ZHABITSKIY, G.; ZINCHENKO, O., kapitan

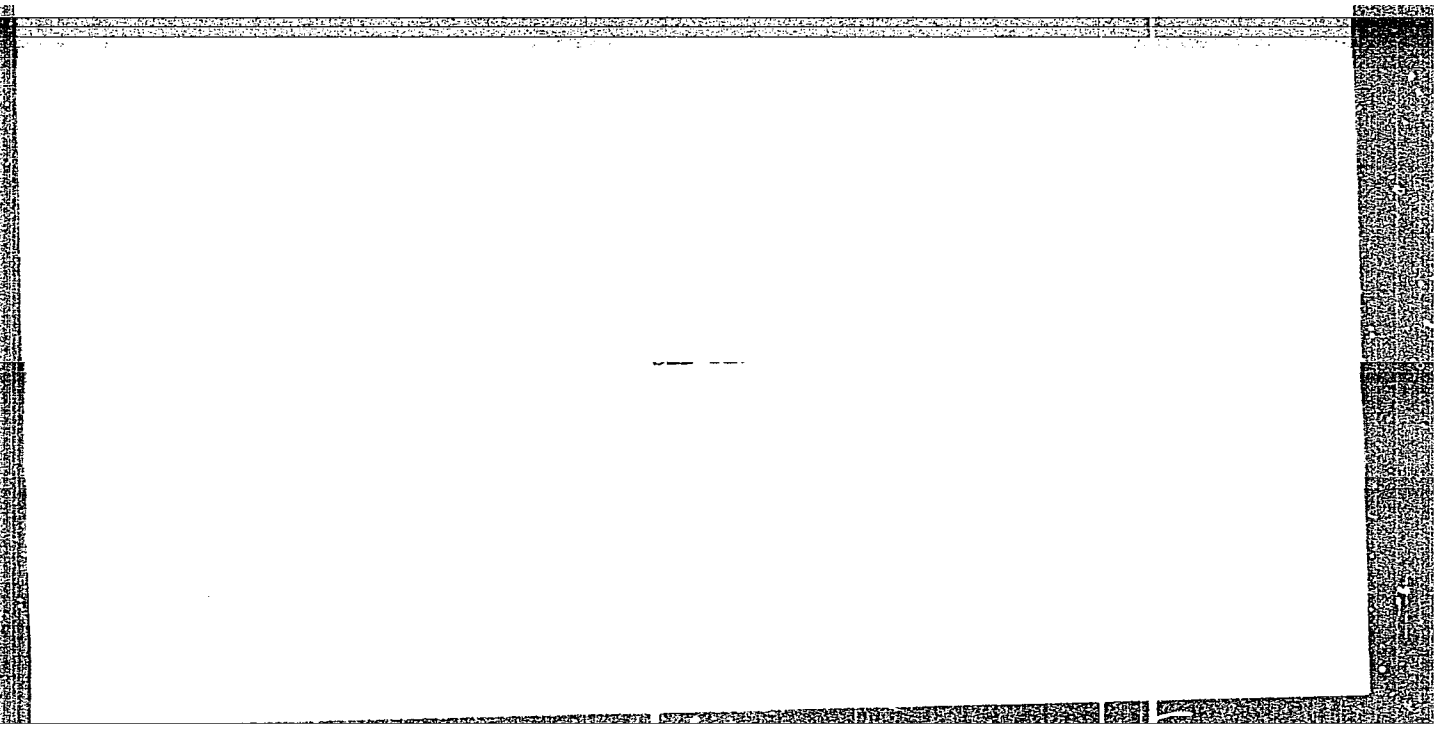
Youth trains for the defense of the motherland. Komm. Vooruzh. Sil 46 no.9:69-75 My '65. (MIRA 18:7)

1. Pervyy sekretar' TSentral'nogo komiteta Leninskogo kommunisticheskogo soyuza molodezhi Belorussii (for Zhabitskiy). 2. Pomoshchnik nachal'nika politicheskogo upravleniya Belorusskogo voyennogo okruga po komsomol'skoy rabote (for Zinchenko).

ZHABITSKIY, G.; DUBINSKIY, D.; YANCHEVSKIY, V., red.

[On amateur radio waves] Na molodezhnoi radiovolne. Moskva, Gos.kom-t po radioveshchaniiu i televideniiu, 1962. 47 p. (MIRA 17:4)

1. Sekretar' TSentral'nogo komiteta Leninskogo kommunisticheskogo soyuza molodezhi Belorussii (for Zhabitskiy). 2. Starshiy redaktor peredach dlya molodezhi Belorusskogo radio (for Dubinskiy)



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001964520005-9"

KHOMENKO, A.D.; ZHABITS'KIY, P.F. [Zhabyts'kyi, P.F.]; RYABOKLYACH, V.O.

New types of mixed fertilizers containing trace elements.
Khim. prom. [Ukr.] no.4:6-10 O-D'63. (MIRA 17:6)

BATYUK, V.P.; ZHABITSKIY, P.F.

Polyacrylamide and urea-formaldehyde resin as basic materials for complete fertilizers. Plast.massy no.11:35-36 '60. (MIRA 13:12)
(Acrylamide) (Resins, Synthetic)
(Fertilizers and manures)

ZHABITSKIY, P.P. [Zhabyts'kyi, P.P.]; POTAPENKO, V.D.

Use of polyacrylamides for the improvement of the physicomechanical properties of superphosphates. Khim.prom. [Ukr.] no.1:32-34 Ja-Mr '64. (MIRA 17:3)

ZHAEKOVA, A.I.

Characteristics of the work of the sawmilling and woodworking industries of the U.S.S.R. Nauch. trudy TSNIIMOD no.16:36-77 '63 (MIRA 17:3)

1. Zaveduyushchiy laboratoriyey ekonomiki promyshlennosti, normirovaniya truda i zarabotnoy platy TSentral'nogo nauchno-issledovatel'skogo instituta mekhanicheskoy obrabotki drevesiny.

ZHARKOVA, A.I.

Improving the production planning in sawmilling. Der. prom. 12 no.5:16-18 My '63. (MIRA 16:7)

(Sawmills--Management)

TEMKOV, Iv.; BOIADZHIEVA, M.; ZHABLENSKI, A.

Treatment of some psychoses and neuroses with andaxin. Suvr. med. 13 no.6:26-31 '62.

1. Iz Katedrata po psikhiatriia pri VMI [Vissh meditsinski institut] - Sofiia (Rukovod. na katedrata akad. G. Uzunov).
(MEPROBAMATE) (PSYCHOSES) (NEUROSES)

BULGARIA

TEMKOV, Iv., M. BOYADZHIEVA, and A. ZHABLENSKI, Department of Psychiatry (Katedra po Psikhiatriya), Higher Medical Institute (Visshi Meditsinski Institut), Sofia.

"Psychiatric Treatment with Centrophenoxin (Lycidryl)."

Sofia, Suvremenna Meditsina, Vol 14, No 3, 1963, pp 39-45.

Abstract: /Authors' Russian summary modified/ The authors report on the treatment of 76 patients (41 in depressive states, 16 with neuroses, and 19 with organic illnesses of the central nervous system) with centrophenoxin (lycidryl, ANP 235). The preparation is more effective with depressive states of organic origin. It favorably affects sleep, vegetative disturbances, and patients' disposition but does not eliminate conditions. The preparation should therefore be used in depressive states in combination with thymoleptics or in more severe cases with electric shock. In the treatment of neuroses, the 1/2/most favorable effect is achieved on neurasthenia,

BULGARIA

Sofia, Suvremenna Meditsina, Vol 14, No 3, 1963, pp 39-45 (continued).

especially when vegetosomatic complaints are predominant. There is also a beneficial effect on vegetative syndromes in traumatic brain disease, although the focal manifestations remain unaffected. The effect is also favorable in organic diseases of the central nervous system (brain arteriosclerosis, intoxications, etc.) which occur with dulled consciousness in varying degrees. Faster recovery of consciousness and a reduction in the duration of psychosis were noted in two cases of delirium tremens. The observed no radical side effects or complications. Sixteen Western references of recent date.

2/2

DERZHANSKI, A.; STAYNOV, G. [Stainov, G.]; VANKOV, I.; ZHABLENSKI, N.; YANEVA, N. [IAneva, N.]; DENCHEV, K.

Characteristics of the fleeting umbrae during the total solar eclipse of February 15 , 1961. Doklady BAN 15 no.4:365-368, '62.

1. Predstavleno akad. G. Nadzhakovym [Nadzhakov, G.].

KHLEBANOV, St.; CHESHMEDZHIEV, Zh.; ZHABLENSKI, B.

Magnesium sulfate as an antiperspirant (preliminary communication). Suvrem med., Sofia no.12:118-123 '60.

1. Iz Nauchno-izsledovatelskiia kozhno-venerologichen institut, Sofia (direktor prof. P.Popkhristov) i Mediko-sanitarnata chast No.2, Gabrovo(glaven lekar Zh.Cheshmedzhiev)
(SWEATING)
(MAGNESIUM SULFATE ther)

ZHABLENSKI, N.

"Heterdyne Wave Meter."

p. 34 (Radio I Televiziia, Vol. 7, No. 6, 1958, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 11, Nov. 1958

ZHABLENSKI, N.

"Measurement of high-frequency electric current." Vol 3, No. 5/6, 1954, p.59. Radio, Sofiya

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

ZHADLYANSKI, N.

