ZAKHARKIN, L.I.; KORNEVA, V.V.; IOGANSEN, A.V.

Admixture of hydrogen chloride and acetic acid to isomeric 1, 5, 9-cyclododecatrienes. Dokl.AN SSSR 138 no.2:373-376 My '61.
(MIRA 14:5)

1. Institut elementoorganicheskoy khimii Akademii nauk SSSR. Predstavleno akademikom M.I.Kabachnikom.
(Hydrogen chloride) (Acetic acid) (Cyclododecane)

ZAKHARKIN, L.I.; VINOGRADOVA, L.P.; KORNEVA, V.V.; ZAV'YALOV, S.I.

Synthesis of brassylic and 1,12-dodecanedicarboxylic acids.
Izv.AN SSSR.Otd.khim.nauk no.7:1309-1311 Jl '62. (MIRA 15:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Tridecanedioic acid) (Tetracecanedioic acid)

ZAKHARKIN, L.I.; KORNEVA, V.V.; KAMZOLKIN, V.V.; SOKOVA, K.M.; ANDREYEVA, T.P.; BASHKIROV, A.N.

Preparation of ω-dodecalactam from 1,5,9-cyclododecatriene. Neftekhimia 2 no.1:106-109 Ja-F '62. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Lactams) (Cyclododecatriene)

ZAKHARKIN, L.I., KORNEVA, V.V.

Synthesis of some derivatives of cycloundecane from 1,5,9,-cyclododecatriene. Izv. AN SSSR.Otd.khim.nauk no.10:1817-1821 O '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Cycloundecane) (Cyclododecatriene)

5

ZAKHARKIN, L.I., KOROLEVA, V.V., [illegible], G.M., BASHKIROVA, A.N., KAMZOLKIN, V.V., SOKOVA, K.M.

New monomer for the production of th synthetic fiber dode-Kalaktan.

Report to be submitted for the 12th Conference on high molecular weight compounds devoted to monomers, Baku, 3-7 April 62

BASHKIROV, A.N.; KAMZOLKIN, V.V.; SOKOVA, K.M.; ANDREYEVA, T.P.; KORNEVA, V.V.; ZAKHARKIN, L.I.

Synthesis of cyclododecanol by the liquid-phase oxidation of cyclododecane. Neftekhimiia 1 no.4:527-534 Jl-Ag '61. (MIRA 16:11)

1. Institut neftekhimicheskogo sinteza AN SSSR i Institut elementoorganicheskikh soyedineniy AN SSSR.

ZAKHARKIN, L.I.; KORNEVA, V.V.

Synthesis of 2-alkylidene- and 2-alkylcyclododecanones. Izv. AN SSSR Ser. khim. no.12:2206-2208 D '64 (MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

BEREZIN, I.V.; BYKOVCHENKO, V.G.; KORNEVA, V.V.; ZAKHARKIN, L.I.

Investigation of the kinetics and mechanism of liquid-phase oxidation of cyclododecane by molecular oxygen. Report No. 2. Kinetics of the accumulation of intermediate products. Neftekhimiia 1 no.4:541-547 Jl-Ag '61. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet i Institut elemento-organicheskikh soyedineniy AN SSSR.

ZAKHARKIN, L.I.; KORNEVA, V.V.

Synthesis and deamination of cis-and trans-2-aminocyclododecanols. Zhur. org. khim. 1 no.9:1608-1615 S '65. (MIRA 18:12)

1. Submitted August 24, 1964.

KAHY, L.M.; KOVALENKOVA, M.V.; KORNEVA, Ye.A.; SERANOVA, A.Ye.

Further study of the hypothalamus area in the regulation of the immunogenesis process. Zhur. mikrobiol., epid. i immun. 41 no.10:7-12 '64. (MIRA 18:5)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

BIRYUKOV, D.A.; ANTROPOV, G.A.; KLIMOVA-CHERKASOVA, V.I.; KORNEVA, Ye.A.; SHLYAFER, T.P.; YAKOVLEVA, M.I.

Comparative and physiological features of the effect of aminazine on the regulation of cardiovascular activity. Fizio. zhur. 48 no.8:953-959 Ag '62. (MIRA 16:6)

1. From the Laboratory for Comparative Physiology and Pathology, Institute of Experimental Medicine, Leningrad.
(CARDIOVASCULAR SYSTEM) (CHLORPROMAZINE)

KORNEVA, Ye. A.

Evolution of the reflex regulation of cardiac activty.
Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:529-531 '63.
(MIRA 17:7)

1. Laboratoriya stravnitel'noy fiziologii i patologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

KORNEVA, Ye.A.; YAKOVLEVA, M.I.

Some data on the role of the higher segments of the brain in the reaction of respiration to aminazin introduction. Biul. eksp. biol. i med. 56 no.8:77-80 Ag '63. (MIRA 17:7)

1. Iz laboratorii sravnitel'noy fiziologii i patologii (zav. - deystvitel'nyy chlen AMN SSSR D.A. Biryukov) Instituta eksperimental'noy meditsiny, AMN SSSR, Leningrad. Predstavleno deystvitel'nym chlenom AMN SSSR D.A. Biryukovym.

KORNEVA, Ye.A.; KHAY, L.M.

Effect of the destruction of areas of the hypothalamic region on the process of immunogenesis. Fiziol. zhur. 49 no.1:42-48 Ja '63. (MIRA 17:2)

1. From the Departments of Comparative Physiology and of Microbiology, Institute of Experimental Medicine, Leningrad.

ANTROPOV, G.A.; KLIMOVA-CHERKASOVA, V.I.; KORNEVA, Ye.A.; SHLYAFER, T.P.; YAKOVLEVA, M.I.

Comparative physiological characteristics of the effect of aminazine on the regulation of cardiovascular activity. Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:533-535 '63. (MIRA 17:7)

1. Laboratoriya sravnitel'noy fiziologii.

KORNEVA, YE. A.

KORNEVA, YE. A.: "The comparative physiology of cardiac conditioned reflexes." Leningrad Medical Inst imeni Academician I. P. Pavlov. Inst of Experimental Medicine, Acad Med Sci USSR. Leningrad, 1956. (Dissertation for the degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No 36, 1956, Moscow.

KORNEVA, Ye.A., Cand Med Sci--(diss) "On the comparative physiology of cardiac conditioned reflexes." Len, 1959. 15 pp (Inst of Experimental Medicine of the Acad Med Sci USSR. Len Med Inst im Acad I.P. Pavlov), 200 copies (KL, 22-58,114)

KORNEVA, Ye.A.; KHAY, L.M.

Role of the sympathoadrenal system in regulating the immunogenic process. Fiziol. zhur. 47 no.10:1298-1305 O '61. (MIRA 15:1)

1. Laboratoriya sravnitel'noy fiziologii, nervnoy deyatel'nosti i Otdel mikrobiologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

(IMMUNOLOGY) (NERVOUS SYSTEM, SYMPATHETIC--SURGERY)
(ADRENAL GLANDS--EXCISION)

BIRYUKOV, D.A.; KORNEVA, Ye.A.; SHLYAFER, T.P.; YAKOVLEVA, M.I.

Formation of reflex regulation of the activity of the heart and respiration in animals in phylogenesis and ontogenesis. Fiziol. zhur. 48 no.1:55-63 Ja '62. (MIRA 15:2)

1. Otdel sravnitel'noy fiziologii i patologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.
(HEART) (RESPIRATION) (REFLEXES)

KORNEVA, Ye.A.; YAKOVLEVA, M.I.

Central and peripheral effect of aminazine. Biul. eksp. biol. i med. 53 no.4:78-83 Ap '62. (MIRA 15:4)

1. Iz laboratorii sravnitel'noy fiziologii i patologii (zav. - chlen-korrespondent AMN SSSR prof. D.A.Biryukov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR, V.V.Zakusovym.
(CHLORPROMAZINE) (NERVOUS SYSTEM)

KORNEVA, Yelena Andreyevna; PETROV, A.N., red.

[Evolution of the reflex regulation of cardiac activity] Evoliutsiia reflektornoi reguliatsii serdechnoi deiatel'nosti. Leningrad, Meditsina, 1965. 249 p. (MIRA 18:9)

KORNEVA, Ye.I.

Difference in the quality of mint derived from sten and root cuttings. Agrobiologiia no.4 Jl-Ag '58. (MIRA 11:9)

1. Ukrainskaya zonal'naya opytno-selektsionnaya stantsiya Vsesoyuznogo nauchno-issledovatel'skogo instituta maslichnykh i efiromaslichnykh kul'tur.
(Mint (Botany))

KORNEVA, Ye. I., Cand Agr Sci — (diss) "Selection and seed growing of peppermint in the Ukraine." Kiev, 1959. 16 pp (Min of Agr UkSSR. Ukrainian Acad of Agr). 150 copies (KL,40-59, 105)

43

KORNEVA, Ye.I.

Changes in the qualitative composition of the essential oils of mint grafts. Agrobiologiia no.1:146 Ja-F '60. (MIRA 13:5)

1. Ukrainskaya opytno-selektsionnaya stantsiya efiromaslichnykh kul'tur.
(Mint (Botany)) (Essences and essential oils)

KORNEVA, Ye.I.

Biological characteristics of the development of rhizome in peppermint. Agrobiologiia no.5:763-764 S-O '60. (MIRA 13:10)

1. Ukrainskaya zonal'naya opytno-selektskonnaya stantiya, g.Priluki.
(Peppermint)

43488

27.1220 2620

S/205/62/002/006/020/021
E027/E410

AUTHORS: Berezina, N.M., Ostapenko, V.I., Korneva, Ye.I., Riza-Zade, R.R.

