AKCHURIN, B. S.

AKCHURIN, B. S. (Bashkir Scientific Research Veterinary Experimental Station).
Rhinoestrosis of horses in the Bashkir ASSR.

Source: Veterinariya; 22; 6; June 1945 unc1. p 21
TABCON

177T70

AKCHURIN, B. S.

USSR/Medicine - Brucellosis Aug 50
Bibliography

"New Books on Veterinary Science"

"Veterinariya" No 8, pp 63

Lists 12 new books including "Brucellosis of Agricultural Animals and Measures for Controlling It," by B. S. Akchurin, and "Swine Plague," by I. I. Kulesko.

* UFA, Bashkir Gosizdat, 1950. (Min. of Agri, Bashkir NIVOS.)

177T70

AKCHURIN, B.S.

USSR / Zooparasitology. Ticks and insect-vectors of disease pathogens G-3

Abs Jour : Referat.Zh.Biol., No 2, 1958, 5430

Author : Akchurin, B.S., Ayupov, Kh. V.

Inst : Not given

Title : Biology of sheep gadfly Oestrus ovis in the Bashkir ASSR.

Orig Pub : Byul. nauchno-tekhn. inform. Kazansk. n.-i. vet. in-ta, 1957, No. 1, 33-34

Abstract : No abstract.

Card 1/1

AKCHURIN, B.S., kand.veterinarnykh nauk

Bashkir Veterinary Research Station. Trudy VIEV 23:361-363 '59. (MIRA 13:10)

(Bashkiria--Veterinary research)

KHALILOV, A.Kh.; PARFEN'YEV, I.; AKCHURIN, B.S., kand.veterinarnykh nauk; ALPAROV, D.A., kand.biologicheskikh nauk; GAREYEV, M.S., mladshiy nauchnyy sotrudnik; SHERSTOV, S.V.

Use of tissue preparations. Veterinariia 38 no.1:25-26 Ja '61. (MIRA 15:4)

1. Sekretar' Charodinskogo rayonnogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza Dagestanskoy ASSR (for Khalilov). 2. Glavnyy veterinarnyy vrach Orzhitskogo rayona, Poltavskoy oblasti (for Parfen'yev). 3. Bashkirskaya nauchno-issledovatel'skaya vetbaklaboratoriya (for Akchurin, Alparov, Gareyev). 4. Glavnyy veterinarnyy vrach Upravleniya myaso-molochnoy i rybnoy promyshlennosti Zaporozhskogo sovnarkhoza (for Sherstov).
(Tissue extracts) (Stock and stockbreeding)

AKCHURIN, B.S., kand. vet. nauk, otv. red.; AYUPOV, Kh.V., zam. otv. red.; ALPAROV, D.A., kand. biol. nauk, red.; BOLDYREV, V.M., naushn. sotr., red.; SATTAROV, A.S., nauchn. sotr., red.; BUTIKOVA, S.N., nauchn. sotr., red.; TRASUNOVA, Ye.T., tekhn. red.

[Papers of the Bashkir Scientific Research Institute of Agriculture] Uchenye zapiski Bashkirskogo nauchno-issledovatel'skogo instituta sel'skogo khoziaistva. Ufa, 1963. 312 p. (MIRA 16:10)

1. Bashkirskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva. 2. Zaveduyushchiy otdelom infektsionnykh bolezney Bashkirskogo nauchno-issledovatel'skogo instituta sel'skogo khozyaystva (for Sattarov).
(Bashkiria--Veterinary medicine)

L 17816-63 BDS

ACCESSION NR: AP3005607 S/0106/63/000/008/0068/0070

49

AUTHOR: Akchurin, E. A.; Sty*blik, V. A.

TITLE: Investigating tunnel-diode oscillators

SOURCE: Elektrosvyaz', no. 8, 1963, 68-70

TOPIC TAGS: oscillator, tunnel diode, tunnel-diode oscillator

ABSTRACT: A theoretical-and-experimental investigation is reported of the effect of bias voltage on the frequency and amplitude of self-oscillations in a tunnel-diode oscillator. Experimental curves of the oscillator frequency (10-13 Mc) and amplitude are presented. Formulas for calculating the amplitude are given. Authors' conclusions are: (1) For higher frequency stability, a definite value of bias and a weak diode-circuit coupling should be selected; (2) By varying bias voltage, an FM system or a sweep-frequency generator can be realized; (3) No AM system based on tunnel diode is possible; (4) Frequency-bias relation can be used for AFC. Orig. art. has: 4 figures and 9 formulas.

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L 17818-63 BDS

ACCESSION NR: AP3004949 S/0108/63/018/008/0031/0035

49

AUTHOR: Akchurin, E. A.; Berestnev, P. D.

TITLE: Tunnel-diode superregenerative amplifier

SOURCE: Radiotekhnika, v. 18, no. 8, 1963, 31-35

TOPIC TAGS: tunnel diode, amplifier, superregenerative amplifier, quenching-frequency oscillator

ABSTRACT: Using tunnel diodes instead of transistors permits operating a small-size high-gain amplifier at temperatures up to 300 C. A quenching-frequency oscillator and a regenerator designed with tunnel diodes are considered theoretically. Six calculated parameters, including quenching voltage, signal-circuit voltage, and equivalent capacitance, show good agreement with experimental results (table supplied). Orig. art. has: 4 figures, 22 formulas, and 1 table.

Card 1/2

AKCHURIN, E.A.; STYBLIK, V.A.

High-power oscillators on tunnel diodes. Radiotekhnika 18 no.11: 45-49 N '63. (MIRA 16:12)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

ACCESSION NR: AP4029226 S/0106/64/000/004/0077/0079

AUTHOR: Akchurin, E. A.; Sty*blik, V. A.

TITLE: Frequency stability of a germanium tunnel-diode oscillator

SOURCE: Elektrosvyaz', no. 4, 1964, 77-79

TOPIC TAGS: tunnel diode, tunnel diode oscillator, oscillator, oscillator stability, frequency stability, germanium tunnel diode

ABSTRACT: The results of an experimental investigation of the effect of temperature (0+140C) on tunnel-diode oscillator frequency (6 Mc) are briefly reported. These conclusions are drawn: (1) increasing the oscillator-frequency stability by decreasing the diode/circuit coupling results in a narrower temperature range of oscillator operation; (2) a wide temperature range of operation is possible only with a stronger coupling between the tunnel diode and the circuit; the frequency can be stabilized in this case by thermistors in the divider; (3) in a

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ACCESSION NR: AP4029226

narrow temperature range, capacitors with a low positive temperature factor can compensate for temperature variations of the diode parameters; (4) stabilization of the divider current is more effective than stabilization of the tunnel-diode bias; (5) in the case of high-temperature (over 100C) operation, steps should be taken to prevent oscillation collapse as a result of an increase in the negative resistance of the diode. Orig. art. has: 5 figures and 2 formulas.

ASSOCIATION: none

SUBMITTED: 18May63 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: EC NO REF SOV: 000 OTHER: 001

ATD PRESS: 3044

Card 2/2

L 12473-65 EWT(l)/EWG(k)/EEC(k)-2/T/EEC(b)-2/EWA(h) Pn-4/Pz-6/Peb IJP(c)/
AFETR/ASD(a)-5/RAEM(a)/RAEM(c)/ESD(dp)/ESD(c)/ESD(t)

ACCESSION NR: AP4047809 S/0108/64/019/010/0026/0032

AUTHOR: Sy*blik, V. A. (Active member) Shor, E. A. (Active member)

TITLE: Tunnel-diode frequency converter 25 75

SOURCE: Radiotekhnika, v. 19, no. 10, 1964, 26-32

TOPIC TAGS: frequency converter, tunnel diode, tunnel diode frequency converter, SHF converter

ABSTRACT: A theoretical and experimental investigation is reported of a broadband SHF converter which uses a tunnel diode operating in the maximum-current zone of its characteristic. The first harmonic of the heterodyne is employed, and a transfer constant >1 results. Two design methods are proposed. In the analytical method, formulas for the voltage transfer constant and passband width are developed, also, an optimum voltage which ensures the maximum transfer

Card 1/2

L 12473-65
ACCESSION NR: AP4047809

accuracy of approximation [illegible] analytical method, summation instead of integration is used; this method, although more complicated [illegible] to any position of the operating point on the diode current-voltage characteristic. Verifying experiments were staged at 20 Mc, 100 Mc, and 0.5 Gc; the obtained [illegible] transfer characteristics show good agreement with curves from

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi [illegible]

SUBMITTED: [illegible] ENCL: 02 SUB CODE: [illegible]

NO REF SOV: 002 OTHER: [illegible]

Card 2/2

ACCESSION NR: AP5016076 UR/0108/65/020/006/0041/0047

621.382

AUTHOR: Akchurin, E. A.

TITLE: Utilization of tunnel diodes in superregenerative amplifiers

SOURCE: Radiotekhnika, v. 20, no. 6, 1965, 41-47

analysis

ABSTRACT: Tunnel diodes (TD) in circuits capable of intermittent os-
cillations are investigated. In circuits where TD are switched com-
pletely into the tank there is a complete absence of smooth oscilla-
tion buildup. This corresponds to the conduction where

$$G_0 = \frac{1}{R_0}$$

where G_0 is the minimum of a function relating the ceramic TD con-
ductance with bias voltage. It is shown that the derived operating

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L 57883-65

ACCESSION NR: AP5016076

mode of the superregenerative amplifier must satisfy the following criterion

$$\sqrt{L/C}\,|G_0| \ll 1.$$

Improvement in performance is traded off for higher noise, however. The best method for achieving the smooth oscillation buildup and damping necessary for the superregenerative amplifiers is to switch [illegible] a portion of the tank only. This method also reduces the [BD]

[illegible]

NO REF SOV: 003

Card 2/2

AKCHURIN, E.A.

Use of a tunnel diode in a superregenerative amplifier. Radiotekhnika. 20 no.6:41-47 Je '65. (MIRA 18:7)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

L 17597-66

ACC NR: AP6000571 SOURCE CODE: UR/0109/65/010/012/2266/2267

AUTHOR: Akchurin, E. A.; Rud', V. V.

