Bulgaria /Chemical Technology. Chemical Products and Their Application I-31

Fermentation industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32921

S. ellipsoideus, with minimum aeration, since in the presence of oxygen the yeast consumes more sugar for proliferation.

Card 2/2

BOYCHEV (or BOYCHINOV), ATHANAS

BULGARIA/Chemical Technology - Chemical Products and Their Application. Fermentation Industry. I-12

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2882

Author : Boychev /or Boychinov/ Atanas
Inst :
Title : Correct Operation of a Kieselguhr Filter

Orig Pub : Lozarstvo i vinarstvo, 1957, 6, No 1, 43-50

Abstract : Description of the technique of operation of a kieselguhr filter designed for a single use (with asbestos) or for repeated utilization (with a nylon screen). The possibility is pointed out of charging the filter either with wine mixed with kieselguhr (I) or with water and I (washing with water for 10-15 minutes before charging is indispensable). Depending on the turbidity of the wine, from 0.5 to 2 kg of I per 1000 liters of wine are required (on using the single run system). Filtration is conducted at 0.5 atmosphere gauge pressure, after which the filter

Card 1/2

BULGARIA/Chemical Technology - Chemical Products and Their Application. Fermentation Industry. I-12

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2882

must be recharged. To wash the filter designed for repeated utilization a countercurrent flow of water is used, after which the filter is recharged with water containing I. There is also a filter for double filtration: first through I, then through asbestos, which is particularly suitable for new, turbid wine that requires good stabilization. A 2-section filter is described, one portion of which operates as a filter while the other is being recharged; this permits a continuous filtration of wine.

Card 2/2

BULGARIA/Chemical Technology - Chemical Products and Their Application - Fermentation Industry. H.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 30482

Author : Boychinov, A.
Inst :
Title : The Processing of Wine Sludge.

Orig Pub : Lozarstvo i Vinarstvo, 6, No 4, 41-45, 1957.

Abstract : A method is described for the drying of lees, which has been first pressed out, in a tray-type dryer (with steam tubes) having a capacity of 1 ton of pressed lees per day. The steam and alcoholic vapors are cooled and condensed. The dry sludge contains ca. 1/3 dry [TN: spent] yeast, ca. 1/3 organic substances, and 20-40% cream of tartar. The concentration of the latter can be increased to 50-60% by flotation. The cream of tartar is next converted to calcium tartrate which is used in the production of tartaric acid. The direct processing of the sludge in autoclaves is uneconomical.

Card 1/1

Boychinov, A.

BULGARIA/Chemical Technology - Chemical Products and Their Application. Fermentation Industry. H-27

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 26773

Author : Boychinov Atanas
Inst :
Title : Stabilization of New Wine with Artificial Cold Prior to Bottling.

Orig Pub : Lozarstvo i vinarstvo, 1957, 6, No 5, 40-43

Abstract : Description of stabilization of new wine by treatment with cold, for 5-15 days, at a temperature close to the freezing point of wine. A flow-sheet diagram is shown.

Card 1/1

BULGARIA / Cultivated Plants. Medicinal. Essential Oils. Toxins. M-7

Abs Jour: Ref Zhur-Biol., No 6, 1958, 25226

Author : Akhatarov, B., ~~Boychinov~~, A., Mazhdrakov, P.
Inst : Not given
Title : Experiments on the Influence of Artificial Fertilizers on the Alkaloid Content in Plants

Orig Pub: Farmatsiya (B'lg), 1957, 7, No 1, 37-39 (Bulg.; res. Russ.)

Abstract: Investigations were made of the effect of fertilizers on the alkaloid content in the plants Atropa belladonna L., Datura stramonium L., and Hyoscyamus niger L. Nitrogen fertilizer increased the alkaloid content in belladonna and the thorn apple by up to 25%; nitrogen and phosphorus fertilizers increased the alkaloid content in the henbane by

Card 1/2

BULGARIA / Cultivated Plants. Medicinal. Essential Oils. Toxins. M-7

Abs Jour: Ref Zhur-Biol., No 6, 1958, 25226

Abstract: up to 20%. Potash fertilizer had an adverse effect on the alkaloid content of all three plant species. -- L. N. Korolev

Card 2/2

BULGARIA / Chemical Technology, Chemical Products and Their Application, Part 3. - Fermentation Industry. H

Abs Jour: Ref Zhur-Khimiya No 18, 1958, 62577.

Author : At. Boychinov.
Inst : Not given.
Title : Improvement of Quality of Fruit and Grape Vodkas.

Orig Pub: Lozarstvo i vinarstvo, 1958, 7, No 1, 34 - 37.

Abstract: No abstract.

Card 1/1

BOYCHINOV A.

BULGARIA/Cultivated Plants. Medicinal Plants. Essential Oil Plants. Toxic Plants. M

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34852

Author : Boychinov A.
Inst : -
Title : Pharmacognostic Monography on Roots of Ch. Bonus. (Chenopodium Bonus Henricus).

Orig Pub : Farmatsiya (B'lg.), 1957, 7, No 2, 16-19

Abstract : Described is the exterior morphology and the anatomical formation of roots of the species Ch. bonus which is widespread in Bulgaria. The hemolytic acitivity of the roots is ascertained at approx. 1:1600. The saponin (chenopodin) was extracted from the plant and its composition and molecular weight established. The formula of this substance was found to be $C_{21}H_{40}O_{12}$. -- Lipaiyeva.

Card : 1/1

BULGARIA / Chemical Technology, Chemical Products and Their Application. Fermentation Industry. H-27

Abs Jour : Ref Zhur - Khimiya, No 5, 1959, No. 17264

Author : Boychinov, A.
Inst : Not given
Title : Complete Utilization of All Sorts of Raw Materials in the Manufacture of Tartaric Acid and Tartarates

Orig Pub : Lozatstvo i vinarstvo, 1958, 7, No 4, 50-53

Abstract : Ways of increasing the yield of Ca-tartarate (I) from the solids remaining after the filtration step, and particularly the method that employs a two-stage boiling were reviewed. It is necessary to collect the wine sediment, to dry it, and to utilize it for the derivation of tartarates. This sediment comprises 2% (on the average) of the volume of wines, and represents an additional availability of 100 tons of tartaric acid per year for the

Card 1/2

H-109

BULGARIA / Chemical Technology, Chemical Products and Their Application. Fermentation Industry. H-27

Abs Jour : Ref Zhur - Khimiya, No 5, 1959, No. 17264

NRB. With the improvements of the process, it is possible to obtain 2 - 3 kg of dry I from 1000 l of unfiltered wine. An important source of raw materials for the manufacture of tartaric acid are the grape honey and vacuum must. 100 kg of the latter yield 2 - 3 kg of bitartarates. It is also suggested that the recovery of tartarates from the deposits formed on the barrel walls and on the storage vat walls is realistic and that it should be practiced. -- G. Valuyko

Card 2/2

BOYCHINOV, A.

Sofia, Farmatsiya, Vol 12, No 2, March-April 1962

1. "The Foundation of the First Medical Care Society in Bulgaria in 1864," A. BOZVA, S. ZLATAROV, and P. BOZEV (BOYCHINOV; head of department), 3rd (Higher Medical Institute), Sofia; pp 3-6.

2. "Morphinism," D. NINOV; pp 8-9.

3. "The Application of Radioactive Isotopes in Pharmacy," M. PENCVA, R. GYCHAROV and V. CIZEV of the Department of Pharmacology and Toxicology (Professor V. PETKOV, head of department), ISUL (not identified); pp 10-15.

4. "Concerning the Quantitative Specification of Cortisone and Dehydrocortisone," A. VULKOVA and A. KOLUSHEVA; pp 16-19.