TITLE: Morphological changes in plants under the influence of ionizing radiation

PERIODICAL: Radiobiologiya, v.2, no.6, 1962, 931-937

TEXT: The production of multiple cobs was observed in maize plants grown from seeds irradiated with 500 r from a Cs^{137} source before sowing. Of 200 plants studied 25 (13%) had 1 cob; 91 (45%) had 2; 60 (30%) had 3; 18 (9%) had 4; whereas 90 (45%) of 200 control plants from unirradiated seeds had 1 cob and the remaining figures were all lower. The harvest from 6 plots sown with irradiated and control seeds showed that the experimental plants gave higher yields of stalks, cobs and husks. Increased branching occurred in buckwheat exposed to chronic gamma-irradiation in a total dose of 250 r and there was a corresponding increase in the number of inflorescences. Branching could also be induced in hemp and jute, with corresponding increase in the harvest. Similar changes were seen in plants developing from

Card 1/2

Morphological changes ... S/205/62/002/006/020/021
E027/E410

irradiated potatoes, mint rhizomes and apple cuttings.
There are 6 figures and 3 tables.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moskva
(Institute of Biophysics AS USSR, Moscow)

SUBMITTED: July 18, 1962

Card 2/2

BEREZINA, N.M.; OSTAPENKO,V.I.; KORNEVA, Ye.I.; RIZA-ZADE, R.R.

Effect of ionizing radiation on morphological changes in plants. Radiobiologiia 2 no.6: 931-937 '62. (MIRA 16:11)

1. Institut biologicheskoy fiziki AN SSR, Moskva.

[illegible], N. [illegible]; [illegible]VA, [illegible]

Effect of various doses of gamma irradiation on the growth of [illegible] rootstock. Radiobiologiia 4 no.[illegible]:798-[illegible] '64.
(MIRA 18:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

KORNEV, Ye.I.

Dormancy period in the rhizomes of peppermint. Fiziol.rast. 12 no.2:320-324 Mr-Ap '65. (MIRA 18:6)

1. Vsesoyuznyy institut lekarstvennykh rasteniy, Moskovskaya oblast'.

KORNEV, Ye.I., kand. sel'skokhoz. nauk; REZNIKOVA, S.A., kand. biol. nauk

Natural polyploidy in peppermint breeding. Agrobiologiia no.3:454-456 My-Je '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticheskikh rasteniy, Moskovskaya oblast'.

REZNIKOVA, S.A.; KORNEVA, Ye.I.; KONDRATENKO, P.T.

Overcoming noncrossability in remote hybridization of nightshade. Genetika no.5:142-144 N '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticheskikh rasteniy, Moskovskaya oblast'. Submitted May 3, 1965.

LIBMAN, Z.G.; KORNEVA, Z.V.

Determining the moisture of lignosulfonic acid. Gidroliz. i lesokhim. prom. 16 no.8:19 '63. (MIRA 17:1)

1. Mezhotraslevaya laboratoriya fiziko-khimicheskikh issledovaniy Krasnoyarskogo soveta narodnogo khozyaystva.

AFANAS'YEVA, A.V.; KORNEVICH, L.I.; MAKSIMOV, M.M.; PALIY, A.O.; RAKOVSKIY, N.L.

Electric modeling of the flooding of petroleum with a fringe of liquefied gases taking into consideration the mutual solution of fluids. Trudy VNII no.42:198-221 '65. (MIRA 18:5)

KORNEVSKAYA, T.B., kand.med.nauk (Moskva)

Conduction disorders in myocardial infarct. Klin.med. 38 no.12: 48-52 D '60. (MIRA 14:2)

1. Iz gruppy pri deystvitel'nom chlene AMN SSSR prof. M.S. Vovsi [deceased].

(HEART—INFARCTION) (ELECTROCARDIOGRAPHY)

KIRPICHNIKOV, P.A.; KORNEY, I.V.

Preparation of latexes by copolymerization of vinylidene chloride with butadiene and 2-methyl-5-vinylpyridine at low temperature, and some of their properties. Trudy KKHTI no.30:174-177 '62. (MIRA 16:10)

KORNEYCHEV, A. I., ing.

Utilization of additional power of a thermal power plant for covering the electric peak load. Energetica Rum 12 no. 3:97-99 Mr '64.

1. Institute of Electric Power, Moscow.

KORNEYCHEVA, T.; EPSHTEYN, S.

Revolving credit for industrial enterprises. Den. i kred. 15 no.1:22-26 Ja '57. (MLRA 10:3)

(Credit)

KORNEYCHEVA, T.; EPSHTEYN, S.

Enlarge bank ties with the economy. Den. i kred. 16 no.3:43-48 Mr '58. (MIRA 11:5)
(Leningrad--Banks and banking)

KORNEYCHEVA, T.; TITOVA, Z.

Bank credit work under the new conditions. Den. i kred. 17 no.11: 40-46 N '59. (MIRA 12:12)
(Leningrad--Banks and banking) (Credit)

KORNEYCHIK, Zh.N.

Features in the development of the root system of raspberries in the Karaganda industrial region. Izv.AN Kazakh.SSr. Ser.biol. no.11:19-22 '56. (MLRA 10:2)

1. Karagandinskaya nauchno-issledovatel'skaya baza Akademii nauk KazSSR.
(KARAGANDA PROVINCE--RASPBERRIES) (ROOTS (BOTANY))

Country : USSR M
Category : CULTIVATED PLANTS. FRUITS. Berries.

Abs. Jour. : REF ZHUR-BIOL.,21,1958,NO-96144

Author : Kornevchik,Zh.N.
Institut. : Inst. of Botany, AS Kazakh SSR
Title : Results of a Primary Currant Variety Study in Karaganda Botanical Garden

Orig. Pub. : Tr.In-ta botan. AN KazSSR, 1957, 5, 193-209

Abstract : A study was made of 87 currant varieties at Karaganda Garden since 1944. Investigation was made of winter hardiness, plant resistance to pests and disease, productivity, the biological characteristics of the varieties in order to determine the agrotechny needed, observations of passage through the phenophases were made. The long vegetating varieties suffered most from frost: Boskopskiy Velikan, Lacston, Russkaya Krupnoplod-naya. Twelve black currant varieties proved best:

Card: 1/3

Country :
Category :
Abs. Jour. : REF ZHUR-BIOL.,21,1958,NO-96144
Author :
Institut. :
Title :
Orig. Pub. :

M

Abstract : Chempion Primor'ya, Saunders 129, Kolkhoznaya, Minusinskaya 129, Minusinskaya 134, 10-38-1-selections of the Altay Fruit and Berry Experimental Station, Chelyabinskaya Tayezhnaya, Nina, Bashkirskaya 115, Yubileynaya, Krasnoyarskaya 1032, Aldanskaya 24-1; four varieties of red currant: Vishnevskaya Krasnaya, Kavkazskaya 12, Dlinnokistnaya Krasnaya 71, Aldanskaya Krasnaya and the white currant variety "White Holland 1-16. These varieties supplied the demand for fresh berries

Card: 2/3

KORNEYCHIK, Zh.N.

Karaganda Botanical Garden. Trudy Karag. bot. sada 1:3-6 '60.
(MIRA 15:1)
(Karaganda--Botanical gardens)

KORNEYCHIK, Zh.N.

Introduction of strawberries in the Karaganda Botanical Garden.
Trudy Karag. bot. sada 1:81-91 '60. (MIRA 15:1)
(Karaganda--Strawberries)

KORNEYCHIK, Zh.N.

Effect of trace elements and superphosphate on the strawberry yield in Karaganda Province. Trudy Karag. bot. sada 1:92-95 '60.
(MIRA 15:1)

(Karaganda Province--Strawberries--Fertilizers and manures)
(Trace elements)

KORNEYCHIK, Zh.N.

Results of introducing fruit and berry plants in the Karaganda Botanical Garden. Trudy Inst.bot.AN Kazakh.SSR 14:118-131 '62. (MIRA 16:4)

(Karaganda—Fruit) (Karaganda—Berries)

KORNEYCHIK, Zh.N.

Practices in growing gooseberries in the Karaganda Botanical Garden. Trudy Inst.bot.AN Kazakh.SSR 14:132-143 '62.
(MIRA 16:4)

(Karaganda--- Gooseberries)

RUBANIK, V.G.; KORNEYCHIK, Zh.N.; MEL'NIK, A.F.; SOLONINOVA, I.N.; ZHERONKINA, T.A.; KALUGIN, E.S.; TKACHENKO, V.S.; BESSCHETNOV, P.P.; PROTASOV, A.N.; PARAVYAN, A.V., doktor biol. nauk, otv. red.

[List of trees and shrubs recommended for landscaping in populated places of Kazakhstan] Spisok derev'ev i kustarnikov, rekomenduemykh dlia ozeleneniia naselennykh punktov Kazakhstana. Alma-Ata, Izd-vo AN KazSSR, 1963. 85 p. (MIRA 17:3)

1. Akademiya nauk Kazakhskoy SSR. Institut botaniki. 2. Glavnoye upravleniya lesnogo khozyaystva i okhrany lesa Soveta Ministrov Kazakhskoy SSR (for Tkachenko). 3. Kazakhskiy sel'skokhozyaystvennyy institut (for Besschetnov, Protasov).

KORNEYCHIK, Zh.N.

Results of introducing the varieties of red and white currants in the Karaganda Botanical Garden. Trudy Inst.bot.AN Kazakh.SSR 17: 72-89 '63. (MIRA 17:3)

SITNIKOVA, A.S.; KORNEYCHIK, Zh.N.

Chemical composition of apple and pear fruit in the Karaganda Botanical Garden. Trudy Inst.bot.AN Kazakh.SSR 17:90-97 '63.
(MIRA 17:3)

ACC NR: AP7000023 SOURCE CODE: UR/0051/66/021/005/0583/0587

AUTHOR: Reyterov, V. M.; Korneva, Z. N.

