"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

USSR

Qualitative changes in some raw foods in the process of drying by sublimation. V. M. Iosikova, L. N. Kravchina, V. V. Zvorykina, and V. A. Devyatnin. *Trudy Vsesoyuz. Nauch.-Issledovatel. Vitamin. Inst.* 6, 201-6(1953).—Juices of blackberries, dog-rose fruit, tomatoes, and lemons, dried by sublimation, retain their ascorbic acid, pectins, and enzymes to a satisfactory degree if the moisture is reduced to its min. and if they are stored in an atm. of N in hermetically sealed containers. B. S. Levine

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

USSR

Vitaminization of margarine. V. M. Iosikova, V. V. Zvorykina, and V. A. Devyatnin. *Trudy Vsesoyuz. Nauch.-Issledovatel. Vitamin Inst.* 4, 211-15(1953).—Vitamin A can be well conserved in raw products of high quality when a stabilizer (lecithin) is added. The even incorporation of the vitamin is essential. The U.S.S.R. Comm. on Nutrition established 50,000 I.U. of vitamin A and 5000 I.U. of vitamin D per kg. of the finished product as the legal norm.

B. S. Levine

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

USSR

The determination of 2-methyl-1,4-naphthaquinone in its water-soluble derivatives. M. P. Zaslavskaya and V. A. Devyatnin. *Trudy Vsesoyuz. Nauch.-Issledovatel. Vitamin. Inst.* 4, 238-9(1953).—Dissolve 100-250 mg. in 20-30 ml. distd. H_2O. Add dropwise a 1% H_2O soln. of NaOH or KOH. Filter, wash 2-3 times with H_2O, dissolve in 95% EtOH, transfer to 50-100-ml. volumetric flask with 2-3 washings, add alc. to mark, and use 10-ml. aliquots for detm. as described (cf. *C.A.* 39, 3221). B. S. Levine

31

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V. A.

USSR

Chemical analysis of vitamin B_2 in industry. V. A. Devyatnin, L. N. Kravchina, and N. M. Stol'nikova. *Trudy Vsesoyuz. Nauch.-Issledovatel. Vitamin. Inst.* 4, 239-40(1958). B. S. Levine

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Devyatnin, V. A.

USSR

The determination of vitamin D in commercial products. V. A. Devyatnin and V. V. Zvorykina. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 4, 245-6(1953).

B. S. Levine

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

USSR

/ Addition of vitamins to food in the case of public nourishment. V. A. Devyatnin (All-Union Vitamin Sci. Research Inst., Moscow). Voprosy Pitaniya 12, No. 6, 79-80(1953).

—A discussion. The addn. of vitamins B_1, B_2, and PP is recommended for bread and milk products, and vitamins A and D for edible fats. After 8 months of storage at 0° the edible fats contained 80% of the original vitamin A content; the fat enriched with vitamin A contained from 86.6 to 92.7% of the original content even after frying. E. W.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

Vitamins. Priroda 42 no.8:42-55 Ag '53. (MLRA 6:7)
(Vitamins)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A., kandidat sel'sko-khozyaystvennykh nauk, redaktor; KLIMENS, M.I., redaktor; GOTLIB, E.M., tekhnicheskiy redaktor.

[Methods of determining vitamins; chemical and biological] Metody opredeleniia vitaminov (khimicheskie i biologicheskie). Pod red. V.A. Deviatnina. [Moskva], Pishchepromizdat, 1954. 135 p. (MLRA 8:4)

1. Zaveduyushchiy khimiko-analiticheskoy laboratoriyey Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta (for Devyatnin).
(Vitamins)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

USSR/Medicine - Vitamin supplements

Card 1/1 : Pub. 86 - 33/34

Authors : Devyatnin, V. A.

Title : How to enrich the food rations with vitamins

Periodical : Priroda 1, 126-127, Jan 1954

Abstract : In answer to an inquiry by a reader the author suggests various ways of enriching the daily human food rations with useful B-vitamins. Table.

Institution : The All-Union Scientific Research Vitamin Institute

Submitted : .....

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

Effect of moisture on decomposition of vitamins C and B_1 in formulations. V. A. Devyatnin, V. V. Zverykina, and N. M. Stol'nikova. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 42-6(1954).—Moisture accelerated oxidation of ascorbic acid in glucose tablets, as does citric acid which should not be formulated with ascorbic acid for this reason. Moisture also catalyzes the loss of thiamine in tablets, but citric acid has no effect on this decompn., which appears to consist in a formation of a Schiff base.

G. M. Kosolapoff

Anal. Chem. Lab.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

2.

Vitaminization of vegetable oil. V. A. Devyatnin and M. P. Zakharova. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 193-4(1954).—Refined sunflower oil treated with 2500-25,000 units of vitamin A/10 g. was prepd. without change of taste of the oil. No loss was found after 10-month storage at room temp.

G. M. Kosolapoff

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Devyatnin, V. A.

MD

Changes in the activity of ascorbic acid oxidizing plant enzymes. V. A. Devyatnin and E. V. Gruint. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 127–32 (1954); *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 5933.—A method is described for detg. ascorbic acid (I)-oxidizing properties in plant material. The ground plant material (5-25 g.) is made up to 25-50 ml. To 5 ml. of such suspension are added 1 ml. (5 mg.) of I and 19 ml. of phosphate buffer (pH 5.0); the mixt. is placed in a 29° incubator for 30 min. and occasionally shaken (flask No. 1). Oxidizing enzyme activity is stopped by adding 5 ml. of 2% HCl soln. 0.5-2.0 ml. is titrated with 0.001 *N* 2,6-dichloroindophenol (II). To the first control (flask No. 2) in the place of I is added 1 ml. double-distd. H_2O. Should the material in flask No. 2 contain some I, the titration results are subtracted from the titration of flask No. 1. Another control (flask No. 3) is set up to det. the purity of the reagents. To this 5 ml. of double distd. H_2O is added in place of the suspension. The result of ascorbinase activity, expressed in mg. of dehydroascorbic acid/g. of plant tissue/hr. of enzyme activity, is calcd. according to the formula $[(a - b)K \times 2]/(11.4 \times c)$, in which a = ml. of II used in the titration of material in flask No. 3; b = ml. for flask No. 1; K = correction coeff. for the titration of II; 2 = 60 min. conversion coeff.; 11.4 = correction coeff. for soln. II/ml. of I; c = aliquot of material used in the titration. From test, with 49 plant-leaf samples it was demonstrated that no relation exists between the accumulation of I and its oxidizing activity.

B. S. Levine

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Properties of fatty oil from dog rose seeds. V. A. Devyatkin and M. P. Zakharova. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 181-2(1954).—Dog-rose seed yields a red-brown oil, d. 0.9328, f.p. −12°, n_D^{20} 1.4805, n_D^{25} 1.4803, n_D^{30} 1.4800, n_D^{35} 1.4798; free acidity is 3.9 mg. KOH, I no. 161.9, sapon. no. 173.9, unsaponifiables 2.3%, essential oils 0.7%, carotene 10 mg. %, vitamin E 200 mg. %. The latter is readily destroyed in storage in the oil.