ORG: none

TITLE: Tunnel-diode oscillator

SOURCE: Radiotekhnika i elektronika, v. 10, no. 12, 1965, 2266-2267

TOPIC TAGS: tunnel diode, oscillator

ABSTRACT: As only partial analyses of the tunnel-diode oscillator have been published in the literature, the authors offer a more complete analysis based on a quasi-linear method. Average conductance G and average d-c current component I of the tunnel diode are determined depending on the oscillator operating conditions. The principal oscillator characteristics, such as excitation regions, stationary amplitude of oscillations, output power, etc., can be determined from the equation: $|G| R_e = 1$, which describes the stationary operating conditions; here, R_e is the equivalent resonant resistance of the oscillatory circuit. Also, the characteristics of an oscillator with automatic grid bias can be determined from the curves presented in this short article. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 09 / SUBM DATE: 22Jul64 / ORIG REF: 003 / OTH REF: 003

Card 1/1 nst UDC: 621.373.52

ACC NR: AT7004343 (A,N) SOURCE CODE: UR/2657/66/000/015/0034/0057

AUTHOR: Akchurin, E. A.

ORG: none

TITLE: Superregenerative amplification and detection with tunnel diodes

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 15, 1966, 34-57

TOPIC TAGS: electronic amplifier, signal detection, tunnel diode

ABSTRACT: Only qualitative (such as J. Reindel's, Proc. IEEE, no. 11, 1963) and simplified (A. G. Jordan et al., J. El. and Control, no. 1, 1961) analyses have been known to the author. Filling the gap, this paper offers a close approximation of the I-V characteristic of a tunnel diode obtained by a polynomial of the 11th degree and by a quasilinear method. Formulas for the correction factors

Card 1/2 UDC: 621.396:621.323:621.382.233

ACC NR: AT7004343

that take into account the nonlinearity of I-V characteristic of tunnel diodes operating as amplifiers and detectors are derived. An experimental verification of the formulas was achieved with a single-tunnel-diode amplifier (or detector) operating at 5 Mc under linear and nonlinear conditions. It is found that: (1) Nonlinear phenomena begin to occur at fairly low oscillation amplitudes; to stabilize the linear conditions, the supply source, auxiliary-voltage source, and circuit-component parameters must be stabilized; (2) The linear conditions are suitable for the cases which require the linear amplitude characteristic with a relatively wide dynamic range of input signals; (3) Under nonlinear cases, the gain is little affected by bias-voltage variation; the detector differs from the amplifier largely by the gain used. 'In conclusion, the author wishes to thank Dr. of Techn. Sc., Prof. N. I. Chistyakov for his valuable comments. Orig. art. has: 20 figures and 38 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 002

Card 2/2

L 04465-67 EWT(d)/EWT(l)/T/EWP(l) SCTB/IJP(c) DD

ACC NR: AP6026563 SOURCE CODE: UR/0030/66/000/007/0093/0095

AUTHOR: Akchurin, I. A.

ORG: none

TITLE: Mathematical modeling of life processses (All-Union conference in Moscow)

SOURCE: AN SSSR. Vestnik, no. 7, 1966, 93-95

TOPIC TAGS: mathematical modeling, biological process modeling, All-Union conference, biologic conference

ABSTRACT: The All-Union Conference on the Problems of Modeling Life Processes organized by the Scientific Council on the Complex Problem "Philosophical Problems of Contemporary Natural Sciences", the Central Bureau of Philosophical Seminars, and the Institute of Philosophy of the Academy of Sciences USSR and held in Moscow from 17 to 18 March 1966 was attended by some 450 Soviet scientists from Moscow, Leningrad, Novosibirsk, Rostov, and other cities.

In his introductory remarks, B. Ye. Bykhovskiy stressed the importance of the mathematization of biological processes to the progress of biological sciences. He distinguished three basic stages of mathematization: 1) determination of the quantitative characteristics of biological pro-

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cesses; 2) choice of biological systems to be considered as elementary; and 3) development of mathematical theory (the mathematical models) to explain the nature of other biological processes in terms of elementary ones. A. A. Lyapunov pointed out the enormous power of mathematical methods in solving the problem of the multilevel structure of living organisms. He gave a detailed account of studies carried out in that direction in the Siberian Branch of the Academy of Sciences USSR. in particular, a logical model of "operons" which is considered as a certain kind of "atoms" of biological system activity (V. A. Ratner) and of simplified "machine" models of life processes for population genetics (O. S. Kulagina). The problem of choosing the simplest objects for mathematical modeling was analyzed at the conference. M. L. Tsetlin and A. A. Malinovskiy pointed out embryogenesis as a particularly favorable object in this respect. I. A. Akchurin proposed application of the general mathematical theory of categories and functors to the study of multilevel structures of life processes. The paper by the recently deceased N. A. Bernshteyn stressed the necessity of developing entirely new chapters of biomathematics for describing particular biological processes. The theory of well organized functions (I. U. Gel'fand and co-workers are working on this theory) is indicated as one of such new chapters. V. L. Ryzhkov reported on spiralization and despiralization in protein and nuclein acid molecules in processes of the embryogeneeis and neural activity and stressed the need of introducing new and profound theoretical concepts based on such chapters of modern mathematics as topology and the theory of random processes into biology. G. V. Gershuni

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ACC NR: AP6026563

and G. B. Nikolskiy pointed out that development of the mathematical theory of biological processes requires modification of the established concepts of biology; however, they advise that this be done very carefully. Panel discussions were held on presented problems. In particular, the applicability of the second law of thermodynamics to biological systems was the subject of heated discussions. [ATD PRESS: 5055-F]

SUB CODE: 06, 12 / SUBM DATE: none

Card 3/3 egk

10(4)

AUTHORS: Fastovskiy, V. G., Petrovskiy, Yu. V., Akchurin, R. A. SOV/64-59-2-15/23

TITLE: Investigations of the Resistance and Efficiency of a Contact-plate Utilizing the Kinetic Energy of the Light Phase (Issledovaniye soprotivleniya i effektivnosti deystviya kontaktnoy tarelki, ispol'zuyushchey kineticheskuyu energiyu legkoy fazy)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 2, pp 169-174 (USSR)

ABSTRACT: No constructional and individual data are available on the contact-plates devised by V. Kittel (Ref 1) which operate according to the principle of the utilization of kinetic energy of the rising light phase for a more intense mixing. In the present case contact-plates were constructed by employing the same principle. The plates were made of 0.5 mm steel plates with a certain arrangement of elliptic openings (Figs 1, 2). The total surface of the openings is 27% of the surface of the plate. Two types of plates were produced which are used in pairs. In one plate the liquid flows from the middle to the periphery, in the second

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it flows reversely. Two pairs of plates were tested on a test plant (Fig 3). Oxygen was desorbed from water (at an air current velocity of 1710-5000 kg/m^2/hour, wetting density of 18800-40300 kg/m^2/hour, and water temperature of 10°) and carbon dioxide from water (1855-4950 kg/m^2/hour, 25500-42250 kg/m^2/hour and 11°). The resistance of the plates described is lower by 2-3 times than that of perforated or bubble plates. The optimum velocity of the gas flow (at the above-mentioned wetting densities) is 0.9-1.0 m/sec. Under the afore-mentioned conditions a value E_{ML} = 0.82-0.88 for the degree of efficiency according to Merfri with respect to the change in the liquid composition was found. Compared to the perforated and bubble plates the efficiency of the contact-plates described is higher, the resistance is lower and the degree of efficiency under optimum condition is equal. There are 9 figures and 13 references, 3 of which are Soviet.

L 30079-66 EWT(1)
ACC NR: AP6020630 SOURCE CODE: UR/0377/65/000/005/0005/0010

AUTHOR: Akchurin, R. Kh.; Aparisi, R. R.; Kolos, Ya. G.; Teplyakov, D. I.; Shatov, N. I.; Shchegolev, D. M. (Deceased) 30 B

ORG: State Scientific-Research Power Engineering Institute im. G. M. Krzhizhanovskiy (Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut)

TITLE: Two-mirror solar stand of the ENIN

SOURCE: Geliotekhnika, no. 5, 1965, 5-10

TOPIC TAGS: photoelectric detection equipment, actinometry

ABSTRACT: A combined two-mirror heliostat-containing solar stand was constructed in 1961-1962 at the testing area of the ENIN. The paper gives a detailed engineering description of the stand as a whole and of its various components (the mirrors, heliostat, reducing gears, photoelectric tracking sensors, vacuum system, and actinometric mechanism). The stand is presently in satisfactory operation. [The specific uses and results are not given.] Orig. art. has: 7 figures. [JPRS]

SUB CODE: 03, 09 / SUBM DATE: 13Jan65 / ORIG REF: 003

Card 1/1 30

AKCHURIN, R. K.: Master Agric Sci (diss) -- "Irrigation of grapes in connection with certain biological features". Odessa, 1958. 15 pp (Min Agric USSR, Odessa Agric Inst), 120 copies (KL, No 5, 1959, 152)

AKCHURIN, R.Kh.; APARISI, R.R.; KOLOS, Ya.G.; TEPLYAKOV, D.I.; SHATOV, N.I.; SHCHEGOLEV, D.M. [deceased]

Two-mirror solar stand of the Power Engineering Institute. Geliotekhnika no.5:5-10 '65. (MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut imeni G.M. Krzhizhanovskogo. Submitted December 1, 1965.

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24.5600

S/120/62/000/002/044/047
E194/E435

AUTHORS: Karasik, V.R., Akchurin, R.Sh., Akhmedov, S.Sh.

TITLE: An inductively excited super-conducting magnet

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 179-180

TEXT: The magnet has a solid Armco iron core 6 cm long, 4.5 cm wide and 1 x 1 cm cross-section. The pole tip diameter is 5 mm and the gap length 3 mm. The two 6 cm outer diameter spools for the magnetizing coils of brass, each contains an inner niobium ring of 16 mm inner dia and 22 mm outer dia, 3 mm wide, over which is wound a copper coil of 8000 turns of 8 micron dia wire which, at a temperature of 4.2°K has a resistance of about 30 ohms. The magnet hangs in a cryostat on a stainless steel tube. At the temperature of liquid nitrogen the magnetization curve is linear up to a current of 300 mA at which the magnetic field is 20 kilo-oersted (as measured by a test coil in the gap). The niobium is magnetized by applying current to the copper coil at a temperature slightly above 9°K, the magnet is then immersed in liquid helium and after about 90 sec it becomes superconducting and the current is switched off. With a magnetizing current of

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An inductively excited ...

