUKERSHTEYN, O.E.

The coronary vasoconstrictor activity of the serum of rabbits on a cholesterol diet. Cor Vasa 6 no.4:308-311 '64.

1. The Central Research Laboratory, Ist Leningrad Medical Institute, Leningrad, USSR.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKIY, A.

Shortcomings in planning. Muk.-elev.prom. 22 no.10:29 O '56. (MLRA 9:12)

1. Nachal'nik inspektsii Vnutrenney okhrany Moskovskogo tresta Glavmuki.
(Flour mills--Fires and fire prevention)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

MELESHKIN, G.A.; LOGASHEV, V.G., redaktor; SUVOROVSKIY, A.P., redaktor; FLAUM, M.Ya., tekhnicheskiy redaktor.

[Maintenance of electrohydraulic steering machinery] Obsluzhivanie elektrogidravlicheskikh rulevykh mashin. Moskva, Iz-dvo Ministerstva morskogo i rechnogo flota, 1953. 55 p. (MLRA 7:8)
(Steering gear)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKIY, E.A., inzh.; VLADIMIROV, V.B., inzh.; AGAPOV, G.I., inzh.

Effect of displacement in bilateral, one-pass joints in 1Kh18N9T steel on the appearance of knife-line corrosion. Svar. proizv. no.6:29-30 Je '63. (MIRA 16:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

VLADIMIROV, V.B., inzh.; SUVOROVSKIY, E.A., inzh.; AGAPOV, G.I., inzh.

Corrosion testing of the internal cavity of welded stainless steel pipes. Svar. proizv. no.9:33-34 S '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKIY, P.P. (Odessa)

Using iteration methods in solving a system of linear equations. Stroi.mekh.i rasch.sooor. 2 no.1:27-30 '60. (MIRA 13:6)

(Linear equations)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUVOROVSKIY, P.P. (Odessa)

Design of beams on elastic supports. Stroi. mekh. i rasch. soor. 5 no.3:12-15 '63. (MIRA 16:6)

(Beams and girders)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALA, Edward; PORABKA, Eryk; KLUSZCZYNSKI, Aleksander

Address of the General Meeting of the Association of Mining Engineers and Technicians to Wladyslaw Gomulka, First Secretary of the Central Committee of the Polish United Workers Party. Wiadom gorn 15 no.5:150 My'64.

1. Presidium of the General Meeting of the Association of Mining Engineers and Technicians.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWAISKA, W.

The continuous process of dyeing cotton fabrics and artificial fibers with direct dyes. Biuletyn Wlok.

p. 12 (Przemysl Wlolienniczy. Vol. 10, no. 6, June 1956. Lodz, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, F.

[illegible] of reinforced [illegible]

[illegible]
ments and stresses have been [illegible] experimentally were considerably [illegible]

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, J.

Importance of research on vocal sound waves for telecommunication. p.266

PREGLAD TELEKOMUNIKACYJNY. (Stowarzyszenie Elektrykow Polskich. Sekcja Telekomunikacyjna) Warszawa, Poland
Vol.28, no.8, Aug. 1955

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.1, Jan. 1960

Uncl.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

24(6)

P/045/60/019/01/007/008
B018/B000

AUTHORS: Buras, B., Suwalski, J.

TITLE: In-pile Hall Coefficient Measurements of Germanium Bombarded by Fast Neutrons

PERIODICAL: Acta Physica Polonica, 1960, Vol 19, Nr 1, pp 115-117 (Poland)

ABSTRACT: This is a letter to the editor. The authors show that lattice defects produced by fast-neutron bombardment introduce localized energy states into the forbidden energy band of germanium. This causes the change of n-type germanium into p-type germanium when irradiated by fast neutrons. In order to investigate the nature of this bombardment in the neighborhood of the intrinsic region, a semi-continuous in-pile Hall coefficient measurement was made. Figure 1 shows the results. Because only a small dose of fast neutrons was used, it was reasonable to assume that no observable changes in mobilities and scattering factors were caused. On this assumption the Hall coefficient curve was calculated from the conductivity curve on the basis of both a two-carrier and a three-carrier model. The latter is in better agreement with the experimental result (Fig 2). The authors thank Dr. H. Rzewuski of the Institute of Nuclear Research at the Polish Academy of Sciences, Warsaw, for his discussions. There are 2 figures, 1 table, and 3 references.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