Interference Filters for Industrial Interference Protection. Radio (Radio), #7:24:Jul 54

ZHABO, V.V

BABOKIN, I.A., redaktor; BALBACHAN, Ya.I, redaktor; BARABANOV, F.A., redaktor; BUCHNEV, V.K., redaktor; VLADIMIRSKIY, V.V., redaktor; GRIGOR'YEV, S. Ye., redaktor; DOKUKIN, A.V., redaktor; ZHABO, V.V. redaktor; ZADEMIDKO, A.N., redaktor; ZAITSEV, A.P., redaktor; IL'ICHEV, A.S., redaktor; KAGAN, V.Ya., redaktor; KRASNIKOVSKIY, G.V., redaktor; KRASOZOV, I.P., redaktor; KRIVONOGOV, K.K., redaktor; LALAYANTS, A.M., redaktor; MOGILEVSKIY, N.M., redaktor; ONIKA, D.G., redaktor; OSTROVSKIY, S.B., redaktor; OSTROVSKIY, S.M., redaktor; PEYSAKHOVICH, G.I., redaktor; POCHENKOV, K.I., redaktor; SIRYACHENKO, F.N.;redaktor. SKOCHINSKIY,A.A., redaktor; STUGAREV, A.S., redaktor; SKORKIN, K.I.; SKURAT, V.K., redaktor; SOBOLEV, G.G., redaktor ;TERPITOREV, A.M., redaktor; KHUDOCOVTSEV, N.M.; redaktor; TSYPKIN, V.S., redaktor; SHEVYAKOV, L.D., redaktor; SHELKOV, A.A., redaktor;ANDREYEV, G.G., tekhnicheskiy redaktor.

[Safety rules in coal and shale mines] Pravila bezopasnosti v ugol'nykh i slantsevykh shakhtakh. Moskva, Ugletekhizdat, 1951. 207 p. (MLRA 9:1)

1. Russia (1923- U.S.S.R) Ministerstva ugol'noy promyshlennosti. (Coal mines and mining-Safety measures)

ZHABOTINSKIY, A.M.

Periodic oxidizing reactions in the liquid phase. Dokl. AN SSSR 157 no. 2:392-395 Jl '64. (MIRA 17:7)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom A.N.Frumkinym.

CHESNOKOV, V.A.; ZHABOTINSKIY, G.Kh.

Citric acid in the leaves of leguminous plants. Uch.zap.Len.un. 186:65-72 '55. (MLRA 9:8)

(Citric acid) (Legumes)

ZHABOMINSKIY, M. E.

"On Fluctuations in an Oscillator with an Inertial Nonlinearity," Zhur. Eksp. & Theor. Fiz., Vol 26, No 6, 1954, pp 758-9.

B-83749, 4 Apr 55

ZHABORINSKIY, V.M.

NAVROTSKIY, V.K., professor; ZHABORINSKIY, V.M., professor

Incorrect elucidation of the problems of sanitary protection of natural water. Gig. i san. 22 no.3:73-74 Mr '57. (MLRA 10:6)

1. Predsedatel' Khar'kovskogo gigiyenicheskogo obshchestva (for Navrotskiy); 2. Chlen pravleniya Khar'kovskogo gigiyenicheskogo obshchestva (for Zhabotinskiy). 3. Chlen-korrespondent Akademii meditsinskikh nauk SSSR. (for Navrotskiy)

(WATER SUPPLY
sanitary protection of water reservoirs in Russia)
(SANITATION
same)

DUMANSKIY, A. V., ZHABOTINSKIY, Yo., and YEVSEYEV, M.

"Method of Determination of the Size of Colloidal Particles," Koll Z, 2, 6, 1913.

ZHABOTINSKIY, Yuliy Mikhaylovich; SUKHOV, Yu.Z., red.

[Normal and pathological morphology of the neuron]
Normal'naia i patologicheskaia morfologiia neirona.
Leningrad, Meditsina, 1965. 322 p. (MIRA 18:10)

ZHABOTINSKAYA, L.A., kandidat tekhnicheskikh nauk.

Norms for designing the profile and plan of narrow-gauge railroads. Transp. stroi. 6 no.8:24 Ag '56. (MLRA 9:10)

(Railroads, Narrow-gauge)

ZHABOTINSKAYA, O.P.

FD-3056

USSR/Medicine - nutrition

Card 1/1 Pub. 141 - 2/23

Author : Yakovlev, N. N. and Zhabotinskaya, O. P.

Title : The effect of administering a vitamin complex (A, B_1, B_2, PP, C, and D) on work capacity and carbohydrate metabolism during muscular activity

Periodical : Vop. pit., 9-15, May/June 1955

Abstract : Systematic and prolonged administration of the above vitamin complex to white rats results in raising the work capacity and hastening the re-establishment of glycogen reserves during rest. This effect is increased when a large amount of the vitamins is given, although a "ceiling" is reached at a certain level. In order to raise the work capacity of an athlete, the complex must be accompanied with a daily dose of 250 mg of ascorbic acid. The increased work capacity is more apparent during prolonged exertion. 42 references (26 USSR; 27 since 1940); five tables.

Institution : Department of Biochemistry (Head - Prof. N. N. Yakovlev) Sci-Res Inst of Physical Culture, Leningrad

Submitted :

REPREV, A.I.; ZAYTSEV, P.F.; STREL'NIKOV, V.N., inzh.; VOZNESENSKIY, G.D., kand.tekhn.nauk; ZHABOTINSKAYA, L.A., kand.tekhn.nauk; LEBEDEV, A.I.

New textbooks on surveying and designing railroads. Transp. stroi. 12 no.5:58-61 My '62. (MIRA 15:6)
(Railroad engineering)

ZHABOTINSKAYA, L.A., kand. tekhn. nauk, dots.; VOZNESENSKIY, G.D., kand. tekhn. nauk, dots., red.

[Methodological handbook on the calculation of bridge passages] Metodicheskoe posobie k raschetam po mostovomu perekhodu. Pod obshchei red. G.D.Voznesenskogo. Novosibirsk, 1963. 14 p. (MIRA 17:5)

1. Novosibirsk. Institut inzhenerov zheleznodorozhnogo transporta. Kafedra "Izyskaniia, proyektirovaniye i postroyka zheleznykh dorog".

ZHABOTINSKAYA, L.A., dotsent, kand. tekhn. nauk

Method for evaluating the economic efficiency of changing route alignment of existing railroads. Trudy NIIZHT 26:17-28 '62. (MIRA 16:3)

(Railroads engineering)

ZHABOTINSKAYA, L.A., kand.tekhn.nauk; GADEVAL'DT, V.V., inzh. (Novosibirsk)

More about the effectiveness of lengthening tracks in railroad yards. Zhel. dor. transp. 40 no.9:38-39 S '58. (MIRA 11:10)
(Railroads--Yards) (Railroads--Track)

ZHABOTINSKAYA, R. N.

Merkulov, I. I., Zhabotinskaya, R. N., and Medresh, E. I. - "Experience in using ossocalcinol in certain eye infections", Uchen. zapiski (Ukr. nauch.-issled. in-t oftalmologii im. prof. Girshmana), Vol. V, 1948, p. 47-52.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

ZHABOTINSKAYA, R. N.

Zhabotinskaya, R. N. and Medresh, E. I. - "Penicillin treatment of orbital phlegmons", Uchen. zapiski (Ukr. nauch.-issled. in-t oftalmologii im. prof. Girshmana), Vol. V. 1948, p. 39-43.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

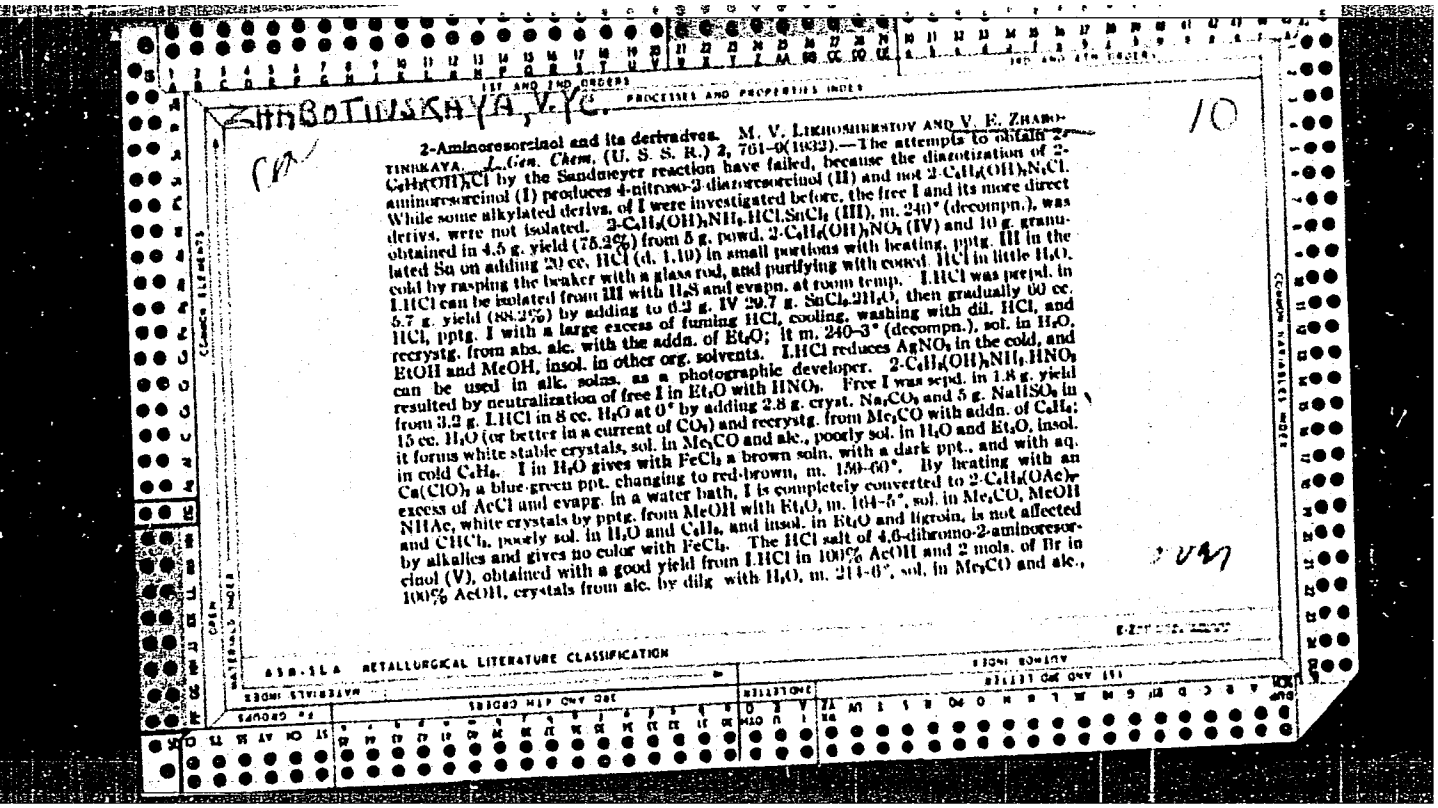
ZHABOTINSKAYA, V. Ye.