350 to 370 mA, the remanent field is 20 kilo-oersted. It requires about 1 litre of liquid helium to cool the magnet.
There is 1 figure.

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute AS USSR)

SUBMITTED: July 1, 1961

Card 2/2

CHERKESOV, A.I.; [illegible], G.S.; ALEKSANDROVSKAYA-[illegible]NOVA, A.S.

Use of gelatin for the photometric determination of bismuth. Trudy. Astr. tekh. inst. ryb. prom. i khoz. no.[illegible] '62. (MIRA 17:8)

TAUBE, Petr Reyngol'dovich; AKCHURINA, Gyul'-Endem Seyfetdinovna; GAVRILOVSKIY, Aleksandr Nikolayevich; STUKOVNIN, N.D., red. izd-va; YEZHOVA, L.L., tekhn. red.

[Practical work in general chemistry] Praktikum po obshchei khimii. Izd.2., perer. Moskva, Vysshaia shkola, 1962. 262 p. (MIRA 15:11)

(Chemistry--Laboratory manuals)

TAUBE, Petr Reyngol'dovich; AKCHURINA, Gyul'-Endem Seyfetdinovna; GAVRILOVSKIY, Aleksandr Nikolayevich

[Laboratory work in general chemistry] Praktikum po obshchei khimii. Izd.2., perer. Moskva, Vysshaia shkola, 1962. 265 p. (MIRA 18:6)

GOLIKOVA, T.M., kand.med.nauk; AKCHURINA, G.Z.

Two cases of chloroleukemia in children 9 and 7 years of age. Pediatriia 37 no.12:28-31 D '59. (MIRA 13:5)

1. Iz kafedry detskikh i glaznykh bolezney (zav. - prof. A.I. Titova) Yaroslavskogo meditsinskogo instituta (dir. - prof. S.M. Khayutin).

(LEUKEMIA MYELOCYTIC in inf. & child.)

AKCHURINA, G.Z.

Dynamics of ocular dark adaptation in glaucoma. Vest.oft. 74 no.1:25-28 '61. (MIRA 14:3)
(GLAUCOMA) (EYE--ACCOMODATION AND REFRACTION)

CATEGORY : Cultivated Plants. Commercial. Oleiferous. Sugar-Bearing.
ABS. JOUR : Ref Zhur-Biologiya No. 5, 1959, No. 20392

AUTHOR : Skryanin, F.A.; Akuhurina, N.A.; Alimov, V.Z.
INST. : AS Uzbek SSR
TITLE : Several Properties of Ammoniate and Its Effectiveness.

ORIG. PUB.: V. sb. Ref. nauchno-issled. rabot po khlopkovodstvu. Tashkent, AN UzSSR, 1957, 193-198

ABSTRACT : Experiments conducted by the Academy of Sciences Uzbek SSR in Tashkentskaya Oblast in 1956 have shown that ammoniate (A) was nitrified under laboratory conditions by 70% in 13 days, under field conditions by nearly totally within less than 12 days. There is thus no cause to apply A fractionally under the fall plowing. When placing the entire annual rate of A during vegetation of the cotton, its effectiveness either equalled

CARD: 1/2

J

Country : USSR
Category: Soil Science. Mineral Fertilizers.

Abs Jour: RZhBiol., No 18, 1958, No 82114

Author : Akchurina, N.A.; Alimov, V. Z.; Skryabin, F.A.
Inst : Inst of Agriculture, Uzbek SSR
Title : Characteristics and Effectiveness of Liquid Ammoniate Fertilizer.

Orig Pub: Sots. s.kh. Uzbekistana, 1957, No 3, 21-25.

Abstract: In 1956 the Institute of Agriculture of the Academy of Sciences Uzbek SSR established by laboratory, vegetative, field, and industrial experiments the expediency of the application of ammoniate, the preparation of which is 25-40% cheaper than the preparation of solid fertilizer. By placing full rates of N in the vegetation period, the ammoniate increased the harvest of cotton wool

Card : 1/2

YULDASHEV, S.Kh.; AKCHURINA, N.A.

Role of carbohydrates in the lodging of cotton plants. Uzb. biol. zhur. 7 no.6:67-73 '63. (MIRA 17:6)

1. Institut genetiki i fiziologii rasteniy AN UzSSR.

AKCHURINA, R.M.; ISHERSKAYA, Ye.V., red.; KUZNIK, I.A., red.

[The climate and waters of the land portion of the southwestern European part of U.S.S.R.; a bibliographical index] Klimat i vody sushi iugo-vostoka evropeiskoi chasti SSSR; bibliograficheskii ukazatel'. Saratov, Izd-vo Saratovskogo univ., 1961. 267 p. (Bibliografiia Saratovskoi oblasti, no.5) (MIRA 17:11)

AKCHURINA, R.M.; CHEPENKO, N.K.

Advanced method for painting and drying metal containers in lacquer and paint factories. Lakokras. mat. i ikh prim. no.6: 64-66 '61. (MIRA 15:3)
(Painting, Industrial—Equipment and supplies)

BORISENKO, S.I.; AKCHURINA, R.M.

Mechanized painting of tubular tanks. Lakokras.mat.i ikh prim. no.1:67-69 '63. (MIRA 16:2)

(Painting, Industrial)

L 05198-67 EWT(d) IJP(c)

ACC NR: AP7000750 SOURCE CODE: UR/0140/66/000/003/0073/0083

12/B

KUKLES, I. S., and AKCHURINA, K. Yu., (Samarkand)

16

"Discrimination Problems for Characteristics in a Three-Dimensional Space"

Moscow, Izvestiya VUZ -- Matematika, No. 3 (52), 1966, pp 73-83

ABSTRACT: The article considers the three differential equations

$$\frac{dx}{dt} = f_k(x, y, z) + F_1(x, y, z),$$
$$\frac{dy}{dt} = \varphi_k(x, y, z) + F_2(x, y, z), \quad (1)$$
$$\frac{dz}{dt} = \psi_k(x, y, z) + F_3(x, y, z),$$

where $f_k(x, y, z)$, $\varphi_k(x, y, z)$, $\psi_k(x, y, z)$ are homogeneous polynomials of degree k; $F_1(x,y,z)$, $F_2(x,y,z)$, $F_3(x,y,z)$ are functions definable by the conditions

$$\frac{F_m}{r^k}, \quad \frac{\partial F_m}{\partial x}\frac{1}{r^k}, \quad \frac{\partial F_m}{\partial y}\frac{1}{r^k} \quad (m = 1, 2, 3)$$

tend to 0, together with $r = \sqrt{x^2 + y^2 + z^2}$. In a similar manner as was

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ACC NR: AP7000750

done on a plane, the authors establish normal regions of the 1st, 2nd, and 3rd kind and in accordance therewith consider the first, second, and third discrimination problems, as well as a fourth discrimination problem which occurs in a space. It is known that all characteristics that have entered a normal region of the 1st kind will enter the origin in the direction of the z-axis. In a normal region of the 2nd kind there is either one or an infinite set of characteristics which enters the origin, and the question of distinguishing these two possibilities constitutes the first discrimination problem. In a normal region of the 3rd kind there is either no characteristic which asymptotically approximates the plane or an infinite set thereof, and herein lies the second discrimination problem. If for a normal regionof the 3rd kind an infinite set of characteristics enters the origin, they enter the origin either along a certain surface or by forming a spatial body, and the distinguishing of these two possibilities is the fourth discrimination problem. In the case of the so-called "singular type" of region, characteristics either do or do not enter the origin in all directions, and this the third discrimination problem.

The authors note that such problems were considered by L. E. REYZIN', R. M. MINTS, and others, who, however, assumed the asymptotic stability of solutions (an assumption which makes a solution ineffective) or assumed the analyticity of the right-hand sides of equations (1). The authors of the present article make more general assumptions for these problems. Orig. art. has: 25 formulas. [JPRS: 37,330]

TOPIC TAGS: asymptotic solution, polynomial
SUB CODE: 12 / SUBM DATE: 08Jun65 / ORIG REF: 004 / UDC: 517.917
Card 2/2 vmc

USSR / Cultivated Plants. Fruits, Berries, Nutbearing, Teas. M-6

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6450

Author : Akchurun, R. K.
Inst : All-Union Sci. Res. Institute of Vini- and Viticulture
Title : Irrigation of Vineyards in the Southern Ukraine

Orig Pub : Byul. nauchno-tekhn. inform. Vses. n.-i. in-t vinodeliya i vinogradarstva, 1957, No 2, 21-28

Abstract : Experiments, carried out in the Zaporozh'ye Oblast' on light argillaceous chernozem, and in the Odessa Oblast' on heavy argillaceous chernozem, showed that the moisture of the soil at a depth of 2 meters, created by

Card 1/3

USSR / Cultivated Plants. Fruits, Berries, Nutbearing, Teas. M-6

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6450

watering 1500 - 2000 m^3/ha persisted during dry years until the first half of July. It provides for a relatively secure weathering of the first three phases of development of the grape bu... The increment of yield caused by the watering was 11 - 12%. The increment of yield in experiments with irrigation was 60%, when the load was unchanged, when the load was increased by 61- 67%, the increment was 138% and when the load was increased more than twice, the increment was >700%. Optimal watering doses for light argillaceous chernozems are 1500 m^3/ ha. For heavy argillaceous chernozems the best dose was 2000 m^3/ha. The moisture of the layer where the roots are should be maintained during

Card 2/3

USSR / Cultivated Plants. Fruits, Berries, Nutbearing, Teas. M-6

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6450

the vegetation period at the level of 70 - 75% of capacity for the table grape varieties. During the period of full ripeness, the moisture level should be at 60% of capacity. It is necessary to increase the load of shrubs during irrigation. -- I. K. Fortunatov

Card 3/3

ISAKOV, A.A. (Kemerovskaya oblast'); ZHURGARAYEV, Amangel'dy (Dzhambul'-skaya obl., KazSSR); VLADIMIROV, A. (Asbest); FRIMAN, L.I. (Yaroslavl'); KILIMNIK, Ya.Ye. (Vinnitsa); TEREKHOV, I.A. (Skopin); AKDAULETOV, N.A. (pos.Mertuk, KazSSR); ZAKHARKIN, V.Ye. (pos.Rudtsev, Tul'skaya oblast'); SHESTOPAL, G.A. (Moskva); KOTIY, O.A. (Yaroslavl'); GAUKHMAN, V.A. (Moskva); LOPSHITS, A.M. (Yaroslavl'); SERGUSHOV, S.A. (Yaroslavl'); GOTMAN, E.G. (Pechora); VETROV, K.V. (Putintsevo, Vostochno-Kazakhstanskoy obl.); MIKHELEVICH, Sh.Kh. (Daugavpils); SKOPETS, Z.A. (Yaroslavl'); RYBKOV, L.M. (Yaroslavl'); CHEGODAYEV, A.I. (Gavrilov-Yam)

Problems. Mat.v shkole no.6:85-92 N-D '62. (MIRA 16:1)
(Mathematics--Problems, exercises, etc.)