S/058/63/000/002/055/070
A160/A101

AUTHORS: Buras, Bronisław, Bartenbach, Maria, Suwalski, Jan, Tomczak, Zenon

TITLE: An investigation of the radiation defects as a method for studying the electric conductivity, the Hall coefficient and the thermo-emf of germanium as a function of carrier concentration

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 88, abstract 2E589 ("Rept. Inst. badań jądrow. PAN", no. 314/I-B, 1962, 15 pp., illust., English; summaries in Polish and Russian)

TEXT: Measurements were carried out of the electric conductivity, of the Hall coefficient and of the thermo-emf of Ge (irradiated in a reactor) in the region of the natural conductivity as a function of the concentration of current carriers. The experimental results were compared to the calculated ones. Calculated were the concentration and the mobility of light holes. The results confirm the assumption regarding the presence of four minima in the conductivity zone of Ge.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

S/058/63/000/002/052/070
A160/A101

AUTHORS: Suwalski, Jan, Malinowski, Wiktor

TITLE: The scattering of holes on radiation defects in germanium irradiated by fast neutrons

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 87 - 88, abstract 2E586 ("Rept. Inst. badań jądrow. PAN", no. 315/I-B, 1962, 12 pp., illust., English; summaries in Polish and Russian)

TEXT: The Hall coefficient in p-Ge was measured at room temperature as a function of the dose of radiation by fast neutrons (up to $2 \cdot 10^{16}$ n/cm^2) and as a function of the magnetic field (from 1 to 9 koe). Data on the behavior of the normal and light holes were obtained by the use of the weak and the strong magnetic field. It was established that a change of the carriers mobility mainly depends on the change in the mobility of light holes. The experimental curves of the dependence of mobility of holes on the magnetic field well correspond to the calculated ones for various radiation doses on the base of the Conwell-Weisskopf formula, and also to the results of other works. It is con-

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, LUDOMIR

Suwalski, Ludomir. Zarys wytrzymalosci konstrukcji betonowych i zelbetowych (teoria betonu i zelbetu) skrpt dla studentwo, inzynierow i magistrow. Wroclaw, Nakl. Panstwowego Wydawn. Naukowego, 1951. 192p. (Theory on the resistance of concrete and reinforced concrete; a textbook for engineers and students of polytechnics)

SO: East European IC Vol. 2, No. 12, Dec. 1953

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, Dr. L.

Applied Mechanics Reviews
June 1954
Structures

1776. Design of specification PN/B-03250 "Concrete constructions, statical analysis and design," with Prof. Dr. L. Suwalski's commentary, *Inżyn. Budown.* 9, 12, 388-395, Dec. 1952.

In 1950, PN/B-03260 was introduced in Poland as a new specification for analysis of reinforced-concrete construction. Instead of being based on the hitherto conventional method of linear stresses with rectangular distribution of stresses in the concrete compression zone of bent beams, the new specification is based on the calculation of reinforced-concrete elements by the method of plastic deformations. For concrete constructions, a new specification PN/B-03250 was outlined in conjunction with the reinforced-concrete specifications. This specification provides for the use of different grades of cement (based on 28 days' compression strength) from 50–600.

Columns are calculated according to the destruction force, which is divided by the appropriate factor of safety to give the live load on the columns. Bent beams are analyzed in analogous fashion based on their failure moment. If one assumes that R is the calculated required tensile strength for bending, S a safety factor, M_u a failure moment, and W the section bending modulus, then $M = M_u/S = WR/S$. Moreover, for a rectangular section $W = kbh^2/6$, not as hitherto $W = bh^2/6$. The value of R for the lowest cement grade is 2.2 and for the highest 1.5, based on a parabolic shape of the curve of tensile stresses. In the analysis of the deflection of columns subject to buckling, both the slenderness of the column and the grade of cement are taken into account.

Introducing this specification has developed plasticity theory into a practical and useful tool for the calculation of concrete elements.

J. Nechay, Poland

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SUWALSKI, L.

3704

624.012.3/.4

* Bryła S. Suwalski L. Concrete and Reinforced Concrete.
„Beton i żelbet". Wyd. 2, Warszawa, 1954, Budown. i Archit., 16°, 292 pp., 369 figs., 39 tabs.