G. M. Kosolapoff

Med

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

3

Vitaminization of food products. V. A. Devyatnin, L. N. Kravchina and V. I. Koltunova. *Trudy, Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 18[illegible]-91(1954).—Enrichment is needed with vitamin C for domestic canned soups, with vitamin A for butter, and with vitamin B_2 for rye bread products. Data on stability of the vitamins in these foods are tabulated. G. M. Kosolapoff

Med

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Comparison of results of iodate and indophenol methods of determination of ascorbic acid in industrial products. V. A. Devyatnin, V. V. Zvorykina, and N. M. Stoi'nikova. *Trudy Vsesoyuz. Nauch. Issledovatel. Vitamin. Inst.* 5, 189-200(1954).—The iodate method was shown to be more accurate than the indophenol method for detn. of ascorbic acid in common commercial vitamin products. The iodate method gave variations of 0.04–0.19%, whereas the indophenol method gave variation of 0.57–0.69%.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNINA, V. A.

USSR/Chemistry - Vitamins

Card 1/1 : Pub. 86 - 36/36

Authors : Devyatnina, V. A.

Title : How best to preserve the vitamins in the black currant

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

USSR/Medicine - Vitamins

Card 1/1 Pub. 86-33/33

Author: Devyatnin, V. A.

Title: Vitamin N

Periodical: Priroda 43/11, page 128, Nov 1954

Abstract: The manner in which vitamen N was discovered is recounted and the role that is plays in keeping the functioning of the human body normal is described.

Institution: ...

Submitted: ...

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNINA, V. A.

USSR/Chemistry - Vitamins

Card 1/1 Pub. 86 - 36/36

Authors : Devyatnina, V. A.

Title : Ways of preserving the vitamin content of the dog rose

Periodical : Priroda 44/6, 127 - 128, Jun 1955

Abstract : Directions for preservation of the fruit of the dog rose are presented, covering such points as keeping the dried-out fruit in a cool, dry place and giving it an occasional airing. Some of the food products which can be made from the dog rose fruit are enumerated with an outline of the method of their preparation.

Institution : .....

Submitted : .....

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN,V.A.

DEVYATNIN,V.A.; OBODOVSKAYA,D.A.

Sea buckthorn. Priroda 44 no.9:101-102 S '55. (MLRA 8:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut
(Buckthorn)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DAVIDOV, Ruben Bagdasarovich; GUL'KO, Liya Yefimovna; YERMAKOVA, Mariya Alekseyevna; BUKIN, V.N., professor, doktor biologicheskikh nauk, retsenzent; INIKHOV, G.S., professor, doktor khimicheskikh nauk, retsenzent; DEVYATKIN, V.A., kandidat khimicheskikh nauk, spetsredaktor; AKIMOVA, L.D., redaktor; CHEBYSHEVA, Ye.A., tekhnicheskiy redaktor

[Principal vitamins in milk and milk products] Osnovnye vitaminy v moloke i molochnykh produktakh. Moskva, Pishchepromizdat, 1956. 229 p. (MLRA 9:8)

(MILK) (VITAMINS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN V.A.

AUTHOR: Devyatnin, V.A. 26-10-43/44

TITLE: Vitamins in Fruits (Vitaminy v plodakh)

PERIODICAL: Priroda, 1957, No 10, pp 126-127 (USSR)

ABSTRACT: A reader of the "Priroda" periodical wants to know which fruits and berries are especially rich in vitamins. The author points out that only data about vitamin "C" can be given. According to a table about berries (Table 1) the dogberry and actindia are richest in vitamin "C". As to vitamin "C" in apples, (Table 2) the author mentions Siberian apples as containing 4.7 to 24.7 mg per 100 g and says that as a rule, apples in northern regions contain far more vitamin "C" than those in the south. The highest contents of vitamin "C" is found in wild apples which average from 13.1 to 79.6 mg of vitamin "C" per 100 g.
There are 2 Slavic references.

ASSOCIATION: Laboratory of Analytical Chemistry of the All-Union Institute of Scientific Vitamin Research (Khimiko-analiticheskaya laboratoriya vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta)

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; SOLUNINA, I.A.

Stabilization of vitamin A. Trudy VNIVI 6:122-128 '59.
(MIRA 13:7)
1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Khimiko-analiticheskaya laboratoriya.
(VITAMINS--A) (ANTIOXIDANTS)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; KOLTUNOVA, V.I.

Study of the stability of calciferol. Trudy VNIVI 6:128-131 '59. (MIRA 13:7)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(VITAMINS--D)

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DEVYATNIN, V.A.

Methods for determining vitamins by paper chromatography. ~~Vitaminy~~ no.5:50-60 '59. (MIRA 14:11)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(VITAMINS) (PAPER CHROMATOGRAPHY)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

Varying activity of the enzyme systems participating in the biosynthesis of ascorbic acid in plants. Trudy VNIVI 6:190-192 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Khimiko-analiticheskaya laboratoriya.
(ENZYMES) (ASCORBIC ACID)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; MEL'NIKOVA, Ye.Ya.; CHEPENKO, A.I.

Vitamin A, B_1 and B_2 content of cheese. Trudy VNIVI 6:240-242 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Khimiko-analiticheskaya laboratoriya.
(CHEESE) (VITAMINS)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; IVANOV, A.G.; MEL'NIKOVA, Ye.Ya.

Vitaminization of confectionery products with ascorbic acid. Trudy VNIVI 6:242-244 '59. (MIRA 13:7)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta i 6-ya Leningradskaya konditerskaya fabrika.
(ASCORBIC ACID) (CONFECTIONERY)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; IOYRISH, N.P.; MEL'NIKOVA, Yo.Ya.

Preservation of vitamin C in honey following its vitaminization. Trudy VNIVI 6:244-245 '59. (MIRA 13:7)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(ASCORBIC ACID) (HONEY)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

FEDOROVA, G.A.; DEVYATNIN, V.A.

Method for the determination of flavonols in vegetable products and industrial preparations. Trudy VNIVI 6:251-256 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Khimiko-analiticheskaya laboratoriya.
(FLAVONES)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

KRAVCHINA, L.N.; DEVYATNIN, V.A.

Methods for the analysis of β-ionone. Trudy VNIVI 6:265-269 '59. (MIRA 13:7)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(IONONES)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; FEDOROVA, G.A.

Materials on a spectrophotometric method for the determination of the quality of 4-methyl-5-oxyethylthiazole. Trudy VNIVI 6: 285-287 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Khimiko-analiticheskaya laboratoriya.
(SPECTROPHOTOMETRY) (THIAZOLE)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.

Some features of the formation and accumulation of ascorbic acid in plants and their significance for plant introduction. Trudy Bot.inst.Ser.6 no.7:345-350 '59. (MIRA 13:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut, Moskva.
(Ascorbic acid) (Plant introduction)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; SOLUNINA, I.A.

Determining tocopherols in vegetable oils. Med. prom. 13 no.2: 38-42 F '59. (MIRA 12:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(OILS AND FATS--ANALYSIS)
(TOCOPHEROLS)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; NIKOFOROVA, V.V.; SOLUNINA, I.A.