AKELAYTITE, A.V.

Neuroma of the ethmoid labyrinth. Vest.oto-rin.18 no.5:125-126 S-O '56. (MLRA 9:11)

1. Iz kliniki bolezney ukha gorla i nosa (zav. - zasluzhennyy deyatel' nauki prof. K.L.Khilov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(ETHMOID BONE, neoplasms
neuroma of ethmoid labyrinth)
(NEUROMA, case reports
ethmoid labirinth)

AKELAYTITE, A.V.

AKELAYTITE, A.V. (Leningrad)

Genesis of morphological changes in the inner ear caused by acoustic injury; an experimental study. Vest. oto-rin. 20 no.1:59-64 Ja-F '58. (MIRA 11:3)

1. Iz kafedry bolezney ukha, gorla i nosa (zav.-zaslushennyy deyatel' nauki prof. K.L.Khilov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(LABYRINTH, dis.
exper. acoustic trauma, role of CNS in genesis of pathol. changes in rats (Rus)
(CENTRAL NERVOUS SYSTEM, physiol.
regulation of genesis of pathol. changes of labyrinth in exper. acoustic trauma in rats (Rus)

AKELAYTITE, A. V., Cand Med Sci -- (diss) "On the problem of the genesis of morphological changes of the inner ear under the effect of acoustic trauma (Experimental study)." Len, 1958. 11 pp (Min of Health RSFSR, Len Sanitary-Hygienic Med Inst), 200 copies (KL, 16-58, 122)

AKELIN, N.A.; KAZAKOVA, M.Ye.

New find of gagarinite. Dokl.AN SSSR 149 no.3:672-674 Mr '63.
(MIRA 16:4)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR. Predstavleno akademikom D.S.Korzhinskim.
(Rare earth fluorides)

KUZ'MENKO, M.V.; AKELIN, N.A.; SERDYUCHENKO, D.P., doktor geol.-miner. nauk, prof., otv. red.

[Genesis of subalkaline granitoids and albitites connected with them and the distribution of tantalum and niobium in them] Genezis subshchelochnykh granitoidov i sviazannykh s nimi al'bitov i zakonomernosti raspredeleniia v nikh tantala i niobiia. Moskva, Nauka, 1965. 119 p. (MIRA 18:6)

ACC NR: AR6035237 SOURCE CODE: UR/0372/66/000/008/G028/G028

AUTHOR: Gudyalis, L.; Lashas, A.; Akelis, A.

TITLE: Estimate of tests in the code recognition method

SOURCE: Ref. zh. Kibernetika, Abs. 8G177

REF SOURCE: Sb. Avtomatika i vychisl. tekhn. Vil'nyus, 1965, 15-19

TOPIC TAGS: coding evaluation, pattern recognition, code recognition method

ABSTRACT: In scanning recognition patterns, a code is assigned to each vertical line. The sequence of codes is compared with the reference sequences of all classes of patterns. A block-diagram of the device used with the code recognition method is given. An objective estimate of tests can be expressed in weights for each code x_i. The criterion of evaluation is the amount of information on the presence of pattern y_i as it appears in line k of code x_i

$$I_{x_i \to y_l} = \log \{P(y_l/x_i)[P(y_l)]^{-1}\}.$$

UDC: 62-506:621.391.193

ACC NR: AR6035237

If $I_{xi} \rightarrow y_j > 0$, i.e., if the test increases the a priori probability of a specific class of patterns, the weight +1 is assigned to this pattern. If $I_{xi} \rightarrow y_j < 0$, the assigned weight is -1, if $I_{xi} \rightarrow y_j \approx 0$, the weight is 0. The information capacity of code x_i in the line k for all classes of patterns y makes it possible to reveal the lines in which the code is most effective. Expressions are given for the information capacity of each code, the information capacity of individual lines and the information capacity of the entire recognition system. Experimental investigations have shown that the middle lines of the left, central and right parts of the pattern possess the greatest information capacity. There are two illustrations and a bibliography of 4 titles. [Translation of abstract] [DW]

SUB CODE: 09/

AKEL'YEVA, A.S.

Analysis of luneburgite. Inform.sbor.VSEGEI no.51:127-130 '61.
(MIRA 15:8)

(Luneburgite—Analysis)

AKENT'YEV, B.; ZUBETS, V.; KARABEKOV, V.; TOLOKONTSEVA, G.; YASTREBOV, N.

"Resources of the enterprise and the tasks of strengthening control through the ruble." Reviewed by B. Akent'ev and others. Fin. SSSR 17 no.9:88-91 S '56. (MLRA 9:10)

(Finance)

ACC NR: AP5026787 SOURCE CODE: UR/0286/65/000/017/0072/0072

AUTHOR: Polosin, Yu. K.; Kanatov, I. I.; Akent'yev, V. S.

ORG: none

TITLE: A device for semiautomatically charting a profile of the earth's surface from topographic maps. Class 42, No. 174377

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 72

TOPIC TAGS: cartography, earth science instrumnt, electric measuring instrument, drafting instrument

ABSTRACT: This Author's Certificate introduces a device for semiautomatically charting a profile of the earth's surface from topographic maps. The instrument contains a mechanical profilograph, a unit for monitoring and control, and units for extraction of information. To simplify the design and to obtain information on the local terrain in digital form, machine code, or as a graph, the profilograph is made in the form of a curvometer mechanism with a roller which is connected through gearing to an electrically conductive coding disc. Brushes contacting the disc are used to convert linear motion to electrical pulses which are then counted by reversible counters with the results being transmitted to the information extraction unit.

UDC: 528.543

Card 1/2

L 7003-66

ACC NR: AP5026787

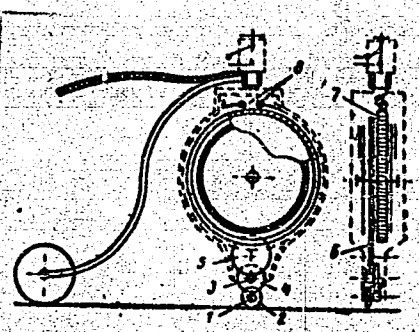


Fig. 1. 1--measurement roller; 2-6--gearing; 7--coding disc; 8--contact brushes

SUB CODE: ES,IE,EE/ SUBM DATE: 11Jul64/ ORIG REF: 000/ OTH REF: 000

nw

Card 2/2

AKENT'YEVA, L. I.

"Combinations of Silicate and Phosphorus and Their Role in the Feeding of Plants in Irrigated Chestnut Soils." Cand Biol Sci, Voronezh State U, Saratov, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

AKIENT'YEVA, L.I.

COUNTRY : USSR
CATEGORY : Soil Science. Physical and Chemical Properties of Soil
ABS. JOUR : Ref Zhur -Biologiya, No. 5 , 1959, No. 20075

AUTHOR : Akent'yeva, L.I.
INST. : Voroshilovgrad Agric. Inst.
TITLE : Certain Regularities in Phosphoric Acid Absorption by Ordinary Chernozems.

ORIG. PUB.: Nauchn. zap. Voroshiloggradsk. s.-kh. in-ta, 1957, No.2, 50-54

ABSTRACT : In a study of phosphoric acid absorption by a heavy clay Chernozem on the experimental field of Voroshilovograd Agricultural Institute it was noted that the phosphoric acid uptake is of a physico-chemical nature where adsorption processes play a large part.
-- M.L. Yaroshenko

CARD: 1/1

AKENT'YEVA, L.I.

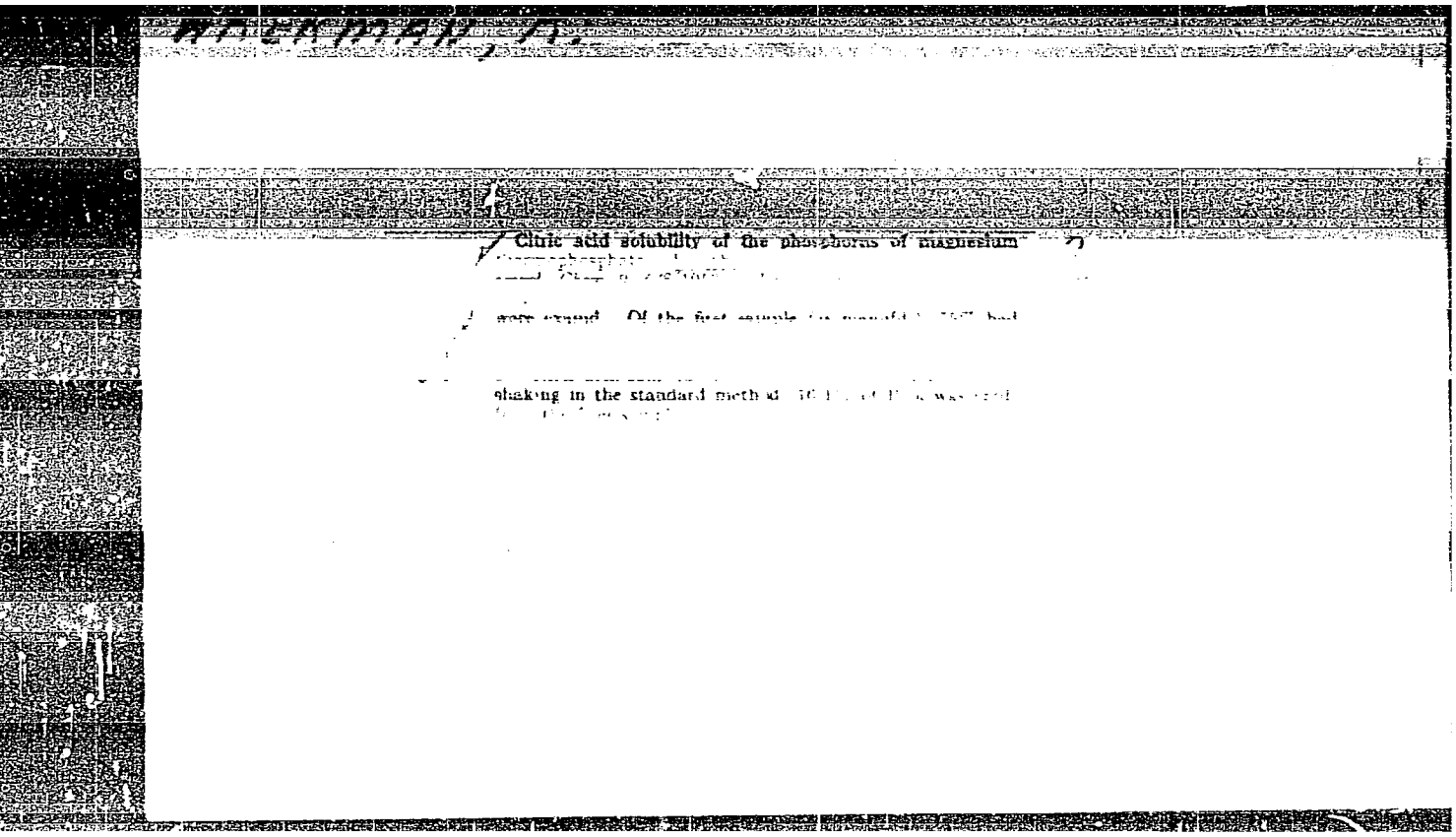
SUPRUN, P.S., kandidat sel'skokhozyaystvennykh nauk; AKENT'YEVA, L.I., kandidat biologicheskikh nauk.