Nuclear Sci. Abs. V. 8 Jan 15, 1954 Chemistry

2-AMINO-RESORCINOL AND ITS DERIVATIVES. M. V. Likholmerstov and V. E. Zhabotinskaya. Translated from Zhur. Obshchei Khim. 2, 761-9(1932). 8p. (AERE-Trans-11/3/5/391)

3 Chem (2)

NF 7-27-54

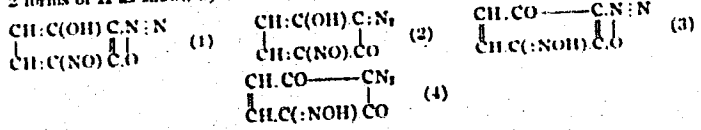


TINBOTINSKAYA, V. YE.

10

2-Aminoresorcinol and its derivatives. M. V. Likhoshерstov and V. E. Zhabo-Tinbotinskaya. *J. Gen. Chem.* (U. S. S. R.) 2, 761–9(1932).—The attempts to obtain 2-$C_6H_3(OH)_2Cl$ by the Sandmeyer reaction have failed, because the diazotization of 2-aminoresorcinol (I) produces 4-nitroso-2-diazoresorcinol (II) and not 2-$C_6H_3(OH)_2N_2Cl$. While some alkylated derivs. of I were investigated before, the free I and its more direct derivs. were not isolated. 2-$C_6H_3(OH)_2NH_2$.HCl.$SnCl_2$ (III), m. 240° (decompn.), was obtained in 4.5 g. yield (75.2%) from 5 g. powd. 2-$C_6H_3(OH)_2NO_2$ (IV) and 10 g. granulated Sn on adding 20 cc. HCl (d. 1.19) in small portions with heating, pptg. III in the cold by rasping the beaker with a glass rod, and purifying with concd. HCl in little H_2O. I.HCl can be isolated from III with H_2S and evapn. at room temp. I.HCl was prepd. in 5.7 g. yield (88.2%) by adding to 6.2 g. IV 29.7 g. $SnCl_2.2H_2O$, then gradually 60 cc. HCl, pptg. I with a large excess of fuming HCl, cooling, washing with dil. HCl, and recrystg. from abs. alc. with the addn. of Et_2O; it m. 240–3° (decompn.), sol. in H_2O, EtOH and MeOH, insol. in other org. solvents. I.HCl reduces $AgNO_3$ in the cold, and can be used in alk. solns. as a photographic developer. 2-$C_6H_3(OH)_2NH_2.HNO_3$ resulted by neutralization of free I in Et_2O with HNO_3. Free I was sepd. in 1.8 g. yield from 3.2 g. I.HCl in 8 cc. H_2O at 0° by adding 2.8 g. cryst. Na_2CO_3 and 5 g. $NaHSO_3$ in 15 cc. H_2O (or better in a current of CO_2) and recrystg. from Me_2CO with addn. of C_6H_6; it forms white stable crystals, sol. in Me_2CO and alc., poorly sol. in H_2O and Et_2O, insol. in cold C_6H_6. I in H_2O gives with $FeCl_3$ a brown soln. with a dark ppt., and with aq. $Ca(ClO)_2$ a blue-green ppt. changing to red-brown, m. 150–60°. By heating with an excess of AcCl and evapg. in a water bath, I is completely converted to 2-$C_6H_3(OAc)_2NHAc$, white crystals by pptg. from MeOH with Et_2O, m. 104–5°, sol. in Me_2CO, MeOH and $CHCl_3$, poorly sol. in H_2O and C_6H_6, and insol. in Et_2O and ligroin, is not affected by alkalies and gives no color with $FeCl_3$. The HCl salt of 4,6-dibromo-2-aminoresorcinol (V), obtained with a good yield from I.HCl in 100% AcOH and 2 mols. of Br in 100% AcOH, crystals from alc. by dilg. with H_2O, m. 214–6°, sol. in Me_2CO and alc.,

and insol. in H_2O, $CHCl_3$, C_6H_6 and AcOH. Free V was prepd. by adding Na_2SO_3 in H_2O to V.HCl in alc. and dilg. with H_2O. I, coupled with $C_6H_3(SO_3Na)N_2Cl$ in the presence of AcONa, gives a yellow cryst. dye sol. in hot H_2O and alc., which can be used as an indicator giving with alkalies a red color changing to yellow with acids. I and V, diazotized with $NaNO_2$ in HCl, produce not the diazonium salts but compds. with properties characteristic of an inner anhydride. I, diazotized with a large excess of HCl, gives a colorless product and with AcOH a red-brown product, both analyzing for $C_6H_3N_3O_3$, the structure of the former being of the diazonium type (Hantzsch and Davidsohn, *Ber.* **29**, 1526(1896); Bamberger, *Ibid* **28**, 837), and that of the latter of the quinonoid type (Wolff, *Ann.* **312**, 125(1900)). I with 2 H of the OH groups substituted by alkyls gives on diazotization the normal diazonium salt (Kauffmann, *C. A.* **2**, 272). In the diazotizing of I the liberation of free HNO_2 takes place only after the introduction of almost 2 mols. of $NaNO_2$. As the product of the diazotization of I proved to be II, it is evident that the diazotization and the nitroso formation proceed here simultaneously. The reaction may be thus explained: 1,3-$C_6H_4(OH)_2$ is converted by HNO_2 in HCl in the cold to $C_6H_3(OH)_2NO_2$ (Baeyer, *Ber.* **7**, 964(1874); Henrich, *Ibid* **35**, 4191), while the action of HNO_2 on the NH_2 group is retarded by the steric hindrance, which results in the rarely occurring reaction of a diazotization and nitroso formation with equal speed, as in the production of II. According to the theories of the structure of diazophenols, the colorless II could be formulated as 1, and the brown II as 2. The ability of nitrosophenols to react in 2 tautomeric forms as nitroso compds. and quinone monoximes may explain the 2 forms of II as shown by the formulas 3 and 4. II was obtained in 1.45 g. yield by



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(3)

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Continued

ZHABOTINSKAYA, V. Ye.

PROCESSES AND PROPERTIES INDEX

Synthesis of β,β′-dichloro and β-chloro-β′-hydroxy ethers. I. Interaction of ethylene chlorohydrin and glycol with benzenesulfonamide dichloride in the presence of olefins. M. V. Likhosherstov, V. R. Zhabotinskaya, L. D. Pavlovskaya and M. Ya. Ponomarenko. *J. Gen. Chem.* (U. S. S. R.) 8, 997–1007 (in English, 1007) (1938); cf. *C. A.* 32, 5300¹.—Similar to aliphatic primary alcs. and PhOH (*C. A.* 32, 519⁴), CH_2ClCH_2OH (I) and glycol react with 1 mol. $PhSO_2NCl_2$ and butenes in $CHCl_3$ at −15°, giving isomeric β,β′-dichloroethoxybutanes ($CH_2ClCH_2OC_4H_8Cl$) and β-chloro-β′-hydroxy ethers, resp. Again the by-products of the reaction are the 2 stereoisomeric β-chlorobutylbenzenesulfonamides and $PhSO_2NHCl$. I with 1-butene gave *MeCH₂CH(OCH₂CH₂Cl)CH₂Cl*, b. 195.5°, d^{20}_{4} 1.1223, n^{20}_{D} 1.453, M. R. 41.19, parachor 361.24. 2-Butene gave *MeCHClCH(OCH₂CH₂Cl)Me*, b. 193–4°, d^{20}_{4} 1.1190, n^{20}_{D} 1.451, M. R. 41.28, and 3-butene gave (in dry Et_2O) a mixt. of *Me₂C(OCH₂CH₂Cl)CH₂Cl*, b. 192°, d^{20}_{4} 1.1215, n^{20}_{D} 1.455, M. R. 41.36, $CH_2ClCMe{:}CH_2$, b. 70–2°, and a dichloride, b. 126–9°, the nature of which is being investigated. Glycol with 2-butene gave *MeCHClCH(OCH₂CH₂OH)Me* (II) and a diether with the probable structure: *MeCHClCHMeOCH₂CH₂OCHMeCHClMe* (III), b_3 103–5°. The latter is evidently formed by the interaction of II with $PhSO_2NCl_2$ to give the hypochlorite deriv. which then reacts with 2-butene: $MeCHClCH(Me)OCH_2CH_2OCl + MeCH{:}CHMe \rightarrow$ III. II, b_3 74–5°, d^{20}_{4} 1.085, n^{20}_{D} 1.452, M. R. 37.92. With concd. KOH II cleaves HCl, giving *1,2-dimethyldioxane*, b. 117–19°, d^{20}_{4} 0.989, n^{20}_{D} 1.418. Thirty references. C. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZHABOTINSKIY, A.M.; MALENKOV, A.G.; YASINOV, N.M.; GUSSAK, L.A.; SHABAD, L.M.