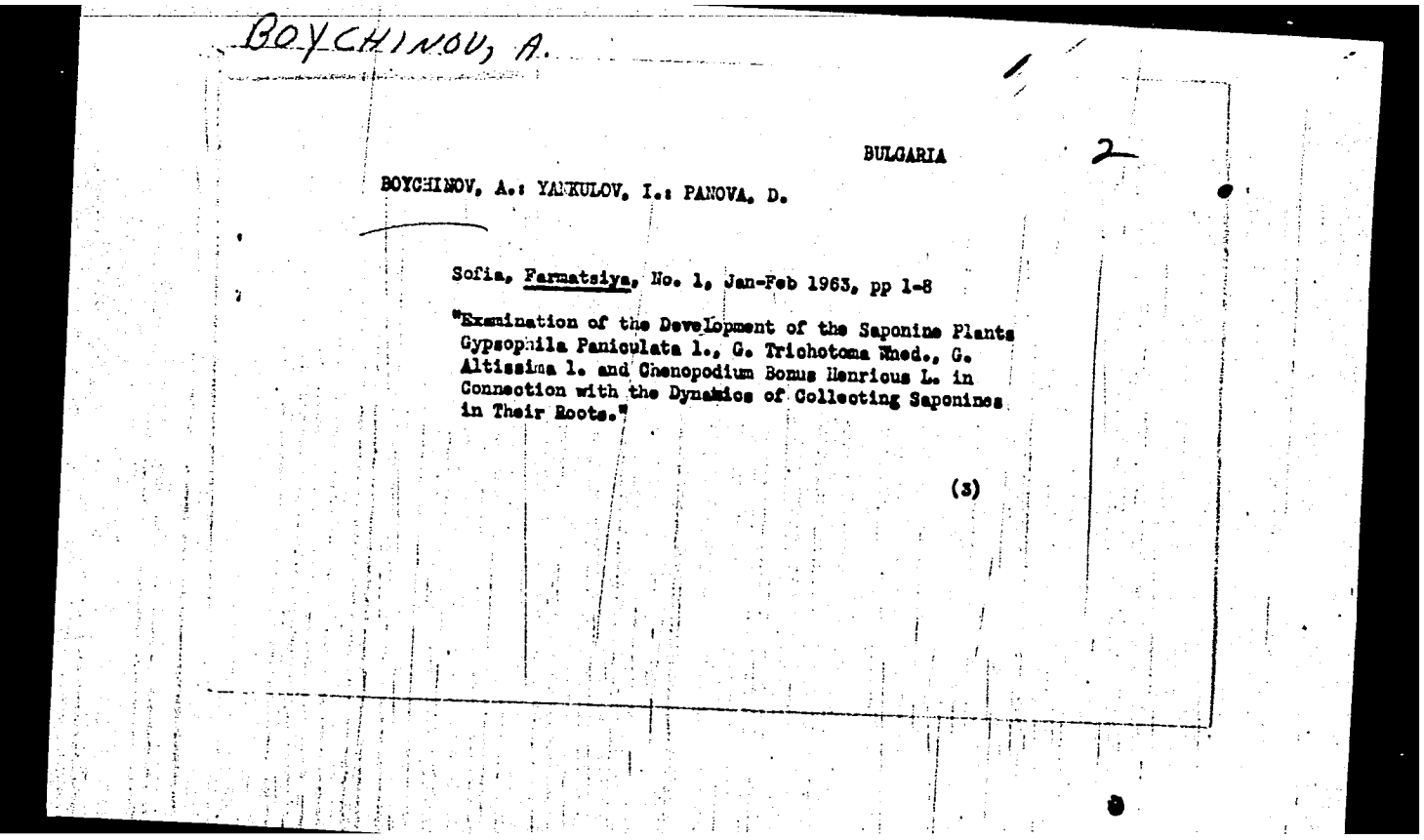
5. "The Chemistry and Analytical Properties of Hydrazones," V. NIKOV of the Pharmacy Scientific Research Institute; pp 21-26.

6. "The Potentiometrical Specification of the Hydrazones of the Hydrazide of Isonicotinic Acid (Isonicotinoylhydrazones) with Sodium Nitrate," N. NIKOV (see preceding article); pp 27-32.

7. "The Production of Glycerin-1-Anthorylphenylether," I. YANKOV of the Chemical-Pharmaceutical Plant, Sofia; pp 33-35.

8. "Concerning the Development, Extraction, and Chemical Composition of the Roots of Rhizomatous Carthamoides as Grown in Bulgaria," Y.K. Yanishlov and D.B. Jonova; pp 36-39.

— 1/1 —



BOYCHINOV, A.

1

2

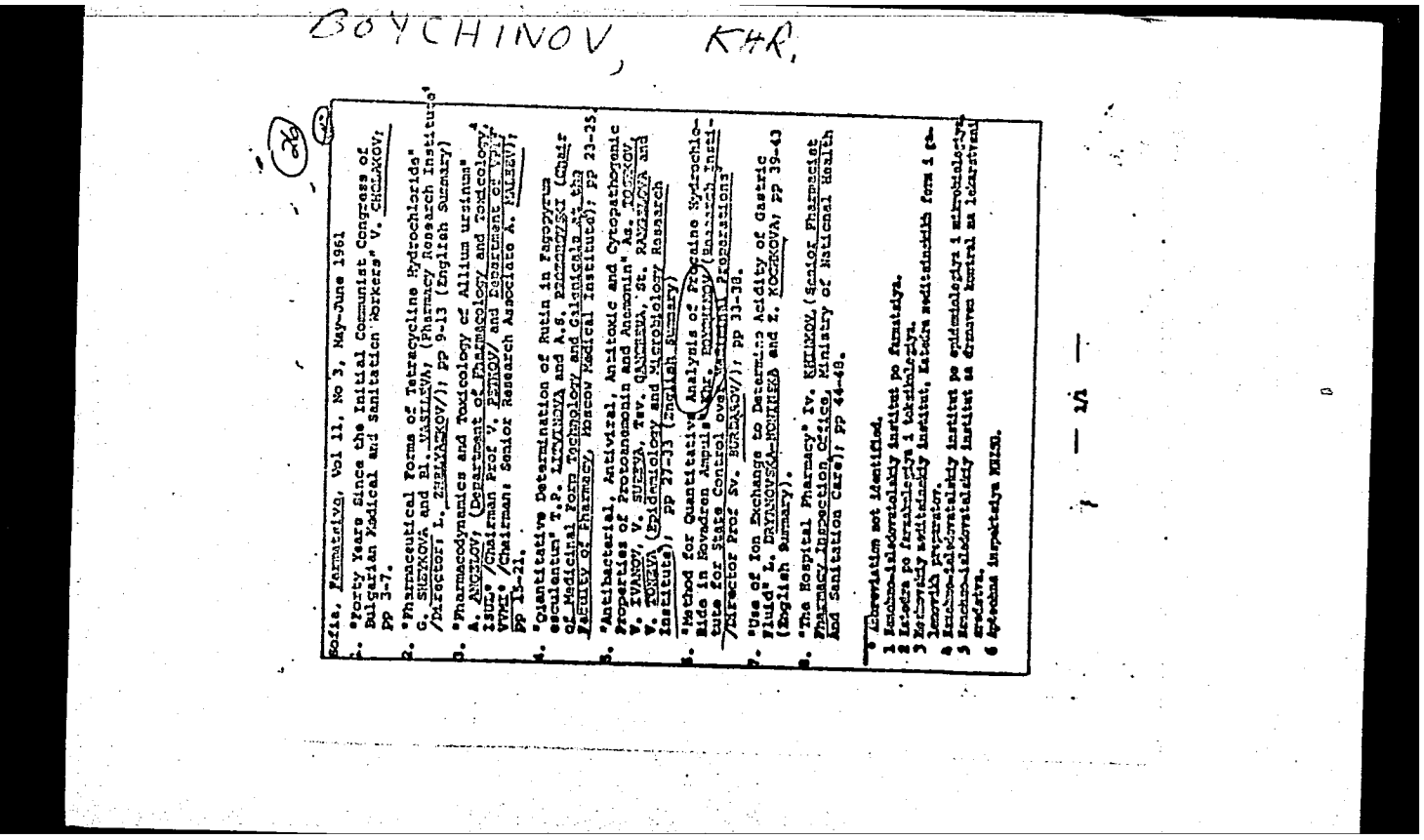
BULGARIA

BOYCHINOV, A.: YANKULOV, I.: PANOVA, D.

Sofia, Farmatsiya, No. 1, Jan-Feb 1963, pp 1-8

"Examination of the Development of the Saponine Plants Gypsophila Paniculata L., G. Trichotoma Wned., G. Altissima L. and Chenopodium Bonus Henricus L. in Connection with the Dynamics of Collecting Saponines in Their Roots."

(3)



BOYCHINOV, K4R.

Sofia, Farmatsiya, Vol 11, No 3, May-June 1961

1. "Forty Years Since the Initial Communist Congress of Bulgarian Medical and Sanitation Workers" V. CHOLAKOV; pp 3-7.

2. "Pharmaceutical Forms of Tetracycline Hydrochlorides" G. SHIKOVA and El. MARKOVA (Pharmacy Research Institute /Director L. ZHMAKAKOV/); pp 9-13 (English Summary)

3. "Pharmacodynamics and Toxicology of Allium ursinum" A. ANGELOV (Department of Pharmacology and Toxicology, Institute /Chairman Prof V. ZEMKOV/ and Department of Vital Statistics /Chairman: Senior Research Associate A. KALEVA); pp 15-21.