Control of soil erosion in the Donets Basin. Zemledelie 5 no.9:56-58 S '57. (MLRA 10:9)

1. Voroshilovgradskiy sel'skokhozyaystvennyy institut.
(Donets Basin--Erosion)

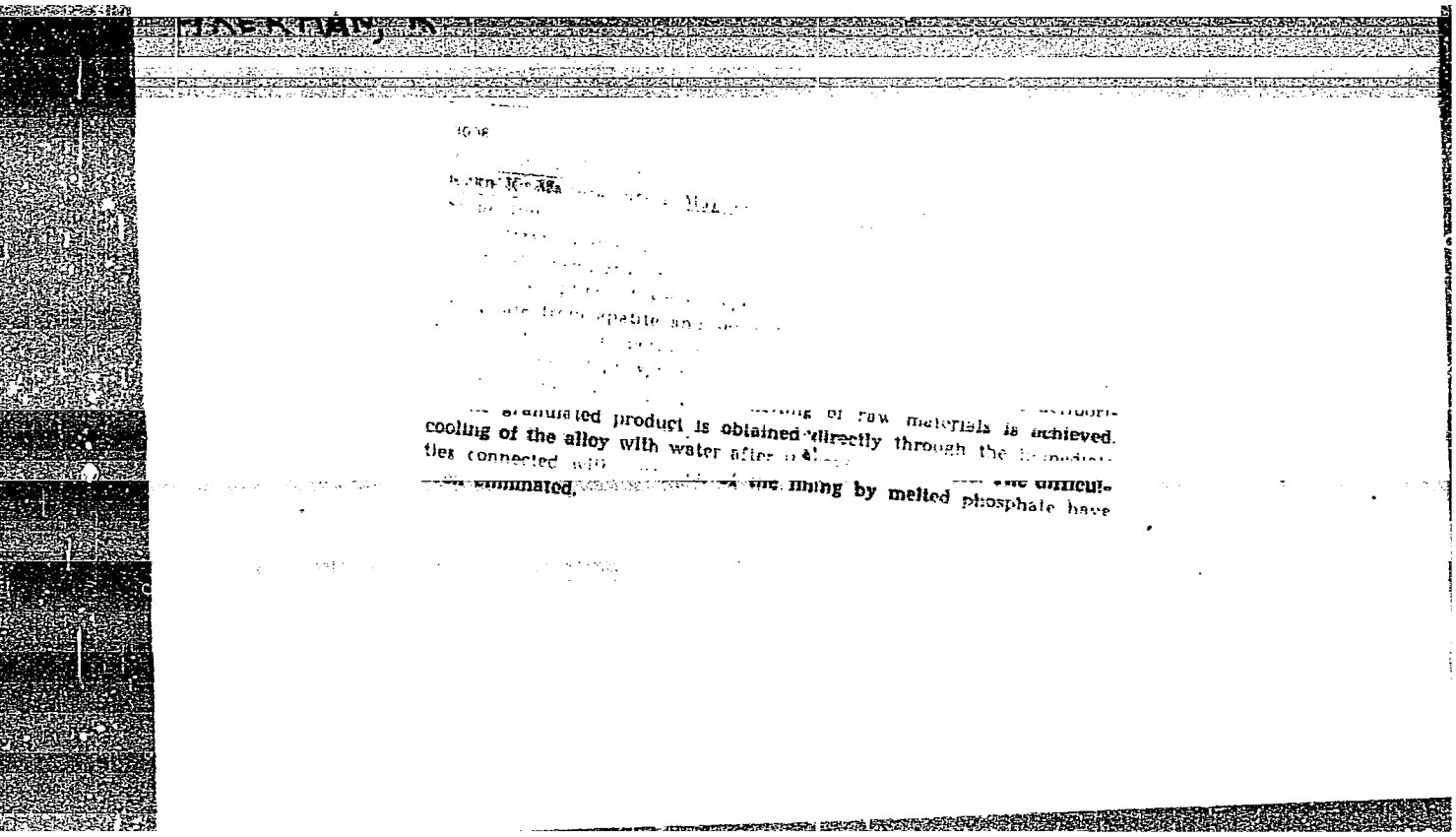
AKERMAN, Karol

"Methods of Obtaining Sulfuric Acid from Calcium Sulfate," by K. AKERMAN.
Przemysl Chemiczny, No. 1, Jan 52, Warsaw, Poland.



Citric acid solubility of the phosphorus of magnesium

shaking in the standard meth



granulated product is obtained directly through the ... cooling of the alloy with water after ... ties connected with ... eliminated. ... the mixing by melted phosphate have ... difficul-

AKERMAN, K.

Akerman, K.; Hoffmann, P.

"Results of Soviet aid in the sulfuric acid and phosphate fertilizer industry", p. 556 (Przemysl Chemiczny. Vol. 9, no. 11, Nov. 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3 Library of Congress, March 1954, Uncl.

AKERMAN, K.; HOFFMAN, P.

Actual technological and research problems in the sulfuric acid and phosphoric fertilizers industries. p. 433. (PRZEMYSL CHEMICZNY, Vol. 10, No. 9, Sept. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

AKERMAN, K.; HOFFMAN, P.

World production and consumption of sulfur. p. 438. (PRZEMYSL CHEMICZNY, Vol. 10, No. 9, Sept. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

AKERMAN, K., and others.

Exploitation of local phosphorites in the manufacturing of thermophosphates. p. 460. (PRZEMYSL CHEMICZNY, Vol. 10, No. 9, Sept. 1954, Warszawa. Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

AKERMAN, K.; LASIEWICZ, K.; ZAWADZKA, H.

Remarks on solubility of magnesium thermophosphate in solutions of citric acid and ammonium citrate. p. 465. (PRZEMYSL CHEMICZNY, Vol. 10, No. 9, Sept. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

AKERMAN, K.

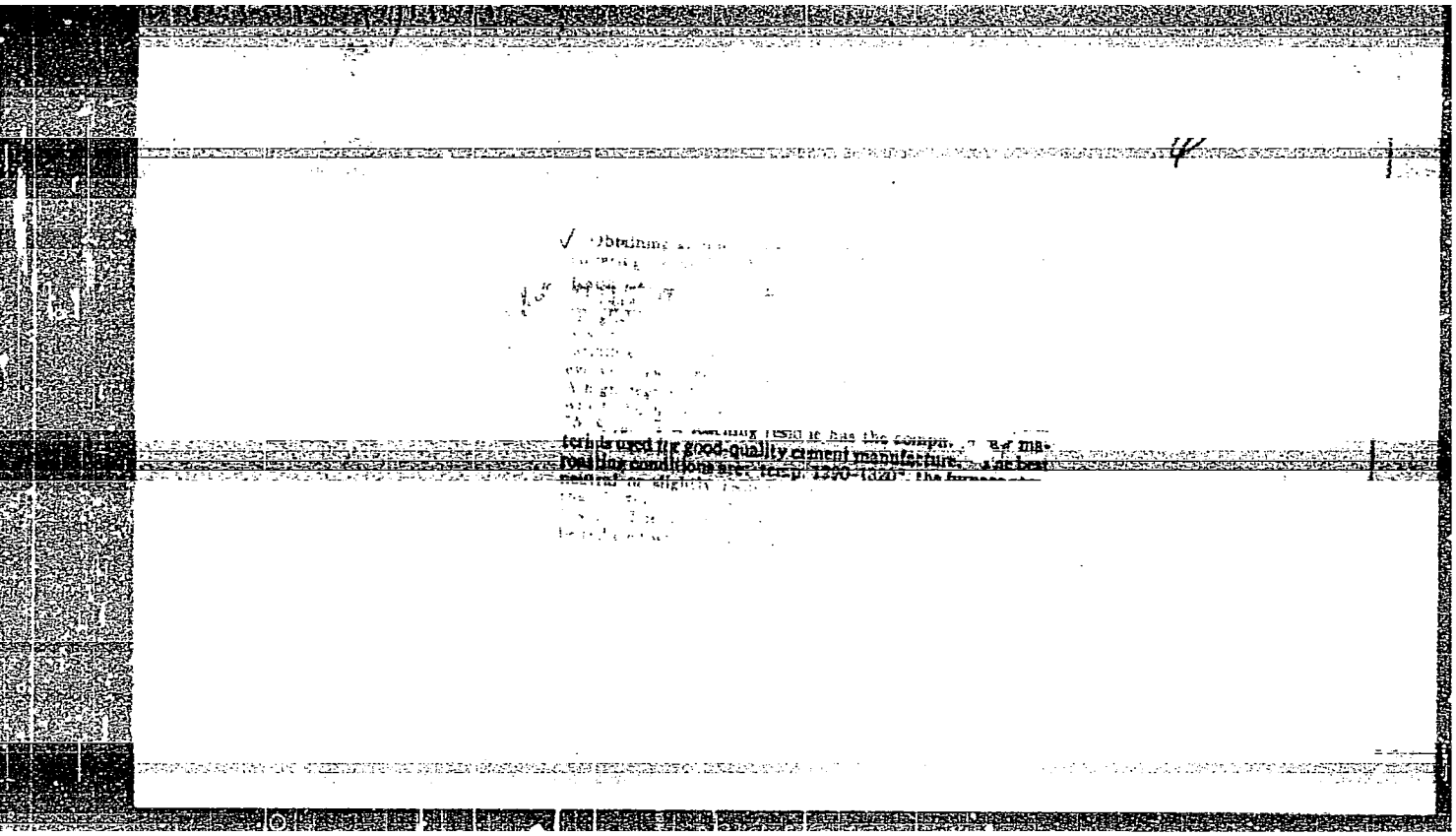
4164 661.213(438)

Akerman K., Hoffmann P., Leszczyńska H. Refining Sulphur Concentrates from Polish Deposits by Filtration.