Accelerated method of determining the quality of Na-α-ozymethylene-β-ethoxypropionitrile. Med. prom. 14 no.7:44-47 Je '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(PROPIONITRILE)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; SOLUNINA, I.A.; FEDOROVA, G.A.; MEL'NIKOVA, Ye.Ya.; SAMSONOVA, G.S.; ZHELTOVA, I.S.

Vitamin loss in cooking. Trudy VNIVI 8:93-96 '61. (MIRA 14:9)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Vitamins)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; NIKIFOROVA, V.V.; SOLUNINA, I.A.

Colorimetric method of determining Na-α-oxymethylene -β-ethoxypropionitrile. Trudy VNIVI 8:97 '61. (MIRA 14:9)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Colorimetry) (Nitriles)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; FEDOROVA, G.A.

Application of colorimetry in determining vitamin B_6 in polyvitamin preparations. Trudy VNIVI 8:97-102 '61. (MIRA 14:9)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Colorimetry) (Pyridoxine)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

MELYUKOV, A.N.; DEVYATNIN, V.A.

Chemical determination of sterols and vitamin D in feeds. Trudy VNIVI 8:114-119 '61. (MIRA 14:9)

1. Khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Sterols) (Vitamins--D) (Feeds--Analysis)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATNIN, V.A.; SOLUNINA, I.A.; KUZNETSOVA, L.A.

Adsorption method for determing ergocalciferol in irradiated ergosterol solutions. Med.prom. 16 no.4:30-33 Ap '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(ERGOSTEROL) (ERGOCALCIFEROL)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

BEREZOVSKIY, V. M.; KOLTUNOVA, V. I.; SHLIMOVICH, Ye. A.; DEVYATNIN, V. A.

Nucleotides, coferments, phosphoric esters. Part 1: Synthesis of a monophosphoric ester of thiamine phosphate. Zhur. ob. khim. 32 no.12:3890-3892 D '62. (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.

(Thiamine) (Phosphoric acid)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

SOLUNINA, I.A.; DEVYATNIN, V.A.

Polarographic method of determining vitamin A in industrial preparations. Prikl. biokhim. i mikrobiol. 1 no.5:544-548 S-O '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.I., student IV kursa; MAREK, K.Kh., student IV kursa

Commutation of Gaussian coordinates in processing the data of second-order triangulation without transferring the measured elements of the network to a plane. Trudy MIIGAiK No.49:125-132 '61. (MIRA 14:7)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii, geodezicheskiy fakul'tet.
(Triangulation) (Coordinates)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.M.

USSR/Physics - Spectrum of crypton

FD-2164

Card 1/1 Pub. 129-4/20

Author : Devyatov, A. M., and Kaptsov, N. A.

Title : Investigation of the excitation functions of certain spectral lines of krypton

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 10, No 2, 27-36, Mar 1955

Abstract : Up to the present time the excitation functions of the energy levels and spectral lines of a small number of elements have been investigated; namely H, He, Ne, Ar, Hg, Zn, Cd, Na, etc. (1927-1952). In the present work the authors determine the relative functions of excitation of certain spectral lines of krypton by an optical method. They describe the procedure of the experiment and experimental arrangement; the results obtained are shown in 17 graphs (excitation function for various Kr lines and wave lengths). Fifteen references; e.g. four by B. M. Yavorskiy (1944-1947); A. N. Zaydel', V. K, Prokof'yev, and S. N. Rayskiy, Tablitsy spektral'nykh liniy (Tables of spectral lines), GITL, Moscow-Leningrad, 1952.

Institution : -

Submitted : September 4, 1954

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Determination of excitation function. [illegible] Excitation function of certain spectral lines of krypton and xenon. [illegible] Sin-San Guk and [illegible] M. Devyatov. [illegible] Sci. Mat., Mekh., Astron., Fiz. i Khim. 12, No. 1, [illegible] (1957).—The modified Hanle's exptl. tube (Z. Physik [illegible] 12(1930)) was used for the detn. of excitation function. In order to obtain accurate localization of electron beam, a [illegible] anode was inserted into tube near the cathode. The excitation function for 7 lines of Kr I, 10 lines of Kr II, and 2 lines of Xe I are given. The obtained excitation function curves differ from those obtained previously (cf. C.A. [illegible]).

M. Charmandarian

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APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Devyatov, A.M.

SIN SAN GUK; DEVYATOV, A.M.

Determining the excitation functions. Part 2: Excitation functions of certain spectral lines of neon in absolute units. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 12 no.2:103-110 '57. (MIRA 10:12)

1.Kafedra elektroniki Moskovskogo universiteta.
(Neon--Spectra)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.M.; SIN SAN GUK [Sin San-kuk]

Determining the excitation functions. Part 3: Excitation functions of spectrum lines of molecular hydrogen. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 12 no.3:79-84 '57. (MIRA 11:3)

1.Kafedra elektroniki Moskovskogo gosudarstvennogo universiteta.
(Hydrogen--Spectra)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

86279
S/188/60/000/005/008/010
B019/B056

26.2311

AUTHORS: Dzherpetov, Kh. A., Devyatov, A. M., Polyakov, V. A.

TITLE: The Intensity of the He I Spectral Lines in a High-frequency Discharge at Low Pressure

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 5, pp. 68 - 73

TEXT: By means of photographic photometry, the authors investigated the intensity of 9 spectral lines of He I in the visible range of the spectrum as a function of pressure within a range of from $2 \cdot 10^{-2}$ to $3 \cdot 10^{-3}$ mm Hg in a high-frequency plasma (38 Mc/sec). The plasma was generated in a tube with external electrodes, which had a diameter of 28 mm and a length of 350 mm. The tube had two probes, one of them was heated by induction. By means of an electric furnace the tube itself was kept at 480°C during the experiment. It was mounted perpendicular to the optical axis of a collimator spectroscope. The following lines were

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

86279

The Intensity of the He I Spectral Lines in a High-frequency Discharge at Low Pressure

S/188/60/000/005/008/010
B019/B056

measured: 4121 A ($2^3P_0 - 5^3S_1$), 4169 A ($2^1P_1 - 6^1S_0$), 4438 A ($2^1P_1 - 5^1S_0$), 4922 A ($2^1P_1 - 4^1D_2$), 4144 A ($2^1P_1 - 5^2D_2$), 4388 A ($2^1P_1 - 5^2D_2$), 4472 A ($2^3P_{2,1} - 4^3D_{3,2,1}$), 5016 A ($2^1S_0 - 3^1P_1$), and 5048 A ($2^1P_1 - 4^1S_0$). Under the experimental conditions chosen the intensities of these nine spectral lines have marked maxima. From a comparison between determination of plasma temperatures by means of probes and by means of the intensity ratio of two spectral lines it follows that for the spectral-optical determination of plasma temperature, the usability of the two spectral lines used for this purpose must be carefully studied. The authors thank Professor N. A. Kaptsov for his interest. There are 5 figures and 12 references: 9 Soviet, 2 German, and 1 British.