ORG: none

TITLE: Coloring of fluorite crystals during the growth process

SOURCE: Optika i spektroskopiya, v. 21, no. 5, 1966, 583-587

TOPIC TAGS: fluorite, crystal growth, color center, light absorption, absorption spectrum, crystal defect, oxidation

ABSTRACT: Unlike earlier investigations, where the coloring was produced by external means such as irradiation or additives, the authors investigate the spectral absorption of artificially grown colored fluorite crystals, in which the coloring is induced directly during the growth process without special activation with coloring elements. This phenomenon was referred to only indirectly in the few existing earlier studies. The crystals were grown by the Stockbarger method in vacuum for a relatively long period of time, and the presented spectra are the results of statistical processing of a large number of absorption spectra obtained for a great variety of grown fluorite crystals. Two types of absorption spectra were observed for the colored crystals, one characteristic of subtractive coloring and the other of additive coloring. The latter was similar to that obtained for additively colored crystals activated with Ca. The coloring of the crystals during the growing is shown to be connected with deterioration of the vacuum during the process of crystallization, so

Card 1/2 UDC: 535.34: 548.0

ACC NR: AP/000028

that oxygen has probably participated in the process. It is pointed out in particular, that earlier deductions that blue coloring of fluorite crystals may be produced by rare-earth ions (such as yttrium) may be in error, and that the oxygen may be the cause of the color centers. It is also proposed that, besides blocking the rare-earth ions and compensating their excess charge, the oxygen can also increase independently the number of defects in the crystal lattice and facilitate the formation of color centers. The authors thank M. A. Vasil'yeva and V. A. Pis'mennyy for supplying many of the investigated crystals, F. K. Volynets for interest in the work, and V. A. Arkhangel'skaya for a discussion of the results. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 15Jul65/ ORIG REF: 015/ OTH REF: 004

Card 2/2

L 19410-63 EPA(b)/EWT(1)/BDS/ES(v) AEDC/AFFTC/ASD/AFMDC Pd-4/Pe-4

ACCESSION NR: AR3005379 S/0044/63/000/006/B065/B065

SOURCE: RZh. Matematika, Abs. 6B292

AUTHOR: Zhidkov, N. P.; Korneychuk, A. A.; Krylov, A. L.; Kostinskaya, S. B.

TITLE: Plane-parallel motion of a viscous fluid between rotating cylinders

CITED SOURCE: Sb. rabot Vychisl. tsentra Mosk. un-ta, v. 1, 1962, 152-166

TOPIC TAGS: viscous fluid motion, Reynolds number, fluid, fluid motion

TRANSLATION: The authors describe in detail the numerical solution of the problem of non-stationary plane motion of a viscous non-compressible fluid between two coaxial rotating cylinders. The equation for the flow function was solved in polar coordinates. The initial field for the flow function had two point eddies. The choice of a difference scheme was based on the model equation $u_t = \nu u_{xx} + au_x$. The computation was carried out according to a three-layer scheme of the "cross" type by the method of matrix run-through on the "Strela" computer at the Computing Center of Moscow State University. As is noted in the article, the results of computation show that with increasing t the solution emerges into a certain stationary regime. With an increasing Reynolds number this emergence slow down and the

Card 1/2

L 19410-63
ACCESSION NR: AR3005379

smoothness of the solution experiences a stage of deterioration (turbulization of motion), after which there once again an improvement in the smoothness prior to emergence into a stationary regime. B. Rusanov.

DATE ACQ: 24Jul63 SUB CODE: MM ENCL: 00

Card 2/2

L 12363-65 EWT(d) IJP(c) MLK

ACCESSION NR: AT4047138 S/0000/64/000/000/0064/0074

AUTHOR: Korneychuk, A. A. (Moscow)

TITLE: Quadrature formulas for singular integrals

SOURCE: Chislenny*ye metody* resheniya differentsial'ny*kh i integral'ny*kh uravneniy i kvadraturny*ye formuly* (Numerical methods of solving differential and integral equations and quadrature formulas); sbornik statey. Moscow, Izd-vo Nauka, 1964, 64-74

TOPIC TAGS: quadrature formula, singular integral, quadrature formula accuracy

ABSTRACT: The construction of high-accuracy quadrature formulas for the evaluation of the singular integrals

$$I_1 f(y) = \frac{1}{2\pi} \int_0^{2\pi} f(x) \operatorname{ctg} \frac{x-y}{2}\, dx; \qquad (1)$$

$$I_2 f(y) = \frac{1}{\pi} \int_{-1}^{1} f(x) \frac{d\alpha(x)}{x-y}, \qquad (2)$$

Card 1/2

L 12363-65
ACCESSION NR: AT4047138

which are encountered in the solution of boundary value problems in the theory of analytic functions, is considered. A quadrature formula is derived for the integral (1) which is exact when f(x) is a trigonometric polynomial of an arbitrary order. It is proved that approximate value evaluated by this formula converges to the exact value when the number of interpolation points increases infinitely and the Fourier series of f(x) is absolutely convergent. An estimate of the remainder term is derived for a wide class of integrands. The quadrature formula for the integral (2) is also derived in the case where a(x) is a nondecreasing nonconstant function which is exact when f(x) is an algebraic polynomial. The estimate of the remainder term is derived on condition that f(x) is a continuously differentiable function. The derived quadrature formulas are convenient for computer calculations. Orig. art. has: 20 formulas.

ASSOCIATION: none

SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: MA

NO REF SOV: 010 OTHER: 000 ATD PRESS: 3125

Card 2/2

L 14500-65 EWT(m) DIAAP/AFWL/SSD/ESD(t)
ACCESSION NR: AP4048632 S/0048/64/028/010/1599/1616

AUTHOR: Selov'yev, V.G.; Fogel', P.; Kornеychuk, A.A.

TITLE: Investigation of octupole states of strongly deformed even-even nuclei /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.10, 1964, 1599-1616

TOPIC TAGS: nuclear physics, nuclear model, nuclear structure, excited state

ABSTRACT: This paper presents a systematic theoretical investigation of the energies and structures of the octupole excited states with $\lambda = 3$ and $\mu = 0,1,2,3$ in strongly deformed even-even nuclei. The calculations are performed on the basis of the superfluid model by the method of approximate second quantization. The derived secular equation is simplified on the assumption that the three octupole-octupole interaction constants (for the pp, nn, and pn interactions) are equal. Calculations were performed for the even-even nuclei with mass numbers between 150 and 190, and between 228 and 254. Nilsson wave functions were employed, with the deformation parameter δ assumed to have the same value 0.3 for all the nuclei in the lighter

1/3

group, and the value 0.2 for those in the heavier group. The octupole-octupole interaction was also assumed to be constant within each of these two groups; the interaction constant was so chosen as to give the best agreement with the experimental energies of the 0^- states. The first two roots of the secular equation were calculated for the 0^-, 1^-, 2^-, and 3^- states, and the energy values, together with the energies of the first and second bands and the corresponding experimental data (when available) are presented graphically. The calculated values of the energies of the lowest 1^-, 2^-, and 3^- states agree well with the experimental values, provided the effect of blocking is taken into account when it is important. The octupole-octupole interactions are usually important for 1^- and 2^- states, and are usually negligible for 3^- states. The structures of the octupole states are illustrated by tabulating the contributions of the various two-quasiparticle states for a number of selected nuclei. In most nuclei the lowest 0^- state is strongly collectivized whereas the 1^- and 2^- states may be collectivized but are usually rather close to two-quasiparticle states. The 3^- states may be regarded as two-quasiparticle states with less than 1% admixture of other than the principal state. Reduced electromagnetic transition probabilities were calculated, and a future paper is promised in which these will be discussed. "In conclusion, we express our gratitude to N.N.Bogolyubov for an interesting discussion of the article, and to K.M,

L 14500-65
ACCESSION NR: AP4048632

3

Zheleznova, L.V.Korneychuk and G.Yung-laussen for assistance in performing the numerical calculations." Orig.art.has: 19 formulas, 9 figures and 13 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: NP NR REF SOV: 004 OTHER: 006

3/3

OTROSHCHENKO, O.S.; LEONT'YEV, V.B.; SADYKOV, A.S.; MANGUTOVA, Yu.S.; KORNEYCHUK, A.A.

Chemistry of dipyridyls. Part 3: Reactivity of dipyridyls. Zhur. ob. khim. 34 no.7:2304-2309 Jl '64 (MIRA 17:8)

1. Tashkentskiy gosudarstvennyy universitet.

ACCESSION NR: AP4042397 S/0056/64/047/001/0252/0261

AUTHOR: Liu, Yuan; Solov'yev, V. G.; Korneychuk, A. A.

TITLE: Energy of quadrupole states of strongly deformed even-even nuclei

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 252-261

TOPIC TAGS: beta vibrational state energy, gamma vibrational state energy, dysprosium gamma vibrational state, erbium gamma vibrational state, dysprosium beta vibrational state, erbium beta vibrational state, strongly deformed nucleus, erbium, dysprosium

ABSTRACT: The energies of beta- and gamma-vibrational states of even-even strongly deformed nuclei for $152 \leqslant A \leqslant 186$ and $228 \leqslant A \leqslant 254$ have been calculated. A satisfactory agreement was found between the calculated and corresponding experimental data for a case when $\varkappa_n = \varkappa_p = \varkappa\eta_p = \varkappa$, where $\varkappa = 10\, A^{-4/3}\hbar\omega^0$ in the first region and $\varkappa = 12\, A^{-4/3}\hbar\omega$ in the second region. In accordance with experimental data for isotopes Dy and Er, the energies of gamma-vibrational were found to be lower than energies of beta-vibrational states. It was

Card 1/2

ACCESSION NR: AP4042397

also found that in most cases the lowest states with $K\pi = 2^+$ and $K\pi = 0^+$ possess distinct collective properties, and their energies are much below the energies of the nearest poles in the secular equations. In a number of cases the energies of the quadrupole states are near the poles, and their wave functions are very close to the two-particle wave functions. The calculated probabilities of E2-transitions do not contradict experimental data. Orig. art. has: 2 figures and 12 formulas.

ASSOCIATION: Ob"yedinennyy institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 19Jan64 ATD PRESS: 3069 ENCL: 00

SUB CODE: NP NO REF SOV: 004 OTHER: 011

Card 2/2

SCHOV'YEV, V.G.; FOGEL', P.; KORNEICHUK, A.A.