Basic information on the technology of concrete and the methods of planning, calculating and constructing reinforced concrete structures. The following are the main chapters: 1. Materials and technology of concrete. 2. The theoretical bases and the calculation of members. 3. Reinforced concrete structures. 4. Construction. 5. Examples of calculations and planning of reinforced concrete structures. 6. Auxiliary tables.

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The influence of vibrations on chemical processes in concrete. p.129

(ARCHIWUM INZYNIERII LADOWEJ. Vol. 3, No. 1/2, 1957. Warszawa, Poland)

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SUWALSKI, L.; LENKIEWICZ, W.

Increase in concrete resistance by additional curing techniques. p. 122.

INZYNIERIA I BUDOWNICTWO. (Naczelna Organizacja Techniczna i Polski Zwiazek Inzynierow i Technikow Budowlanych) Warszawa, Poland.
Vol. 16, no. 3, Mar. 1959.

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uncla.

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DUWALSKI, L.

New stations on the city railway line in Warsaw. p. 381.

INZYNIERIA I BUDOWNICTWO. Warszawa, Poland. Vol. 16, no. 9, Sept. 1959.

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Uncl.

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SUWALSKI, Ludomir (Warszawa); POZNANSKI, Tomasz (Warszawa)

Preliminary studies on the acceleration of the maturing process of concrete by high frequency currents. Archiw inz lad 7 no.3:403-414 '61.

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1. Przewodniczacy Prezydium Zarzadu Glownego, Zwiazek Zawodowy Pracownikow Budownictwa i Przemyslu Materialow Budowlanych, Warszawa (for Papierniak). 2. Przewodniczacy Prezydium Zarzadu Glownego, Polski Zwiazek Inzynierow i Technikow Budownictwa, Warszawa (for Suwalski).

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Bending, vibrations and buckling of shallow cylindrical shell with variable boundary conditions. Bul Ac Pol tech 11 no.4: 171-182 '63.

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SUWALSKI, Ludowmir, prof. dr inz.; ABRAMOWICZ, Marian, mgr inz.

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SUJALSKI, Ludomir, prof. dr.; DABROWSKI, Kazimierz, dr. inz.

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New possibilities of applying photoelasticity to studies on metal construction parts. Przegl mech 23 no.6:165-168 ; 25 Mr'64

1. Katedra Konstrukcji Zelbetowych, Politechnika, Warszawa.

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Construction theory and testing. Inz i bud 21 no.7:222-230 Jl '64.

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Protection of electroresistant sensing devices. Przegl mech 23 no.15:428-430 10 Ag '64

1. Department of Ferroconcrete Constructions, Technical University, Warsaw. Head of Department: Prof. Suwalski.

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SUWALSKI, R.

Calculation of the electric equivalent circuit of a loaded bar-type magnetostrictive transducer. p. 647.

ARCHIWUM ELEKTROTECHNIKI. (Polska Akademia Nauk. Instytut Podstawowych Problemow Techniki) Warszawa, Poland. Vol. 7, no. 4, 1958.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, ROMAN

35

PHASE I BOOK EXPLOITATION POL/5981

Symposium on Electroacoustic Transducers. Krynica, 1958

Proceedings of the Symposium on Electroacoustic Transducers [held in] Krynica, 17-26 September, 1958. Warsaw, Panstwowe Wydawnictwo Naukowe, 1961. 442 p. Errata slip inserted. 630 copies printed.

Sponsoring Agency: Polish Academy of Sciences. Institute of Basic Technical Problems.

Ed. in Chief: Janusz Kacprowski, Doctor of Sciences; Editing Committee: Ignacy Malecki, Professor, Doctor of Sciences; Wincenty Pajewski, Doctor; and Jerzy Wehr, Master of Sciences; Secretary: Juliusz Mierzejewski.

PURPOSE: This book is intended for physicists and acoustical engineers.

COVERAGE: The book is a collection of detailed research papers constituting the proceedings of a conference held in Krynica from 17 to 26 September 1958 under the auspices of the Institute of Technical Problems, Polish Academy of Sciences.

