PTASHKOVSKIY, N.G., inzhener; ZABOLOTNYY, I.Ye., inzhener.

Scraping grab buckets GShU-2. Mekh.trud.rab. 7 no.9:39-40 S '53.
(MLRA 6:9)
(Cranes, derricks, etc.)

ACC NR: AP7005848 SOURCE CODE: UR/0181/66/008/012/3590/3594

AUTHOR: Naumov, A. N.; Ptashnik, V. B.

ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Methods of determining the isotopic effect of diffusion in the case of electron transport in solids

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3590-3594

TOPIC TAGS: physical diffusion, transport phenomenon, isotope, electric field

ABSTRACT: This is a continuation of earlier work (FTT v. 7, 677, 1965) where formulas were derived to determine the ratio of diffusion coefficients of two isotopes with different masses in a solid, in the case of diffusion in a solid without application of an electric field. The present article presents a graphic and an approximate analytic method for determining the diffusion of isotopes from one semi-infinite body to another when a constant electric field is applied. Quantitative relations are derived by this method between the magnitude of the field and the magnitude of the measured effect, in the form of formulas relating the experimentally determined separation factor of the isotopes and the ratio of the diffusion coefficients of the isotopes. The results show that the use of a constant electric field in experiments on diffusion from one body to another makes it possible to increase by a factor of several times the measured separation factor and by the same token increase the ac-

Card 1/2

ACC NR: AP7005848

curacy with which the ratio of the diffusion coefficients is determined. This in turn makes it possible to determine the isotopic effect of diffusion for those elements for which the diffusion ratio has been too small to investigate until now. The authors thank G. Ya. Ryskin for useful remarks. Orig. art. has: 3 figures and 7 formulas.

SUB CODE: 20/ SUBM DATE: 26May66/ ORIG REF: 001/ OTH REF: 007

Card 2/2

PTASHNIKOV, S.V.

Traumatism in rural areas. Khirurgiia, Sofia 6 no.7:388-395 1953.
(CIML 25:5)

1. Head of Surgical Division of Provadiya Municipal Hospital.

PTASHNIKOV, V.

Make way for technical progress in inland water transportation.
Rech.transp. 19 no.9:1-4 S '60. (MIRA 13:9)

1. Zamestitel' ministra rechnogo flota.
(Inland water transportation)

PTASHNIKOV, V.

Striving for technical progress means striving for the seven-year plan. Rech. transp. 19 no.3:1-4 Mr '60. (MIRA 14:5)

1. Zamestitel' ministra rechnogo flota RSFSR.
(Inland water transportation)

KONEV, V.N.; KRUSHATINA, N.A.; AGAPOVA, V.A.; OSOKINA, L.I.; PTASHNIKOVA, M.O.

Studying the reaction diffusion in systems binary alloy - gas. Part 3: Sulfuration of copper-aluminum and copper-manganese alloys. Fiz.-met. i metalloved. 20 no.5:790-793 N '65.
(MIRA 18:12)

1. Ural'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo. Submitted January 4, 1965.

PTASHNYY, L.K., inzh.; LEPESHINSKAYA, Ye.V., red.; GAVRILOV , S.S., tekhn.red.

[English-Russian dictionary on automation and instruments] Anglo-russkii slovar' po avtomatike i kontrol'no-izmeritel'nym priboram. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1957. 379 p. (MIRA 11:2)
(English language--Dictionaries--Russian)
(Automatic control--Dictionaries)

PTASHOK,S.; ZATOKOVENKO, A.; PEYTERBARG,S.

In the Medical Council of Floreshty District. Zdravookhraneniye 6 no.1:62-63 J-F'63. (MIRA 16:8)

1. Glavnyy vrach Floreshskogo rayona, Moldaviya (for Ptashok).
2. Zamestitel' glavnogo vracha po sanitarno-epidemiologicheskogo chasti Floreshtskogo rayona, Moldaviya (for Zatokovenko).
3. Predsedatel' Floreshtskogo rayonnogo komiteta Krasnogo Kresta, Moldaviya (for Peyterbarg).
(FLORSHTY DISTRICT--PUBLIC HEALTH, RURAL)

PTASHOK, S.; ZATOKOVENKO, V.; SHCHELOCHEK, A.

Carrying out measures for the improvement of sanitation in medical institutions. Zdravookhranenie 3 no.2:62-64 Mr-Ap '60. (MIRA 13:7)

1. Glavnyy vrach Floreshthskogo rayona (for Ptashok). 2. Zamestitel' glavnogo vracha po sanitarno-epidemiologicheskoy chasti (for Zatokovenko).

(FLORESHTY--MEDICAL CENTERS--SANITATION)

P/005/62/000/025/006/007

AUTHOR: Ptasiewicz, Jan, Master of Engineering

TITLE: Achievements of the Zaklady Azotowe "Kedzierzyn" ("Kedzierzyn" Nitrate Plant)

PERIODICAL: Przeglad techniczny, no. 25, 1962, 12

TEXT: The plant was reconstructed on the site of a former IG Farbenindustrie complex and began production of nitrogenous fertilizers in 1954. Present production includes synthetic waxes, butyl acetates, melamines, fatty acids, phthalic acids, phthalates and urea, and attains the value of two billion zlotys a year. The 1700 improvements introduced since the plant began operation brought in over 27 million zlotys. Close cooperation with the Instytut Weglowy (Coal Research Institute) and the coke plant resulted in higher ammonia output and reduced the consumption of coke from 2189 kg per ton of ammonia in 1958 to 1769 kg in 1961. The initiated production of phthalic anhydride catalyst is considered highly successful. A new method for obtaining maleic anhydride is in development. Fatty alcohols are to be produced in the near future. An extensive development of the production of organic compounds is also anticipated. No references. One photograph.

Card 1 of 1

PTASIEWICZ, Jan, mgr

Chemists of the Nitrogen Works in Kedzierzyn in service of the industrial development of [illegible]. Przegl techn 86 no.9: 6 28 F '65.

1. Secretary of the Presidium Board of the Kedzierzyn Branch of the Association of Engineers and Technicians of the Chemical Industry.

PTASINSKA-URBANSKA, Maria

Variation of the structure of the tarsal plates in man.
Folia morph. (Warsz.) 24 no.3:299-306 '65.

1. Z Zakladu Anatomii Prawidlowej AM w Warszawie (Kierownik
Zakladu: prof. dr. W. Sylwanowicz).

PTASINSKI-URBANSKA, Maria

Further study on the heredity of sight anomalies in man.
Folia morphol 21 no.1:51-61 '62

1. Zaklad Anatomii Prawidlowej w Warszawie, kierownik: prof. dr. w. Sylwanowicz

CIOLEK, Antoni, inz.; PTASINSKI, Zbigniew, inz.; SLUSARCZYK, Stanislaw, inz.
MICHALOWSKI, Teofil, inz.; ADAMOWSKI, Henryk, mistrz.

Increase of the masimum power of WK-50-1 turbines decreasing simultaneously the consumption of steam per unit. Gosp paliw 11 Special issue no.(95):12-13 Ja '63.

1. Elektrownia Jaworzno II.

CICLEK, Antoni, inz.; PTASINSKI, Zbigniew, inz.; SLUSARCZYK, Stanislaw, inz.; MICHALOLWSKI, Teofil, inz.; ADAMOWSKI, Henryk, mistrz

Increase of the maximum power of WK-50-1 turbines decreasing simultaneously the consumption of steam per unit. Gosp paliw 11 Special issue no. (95):12-13 Ja '63.

1. Elektrownia Jaworzno II.

[illegible]

Zycie zakow krakowskich. Opatrzyl prseomowa i opracowal Mieczyslaw Ptasnik. Warszawa, Wiedza Powszechna, 1957. 1[illegible]6 p. (Life of Krakow students. illus.)

MiDW Not in DLC

SO: Monthly Index of East European Acessions (AEEI) Vol. 6. No. 11, November 1957.

PTASZEK, Jan, mgr.

Poland's participation in the specialization of the industries of the member countries of the Council for Mutual Economic Assistance. Przegl techn 85 no.8:3,4 23 F '64.

PTASZEK, Jan, mgr.

In a good way. Przegl techn 84 no.51:3,4 22 D'63.

PTASZEK, Jan, mgr

Polish-Russian collaboration in science and technology.
Przegl techn [illegible] no.15:1, 4 12 Ap'64.

PTASZEK, Jan, mgr

Cooperation with great possibilities. Przegl techn 84 no.46:7, 8
17 N '63.

PTASZEK, Jan, mgr.

Trends of Polish-Bulgarian economic cooperation. Przegl techn 84 no.20:4 19 My '63.

PTASZEK, Jan, mgr

Polish-Rumanian collaboration. Przegl techn 86 no.14:2,5
4 Ap '65.

PTASZEK, Jan, mgr

Polish-Soviet exchange of goods and its structure. Przegl techn 86 no.16:2,8 18 Ap '65.