Octupole states of even-even strongly deformed nuclei.
Izv. AN SSSR. Ser. fiz. 28 no.10:1599-1615 O '64.
(MIRA 17:12)

L 00348-66 EWT(d) IJP(c)

ACCESSION NR: AP5020301 UR/0208/65/005/004/0768/0773
517.949.2

AUTHOR: Korneychuk, A. A. (Moscow) 44,55

TITLE: Estimates of solutions of linear difference and differential equations with variable coefficients

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 5, no. 4, 1965, 768-773

TOPIC TAGS: difference equation, differential equation, approximation calculation

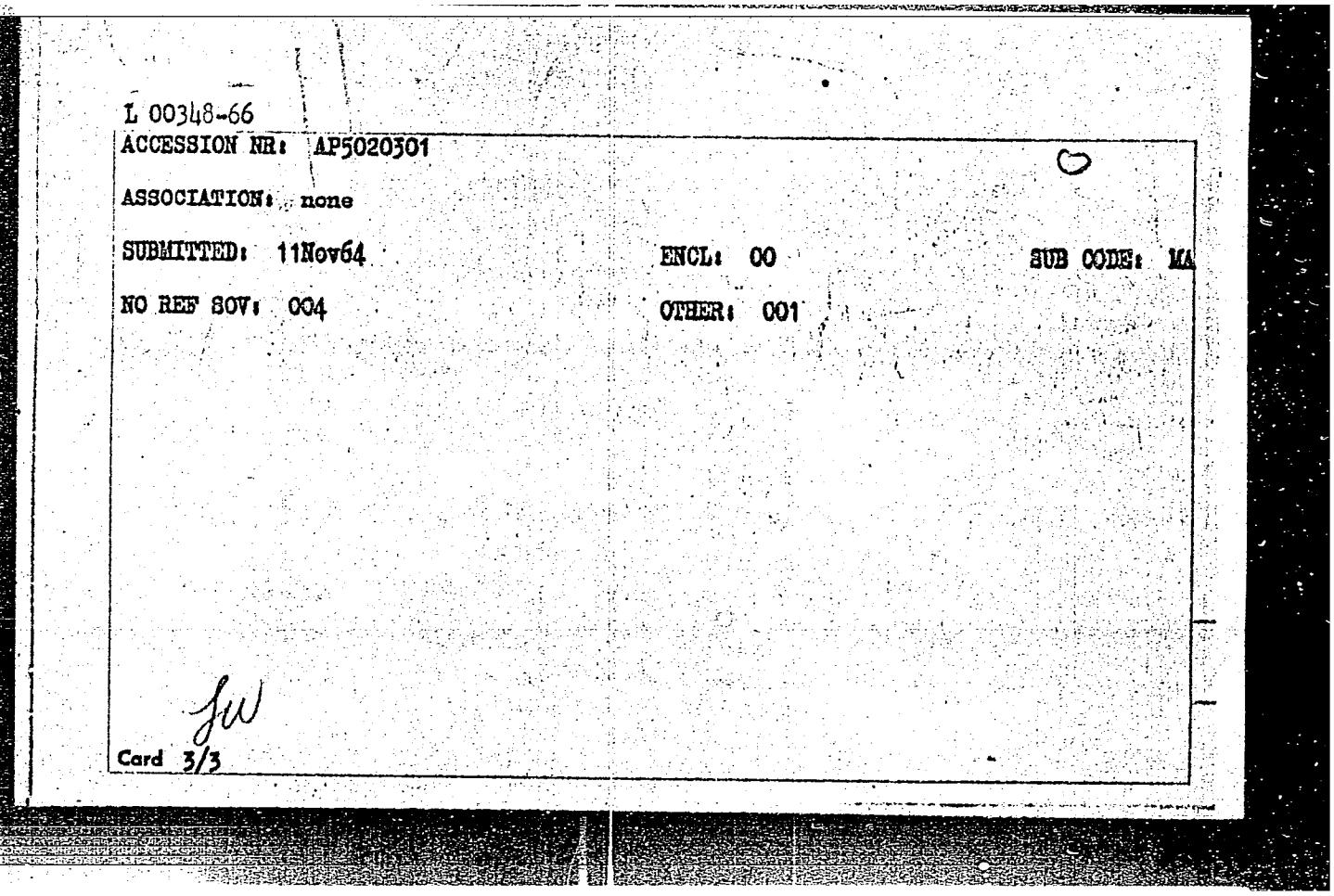
ABSTRACT: The author makes a study of

$$\sum_{j=0}^{k} (A_j + a_{j,n+j}) y_{n+j} = 0, \quad (1)$$

where $\lim_{n \to \infty} a_{j,n+j} = 0$, $j = 0, \ldots, k-1$, $A_k = 1$, $a_{k,n+k} = 0$ in terms of the limiting equation

$$\sum_{j=0}^{k} A_j y_{n+j} = 0. \quad (2)$$

Card 1/3



L 00348-66
ACCESSION NR: AP5020301

ASSOCIATION: none

SUBMITTED: 11Nov64 ENCL: 00 SUB CODE: MA

NO REF SOV: 004 OTHER: 001

Card 3/3

KORNEYCHUK, A.A. (Moskva)

Quadrature formulae for singular integrals. Zhur. vych. mat. i mat. fiz. 4 no.4(suppl.):64-74 '64.

(MIRA 18:2)

ACCESSION NR: AP4010752 S/0020/64/154/001/0072/0075

AUTHORS: Solov'yev, V.G.; Fogel', P.; Korneychuk, A.M.

TITLE: Energies of octupole collective states with I K 1 - 0 even-even strongly deformed nuclei

SOURCE: AN SSSR. Doklady*, v. 154, no. 1, 1964, 72-75

TOPIC TAGS: energy, octupole collective state, deformed nucleus, superfluid model, excitation state

ABSTRACT: Research based on approximate second quantization was conducted on properties of atomic nuclei. Results were realized in the area of spherical nuclei where energy states and probability of electromagnetic transitions were computed. It was found that research in the area of strongly deformed nuclei is limited, but basic equations are cited and the question of excluding the heated state is studied. Based on the method of approximate second quantization in limits of superfluid models of the nucleus, energies were calculated for octupole collective states with I^{π} K=1 - 0 of even-even

Card 1/2

ACCESSION NR: AP4010752

strongly deformed nuclei in areas of 152 ≤ A ≤ 186 and 228 ≤ A ≤ 254. The behavior of collective octupole state energy with $K\pi = 0$ is explained by introducing one new constant π ; all remaining parameters are specified earlier. Microscopic treatment of the state based on the superfluid model of the nucleus differs strongly from the phenomenological treatment of the unified model of the nucleus. According to the treatment of the superfluid nucleus model, the octupole states in single nuclei are relatively low (lower than β and γ of vibration states), and possess clearly expressed collective properties, but in other nuclei such states have high energy values and are inherently similar to quasi-particle excitation states. "In conclusion we are deeply grateful to academician N.N. Bogolyubov for interesting discussions and to G. Yunklaussen for his help in conducting numerical calculations." Orig. art. has: 2 figures.

ASSOCIATION: Ob'yedinenny*y institut yaderny*kh issledovanniy (Joint Institute for Nuclear Research)

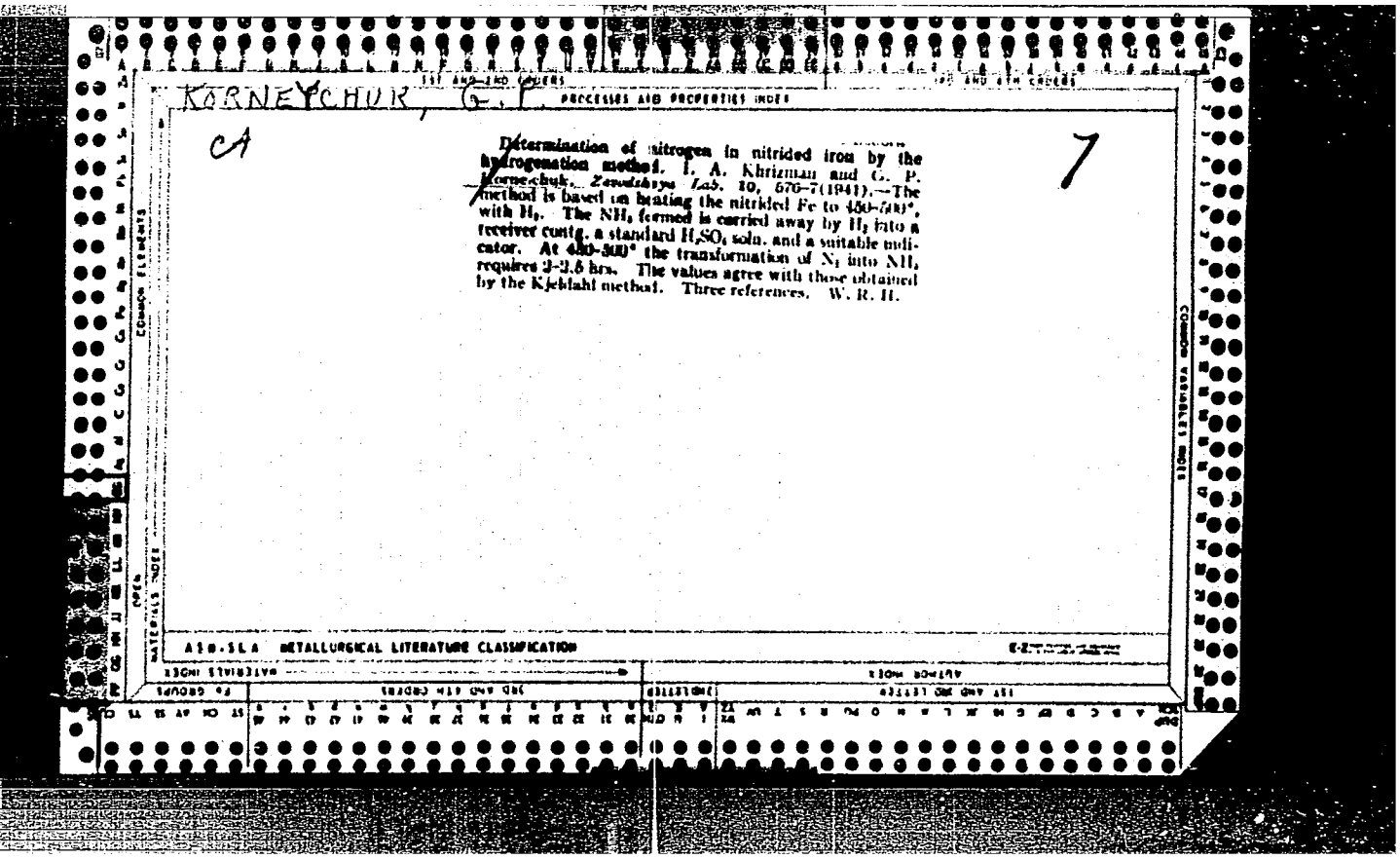
SUBMITTED: 06Jul63 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 009

Card 2/2

NESMEYANOV, A.N.; TOPCHIYEV, A.V.; KURCHATOV, I.V.; SKOBEL'TSYN, [illegible] KAPITSA, P.[illegible]; IOFFE, [illegible] [illegible]LOV, A.P.; [illegible]BURG, I.G.; TIKHONOV, N.S.; FADEYEV, A.A.; FRANK, I.M.; VEKSLER, V.I.; KORNEYCHUK, A.Ye.; POPOVA, N.V.; LEBEDEVA, Z.A.; VASILEVSKAYA, V.L.; PETROVSKIY, I.G.; ALEKSANDROV, A.D.; ARTSIMOVICH, L.A.; MESHCHERYAKOV, M.G.