4. "Quantitative Determination of Rutin in Papaverus speciatum" T.P. IVANCHEVA and A.G. PAPANCHEVA (Chair of Medicinal Form Technology and Biopharmacy at the Faculty of Pharmacy, Moscow Medical Institute); pp 23-25

5. "Antibacterial, Antiviral, Antitoxic and Cytopathogenic Properties of Protoanemonin and Anemonin" Ts. TOPALOV, V. IVANOV, V. SUZEVA, Tsv. GANCHEV, St. RAYKOVICH and V. TOMOVA (Epidemiology and Microbiology Research Institute); pp 27-33 (English Summary)

6. "Method for Quantitative Analysis of Procaine Hydrochloride in Novadron Ampules" Kh. PAVLOV (Research Institute /Director Prof Sv. BUREKOV); pp 33-38.

7. "Use of Ion Exchange to Determine Acidity of Gastric Fluid" L. PAVLOVSKA-MOUTAFOVA and Z. KOCHKOVA; pp 39-43 (English Summary).

8. "The Hospital Pharmacy" Iv. KHINKOV (Senior Pharmacist Pharmacy Inspection Office, Ministry of National Health And Sanitation Care); pp 44-48.

Abbreviation not identified.
1 Khimiko-farmatsevticheskiy institut po farmatsiya.
2 Institut po farmatsiya i tekhnologiya.
3 Farmatsevticheskiy institut, Katedra meditsinskikh form i receptsii preparat.
4 Khimiko-farmatsevticheskiy institut po epidemiologiya i mikrobiologiya
5 Khimiko-farmatsevticheskiy institut za drugi meditsinski izsledvaniya.
6 Aptechna inspektsiya MZSO.

BOYCHINOVA, I.E.S.

1/2

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1 54
Organic Chemistry

Imidazole derivatives. VI. Synthesis of some polybenzimidazoles. B. A. Poral-Koshits, L. S. Biros, and E. S. Boychinova (Lensovet Technol. Inst., Leningrad). *Zhur. Obshchei Khim.* 23, 835–41(1953); cf. *ibid.* 697.—To 1.32 g. 5-methylbenzimidazole in 10 ml. 1:3 H_2SO_4 was added dropwise at 100–3° 2.4 g. chromic acid in 10 ml. H_2SO_4 (1:3) and the mixt. chilled after 15 min., yielding *5-benzimidazolecarboxylic acid sulfate*, which with NaOAc gave the free *acid*, m. 300–25° (from H_2O). This (1.62 g.) and 1.08 g. *o*-$C_6H_4(NH_2)_2$ in 10 ml. 20% HCl heated in sealed tube 4 hrs. at 180–200°, then neutralized with NH_4OH and filtered, gave *5-(2'-benzimidazolyl)benzimidazole*, isolated as the *di-HCl salt*, m. 362° (from concd. HCl); the free *base* could not be purified owing to the formation of gels. Similar oxidation of 2,5-dimethylbenzimidazole gave 70–5% *2-methyl-5-benzimidazolecarboxylic acid* (I), m. 301–2° (from H_2O). This with *o*-$C_6H_4(NH_2)_2$ in 20% HCl as above gave after 40 min. at 180–200° *2-methyl-5-(2'-benzimidazolyl)benzimidazole-2HCl*, m. 330–40° (from HCl), which with NH_4OH gave the free *base* (II), m. 340° (from dil. EtOH); this with NH_4OH-$AgNO_3$ in EtOH gave a flocculent *di-Ag salt*; the free base yields a *dipicrate*, m. 282–2.5°. 3,4-$(H_2N)_2C_6H_3Me$ (1.22 g.) and 1.76 g. I in 10 ml. 20% HCl heated in a sealed tube 4 hrs. at 180–200° gave *2,5'-dimethyl-5-(2'-benzimidazolyl)benzimidazole*, m. high and unsharp, which gave a *di-HCl salt*, m. above 360° (from 25% HCl); the free *base* yields a *picrate*, m. 274°. This oxidized with chromic acid as above gave *2-methyl-5-(5'-carboxy-2'-benzimidazolyl)benzimidazole-2HCl* (III), m. about 350° (from 15% HCl); this, decarboxylated by heating with sodalime at 300° gave II (picrate, m. 274°). III with *o*-$C_6H_4(NH_2)_2$ and 15% HCl 4 hrs. at 180–200° gave 75% *2-methyl-5-[2'-benzimidazolyl-5'-(2''-benzimidazolyl)]benzimidazole-3HCl*, m. above 360° (from dil. HCl). Similarly condensation with 3,4-$(H_2N)_2C_6H_3Me$ gave 85–90% *2,5'-dimethyl-5-[2'-benzimidazolyl-5'-(2''-benzimidazolyl)]benzimidazole-3HCl*, m. about 400° (from dil. HCl). 2-Phenyl-5-methylbenzimidazole with chromic acid in aq. H_2SO_4 gave *2-phenyl-5-benzimidazolecarboxylic acid*, isolated as the *HCl salt*, m. 304–5° (from aq. HCl). Electrometric titration of this gives 2 pH breaks; at 8.4 and a weak one whose posi-

tion is unstated. This heated with *o*-$C_6H_4(NH_2)_2$ in 15% HCl in sealed tube 6 hrs. at 180–200° gave *2-phenyl-5-(2'-benzimidazolyl)benzimidazole*, m. 308–10° (from dil. EtOH); *HCl salt*, m. 323–6° (from dil. HCl). Similarly 3,4-$(H_2N)_2C_6H_3Me$ gave *2-phenyl-5-(5'-methyl-2'-benzimidazolyl)benzimidazole*, m. 320–31° (from dil. EtOH); *HCl salt*, m. 311–18° (from dil. HCl). This was oxidized as above to *2-phenyl-5-(3'-carbaxy-2'-benzimidazolyl)benzimidazole*, isolated as the *HCl salt*, m. 314–19°, which, heated with *o*-$C_6H_4(NH_2)_2$ and 10% HCl, gave *2-phenyl-5-[2'-benzimidazolyl-5'(2"-benzimidazolyl)]benzimidazole*, isolated as the *di-HCl salt*, does not m. 360° (from aq. HCl). 3,4-$(H_2N)_2C_6H_3Me$ gave *2-phenyl-5-[2'-benzimidazolyl-5'(5"-methyl-2"-benzimidazolyl)]benzimidazole*, isolated as the *di-HCl salt*, does not m. 360°; the free *base* is insol. in org. solvents except AcOH in which it forms the corresponding salt. Heating 2.35 g. 3,4-$(H_2N)_2C_6H_3CO_2H$.HCl with *o*-$C_6H_4(NH_2)_2$ and 10 ml. 20% HCl in a sealed tube 40 min. at 180–300° gave 0.1 g. *3,4-diaminophenylbenzimidazole*, m. 325–30° (from 10% HCl); this reacts with HNO_2 without forming a diazonium salt; in AcOH it gives a green ppt. with phenanthrenequinone. Condensation with HCO_2H or AcOH gave the previously described bis-benzimidazole derivs. (cf. *C.A.* 44, 1100h). Benzimidazoles have characteristic absorption max. at 2700–800, dibenzimidazoles at 3100–200, and tribenzimidazoles at 3400–500 A.; even the latter absorb but weakly in the visible, being pale yellow. VII. Preparation of sulfonic acids of benzimidazole by baking method. L. S. Efros. *Ibid.* 842–3; cf. *C.A.* 48, 2690b.—*Benzimidazole* (11.8 g.) ground with 6 ml. concd. H_2SO_4 and washed with Et_2O gave 19 g. cryst. *sulfate*, $C_7H_6N_2.H_2SO_4$ (I). I (5 g.) heated to 220–40° in a wide test tube until H_2O evolution stopped, then to 260–80° until a test with H_2O failed to give a ppt. of benzimidazole on addn. of NH_4, gave 4–4.5 g. *5-benzimidazolesulfonic acid*, m. 365–7° (from H_2O), also formed (0.95 g.) by heating 1.12 g. 3,4-$(H_2N)_2C_6H_3SO_3H$ (II) with 1 ml. HCO_2H and 5 ml. H_2O 40 min. in a sealed tube at 180–90°. *2-Methylbenzimidazole* with H_2SO_4 similarly gave the *sulfate*, which baked as above at 220–90°, yielded 85% *2-methyl-5-benzimidazolesulfonic acid*, needles with very high m.p., also formed by heating II with AcOH to 180–90° as above.

G. M. Kosolapoff

G. A.
P'rai-Koshits
2/2

Lab. of Tech. and Org. Dyes im A. Ye Paray-Koshits, Lenengrad Tech. Inst.

BOYCHINOVA, Ye.S.; ALESKOVSKIY, V.B.