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Symposium on Electroacoustic Transducers POL/5981

The following basic problems are treated: 1) theoretical research on energy transformation processes; 2) experimental development of new types of transducers; 3) electroacoustic measurements; 4) technology of piezoelectric and magnetostrictive materials; 5) construction of transducers for technical needs; and 6) design of acoustical transducer systems. No personalities are mentioned. References (if any) follow the individual articles.

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Ch. 1. General Problems and Theory of Electroacoustic Transducers
1. Classification of electromechanical transformation methods in the light of the tasks faced w[illegible]n [sic] the design and construction of electroacoustic equipment. V. S. Grigor'yev 7

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Symposium on Electroacoustic Transducers POL/5981

2. Symbols and models for mechanical systems. L. Cremer 23
3. Dual forms of four-pole equations and four-pole equivalent circuits of electromechanical transducers. Janusz Kacprowski 33
4. Equivalent circuits for material-active electromechanical (piezoelectric, electrostrictive, magnetostrictive) transducers in non-quasi stationary vibrations. F. A. Fischer 49
5. Transients and the equivalent circuit of the magnetostrictive transducer. Leszek Filipczynski 61
6. Electrical equivalent circuit of the piezoelectric transducer. Leszek Filipczynski 75
7. Four-pole equivalent circuits of piezoelectric bending vibrators. A. Lenk 85
8. Analysis of the equivalent circuit of the magnetostrictive transducer. Roman Suwalski 93
9. A method of calculating transients in nonlinear transducers. Jozef Tabin 101
10. Electrodynamic transducer utilizing displacement currents in dielectrics with high dielectric permeability. V. S. Grigor'yev, L. N. Nikitina, and J. [sic] A. Ukhanov 105

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, Tadeusz; MAJEWSKI, Czeslaw

A case of ovarian tumor of dysontogenic cystic nature in a 16-month-old infant. Pat.polska 11 no.3:301-306 '60.

1. Z Oddzialu Chirurgii Dziecicej Wojewodzkiego Specjalistychnego Szpitala Dziecicego w Poznaniu, Ordynator: dr med.Tadeusz Suwalski. Z Zakladu Anatomii Patologicznej Akademii Medycznej w Poznaniu, Kierownik: Prof.dr Janusz Groniowski.
(OVARIES neopl)

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KONDRAT-WODZICKA, Halina, doc. dr.; KASPERSKA, Irena; SUWALSKI, Tadeusz, dr. med.

On the possibility of formation and stimulation of cleft jaw to growth. Czas. stomat. 18 no.5:465-470 My'65.

1. Z Katedry i Zakladu Ortodoncji Akademii Medycznej w Lodzi (Kierownik: doc. dr. H. Kondrat-Wodzicka) i z Oddzialu Chirurgii Dzieciecej Wojewodzkiego Szpitala w Poznaniu (Ordynator: dr. med. T. Suwalski).

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SUWALSKI, W.

KOWARZYKOWIE, Hugon; KOWARZYKOWIE, Zofia; ROZWADOWSKA-DOWZENKOWA, Maria; KUBISZ, Tadeusz; SUWALSKI, Witold; STASINSKI, Tadeusz

Comparison of stereocardiographic with spatial vectocardiographic findings. Polski tygod. lek. 11 no.50:2097-2102 10 Dec 56.

1. (Z Zakladu Patologii Ogolnej i Doswiadczalnej A.M. we Wroclawiu; kierownik: prof. dr. Hugon Kowarzyk i z III Kliniki Chorob Wewnetrznych A.M. w Poznaniu; kierownik: prof. dr. Franciszek Labendzinski) Zakl. Patol. Ogoln. Dosw. Wroclaw, Marcinkowskiego 1.

(ELECTROCARDIOGRAPHY,
comparison of stereocardiography with vectocardiography (Pol))

(VECTOCARDIOGRAPHY,
comparison with stereocardiography (Pol))

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

OLEJNICZAK, Pawel; ROZWADOWSKA-DOWZENKO, Maria; STASINSKI, Tadeusz; SUWALSKI, Witold

Various problems of vectorcardiographic methods. Polski tygod.lek 13 no.8:266-269 24 Feb 58

1. (Z III Kliniki Chor Wewnetrznych Akademii Medycznej w Poznaniu; kierownik: prof. dr med. Franciszek Lavendzinski.) Adres autora: Poznan, ul. Szkolna 8/12 III Klinika Chorob Wewn. A.M.