Irene Joliot-Curie; obituary. Vest.AN SSSR 26 no.4:73-72 Ap '56. (Joliot-Curie, Irene, 1897-1956) (MIRA 9:7)



KORNEYCHUK, G. P.

CA

7

Determination of nitrogen in nitrided iron by the hydrogenation method. I. A. Khrizman and G. P. Korneychuk. *Zavodskaya Lab.* 10, 676–7(1941).—The method is based on heating the nitrided Fe to 480–500°, with H_2. The NH_3 formed is carried away by H_2 into a receiver contg. a standard H_2SO_4 soln. and a suitable indicator. At 480–500° the transformation of N_2 into NH_3 requires 2–2.5 hrs. The values agree with those obtained by the Kjeldahl method. Three references. W. R. H.

A 50-SLA METALLURGICAL LITERATURE CLASSIFICATION

Tr. Abs. KORNEYCHUK, G. [P.]

A I - 8, Reactions

Kinetics of ammonia decomposition on iron catalysts. I. Chrisiann and G. Kornoitschuk (Acta Physicochim. U.R.S.S., 1943, 18, 420-429). - Discrepancies observed in data on the kinetics of NH_3 decomp. on Fe catalysts are due to structural differences in the catalyst. If a const. catalytic surface is maintained, reproducible results can be obtained. On a promoted technical Fe catalyst of the type $Fe-Al_2O_3-K_2O$ free from nitride the decomp. of NH_3 is ~100 times as fast as on promoted nitride of the type $Fe_xN-Al_2O_3-K_2O$. C.R.D.

Sect of Catalysis,
Inst. Phys. Chem im Pisarzhevskiy, Acad Sci
UkR SSR,

1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX

BC

2-1

Kinetics of decomposition of ammonia on iron catalysts. G. P. Kornejchuk and T. A. Christman (*J. Phys. Chem. Russ.*, 1944, **18**, 365—380).—The catalytic decomp. of NH_3, alone or diluted with H_2, is studied at 300—500° and initial press. of 50—100 mm., by a quasistatic method, in which the enclosed vol. of gas is circulated at high speed through the catalyst and the degree of decomp. is determined manometrically. The rate of decomp. is independent of the circulation rate when the latter is 9 l. per hr. or more. The velocity coeff. is calc. from the formula, $-dp_{NH_3}/dt = K(p_{NH_3}^2/p_{H_2}^3)^{1/2}$ (cf. Temkin and Pyzhev, A., 1942, I, 207). With a reduced Fe catalyst without promoter and 1 vol. of NH_3 to 2 vols. of H_2 the activation energy is 51 kg.-cal., in agreement with the val. found by Winter (A., 1931, 1247), who used a dynamic method. With a promoted process catalyst of the type, $Fe-Al_2O_3-K_2O$, and 1 vol. NH_3 to 3 vols. of H_2 the activation energy is 39·7 kg.-cal., in agreement with many recorded vals. under different conditions. With the same catalyst and pure NH_3 the simultaneous nitriding of the catalyst complicates the kinetics. The velocity coeff. for the decomp. of pure NH_3 on the nitride-free catalyst is 100 times as great as on $Fe_4N-Al_2O_3-K_2O$, in which case the activation energy is 42·5 kg.-cal. These differences in activation energies and those recorded in the literature are to be explained by differences in the structure, composition, and surface properties of the catalysts and ... experimental errors. R. C. S.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

S/794/62/000/001/006/010

AUTHORS: Zhidkov, N. P., Korneychuk, L. A., Kryiov, A. L., Mastinskaya, S. B.

TITLE: The plane-parallel motion of a viscous fluid between rotating cylinders.

SOURCE: Vychislitel'nyye metody i programmirovaniye; sbornik rabot Vychislitel'nogo tsentra Moskovskogo universiteta. no. 1. Ed. by N. P. Trifonov, G. S. Roslyakov, and Ye. A. Zhogolev. [Moscow] Izd-vo Mosk. un-ta, 1962, 152-166.

TEXT: The paper is intended to investigate the motion of a fluid by means of the direct numerical integration of the nonlinear Navier-Stokes equations. The direct objective of the investigation is the case of a viscous incompressible fluid in an x, y, z space contained between two infinite cylinders having radii $R_1^2 \leq x^2 + y^2 \leq R_2^2$ which rotate with different angular velocities. The behavior of the fluid in a plane solution (i. e., independent of z) is to be found. Upon establishment of the necessary matrix expression the solution of the problem on the machine "Strela" at the Computing Center of the Moscow State University is described. The program consists of 4 separate parts, (1) the shaping and the memory formulation of the distribution program, (2) the program of the calculating of coefficients, (3) the program of preparation of the initial data, and (4) the program of the solution of the difference equations.

Card 1/2

Calculations were made for 4 Reynolds numbers, namely, 200, 500, 1,000, and 2,000, with different timewise steps. It was found that in the largest network employed the eddies smoothened out and the flow became smooth and trivial. The time of establishment grew proportional to the R number. In all probability this network was exceedingly crude and had its own viscosity. The use of a fine network revealed a turbulent motion, if the degree of turbulence is intended to signify the number of eddies in the flow. The amplitude of the perturbations decreases with time, but turbulence grows and new eddies are formed, even though with smaller amplitudes. Ultimately, the motion in the network becomes smooth, since the network does not admit eddies of a size smaller than the dimensions of the network. Future work will comprise a reduction of the size of the network by one-half. Thanks are expressed to I. M. Gel'fond, corresponding member, AS USSR, for overall direction of the work and many valuable specific advices. There are 4 figures and 1 Russian-language Soviet reference.

ROYTER, V.A.; KORNIYCHUK, G.P.; LEPHERSON, M.G., [deceased]; STUKANOVS'KA, N.O.; TOLCHINA, B.I.

Method of diaphragms for studying porous catalysts and kinetics of reactions occuring on them. Dop. AN URSR no.2:41-47 '49. (MLRA 9:9)

1. Institut fizichnoi khimii im. L.V. Pisarzhevs'kogo AN URSR. Predstaviv diysnyy chlen AN URSR O.I. Brods'kiy.
(Catalysts)

KORNEYCHUK, G. P.

V. A. Roytor, G. P. Korneychuk, M. G. Leperson, N. A. Stukanovskaya, and B. I. Tolchina, Academy of Sciences Ukrainian USSR, Institute of Physical Chemistry imeni L. V. Pisarzhevskiy, Kiev

"Experimental Investigations of Macrokinetic Phenomena on Porous Catalysts" (Zhurnal Fizicheskoy Khimii, Vol XXIV, No. 4, 1950.

The material presented in this article is of importance from the point of view of the theory of catalysts and of kinetics of combustion. Aside from the purely theoretical significance of the investigations reported, upon, the results and techniques in question are of practical interest, because acetylene may be used as a fuel, and may be set off in the presence of oxygen by means of a solid catalyst such as manganese dioxide in some appliance where the combustion of the first has furnished the driving power. (Digested translation available)
(W-15604, 4 Dec 50)

KORNEYCHUK, G. P.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 14/27

Authors : Royter, V. A.; Korneychuk, G. P.; Stukanovskaya, N. A.; and Pevzner, Ts. V.

Title : Investigation of the catalytic reaction in the syn thesis of ammonia by the diaphragm method

Periodical : Zhur. fiz. khim. 28/9, 1638-1651, Sep 1954

Abstract : The kinetics of ammonia synthesis over an ammonium-iron catalyst was investigated by the diaphragm method at various initial ammonia concentrations in a hydrogen-nitrogen mixture. The heat of activation of the synthesis process was calculated from obtained experimental data. The low values obtained on porous catalysts are explained. A new simplified method, which takes into consideration the effect of macro-factors during the study of the kinetics on porous catalysts, is introduced. Fourteen references: 13-USSR and 1-USA (1934-1954). Tables; graphs; drawings.

Institution : Acad. of Sc. Ukr-SSR, The L. V. Pisarzhevskiy Institute of Phys. Chem., Kiev

Submitted : January 18, 1954

Korneychuk, G. P.

USSR/Chemistry - Analysis methods

Card 1/1 Pub. 147 - 15/25

Authors : Royter, V. A., and Korneychuk, G. P.

Title : An approximate method of characterizing the macrostructure of porous catalysts

Periodical : Zhur. fiz. khim. 28/10, 1812-1819, Oct 1954

Abstract : An approximate method is introduced for the determination of macrostructure characteristics of various porous catalysts. The method is based on the analysis of experimentally derived values - porosity, effective coefficients of diffusion and gas-permeability - of the objects investigated. The effect of substance diffusion (from the periphery of the lump toward its center and vice versa), on the kinetics of the catalytic process in the case of homo- and heterogenic porous catalysts, is discussed. The method of determining the gas-permeability coefficient is described. Four USSR references (1940-1950). Drawings.

Institution : Acad. of Sc. Ukr-SSR, The L. V. Pisarzhevskiy Institute of Physical Chemistry, Kiev.