Content of cancerogenic and toxic combustion products in exhaust gases of combustion engines with spark and antichamber-torch ignition. Izv. AN SSSR. Ser. biol. no.6:908-912 N-D '64.
(MIRA 17:11)

1. Institute of Chemical Physics, U.S.S.R. Academy of Sciences and Institute of Experimental and Clinical Oncology, U.S.S.R. Academy of Medical Sciences.

ZHABOTINSKIY, B. KH.

Biology, Economic

University biologists contribute to the national economy. G. Kh. Zhabotinskiy.
Vest. Len. un. 6 No. 9 1951.

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

CHESNOKOV, V. A.; ZHABOTINSKIY, G. Kh.; IL'INSKAYA, N. L.

Organic acids in plants, their physiological role and possibilities for practical use. Trudy PBI no.19:57-87 '62.
(MIRA 16:1)

(Acids, Organic) (Plants—Metabolism)

1. ZHABOTINSKIY, G. Kh.

2. USSR (600)

4. Soils

7. Sub-section in biology and soil science, Vest. Len. un., 7, No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

ZHABOTINSKIY

1. ZHABOTINSKII, G. Kh.

2. USSR (600)

4. Biological Research

7. Sub-section in biology and soil science. Vest. Len. un. 7, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

Zhabotinskiy, G. Kh.

CHESNOKOV, V.A.; ZHABOTINSKIY, G.Kh.

A new organic acid widely spread in plant leaves [with summary in English]. Vest. LGU 13 no.3:148-151 '58. (MIRA 11:5)
(Plants--Chemical composition) (Itaconic acid)

ZHABOTINSKIY, I.I. (Moskva)

Conducting mass prophylactic gynecological syrveys in the Kirov District of Moscow in 1955. Sov.med. 20 no.12:66-69 D '56. (MLRA 10:1)

(GYNECOLOGICAL DISEASES, prev. and control
mass survey in Russia)

ZHABOTINSKIY, I. I.

25990. Zhabotinskiy, I. I. Tekhnika vypolneniya protsedur, naibolee chasto primenyaemykh v ginekologii. Fel'dsher i akusherka, 1949, No 7, s. 49-51

ZHABOTINSKIY, I.I.

25990

Tyekhnika vypolnyeniya protsyedur, naibolyeye nasto primyenyayemykh v ginyekologii. Fyel'dshyer i akushyerka, 1949, No. 7, c. 49-51.

22 Pyediatriya. Okhrana
Matyerinstva I mladyenchyestva

So: Letopis' No. 34

ZHABOTINSKIY, I.I.

"Studies of Multiple Births," Fel'dsher i Akusher., No. 4, 1948;

"Problems of the Midwife," ibid., No. 5, 1948;

"Appendicitis and Enterostasis during Pregnancy," ibid., No. 6, 1948;

"The Technique for Carrying out the Procedures Most Often used in Gynecology," ibid., No. 7, 1949;

"Experience of the Patronage Work of a Town Women's Consultation," ibid., No. 2, 1949.

OZHIGANOV, V.S.; LEVANTO, M.A.; KOROLEVA, V.A.; Prinimali uchastiye: KOZLOVSKIY, N.I.; ABOIMOV, P.S.; STARTSEVA, G.B.; KRIVONOSOVA, R.B.; SHERSTYUK, M.I.; KONOVALOVA, T.S.; ZHABOTINSKIY, I.M.; RADIN, F.A.

Improving the technology of producing electrical steel. Stal' 22 no.4:343-346 Ap '62. (MIRA 15:5)

1. Verkh-Isetskiy metallurgicheskiy zavod.
(Steel—Electric properties)

ZHABOTINSKY, I.M.
EXCERPTA MEDICA Sec.5 Vol.9/12 Pathology Dec 56

3624. ZHABOTINSKY I.M. and GOICHMAN V.A. Neuro-histol. Lab., A.L. Polenov Neuro-surg. Inst., Leningrad. *The changes of nerve cells in the vicinity of a scar, involving the membranes and the surface of the brain in cases of traumatic epilepsy due to fire-arm lesions (Russian text) KORSAKOFF Z. NEVROPAT. PSIKHIAT. (Mosk.) 1955, 55/9 (669-671) Illus. 2

This work sets forth the findings concerning nerve cell changes in scars caused by fire-arm lesions and removed later on because of traumatic epilepsy. The authors dispose of 80 observations. The operations were performed 2-7 yr. after the wounding. The type of lesions most often seen in the nerve cells was 'shrinkage' with nuclear hyperchromatosis and intensive staining of the clear-cut body; bent, cork-screw-like dendrites were also noticed. Such changes were not, as a rule, accompanied by a gliosis reaction. In many cases all stages of the pathological process (from the early initial to the complete destruction of the cells) were seen. This circumstance points to an active pathological process, which goes on for a long period after the occurrence of trauma. On many occasions deposits of calcium were noticed in the vicinity of the scarred tissue, particularly in the neighbourhood of blood vessels. Accumulation of iron salts was found only in the hypertrophied glial elements.

Uranova - Moscow (V, 8*)

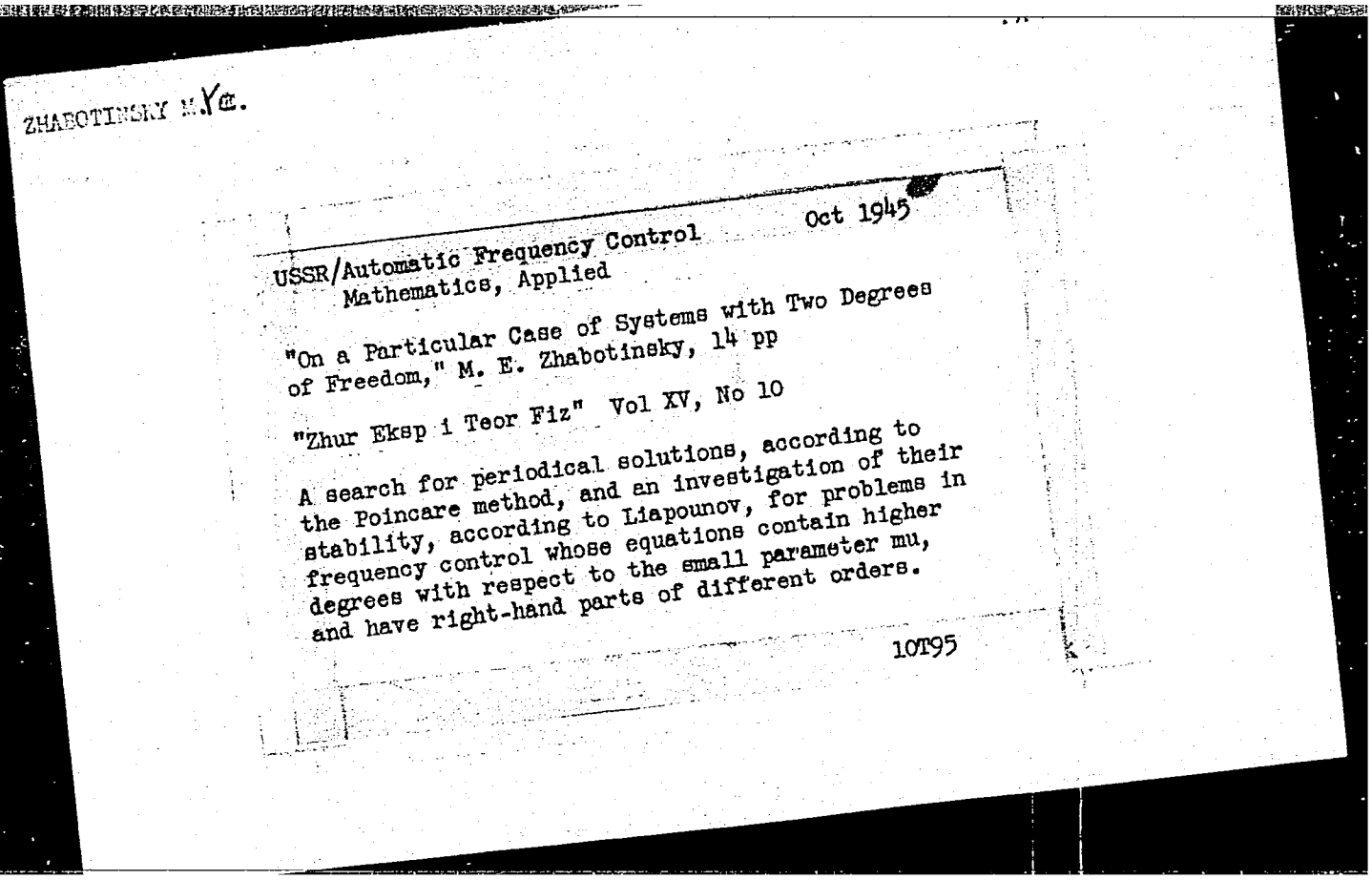
ZHABOTINSKAYA, L.A., kand.tekhn.nauk (Novosibirsk); LAZEBNIKOV, Yu.S., kand. tekhn.nauk (Novosibirsk)

Reprinted errors. Zhel.dor.transp. 46 no.11:94-95 N '64. (MIRA 18:1)

ZHABOTINSKIY, G. Kh.