Quantitative determination of trace elements from the height of peaks on paper chromatograms. Report No.1: Determination of copper and nickel ions. Trudy LTI no.48:94-100 '58. (MIRA 15:4)
(Copper--Analysis) (Nickel--Analysis) (Paper chromatography)

BOYCHINOVA, Ye.S.; ALESKOVSKIY, V.B.

Mechanism of the formation of precipitation chromatograms on ion exchange resins. Trudy LTI no.48:133-142 '58. (MIRA 15:4)
(Ion exchange resins) (Precipitation (Chemistry))

EFROS, S.M.; BOYCHINOVA, Ye.S.; CHUPRIK, V.F. *

Vanadatometric determination of barium ions. Trudy LTI no.48: 165-168 '58. (MIRA 15:4)
(Barium--Analysis)

EFROS, S.M.; BOYCHINOVA, Ye.S.; KUZNETSOVA, A.K.

Determination of zinc and nickel ions in an electrolytic bath of nickel black. Trudy LTI no.48:169-174 '58. (MIRA 15:4)
(Zinc--Analysis) (Nickel--Analysis)

EFROS, S.M.; BOYCHINOVA, Ye.S.; GORFUNKEL', Yu.M.

Complexometric determination of copper and zinc ions present together. Trudy LTI no.48:175-178 '58. (MIRA 15:4)
(Copper--Analysis) (Zinc--Analysis) (Complexons)

BOYCHINOVA, Ye.S., EFROS, S.M., NEMIROVSKIY, V.D.

Volumetric determination of small quantities of oxygen. Trudy LTI no.58:31-35 '59. (MIRA 13:7)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
(Oxygen--Analysis)

ALESKOVSKIY, V.B., prof.; BARDIN, V.V.; BOYCHINOVA, Ye.S.; BULATOV, M.I.; VASIL'YEV, V.P.; DOBYCHIN, S.L.; DUSHINA, A.P.; KALINKIN, I.P.; KEDRINSKIY, I.A.; LIBINA, R.I.; PRIK, K.Ye.; SETKINA, O.N.; KHEYFETS, Z.I.; YATSIMIRSKIY K.B., prof.; VASKEVICH, D.N., red.

[Physicochemical methods of analysis ; a laboratory manual] Fiziko-khimicheskie metody analiza; prakticheskoe rukovodstvo. Moskva, Khimiia, 1964. 451 p. (MIRA 17:12)

L 52301-65 EWT(m)/EPF(n)-2/EWG(m)/EWP(t)/EWP(b) Pu-4 IJP(c) RWH/JD/WW/JG/RM

ACCESSION NR: AP5008816 UR/0080/65/038/003/0674/0676

AUTHOR: Boychinova, Ye. S.; Kharitonova, E. V. 25 B

TITLE: Inorganic ion exchangers based on polyphosphates

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 3, 1965, 674-676

TOPIC TAGS: ion exchanger, inorganic ion exchanger, polyphosphate, zirconium, tin

ABSTRACT: Zirconium and tin were precipitated on sodium polyphosphate to produce inorganic ion exchangers. The base sodium polyphosphate was prepared by fusion of sodium dihydrophosphate ($NaH_2PO_4 \cdot 2H_2O$). In the case of zirconium-loaded polyphosphate a solution of 1.86 grams of $ZrO(NO_3)_2$ in 14 ml of 1N nitric acid was added with vigorous stirring to a cold solution of 5.6 grams of sodium polyphosphate in 50 ml of water. The precipitate was washed to a pH of 3 to 4, filtered, and dried at 80 to 100°C. In the case of tin-loaded sodium polyphosphate the base was prepared by fusion at 900°C. A solution of 3.4 grams of $SnCl_2$ in 14 ml of 1N hydrochloric acid was added with vigorous stirring to a solution of 2.9 grams of sodium polyphosphate in 50 ml of water. The 3-4 hour precipitate was separated

Card 1/2

L 52301-65

ACCESSION NR: AP5008816 O

and it contained 13.3 per cent of P_2O_5. The 12 hour precipitate contained 37.3 per cent of P_2O_5. The Zr^{4+} ion-loaded sodium polyphosphate readily absorbs such cations as Fe^{3+}, Cu^{2+}, Ba^{2+}, Sr^{2+}, Ni^{2+}, Sn^{2+}, and Sb^{3+}. A treatment with 2*N* hydrochloric acid leads to displacement of these cations with hydrogen ions. The Sn^{2+} ion-loaded sodium polyphosphate exhibits reducing properties; it reduces I_2, and Fe^{3+} and Ag^{+} ions. The Zn^{4+} and Sn^{2+} ion-loaded polyphosphates are polyfunctional exchangers since they exhibit an ion exchange capacity in both acidic and basic media. The tin-loaded sodium polyphosphate has poor chemical stability. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 03Jul65 ENCL: 00 SUB CODE: GC, IC

NO REF SOV: 003 OTHER: 006

LL

Card 2/2

ACC NR: AR6027469 SOURCE CODE: UR/0044/66/000/005/B100/B101

AUTHOR: Boyarchuk, A. K.

TITLE: The difference schemes for a fourth order differential equation with discontinuous coefficients

SOURCE: Ref. zh. Matematika, Abs. 5B531

REF SOURCE: Vychisl. matematika. Mezhved nauchn. sb., vyp. 1, 1965, 197-115

TOPIC TAGS: difference method, differential equation, boundary value problem, numeric solution, finite difference

ABSTRACT: A numerical method for the solution of the differential equation

$$L^{(k,p,q,l)}U=\frac{d^2}{dx^2}\left[k(x)\frac{d^2U}{dx^2}\right]-\frac{d}{dx}\left(p(x)\frac{dU}{dx}\right)+ \qquad (1)$$
$$+q(x)U-f(x)=0$$

with boundary conditions

$$U(0)=U'(0)=U(1)=U'(1)=0 \qquad (2)$$

by means of difference schemes on nonuniform lattices has been described. After numerous transformations the problem goes over into a finite difference boundary problem corresponding to (1) and (2) of the form

 UDC: 518:517.91/.94

ACC NR: AR6027469

$$L_{h_i}^{(k,p,q)} y_i = \Phi_i \quad (i = 1, 2, \ldots, N-1), \tag{3}$$

$$\frac{y_1 - y_{-1}}{2h_0} = 0, \; y_0 = 0, \; \frac{y_{N+1} - y_{N-1}}{2h_N} = 0, \; y_N = 0 \tag{4}$$

(N—number of steps on the lattice over the segment [0, 1]. The system of difference equations (3) and (4) can be written in the form of an operator equation

$$L_{h_i} y_{h_i} = \Phi_{h_i}$$

and one can introduce into the investigation an N—1-dimensional vector space. The author proves three theorems: 1. The operator L_{h_i} is self-adjoint in the Lagrange sense. 2. The operator L_{h_i} is positive definite. 3. For the operator L_{h_i} there exists an inverse operator $L_{h_i}^{-1}$ which is uniformly bounded with respect to h_i and defined over the set of vectors of the Φ_{h_i} type. The latter theorem establishes the existence of Green's difference function for the operator L_{h_i}. The formula for the error estimate is also derived. It is noted that the homogeneous difference schemes $L_{h_i}^{(k,p,q,f)}$ secures a high accuracy during the numerical solution of the problem (1), (2). [Translation of abstract] Bibliography of 5 titles. I. Shelikhova

SUB CODE: 12

Card 2/2

ACC NR: AP7005553 SOURCE CODE: UR/0108/67/022/011/0041/0046

AUTHOR: Kriksunov, V.G. (Active member of society); Boychuk, B.A. (Active member of society)

ORG: none

TITLE: A frequency retuning tunnel diode relaxation oscillator

SOURCE: Radiotekhnika, v. 22, no. 1, 1967, 41-46

TOPIC TAGS: relaxation oscillator, tunnel diode

ABSTRACT: A relaxation oscillator using a tunnel diode with broad frequency retuning is described. The sine waves obtained after filtering relaxation oscillations generated by the oscillator were investigated. The circuit of the relaxation oscillator is shown in Fig. 1. Tests of the device over a.