(VECTORCARDIOGRAPHY,
problems (Pol))

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24134

P/046/60/005/009/005/006
D241/D302

9,2510

AUTHORS: Kacnlicki, Zdzisław, Suwalski, Witold, Szwaja, Zygmunt

TITLE: A linear pulse amplifier

PERIODICAL: Nukleonika, v. 5, no. 9, 1960, 569 - 573

TEXT: A linear pulse amplifier with a pulse-height discriminator is described. The overall gain of the amplifier is 120 dB for frequencies ranging from 10 kc/sec to 3 Mc/sec. It has been designed for use in connection with detectors of ionizing radiations. The amplifier is built in two separate units connected by cable so that the first unit (preamplifier) can be placed directly adjacent to the detector. Each unit comprises a three-stage tube circuit with a strong negative feedback, with low-capacitance pentodes in the first two stages. The third stage being a cathode follower. To ensure maximum stability, the resistors of the potential divider for the negative feedback are wound with constantan. In order to reduce noise, a resistance of 50 Mohm was

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D241/D302

A linear pulse amplifier

connected in series with the 1 Mohm grid resistor in the input stage of the preamplifier (Fig. 3). This brings the working point near to the zero grid current, thus minimizing the fluctuations of the grid current and so reducing the noise voltage. The pulses are shaped by means of two RC circuits: a differentiating circuit at the input to the main three-stage amplifier and an integrating circuit placed at the output. The time constants of both the differentiating and integrating circuit can be varied from 0.1 μsec to 20 μsec. A capacitance C_6 (Fig. 3) was incorporated in the cathode circuit of the second stage of the preamplifier. This modifies the properties of the circuit and results in a fast rise-time of the pulses. The pulses leaving the main amplifier are fed to an inverter, so that the amplifier can be used for positive and negative input pulses, both polarities giving a positive output. The output cathode follower is preceded by a Schmitt pulse-height discriminator. The amplification is linear for both positive and negative inputs up to 50 V maximum output amplitude. There are 3 figures.

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24134

A linear pulse amplifier

P/046/60/005/009/005/006
D241/D302

ASSOCIATION: Politechnika Poznanska, Poznań, katedra elektroniki przemysłowej (Poznan Technical University, Poznan, Department of Industrial Electronics)

SUBMITTED: June, 1960

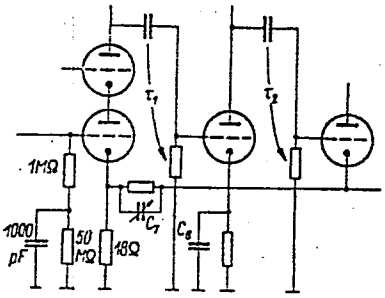

Fig. 3. Details of the preamplifier circuit diagram.

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23892
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D226/D301

A method of determining...

purity of moderators, and especially that of graphite, the phenomenon of neutron absorption is masked to a great extent by the action of moderator itself, even assuming that there is diffraction and the sensitivity of the global signal method would be negligible. The sensitivity of the local signal method l is being determined by the static method from $l = \frac{1}{x}\frac{L - L_0}{L_0}$ (12) where L - amplitude of local signal with impurities; L_0 - same for sample without impurities; x - relative impurity content of the characteristics of local changes of the neutron density. These changes are due also to the combined effect of three basic effects: Absorption of neutrons in the sample which decreases the neutron density, the diffraction of the thermal neutron stream and the moderation of epithermal neutrons which increase the local density of thermal neutrons. From the three above factors that of moderation has the preponderant role in reactors, in which the neutron spectrum has a large epithermal constituent. Since in the active lattice the local signal cannot be used it must be based on measurements performed outside the active lattice. This measurement has the advantage that at a distance from the reactor