Discussion of the book "Genetics" at the Scientific Council of the Department of Biology and Soil Science. Vest. LGU 19 no.21:160-164 '64 (MIRA 18:1)

1. Uchenyy sekretar' biologo-pochvennogo fakul'teta Leningradskogo ordena Lenina gosudarstvennogo universiteta imeni A.A. Zhdanova.



ZHABOTINSKY M.Ye.

USSR/Automatic Frequency Control Oct 1945
Mathematics, Applied

"On a Particular Case of Systems with Two Degrees of Freedom," M. E. Zhabotinsky, 14 pp

"Zhur Eksp i Teor Fiz" Vol XV, No 10

A search for periodical solutions, according to the Poincare method, and an investigation of their stability, according to Liapounov, for problems in frequency control whose equations contain higher degrees with respect to the small parameter mu, and have right-hand parts of different orders.

10T95

PA 19T18

ZHABOTINSKIY, M. Ye.

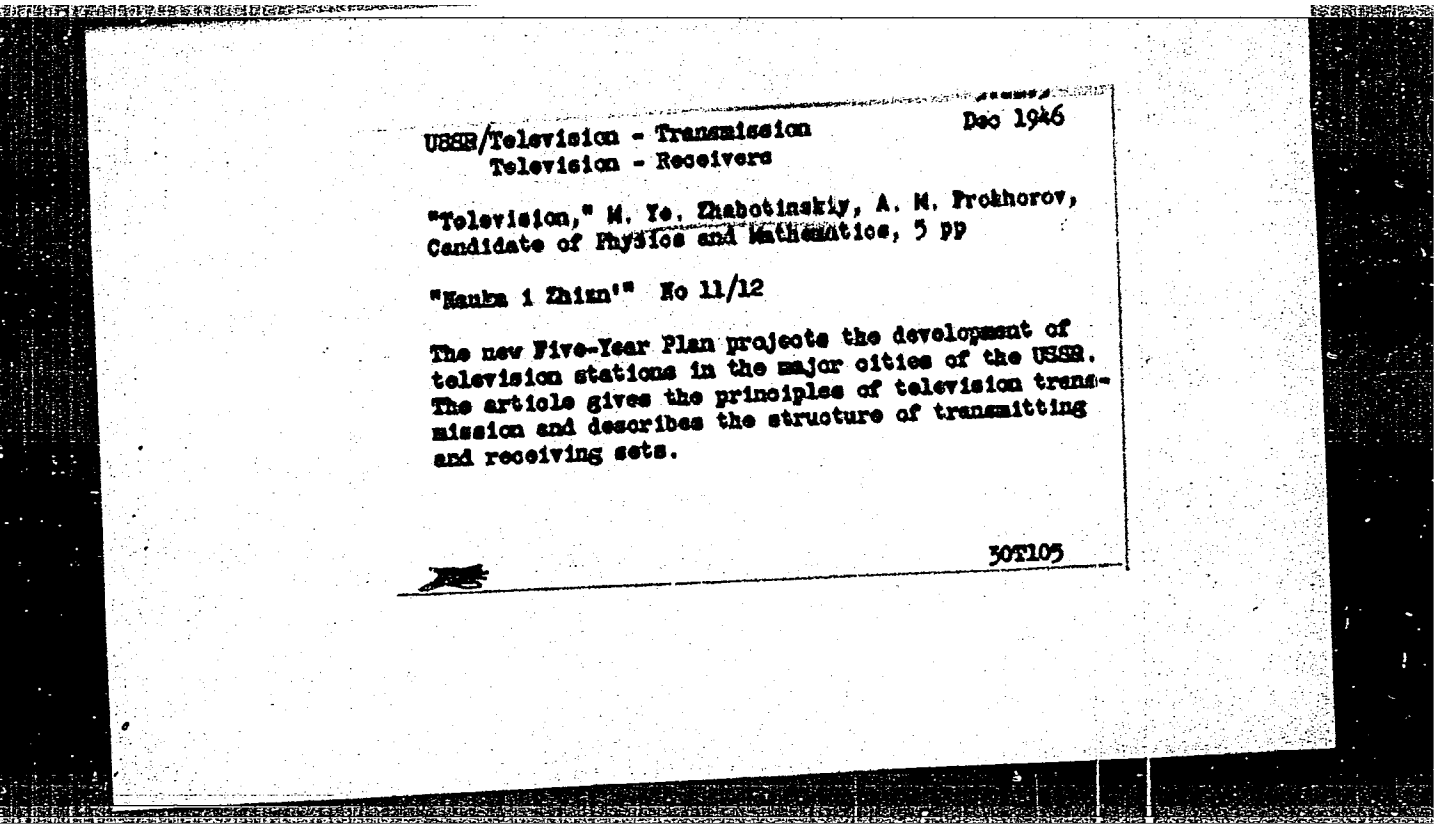
USSR/Frequency Stabilization Jun/Jul 1946
Frequency control

"The Theory of Frequency Stabilization," M. Ye. Zhabotinskiy, 19 pp

"Radiotekhnika" Vol I, No 3/4

Simple methods for the investigation of the problem of frequency control. Pierce's circuit, the "Zihen" circuit, and the anode resistance circuit are considered, and formulae given for calculating the stabilized frequency of these circuits. Conclusions may be applied in design of frequency controlled oscillators.

19T18



USSR/Television - Transmission
Television - Receivers

Dec 1946

"Television," M. Ye. Zhabotinskiy, A. M. Prokhorov, Candidate of Physics and Mathematics, 5 pp

"Nauka i Zhizn'" No 11/12

The new Five-Year Plan projects the development of television stations in the major cities of the USSR. The article gives the principles of television transmission and describes the structure of transmitting and receiving sets.

30T105

ZHABOTINSKIY M. Ye.
~~YABOTINSKIY, M.~~

PA 26T52

Jan 1947

USSR/Optics
Refraction
Photography

"Observation of Refractional Structures," S. Rytov, M. Yabotinskiy, Institute of Physics imeni P. N. Lebedev, Academy of Sciences of the USSR, 1 p

"Journal of Physics" Vol XI, No 1

A general discussion is given on attempts to observe or photograph transparent objects possessing only refractional structures, i.e., changing phase, but not amplitude of light.

26T52

BS

ZHABOTINSKIY, M. E.

USSR/Fourier Analysis May 1947
Equations, Differential

"Concerning the Fourier Solution of Nonlinear Differential Equations with Partial Derivatives,"
M. E. Zhabotinckiy

"Doklady Akademii Nauk SSSR" Vol LVI, No 5

Method of solving problems in vibration, where the nonlinear and dissipative members are small and have the same order of smallness comparatively with some small parameter and the members do not contain small parameters.

9T42

ZHABOTINSKIY, M. YE.

PA 40/49T102

USSR/Physics (Physics)
Light - Dispersion
Quantum Theory

Nov 48

"The Language of Molecules (Combination Dispersion of Light)," M. Ye. Zhabotinskiy, Cand Physicomath Sci, 3 pp

"Nauka i Zhizn'" No 11, 1948

Reviews work and findings of Mandel'shtam and Landsberg on combination dispersion of light. Employs quantum theory to explain this phenomenon.

40/49T102

ZHABOTINSKIY, M. YE.

USSR/Radio Mar/Apr 1948
Radio Waves - Propagation
Ionosphere

"Session of the All-Union Scientific Council on Radio Physics and Radio Engineering of the Division of Physical and Mathematical Sciences of the Academy of Sciences USSR," M. Ye. Zhabotinskiy, 4 pp

"Iz Ak Nauk SSSR, Ser Fiz" Vol XII, No 2

Session of 8-12 Dec 1947 devoted to questions of solar radio emanations, propagation of radio waves, and investigation of ionosphere. Gives summary of each of 20 papers read on above topics.

69T100

ZHABOTINSKIY, M. E.

37321. Radiolokatsiya. V sb: Nayka i zhizn'. M., 1949, s. 391-408, s. portr.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

ZHABOTINSKIY, M. E.

37185. Atomnaya energiya. V sb: Nauka i Zhizn' M., 1949, s. 419-38.

SO: Letopis' Zhurnal'nykh Statey, Vol 7, 1949

ZHABOTINSKIY, M. Ye.