ASSOCIATION: Kafedra elektroniki (Department of Electronics)

SUBMITTED: April 8, 1960

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

VOLKOVA, L.M., DEVYATOV, A.M., KURALOVA, A.V.

Effective excitation cross sections of some spectral lines of krypton and xenon. Izv. AN SSSR. Ser. fiz. 24 no.8:950-952 Ag '60. (MIRA 13:8)

1. Fizicheskiy fakul'tet Moskovskogo gosudartsvennogo universiteta imeni M.V. Lomonosova.
(Krypton--Spectra) (Xenon--Spectra) (Nuclear reactions)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

S/048/60/024/008/004/017
B012/B067

AUTHORS: Volkova, L. M., Devyatov, A. M., Kuralova, A. V.

TITLE: Excitation Cross Sections of Some Spectral Lines of Krypton and Xenon

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 8, pp. 950-952

TEXT: In the present paper the excitation cross sections are determined for 5 lines of krypton and 10 lines of xenon. The excitation curves were drawn by the method of photographic photometry. The electron gun consisted of a heated oxide cathode and three other electrodes. The measurements were made with 400 μ a. and are described in brief. Part of the data obtained for a series of lines of krypton and xenon was published in the papers (Refs. 3,4). In addition, the authors measured excitation curves of 4 lines of Kr II. They are shown in Fig. 1. Figs. 2 and 3 show the excitation curves of Kr I. Fig. 2 shows the curves drawn by the ordinary method and by the method of the electrical retarding

Card 1/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Excitation Cross Sections of Some Spectral Lines of Krypton and Xenon

S/048/60/024/008/004/017
B012/B067

field; they are in good agreement within the error limit. Besides, also the absolute values of the excitation cross sections of 5 lines of krypton and 10 lines of xenon (which are given in the papers of Refs. 3,4) were measured according to the method described in Ref. 5. These values are tabulated here. There are 3 figures, 1 table, and 5 Soviet references.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova (Department of Physics of the Moscow State University im. M. V. Lomonosov)

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DZHERPETOV, Kh.A.; DEVYATOV, A.M.; POLYAKOV, V.A.

Intensity of spectral lines of He I in a low-pressure high-frequency discharge. Vest. Mosk. un. Ser. 3: Fiz., astron. 15 no.5:68-73 S-O '60. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet, kafedra elektroniki.
(Helium--Spectra)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

21507

S/139/61/000/002/002/018
E073/E535

26.2310

AUTHORS: Dzhumakuliyev, R. and Devyatov, A. M.

TITLE: Investigation of the Temperature of a High Frequency Corona Discharge

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1961, No.2, pp.24-27

TEXT: M. Z. Khokhlov (Ref.1: Dissertation, Moscow State University, 1953) has shown that the temperature of a high frequency discharge at the frequency of 32 to 33 Mc/s for a pressure in excess of 200 mm Hg remains unchanged within the range of 50 to 200 W. Therefore, determination and investigation of the temperature of a high frequency corona discharge as a function of the power is of interest. The corona discharge was produced in a copper point-plate gap whereby the plate was grounded through a capacitance C_2, Fig.1. The point had an opening angle of 40° and the distance between the point and the plate was 20 cm. High frequency voltages of 3.1 Mc/s were generated by means of an inductive coupling using a powerful oscillator KB 15/25. For measuring the power of the high frequency discharge, the authors

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used the method of decompensation by means of a capacitance developed by A. A. Kuzovnikov and K. S. Golovanivskiy (Ref.9). On the assumption that the capacitances C_1 and C_2 are much larger than the capacitances C_M and C_{np} and the load resistances connected in the points A and B are much larger than the resistances of the other branches, the following formula is valid:

$$|U_2| = \frac{i_p}{\omega C_2} \qquad (1)$$

where i_p - discharge current and $|U_2|$ - voltage between the points A and B. Under certain conditions $|U_2|$ is proportional to the active component of the discharge current and in this case the active current can be determined by measuring $|U_2|$; knowing the voltage across U the power of the discharge can be determined. The temperature of the high frequency discharge channel was measured at a distance of 10 mm from the bottom electrode. The temperature was determined spectroscopically by

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measuring the distribution of the intensity of the lines in the rotation structure of the band OH 3064 Å for discharge powers of 100, 300 and 500 W. The respective temperatures were 3530, 3510 and 3600°K, each of these values being the average of 5 to 8 measurements. The greatest deviation from the average of nine measurements was 3.5%. These values show that within the limits of experimental error, the temperature is independent of the power of the discharge. The authors express the view that this may be due to a widening of the discharge channel with increasing power of the discharge. The possibility of this happening was pointed out by G. S. Solntsev (Ref.7). The widening of the channel is such that the current density remains unchanged and, therefore, the temperature remains constant. There are 2 figures, 2 tables and 11 references: 10 Soviet and 1 non-Soviet.

ASSOCIATION: Moskovskiy gosuniversitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 13, 1960

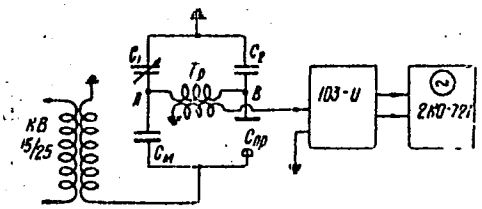
APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

21507

Investigation of the Temperature... S/139/61/000/002/002/018
E073/E535

Fig.1



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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DZHUMAKULIYEV, R.; DEVYATOV, A.M.

Temperature of high-frequency corona and brush discharges in their transition region. Opt.i spektr. 13 no.1:20-24 Jl '62. (MIRA 15:7)

(Electric discharges)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

BASOVA, N.V.; DEVYATOV, A.M.; SOLNTSEV, G.S.; SKVORTSOV, P.I.

Calculation of the parameters of a low-pressure plasma in neon. Vest. Mosk. un. Ser. 3: Fiz., astron. 18 no.2:37-42 Mr-Ap '63. (MIRA 16:6)

1. Kafedra elektroniki Moskovskogo universiteta.
(Plasma(Ionized gases))

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L 18147-63 EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/ASD/SSD Pu-4 WW/JD/JG

ACCESSION NR: AP3004499 S/0048/63/027/008/1052/1055

66
65

AUTHOR: Volkova, L.M.; Devyatov, A.M.