„Rafinacja koncentratów siarkowych ze złóż polskich przez filtrację". Przemysł Chemiczny, No. 11, 1955, pp. 610—613, 4 figs., 4 tabs.

The authors describe the use of various laboratory filters for purifying sulphur concentrates. Optimum results were obtained when using an installation consisting of a centrifuge with a perforated basket. The resulting product contained 99.9 per cent of pure sulphur. The purity of the filtrate is not dependent on the sulphur content of the concentrate (within limits of 70 — 80 and more per cent of S). The waste products contain up to 20 per cent of S. There is, of course, a very close relation between the yield and the sulphur content of the concentrates. In the case of 80 per cent concentrates, the yield exceeds 90 per cent. Poorer concentrates yield correspondingly smaller amounts of sulphur. The rate of filtration calculated per over-all surface of the basket is 4.3 — 4.8 tons/1 sq.m/hour.

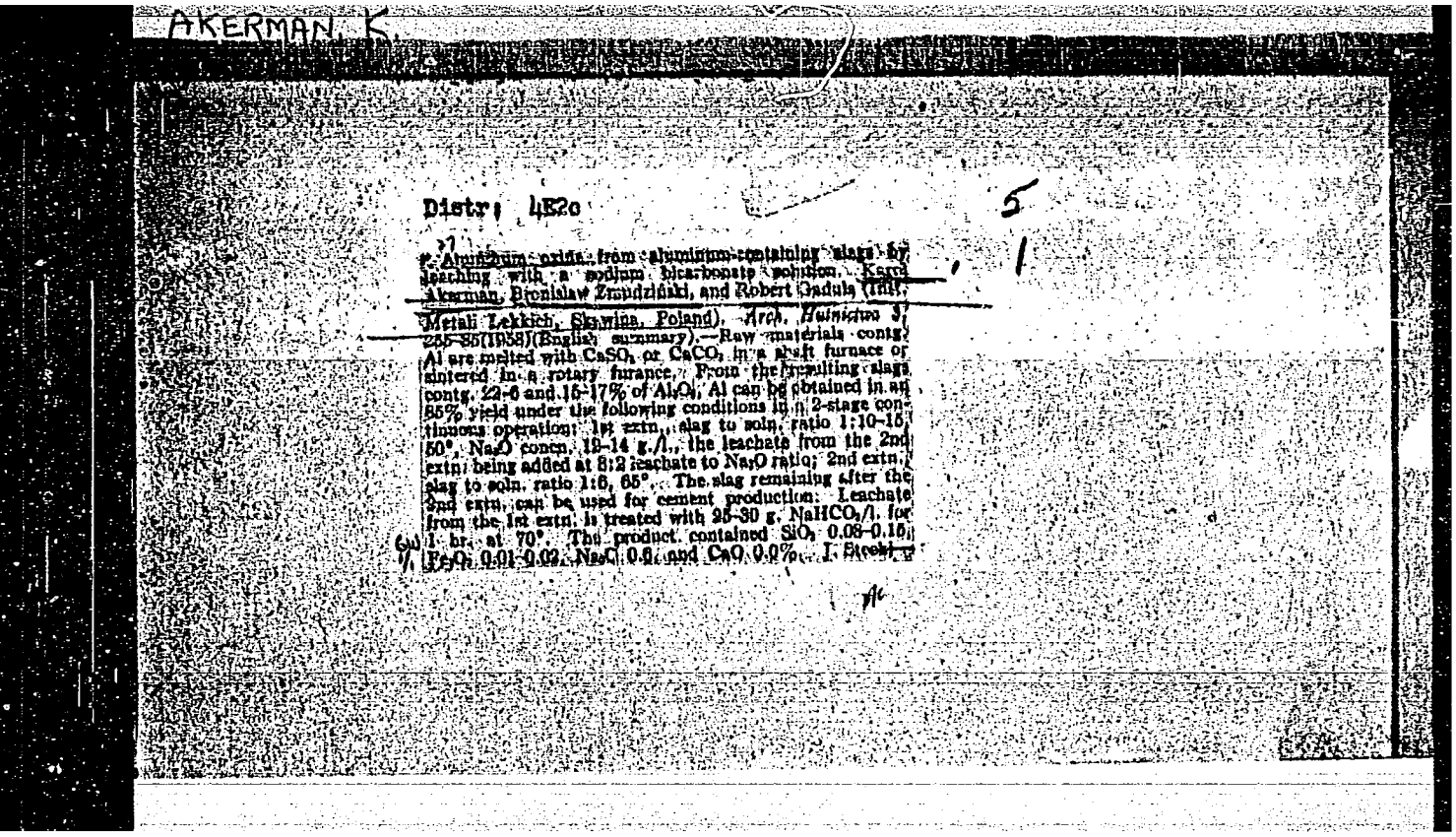
Chem 3



AKERMAN, K; ORMAN, M.

Preparation of high purity calcium. In German. p. 179.
(ACTA TECHNICA. Vol. 15, no. 1/2, 1956. Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957. Uncl.



AKERMAN, K.

Distr: 4E2c

5

1

Aluminum oxide from aluminum-containing slags by leaching with a sodium bicarbonate solution. Kazi Akerman, Bronislaw Zmudziński, and Robert Gadula (Inst. Metali Lekkich, Skawina, Poland). *Arch. Hutnictwa* 3, 255–85(1958)(English summary).—Raw materials contg. Al are melted with $CaSO_4$ or $CaCO_3$ in a shaft furnace or sintered in a rotary furance. From the resulting slags contg. 22–6 and 16–17% of Al_2O_3, Al can be obtained in an 85% yield under the following conditions in a 2-stage continuous operation: 1st extn., slag to soln. ratio 1:10–15, 50°, Na_2O concn. 13–14 g./l., the leachate from the 2nd extn. being added at 8:2 leachate to Na_2O ratio; 2nd extn., slag to soln. ratio 1:6, 65°. The slag remaining after the 2nd extn. can be used for cement production. Leachate from the 1st extn. is treated with 25–30 g. $NaHCO_3$/l. for 1 hr. at 70°. The product contained SiO_2 0.08–0.15, Fe_2O_3 0.01–0.02, NaCl 0.0, and CaO 0.0%. I. Strelow

COUNTRY	:	POLAND H
CATEGORY	:	Chemical Technology. Chemical Products and Their Applications. Elements. Oxides. Mineral*
ABS. JOUR.	:	RZKhim., No. 23 1959, No. 82795
AUTHOR	:	Akerman, K.; Zmudzinski, B.; Dietze, S.; Sakala
INST.	:	-
TITLE	:	Derivation of Aluminum Oxide by the Continuous Leaching of Aluminum Containing Crushable Slags with Soda Solution
ORIG. PUB.	:	Arch. hutn., 1958, 3, No 4, 287-304

ABSTRACT : Developed were the method and pilot plant equipment for leaching of slags having composition indicated in the preceeding article. The slags contained leachable Ca aluminates of the 12 $CaO \cdot 7Al_2O_3$ tyne. The leaching operation was conducted continuously in 2 stages. In the first stage leaching was acheaved with the solution leeving the second stage and containing $NaHCO_3$, $NaAlO_2$ and impurities. In so doing a certain quantity of Si was also

*Acids, Bases, Salts.

CARD: 1/3

COUNTRY	:	II
CATEGORY	:	
ABS. JOUR.	:	RZKhim., No. 23 1959, No. 82795
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT Con'd	:	of 90-100 and were suitable for the direct manufacture of cement. The bibliography includes 5 titles.

CARD: 3/3

AKERMAN, J. & KAROL, -

Distr: 4E2c

27

Selective enriching of sands containing zirconium occurring on the Polish coast of the Baltic sea. J. Karol Akerman, Jan Krajewski, Michal Ryczek, and Klemens Kruszewski (Inst. Metali Lekkich, Skawina, Poland). *Przemysl Chem.* 37,343-9(1958)(English summary).—By dry and wet sieving and electrostatic and electromagnetic sepn. concentrates of zircon, magnetite, ilmenite, garnet (almandite), and staurolite were obtained from Polish sands. The mineralogical compn. of these sands is: gravel (>2 mm.) 2.3, light fraction 60.2, and heavy fraction 37.6%; the latter fraction contains magnetite 1.2, ilmenite 11.4, zircon 1.8, rutile 0.8, tourmaline 0.3, garnet 16.4, staurolite 0.9, epidote 0.7, disthene (kyanite) 1.7, amphibole 1.8, andalusite in traces, augite 0.1, hypersthene 0.3, olivine in traces, titanite in traces, and apatite 0.1%. From 10 ton of raw sand, after removal of particles larger than 2 mm. and after wet classification to obtain the heavy fraction, the electrostatic sepn. of the latter (27 kv.) produced 2 fractions: nonconducting and conducting fractions. The conducting fraction was subjected to electromagnetic sepn. (0.5 amp.) which yielded the ilmenite fraction (nonmagnetic) and the titanite-magnetite fraction. The nonconducting fraction was subjected to 4-stage electromagnetic sepn. (0.8, 0.8, 1.5, and 1.0 amp.) which yielded 3 fractions: magnetic fraction of pure garnet (almendite), middle fraction contg. staurolite and epidote, and nonmagnetic fraction which after sieving gave zircon concentrate (particles below 0.15 mm.) and disthene (particles above 0.15 mm.). The sands from the Jaroslawiec district gave 1.34% zircon concentrate which contained over 50% $ZrSiO_4$ corresponding to approx. 95% yield. This fraction contained also ilmenite 2.6, rutile 10.6, disthene 5.8, staurolite 3.1, and light fraction 14.4%. The ilmenite fraction contained over 89% ilmenite. The epidote concentrate showed an increase in radioactivity over the raw material.