PA 160T49

USSR/Mathematics - Nonlinear Mechanics May 50
Oscillators, Automatic

"Auto-Oscillatory (Self-Excited) Systems With Two Degrees of Freedom in the Case of Multiple Frequencies," M. Ye. Zhabotinskiy, Phys Inst imeni Lebedev, Acad Sci USSR, 6 pp

"Zhur Eksper i Teoret Fiz" Vol XX, No 5

Employs Poincare-Lyapunov method in study of auto-oscillatory systems that are closed to linear conservative systems with two degrees of freedom in the case of multiple frequencies: $\ddot{x} + x = a \cdot f(x,\dot{x},y,\dot{y})$, $\ddot{y} + n^2 y = a \cdot g(x,\dot{x},y,\dot{y})$, where a is a "small" parameter and n is ratio of normal frequencies w_2/w_1. Submitted 13 Dec 49.

160T49

ZHABOTINSKIY, M. E.

USSR/Electronics - Resonators Mar 51

"Coaxial Resonators With Capacitive Load," M. E. Zhabotinskiy, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Tekh Fiziki" Vol XXI, No 3, pp 358-362

Derives, by elementary methods, formulas for computing quasi-stationary coaxial resonators that operate in ultrashort-wave band.

180T48

LC

USSR/Electronics - Klystrons May 51

"The Klystron," M. Zhabotinskiy, Cand Physicomath Sci

"Radio" No 5, pp 40-44

States that Prof D. A. Rozhanskiy (Leningrad) in 1932 and Sci Collaborator A. Arsen'yev in 1935 described device in which dynamic control of electron stream was employed. Outlines principles underlying use of 2-resonator klystron as amplifier and frequency multiplier. Gives theory of reflex klystron oscillator, designed by V. F. Kovalenko, 1940. Reflex klystron is widely used in various circuits

182T51

USSR/Electronics - Klystrons (Contd) May 51

182T51

of cm-wave equipment, e.g., as oscillators in receivers, in various measuring instrs, in radiospectroscopes, because of simplicity and reliability of electronic tuning.

ZHABOTINSKIY, M.

ZHABOTINSKIY, M. Ye.

USSR/Physics - Fluctuations in nonlinear oscillator

FD-727

Card 1/1 : Pub 146-15/18

Author : Zhabotinskiy, M. Ye.

Title : Fluctuations in a generator with inertial nonlinearity

Periodical : Zhur. eksp. i teor. fiz., 26, 758-759, Jun 1954

Abstract : Letter to the editor. Results of analysis of effect of random distortions on a self-excited oscillating system in which the stationary amplitude is determined by a nonlinear inertia. Indebted to Prof G. S. Gorelik and Prof S. M. Rytov. 4 references, including 1 American.

Institution : Physics Institute imeni Lebedev, Acad Sci USSR

Submitted : February 6, 1954

ZHABOTINSKIY, M. E.
USSR/Tech Physics

Card 1/1

Authors : Zhabotinskiy, M. E. and Lisichkin, D. A.

Title : Quartz generators with a negative feedback and inertia non-linearity

Periodical : Dokl. AN SSSR 95, 6, 1197 - 1200, 21 Apr 1954

Abstract : Due to the non-linear characteristics of tubes and to the direct effect of the circuit on a quartz oscillator, frequencies generated by the latter usually deviate from the resonant ones. Some theoretical work has been done, intended to improve the situation, however, so far it has succeede only in the stabilization of the amplitudes. The authors of this article give a brief theory on how the frequencies generated by a quartz oscillator can be stabilized.

Institution : P. N. Lebedev Phys. Inst. of the Acad. of Scs. of the USSR

Submitted : 12 Feb 1954

ZHABOTINSKIY, N.YE.

AID P -3162

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 4/7

Author : Zhabotinskiy, N. Ye. (Moscow)

Title : Radium spectroscopy and molecular structure

Periodical : Usp. khim., 6, 730-758, 1955

Abstract : A review is given of the development of radiation spectroscopy and its application to determine the structure of molecules. The general principles for determining molecular structure with the aid of spectroscopic data and the rotational spectra of molecules are discussed in some detail. Three diagrams, 9 tables, addendum (with 115 non-Russian references). 19 references, 9 Russian: 1913-1954.

Institution : None

Submitted : No date

ZHABOTINSKIY, M. YE.

USSR/Electronics - Klystrons FD-2441

Card 1/1 Pub 90-3/11

Author : Irisova, N. A., Zhabotinskiy, M. Ye., Veselago, V. G.

Title : Frequency stabilization of a three-centimeter klystron with the aid of a spectrum line

Periodical : Radiotekhnika, 10, 26-35, Apr 55

Abstract : A system for stabilizing klystron oscillator frequencies with the aid of the absorption spectrum line of some gas is explained. Gases used for this purpose should have an absorption line which is resonant with the frequency of waves generated by klystrons (centimeter and millimeter). The most effective absorption lines in the centimeter frequency range are those of ammonia gas. Frequency stabilization can be carried either in the region of the fundamental spectrum line, or in the region of its second and third harmonics. Theoretical analysis of this system, basic formulas for calculations; and the characteristics of the experimental model are discussed. The research was conducted at the Physics Institute, Academy of Sciences USSR in 1950-1951. M. A. Leontovich and A. M. Prokhorov are given thanks for advice.

Institution: --

Submitted : June 1, 1954

ZHABOTINSKIY, M.Ye. (Moskva)

Formation of signals with median frequencies. Izv.AN SSSR. Otd.tekh. nauk no.11:140-141 N '55. (MLRA 9:2)

1.Institut radiotekhniki i elektroniki AN SSSR.
(Radio frequency modulation)

ZHABOTINSKIY, M.E.

USSR/Electronics - Frequency Stabilizers FD-2224

Card 1/1 Pub 90-4/12

Author : Barchukov, A. I., Vasil'ev, G. A., Zhabotinskiy, M. E., Osipov. B. D.

Title : Electromechanic klystron frequency stabilizer

Periodical : Radiotekhnika, 10, No 3, 29-32, Mar 1955

Abstract : The article describes results of testing an electromechanic klystron frequency stabilizer developed by the authors at the Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR in 1951. The aim of this research was to develop a stabilizer simple in construction and operation, which could also provide an easy means for the klystron frequency changes. To attain these prerequisites in a single block, the functions of cavity resonator and the discriminator were unified, and the modulation of resonant frequency of the cavity-resonator wavemeter was executed by means of a movable membrane.

Institution: Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

Submitted : 16 Apr 1954

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001964520005-9"

ZHABOTYNSKIY, M.Ye., (Moskva)

Radiospectroscopy and the molecule structure. Usp.khim.24 no.6: 730-758 '55. (MLRA 9:1)
(Microwave spectroscopy) (Molecules)

ZHABOTINSKIY, M. Ye.

USSR/Electronics - Regeneration

FD-1830

Card 1/1 Pub 146-15/25

Author : Basov, N. G.; Veselago, V. G.; Zhabotinskiy, M. Ye.

Title : Increase in the quality of the volume resonator by means of regeneration

Periodical : Zhur. eksp. i teor. fiz. 28, 242, February 1955

Abstract : In connection with the possibility with the construction of a molecular oscillator (N. G. Basov and A. M. Prokhorov, ibid. 27, 431, 1954; Gordon, Zeiger, Townes, Phys. Rev. 95, 282, 1954) the problem arose concerning the essential enhancement of the quality of volume resonators, one of the methods to be used being the creation of superconducting volume resonators (M. S. Khaykin, DAN SSSR, 75, 661, 1950) and another method being the use of the method of regeneration well known in low-frequency radio range (G. Barkhausen, Elektronnyye lampy, Moscow, 1938). The authors conducted experiments using a volume resonator with goodness $Q=4\cdot10^4$ in a circuit of positive feedback with a microwave amplifier. They increased the effective goodness to $3\cdot10^6$.

Institution: Physics Institute im. P. N. Lebedev, Academy of Sciences USSR

Submitted : November 4, 1954

ZHABOTINSKIY, M. Ye., Cand. of Physical and Mathematical Sciences.

"Semiconducting devices, radiospectroscopy and induction heating," a chapter in the book Radio and Electronics and Their Technical Applications., By A. I. Berg, et al. Moscow 1956.

Summary of chapter 1071291

ZHABOTINSKIY, M. YE.
and others

"Concerning the Effect of a Sweep Frequency Signal on a Linear Resonance System," pp 3-12, ill, 17 ref

Abst: The purpose of the article is an approximate study of the reaction of linear systems on a signal with sweep frequency. The suggested method of investigation leads to results which are sufficient for many practical cases and which avoid massive computations.

SOURCE: Trudy Fizicheskogo In-ta im. P. N. Lebedev (Works of the Physics Institute imeni P. N. Lebedev), Volume 8, Moscow, Publishing House of the Academy of Sciences USSR, 1956

Sum 1854

ZHABOTINSKIY, M.YE.

H-8

Category : USSR/Electronics - Semiconductor devices and photoelements

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1734

Author : Zhabotinskiy, M.Ye.
Title : Scientific-Technical Conference on Semiconductor Devices

Orig Pub : Radiotekhnika i elektronika, 1956, 1, No 1, 124-125

Abstract : Brief contents of the papers delivered at the conference, devoted to problems of the development and introduction of semiconductor devices, held on 10-12 October 1955 in Moscow.

Card : 1/1

characterize them from the point of view of operating effectiveness. It is proposed to characterize the limiter by means of a parameter that makes it possible to determine readily the optimum mode. It is proposed to introduce neutralization of the transfer capacitance. The experimental data cited are in agreement with the theoretical ones.

BAZAROV, Ye.N., ZHABOTINSKIY, M.Ye.