TITLE: Determination of the excitation cross sections for the resonance lines of atomic potassium [Report presented at the Second All-Union Conference on the Physics of Electronic and Atomic Collisions held in Uzhgorod 2-9 Oct 1962]

SOURCE: AN SSSR, Izvestiya, ser.fiz., v.27, no.8, 1963, 1052-1055

TOPIC TAGS: excitation cross section, electron impact excitation, spectrum line, K

ABSTRACT: To date there have been only two experimental studies (Loveridge quoted by R.B.Brode, Revs.Mod.Phys., 5,257, and V.A.Fabrikant, Doklady AN SSSR, 25,664,1939) and one theoretical investigation (R.Damburg and V.Kravchenko, Izv.AN LatvSSR, No.1, 73,1960) devoted to evaluation of the excitation cross sections for the resonance lines of potassium. The experimental results disagree, possibly because Loveridge failed to take into account absorption. The authors used the photographic photometry technique to determine the electron-energy dependences and values of the excitation cross sections for the lines of the resonance doublet of K (7665 and 7698 Å lines). The measurements were performed in a special tube at a potassium vapor

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L 18147-63

ACCESSION NR: AP3004499

pressure of 2×10^{-6} mm Hg. The values arrived at for the excitation cross sections are q at 10 eV = 0.85 and q_{max} = 0.90 for the 7665 Å line ($4^2S_{1/2}$--$4^2P_{3/2}$ transition), and $q_{10\ eV}$ = 0.40 and q_{max} = 0.42 for the 7698 Å line ($4^2{}_{1/2}$--$4^2P_{1/2}$ transition). The energy dependence of q is shown in Fig.1 of the enclosure. The relative error in the above values is estimated to be 35%. The sum of the cross sections agrees reasonably well with the results of Fabrikant and the theoretical calculations of Damburg and Kravchenko; it also agrees with the authors' calculations by means of a Born approximation formula adduced by L.A.Vaynshteyn (Optika i spektroskopiya, 11, 301, 1961). Orig.art.has: 7 formulas, 5 figures and 1 table.

ASSOCIATION: Kafedra elektroniki Fizicheskogo fakul'teta Moskovskogo gos.universiteta im.M.V.Lomonosova (Chair of Electronics, Dept. of Physics, Moscow State Univ.)

SUBMITTED: 00 DATE ACQ: 26Aug63 ENCL: 01

SUB CODE: PH NO REF SOV: 004 OTHER: 002

Card 2/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.N.

Drawing a plan and façade of an architectural structure using two photographs. Izv.vys.ucheb.zav.; stroi. i arkhit. no.5:171-177 '58. (MIRA 12:1)

1. Kiyevskiy inzhenerno-stroitel'nyy institut.
(Architecture--Designs and plans)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

3(4)

AUTHOR: Devyatov, A.N., Senior Teacher SOV/154-59-6-8/19

TITLE: Conversion of Projections of a Pair of Photographs Into a New System of Two Projections

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 6, pp 79-86 (USSR)

ABSTRACT: After taking two photographs of a spatial figure it is possible to obtain two separate new projections constituting no coherent system. Such projections, however, do not determine the shape and position of the original figure in the space. A method is given here for the direct transition from a system of two projections to a new system of two other projections. Such a transition takes place by the aid of projective conversions without intermediate stages. In this conversion, the establishment of a closed connection between the 4 projections as a whole constitutes the basic idea. In this case each projection is directly connected with each of the other three. The method is explained here by the example of a tetrahedron. In order to establish the closed connection between the 4 projections, projecting from the centers can be replaced by projecting by means of families of planes. Figure 1 shows 4

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

Conversion of Projections of a Pair of Photographs Into a New System of Two Projections SOV/154-59-6-8/19

projection planes in the form of a tetrahedron within their intersection lines, as well as the group of the 4 projection centers which are linked to one another by 6 bases. The projection centers and the planes of projection can still occupy a number of special positions with respect to one another, in addition to their general reciprocal position in the space (Figs 1 and 2). The difficulty of establishing the connection between the 4 projections depends thereon to a considerable extent. These different special cases are investigated here. Also the closed connection between the 4 projections is given in the most generalized form. The method described is very expedient for surveying a system of projections, when the points are identified on two photographs. There are 10 figures.

ASSOCIATION: Ural'skiy lesotekhnicheskiy institut (Ural Forest Engineering Institute)

SUBMITTED: January 21, 1959

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

KHVESHCHENKO, Ye.N.; PADALKO, Z.F.; DEVYATOVA, A.P.; RODIONOVA, A.P.; MIROTVORTSEV, Yu.I.; MIRGORODSKIY, N.T.

Detection of tularemia in Maritime Territory. Zhur.mikrobiol., epid. i immun. 42 no.4:12-13 Ap '65. (MIRA 18:5)

1. Primorskaya krayevaya protivochumnaya stantsiya.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A. S.

20893. Devyatov, A. S. Rabota novosibirskogo obshchestuz michurintsev. Sat i ogorod, 1949, No. 6, s. 44-47.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

1. DEVYATOV, A. S.

2. USSR (600)

4. Apple

7. Mentor effect of scions on rootstocks of mature apple trees. Agrobiologiia. No. 5. 1952.

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

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, Arkadiy Sergeyevich

[Fruit culture in Stalingrad Province; laying out and caring for orchards and berry gardens] Plodovodstvo v Stalingradskoi oblasti; rukovodstvo po zakladke i ukhodu za sadami i iagodnikami. Stalingrad, Stalingradskoe knizhnoe izd-vo, 1955. 235 p. (MIRA 11:6)
(Stalingrad Province—Fruit culture)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

USSR / Cultivated Plants. Fruit Trees. Small Fruit Trees. M-7

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73160.

Author : Devyatov, A. S.
Inst : Not given.
Title : Pruning the Black Currant.

Orig Pub: Sad i ogorod, 1958, No 3, 45-47.

Abstract: No abstract.

Card 1/1

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.S. , kand.sel'skokhoz.nauk

Results of 35-years studies on clonal apple rootstock (from "The Journal of Horticultural Science", v.33, no.1, 1958). Agrobiologiia no.3:476-478 My-Je '59. (MIRA 12:9)

1. Belorusskiy nauchno-issledovatel'skiy institut plodovodstva, ovoshchevodstva, i kartofelya, g.Minsk.
(Apple)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.S.

Some apetalous forms of the apple tree. Bot.zhur. 44 no.11: 1653-1657 N '59. (MIRA 13:4)

1. Belorusskiy nauchno-issledovatel'skiy institut plodovodstva, ovoshchevodstva i kartofelya, Minsk.
(Apple) (Abnormalities (Plants))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.S.

Comparative suitability of soils of the Volga-Akhtuba Floodlands and the Volga Delta for fruit culture. Pochvovedenie no.11:51-64 N '61. (MIRA 14:12)

1. Stalingradskaya opytno-selektsionnaya stantsiya.
(Volga-Akhtuba Flood Plain--Fruit culture)
(Volga Delta--Fruit culture)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, A.S.

Ontogenetic variability of salt tolerance in trees. Bot. zhur. 46 no.1:39-50 Ja '61. (MIRA 14:3)

1. Belorusskiy nauchno-issledovatel'skiy institut plodovodstva, ovoshchevodstva i kartofelya, g. Minsk.
(Stalingrad Province--Fruit trees) (Astrakhan Province--Fruit trees)
(Plants, Effect of salts on)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, Arkadiy Sergeyevich

"Peculiarities of the Growth of Fruit Crops in the Alluvial Soils of Nizhniy Povolozh'ye."

dissertation for the degree of Doctor of Agricultural Sciences (awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2, 1963, pp 232-236)

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DEVYATOV, A.S., kand.sel'skokhozyaystvennykh nauk

Age-induced changes in the salt resistance of fruit crops.
Agrobiologiia no.3:383-386 My-Je '62. (MIRA 15:10)

1. Belorusskiy nauchno-issledovatel'skiy institut plodovodstva, ovoshchevodstva i kartofelya, Minsk.
(PLANTS, EFFECT OF SALT ON) (VOLGOGRAD PROVINCE--FRUIT CULTURE)
(ASTRAKHAN PROVINCE--FRUIT CULTURE)

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DEVYATOV, A.S.