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core the ratio of thermal to epithermal stream is large so that the measurement is in effect that of thermal absorption with a small influence only of resonance absorption. The diffraction can also be nearly eliminated and finally, the practically independent of power level-oscillator operation does not hinder other experiments. The third method of the resultant signal R, in which an ionization chamber located at any point measures in principle only this resultant signal, can also be used for determining absorption in such moderators as graphite or heavy water. The sensitivity of this method depends on angle ϕ and given by

$$\vartheta = \frac{d\Theta}{dx}\Big|_{x \to 0} = (g+1)\frac{\sin\varphi}{\frac{1+a^2}{a} - 2\cos\varphi} \qquad (14)$$

is proportional to the sensitivity of both previously discussed methods. This sensitivity depends on parameters a and φ, a being the ratio of amplitudes of local and global signals for pure materials respectively and φ - the phase delay angle of the global signal due to the change in the multiplication factor. Graphs of (g + 1)

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D226/D301

A method of determining...

are given against φ, from which it is clearly seen that the optimal ratio Lo/G_o is 1. The dependence of sensitivity of the phase angle method on parameters g, l, φ and a permits determination of the usefulness of the resultant signal method for measuring oscillator parameters for various types of reactors. As an example of application of the above methods certain numerical data are given, which are thought to be required and known before the actual construction of the oscillator begins. These numerical data are worked out from the experimental material obtained during the dynamic measurements of the oscillator installed at Chatillon and quoted by D. Breton (Ref. 3: Materiały I Konferencji Genewskiej, t. 4 ref. 356); the original Breton notation is used. There are 7 figures, 1 table and 7 references: 2 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English-language publication reads as follows: A.M. Weinberg, H.C. Schweinler: Phys. Rev. 74, 851 (1948).

ASSOCIATION: Instytut badań jądrowych PAN, Warszawa, zakład inżynierii reaktorowej (Institute of Nuclear Research, PAS Warsaw, Reactor Engineering Laboratory)

SUBMITTED: November, 1960

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001654020016-6

SUWALSKI, WITOLD.

4

30581
P/046/61/006/011/003/004/
D216/D304

21.5210

AUTHORS: Boukyk Jacek, Dąbek Wacław, Dąbrowski Cyryl, Josefowicz Krystyna, Kozmiński Jerzy, Suwalski Witold, Topa Jerzy, and Weiss Zbigniew

TITLE: Experimental analysis of the use of the "EWA" reactor for some pile-oscillator measurements

PERIODICAL: Nukleonika, v. 6, no. 11, 1961, 717 - 734

TEXT: This paper investigates the sensitivity of moderator purity determinations in the WWR-S "EWA" reactor of the Polish Academy of Sciences at Swierk using various methods. A priliminary report of the work has already been published (Ref. 6: W. Dąbek Nukleonika, 5, 415, 1960). The periodic change in neutron density caused by harmonic oscillation of an absorbing sample causing small reactivity changes may be written

$$\frac{n(t) - n_{av}}{n_{av}} = \sum_{m=1}^{\infty} G^{(m)} e^{j(m\omega t + \varphi^{(m)})} + \sum_{m=1}^{+} L^{(m)} e^{j(m\omega t + \alpha)} =$$

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Experimental analysis of ...

$$= \sum_{m=1}^{\infty} R^{(m)} e^{j(m\omega t + \theta^{(m)})} \qquad (2)$$

where $n(t)$ and n_{av} are the time dependent and average neutron densities, $G^{(m)}$ $L^{(m)}$ $R^{(m)}$ are the relative amplitudes of the m-th harmonics of the global (general reactor), local and resultant signals, $\varphi^{(m)}$, α and $\theta^{(m)}$ are the phase angles of the global, local and resultant signals, and the period of oscillation of the sample $T = 2\pi/\omega$. Fundamental harmonics only are considered, the other being eliminated by the apparatus or by computation. G and L depend upon the absorber content of the sample, and the global and local signal sensitivities g and l may be expressed

$$g = \frac{1}{x} \cdot \frac{G_x - G_o}{G_o} \qquad (8a)$$

$$l = \frac{1}{x} \cdot \frac{L_x - L_o}{L_o} \qquad (8b)$$

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Experimental analysis of ...