Card 1/2 UDC: 621.373.53

ACC NR: AP7005553

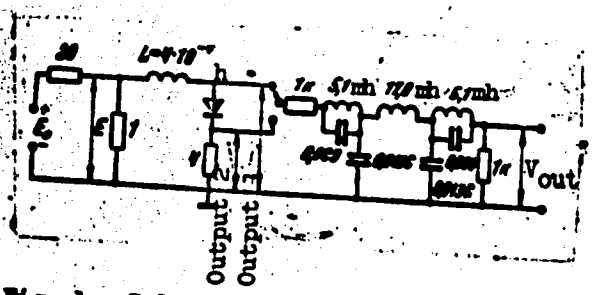


Fig. 1. Relaxation oscillator circuit

broad frequency range (from 5 cps to 20 mc) demonstrate good agreement between calculated and the experimental data. Variations of the control voltage within 120—180 mv caused a relative frequency deviation of 0.3. The output voltages were varied within 42—73 mv and 6.1—6.5 mv for output 1 and output 2, respectively. The harmonic coefficient of the output voltage was 3% with a lf filter consisting of a K section and two m half-sections (m = 0.6). With the use of a germanium tunnel, frequency deviation is approximately ±1% when temperature varies within ±10°. Orig. art. has: 10 formulas, and 7 figures. [GS]

SUB CODE: 09/ SUBM DATE: 24Apr64/ ORIG REF: 004/ ATD PRESS: 5116

Card 2/2

BOYCHUK, B.N., kand.med.nauk

Closed free bone plastic surgery in experiment. Ortop.,travm.i protez. 20 no.12:27-32 D '59. (MIRA 13:5)

1. Iz Kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. V.K. Krasovitov) Kubanskogo meditsinskogo instituta.
(BONE AND BONES transplantation)

BOBROVNIK, D.P.; BOYCHUK, G.V.

Mineralogy of Turonian chalk in Kremenets. Min. sbor. no.17:113-119 '63. (MIRA 17:11)

1. Gosudarstvennyy universitet imeni Franko, L'vov.

BOYCHUK, G.V.

Mineralogy of Senomanian sediments in the surroundings of Izyaslav. Min.sbor. 18 no.1:91-93 '64. (MIRA 18:5)

1. Gosudarstvennyy universitet imeni Ivana Franko, L'vov.

BOYCHUK, I.N., insh.; SOBOL', D.I., insh.

Resources of stone crushing plants. Stroi. mat. 9 no.10:12-14 O '63. (MIRA 16:11)

S/102/62/000/001/006/007
D201/D302

AUTHOR: Boychuk, L.M. (Kiyev)

TITLE: Determining the optimum supply voltage for controlled a.c. choke coil drives

PERIODICAL: Avtomatyka, no. 1, 1962, 66-73

TEXT: The author analyzes the most general case of a.c. supply voltage required for saturated chokes when the maximum required motor voltage is nearly equal or equal to its nominal voltage (U_{nom}). If U_m is the supply voltage and U_{im} is the required motor voltage then $\frac{U_m}{U_{im}} \geqslant 1$ and the optimum value of this ratio is determined from the point of minimum weight and value of the saturated choke materials. For the condition $U_m \approx U_{im}$ the saturated choke voltage at maximum magnetization U_i and the core induction B_c should be near zero. For this condition the control ampere-turns $aw_{(i)}$ should be

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very large, resulting in high copper losses. It is shown that increasing the supply voltage leads to decreasing $aw_{(i)} =$. It is shown that the a.c. ampere-turns $aw_{(i)} \sim$ can at the same time be made to remain constant and induction B_c to increase. This leads to a decrease of the control ampere-turns $aw_{(i)} =$, resulting in a decrease of weight and cost of the control windings of the saturated choke. The weight of iron of choke cores increases with increasing U_m, the copper weight of a.c. windings changes little, so that the minimum cost and total weight of the material may be determined from an optimum value of voltage supply. The design examples show that this minimum value of the supply voltage is of the order of 10 to 15% above the maximum motor rating, resulting in 15 to 20% saving in the cost of chokes, and in an increase of the saturated choke power gain. There are 2 tables, 5 figures and 4 Soviet-bloc references.

SUBMITTED: September 10, 1961

Card 2/2

BOYCHUK, Leonid Mikhaylovich; TITOVA, N.M., red.; TURBANOVA, N.A., tekhn.red.

[Contactless control systems of small automated electric drives] Beskontaktnye sistemy avtomatizirovannogo elektroprivoda maloi moshchnosti. Kiev, Izd-vo AN USSR, 1963. 50 p. (MIRA 16:10)

(Electric driving)

BOYCHUK, L.M. [Boichuk, L.M.] (Kiyev)

Determination of the optimum transmission number of reductors for high-speed servosystems. Avtomatyka 9 no.1: 78-79 '64. (MIRA 17:3)

BOYCHUK, L.M. (Kiyev)

Analysis of optimum systems of automatic stabilization.
Avtomatyka 8 no.6:47-57 '63. (MIRA 17:8)

L 3491-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

AM5017159 BOOK EXPLOITATION UR/ 2.15

37
B41

Boychuk, Leonid Mikhaylovich

Optimal systems of automatic control (Optimal'nyye sistemy avtomaticheskogo regulirovaniya) Kiev, "Naukova dumka", 1965. 81 p. illus., biblio. (At head of title: Akademiya Nauk Ukrainskoy SSR. Institut kibernetiki) 3000 copies printed. Series note: Seriya po Novoy Tekhnike

TOPIC TAGS: control system, optimal control system, dynamic programming, structural synthesis, automatic control theory, automatic control system, discrete dynamic programming, continuous dynamic programming, automatic control development

PURPOSE AND COVERAGE: This booklet is intended for a wide circle of engineers and technicians specializing in automation and electric drives, and concerned with the automation of industrial processes. Engineering methods of calculating optimal control systems of linear and nonlinear objects are discussed. A new method of solving the problems of the structural synthesis of optimal control of nonlinear objects with an arbitrary form of the actuating effect is presented. The methods by which optimal control is determined are based on the use of calculus of variations and dynamic programming.

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L 3491-66

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AM5017159

SUB CODE: EC SUBMITTED: 23Jan65 NO REF SOV: 036

OTHER: 007

Card 3/3 DP

VERESHCHAGIN, L.A., inzh.; BOYCHUK, L.M., inzh.

Contactless devices for dynamic braking of asynchronous electric motors. Energ. i elektrotekh. prom. no.3:38-40 Jl-S '65.
(MIRA 18:9)

BOYCHUK, L.M. (Kiyev)

Synthesis of optimal automatic systems using a dynamic programming method. Avtomatyka 10 no.1:75-80 '65.

(MIRA 18:6)

L 55215-65 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4 JD/HM
ACCESSION NR: AP5015264 UR/0286/65/000/009/0046/0046

AUTHORS: Boychuk, L. M.; Podola, N. V. 23 B

TITLE: Device for automatic stabilization of arc voltage. Class 21, No. 170594

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 46

TOPIC TAGS: voltage stabilizer, arc welding

ABSTRACT: This Author Certificate presents a device for automatic stabilization of arc voltage when welding with infusible electrodes. To increase the accuracy, response rate, and reliability of the arc voltage stabilization, the device has a two-phase ac motor, reversible using diodes. The diodes are connected in the control circuit through rectifier bridges and matching transformers. The transformers are controlled by two nonsymmetric triggers with emitter coupling and by a high sensitivity semiconductor dc amplifier. The difference between a reference voltage and the arc voltage is fed to the amplifier input.

ASSOCIATION: none

SUBMITTED: 07Aug62 ENCL: 00 SUB CODE: EC, MM

NO REF SOV: 000 OTHER: 000

Card 1/1

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.

Isolation and study of measles virus strains. Trudy Len.inst. epid.i mikrobiol. 17:6-12 '58. (MIRA 16:2)

1. Virusologicheskaya laboratoriya Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES—MICROBIOLOGY) (TISSUE CULTURE)

BOYCHUK, L.M.

Reproduction of the influenza virus in the upper respiratory tracts of white mice. Trudy Len.inst.epid.i mikrobiol. 17: 93-102 '58. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (zav. - chlen-korrespondent AMN S SSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(INFLUENZA--MICROBIOLOGY)

BOYCHUK, L.M.

Study of the sensitizing properties of a serum against influenza in an experiment on animals. Trudy Len.inst.epid.i mikrobiol. 17: 103-117 '58. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (zav. - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(INFLUENZA) (SERUM THERAPY)

BOYCHUK, L.M.

Possibility of sensitizing human beings with an anti-influenza serum through its introduction into the upper respiratory tract. Trudy Len.inst.epid.i mikrobiol. 17:118-126 '58. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (zav.- chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(INFLUENZA) (SERUM THERAPY)

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; MESHALOVA, V.N.; LUGININA, N.M.; BYSTRYAKOVA, L.V.; PETROVA, M.N.

Reactogenic and immunogenic properteis of live tissue measles vaccine. Trudy Len.inst.epid.i mikrobiol. 19:3-20 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES--PREVENTIVE INOCULATION) (VACCINES)

SHIKINA, Ye.S.; BOYCHUK, L.M.; MESHALOVA, V.N.