Evolution of alluvial soils in the floodlands of the Ilovlya River. Pochvovedenie no.8:43-54 Ag '65. (MIRA 18:9)

1. Belorusskiy nauchno-issledovatel'skiy institut pocvovodstva, ovoshchevodstva i kartofelya.

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2

The theory of continuous processes. G. N. Bogachov and B. N. Devyatov. *Zhur. Prikkid. Khim.* (J. Applied Chem.) 22, 921-7(1949).—The kinetics of reactions taking place in a continuous flow process, at the rate of flow F, in a mixer (or a series of n mixers) of vol. v, are treated with the aid of the concept of time of stay of the reagents. If, for a continuous flow, this is defined, following MacMullin and Weber (C. A. 29, 3878[8]), by the function $y = e^{-\frac{v}{T}} = e^{-t/\theta}$, where y = part of the stream staying in the mixer for not less than t, and by the corresponding power series by (t/θ) for a system of n mixers and if the fraction α of substance reacted (relative to its original amt.) is $\alpha = 1 - e^{-\int_0^T p\,dv}$, where p = probability of reaction for a single mol., analysis gives for the total relative amt. D of substance reacted up to the time T, for one mixer, $D = (1/T)\int_0^T\int_0^{T-t} y(t)\alpha'(t)\,dt\,dt$ (where $\alpha' = d\alpha/dv$), and the analogous corresponding equation for n mixers. The integral can be evaluated accurately for reactions of the zeroth and the 1st order, for which $p = k/(1 + kt)$ and $p = k_1$ = const., resp. These equations permit calcn. of the concns. of the reagents and of the vol. of the app.

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DEVYATOV, B. N.

USSR/Chemistry - Production Control Nov 51

"Control of the Operation of a Series of Agitators With a Continuous Current of Reagents Participating in a First-Order Reaction," B. N. Devyatov, G. N. Bogachov, Lab of Inorg Salts, Ural Sci Res Chem Inst

"Zhur Prik Khim" Vol XXIV No 11, pp 1156-1165

Using method of operational calcn and previously derived method for detg portion of reacting substance in a flow of material current passing through series of agitators as function of time,

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USSR/Chemistry - Production Control Nov 51
(Contd)

it was shown theoretically possible to solve concrete problem of choosing parameters of system under consideration of control required for system.

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Applied Mechanics Reviews
Vol. 7 No. 4
Apr. 1954
Heat and Mass Transfer

2

1299. Devyatov, B. N., Unstationary processes in continuously acting heat exchangers (recuperators) (in Russian), *Doklady Akad. Nauk SSSR (N.S.)* 90, 5, 771–774, 1953.

Author considers distribution of the temperature in a continuously acting heat exchanger. Differential equations are derived for determination of temperatures $u(x, t)$ and $v(x, t)$ of the crossflow and counterflow, respectively. Applicability of Laplace transform when general initial and boundary conditions are given is pointed out. As an example, determination of temperatures $u(x, t)$ and $v(x, t)$ is shown for the case of an impulse excitation, when velocities w_1' and w_2' of the crossflow and counterflow, corresponding to a stationary state $u(x)$, $v(x)$, take a sudden change (by jump) to values w_1, w_2.

Finally, author points out the applicability of his method to other problems touching processes in similar-acting apparatus (absorbers, extractors, etc.) K. Rektorys, Czechoslovakia

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

AUTHOR: Devyatov, B. N. (Novosibirsk) SOV/24-58-5-5/31

TITLE: Determination of the Lags and Responses of Actual Apparatus in Relation to Problems of Optimum Parameters in Object and Controller (Opredeleniye kharakteristiki inertsionnosti i reguliruyemosti tekhnologicheskikh apparatov v svyazi s zadachey ob optimal'nykh parametrakh ob"yekta i regulyatora)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 5, pp 29-33 (USSR)

ABSTRACT: Counter-current apparatus is considered, such as heat exchangers, contact rectification columns etc; the paper is an extension of the author's earlier work. The speeds of the counter-currents are assumed constant in deriving the response to a step input. Fig.1 shows some results taken on a tube-in-tube heat exchanger. The lag and response indices are derived in a general and in a parametric form. There are 5 figures and 4 references, all of which are Soviet.

SUBMITTED: June 11, 1957

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, B.N.

Determining the relation of the lag and regulability of continuous-action technological apparatus to their design and operational cycle. Izv. Sib. otd. AN SSSR no.6:34-43 '59. (MIRA 12:12)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.

(Automatic control)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, B.N.

Transient processes in continuously operating apparatus as considered from the point of operational stability and controllability. Avtom.kont.i elek.izm. no.1:101-114 '60. (MIRA 15:8)
(Heat exchangers) (Heat—Transmission)

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S/669/60/000/002/004/004
D201/D308

AUTHORS: Devyatov, B.N. and Kornev, Yu.N.

TITLE: Determining the controllability of counterflow heat exchangers

SOURCE: Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut avtomatiki i electrometrii. Avtomaticheskiy kontrol' i elektricheskiye izmereniya, no. 2, 1960, 137 - 147

TEXT: By considering the basic equations of the transient processes and of the criterion of controllability of a counterflow heat exchanger, the authors derive an exact control criterion equation for the above type of heat exchangers in dimensionless coordinates characterizing the effect of the properties of moving media on the heat exchange process, the properties of the separating wall and the effect of the separation boundary and wall on the heat exchange process. Analysis of the controllability of the heat exchanger as a function of its parameters is restricted to processes which are not affected by the thermal capacity of the dividing wall, for which case

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an exact formula for the dependence of the controllability on the process parameters is derived and nomograms of the formula plotted. A numerical example is given. The results are stated to be necessary in the design of devices for optimum stationary operation taking into account the stability factors as well as in determining the existing devices with the object of improving the process stability. There are 4 figures.

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DEVYATOV, B.N. (Novosibirsk)

Determination of dynamic characteristics and criteria of inertiability and controllability of chemical engineering apparatus. Avtom.i telem. 21 no.6:779-790 Je '60. (MIRA 13:7)

(Chemical engineering--Equipment and supplies)
(Automatic control)

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AUTHOR: Devyatov, B. N.