POLAND

PODLEWSKA, Danuta; PTASZEK, Janusz; and WACHNIK, Zenon, Chair of Epizootiology of Veterinary ~~College of Agricultural~~ University (Katedra Epizootiologii Wydz. Wet. WSR) Head (Kierownik) Prof. Dr. T. SOBIECH, Wroclaw; Department of Poultry Diseases, Wroclaw (Zaklad Chorob Drobiu) Head (Kierownik) Docent Dr. Z. WACHNIK

"Diathesis Urica in New Hampshire Chicks and Chick Embryos"

Lublin, Medycyna Weterynaryjna, Vol 22, No 11, Nov 66; p. 687-689

Abstract [English summary modified]: "Uric diathesis" was diagnosed as the cause of low hatchability of New Hampshire chicks in a large hatchery (61.2 to 64.5% hatched out of around 1500) as opposed to Sussex chicks (67.8 or 69% out of about 3000) during the month of February. Runts were 5 to 13% in New Hampshire's, 2.5% in Sussex. Serum uric acid in the New Hampshire was 28 mg/100cc, fecal uric acid 70 mg/100 cc; bone and joint changes were also present. Probable cause was hypovitaminosis A. Table; 2 photographs of patient, 1 Hungarian, 2 Polish, 2 Czech references.

1/1

PTASZYNSKA, Irena

Composition of arterial elastic tissues of Anura. Part 1.
Ann. Univ. Lublin sect. D 19:399-408 ' 64.

Composition of arterial elastic tissues in Anura. Part 2.
Ibid.: 419-427 ' 64.

1. Katedra i Zaklad Histologii i Embriologii, Wydzial Lekarski AM w Lublinie (Kierownik: prof. dr. med. Stanislaw Grzycki).

S/081/63/000/002/057/088
B171/B102

AUTHORS: Ptaszyński, Leszek, Gniłka, Jerzy, Chmielewska, Zofia

TITLE: Preparation of cyclohexyl bromide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 405, abstract 2N47 (Polish patent 44699, July 20, 1961)

TEXT: 400 ml of water are stirred and 700 g of NaBr are added to it. At 30°C, 700 g of concentrated H_2SO_4 are poured in, and, finally, 550 g of cyclohexanol are admixed. The mixture is heated during 30 min at 70-80°C, cooled to 40°C, then 1200 g of concentrated H_2SO_4 are added drop by drop, and the heating is resumed during ~2 hrs at 70-80°C. After cooling to 30-40°C, the mixture is poured into water; oil is separated, washed with water and dried with Na_2SO_4. A pure cyclohexyl bromide is separated by distillation. Its yield is 85-95%, its boiling point: 52-53°C/13 mm, 61-63°C/20 mm, 71-73°C/32 mm. The advantages of the method are: the possibility of use of a technically pure NaBr, instead of 48%-HBr; the short duration of the reaction, and the ease with which the

Card 1/2

Preparation of cyclohexyl ...

S/081/63/000/002/057/088
B171/B102

process can be carried out on an industrial scale. [Abstracter's note: Complete translation.]

Card 2/2

PTASZYCKI, T.

(1)

Ptaszycki T. "Nowa Huta"
Nowa Huta. Architektura, No. 3, 1953, pp. 71-74, 12 figs.
The Nowa Huta urban unit comprises industrial establishements connected with the combine, a town of 100,000 inhabitants, a river port and its ramifications on the Vistula, a network of transport lines, a network of service lines (gas, electricity, telecommunication), water and sewage installations, plant for auxiliary production and material necessary for the construction. The use of prefabricated elements in building Nowa Huta town. In order fully to mechanise and automatise production processes, the Nowa Huta plant will have technical equipment of the most up-to-date kind.

PTASZYNSKA, Irena

Refractometric examinations of the golgi elements in the epithelial cells of the intestine of a frog (Rana esculenta L.). Ann. univ. Lublin sec. D 15:51-57 '60.

1. Z Katedry i Zakladu Histologii i Embriologii Wydzialu Lekarskiego Akademii Medycznej w Lublinie Kierownik: prof. dr med. Stanislaw Grzycki.

(GOLGI APPARATUS anat & histol) (INTESTINES anat & histol)

HERMAN, Alojzy, inz.; KOLIS, Jan, inz.; PUTYNSKI, Zbigniew, inz.;
TULISZKA, Zenon, inz.; LUKOMSKI, Antoni, technik; PTASZYNSKI,
Stefan, technik; ZAPALA, Stanislaw, technik; TOBIASZ, Szczepan,
technik

Rotation furnace for burning vinasse. Gosp paliw 11 Special issue no.(95):8 Ja '63.

1. Sieradzka Gorzelnia Przemyslowa, Sieradz.

PTCHELINA, Z. M.

"A New Gobioid Originating in a Salt Lake of the Abraou Peninsula (Black Sea Basin)," Dok. AN, 23, No. 6, 1939. MBr., Lab., Biological Sta. in V.M. Arnoldi, Novorossisk; -c1939-.

PTIC BORKOWSKI, M.

Ptic-Borkowski M.

Ptic- Borkowski M., Eng. Arch. "The Architecture of Warped Surfaces." (Architektura powierzchni wichrowatych.) Architektura, No 3, 1949, pp. 90-93, 17 figs.

The author discusses at length warped thin constructions about which prof. Hacar, of Czechoslovakia, lectured to the Society of Polish Architects in Warsaw. The professor threw light on the problem of applying warped concrete constructions. Some pictures representing models of those constructions (taken from the Research Laboratory of the Polytechnic School in Prague) together with architectural projects of great functional value and which have just been executed were displayed during the lecture. According to the author's opinion, the use of such constructions constitutes an important stepron the way to new architectural forms, conspicuous for their plastic beauty, functional value andeconomy.

SO: Polish Technical Abstracts No. 2, 1951

PTICEK, M.

"A rapid and correct method in determining the strength of ropes."

p. 920 (Vojno-Tehnicki Glasnik) Vol. 5, no. 12, Dec. 1957
Belgrade, Yugoslavia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

KONDRAT'YEV, V.N.; PTICHKIN, I.I.

Gas phase interaction between carbon monoxide and ozonized oxygen.
Kin.i kat. 2 no.4:492-496 Jl-Ag '61. (MIRA 14:10)

1. Institut khimicheskoy fiziki AN SSSR.
(Carbon monoxide) (Ozone)

S/195/61/002/004/005/005
E030/E585

AUTHORS: Kondrat'yev, V.N. and Ptichkin, I.I.

TITLE: Reaction of carbon monoxide with ozonated oxygen in the gas phase

PERIODICAL: Kinetika i kataliz, v.2, no.4, 1961, 492-496

TEXT: Previous works on the formation of carbon dioxide by oxidation of carbon monoxide in the presence of ozone have assumed a reaction of the form:

$$CO + O_3 = CO_2 + O_2,$$

but the results have never been in satisfactory agreement with experiment. The present work comprises more accurate experiments measuring the relative luminescence in the 3500-3900 Å range from 100-250°C. The ozone was measured iodometrically, and the carbon dioxide by a 0.01 N $Ba(OH)_2$ solution; by carrying out the ozone determination prior to the carbon dioxide determination the errors in the previous works were minimized. A conventional apparatus was used, with equimolar mixtures of carbon dioxide and ozonated oxygen containing 3.26% ozone initially. The results

Card 1/3

√

obtained are shown in Figs. 2 and 3, showing, respectively the yield of carbon dioxide and the relative concentration of ozone decomposed, as functions of temperature. In both figures Arrhenius' type laws are obeyed with activation energies for carbon dioxide of -3.7 kcal/mole below 100° and 18.5 kcal/mole above 190° and for ozone of -22.4 kcal/mole in the lower temperature region. Similarly, the intensity of luminescence has a temperature dependence with an activation of -3.7 kcal/mole. The results can be accurately calculated to satisfy the mechanisms

$$CO + O \rightarrow CO_2^* \quad (E_4),$$

$$\text{and } CO + O \rightarrow CO_2 \quad (E_5),$$

where $(E_4 - E_5)$ equals 3.7 kcal/mole, and E_5 is found to be 2.1 kcal/mole, where only 1 in 25 of the CO_2 molecules are formed in the excited state. It is found impossible to fit the data to the type of trimolecular reactions previously considered. There are 3 figures and 6 references. 4 Soviet-bloc and 2 non-Soviet-bloc. [illegible] English-language references [illegible]

Card 2/3

Reaction of carbon monoxide with ... S/195/61/002/004/003/008
E030/E585

J.Amer.Chem.Soc., 76, 1523, 1954; Ref.3: S.W.Benson, A.E.Axworthy, J.Chem.Phys., 26, 1718, 1957.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR
(Institute of Chemical Physics, AS USSR)

SUBMITTED: June 2, 1961

Fig.2

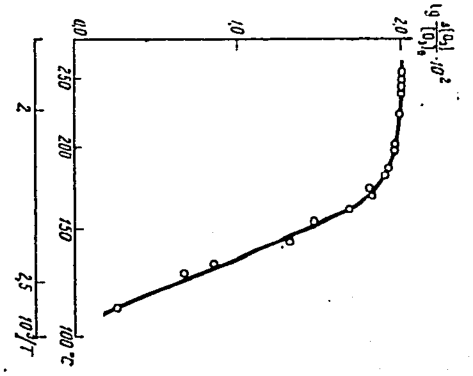
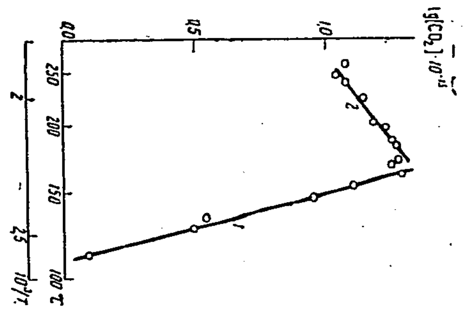


Fig.3



Card 3/3

PTICHKIN, N.