Biological properties of the measles virus during its prolonged cultivation in tissue cultures. Trudy Len.inst.epid.i mikrobiol. 19:21-33 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev).
(MEASLES) (TISSUE CULTURE)

BOYCHUK, L.M.

Prophylactic and therapeutic action of anti-influenza serum in an experiment on white mice. Trudy Len.inst.epid.i mikrobiol. 19:34-47 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(INFLUENZA--PREVENTIVE INOCULATION) (SERUM THERAPY)

BOYCHUK, L.M.; SHIKINA, Ye.S.

Resistance of tissue cultures of the measles virus to storage under refrigeration and to lyophilic drying. Trudy Len.inst. epid.i mikrobiol. 19:48-53 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES--MICROBIOLOGY) (LYOPHILIZATION)

SHIKINA, Ye.S.; BOYCHUK, L.M.; KURNOSOVA, L.M.

Reactogenic and immunogenic characteristics of simultaneous vaccination conducted with a live antiparotitis vaccine and a killed poliomyelitis vaccine. Trudy Len.inst.epid. i mikrobiol. 19:115-123 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MUMPS—PREVENTIVE INOCULATION) (POLIOMYELITIS VACCINE)

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; BYSTRYAKOVA, L.V.; PERADZE, T.V.

State of immunity in children vaccinated with live vaccine against measles. Vop. virus. 7 no. 1:59-67 Ja-F '61. (MIRA 14:4)

1. Virusologicheskaya laboratoriya Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni L. Pastera.
(MEASLES)

SHIKINA, Ye.S.; BOYCHUK, L.M.

Accumulation of complement fixation antibodies in children vaccinated with a live antimeasles vaccine. Trudy Len.inst.epid.i mikrobiol. 2:32-42 '61. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR, prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera.
(MEASLES—PREVENTIVE INOCULATION)
(ANTIGENS AND ANTIBODIES)

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; BYSTRYAKOVA, L.V.; PERADZE, T.V.

State of immunity in children vaccinated with a live vaccine against measles. Trudy Len.inst.epid.i mikrobiol. 22:7-20 '61. (MIRA 16:2)

1. Virusologicheskaya laboratoriya Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES—PREVENTIVE INOCULATION) (IMMUNITY)

BOYCHUK, L.M.; SHIKINA, Ye.S.; PISAREVA, N.A.

Titration of antimeasles antibodies in donor serums and gamma globulin. Trudy Len.inst.epid.i mikrobiol. 22:64-73 '61.
(MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera.
(ANTIGENS AND ANTIBODIES) (GAMMA GLOBULIN) (SERUM)

BOYCHUK, L. M.; SHIKINA, Ye. S.; NIKITIN, M. I.; MESHALOVA, V. N.; TAROS, L. Y.; AMINOVA, M. G.; REVENOK, N. D.; SAFAROV, D. I.; SMORODINTSEV, A. A.

"The Safety and Epidemiological Effectiveness of Live Measles Vaccine Developed in Leningrad."

Report submitted at the International Symposium on Biological Standardization, Opatija, Yugoslavia, Sept 63.

SMORODINTSEV, A. A.; BOYCHUK, L. M.; SHIKINA, Ye. S.; MESHALOVA, V. N.; TAROS, L. Yu. AMINOVA, M. G.; REVENOK, N. D.; SAFAROV, D. I.

"Experience in the USSR in the prevention of measles by use of live vaccine."

report presented at Symp on Applied Virology, Boca Raton, Fla., 30 Nov-2 Dec 64.

Pasteur Inst of Epidemiology and Microbiology, Leningrad.

BOYCHUK, L.N.; MAVLYUTOV, R.M.

Losses of petroleum products at heat cracking installations. Neftepер. i neftekhim. no.11:5-7 '64 (MIRA 18:2)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniyu nefti i nefteproduktov, Ufa.

BOYCHUK, M.V.

Stanislav cross uplift. Pratsi Inst. geol. kor. kop. AN URSR 4:55-59 '61. (MIRA 16:7)

(Stanislav Province—Geology)

BOYCHUK, O.B.

Amount of growth substances in the organs of tomatoes as related to nitrogen nutrition. Ukr.bot.zhur. 17 no.1:19-28 '60. (MIRA 13:6)

1. Institut botaniki AN USSR, otdel fiziologii rasteniy.
(Tomatoes) (Growth promoting substances)

BOYCHUK, O.B.

Dynamics of auxins in germinating tomato seeds. Ukr. bot. zhur. 17 no.5:23-31 '60. (MIRA 13:12)

1. Institut botaniki AN USSR, otdel fiziologii rasteniy.
(Tomatoes) (Germination) (Hormones (Plants))

BOYCHUK, O.B.

Distribution and dynamics of growth substances in young tomato plants. Ukr. bot. zhur. 19 no.3:34-45 '62. (MIRA 15:7)

1. Institut botaniki AN USSR, otdel fiziologii.
(Growth promoting substances) (Tomatoes)

L 33472-66 EWT(d) BC

ACC NR: AP6014220 SOURCE CODE: UR/0198/66/002/004/0114/0121

AUTHOR: Boychuk, O. F. (Kiev)

ORG: Institute of Mathematics, AN UkrSSR (Institut matematiki AN UkrSSR)

56
B

TITLE: On the problem of autonomous determination of coordinates

SOURCE: Prikladnaya mekhanika, v. 2, no. 4, 1966, 114-121

TOPIC TAGS: navigation system, coordinate system, inertial navigation equipment, inertial guidance gyroscope, stabilized platform, error correction, integral equation, second order differential equation

ABSTRACT: A solution of the problem of the errors in autonomous determination of coordinates caused by instrument errors of the system and nonobservance of the initial conditions is given. For an arbitrary inertial navigation system with a horizon-stabilized platform, the equations for determining the coordinates with a geographic grid:

$$-\frac{d\varphi}{dt}\cos k + \left(U + \frac{d\lambda}{dt}\right)\cos\varphi \sin k = \omega_x(t);$$

$$\frac{d\varphi}{dt}\sin k + \left(U + \frac{d\lambda}{dt}\right)\cos\varphi \cos k = \omega_y(t);$$

$$\frac{dk}{dt} + \left(U + \frac{d\lambda}{dt}\right)\sin\varphi = \omega_z(t),$$

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where φ is the latitude, λ is the longitude; k is the angle between north and the fixed bearing of the horizontally stabilized platform, ω_x, ω_y, ω_z are the projections on the x, y, and z axes of the angular velocity of the trihedron xyz, and U is the angular velocity of the diurnal rotation of the earth. The system of error equations

$$\frac{d\Phi}{dt} - \omega^0 \cos\varphi^0 X = B_1;$$

$$\frac{dX}{dt}\cos\varphi^0 + \omega^0\Phi - \frac{d\varphi^0}{dt}\sin\varphi^0 X = B_2;$$

$$\frac{d\Lambda}{dt}\cos\varphi^0 - \omega^0 \sin\varphi^0\Phi + \frac{d\varphi^0}{dt}X = B_3,$$

where

$$\omega^0 = U + \frac{d\lambda^0}{dt};\ B_1 = -v_1\cos k^0 + v_2 \sin k^0;$$

$$B_2 = -\sin\varphi^0(v_1 \sin k^0 + v_2\cos k^0) + v_3\cos\varphi^0;\quad B_3 = v_1 \sin k^0 + v_2\cos k^0.$$

The general solution of the error system

$$\Phi = C_1 \sin x + C_2 \cos x + \sin x \int_0^t \frac{L}{\omega^0} \cos x\, dt - \cos x \int_0^t \frac{L}{\omega^0} \sin x\, dt;$$

$$X = \frac{1}{\cos \varphi^0}\left(C_1 \cos x - C_2 \sin x + \sin x \int_0^t \frac{L}{\omega^0} \sin x\, dt + \right.$$

$$\left. + \cos x \int_0^t \frac{L}{\omega^0} \cos x dt - \frac{B_1}{\omega^0}\right);$$

$$\Lambda = -\operatorname{tg} \varphi^0\left(C_1 \cos x - C_2 \sin x + \sin x \int_0^t \frac{L}{\omega^0} \sin x\, dt + \right.$$

$$\left. + \cos x \int_0^t \frac{L}{\omega^0} \cos x dt - \frac{B_1}{\omega^0}\right) + \int_0^t \dot{\Lambda}^0 \cdot dt + C_3.$$

$$x = \int_0^t \omega^0 \cdot dt = Ut + \lambda^0(t) - \lambda^0(0); \quad \dot{\Lambda}^0 = v_0 \sin \varphi^0 + B_0 \cos \varphi^0.$$

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L 33472-66

ACC NR: AP6014220

Analysis of the solution shows that self-correction of errors caused by drift of the stabilized platform is possible. Navigation equations in the near-polar region are solved; they coincide with the precession equations of small oscillations of the gyroscope under the influence of perturbing forces. Orig. art. has: 33 formulas.