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SOV/20-130-1-18/69

TITLE: Transients in Continuously Operating Thick-walled Heat Exchangers

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 68-71 (USSR)

ABSTRACT: In the present paper the solution of the nonsteady problem (Ref 1) is applied to a more general case frequently occurring in practice (if there is a wall parting the moving media). In this connection the Laplace transform is used. The author investigates the heat exchange through a partition between two incompressible liquids under the following conditions: 1) The liquid flow is unidimensional which corresponds to the movement in tubes with turbulent operation. 2) The temperature conductivity of the partition material is so high that the duration of thermal diffusion therein may be neglected. This condition is practically fulfilled for plane and cylindrical walls for $F_o > 0.3$, where F_o denotes the Fourier criterion. 3) The heat flow along the wall may be neglected. In the transition stage of the operation of the apparatus the thermal capacity of the wall parting the two media is taken into account. In addition to the derivation of the general equations of nonsteady heat transfer also the wall as

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third intermediate medium with zero velocity has to be investigated. The equations are written for the case of a counterflow. In this case the stepwise temperature change (Heaviside function) at the inlet of the heat exchanger is chosen as the disturbing effect on a heating "coolant". As an example, the transient at the outlet of the apparatus is determined for the same medium, and the corresponding boundary conditions are written down. By applying the Laplace transform to the above-mentioned fundamental equations of the system one obtains a system of two ordinary differential equations. The solution of these equations found here is general and holds for thick and thin walls alike. In addition, dimensionless complexes of parameters are introduced in transition to the definite expressions for the transient. The author thus ascertains an approximate solution of the nonsteady problem in elementary functions for thick and thin walls. These solutions permit analytical investigations of the curve of the

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Transients in Continuously Operating Thick-walled Heat Exchangers

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transient. Apart from the simplicity of the computation of the transient in the given objects the possibility is offered to investigate the dependence of the evolution of the transient on the change of the parameters of the system for widely expanded heat exchangers. There are 2 Soviet references.

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Automation and Electrometry of the Siberian Branch of the Academy of Sciences of the USSR)

PRESENTED: June 12, 1959, by V. S. Kulebakin, Academician

SUBMITTED: June 11, 1959

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

S/044/62/000/009/058/069
A060/A000

AUTHOR: Devyatov, B.N.

TITLE: Transient processes in continuously operating industrial apparatus from the viewpoint of stability and controllability of their operating schedule

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 41 - 42, abstract 9V219 (In collection "Avtomat: kontrol' i elektr. izmereniya". no. I. Novosibirsk, Sib. otd. AN SSSR, 1960, 101 - 114)

TEXT: The determination of the dependence of transient processes in industrial apparatus upon their parameters and the selected operating schedule leads to the consideration of general equations of the interaction of moving media (Devyatov, B.N., Dokl. AN SSSR, 1953, v. 90, no. 5, 771 - 774)

$$k_1 (v - u) - w_1 \frac{\partial u}{\partial x} = \frac{\partial u}{\partial t},$$
$$k_2 (u - v) \pm w_2 \frac{\partial u}{\partial x} = \frac{\partial v}{\partial t}, \qquad (1)$$

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where w_1 is the linear velocity of the medium u ("+" for counterflow); w_2 is the linear velocity of the medium v("-" for forward flow); k_1 and k_2 are grouped parameters depending upon the physical characteristics and cross sections of the media and the dimensions of the interfaces. Even through the solution of the equations (1) is given for a heat-exchanger, it is applicable to any industrial apparatus, provided one replaces the temperature coefficient by the concentration coefficient. The transient processes found from equations (1) by means of operational calculus depend upon two dimensionless parameters, by which, if varied, it is possible to obtain the complete stability characteristic of the operating schedule of the apparatus.

V.S. Vatolin

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, B.N.; LAPSHIN, S.V.

Transfer functions and structural diagrams of heat-exchange apparatus as objects of control. Izv.Sib.otd.AN SSSR no.8:11-23 '60. (MIRA 13:9)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.
(Heat exchangers) (Automatic control)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310010-1

DEVYATOV, B.N.

General equations for the interaction between moving media in technological units. Dokl. AN SSSR 134 no.3:639-642 S '60. (MIRA 13:9)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya Akademii nauk SSSR. Predstaveleno akad. V.S. Kulebakinym.
(Hydrodynamics)

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24.5200 (1498, 1537, 1385)
26.2181

S/200/61/000/001/001/005
D223/D305

AUTHORS: Devyatov, B. N., and Kornev, Yu. N.

TITLE: Determination of inertia and controllability of direct flow heat exchangers.

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no. 1, 1961, 3-10

TEXT: Consideration of a direct flow (co-current) heat exchanger with regard to control as in the case of a counter-current as quoted by B. N. Devyatov and Yu. N. Kornev (Ref. 1: Opredeleniye reguliruyemosti protivotochnykh teploobmennykh apparatov (Determining the Controllability of Counter-current Heat Exchangers) Sb. tr. In-ta avtomatiki i elektrometrii SO AN SSSR. Vyp. 2 1961) entails determining its inertia and regulation. The solution of this problem was treated by the general consideration of the exchanger type "cylinder within a cylinder" as already given in Ref. 1 (Op. cit). As in the work of B. N. Devyatov (Ref. 2: Perekhodnyye rezhimy raboty nepreryvnodeystvuyushchikh teploobmennikov s tolstymi sten-

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Determination of inertia... S/200/61/000/001/001/005
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kami (Transient Working Conditions of Continuously Acting Heat Exchangers with Thick Walls) DAN SSSR, t. 130 No 1 1960) the basic treatment of the equation of non-static processes has been considered including the effect of the thermal capacity of the wall separating two media. For the case of a "cylinder within a cylinder" of length l, the analysis of conditions is given by

$$\frac{\partial u_1}{\partial t} + w_1 \frac{\partial u_1}{\partial x_1} = k_1 (v - u_1),$$

$$\frac{\partial v}{\partial t} = k_2 (u_1 - v) + k_3 (u_2 - v),$$

$$\frac{\partial u_2}{\partial t} + w_2 \frac{\partial u_2}{\partial x_1} = k_4 (v - u_2), \qquad (1)$$

WHICH ARE TRANSFORMED IN THE FORM:

которые преобразуются к виду:

$$\tau_1 = \frac{\partial u_1}{\partial t} + \frac{\partial u_1}{\partial x} = \alpha (v - u_1),$$

$$\frac{\partial v}{\partial t} = k_2 (u_1 - v) + k_3 (u_2 - v),$$

$$\tau_2 \frac{\partial u_2}{\partial t} + \frac{\partial u_2}{\partial x} = \beta (v - u_2),$$

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where

$$\alpha = \frac{k_1 l}{w_1}, \quad \beta = \frac{k_2 l}{w_2}, \quad \tau_1 = \frac{l}{w_1}, \quad \tau_2 = \frac{l}{w_2}, \quad x = \frac{x_1}{l}. \qquad (1)$$

The break in the static condition of the exchanger could be taken initially as

$$u_1 (x,0) = u_2 (x,0) = v (x,0) = 0.$$

where u_1 and u_2 - temperature of the first and second media and v - temperature of separating wall. The further limiting cases are given by

$$u_1 (0,t) = 1, \; u_2 (0,t) = 0 \qquad (2)$$

Applying the Laplace Carson transformation to Eq. 1 and eliminating from the equation the temperature of the wall, two differential equations of the first order are obtained

$$\frac{dU_1}{dx} = a_{11}U_1 + a_{12}U_2, \qquad \frac{dU_2}{dx} = a_{21}U_1 + a_{22}U_2, \qquad (3)$$