F. I. Handel

AKERMAN, K.

Germanium. p. 7.

PRZEGLAD TECHNICZNY. (Naczelna Organizacja Techniczna) Warszawa, Poland.
Vol. 80, no. 19, May 1959.

Monthly List of East European Accessions (EEAI) LC. Vol. 8, no. 7, July 1959.

Uncl.

85409

P/014/60/039/005/002/004
A221/A026

15.2210

AUTHORS: Akerman, Karol; Salawa, Jacek

TITLE: Obtaining ZrO_2 From Zirconium Concentrates

PERIODICAL: Przemysł Chemiczny 1960, Vol. 39, No. 5, pp. 292 - 295

TEXT: In this article the authors describe in detail the method of obtaining pure zirconium oxide from concentrates of zircon (mineral), containing about 10% of TiO_2. The concentrate was prepared from Baltic Sea beach sands. The composition was as follows: ZrO_2 46 - 44%, TiO_2 13 - 8%, SiO_2 37 - 35%, FeO_3 2%, Al_2O_3 3%. The technological process of extracting pure zirconium oxide was as follows: 2 kg of caustic soda was placed in a nickel crucible with 6-l capacity and heated to 800°C in a gas oven. One kg of zirconium concentrate was added in small portions under constant stirring. Melting temperature was increased for 30 minutes to 900°C and then the semi-fluid mass was poured out into a nickel container and was cooled. The cold mass was crushed and lixiviated for 8 hours with 10 l of hot distilled water at boiling temperature and then filtered. The collected sediment was dissolved in 5-l of concentrated hydrochloric acid. The solution was heated up to boiling temperature and SiO_2 precipitated by addition of a few ml of

Card 1/3

Obtaining ZrO_2 From Zirconium Concentrates

4% gelatine solution. The SiO_2 sediment was collected by filtering and was washed, dried, weighed and analysed. The filtrate, 11.35 l of it, was evaporated to about 4:1; after cooling a white sediment of $ZrOCl_2$ precipitated by itself. This was again filtered, washed with cold 28% hydrochloric acid and dissolved in distilled water and diluted to 15 liters. From this solution zirconium hydroxide was precipitated with ammonia, was filtered, dried and heated to 1,000°C. As a result a snow-white zirconium oxide was obtained. The filtrate left over after the first separation of $ZrOCl_2$ was evaporated to about 1.5 l. volume and after cooling it, some more of $ZrOCl_2$ was obtained. It was treated in exactly the same way as the first portion, but the resulting ZrO_2 powder was grayish white. In toto, 219.5 g of grade I and 74.4 g of grade II ZrO_2 was obtained, a total of 293.9 g, i.e., 80.9% of ZrO_2 which was present in 1 kg of zirconium concentrate. Analyses and detailed balance sheet of zirconium and titanium oxides are produced in Tables 1 - 5. At the Instytut Materjałów Ogniotrwałych (Refractory Materials Institute), zirconium oxide obtained by the method described above was tried out as material for high-grade refractories. Test blocks made of ZrO_2 mixed with water and 1.5% sulphite solution (!) and moulded under about 100 kg/cm^2 pressure, disintegrated entirely after being fired at 1,600 - 1,700°C. After more research the following stabilization method was worked out: grind a mixture of 95% ZrO_2 and 5% MgO_2 for 20

P/014/60/039/005/002/004
A221/A026

Obtaining ZrO_2 From Zirconium Concentrates

hours in a ball mill. Having it moistened to 7% with addition of 1.5% sulphite solution (of 28°Bé concentration), the forms have to be shaped at a pressure of about 100 kg/cm^2 and at 1,500 - 1,600°C, but the temperature must be increased slowly at only about 100°/h. Properties of sample blocks prepared as described above, are listed in Table 6. The authors arrived at the following conclusions: 1) Titanium oxy-chloride is relatively easy soluble in presence of zirconium oxy-chloride; 2) because of the difference in solubility of oxy-chlorides, zirconium oxide practically free of titanium can be obtained from concentrates containing about 10% of TiO_2; 3) by following above described method, good-quality zirconium oxide with good yield can be obtained. There are 1 figure, 2 photos, 6 tables and 6 references: 2 Soviet, 1 English and 3 Polish.

ASSOCIATION: Instytut Metali Lekkich i Rzadkich (Light and Rare Metals Institute) in Skawina.

SUBMITTED: February 19, 1960

Card 3/3

AKERMAN, Karol; HOFFMANN, Przemyslaw; POCZYNAJLO, Andrzej; OGLAZA, Jan; GRYGLIK, Eugeniusz; PLETTI, Zdzislaw; BERESKI, Jerzy

Marking-out of material streams in rotary kilns for super-Thomas production in the BONARKA Works in Krakow. Przem chem 40 no.7:380-383 Jl '61.

1. Instytut Badan Jadrowych, Polska Akademia Nauk, Warszawa i Fabryka Supertomasyny BONARKA, Krakow.

S/081/62/000/023/057/120
B160/B186

AUTHORS: Akerman, Karol', Brafman, Marek, Krushevskaya, Ol'ga, ~~Krushevskiy, Klemens~~

TITLE: Production of high-purity synthetic silicon dioxide for use in semiconductor technology

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 457, abstract 23K122 (Rept. Inst. badań jądrow. PAN, no. 294, 1961, 16 pp., illust. [Summaries in Pol. and Ger.])

TEXT: A review is given of known methods of producing high-purity SiO_2. P^{32} and Fe^{59} were used to check experimentally the effectiveness of purifying $SiCl_4$ and $SiHCl_3$ by extraction with inorganic acids (95% H_2SO_4 and 85% H_3PO_4), by complex formation using CH_3CN and $(C_6H_5)_3CCl$, fractional distillation and absorption on silica gel. The results are the basis of a suggested flowsheet for producing SiO_2, which reduces to mixing the initial silicon tetrachloride with 1.5% of CH_3CN for 3 hours, fractional distilla-

Card 1/2

Production of high-purity synthetic...

tion of the mixture obtained, mixing of the intermediate product with 1% of $(C_6H_5)CCl$ for 3 hours, fractional distillation of the mixture again, purification in a column filled with silica gel, hydrolysis of the purified $SiCl_4$, filtration, washing and calcining of the resulting SiO_2. 31 references. [Abstracter's note: Complete translation.]

Card 2/2

AKERMAN, KAROL

(1)

SURNAME, Given Names

Country: Poland

Academic Degrees:

Affiliation: Department for Application of Radio-Isotopes in Chemistry and Chemical Technology of the Institute for Nuclear Research, Warsaw

[no original language version given]

Source: Leipzig, Isotopentechnik, No 5-6, May 1961, pp 165-166.

Data: "Determination of the Material Movement in Rotary Kilns for the Production of Gypsum Sulphuric Acid in the Chemical Works "Wizow"."

Authors:
AKERMAN, Karol, Professor
HOFFMANN, P. M.
POCZYNAJLO, A.
MAJCHROWSKI, J.
GLONDALSKI, J.
OGLAZA, J.

S/081/62/000/022/041/088
B158/B101

AUTHORS: Akerman, Karol, Brafman, Marek, Kruszewska, Olga, Poczynajło, Andrzej

TITLE: Purification of metals used in semiconductors, and investigation of the anisotropy of distribution of impurities in their single crystals using radioisotopes

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 329, abstract 22K54 (Pierwsze krajowe sympoz. zastosowań izotopów techn., Rogów, 8 - 12 czer., 1960. Warszawa, no. 42, 1961, 1 - 14 [Pol.; summaries in Russ. and Eng.])

TEXT: A procedure for the production of single Si crystals is described as well as an investigation of the effect exerted by orientation of the single crystals, their structural defects, and by the time and direction of diffusion of alloy additives on the anisotropy of distribution of the impurities in the single crystals. [Abstracter's note: Complete translation.]

Card 1/1

P/014/61/040/008/004/008
D233/D305

AUTHORS: Akerman, Karol, Kozak, Zdzisław, and Lipiński, Krzysztof

TITLE: Separating germanium from carborundum in heavy liquids

PERIODICAL: Przemysł chemiczny, v. 40, no. 8, 1961, 447 - 448

TEXT: An attempt to separate germanium from the fine carborundum wastes resulting from cutting germanium monocrystals is described. Initial investigations were carried out at the Katedra zespoława chemii fizycznej i technologii chemicznej universytetu im. Marii Curie-Skłodowskiej, Lublin (Joint Departments of Physical Chemistry and Chemical Technology of the University im. Maria Curie-Skłodowska, Lublin) and further work was conducted at the Laboratorium badawcze siarki i surowców chemicznych (Sulphur and Chemical raw Materials Research Laboratory), in Warsaw. Separation may be attained on the basis of different specific gravities of the 2 components, in heavy liquids which (a) have a specific gravity in-

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P/014/61/040/008/004/008
D233/D305

Separating germanium from ...

termediate between Ge and carborundum, (b) are mobile and (c) are inert towards G_e. These conditions are best fulfilled by CH_2I_2. In early experiments the wastes were passed through a 0.067 mm mesh and the coarse fraction was broken up and received larger pieces of G_e were extracted manually. The fine fraction (3-6 g) was then mixed with CH_2I_2 (~25 g) and the suspension was centrifuged at 3500 revs/min for 15 minutes, after removing all air bubbles and ensuring complete wetting. The light fraction was then decanted into a Schott crucible, filtered and the filtrate was recentrifuged after remixing with the heavier material. A total of 3 such extractions was considered sufficient and the separated material was washed with chloroform. To assess the consumption of CH_2I_2, the separations were repeated, using 40 g of the wastes, finding that 19.0 ml of CH_2I_2 could not be recovered out of the original 60 ml. Identical results were obtained with initial volumes of 58 and

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AKERMAN, K.

Bul

(16)

Leipzig, Isotopentechnik, Vol 2, No 3, March 1962

1. "Third Congress of the Chamber of Technology (Kammer der Technik)," Dr B. WINDE of the Government of the German Democratic Republic, Office of Nuclear Research and Nuclear Technology (Amt fur Kernforschung und Kerntechnik); p 65.