A powerful accelerator of economic progress. Vnesh. torg. 43 no.10:3-5 '63. (MIRA 16:11)

PTICHKIN, N.

The 12th Session of the Mutual Economic Assistance Council.
Vnesh. torg. 30 no.2:6-9 '60. (MIRA 13:2)
(Russia--Foreign economic relations)

PTICHKIN, N.

The great commonwealth of socialist countries. Vnesh.torg. 28 [i.e. 29] no.1:5-10 '59. (MIRA 12:2)

(Russia--Foreign economic relations)

PTICHKIN, N.

Cooperative development within the framework of the Mutual Economic Assistance Council; on the 14th anniversary of the Mutual Economic Assistance Council. Vnesh.torg. 42 no.1:3-8 '63. (MIRA 16:2)
(Mutual Economic Assistance Council)

PETROV, N.; PTICHKIN, N.

Plant fund and increasing the role of group material incentives. Sots.trud 8 no.3:123-128 Mr '63. (MIRA 16:3)

1. Zaveduyushchiy otdelom proizvodstvennoy raboty i zarabotnoy platy Leningradskogo oblastnogo soveta professional'nykh soyuzov (for Petrov). 2. Starshiy instruktor otdela proizvodstvennoy raboty i zarabotnoy platy Leningradskogo oblastnogo soveta professional'nykh soyuzov (for Ptichkin).

(Leningrad Province—Industrial management)
(Leningrad Province—Bonus system)

PTICHKIN, N.

LARINA, N.(Moskva); PTICHKIN, N.(Moskva)

Closer contact among competing enterprises. Prom.koop. 12 no.4:15 Ap '58. (MIRA 11:4)

1. Predsedatel' pravleniya arteli "Elektroizdeliya. (for Larina).
2. Zamestitel' predsedatelya pravleniya arteli po "Elektroizdeliya" po orgmassovoy rabote i kadram.
(Moscow--Electric industries)

PTICHKIN, N. N.

"Scientific and Technical Progress and Prospects in the Development of Zinc and Lead Metallurgy," Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 5, 1941.

Report U-1530, 25 Oct 1951

PTICHKIN, Petr Nikolayevich. Prinimal uchastiye GUTMAN, Yu.M.; AFANAS'YEV, V.V., kand. tekhn.nauk, red.; ZHITNIKOVA, O.S., tekhn. red.

[Valve dischargers] Ventil'nye razriadniki. Moskva, Gosenergoizdat, 1963. 145 p. (MIRA 16:5)
(Electric protection) (Electric discharges)

ZALESSKIY, A.M., professor; KOGAN, M.I., inzhener; PTICHKIN, P.N.,
inzhener; TAYTSEL', G.B., inzhener.

Series of small-size support insulators for inside installation.
Vest.elektroprom. 27 no.12:31-33 D '56. (MIRA 10:1)

1. Leningradskiy politekhnicheskiy institut.
(Electric insulators and insulation)

AKH"YAN, Arminak Misakovich; PTICHKIN, P.N., inzh.; red.; ZHITNIKOVA, O.S., tekhn. red.

[Manufacture of porcelain insulators for high-voltage apparatus] Proizvodstvo farforovykh izoliatorov dlia apparatov vysokogo napriazheniia. Moskva, Gos. energ. izd-vo, 1961. 278 p. (MIRA 14:11)

(Electric insulators and insulation)

L 41269-65 EEC-4/EEO-2/EWP(k)/EWT(d)/EWP(h)/EWP(1)/EWP(v) Pf-4/Pg-4/Pk-4/Pl-4/
Pr-4/Ps-4/Po-4/Pq-4 BC
ACCESSION NR: AT4045209 S/2588/64/000/006/0146/0174 65
B+1

AUTHOR: Ulanov, G.M.; Ptichkin, V.A.

TITLE: Statistical optimization and the theory of K(D) image formation

SOURCE: Avtomaticheskoye upravleniye i vy*chislitel'naya tekhnika, no. 6, 1964, 146-174

TOPIC TAGS: automatic control system, 14 aircraft control system, 9 automatic pilot, statistical optimization, image formation, K(D) image, invariance, white noise

ABSTRACT: One of the principles of automatic control theory is the principle of invariance in relation to a disturbing influence. In the present paper, the authors consider a special case of invariance in which the distrubing function f(t) is a random stationary function. The paper, which is mathematical in nature, is divided into the following sections: (1) Optimization of automatic control systems and the theory of K(D) image formation; (2) The possibility of establishing conditions of invariance for a random function, (3) The connection between a K(D) image and its correlation function X(t); (4) The canonical analysis of a random function and the condition of invariance for this function; (5) A special case; (6) An approach to the optimization of non-linear automatic control

Card 1/2

ACCESSION NR: AT4045209

systems with the aid of the K(D) image; (7) The condition of invariance with respect to "white noise" and the condition of absolute invariance; (8) The condition of invariance to the frequency band; (9) The correlation function of the output of the system, the transfer function of which is the K(D) image of the input; (10) Application of the condition of statistical invariance to the solution of the problems of automatic control and regulation; (11) Statistical invarience to external interference acting on a system for controlling the longitudinal movement of an aircraft. On the basis of these interrelationships between the method of statistical optimization and the theory of invariance, the authors have derived the conditions for the compensation of a disturbance represented by a stationary random function, which lead in turn to the conditions for the compensation of a disturbance described by a determined function. Some of the possible applications of the theory of K(D) image formation to automatic control systems are pointed out. Orig. art. has: 6 figures and 26 numbered formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, NG

NO REF SOV: 009 OTHER: 000

Card 2/2

L 34519-65 EWT(d) Pg-4 IJP(c) GS

ACCESSION NR: AT5004114 S/0000/64/000/000/0109/0114 17 16

AUTHOR: Ulanov, G. M. (Doctor of technical sciences); Ptichkin, V. A. B+1

TITLE: Statistical optimization and the theory of K(D) - representations

SOURCE: Vsesoyuznoye soveshchaniye po teorii invariantnosti i yeye primeneniyu v avtomaticheskikh sistemakh. 2d, Kiev, 1962. Teoriya invariantnosti v sistemakh avtomaticheskogo upravleniya (Theory of invariance in automatic control systems); trudy soveshchaniya. Moscow. Izd-vo Nauka, 1964, 109-114

TOPIC TAGS: differential equation, 16 ordinary differential equation, K(D) representation, statistical optimization, optimization, stationary function, random variable

ABSTRACT: The paper considers a system whose coordinates are given by a system of differential equations

$$\begin{aligned} E(D)\,x(t) &= X(D)\cdot f(t), \\ x(D) &\not\equiv 0,\ f(t) \not\equiv 0, \end{aligned} \qquad (1)$$

Card 1/2

L 34519-65

ACCESSION NR: AT5004114

which is required to satisfy an invariance criterion

$$X(D) f(t) = 0. \tag{2}$$

The function f(t) is assumed to be a stationary random function. The object of the paper was to study the meaning of the invariance of such systems. The paper develops a connection between the theory of statistical optimization as developed, for example, by Wiener, and the theory of invariance. The theory of K(D) representations is then applied to random, statistical perturbations. It is shown that the condition of compensation of a perturbation of a represented stationary random function leads to a condition of compensation of a perturbation of a given determinate function. "Prof. A. S. Shatalov suggested the approach used." Orig. art. has: 15 formulas.

ASSOCIATION: None

SUBMITTED: 24Sep64 ENCL: 00 SUB CODE: MA

NO REF SOV: 009 OTHER: 000

Card 2/2

Ptichkina, Z.F.

Med

6169. **"Tetridine"—a soporific.** Z. F. Ptichkina *Sborn. Trud. Krasnoiar. med. Inst.*, 1955, No. 4, 384—385; *Referat. Zh. Biol. Khim.*, 1956, Abstr. No. 88203.—Tetridine (3 : 3-diethyl-2 : 4-dioxytetrahydropyridine) (I) was used orally in a dose of 0·3—0·4 g. in 82 cases of persistent insomnia of a neurotic or vascular nature, and for surgical cases, both before and after operation. In 63 cases it induced deep sleep, in 13 cases light sleep, and in 9 cases the patients did not sleep. Sleep ensued within 15—30 min., and its duration was 5—6 hr. No changes in pulse or blood pressure were noticed. No secondary effects or habit-forming qualities were observed with I. On waking the patients felt well. The patients who slept lightly or not at all were those who were troubled with acute pain. Apparently I is not an analgesic. (Russian)

E. L. PARKS

PTIKHTOVNIKOV, R.V.; ZAV'YALOVA, V.I.; NAVAGIN, Yu.S., inzh., retsenzent; MARKIZ, Yu.L., inzh., red.