Frequency division in a reflex klystron. Radiotekh. i elektron. 1 no.5:680-681 My '56. (MLRA 9:12)

1. Institut Radiotekhniki i elektroniki Akademii nauk SSSR.
(Klystrons)

ZHABOTINSKIY, M.Ye.; SVERCHKOV, Ye.I.

Measuring small phase angles. Prib.i tekh.eksp.no.3:74-76 M-D '56.
(MLRA 10:2)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Electronic instruments)

ZHABOTINSKIY, M.Ye.; IRISOVA, N.A.; RYTOV, S.M.

Effect of variable-frequency signals on a linear resonance system. (MIRA 10:3)
Trudy Fiz.inst. 8:3-12 '56.
(Radio frequency modulation)

ZHABOTINSKIY, M. Ye.

USSR / Radiophysics. General Problems. I-1

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12413

Author : Radunskaya, I., Zhabotinskiy, M.

Inst : Not given

Title : New Trends in Radio Electronics.

Orig Pub : Oktyabr', 1956, No 9, 154-162

Abstract : Popular article, devoted to radio astronomy, radio spectroscopy, and semiconductor devices.

Card : 1/1

ZHABOTINSKIY, M.Ye.

AUTHOR: Zhabotinskiy, M.Ye. and Bazarov, Ye.N.

"Frequency Conversion in a Reflex Klystron,"
A-U Sci Conf dedicated to "Radio Day," Moscow, 20-25 May 1957.

PERIODICAL: Radiotekhnika i Elektronika, Vol. 2, No. 9, pp. 1221-1224, 1957, (USSR)

ZHABOTINSKIY, M. YE

109-10-13/19

AUTHORS: Vasneva, G. A., Gaygerov, B. A., Grigor'yants, V. V., Yelkin, G. A., and Zhabotinskiy, M. Ye.

TITLE: Phase-lock Automatic Frequency Control of Klystrons by means of a Molecular Oscillator (Fazovaya avtopodstroyka klistrona po moldulyarnomu generatoru)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol. II, No. 10, p. 1300 (USSR)

ABSTRACT: The frequency of a 2.5 cm, 10 mW klystron was stabilised by means of a molecular oscillator. A second harmonic of the klystron and the signal of the molecular oscillator were applied signal was applied to a phase detector. A signal from a quartz stabilised oscillator, operating at 50 Mc/s, was also fed to the detector. The output voltage of the detector was applied to the reflector of the klystron, as a result of which the klystron had a pull-in banwidth of 0.15 Mc/s and a synchronisation bandwidth of 0.5 Mc/s. There are 6 references, 5 of which are Slavic.

ASSOCIATION: The Institute of Radio-engineering and Electronics ac.Sc. USSR (Institut radiotekhniki i elektroniki AN SSSR)

Card 1/2

ZHABOTINSKIY, M. Ye.

108-10-9/11

AUTHORS: Dzhigit, I.S., Zhabotinskiy, M.Ye., Ordinary Members of the Society

TITLE: Some New Branches of Radio-Electronics (Nekotoryye novyye razdely radioelektroniki)

PERIODICAL: Radiotekhnika, 1957, Vol. 12, Nr 10, pp. 85 - 93 (USSR)

ABSTRACT: The following branches have been newly developed and finally formed: radio navigation, radio-spectroscopy, radio-meteorology, radio-remote-control, radio-astronomy, radio-relay-connection and many others. Here the development of radio-astronomy and radio-spectroscopy is described shortly. At the borderlines of three sciences (astronomy, physics and radio engineering) radio-astronomy greatly extends the possibilities for the investigation of the universe by means of methods not accessible to optical astronomy. Two methods are used in radio-astronomy: the observation of the radio-radiation of the celestial bodies themselves, and the reception of the radio-waves transmitted from the earth and reflected from the objects observed. The following institutes in the USSR are concerned with the investigation of meteors: The Institute for Physics and Geophysics of the

Card 1/2

Some New Branches of Radio-Electronics

Turkmenian AN under the direction of I.S. Astapovich, the Astronomic Observatory in Kazan under the direction of K.V. Kostyrev, and the Observatory of Stalingrad (Tadzhikistan). The Institute for Physics of the AN USSR has two radio-telescopes with reflectors of 18 m x 8 m and two fixed parabolic mirrors of a diameter of 30 m on the Crimean peninsula. In the Armenian republic radio-telescopes with a surface of some thousand square meters are built in the Astrophysical Observatory in Byurakan for the observation of discreet sources of radio-radiation within the range of meter waves. In the astronomic main observatory of the USSR there is the greatest radio-telescope of the world for the range of centimeter waves. It is designed for the observation of the sun. A survey of the works of N.G. Basov and A.M. Prokhorov in the field of the generation and the amplification of radio waves is given. There are 15 Slavic references.

SUBMITTED: August 12, 1957

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova

AVAILABLE: Library of Congress

Card 2/2

ZHABOTINSKIY, Mark Yefremovich, kand. fiz.-mat. nauk; RADUNSKAYA, Irina L'vovna, inzh.; FAYNBOYM, I.B., red.; TROFIMOVA, A.V., tekhn. red.

[Language of molecules] IAzyk molekul. Moskva, Izd-vo "Znanie," 1958. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 8, vyp. 2, no.4). (MIRA 11:8)
(Molecules)

9(3,4); 24(5) PHASE I BOOK EXPLOITATION SOV/3277

Zhabotinskiy, Mark Yefremovich

Molekulyarnyye generatory i usiliteli (Molecular Generators and Amplifiers) Moscow, Gosenergoizdat, 1958. 47 p. (Series: Massovaya radiobiblioteka, no. 311) 35,000 copies printed.

Editorial Board: A.I. Berg, F.I. Burdeynyy, V.A. Burlyand, V.I. Vaneyev, Ye.N. Genishta, I.S. Dzhigit, A.M. Kanayeva, E.T. Krenkel', A.A. Kulikovskiy, A.D. Smirnov, F.I. Tarasov, and V.I. Shamshur; Ed.: P.O. Chechik (Deceased); Tech. Ed.: N.I. Borunov.

PURPOSE: The booklet is intended for radio amateurs and other persons having fundamental knowledge of physics and radio engineering.

COVERAGE: The author presents in a popular form the principles of quantum physics and radio engineering and outlines the fundamentals of design of molecular generators and amplifiers. He also gives a brief historical review of the development of that new field of science and of its applications. No personalities are mentioned. There are no references.

Card 1/2

ZHABOTINSKIY, M. YE., ZIL'BERMAN, P. YE.

"The Fluctuations in Quartz Oscillators."

Devoted to the analysis of three circuits, taking into consideration shot and thermal noise influences. The results obtained by the investigators showed that the natural line width of such an oscillator is smaller by approximately two orders compared to an ordinary oscillator.

report presented at the 1st All-Union Conference on Statistical Radio Physics, Gor'kiy, 13-18 October 1958. (Izv. vyssh uchev zaved-Radiotekh., vol. 2, No. 1, pp 121-127) COMPLETE card under SIFOROV, V. I.)

BAZAROV, YE. N., ZHABOTINSKIY, M. YE. (IREAN, Moscow)

"Fluctuations in a Reflex Klystron."

Investigated theoretically the fluctuations during synchronized operation with second order resonance and overtone synchronization. They also investigated self-oscillator fluctuations at an arbitrary transit angle.

report presented at the 1st All-Union Conference on Statistical Radio Physics, Gor'kiy, 13-18 October 1958. (Izv. vyssh uchev zaved-Radiotekh., vol. 2, No. 1, pp 121-127) COMPLETE card under SIFOROV, V. I.)

SOV-120-58-1-25/43

AUTHORS: Grigor'yants, V. V. and Zhabotinskiy, M. Ye.

TITLE: The Design and Construction of Thermostats of High Accuracy (Raschet i konstruirovaniye termostatov vysokoy tochnosti)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 106-109 (USSR)

ABSTRACT: A thermostat is defined as a system with automatic regulation. Two methods of regulating temperature are known: continuous and discontinuous. The discontinuous temperature control has been sufficiently well studied (Refs.1, 2). However, only one paper (Ref.3) has so far appeared on the continuous temperature control. A schematic diagram of a continuous action thermostat is given in Fig.1. The thermostat works as follows: the bridge is balanced at the working temperature T_o. At the same time the furnace produces power P which ensures that this internal temperature is T_o while the external temperature remains T_{ext}. When the T_{ext} changes, the temperature T_o inside the thermostat

Card 1/3

The Design and Construction of Thermostats of High Accuracy.

also changes and this leads to unbalance of the bridge. This appears as a signal at the input of the amplifier, is amplified, and then applied to the circuit which controls the power dissipated in the furnace. In this way any change in temperature may be compensated. Although the temperature is thus re-established, nevertheless, a small error is introduced and this depends on the construction and the parameters of the thermostat. An expression for this relation is derived. The power produced in the furnace consists of three parts: one part is used up in maintaining the temperature difference $T_o - T_{ext}$, the second part is used up in heating up the furnace, and the third enters the working volume, heats it and is partly transmitted to the bridge which also warms up. The accuracy of the regulation and the stability of the system is then considered and expressions are derived to represent them. Using these relations it is possible to obtain optimum values for the thermostat parameters. Using these values a thermostat has been constructed which gives a constant temperature to within $\pm 0.001^{\circ}C$. The electrical circuit is shown in detail in Fig.2. G. P. Barykin is

SOV-120-58-1-25/43

The Design and Construction of Thermostats of High Accuracy.

thanked for his co-operation. There are 2 figures and 3 references, of which 2 are Soviet and 1 is English.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics, Academy of Sciences USSR)

SUBMITTED: April 5, 1957.