Submitted : March 1, 1954

PISARZHEVSKIY, Lev Vladimirovich; BRODSKIY, A.I., redaktor; KORNEYCHUK, G.P., redaktor; ROYTER, V.A., redaktor; STUKANOVSKAYA, N.A., redaktor; TITKOV, B.S., redaktor; SIVACHENKO, Ye.K., tekhnicheskiy redaktor

[Selected works on catalysis] Izbrannye trudy v oblasti kataliza. Kiev, Izd-vo Akad.nauk USSR, 1955. 150 p. (MLRA 8:10)

1. Deystvitel'nyy chlen AN USSR (for Brodskiy)
(Catalysis)

KORNEYCHUK, G.P.

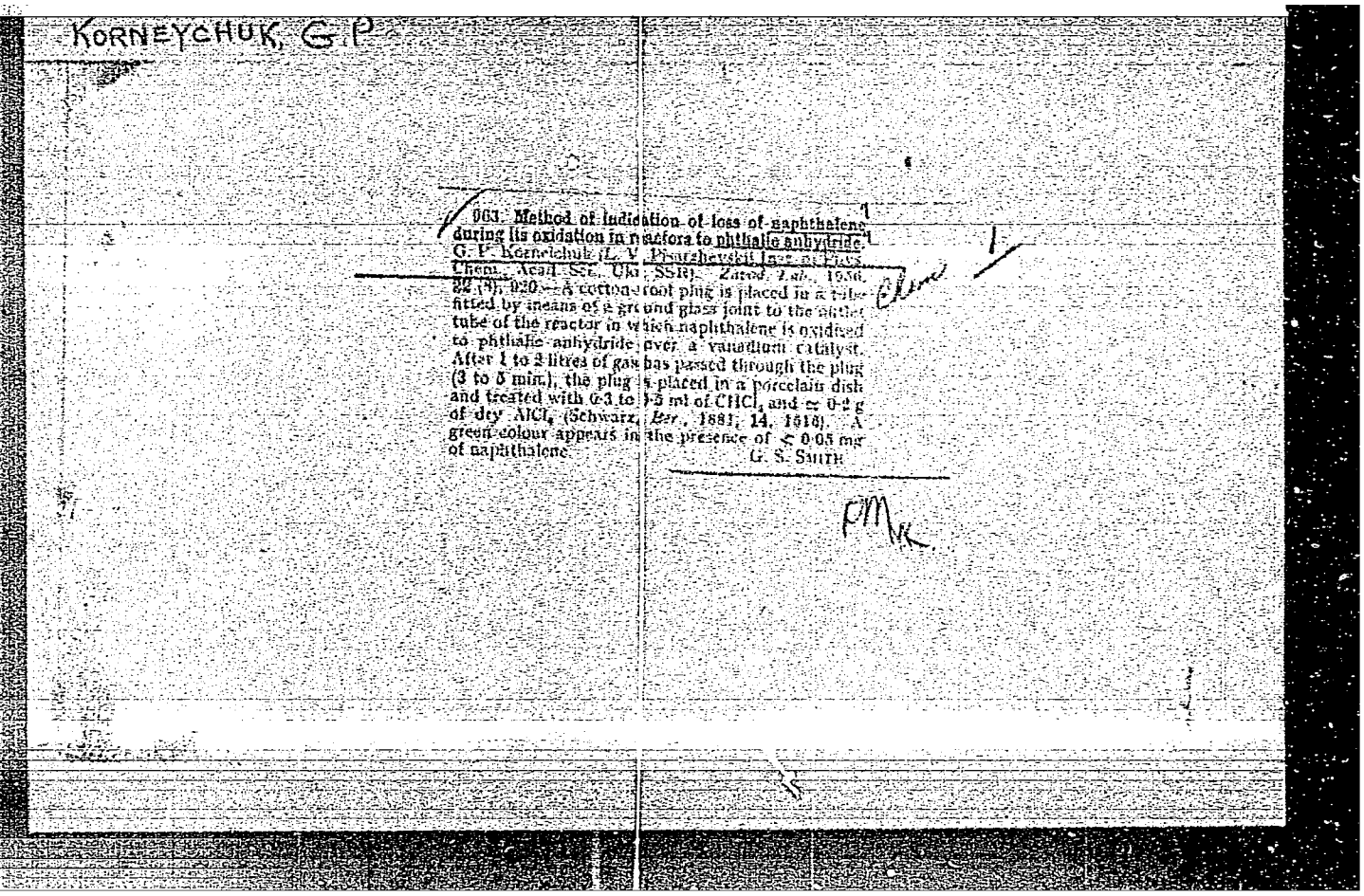
The role of macrokinetic factors in catalytic naphthalene oxidation processes on fused vanadium pentoxide. G. P. Korneichuk, Ya. V. Zhigailo, V. A. Roiter, and L. P. Tarasyenko. *Zhur. Fiz. Khim.* 29, 1073-9(1955); cf. C.A. 50, 12165.—The porosity of an industrial fused V_2O_5 catalyst sample was detd. by cutting diaphragms of 2.35 cm. radius, 0.75 cm. thick, and measuring the CO_2 diffusion rate through them. The pores were 10^-5-10^-4 cm. wide, and their total surface exceeded by hundreds of times the surface of the outer catalyst. The naphthalene oxidation proceeds principally in the inner diffusion range, and changes over to the outer diffusion range at 400°, and the change is accompanied by a sharp rise in the catalyst temp. Owing to the diffusion difficulties in the inside catalyst pores, and an increase in the contact time caused by it, the naphthalene oxidation proceeds extensively in the inner pores, and the role of the catalyst inner surface becomes less important at the higher temps. (the reaction proceeding on the outer surface). The catalyst selectivity rises. This selectivity rise proceeds until, with the rise in the temp., the reaction enters the outer diffusion range. This change is accompanied by a sharp temp. rise, and results in a renewed selectivity decrease. The selectivity-temp. curve passes, accordingly, through a max. at 400°, which corresponds, apparently, to the outside kinetic reaction course, according to the results obtained in the study, whereas the max. efficiency in the phthalic anhydride industrial production is at 420°. W. M. Sternberg

4

0870

Acad. Sci. Ukr. SSR, Inst. Physical Chem. im. L. V. Pisarzhevskiy

Rubezhansk Chemical Combine, Min. Chemical Industry USSR



KORNEYCHUK, G.P.

063. Method of indication of loss of naphthalene during its oxidation in reactors to phthalic anhydride. G. P. Korneichuk, L. V. Pisarzhevskii [Inst. of Gen. Chem., Acad. Sci. Ukr. SSR]. *Zavod. Lab.*, 1956, 22 (9), 1020.—A cotton-wool plug is placed in a tube fitted by means of a ground glass joint to the inlet tube of the reactor in which naphthalene is oxidised to phthalic anhydride over a vanadium catalyst. After 1 to 2 litres of gas has passed through the plug (3 to 5 min.), the plug is placed in a porcelain dish and treated with 0·3 to 0·5 ml of $CHCl_3$ and ca. 0·2 g of dry $AlCl_3$ (Schwarz, *Ber.*, 1881, 14, 1618). A green colour appears in the presence of $\leq$ 0·05 mg of naphthalene.

G. S. SMITH

KORNEYCHUK, G. P., ROYTER, V. A., STUKANOVSKAYA, N. A., RZAYEV, P. B., ZHIGAYLO, Ya. V.

"Study of the Effect of the Conditions of Catalysis on the Sulfur Content in the Barium-Aluminum-Vanadium Sulfate Catalyst."

Problems Kinetics and Catalysis, v. 9, Problems in Catalysis, Moscow, Izd-vo AN SSSR, 1957, 444p.

Most of the papers in this collection were presented at the Conf. on Problems in Catalysis which took place in Moscow, 30 Apr - 5, 1956.

KORNEYCHUK, G.P.; ROYTER, V.A.; STRUKANOVSKAYA, N.A.; RZAYEV, P.B.; ZHIGAYLO, Ya.V.

Influence of the conditions of catalysis on the sulfur content in barium-aluminum-vanadium sulfate catalyst. Probl. kin. i kat. 9: 329-336 '57. (MIRA 11:3)

(Catalysts) (Sulfur--Isotopes)

KORNEYCHUK, G.P.

73-2-8/22

AUTHORS: Ushakova, V.P., Korneychuk, G.P., Royter, V.A. and Zhigaylo, Ya. V.

TITLE: Kinetics and mechanism of the oxidation of naphthalene on a oxyvanadium catalyst. 1: Investigation of the effect of the gas phase composition on the chemical composition of the catalyst and on the catalytic activity. (Kinetika i mekhanizm okisleniya naftalina na okisnovanadiyevom katalizatore. 1: Issledovaniye vliyaniya sostava gazovoy fazy na khimicheskiy sostav katalizatora i ego kataliticheskuyu aktivnost').

PERIODICAL: "Ukrainskiy Khimicheskiy Zhurnal" (Ukrainian Journal of Chemistry), Vol.23, No.2, March-April, 1957, pp.191-199 (USSR).

ABSTRACT: The possibility of poisoning of the catalysts at changing concentration of the reagents in the gaseous phase was investigated. A catalyst used in the plant reactor of the Rubezhansk Chemical factory was subjected to chemical analysis. V_2O_4 was determined with permanganate and V_2O_5 by titrating with ferrous ammonium sulphate. Tabulated results (Table 1) show that the catalyst is subjected to the biggest changes in the centre of the reactor. It

Card 1/3

73-2-8/22

Kinetics and mechanism of the oxidation of naphthalene on a oxyvanadium catalyst. 1: Investigation of the effect of the gas phase composition on the chemical composition of the catalyst and on the catalytic activity. (Cont.)

is shown that a partial reduction of V_2O_5 to lower oxides occurs during the catalysis of naphthalene-air mixtures. The low oxides are formed on the catalyst particles, in the centre of the catalyst particles the pentoxide is found. Catalysts prepared from lower oxides acidify after a certain time. Partial reduction of V_2O_5 sharply increases the electroconductivity of the catalyst and its catalytic activity. This makes it possible to investigate the kinetics of the process without having to consider the changes in the composition which are caused by changes in the concentration of naphthalene in the gaseous phase. Catalysts containing excessive quantities of lower oxides are very active but not selective. This seems to be caused by the high catalytic activity of the lower oxides in comparison with the pentoxide (complete oxidation of phthalic anhydride). Catalytic oxidation of phthalic anhydride can also be carried out with copper, aluminium and glass, the activity decreasing from copper to glass. The catalytic

Card 2/3

Korneychuk, G. P.