where x = equivalent number of boron nuclei per million moderator nuclei, and the subscripts x and o refer to signals for samples with and without absorbing impurities respectively. Similarly, the sensitivity of the resultant signal, , may be defined in terms of the phase angle

$$\vartheta = \frac{1}{x} \left(\theta_x - \theta_o \right) \qquad (8c)$$

Measurements were made at 300 W reactor power with as low xenon poisoning as possible. The sample was oscillated in the core in an empty fuel channel with one detector in an adjacent fuel channel and one in the thermal column (detecting the resultant and global signals respectively). For reactor stability, the cooling system is not operated. Samples were made of 200 - 250 ccs. of moderator with varying contents of boric acid (100-1000 ppm of boron), and were contained in aluminum or plexiglass. The large amounts of poison were necessary due to the low sensitivities of signals and apparatus. The detectors were differential ionization chambers, used with mirror galvanometers, electrometric dc amplifiers with 100 % feedback and a constant current compensating circuit. 1. Static method: Eq. (8a)

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Experimental analysis of ...

may be also expressed in terms of the fundamental harmonics of the k_{eff} change for samples with and without impurities, and these may be computed from statically measured characteristics of the change in k_{eff} obtained during the sample oscillation. Simultaneously, the adjacent detector determines the characteristics of the local change in neutron density and 1 may be found from Eq. (8b). Finally, ϑ may be obtained from Eq. (8c) by

$$\vartheta = \left.\frac{d\theta}{dx}\right|_{x=0} = \mp (g+1) \frac{\sin\varphi}{\frac{1+a^2}{a} \mp 2\cos\varphi} \qquad (10)$$

where $a = L_0/G_0$ and the upper and lower signs refer to $\alpha = 0$ and π (in-phase and counter-phase oscillations) respectively. φ and the relation between G and the change in k_{eff} may be computed or determined experimentally. The sample was positioned at the required point, and the reactor was balanced by a fine control rod which gave the appropriate value of k_{eff} 2. Kinetic method: Global and resultant signals are recorded on oscillograms during oscillations of the sample. Parasitic phase shifts σ_G and σ_R

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of the global and resultant signals occur, and are eliminated by performing two oscillations, one with $\alpha = 0$ and one with $\alpha = \pi$, of the same sample. Since the parasitic effects are the same for both oscillations, they may be removed by combining the observations. φ is determined from this by a method of successive approximations, and the correct L and θ values and hence l and ϑ are computed. The analysis becomes even simpler for small φ and $(L/G)_{\alpha=\pi} > 2$. The sample was mechanically oscillated with T variable from 1 - 22 seconds and amplitude from 50 - 430 mms. The reactor was balanced before and during the oscillations and once the oscillations were constant, a set of about 10 was recorded on oscillograms. At least 5 periods of the R and G signals were harmonically analyzed with accuracy up to the third harmonic. For measurements in the core with graphite samples, the signal sensitivities are, to an accuracy of 20%, - g and l both ~ 0.8 ‰/ppm, and $\vartheta \sim 0.3$ °/ppm - all for optimum experimental conditions. These are lower by two orders of magnitude than those obtainable in thermal reactors, and similar results are found for other moderators. They are due to the high contribution of the slowing-down process to G and L, in comparison with which the absorption contribution is hardly observed. The self-shielding effect of boron is a factor 0.5 for samples containing 500-

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-1000 ppm of boron. Measurements in a horizontal channel in the water reflector gave slightly lower sensitivities, but were not pursued due to experimental difficulties and unpromising results. Static method measurements in the horizontal thermal column channel gave promising results for 1. The results indicate a considerable increase in the effective delayed neutron fraction in comparison with the data of Keepin, Wimett and Zeigler (Ref. 7: Phys. Rev., 107,1044, 1957). Preliminary estimates give this as 0.0081 ± 0.0009, and the mean prompt neutron lifetime as 100 ± 30 sec. The static and kinetic methods give consistent sensitivities. The authors acknowledge W. Frankowski, Head of Reactor Engineering Division IBJ, P. Szulc and L. Labno, in charge of teams of Reactor Operation Division IBJ, Dobrski, Kulman and Kwiatek for cooperation in reactor measurements, Post for elaborating the oscillator mechanical drive, Miss Brozyna and Miss Maniecka for scanning the oscillograms, and Mrs. Sawicka, leader of the computer team from the Applied Mathematics Division IBJ. There are 8 figures and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: D. Breton, First Geneva Conferences Paper P/356, 1955; G.R. Keepin, T.F. Wimett, R.K. Zeigler, Phys, Rev., 107, 1044, 1957

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