1. Thermostats--Design 2. Thermostats--Performance 3. Thermostats --Circuits

Card 3/3

VASNEVA, G.A.; GRIGOR'YANTS, V.V.; ZHABOTINSKIY, M.Ye.; KLYSHKO, D.N.; SVERDLOV, Yu.L.; SVERCHKOV, Ye.L.

Circuit for comparing the frequencies of quartz and molecular oscillators. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:185-187 '58. (MIRA 11:11)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Oscillations)

109-3-2-16/26

AUTHORS: Zhabotinskiy, M.Ye. and Zil'berman, P.Ye.

TITLE: Dependence of the Frequency of Quartz Oscillators on the Power Dissipated in Quartz (O zavisimosti chastoty kvartsevykh generatorov ot moshchnosti, rasseivayemoy v kvartse)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.2, pp. 276 - 277 (USSR).

ABSTRACT: It is shown that the thermal balance in a quartz crystal can be described by Eq.(1), where $\vartheta(t)$ is the difference between the temperature of quartz and that of the surrounding medium, m is the mass of the quartz resonator, c is its specific thermal capacitance, k is the heat transfer coefficient and W(t) is the power dissipated in quartz. On the other hand, it is shown that the power dissipated in quartz can be expressed by Eq.(2), where V is the voltage across the quartz crystal, R is the quartz equivalent resistance, L is the inductance, ω_o is the series resonant frequency and ω is the parallel resonant frequency. From Eqs.(1) and (2), it is possible to derive an equation for the temperature variation as a function of V . Eqs.(1) and (2) show that if the amplitude of V varies by about 1 db, the

Dependence of the Frequency of Quartz Oscillators on the Power Dissipated in Quartz

resulting frequency instability is of the order of 10^{-13}. This figure is much lower than that quoted by Felch and Israel (Ref.1). The authors express their gratitude to D.N. Klyshko for his help in the measurement of the transient temperature of quartz crystals.
There are 4 references, 3 of which are English and 1 Russian.

ASSOCIATION: Institute of Radio Engineering and Electronics of the Academy of Sciences USSR (Institut radiotekhniki i elektroniki AN SSSR)

SUBMITTED: October 18, 1957

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Card 2/2

1. Crystal oscillators-Analysis

AUTHOR: Zhabotinskiy, M.Ye. 109-3-2-26/26

TITLE: The Twelfth General Assembly of URSI (XII general'naya assambleya URSI) (News Item)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.2, pp. 300 - 304 (USSR)

ABSTRACT: The assembly took place in Bolder, Colorado, USA, during August 22 - September 5, 1957. It was attended by the representatives of various countries, including a Soviet delegation consisting of sixteen scientists and engineers. The Soviet delegation was headed by Academician V.A. Kotel'nikov. The Soviet scientists took part in the activities of the assembly. Five Soviet scientists read papers at the meetings of the Committee I, and six scientists delivered lectures at the Committee II. There was one Soviet lecture at the Committees III and IV and two Soviet papers were read at the Committee V. Three Soviet scientists delivered lectures at the meetings of Committee IV and a special seminar was organised by the Soviet delegation towards the end of the conference, at which lectures were delivered by V.A. Krasil'nikov, A.M. Prokhorov and V.I. Siforov.

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Card 1/1 1. Radio engineering-Conference

SOV-109-3-4-20/28

AUTHORS: Vasneva, G. A., Grigor'yants, V. V., Zhabotinskiy, M. Ye., Klyshko, D. N., Sverdlov, Yu. L. and Sverchkov, Ye. I.

TITLE: Frequency Standard with a Molecular Oscillator (Reper chastoty s molekulyarnym generatorom)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.3, Nr 4, pp 569-570 (USSR)

ABSTRACT: Description and block diagram are given of a molecular oscillator which was employed for the calibration of quartz crystals operating at a frequency of 1 Mc/s. The frequency of the oscillator was compared with the 23,868th harmonic of the frequency of the investigated crystal and an accuracy better than 10^{-9} was attained. There is 1 figure and 2 references, one of which is Soviet and 1 English.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics of the AS USSR)

SUBMITTED: December 3, 1957

1. Oscillators--Applications 2. Quartz crystals--Calibration

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06502
SOV/141-58-4-18/26

AUTHORS: Zhabotinskiy, M.Ye., Klyshko, D.N. and Sverchkov, Ye.I.

TITLE: Accurate Comparison of Neighbouring Frequencies by Means of Computing Systems (Tochnoye sravneniye blizkikh chastot pri pomoshchi pereschetnykh skhem)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1958, Nr 4, pp 137-141 (USSR)

ABSTRACT: An equipment is described which permitted the frequency measurement with an error of 10^{-10}, the duration of the measurement being of the order of a few seconds. The equipment is illustrated diagrammatically in Fig 1 on p 139. The measured frequency f and the frequency of a standard oscillator f_1 are shaped into narrow "spiky" pulses by means of two identical circuits; each circuit contains a resistance capacitance amplifier, a pulse forming stage and a wideband pulse amplifier. The two pulse trains obtained in this manner are applied to a mixer-coincidence detector which is normally closed by a negative bias and is opened only when the two pulses coincide. The mixer-detector is terminated with an integrating RC

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Accurate Comparison of Neighbouring Frequencies by Means of Computing Systems

circuit which detects the envelope of the pulse beats. The envelope is amplified and limited and afterwards fed to the computing system, type PS-64, which divides the pulse repetition frequency by an even number n = 2, 8 or 32; number n can be chosen so as to satisfy the required accuracy of the measurement. The output pulses from the computing system trigger an asymetrical multi-vibrator. The voltage from the cathode of the multi-vibrator is applied to a gate circuit whose amplification is changed thereby stepwise by 30 db. The control grid of the gate tube is supplied with the pulses from an auxiliary oscillator f_o. Consequently the gate circuit transmits pulses of frequency f_o during a period nT. Afterwards the gate is closed for a duration nT. During the latter period the indication of the computer is read out and the computer then reset to zero. The measurement of the frequency f is done in accordance with the formula:

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$$f = f_1 \pm F = f_1 \pm nf_o/m$$

where n is the dividing coefficient of the auxiliary computing system, while m is the reading of the principal computing system. The equipment can be employed at frequencies ranging from 10-3000 kc/s. There is 1 figure and 2 Soviet references.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR (The Institute of Radio Engineering and Electronics of the Academy of Sciences, USSR)

SUBMITTED: 25th November 1957

Card 3/3

AUTHORS: Zhabotinskiy, M. Ye., Zil'berman, P. Ye. 20-119-5-21/59

TITLE: Fluctuations in Quartz Crystal Generators
(O fluktuatsiyakh v kvartsevykh generatorakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 5, pp. 918-921 (USSR)

ABSTRACT: The problem of the fluctuation-dependent stability limit of the frequency of quartz crystal generators has not been solved until now. The present work is showing a way for this and gives the results of the investigations of the fluctuations in the quartz crystal generators used in practice. In this symbolic differential equations are solved by means of the method of small parameters. In the problems of the fluctuations in systems of autovibration only the spectral range of the fluctuations contained within the limits of the bands plays a part. It is a characteristic feature of quartz crystal generators that they have two greatly differing bands: the first is dependent on the time constant of the circuit regenerated by

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the valve, and the second one on the time constant of the quartz crystal generator. The second band is essentially more narrow than the first. The autovibration system in quartz is described by the equations

$$\frac{d^2x}{dt^2} + x = \mu f(x, \frac{dx}{dt}, y, \frac{dy}{dt}, \mu) + \mu^2 F_1(t); \quad \frac{d^2y}{dt^2} + y =$$

$$= \mu^2 g(x, \frac{dx}{dt}, y, \frac{dy}{dt}, \mu) + \mu^3 F_2(t) \quad .$$

$F_1(t)$ and $F_2(t)$ denote steady random functions. The deduction of the vibration amplitude of quartz in relation to the time t has to be considered a magnitude of higher order of smallness with respect to μ than the deduction of the vibration amplitude of the circuit. The solution of the above system of equations is put down in the form $x = P\cos(t-\varphi) + Q\sin(t-\varphi) + \mu$(harmonic); $y = R\cos(t-\varphi) + \mu^2$ (harmonic). In consequence of the connection of the circuit and the quartz terms will enter the equations for the fluctuations which are determined by the fluctuations in quartz. Also the opposite is the case.

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The analysis is carried out for two typical oscillator circuits and for a retardation circuit. The equations resulting in first approximation for the fluctuations are put down in detail. The phase of the quartz does not fluctuate in first approximation, the corresponding equation in second approximation is put down and its further treatment is traced. The amplitude fluctuations of quartz accelerate a little the increase of the phase compared to the intermediary range. The initial reaction of the mean square of the starting of the phase has almost no influence on the spectral band. Analogously also the oscillator circuit with the quartz in the anode, as well as the retardation circuit were investigated. A comparison with experiment shows the following: The Schrot fluctuations and the thermal fluctuations are not decisive for the stability of the frequency of the quartz crystal generators and the stability limit of these generators dependent on the fluctuations has not yet been reached. The authors thank S. M. Rytov for his valuable discussion. There are 2 figures, 1 table, and 4 references,

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4 Soviet
Inst. Radio Engineering and Electronics, AS USSR

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report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959.