73-3-5/24

AUTHOR: Ushakova, V. P., Korneychuk, G. P., and Royter, V. A.

TITLE: Kinetics and Mechanism of the Oxidation of Naphthalene with a Vanadium Catalyst.2. (Kinetika i Mekhanizm Okisleniya Naftalina na Okisnovanadiyevom Katalizatore. 2)

PERIODICAL: Ukrainskiy Khimicheskiy Zhurnal, 1957, Vol.23, No.3, pp. 310-321 (USSR).

ABSTRACT: Data on the kinetics of the oxidation of naphthalene with a vanadium oxide catalyst are given. The detrimental influence of the macrofactor was eliminated. The investigations on the kinetics of the process disregarding some of the chemical changes in the composition of the catalyst, were published in the first part of this article. (Ref. 1.) Experiments were carried out on a macrocrystalline, non-porous vanadium oxide catalyst (2 grains 5 x 7mm weighing 0.495 g) between 380 - 410°C, by the continuous circulation method, as indicated in Figure 1. The macro-crystalline catalyst was prepared by slow cooling of the vanadium pentoxide solution. The internal diffusion was minimised by using this catalyst. The rate of oxidation of naphthalene was measured at 383, 392, 400 and 410°C. Preliminary experiments showed that the catalyst shows sufficiently reproducible activity in these temperature limits; outside these temperature limits the catalytic activity

Card 1/5

Kinetics and Mechanism of the Oxidation of Naphthalene with a Vanadium Catalyst. 2.

and selectivity of the material changes. Quantitative analysis of the oxidation products gave the following results: phthalic anhydride, maleic anhydride, 1,4-naphthoquinone, CO_2, CO and O_2. The unreacted naphthaline was determined by the difference between the initial concentration and the concentration of the reaction products. The analysis of the gaseous products was carried out in the apparatus BTU, the 1,4-naphthoquinone was analysed with a ϕK-53 photocolorimeter. Investigations were carried out at 0.505×10^{-5} mole/litre (1:20, I series) and 0.342×10^{-5} mole/litre (1:30, II.series). Figures 2-5 give data on the relation of the output and the concentration of phthalic anhydride ($W_{P,a}$), maleic anhydride ($W_{m.a.}$), 1,4-naphthoquinone ($W_{n.qu.}$) and of products of deep oxidation (W_{CO_2}). The concentration of naphthalene was denoted by C_n. The kinetics of oxidation can be expressed by the equation: $W_{Ph.a} = k_{Ph.} C_N$. The velocity constants of these partial reactions, calculated on the basis of the given equations in Table 1. are shown to be reasonably constant in the given temperature limits.

Card 2/5

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824710015-3

73-3-5/24

Kinetics and Mechanism of the Oxidation of Naphthalene with a Vanadium Catalyst. 2.

The rate of formation of phthalic anhydride does not depend on the concentration of the reaction products and at a constant concentration of oxygen only the naphthalene concentration has to be defined. The activation temperatures were calculated from the inclination of diagram lines lg k_i and $\frac{1}{T}$ (figures 6 - 9). The following results were obtained (in cal./mole):
$E_{Ph.a.} = 37.4$; $E_{M.a.} = 31.6$; $E_{N.qu.} = 32.7$ and $E_{CO_2} = 37.2$
A second series of experiments with smaller initial concentration of naphthalene than in the first series was carried out to clarify the total influence of the reaction products on the rate of oxidation of naphthalene (0.342×10^{-5} mole/litre). These investigations were carried out at 410, 392 and 383°C with the same catalyst as in the first series. Practically identical results were obtained. The mean values of the velocity constants were calculated according to the equations 1 - 4 given in Table 2. Figure 10 shows that the relation of output of phthalic anhydride and the concentration naphthalene of the 2 experimental series tally during each given

Card 3/5

AUTHOR ROYTER, V.A., KORNYEYCHUK, G.P. 32-6-44/54

TITLE A Glass Circulating Pump With Automatically Opening Valves. (Steklyannyy tsirkulyatsionnyy nasos s prinuditelno otkryvayushchimisiya klapanami - Russian)

PERIODICAL Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 759 - 56o, (U.S.S.R.)

ABSTRACT Glass circulating pumps used in practice with valves operated by magnetic coils often give trouble because valves frequently get stuck as a result of moisture and condensation products which are precipitated. In order to counteract this disadvantage a circulating pump with automatically opening valves is recommended. Here the action of the electromagnetic coil is used only for the opening of the valve, whereas it is closed by its own weight. Two schemes for such pumps are given: one with 2 valves and one with four valves, each of which is fitted with a rheostat (for the purpose of controlling the operation of the pump). It is pointed out that, while ordinary glass circulating pumps have a working capacity of 15o - 2oo liter per hour, the 2-valve pump recommended here has a working capacity of 35o - 4oo liter per hour and that with 4 valves of up to 1ooo liters per hour.
(3 drawings).

ASSOCIATION Institute for Physical Chemistry of the Academy of Science of the U.S.S.R.

PRESENTED BY

SUBMITTED

AVAILABLE Library of Congress.

Card 1/1

Korneychuk, G. P.

KORNEYCHUK, G.P.

A manostat for fine control of gas flow (with summary in English). Zhur. fiz. khim. 31 no.6:1413 Je '57. (MIRA 10:12)

1. AN USSR, Institut fizicheskoy khimii im. L.V. Pisarzhevskogo, Kiyev.

(Gas flow) (Chemical apparatus)

KORNEYCHUK, G.P.; STUKANOVSKAYA, N.A.

Packing of samples in studying kinetics of catalytic processes by the diaphragm method [with summary in English]. Zhur.fiz.khim. 31 no.9:2138-2139 S '57. (MIRA 11:1)

1.Akademiya nauk USSR, Institut fizicheskoy khimii im. L.V. Pisarzhevskogo, Kiyev.
(Catalysis)

5(3,4)
AUTHORS: Korneychuk, G. P., Royter, V. A., Zhigaylo, Ya. V.

SOV/64-58-7-6/18

TITLE: Methods of Improving the Capacity and Selectivity of Vanadium Oxide Catalysts in the Oxidation of Naphthalene to Phthalic Anhydride (Puti povysheniya proizvoditel'nosti i izbiratel'nosti okisnovanadiyevykh katalizatorov dlya okisleniya naftalina vo ftalevyy angidrid)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 7, pp 410-413 (USSR)

ABSTRACT: I. P. Garkavenko and N. A. Konstantinova took part in the experiments. The small pore dimensions (diameter 10^{-4} to 10^{-5} cm) in fused vanadium pentoxide catalysts lead to diffusion inhibitions in the naphthalene oxidation. In the reaction the pentoxide in the naphthalene-air mixture is reduced to lower oxides. A disadvantage of the vanadium pentoxide catalysts is also the low melting-point of V_2O_5 (690°). To avoid the effect of the diffusion inhibitions mentioned above some experiments ware carried out. The V_2O_5 was fused and tabletted. Besides, experiments with coarsely crystalline V_2O_5 were carried out. The time of contact was selected in such a way that no naphthalene could be proved in the outflow of the reactor at the

Card 1/2

temperature of the experiment (indicator method) (Ref 5). Carbon monoxide and carbon dioxide were determined in the gas analyzer of the type VTI (Ref 6). The gas quantity was measured in a Mariotte (Mariot) container. The reaction products were collected in a Deward (D'yuard) container (with freezing mixture). It was found that at temperatures below 400° the monocrystalline non-porous catalyst is by far more efficient than the ordinary fused catalyst. A partly reduced catalyst had the advantage of a higher melting temperature than vanadium pentoxide. The following facts were found: The first part of the reactor (1/4 - 1/3) should be filled with a partly reduced catalyst (granulation 7-8 mm). The rest of the reactor is filled with coarsely crystalline V_2O_5 as the latter has a greater selectivity than the porous polycrystalline industrial catalyst. The temperature of the catalysis should be maintained at 380-400°, and a maximum rate of the gas flow should be employed where no passage of non-oxidized naphthalene can take place yet. There are 3 figures, 1 table, and 7 Soviet references.

5(4), 5(1) SOV/76-32-11-10/32

AUTHORS: Royter, V. A., Korneychuk, G. P., Stukanovskaya, N. A., Rzayev, P. B.

TITLE: The Effect of the Transport Phenomena on the Kinetics of the Oxidation of Sulfur Dioxide Gases on the Barium-Aluminum-Vanadate Catalyst (Vliyaniye yavleniy perenosa na kinetiku okisleniya sernistogo gaza na bariyevo-alyumo-vanadiyevom katalizatore) I. Investigations According to the Diaphragm Method (I. Issledovaniye metodom diafragm)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2525-2531 (USSR)

ABSTRACT: The kinetics mentioned in the title has already been investigated by some authors (Refs 1,2,3). In the present case the diaphragm method is employed and the equation by G. K. Boreskov (Ref 3) is modified for the conditions of this method (Ref 4). The operation mechanism of this method has already been described (Refs 4-6). A schematic representation of the test plant (Fig 1) as well as a diagram of the vessel for sample taking of the gases (Fig 3) are given. A reactor apparatus of quartz (Ref 10) was used. The diaphragms (from a

The Effect of the Transport Phenomena on the Kinetics of the Oxidation of Sulfur Dioxide Gases on the Barium-Aluminum-Vanadate Catalyst. I. Investigations According to the Diaphragm Method

barium-aluminum-vanadate contact mass) were 0.64 cm thick, had a diameter of 1.78 cm and a weight of 1.499 g. The experimental data were obtained for three initial concentrations of the SO_2 gas in air (2.43; 4.78; 6.42%) at temperatures of 430-530°C (Table 2). The activation energy of the oxidation process of SO_2 on barium-aluminum-vanadate catalysts amounts to from 36 to 39 kcal/mol, and thus is considerably higher than the value (23 kcal/mol) given by G. K. Boreskov. This is regarded as a proof of the assumption of the important effect of the transport factor also in the case of fine-grained catalysts. There are 3 figures, 2 tables, and 12 references, 11 of which are Soviet.