[Sheet-metal work by explosion] Shtampovka listovogo metalla vzryvom. Moskva, Izd-vo "Mashinostroenie," 1964. 173 p. (MIRA 17:6)

ROZENTSVAYG, A.M., dots., TKACHENKO, Ye.T., kand.med.nauk, PTIOTROVICH, Ye.M.
vrach.

Effectiveness of antibacterial and tissue therapy in neyromyelitis optica. Oft.zhur. 13 no.4:232-235 '58 (MIRA 11:8)

1. Iz kliniki nervnykh bolezney i glaznogo otdeleniya Odesskoy oblastnoy klinicheskoy bol'nitsy.
(OPTIC NERVE--DISEASES)

NOVIKOV, B.G. [Novykov, B.H.]; CHEPINOGA, O.P. [Chepynoha, O.P.]; LYUBARSKAYA, M.A. [Liubars'ka, O.M.]; SERBA, R.M.; PTITSA, A.N. [Ptytsia, O.M.]

Some specific features of the desoxyribonucleic acid of erythrocytes and somatic characteristics of ducks during cross treatment with desoxyribonucleic acid preparations. Ukr. biokhim. zhur. 33 no.5: 633-645 '61. (MIRA 14:10)

1. Institutw of Physiology of Kiyev State University and Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

(DESOXYRIBONUCLEIC ACID)

PTITSA, A.N. [Ptytsia, O.M.]

Analysis of the mechanism of compensatory gonad hypertrophy in birds.
Dop. AN URSR no.5:671-673 '64. (MIRA 17:6)

1. Kiyevskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR V.P.Komissarenko [Komisarenko, V.P.].

KUL'SKIY, L.A. [Kul's'kyi, L.A.]; SOTNIKOVA, Ye.V. [Sotnikova, O.V.];
PTITSA, R.P. [Ptytsia, R.P.]

Biochemical oxidation of chlorophenols. Dop. AN URSR no.10:
1373-1375 '64. (MIRA 17:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
2. Chlen-korrespondent AN UkrSSR (for Kul'skiy).

MOGILEVSKIY, Dmitriy Aleksandrovich, dotsent; BABKOV, Valeriy Fedorovich, prof., doktor tekhn.nauk; SMIRNOV, Andrey Sergeyevich, kand.tekhn. nauk; ABRAMOV, Leonid Tikhonovich, kand.tekhn.nauk; ZAYTSEV, Filipp Yakovlevich, kand.tekhn.nauk; ZAMAKHAYEV, Mitrofan Semenovich, kand.tekhn.nauk; NIKITIN, Sergey Mikhaylovich, inzh.; BIRULYA, A.K., prof., retsenzent; DUDKIN, P.A., kand.tekhn.nauk, retsenzent; AVDEYEV, V.N., retsenzent; KARTASHEV, V.A., retsenzent; PAL'CHEV, A.G., retsenzent; POPOV, A.N., retsenzent; PTITSIN, I.G., retsenzent; ROMANENKO, I.A., prof., retsenzent; BARATS, L.A., prepodavatel', retsenzent; BASKEVICH, N.I., prepodavatel', retsenzent; BEL'SKIY, A.Ye., prepodavatel', retsenzent; KALUZHSKIY, Ya.A., prepodavatel', retsenzent; CHVANOV, V.G., red.; MAL'KOVA, N.V., tekhn.red.

[Locating and designing airfields] Izyskaniia i proektirovanie aerodromov. Pod red. V.F.Babkova. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1959. 566 p. (MIRA 13:3)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut (for Romanenko, Barats, Baskevich, Bel'skiy, Kaluzhskiy).
(Airports--Planning)

BARTENEV, L.S.; GLEBOVICH, G.V.; PTITSIN, K.N.

Superhigh speed pulse oscillograph. Prib. i tekh.eksp. 6 no.6:80-83 N-D '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta.
(Cathode ray oscillograph)

[illegible] EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: [illegible] SOURCE CODE: UR/0058/66/000/006/E092/E092

AUTHOR: [illegible], F. I.; Gershenzon, Ye. M.; Gurvich, Yu. A.; Ptitsina, N. G.

TITLE: Investigation on the warming up of the charge carrier in Ge at cyclotron resonance

SOURCE: Ref. zh. Fizika, Abs. 6E722

REF SOURCE: Tr. 1-y Mezhvuz. konferentsii ped. in-tov po radiofiz. i spektroskopii. M., 1965, 187-205

TOPIC TAGS: cyclotron resonator, microwave spectroscope, shf spectrometer, charge carrier, germanium, hot electron

ABSTRACT: The cyclotron resonance of hot electrons in Ge is investigated both theoretically and experimentally. Theoretically, it is shown that, in the case of medium and strong electric fields, the isotopic part of the distribution function depends on the incident radiation frequency. In the case of strong fields, an expression is derived for the shape of the resonant line. The investigations were carried out on three Ge specimens at a frequency of 9.7 cps at T = 4.2K. An autodyne TWT microwave spectroscope using a reflecting operating resonator,

Card 1/2

L 09128-67

ACC NR: AR6031885

which is connected in the external feedback circuit of the oscillator by means of a double T-bridge, is used as the SHF-spectrometer. The curves of the dependence of value $(\omega\tau)^{-1}$ (where ω is the frequency, τ — the mean time of pulse relaxation) on incident power have the following three peculiarities: 1) smaller m* (m* is the effective mass) have a smaller $(\omega\tau)^{-1}$ at smaller powers; 2) for small m*, the curves have a greater incline; 3) for large m*, the curves diverge considerably. For smaller m*, the curves virtually coincide. An interpretation of these peculiarities, which takes into consideration the power energy zone structure in p-Ge, is given. F. Nad'. [Translation of abstract]

SUB CODE: 20/

Card 2/2

YENOVSKIY, A.M.; Prinimali uchastiye: SHEVCHENKO, A.F., inzh.; PTITSYN, A.A., inzh.; ZINKEVICH, N.O., inzh.

Production of insulator caps. Lit. proizv. no.4:7-9 Ap '64. (MIRA 18:7)

GUREVICH, I.S.; PTITSYN, A.G.

Efficient laying-out of metals. Mashinostroitel' no.6:25
Je '61. (MIRA 14:6)
(Laying out (Machine-shop practice))

ZOLOTAVINA, M.L.; PTITSYN, A.I.

Diagnosis and therapy of necrotic phlegmon in neonates. Vest. khir. no.1:113-118'63. (MIRA 16:7)

1. Iz kliniki detskoy khirurgii (zav.-dotsent M.L.Zolotavina) Voronezhskogo meditsinskogo instituta.
(INFANTS (NEWBORN) —DISEASES)
(CONNECTIVE TISSUE—DISEASES) (NECROSIS)

G[illegible] V. [illegible]; [illegible]YE, [illegible].B.

Occurrence of iron in sphalerite in the process of hydrothermal recrystallization. Dokl. AN SSSR 162 no.3:[illegible] Je '65.
(MIRA [illegible])

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
Submitted March 16, 1965.

PTITSYN, A.R.

Use of the moments method for calculating the space and energy distribution of neutron density for neutrons emitted from a two-dimensional and point source in an unbounded medium. Atom. energ. 10 no.2:117-126 F '61. (MIRA 14:1)

(Neutrons)

PTITSYN, A.R.

Determination of the space-energy distribution of neutrons from a plane source in an infinite medium. Atom.energ. 9 no.3:216-217 S '60. (MIRA 13:8)
(Neutrons)

82956
S/089/60/009/003/007/014
B006/B063

26.2244

AUTHOR: Ptitsyn, A. R.

TITLE: The Problem of Determining the Spatial and Energy Distributions of Neutrons From a Plane Source in an Unbounded Medium 19

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 3, pp. 216-217

TEXT: The present "Letter to the Editor" is a contribution to an American publication (Ref. 1) in which a method is given for determining the density $\psi(x,u)$ and the flux $\varphi(x,u)$ of neutrons whose spatial momenta $\psi_n(u) = \int_{-\infty}^{+\infty} x^n \psi(x,u)dx$ and $\varphi_n(u) = \int_{-\infty}^{+\infty} x^n \varphi(x,u)dx$ are known. For the case of symmetry with respect to the planes of the sources, a solution was obtained in the form of (1): 4

$$\psi(x,u) = \beta e^{-\beta|x|}\sum_n a_n(u)U_n(\beta|x|);\ \varphi(x,u) = \gamma(\gamma x)e^{-\gamma|x|}\sum_n b_n(u)V_n(\gamma|x|).$$

In practice, it is necessary to confine oneself to an approximation in

Card 1/3

which the series of (1) have a finite number of terms. This means, however, that (e.g., at a given distance x_0) a given accuracy is not attainable for all values of the energy variable u if β and γ are independent of u. Here, the author gives a method of determining suitable functions of $\beta(u)$ and $\gamma(u)$. As $\psi(x,u)$ is an even and $\varphi(x,u)$ an odd function of x, $\psi(x)$ has only even and $\varphi(x)$ only odd non-vanishing momenta. Assuming that N+1 even momenta of $\psi(x,u)$ be known, the following relation is found in the N-th approximation: $\psi^N(x,u) = \beta e^{-\beta|x|} \sum_{n=0}^{N-1} a_n(u) U_n(\beta|x|)$. From this and $\psi_{2N}^{(N)}(\beta) = \psi_{2n}(u)$ an equation is obtained for the determination of $\beta(u)$. The equation of N-th order for $\beta^2(u)$ reads

$$\psi_{2N}(u)(\beta^2)^N = \sum_{\nu=0}^{N-1} A_\nu(u)(\beta^2)^\nu, \text{ where } A_\nu(u) = \psi_{2N}(u) \sum_{n=\nu}^{n-1} q_{n\nu} \xi_{n\nu}.$$