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$$a_{11} = -\left(p\tau_1 + \alpha \cdot \frac{p + k_3}{p + k_2 + k_3}\right), \quad a_{12} = \alpha \cdot \frac{k_3}{p + k_2 + k_3},$$
$$a_{22} = -\left(p\tau_2 + \beta \cdot \frac{p + k_2}{p + k_2 + k_3}\right), \quad a_{21} = \beta \frac{k_2}{p + k_2 + k_3}. \qquad (3)$$

The solution of Eq. 3 with calculated boundary conditions gives an expression for U_1 in the operative form:

$$U_1(p) = e^{\frac{1}{2}(a_{11} + a_{22})} \cdot \left(\mathrm{ch}\frac{E}{2}\right)\left[1 - \frac{(a_{22} - a_{11})}{E} \cdot \mathrm{th}\frac{E}{2}\right], \qquad (4)$$

где

$$E(p) = \sqrt{(a_{22} - a_{11})^2 + 4a_{12}a_{21}}.$$

Considering the criterium of inertia, S is a general time constant and is understood as covering in its magnitude the period between the transitional and new uniform process. In such a case S is given by

$$\lim_{t \to \infty} u_1(t) = (\infty) = m, \qquad (5)$$
$$S = \frac{1}{m} \int_0 [m - u_1(t)]\, dt.$$

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Determination of inertia... S/200/61/000/001/001/005
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Using this in conjunction with (4) the authors obtain the characteristic expression of the process inertia.

$$S = \lim \frac{1}{m} \quad \frac{m - U_1 (p)}{p} , \qquad (6)$$

$$m - u_1 (t) \quad dt \quad \frac{m - U_1 (p)}{p} .$$

Expression (6) possesses an indeterminable of the type $\frac{0}{0}$ but this is avoided by means of the Lopital rule:

$$S = \lim_{p \to 0} \frac{1}{m} \left[\frac{m - U_1 (p)}{p} \right] = \lim - \frac{1}{m} \frac{dU_1 (p)}{dp} , \qquad (7)$$

или

$$S = - \lim_{p \to 0} \frac{d}{dp} (\ln U_1).$$

Hence by means of (7) and the given value of U_1, in (4) the expression for the criterium of inertia is obtained.

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Determination of inertia...

$$S = \frac{1}{2}(\tau_1 + \tau_2) - \frac{1}{2}(\tau_1 - \tau_2)\frac{(\alpha - \beta\theta)(\beta\theta - \alpha e^{-\varepsilon})}{(\alpha + \beta\theta)(\beta\theta + \alpha e^{-\varepsilon})} +$$

$$+ \frac{1}{2}(\tau_1 - \tau_2) \cdot \frac{4\alpha\beta\theta(1+\theta)(1-e^{-\varepsilon})}{(\alpha+\beta\theta)^2(\beta\theta+\alpha e^{-\varepsilon})} + \frac{\left[\alpha\beta - \theta\left(\frac{\alpha-\beta}{1+\theta}\right)^2\right](\beta\theta - \alpha e^{-\varepsilon})}{2k_3(1+e^{-\varepsilon})(\alpha+\beta\theta)(\beta\theta+\alpha e^{-\varepsilon})} +$$

$$+ \frac{\left[\alpha\beta - \theta\left(\frac{\alpha-\beta}{1+\theta}\right)^2\right](\alpha-\beta\theta)(1+\theta)(1-e^{-\varepsilon})}{2k_3(\alpha+\beta\theta)^2(\beta\theta+\alpha e^{-\varepsilon})} + \tag{8}$$

$$+ \frac{\alpha\theta + \beta}{2k_3(1+\theta)^2} + \frac{(1+e^{-\varepsilon})(\alpha\theta - \beta)}{2k_3(1+\theta)(\alpha e^{-\varepsilon} + \beta\theta)},$$

где

$$\varepsilon = \lim_{p \to 0} E(p) = \frac{\alpha + \beta\theta}{1+\theta}, \quad \theta = \frac{k_2}{k_3}.$$

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By considering flow rates, the retardation time τ could be seen to be equal to τ for $\omega_1 > \omega_2$ and to τ_2 for $\omega_1 < \omega_2$. Then if the thermal capacity of the wall can be ignored and S_3 is small enough, the simplified expression for inertia is given in

$$S = (\tau_2 - \tau_1) \cdot \frac{\alpha\beta\theta(1 + e^{-\varepsilon})}{(\alpha + \beta\theta)(\beta\theta + \alpha e^{-\varepsilon})} \left(1 - \frac{\operatorname{th}\frac{\varepsilon}{2}}{\frac{\varepsilon}{2}}\right), \qquad (10)$$

~~where~~
где

$$\varepsilon = \frac{\alpha + \beta\theta}{1 + \theta}.$$

for which $\omega_1 > \omega_2$. Using $\tau_2 - \tau_1$ for the time unit, S_1 is expressed in non-dimensional units as T_1

$$T_1 = \frac{\alpha\beta\theta(1 + e^{-\varepsilon})}{(\alpha + \beta\theta)(\beta\theta + \alpha e^{-\varepsilon})} \cdot \left(1 - \frac{\operatorname{th}\frac{\varepsilon}{2}}{\frac{\varepsilon}{2}}\right) \qquad (11)$$

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and hence the formula (10) assumes the form of

$$S_1 = (\tau_2 - \tau_1)\, T_1 \qquad (12)$$

adding factor $(\tau_1 - \tau_2)$ to S_1 the author obtains the expression of characteristic inertia for a direct flow heat exchanger with flow rates $\omega_1 > \omega_2$:

$$S_2 = S_1 + \tau_1 - \tau_2 = (\tau_1 - \tau_2)\,(1 - T_1).$$

In that case the inertia expressed in non-dimensional units is given by

$$T_2 = 1 - T_1 \qquad (13)$$

and inertia S_2 assumes the form of

$$S_2 = (\tau_1 - \tau_2)\, T_2 \qquad (14)$$

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To determine T_1 and T_2 nomograms are given which show a family of waves equal to inertias for the area parameters ρ_1, ρ_2 given by

$$\rho_1 = \frac{\alpha}{1+\theta}, \quad \rho_2 = \frac{\beta\theta}{1+\theta}.$$

Ref. 1 (Op. cit) and B. N. Devyatov (Ref. 3: Opredeleniye kharakteristiki inertsionnosti i reguliruyemosti tekhnologicheskikh apparatov v svyazi s zadachey ob optimal'nykh parametrakh ob''yekta i regulyatora (Determination of the Inertion Characteristics and the Controllability of Technological Equipment in Connection with the Problem of Optimal Parameters of a System and a Controller) Izv. AN SSSR. OTN, No. 5 1958) introduced the concept of object control which to an appreciable degree reflects on the dynamic properties of the processes in a heat exchanger

$$R = \frac{S}{\tau}, \qquad (15)$$

where τ is retardation time of transitional process in the cross-section of exchanger $x = 1$. There are 3 cases to be considered given in

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