SUB CODE: 12, 17 SUBM DATE: 26Mar65/ ORIG REF: 009

Card 4/4 mjs

30974
S/102/61/000/002/004/005
D251/D302

13,9520

AUTHORS: Boychuk. O.P., and Temchenko, M.Ye. (Kiyyiv)

TITLE: A method of eliminating ballistic deviations in a triaxial gyroscopic stabilizer

PERIODICAL: Avtomatyka, no. 2, 1961, 44 - 52

TEXT: The authors propose a scheme for a triaxial gyroscopic stabilizer, with mechanical correction to eliminate the ballistic deviations arising through manoeuvering of the base or acceleration of its motion. The scheme is shown in Fig. 1. Gyroscope 1 stabilizes the platform P around the axis of the ring K, and gyroscope 2 stabilizes it around the axis of the stabilizing plate S. On the axes of the gyroscope casings sensors 15 and 16 are set up to measure the deviation of the casings from their initial positions. SM_2 and SM_3 are stabilizing motors, to which the sensors are attached. By means of the inclination of the stabilized platform to the object at an angle proportional to the velocity of the object, and by

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varying the correction mechanism of one of the gyroscopes, ballistic deviations may be eliminated. The proposed scheme is considered on a theoretical basis. Linearized equations of motion are derived

$$\frac{d\alpha}{dt}+\frac{mgh}{H}\alpha-\omega_{z^*}\beta=-\omega_{x^*}-\frac{mRh}{H}\left(-\frac{d\omega_{x^*}}{dt}+\omega_{z^*}\omega_{y^*}\right)+\omega_{z^*}\theta;$$
$$\frac{d\beta}{dt}+\frac{mgh}{H}\beta+\omega_{z^*}\alpha=-\omega_{y^*}+\frac{mRh}{H}\left(\frac{d\omega_{y^*}}{dt}+\omega_{x^*}\omega_{z^*}\right)-\frac{d\theta}{dt}, \qquad (14)$$

where

$$\omega_{x^*}=U\cos\varphi\cos\varkappa;$$
$$\omega_{y^*}=\frac{V}{R}+U\cos\varphi\sin\varkappa; \qquad (15)$$
$$\omega_{z^*}=U\sin\varphi+\frac{V}{R}\operatorname{tg}\varphi\sin\varkappa-\frac{d\varkappa}{dt},$$

where α is the angle of turning of K with respect to the object, the angle of turning of S with respect to K around the axis of revolution of the stabilizer, θ is the angle of platform P with respect to S, H is the principal kinetic moment of each of the gyr

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copes, m is the mass of the spindle 5, h is the arm of the spindle 4, U is the angular velocity of the earth, φ is the width of the locus, and $\varkappa$ is the path of the moving object. Special cases of the equation are considered (simplifications of the law of motion). A theoretical basis is given for the proposed method of eliminating ballistic deviations. In conclusion, a numerical example is given in which the velocity and ballistic deviations is calculated for an ordinary gyroscopic stabilizer with mechanical corrections. There are 6 figures and 4 Soviet-bloc references.

SUBMITTED: January 3, 1959

4

Card 3/4 3

ACCESSION NR: AR4023284 S/0270/64/000/002/0049/0049

SOURCE: RZh. Geodeziya, Abs. 2.52.278

AUTHOR: Boychuk, O. P.

TITLE: Precession theory of a kinematically imperfect three-axis gyroscopic stabilizer with mechanical correction of horizon and azimuth

CITED SOURCE: Vistny*k Ky*yivs'k. un-tu, no. 5, 1962, Ser. matem. ta mekhan., vy*p. 2, 88-101

TOPIC TAGS: geodesy, mechanics, gyroscopes

TRANSLATION: A three-gyroscope system for stabilizing a body with respect to azimuth and horizon is considered. The basic element of the system, a platform suspended in gimbals, is stabilized by two gyroscopes, to the casings of which are attached loads developing the correcting moments proportional to the deviation of the plane of the platform from the horizon. The correction of the system with respect to azimuth may be accomplished by means of a load suspended

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ACCESSION NR: AR4023284

in the casing of a third gyroscope or by means of connecting the gyroscope to a magnetic compass. The problem is solved under the assumption that the stabilizer has a number of defects: inaccuracy in fabrication of parts, poor adjustment of the axes, and incorrect placement of the loads. An analysis of the differential equations of motion of the system, obtained under the assumptions defined that simplify the problem, shows that the basic errors in the operation of the device described are predetermined by imperfections in the suspension of the sensitive axes of the gyroscopes providing the stabilization. G. Razdymakha.

DATE ACQ: 06Mar64 SUB CODE: AS, PH ENCL: 00

Card 2/2

L 13273-65 EEO-2/EWT(d)/FSS-2/EEC(k)-2/EWG(v)/EED-2/FS(b) Pn-4/Po-4/Pe-5/
Pq-4/Pg-4/Pk-4/Pl-4 ASD(a)-5/ASD(d) BC

ACCESSION NR: AP4047795 S/0021/64/000/010/1294/1298

AUTHOR: Boychuk, O. P. (Boychuk, O. F.)

B

TITLE: Stability and self-oscillations of a nonlinear stabilization system

SOURCE: AN UkrRSR. Dopovidi, no. 10, 1964, 1294-1298

TOPIC TAGS: gyroscopic system, harmonic linearization, energetic balance

ABSTRACT: The author considers a gyroscopic stabilizer as a self-regulating system. He developed a method for study of nonlinear gyroscopic systems which is based on joint use of both methods: of the harmonic linearization and the energy balance. The periodic regimes in the system are derived from the linearized equation of motion of the instrument, and the stability data are recorded by means of energetic relations. The problem of the gap is solved to the end in a general form. Orig. art. has: 17 formulas.

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L 13273-65

ACCESSION NR: AP4047795

ASSOCIATION: Insty*tut matematy*ky* AN URSR (Mathematics Institute, AN URSR)

SUBMITTED: 14Aug63 ENCL: 00 SUB CODE: NG

NO REF SOV: 002 OTHER: 000

Card 2/2

L 26580-66 EWT(d) BC

ACC NR: AP6011416 SOURCE CODE: UR/0021/66/000/003/0322/0327

AUTHOR: Boychuk, O. P.--Boychuk, O. F. 44

ORG: Institute of Mathematics AN UkrSSR (Instytut matematyky AN UkrSSR) B

TITLE: Correlation of errors in the autonomous determination of the coordinates and oscillations of platforms in inertial navigation systems

SOURCE: AN UkrRSR. Dopovidi, no. 3, 1966, 322-327

TOPIC TAGS: inertial navigation equipment, gyrostabilized platform, navigation computer, gyroscope

ABSTRACT: The author determines the direct connection between the angles of the deviation of a stabilized platform from the horizon and the errors of autonomous determination of coordinates of an inertial system with arbitrary orientation of the platform in azimuth. The differential equations for the stable platform are those given by A. Yu. Ishlinskiy (Mekhanika spetsial'nykh giroskopicheskikh sistem [Mechanics of Special Gyroscopic Systems], M., 1963). The expression for the deviations between the actual angular velocities and the angular velocities of the ideal platform are expressed accurate to small quantities of second order. Expressions are derived for the input quantities that must be applied to the computer, to eleminate the resultant errors and the angular errors as well as the parasitic torques acting on the gyroscopes, as well as the platform oscillations. This report was presented by Academician of AN UkrSSR O. Yu. Ishlins'kyy (A. Yu. Ishlinskiy). Orig. art. has: 23 formulas.

SUB CODE: 17, 12/ SUBM DATE: 08Jul65/ ORIG REF: 004

Card 1/1

BOYCHUK, P.K. (Stanislavskaya obl., pos.Solotvino, ul, Krasnoarmeyskaya)

Case of extensive resection of the intestine. Nov. khir. arkh. no.3: 89-90 My-Je '60. (MIRA 15:2)

1. Solotvinskaya rayonnaya bol'nitsa (glavnyy vrach - N.M.Mosiychuk) Stanislavskoy oblasti.

(INTESTINES--SURGERY)

BOYCHUK, R.F.

Electrode impedance in solutions of chromic acid.
Ukr.khim.zhur. 28 no.9:1042-1047 '62. (MIRA 15:12)

1. Chernovitskiy gosudarstvennyy universitet.
(Chromic acid) (Electrodes)
(Impedance (Electricity))

BOYCHUK, S.