From the N roots of this equation one takes the suitable real, positive

82956

The Problem of Determining the Spatial and Energy Distributions of Neutrons From a Plane Source in an Unbounded Medium

S/089/60/009/003/007/014
B006/B063

$\beta_0(u)$. For $\gamma^2(u)$ the procedure is analogous. For N+1 = 4, e.g., one obtains $\psi_6(u)(\beta^2)^3 - 45\psi_4(u)(\beta^2)^2 + 540\psi_2(u)\beta^2 - 720\psi_0(u) = 0$. To give a practical example, the author calculates the neutron density distribution in hydrogen at a constant path length ($\lambda=1$) by using the approximation N+1 = 4, and compares the results of this approximation with the exact results published by Wick in Ref. 2 (Table). This approximation is satisfactory up to 20 path lengths. There are 1 table and 3 references: 2 Soviet.

SUBMITTED: March 17, 1960

Card 3/3

89351

S/089/61/010/002/001/018
B102/B209

26·2241

AUTHOR: Ptitsyn, A. R.

TITLE: The application of the method of moments in the calculation of the spatial and energy distribution of the neutron density from plane and point sources in an infinite medium

PERIODICAL: Atomnaya energiya, v. 10, no. 2, 1961, 117-126

TEXT: The present paper describes a method of calculating the neutron density distribution, which, above all, is suited for weakly moderating media and short distances from the source (15 - 20 free paths). The so-called method of polynomials is based on expanding the required distribution function into a series according to a known polynomial $U_i(x)$: $\psi(x,E) = e^{-\beta x}\sum A_i(E)U_i(\beta x)$; the coefficients $A_i(E)$ are ascertained from a system of integral equations. The sought function is assumed in the form

Card 1/7

89351

The application of the method of... S/089/61/010/002/001/018
B102/B209

$\psi(x,E) = \sum_{i=1}^{N} a_i(E)K[b_i(E)x]$. This form of approximation offers the advantage that the approximation can be obtained in any order and that the systems of equations for the coefficients a_i and b_i are analytically exactly solvable. Two terms of this expansion are enough to calculate the neutron energy for any E at distances x of up to 20 free paths. Now, the system of integral equations for the spatial moments of electron density is sought for the case of a plane monochromatic source. With $M_{ln}(u) = (\beta^{n+1}/n!) \int_{-\infty}^{+\infty} x^u \psi_l(x,u)dx$, the expressions

Card 2/7

$$\sigma(u)M_{ln}(u)-\sum_i \alpha_i \int_0^u \theta(q_i-u+u')\,\sigma_{si}(u') \times$$

$$\times e^{-(u-u')}P_l(\mu_i)M_{ln}(u')\,du' = \frac{\beta}{2l+1}\times$$

$$\times\left[(l+1)M_{l+1,\,n-1}+lM_{l-1,\,n-1}\right]+$$

$$+m_{ln}e^{-u}\sum_i \alpha_i\sigma_{si}(0)\,P_l(\mu_i^0)\,\theta(q_i-u); \quad (1.11)$$

$$M_{l,\,-1}(u)=0,$$

где

$$\mu_i \equiv \mu_i(u-u') = \frac{M_i+1}{2}\,e^{\frac{u-u'}{2}} -$$

$$-\frac{M_i-1}{2}\,e^{\frac{u-u'}{2}};$$

$$\mu_i^0=\mu_i(u-u')\Big|_{u'=0}, \quad q_i=\ln\left(\frac{M_i+1}{M_i-1}\right)^2 \quad (1.12)$$

are finally obtained. The system (1.11) for the M_{ln} is exactly solvable and fundamental for the following considerations. The initial value of M_{ln} is ascertained, resulting in $M_{ln}(0) = (n+1)m_{ln}\left[\sum_i \alpha_i \sigma_{si}(0)/\sigma(0)\right]$. In order to solve (1.11), the coefficients m_{ln} have still to be determined explicitly. First, this is done generally, viz. separately for even and odd m_{ln}. For an isotropic source, the relatively simple expression

$$m_{ln} = \frac{\beta^{n+1}}{n!} \int_{-1}^{1} \frac{2\pi\, d\mu}{4\pi\, |\mu|} P_l(\mu) \int_{-\infty}^{\infty} e^{-\sigma(0)x/\mu} \times \times \theta(\mu x)\, x^n\, dx = \gamma^{n+1} \varkappa_{ln}, \qquad (1.22)$$

with $\varkappa_{ln} = \frac{1}{2}\int_{-1}^{1} u^n P_l(\mu)\, d\mu = \begin{cases} 0 \text{ for odd } (n-l) \text{ or } n<l \\ 2^l n!\left(\frac{n+l}{2}\right)! \,/\left(\frac{n-l}{2}\right)!\,(n+l+1)! \text{ when } (n-l) \text{ is negative and even } (1.23). \end{cases}$ (1.23)

89351

The application of the method of ...

S/089/61/010/002/001/018
B102/B209

The following important conclusions result from (1.23) and (1.11): $M_{ln}(u) = 0$ if $(l+n)$ is odd, and $M_{ln}(u) = 0$ if $n<l$.

$M_{ln}^{point}(u) = (\beta^{n+1}/n!) \int_0^\infty r^n \psi_l^{point}(r,u) 4\pi r^2 dr$ and $M_{ln}(u) = 2 \frac{\beta^{n+1}}{n!} \int_{-\infty}^{\infty} dx x^n \cdot \int_{(x)}^{\infty} dr r \psi_l^{point}(r,u) P_l(x/r) = \kappa_{ln} M_{ln}^{point}$ is obtained for a point source. Now, the method of approximating a function according to its moments is presented with the simple function $g(x) \simeq \sum_{i=1}^{N} a_i K(b_i x)$, of which 2N spatial moments $g_n = \int_0^\infty x^n g(x) dx$ are known, as an example. The moments $K_n = \int_0^\infty x^n K(x) dx$ of the function $K(x)$ are assumed to exist.

Card 5/7

89351

The application of the method of ...

S/089/61/010/002/001/018
B102/B209

The following solution is found: $g(x) = K(\beta x)\sum_{n=1}^{2M} a_n x^n + \sum_{i=m+1}^{N} (\eta_i/s_i)K(x/s_i)$.

If the moments $M_{1n} = (\beta^{n+1}/n!)\int_{-\infty}^{\infty} x^n \psi_1(x,u)dx$ are known,

$$\psi_0(x) = 2Re\left[(\eta_l/\sqrt{s_l})\, e^{-x/\sqrt{s_l}}\right] = 2\left[A\cos\left(\frac{\sin\frac{w}{2}}{b^{1/4}}x\right) + B\sin\left(\frac{\sin\frac{w}{2}}{b^{1/4}}x\right) \times \right. \\ \left. \times \exp\left(-\frac{\cos\frac{w}{2}}{b^{1/4}}x\right)\right], \qquad (3.29)$$

где

$$\left.\begin{aligned} &\operatorname{tg} w = -\frac{\delta}{a}, \quad \delta = \sqrt{4b - a^2}; \\ &A = \frac{1}{b^{1/4}}\left(\frac{1}{2}f_0\cos\frac{w}{2} - \gamma\sin\frac{w}{2}\right); \\ &B = \frac{1}{b^{1/4}}\left(\frac{1}{2}f_0\sin\frac{w}{2} + \gamma\cos\frac{w}{2}\right); \\ &\gamma = \frac{1}{\delta}\left(\frac{1}{2}f_0 a - f_1\right). \end{aligned}\right\} \qquad (3.30)$$