ASSOCIATION: Akademiya nauk Ukrainskoy SSR, Institut fizicheskoy khimii im. L. V. Pisarzhevskogo, Kiyev (Academy of Sciences, Ukrainskaya SSR, Institute of Physico-Chemistry imeni L. V. Pisarzhevskiy, Kiyev)

ROYTER, V.A.; STUKANOVSKAYA, N.E.; KORNEYCHUK, G.P.; VOLIKOVSKAYA, N.S.; GOLODETS, G.I.

Study of the oxidation kinetics of sulfur dioxide on a platinum catalyst when equilibrium has been reached. Kin. i kat. 1 no. 3:408-417 S-O '60. (MIRA 13:11)

1. Institut fizicheskoy khimii imeni L.V. Pisarzhevskogo AN USSR.
(Sulfur dioxide) (Oxidation) (Platinum)

ROYTER, V.A.; KORNEYCHUK, G.P.[Korniichuk, H.P.]; VOL'FSON, V.YA.; ZHIGAYLO, Ya.V.[Zhyhailo, IA.V.]

Kinetics of the oxidation of naphthalene in commercial layers of vanadium catalysts. Dop.AN URSR no.3:345-348 '60. (MIRA 13:7)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN USSR i Rubizhanskiy khimicheskiy kombinat. 2. Chlen-korrespondent AN USSR (for Royter).
(Naphthalene) (Oxidation)

ROYTER, V.A.; STUKANOVSKAYA, N.A. [Stukanovs'ka, N.O.]; KORNEYCHUK, G.P. [Korniichuk, H.P.]; VOLIKOVSKAYA, N.S. [Volikovs'ka, N.S.]; GOLODETS, G.I. [Holodets', H.I.]

Study of the kinetics of oxidation of sulfur anhydride on a platinum catalyst under conditions of stable chemical equilibrium. Dop.AN URSR no.9:1241-1244 '60. (MIRA 13:10)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN USSR.
2. Chlen-korrespondent AN USSR (for Royter).
(Oxidation) (Sulfur oxides)

S/073/60/026/002/002/015
B023/B067

AUTHORS: Rzayev, P. B., Royter, V. A., and Korneychuk, G. P.

TITLE: On the Kinetics of Sulfuric Acid Catalysis on Barium-Aluminum - Vanadium Catalysts

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 2, pp. 161-167

TEXT: The authors studied the oxidation kinetics of sulfur dioxide on a barium - aluminum - vanadium catalyst. They observed that it corresponds to the equation by G. K. Boreskov (Ref. 3) with the exponent n = 0.4. The high value of activation heat (23 kcal) is due to the internal kinetic conditions and is not influenced by the macrofactors. The authors proved that an inhibition of internal diffusion influences already small grains of a diameter of 1.5 - 2 mm with a degree of conversion of $< 70\%$ and a temperature of $< 500^{\circ}C$ which reduces the measurable activation heat. Furthermore they showed that inspite of the large difference in the degree of reduction of the vanadium oxides contained in the catalyst, its activity practically remains constant. The authors describe the possible

Card 1/2

reasons of the overestimated values of the activation heat which were obtained by the diaphragm method. They attempt to explain the divergence between their data and the data of Ye. V. Gerburt-Geybovich and G. K. Boreskov. They assume that the composition of the catalyst which can be determined by chemical analysis, gradually changes, whereas the surface layer rapidly takes the composition corresponding to the gaseous medium. For this reason, catalysts with different degree of oxidation, at given temperature and given composition of the gas, have the same chemical composition of the surface layer and the same activity. This assumption, however, has not yet been proved. Also systematic errors may occur when employing the diaphragm method. This should be the subject of further studies. There are 6 figures, 3 tables, and 5 Soviet references.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo AN USSR (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy of the Academy of Sciences UkrSSR)

SUBMITTED: August 11, 1959

S/073/60/026/003/006/011/XX
B023/B060

AUTHORS: Vol'fson, V. Ya., Korneychuk, G. P., and Royter, V. A.

TITLE: Characteristic Features of the Catalytic Oxidation of Naphthalene. I. Kinetics of the Oxidation of Phthalic Anhydride on a Vanadium Oxide Catalyst

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 3, pp. 305-313

TEXT: The authors studied the kinetics of oxidation of phthalic anhydride on a coarse-crystalline vanadium oxide catalyst under conditions excluding the distorting effect due to diffusion. The concomitant reactions were found to obey the following kinetic equations: the reaction rate of maleic anhydride formation $W_1 = k_1 \cdot C_{phth \cdot a}/C_{prod}$, the reaction rate of intensive oxidation of phthalic anhydride $W_2 = k_2$, where k_1, k_2 are the rate constants, C_{prod} the total concentration of oxidation products of phthalic anhydride in the reaction zone. The activation heat of the formation reaction of maleic anhydride was calculated on the basis of the Arrhenius equation and

Card 1/4

was found to be E = 58.12 kcal/mole. The factor B_1 of the exponential function was found to be $B_1 = 1.18 \cdot 10^{11}$. For the reaction of the intensive oxidation of phthalic anhydride $E_2 = 40.92$ kcal/mole and $B_2 = 2.45 \cdot 10^5$.

A comparison between the authors' own results and the data offered by the literature showed that one of the factors ensuring the high selectivity of the catalytic process of producing phthalic anhydride from naphthalene is the high stability of phthalic anhydride toward oxidation (Ref. 4). The discrepancy between the partial reactions of phthalic anhydride and the reactions of its complete oxidation appears incomprehensible at first. The zero order of the reaction of the intensive oxidation of phthalic anhydride gives ground to the assumption of the catalyst surface being saturated by phthalic anhydride. The first order of the formation reaction of maleic anhydride from phthalic anhydride presupposes that there is no such saturation. This contradiction is disposed of when one assumes that, firstly, the reaction of the intensive oxidation of phthalic anhydride requires the combination of a phthalic anhydride molecule with oxygen, while

Characteristic Features of the Catalytic Oxidation of Naphthalene. I. Kinetics of the Oxidation of Phthalic Anhydride on a Vanadium Oxide Catalyst

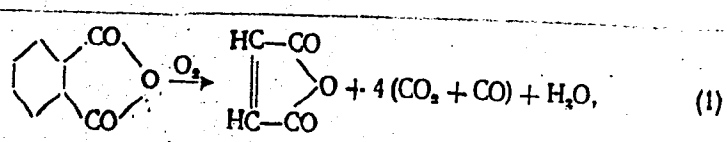
S/073/60/026/003/006/011/XX
B023/B060

the reaction of the partial oxidation requires the combination of two phthalic anhydride molecules with oxygen; that, secondly, the catalyst surface is inhomogeneous and only its active centers are saturated with phthalic anhydride. The reaction of intensive oxidation taking place on these active centers is actually independent of the concentration of the product to be oxidized. At the same time, the rate of the reaction of partial oxidation of phthalic anhydride is certainly dependent upon its concentration in the volume or at the less active places and is inhibited by the reaction products which render the access of phthalic anhydride to the place of reaction more difficult. The discrepancy observed here has been observed and described already earlier (Refs. 2, 3, and 6). The attached scheme serves to illustrate reactions taking place in the oxidation of phthalic anhydride. There are 9 figures, 2 tables, and 7 references: 6 Soviet and 1 US.

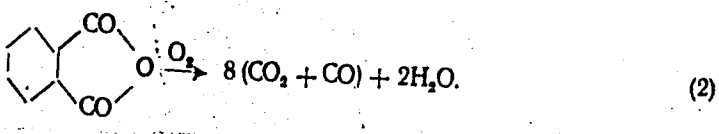
ASSOCIATION: Institut fizicheskoy khimii AN USSR
(Institute of Physical Chemistry of the AS UkrSSR)

SUBMITTED: June 7, 1959

Card 3/4



(1)



(2)

Card 4/4

S/073/60/026/004/010/018/XX
B023/B064

AUTHORS: Korneychuk, G.P., Royter, V.A., Vol'fson, V.Ya., Zhigaylo, Ya.V. and Lyubiteleva, A.Z.

TITLE: Characteristics of the Catalytic Oxidation of Naphthalene. 2. Investigations of the Oxidation of Naphthalene in Long Layers of Vanadium Catalysts

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 4 pp. 432-439

TEXT: The authors performed a comparative investigation between the combined charge suggested by them (it consists of a partly reduced vanadium oxide catalyst and a coarse-crystalline vanadium pentoxide, Ref.2) and the catalysts used in industry. Along with this investigation the efficiency and selectivity of the naphthalene oxidation was studied on the basis of the products obtained, and the temperature conditions prevailing along the layer were examined. By means of an enlarged plant and a commercial reaction apparatus the authors obtained data proving that the combined charge of vanadium oxide catalysts is superior to the

Characteristics of the Catalytic Oxidation of Naphthalene. 2. Investigations of the Oxidation of Naphthalene in Long Layers of Vanadium Catalysts

S/073/60/026/004/010/018/XX
B023/B064

commercial reaction apparatus of vanadium pentoxide. Under these conditions the phthalic anhydride yield reached 80-85%. Under worse conditions of heat reduction and temperature balance in the commercial reaction apparatus the selectivity of the combined charge amounts to 76-78% (that of the industrial being 69-70%). Thus, the naphthalene consumption is reduced by 25%. The efficiency of the catalysts did not decrease. Data were obtained on the efficiency and selectivity of the vanadium catalyst with respect to phthalic- and maleic anhydride. The optimum experimental conditions, the change of the naphthalene concentration, its oxidation products and temperature were determined by taking samples along the layer of the vanadium catalysts. The authors found that at a given temperature and concentration of naphthalene in the gas mixture an optimum flow rate exists, which warrants a maximum yield of phthalic anhydride. It corresponds to the maximum velocity at which no naphthalene leaves the output of the plant. The method applied, in combination with the indicator method which serves to determine the naphthalene which has not entered into reaction, is suited for a quick and reliable evaluation of

Card 2/3