LUSZCZYNSKI, Tadeusz; BOYCHUK, Stefan; KOZIOL, Krystyna

Studies on auto-antibodies in acquired hemolytic anemia. Arch. immun. ter. dosw. 3:299-309 1955.

1. Instytut Immunoolgii i Terapii Doswiadczalnej PAN we Wroclawiu (Dyrektor: prof. dr. L. Hirszfeld) Dzial Immunologii Ogolnej (Kierownik: prof. dr. L. Hirszfeld) Panstwowy Szpital Wojewodski we Wroclawiu, Oddzial Wewnetrzny III (Ordynator: dr. S. Boychuk).

(ANEMIA, HEMOLYTIC, immunology,
auto-antibodies in acquired anemia (Pol))

AYZENBERG, B.L.; BOYCHUK, S.I.

New modification and experience in using a closed electric network.
Trudy LIEI no.33:124-142 '60. (MIRA 14:8)
(Electric power distribution)

BOYCHUK, S.I., inzh.

Achievement of a closed-loop network in a municipal 6 and 0.38 kv. power distribution system. Elek.sta. 33 no.12:43-46 D '62. (MIRA 16:2)

(Electric power distribution)

SIROTA, I.M., kand. tekhn. nauk (Kiyev); NAUMOVSKIY, L.D., inzh. (Leningrad); TSIREL', Ya.A., inzh. (Leningrad); KLEBANOV, Z.I. (Bobruysk); KAMENSKIY, A.F. (Bobruysk); BOYCHUK, S.I. (Bobruysk); IOZEFAVICHUS, D.I., inzh. (Kaliningrad); SHULOV, B.S., inzh. (Riga)

Neutral operating mode in electric power distribution systems. Elektrichestvo no.1:84-91 Ja '64. (MIRA 17:6)

BOYCHUK, S.I.

Use of closed-loop 6 and 0.38 kv. networks in Bobruysk.
Trudy LIEI no.41:91-99 '62. (MIRA 17:6)

1. Bobruyskiy setevoy rayon.

BOYCHUK, V., inzh.; KAZHAN, B., inzh.

Paving on stabilized road beds. Avt. dor. 28 no.1:10 Ja '65.
(MIRA 18:3)

BOYCHUK, V., inzh.

Why are efficient road materials not used? Avt. dor. 28 no.4: 17 Ap '65. (MIRA 18:5)

BOYCHUK, V., inzh.; YERMIN, F., inzh.

Information. Avt. dor. 28 no.4:29-30 Ap '65.

(MIRA 18:5)

BOYCHUK, V. A.

USSR/Engineering - Hydraulic Structures Jan 52

"Sinking Caissons by the Method of Mechanizing the Inside-Caisson Operations," V. A. Boychuk, Engr, V. V. Lisitsyn

"Gidrotekh Stroi" No 1, pp 19, 20

Describes procedure for lowering caissons without workmen inside of caisson chamber, using hydro-mech method for breaking and removal of ground. Operation is controlled from booth built over caisson ceiling and connected outside by open shaft. Observation over performance of mechanisms is done through illuminator in caisson ceiling. Method was used for sinking 12 caissons 50 sq m in area and one 576 sq m caisson during 1949-1951 period.

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TRIFONOVA, L.F.; BOYCHUK, V.A.; VERBITSKIY, P.G.; PANTYUKHIN, A.I.

Characteristics of some soil forming rocks in the Valdai Hills and the Il'men' Lowland. Vest. LGU 20 no.3:115-125 '65.
(MIRA 18:2)

BOYCHUK, V.S., inzh.

Reinforced concrete curbins. Avt.dor. 23 no.3:22 Mr '60.
(MIRA 13:6)
(Curbstones)

BOYCHUK, V.S.

Experimental investigation of the use of filter-press dust from sugar plants in stabilizing soils with organic binders. Trudy Khar. avt.-dor. inst. no.28:81-85 '62. (MIRA 17:2)

BOYCHUK, Vasiliy Safronovich, sekretar' Kryzhopol'skogo rayonnogo komiteta Kommunisticheskoy partii Ukrainy, Geroy Sotsialisticheskogo Truda.; STRELKOVA, N.A., red.; BERLOV, A.P., tekhn. red.

[Achievements of Kryzhopol' swine breeders]Uspekhi Kryzhopol'skikh zhivotnovodov. Moskva, Izd-vo "Znanie," 1958. 23 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 5, no. 26). (MIRA 11:11)

(Vinnitsa Province--Swine)

BOYCHUK, Vasiliy Stepanovich; MIKHAYLOV, G., red.; GONCHAR, A., red.; ZELENKOVA, Ye., tekhn. red.

[Pocket handbook for the road builder] Karmannyi spravochnik dorozhnika. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 254 p. (MIRA 14:6)

(Road construction)

BOYCHUK, V.S., inzh.

Stabilizing Solonetz loamy soils with organic binding materials and additions of filter-press dust. Avt.dor.i dor.stroi. no.1:68-74 '65.

(MIRA 18:11)

BOYCHUK, V.V.

Filtering fills on highways. Kolyma 21 no.2:35-37 F '59.
(MIRA 12:7)

1.Upravleniye Dal'stroyproyekt.
(Magadan Province--Road construction)

BOYCHUK, V.V., inzh.

Determining modular coefficients in hydrological calculations.
Avt. dor. 23 no. 12:19 D '60. (MIRA 13:12)
(Hydrology--Tables, Calculations, etc.)

BOYCHUK, V.V.

Effect of slope exposure on the melting of snow. Trudy SVKNII no.2: 43-55 '63. (MIRA 18:2)

KUZNETSOV, A.S.; BOYCHUK, V.V.

Snow cover and the river regime in the northeast of the U.S.S.R.
Trudy SVKNII no.2:56-84 '63. (MIRA 18:2)

BOYCHUK, V.V.

Variability of natural phenomena and its estimation in establishing geographical regions. Dokl. Inst. geog. Sib. i Dal'. Vost. no.7:29-36 '64. (MIRA 18:10)

L 02993-67 EWP(e)/EWT(m)/EWP(j)/T IJP(c) WW/RM/WH

ACC NR: AP6032957 SOURCE CODE: UR/0363/66/002/010/1897/1899

AUTHOR: Tresvyatskiy, S. G.; Boychun, V. Yu.; Yaremenko, Z. A.; Klimenko, V. S.

ORG: Institute of Problems of the Science of Materials, Academy of Sciences A UkrSSR (Institut problem materialovedeniya Akademii nauk UkrSSR)

TITLE: Some properties of foamed quartz glass

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 10, 1966, 1897-1899

TOPIC TAGS: quartz, quartz glass, foamed ~~quartz~~ glass, ~~foamed quartz glass property~~, thermal insulation, ~~high temperature insulation~~, heat insulation, ~~heat~~ insulating material, GLASS INSULATION, GLASS PROPERTY, POROSITY, HEAT RESISTANT GLASS

ABSTRACT: Some of the physical properties of foamed quartz glass have been studied to determine its prospective use as a heat insulating material at high temperatures. The material obtained had a density of 0.3—0.35 g/cm^3 and an actual porosity of 80—85%, 20 to 30% of which were closed pores. Large pores with a diameter of .5 to 2 mm were seen; small closed pores with a 0.1 mm diameter were situated in the wall of larger pores. The foamed quartz glass contained no crystalline phases. Its refractive index was 1.455 ± 0.001. Compressive strength, determined on cubes of 10 x 10 x 10 to 20 x 20 x 20 mm, was the range 40—70 kg/cm^2 at 20C. Thermal conductivity was in the range 0.1160 to 0.250 kcal/m·hr·centigrade.. The heat resistance

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of the material was tested on 10 x 10 x 10 mm cubic samples by repeated thermal shock cycles: heating for 5 min at 1400C with subsequent quenching in water at room temperature. The samples withstood 25—30 cycles. Additional shrinking of the samples at 1600C was insignificant. The temperature of the start of deformation under 2 kg/cm^2 load was 1680—1690C, while the failure temperature was 1690--1700C. An essential disadvantage of the foamed quartz glass is its devitrification at high temperatures. In this connection, the effect of various metallic or nonmetallic oxides used as additives [amounts not specified] was studied. It was found that trivalent ions (boron in particular) inhibit crystallization of the material; the inhibiting effect of quadrivalent ions is less pronounced; quinque- and sexivalent ions produced an insignificant effect. Uni- and divalent ions promote the crystallization. Foamed quartz glass compares favorably with other high temperature insulating materials. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 04Dec65/ ORIG REF: 005/ OTH REF: 001/ ATD PRESS: 5099

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