Card 6/7

89351

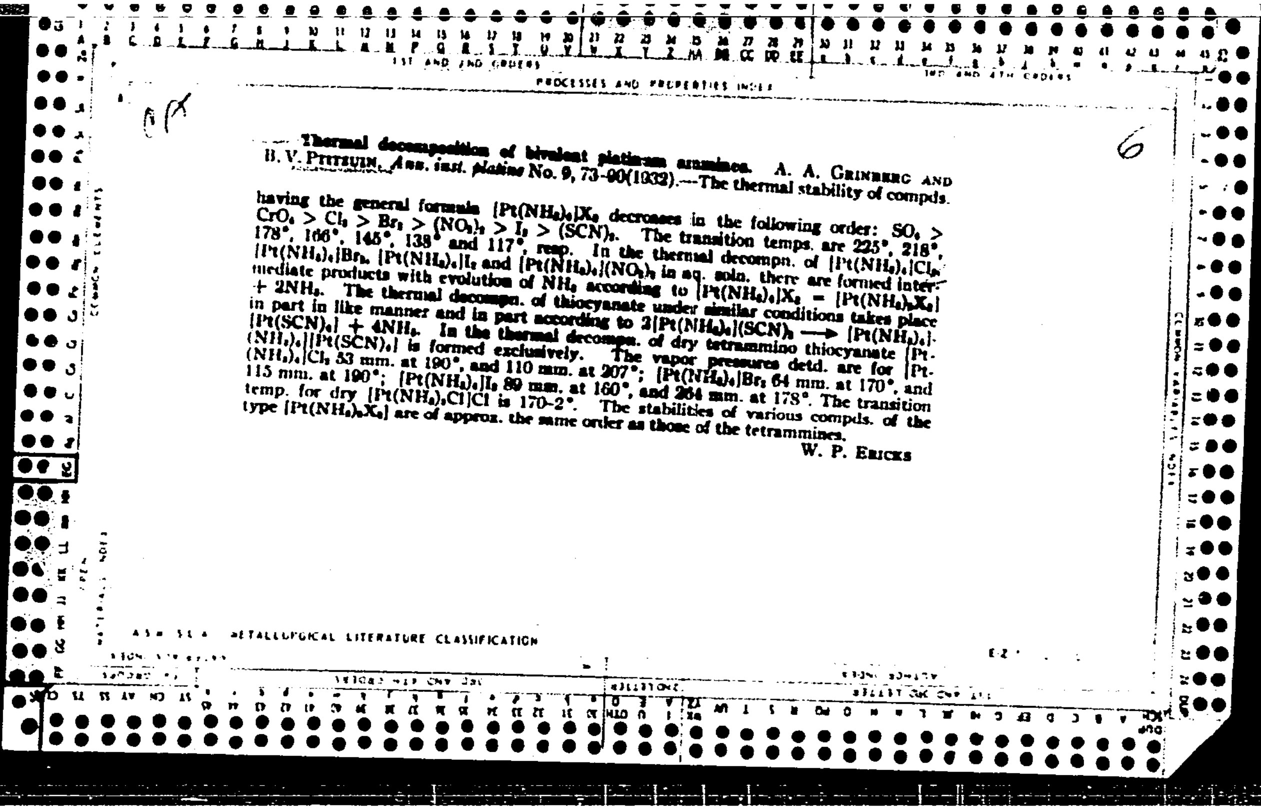
S/089/61/010/002/001/018
B102/B209

The application of the method of...

is obtained for the original problem. The solution of the system (1.11) for water and hydrogen is discussed as an example of applying this method. For hydrogen, the neutron density is calculated under the assumption of a plane isotropic source and constant mean free paths of the neutrons. On this occasion, ten integral equations (mentioned here) have to be solved. After voluminous calculations the following result is obtained: $\psi_o(x) = e^{-0.41725\beta x}\left[0.07196\cos(0.1267\beta x)+0.51450\sin(0.1267\beta x)\right]$. In a table the numerical values of $\log\psi_o(x)$ (as calculated according to this last formula) for 9 different βx values are compared with the results of Wick. Agreement is satisfactory. Analogous steps are followed for the case of a point source in water. Finally, the author thanks Yu. A. Romanov and L. P. Feoktistov for their discussions and L. S. Bychenkova and M. N. Kopylova for numerical computations; I. S. Pogrebov is mentioned. There are 2 tables and 6 references: 1 Soviet-bloc and 5 non-Soviet-bloc.

SUBMITTED: April 6, 1959

Card 7/7



6

Thermal decomposition of bivalent platinum ammines. A. A. Grinberg and B. V. Ptitsyn. *Ann. inst. platine* No. 9, 73-90(1932).—The thermal stability of compds. having the general formula $[Pt(NH_3)_4]X_2$ decreases in the following order: $SO_4 > CrO_4 > Cl_2 > Br_2 > (NO_3)_2 > I_2 > (SCN)_2$. The transition temps. are 225°, 218°, 178°, 166°, 145°, 138° and 117°, resp. In the thermal decompn. of $[Pt(NH_3)_4]Cl_2$, $[Pt(NH_3)_4]Br_2$, $[Pt(NH_3)_4]I_2$ and $[Pt(NH_3)_4](NO_3)_2$ in aq. soln. there are formed intermediate products with evolution of NH_3 according to $[Pt(NH_3)_4]X_2 = [Pt(NH_3)_2X_2] + 2NH_3$. The thermal decompn. of thiocyanate under similar conditions takes place in part in like manner and in part according to $2[Pt(NH_3)_4](SCN)_2 \longrightarrow [Pt(NH_3)_4][Pt(SCN)_4] + 4NH_3$. In the thermal decompn. of dry tetrammino thiocyanate $[Pt(NH_3)_4][Pt(SCN)_4]$ is formed exclusively. The vapor pressures detd. are for $[Pt(NH_3)_4]Cl_2$ 53 mm. at 190°, and 110 mm. at 207°; $[Pt(NH_3)_4]Br_2$ 64 mm. at 170°, and 115 mm. at 190°; $[Pt(NH_3)_4]I_2$ 89 mm. at 160°, and 264 mm. at 178°. The transition temp. for dry $[Pt(NH_3)_3Cl]Cl$ is 170-2°. The stabilities of various compds. of the type $[Pt(NH_3)_2X_2]$ are of approx. the same order as those of the tetrammines.

W. P. Ericks

*Volumetric Methods of Determining Metals of the Platinum Group. A. A. Grinberg and B. V. Ptizin (*Doklady Akademii Nauk S.S.S.R.* (*Compt. rend. Acad. sci. U.R.S.S.*, 1933, [N.S.], (6), 284-290).—[In Russian and French.] Potentiometric titration of Ir^{III} salts with $KMnO_4$ can be applied not only in pure Ir^{III} solutions, but also in the presence of Rh^{III}, Ir^{IV}, Pt^{IV}, Fe^{III}, and Fe^{II} salts. Potentiometric titration of Ir^{IV} salts with $(NH_4)_2Fe(SO_4)_2$ is useful in the presence of Ir^{III}, Pt^{IV}, Rh^{III}, and Fe^{III}. Pt^{IV} may be determined by reduction to Pt^{II} with a solution of Cu_2Cl_2 in HCl, followed by differential potentiometric titration with $KMnO_4$ in a current of CO_2 in the presence of excess of $MnSO_4$. Pt^{II} and Ir^{III} may be determined simultaneously by potentiometric titration with $KMnO_4$; the presence of Ir^{IV} in the solution has no influence on the result.—N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

777

Potentiometric Titration of Platinum and Iridium. A. A. Grinberg and B. V. Ptisin (*Izvestia Platinogo Instituta* (*Ann. Inst. Platine*), 1935, (12), 133-158).—[In Russian.] Methods are described for the determination of $Pt^{\cdot\cdot}$, $Pt^{\cdot\cdot\cdot\cdot}$, $Ir^{\cdot\cdot\cdot}$, and $Ir^{\cdot\cdot\cdot\cdot}$ alone and in admixture with one another and with other precious metals.—N. A.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

7

The titration of bivalent platinum and of trivalent iridium at different temperatures. A. A. Grinberg and B. V. Ptitsuin. *Compt. rend. acad. sci. U. R. S. S.* [N. S.], 2, 17-19(1936)(in German); cf. *C. A.* 29, 3625^9. In a dil. soln. of H_2SO_4, K_2PtCl_4 is oxidized to $K_2PtCl_4(OH)_2$ by $KMnO_4$ and K_3IrCl_6 is oxidized to K_2IrCl_6. When a mixt. of the 2 ions is oxidized at 20° there is no break in the titration curve until both ions are oxidized. But when the titration is carried out at 80-90° there is a sharp rise in potential when all the Pt is oxidized, thus making it possible to titrate Pt in the presence of Ir. The end point can be detd. visually by adding $KMnO_4$ until the reddish brown $IrCl_6^{-}$ starts to form and then back-titrating with Mohr's salt, if care is taken to see that all the $KMnO_4$ is reduced by $IrCl_6^{-}$. Similar results are obtained with $KBrO_3$ in HCl soln. but the end-points are not as sharp as with $KMnO_4$. John E. Milbery

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND GROUPS

3RD AND 4TH GROUPS

PROCESSES AND PROPERTIES INDEX

6

The oxidation-reduction potentials of the compounds of the platinum metals. I. Oxidation-reduction potentials of the system $[PtX_4]^{--} + 2X^- \rightleftharpoons [PtX_6]^{--} + 2e$. A. A. Grinberg, B. V. Ptitsyn and V. N. Lavrent'ev. *J. Phys. Chem.* (U. S. S. R.) **10**, 661-78(1937).—The oxidation-reduction potential of this system varies very strongly with the nature of the coordinating X^- ion. With respect to the H_2 Pt electrode, in 0.01 *N* solns. of the two Pt salts and 1 *N* NaX, the *E*₀ values at 25° and the heat effects (from temp. coeff.) for various X^- ions are: Cl^-, 0.728 v., and 37.2 Cal.; Br^-, 0.613 v.; I^-, 0.3925 v.; SCN^-, 0.468 v. These different values are attributed to the different stabilities of the complex ions. *K_2PtBr_6 was prepd.* by the action of an excess of hot KBr soln. on K_2PtCl_6 in presence of Br_2 water, and then cooling. *K_2PtBr_4 was obtained* by reduction of K_2PtBr_6 with the calcd. amt. of $K_2C_2O_4$ in presence of Pt black and final recrystn. from EtOH. *K_2PtI_6 was prepd.* by boiling K_2PtCl_6 with excess KI. *K_2PtI_4 was obtained* by slightly warming K_2PtCl_4 in an excess of 1 *N* KI. *$K_2Pt(SCN)_6$ and $K_2Pt(SCN)_4$ were both prepd.* by the action of warm 1 *N* KSCN on K_2PtCl_6 and K_2PtCl_4, resp. F. H. Rathmann