2. "Purity Tests of Rare-Earth Elements by Activation Analysis," Dr Heinz GROSSE-RUYKEN of the Division of Chemical Nuclear Technology of the Institute of Applied Radioactive Isotopes (Institut fur Anwendung radioaktiver Isotope), Technical University of Dresden (Director of Institute: Prof Dr.-Engineer L. HERFORTH), and Diplomate Engineer Helmut ROSSE, currently of the Central Institute of Nuclear Physics (Zentralinstitut fur Kernphysik), Division of Radiochemistry, Rossendorf uber Dresden-Bad Weisser Hirsch; pp 66-69.

Poland lit

3. "Separation of Cr^{3+}, Mn^{2+}, Co^{2+}, and Fe^{3+} Ions by the Ion Exchange Method," Dr J. MIKULSKI and Dr L. STRONSKI of the Laboratory of Chemistry and Radiochemistry (Pracownia Chemii i Radiochemii), Institut of Nuclear Physics of the Polish Academy of Sciences (Instytut fizyki jadrowej) in Cracow (Poland); pp 69-70.

Hung lit

4. "Application of Autoradiography in the Testing of a New Sulfidizing Process," Diplomate-Engineer J. FODOR of the Isotope Laboratory of the Csepel Iron- and Metal Works, Csepel-Budapest, Hungary; G. KOLDOR and Z. VARGHA of the Scientific Research Institute of Transportation and Traffic, Budapest; pp 70-73.

Pol lit

5. "Investigation of the Iodizing Process of Common Table Salt by Means of Radioactive I^{131}," Prof Dr K. AKERMAN, P.M. HOFFMANN, K. LEIENTAL and A. PIOZYNALO of the Institute of Nuclear Research (Instytut Badan Jadrowych) of the Polish Academy of Sciences (Polska Akademia Nauk), Division No 16: Application of Isotopes in Chemistry and Chemical Technology (Head: Prof. Dr K.AKERMAN), Warsaw (Poland); pp 73-76.

Hung.

6. "Measurement of the Mixture of Flowing Liquids in Crude Oil Long Distance Pipe Lines by Means of Radionuclides," Diplomate-Engineer

AKERMAN, Karol; BRAFMAN, Marek; KRUSHEVSKA, Olga (Kruszewska, Olga); KRUSHEVSKI, Klemens (Kruszewski, Klemens)

Isotopic investigation of the effectiveness of various methods of purifying trichlorosilane and silicium tetrachloride used to obtain silicon and silica of high degree of purity. Nukleonika 7 no.10:635-648 '62.

1. Institut yadernykh issledovaniy PAN, Varshava, Otdel Primeneniya izotopov v khimii i khimicheskoy tekhnologii.

AKERMAN, Karol; ZMUDZINSKI, Bronislaw; ZURAKOWSKI, Stanislaw

Melting of self-dispersing alumina bearing slags in a water jacket shaft furnace. Archiw hutn 7 no.1:47-81 '62.

P/046/62/007/010/002/002
D256/D308

AUTHORS: Akerman, Karol, Brafman, Marek, Kruszewska, Olga and Kruszewski, Klemens

TITLE: Isotopic investigation of the effectiveness of various methods of purification of $SiCl_4$ and $SiHCl_3$ for use in the production of high-purity silicon and silica

PERIODICAL: Nukleonika, v. 7, no. 10, 1962, 635-648

TEXT: The known methods of producing high-purity $SiCl_4$ and $SiHCl_3$ are reviewed considering: 1) partial hydrolysis; 2) extraction of the impurities with inorganic acids; 3) complexing the impurities with CH_3CN and $(C_6H_5)_3CCl$; 4) fractional distillation; 5) adsorption of impurities on activated silica gel. Effectiveness of the methods was examined by the authors using the following techniques: radioactive tracer analysis employing P^{32} and Fe^{59}, neutron activation of impurities and spectral analysis; the sensitivity of the latter was found to be inadequate. The fractional distillation pro-

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cess stands out as the most effective one; the degree of purity achieved was better than 10^{-5}% by weight, exceeding the sensitivity of the employed β-ray detection system. High-efficiency technological schemes for purification of $SiCl_4$ and $SiHCl_3$ are proposed. There are 3 tables and 2 figures.

ASSOCIATION: Instytut Badań Jądrowych PAN, Dział Zastosowania Izotopów w Chemii i Technologii Chemicznej, Warsaw
Institute of Nuclear Research, PAS, Department of Isotope Applications in Chemistry and Chemical Technology, Warsaw)

SUBMITTED: June, 1962

P/014/62/041/010/001/001
D214/D308

AUTHORS: Akerman, Karol, Brafman, Marek, Kruszewska, Olga and Żmijewska, Wanda.

TITLE: The purification of trichlorosilane and silicon tetrachloride and the preparation of synthetic quartz glass

PERIODICAL: Przemysł chemiczny, v. 41, no. 10, 1962, 574-577

TEXT: Methods of determining small quantities of impurities in $SiHCl_3$ and $SiCl_4$ were developed to estimate the efficiency of methods of purification of these compounds. The most efficient purification was achieved by complexing the impurities with CH_3CN and $(C_6H_5)_3CCl$ and removing them by fractional distillation. To estimate the P and Fe contents present as the trichlorides, isotope tracer techniques were used. Other impurities were determined by neutron activation of the samples in the EWA reactor and by measurement of their β-absorption and the decay of their β-activity. The major impurity was found to be Fe (1.6×10^{-2}%). The purity of

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The purification ...

SiO_2 and that of quartz glass, obtained from $SiCl_4$ by a method developed by the authors, was studied by γ-spectroscopy. All γ-emitters of half-life shorter than that of ^{31}Si could not be determined by this method. Quartz glass, obtained from high purity $SiCl_4$, contained only traces of As and Na but up to 10^{-2}% Ta, which was introduced into the glass during the vacuum melting of SiO_2. This compares favorably with quartz glass produced outside Poland. Boron cannot be estimated by the above methods but other methods (5 are given) can be employed. The B content in the produced SiO_2 or the subsequent quartz glass was $> 3 \times 10^{-5}$%. There are 1 figure and 1 table.

ASSOCIATION: Instytut Badań Jądrowych PAN (Institute of Nuclear Research PAS)

SUBMITTED: June 26, 1962

AKERMAN, Karol; FALKOWSKA, Maria; SZPONDER, Wladyslaw

Recovery of germanium from grinding pastes. Przem chem 41 no.12: 723-726 D '62.

1. Instytut Badan Jadrowych, Warszawa, i Oddzial Metali Rzadkich, Huta Aluminium, Skawina.

P/014/63/042/001/004/004
D204/D307

AUTHORS: Akerman, Karol, Kozak, Zdisław and Wiater, Danuta

TITLE: Sorption of uranium on carbon and silica gel impregnated with amines

PERIODICAL: Przemysł Chemiczny, v. 42, no. 1, 1963, 26-28

TEXT: The sorption of uranium was studied, from uranyl sulfate solutions, on activated carbon Carbopol H-ekstra impregnated with trilaurylamine and tri-n-octylamine, and on commercial and laboratory prepared silica gels impregnated with n-octylamine, laurylamine, and di-iso-propyl-n-butylamine. The UO_2 solutions were used at pH 1.0, and contained 0.5 - 13.66 mg U/ml; they were then shaken with the sorbents and the U-contents were determined photometrically after 24 hours. It was found that adsorption of U on carbon could be improved by a factor of 1.5 by impregnating the carbon with 50% of trilaurylamine. In the case of silica gel, adsorption was enhanced only when the gel was wetted with a 34% solution of the amine in toluene and the toluene was incompletely removed. There are 1 fig-

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Sorption of uranium ...

ure and 2 tables.

ASSOCIATION: Zespołowa Katedra Chemii Fizycznej i Technologii Chemicznej UMCS w Lublinie (Joint Department of Physical Chemistry and Chemical Technology UMCS, Lublin)

SUBMITTED: September 29, 1962

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Card 2/2

AKERMAN, Karol; KOZAK, Zdzislaw; WIATER, Danuta

Sorption of uranium on activated carbon and silica gel impregnated with amines. Przem chem 42 no.1:26-28 Ja '63.

1. Zespolowa Katedra Chemii Fizycznej i Technologii Chemicznej, Uniwersytet im. Marii Curie-Sklodowskiej, Lublin.

9/275/63/000/003/008/021
A052/A126

AUTHORS: Akerman Karol', Brafman Marek, Krushevska Ol'ga, Krushevski Klemens

TITLE: Production of high-purity synthetic silicon oxide with the purpose of using it in semiconductor engineering

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 3, 1963, 10, abstract 3B70 (Rept. Inst. badán jadrow. PAN, no.294, 1961, 16 pp, ill.) (Summaries in Polish and German)

TEXT: At first the paper discusses published data relating to SiO_2 production by means of silicon tetrachloride hydrolysis, and the methods of purifying $SiCl_4$ and $SiHCl_3$ from admixtures. Experiments are described in which radioactive isotopes P^{32} and Fe^{59} were applied to determining the effectiveness of individual processes of $SiCl_4$ and $SiHCl_2$ purification. Further, based on experimental data, the authors developed a technological scheme of multistage process of $SiCl_4$ purification and of high-purity

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Production of high-purity .....

S/275/63/000/003/008/021
A052/A126

silicon oxide production for the semiconductor industry, There are 31 references.

B.G.

[Abstracter's note: Complete translation.]

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S/275/63/000/001/017/035
D413/D308

AUTHORS: Akerman, Karol, Brafman, Marek, Kruszewska, Olga, and Poczynajło, Andrzej

TITLE: The purification of semiconductors and investigation of anisotropy of impurity distribution in monocrystals by means of radioactive isotopes

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 1, 1963, 7, abstract 1B 46 (Pierwsze krajowe sympoz. zastosowań izotopów tech., Rogów, 8-12 czer., 1960, Warszawa, no. 42, 1961 (Pol.; summaries in Rus. and Eng.))

TEXT: To obtain pure Si a method was used in which technical Si of 96-98% purity served as the starting material. $SiHCl_3$ is obtained from this by treament with HCl at 300 - 320°C; it is purified by repeated distillation and then decomposed in an atmosphere of hydrogen at 920°C. Single crystals are obtained by drawing from the melt in vacuo. A radiochemical technique was used for investigat-

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