The system $CaO-Al_2O_3-Fe_2O_3$. Bonaventura Tavasci. *Ann. chim. applicata* **27**, 505-18(1937).—The system $CaO-Al_2O_3-Fe_2O_3$ was studied by Hansen, Brownmiller and Bogue (*C. A.* **22**, 1523) who limited themselves to the zone high in CaO. In extending the study T. restudied the binary systems involved (*C. A.* **30**, 8058⁶; **31**, 8147⁹). The presence of a ternary compd. $4CaO.Al_2O_3.Fe_2O_3$ was confirmed. It is completely miscible with $2CaO.Fe_2O_3$. A constituent which was thought to be $3CaO.2Fe_2O_3$ was found to be a mixt. of $2CaO.Fe_2O_3$ and $CaO.Fe_2O_3$ confirming Sosman and Merwin (*C. A.* **10**, 2673). A compd. $CaO.Al_2O_3.2Fe_2O_3$ was identified, whose characteristic property is its complete miscibility with $CaO.2Fe_2O_3$. When heated above 1400°, it decomps., *ferrous* compds. being among the products formed. A. W. Contieri

PTISTSYN, B. V.

"The Ox-Red Potentials of the Complex Ammoniate of Platinum," Dok. An, No. 1, 1940.

R

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

6

Mechanism of the reaction of sodium thiosulfate with halo-iridates, and the oxidation-reduction potentials of halo-iridates. B. V. Ptitsyn (Leningrad Chem. Tech. Inst.). *J. Gen. Chem.* (U.S.S.R.) 15, 277-82(1945). Oxidation of thiosulfate by $(NH_4)_2IrCl_6$ is represented by $2[IrCl_6]^{--} + 2S_2O_3^{--} + 2H_2O \rightarrow 2[IrCl_5H_2O]^{--} + S_4O_6^{--} + 2Cl^-$, and $2[IrCl_6]^{--} + S_2O_3^{--} + 3H_2O \rightarrow 2[IrCl_5H_2O]^{--} + SO_4^{--} + S + 2H^+ + 2Cl^-$; the bromo- and iodo-iridates react similarly. Thus the reaction of the halo-iridates with thiosulfate is analogous to that of the free halogens. The reduction-oxidation potentials detd. were for $IrCl_6^{---} \rightleftarrows IrCl_6^{--}$ 0.962 v., $IrBr_6^{---} \rightleftarrows IrBr_6^{--}$ 0.947 v., and $IrI_6^{---} \rightleftarrows IrI_6^{--}$ 0.485 v. G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

6

Potentiometric investigation of the oxidation of thiosulfate by hypohalites. E. A. Maksimyuk and B. V. Ptitsyn. *J. Gen. Chem.* (U.S.S.R.) 16, 1791-8(1946)(in Russian).—Potentiometric titration of $Na_2S_2O_3$ (0.3 millimole) with 0.054 *M* KClO consumed 0.67 ml. less than the theoretical amt. (oxidation to sulfate), the deficit being due to part of the S escaping oxidation in the form of H_2S; the latter was not detected in the reverse titration of KClO with $Na_2S_2O_3$. Sulfur forming initially redissolves in the course of the titration. The end point is indicated by a change of potential *E* of the order of 800 mv. An initial slight rise of *E*, accompanied by evolution of Cl_2, observed in the beginning of the titration of a slightly alk. (0.01 *N* excess) soln. of KClO with $Na_2S_2O_3$, is due to increasing acidity affecting the oxidation-reduction potential of KClO; hence, consumption of $Na_2S_2O_3$ is somewhat below the theoretical amt. (0.32 ml. of 0.1015 *M* $Na_2S_2O_3$ per 3.83 millimole KClO instead of 0.60 ml.). Titration of KBrO (requiring for stability a larger excess of alkali, about 0.03 *N*) with $Na_2S_2O_3$ consumed an amt. fairly close to theoretical (7.28 ml. 0.1015 *M* soln. per 2.805 millimole KBrO instead of 7.15 ml.); change of *E* at the end point is 300 mv. The reverse titration ($Na_2S_2O_3$ by KBrO) is again accompanied by an escape of H_2S and too low a consumption of the oxidizer. Formation of some H_2S on addn. of an oxidizer to solns. of $Na_2S_2O_3$ proved to occur with a large no. of reagents: K_2IrCl_6, NaClO, NaBrO, NaIO, $KClO_3$ + HCl, $KBrO_3$ + HCl, $KMnO_4$ + H_2SO_4, H_2O_2, $UO_2(NO_3)_2$, I_2, even with dil. HCl or H_2SO_4 (H^+ ions); likewise, H_2S is liberated from solns. of $Na_2S_4O_6$ by NaClO, NaBrO, NaIO, $KClO_3$ + HCl, $KBrO_3$ + HCl, $KMnO_4$ + H_2SO_4. In order to reliably exclude the side reaction of formation of H_2S, oxidizing solns. (including I_2) should preferably be titrated with $Na_2S_2O_3$, not conversely. Jamieson's procedure of titrating $Na_2S_2O_3$ and $Na_2S_4O_6$ in acid soln. with $NaIO_3$ is objectionable.

N. Thon

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

PTITZIN B. V.

455. Potentiometric method for determination of total platinum and iridium. A. A. Grinberg, E. A. Maximiuk, and B. V. Ptitzin. (Compt. rend. Acad. Sci. U.R.S.S., 1946, 51, 687-688).- Potentiometric titration with $KMnO_4$ and a H electrode gives vals. within ±1% for the Pt + Ir content of solutions containing 0.19 - 0.28 mg. atom of Pt and 0.09 - 0.35 mg. atom of Ir. after reduction of K_2PtCl_6 and $(NH_4)_2IrCl_6$ with Cu_2Cl_2 in hot HCl solution and keeping for 15 - 18 hr. in contact with air. L.J.J.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

7

The oxidation-reduction potential of the system thiosulfate-tetrathionate and the limits of the tetrathionate region of thiosulfate oxidation. B. V. Ptitsyn and V. A. Kozlov. *Zhur. Anal. Khim.* 1, 250-64(1947).—The purpose of this investigation was to study the potentiometric titration of $Na_2S_2O_3$ with I and I with $Na_2S_2O_3$ at various concns. of the titrated and titrating solns. by using various electrodes. Another purpose was to det. the region of potentials within which thiosulfate is smoothly oxidized to tetrathionate. This region is referred to as the tetrathionate area. The electrodes used in this investigation were: bright Pt, platinized Pt, and a Au electrode. As the concn. of $S_2O_3^{--}$ increased from 0.02-0.05 to 0.13 *M*, the potential of thiosulfate-tetrathionate dropped by about 38 mv. This is attributed to the formation of H_2S (cf. Maksinyuk and Ptitsyn, *C.A.* 41, 5400i) which is a stronger reducing agent than thiosulfate. The jump in potential corresponding to the oxidation of thiosulfate by I to tetrathionate, i.e., the tetrathionate area was 300-520 mv. with a bright Pt electrode. The same value in round numbers was obtained also for the Au electrode. For the platinized electrode it was somewhat higher. In titrating I with $Na_2S_2O_3$, the jump for the Pt electrode was 540-420 mv. and for the Au electrode 510-400 mv. The potential for the system thiosulfate-tetrathionate was E_0 = 304 ± 7 mv. with the bright Pt electrode. The platinized electrode's behavior was more complicated, which fact is attributed to occluded O. With the Au electrode E_0 = 276 ± 11 mv. The reason for this discrepancy is as yet unknown.

M. Hosch

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

C A

7

Determination of trivalent iron with ascorbic acid B.
V. Ptitsyn and V. A. Kozlov. *Zhur. Anal. Khim.* 4,
35 9(1949). The method is based on the reaction C_6H_8
$O_6 + 2Fe^{+++} \rightarrow C_6H_6O_6 + 2Fe^{++} + 2H^+$. The ascorbic
acid soln. was prepd. by dissolving a weighed sample in
50 ml. of 0.02 N HCl. The pH should be between 1 and
2. Error is likely to result from atm. oxidation of the
ascorbic acid. To avoid this treat 20 ml. of $FeCl_3$ in 0.1
N HCl with a known wt. of ascorbic acid and titrate the
excess with I soln. to a starch end point. M. Hosch

PTITSYN, B.V

The effect of the oxidation-reduction potential on the oxidation mechanism of sulfur held by coördination bonds. B. V. Ptitsyn, V. A. Goryukhina, and P. A. Khodunov. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 67–75 (1950).—The starting potentials of oxidation with I_2 of $S_2O_3^{--}$ to S and SO_4^{--} (550 mv.); of S_4O_6 (550 mv.) and of free S (700 mv.) appear to indicate a relation between strength of coördination bond of S compds. and the potential. Other data from the literature confirm this conclusion. W. M. Sternberg

PTITSYN, B.V.; VINOGRADOVA, L.I.

Determination of instability constants of individual complexes by the method of equilibrium shift. Zhur.ob.khim. 25 no.2:217-223 F '55. (MLRA 8:6)

(Compounds, Complex)

PTITSYN, B.V.

Preparation of uranium hexacarbonyl. A. A. Grinberg, B. V. Ptitsyn, F. M. Filinov, and V. N. Lavrent'ev. *Trudy Radievogo Inst. im. V. G. Khlopina, Khim. i Geokhim.* 7, 14–16(1956).—The hexacarbonyls of W, Mo, and Cr can be prepd. by the Hieber and Romberg method (C.A. 29, 2467^4), but synthesis of uranium hexacarbonyl in the same manner is impossible. Such compd. probably does not exist. In this case some conclusions can be drawn about the structure of the 7th period of the periodic table. Elements of at. nos. 89–103 should occupy the same relative positions as the lanthanides, and elements of at. nos. 104–118 should occupy the same relative positions as elements 72–88.

G. Melnyk

1/1

MT

[illegible]

[illegible] R. H. Tekster. *Trudy Kalievogo Inst. im. V. G. Khlopina, Khim. i Geokhim.* 7, 74-88(1956).—The compds. investigated were $UO_2C_2O_4.3H_2O$, $M_2[UO_2(C_2O_4)_2].3(2)H_2O$ (M = K^+, NH_4^+), and $K_6[(UO_2)_2(C_2O_4)_5].10H_2O$. The salts were analyzed by 2 methods: (1) by volumetric detn. of $C_2O_4^{--}$ + U^{IV} in the same sample with $KMnO_4$. (U(VI) was reduced to U(IV) with Zn or by electrolysis) and (2) volumetric detn. of $C_2O_4^{--}$ by titration with $KMnO_4$ and gravimetric detn. of U as U_3O_8. Water of crystn. was detd. at 110, 160, and 230°. $M_2[UO_2(C_2O_4)_2].3H_2O$ and $K_6[(UO_2)_2(C_2O_4)_5].10H_2O$ at relative low temp. are hydrates but at 110° all water of crystn. was completely removed. Uranyl oxalate crystallizes with 3 mols. of water; 2 mols. of water are lost at 110° and the 3rd at 230°. The method of repeated washing was used for identification of every compd. If the ratio $[C_2O_4^{--}]/\mu$ is const. then a pure compd. exists but this relative changes if a mixt. is present. $UO_2C_2O_4.3H_2O$ dissoc. in water soln. $UO_2C_2O_4 \rightleftharpoons UO_2^{++} + C_2O_4^{--}$. Uranyl oxalate as salt in water soln. is a weak electrolyte. The dissocn. const. is approx. 5×10^{-7}. During potentiometric titration of uranyl

1/2

GRINBERG, A.A.; PTITSYN, B.V.

4

4E4

oxalate soln. with NaOH 2 breaks in the curve of pH vs. the ratio NaOH: $UO_2C_2O_4$ were noted. In the 1st break an av. of 0.9 mole of NaOH was used for each mole of $UO_2(C_2O_4)$, and the soln. was clear. The following reaction scheme is proposed: $UO_2C_2O_4 + NaOH \rightleftharpoons Na[UO_2C_2O_4(OH)]$, and this acidic property can be attributed to the equil. $[UO_2C_2O_4(H_2O)] \rightleftharpoons H^+ + [UO_2C_2O_4(OH)]^-$. The 2nd break is found at the ratio 2.03 to 2.3 which indicates the formation of $UO_2(OH)_2$. The pH of aq. uranyl oxalate as compared with the pH of aq. solns. of U(IV) compds. indicates that water coördinated with U^{IV} ion is more acidic, than is water coördinated with UO_2^{++}. Elec. cond. of $M_2[UO_2(C_2O_4)_2]$ indicates dissocn. into 3 ions, $2M^+$ and one $[UO_2(C_2O_4)_2]^{--}$. ~55.5 $ohm^{-1}\ cm.^{-1}$. The av. mobility of $[UO_2(C_2O_4)_2]^{--}$ at 25° = $l_{1/2}[UO_2(C_2O_4)_2]^{--}$ = 56 $ohm^{-1}\ cm.^{-1}$. Mobility of $C_2O_4^{--}$ at 25° = $l_{1/2}C_2O_4^{--}$ = 73 $ohm^{-1}\ cm.^{-1}$. An aq. soln. of $K_4[(UO_2)_2(C_2O_4)_4].10H_2O$ dissocd. to $K_2C_2O_4$ and $K_2[UO_2(C_2O_4)_2]$. All compds. of uranyl oxalate complexes have acidic properties in water soln. but the acidity decreases according to scheme: $UO_2C_2O_4.3H_2O \rightarrow K_2[UO_2(C_2O_4)_2].3H_2O \rightarrow K_4[(UO_2)_2(C_2O_4)_4].10H_2O$. G. Melnyk

2/2

PM

NOVOSELOV, R.I.; MUZYKANTOVA, Z.A.; PTITSYN, B.V.

Determination of the instability constants of complexes unstable in time. Zhur.neorg.khim. 9 no.4:799-802 Ap '64. (MIRA 17:4)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.

PTITSYN, B. V.

7

Oxidation potential of dichromate. B. V. Ptitsyn and V. R. Petrov. *Zhur. Obshchei Khim.* 26, 3233-9(1956).—The oxidation properties of $Cr_2O_7^{--}$ were studied under various conditions. The reduction of Cr(VI) to Cr(III) takes place stepwise with the formation of compds. in which Cr has an intermediate valence. Cr^{+++} ions have no effect on the oxidation potential of the $Cr_2O_7^{--}$ soln. The effect of pH on the oxidation potential of $Cr_2O_7^{--}$ was detd. in the presence of different acids. The potential decreases with increasing pH more slowly the higher is the pH. The nature of the acid is of importance. For the same pH the oxidation potential decreases in the following order: $HClO_4 > H_2SO_4 > HNO_3 >$ AcOH. The av. value of the oxidation potential of $Cr_2O_7^{--}$ in H_2SO_4 and HNO_3 and of $H_2Cr_2O_7$ in $HClO_4$ was 1240 mv. for a pH = 0. I. R. L.

4

PTITSYN, B.V.; TEKSTER, Ye.N.; VINOGRADOVA, L.I.; MORACHEVSKAYA, M.D.

Using the oxalate-silver electrode for determining the instability constants of complex oxalates. Zhur.neorg.khim. 2 no.9:2025-2030 S '57. (MIRA 10:12)

1.Leningradskiy tekhnologicheskiy institut pishchevoy promyshlennosti, Kafedra obshchey i analiticheskoy khimii.
(Electrodes) (Oxalates)

PTITSYN, B.V.

27

7

✓Slightly soluble compounds of quadrivalent uranium obtained with the aid of rongalite. A. A. Grinberg, L. E. Nikol'skaya, G. I. Petrzhak, B. V. Ptitsyn, and F. M. Filinov (Radium Inst., Leningrad). *Zhur. Anal. Khim.* 12, 92-4(1957).—Sexivalent U taken as $UO_2(NO_3)_2$ was reduced to the quadrivalent form by rongalite in acid soln. The reduction was carried out in the presence of $H_2C_2O_4$ so that the oxalate pptd. The reaction was carried out in HNO_3 of final concn. 1*N*, in the presence of $H_2C_2O_4$ 10% excess of theoretical value using for each mol. U 1 mol. rongalite plus 7-10% excess. With this procedure the soln. contained no more U than detd. by the soly. of the oxalate. Under similar conditions U was also pptd. as UF_4.

—M. Hoech

GRINBERG, A.A.; PETRZHAK, G.I.; NIKOL'SKAYA, L.Ye.; PTITSYN, B.V.; FILINOV, F.M. [deceased]

New means of preparing tetravalent uranium derivatives. Trudy Radiev.inst.AN SSSR. 8:166-169 '58. (MIRA 12:2)
(Uranium compounds)

SOV/78-3-11-4/23

AUTHORS: Ptitsyn, B. V., Sheronov, L. N., Komlev, V. P.

TITLE: The Determination of the Solubility Products of Silver Citrate at Different Ionic Strength of the Solution (Opredeleniye proizvedeniya rastvorimosti tsitrata serebra pri raznoy ionnoy sile rastvora)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2450-2452 (USSR)

ABSTRACT: In the present paper the optimum conditions for the production of silver citrate of the composition $Ag_3C_6H_5O_7$ were investigated, and the solubility products of silver citrate were determined by means of the radioactive indicator Ag^{110}. The solubility product of silver citrate was determined as function of the ionic strength of the solution at 25°C. Sodium citrate solution was added to a silver nitrate solution in order to produce silver citrate. This sequence of addition of reagents leads to crystalline silver citrate which precipitates easily. In the case of an inverse addition of silver nitrate to sodium citrate a fine dispersion is produced which can be scarcely filtered.

Card 1/2