"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACC NR: AP6026344 SOURCE CODE: UR/0144/66/000/007/0763/0766

AUTHOR: Bamdas, A. M. (Doctor of Technical Sciences; Professor; Head); Shapiro, S. V. (Candidate of Technical Sciences; Docent); Gladilov, V. A. (Aspirant)

ORG: Electrical Machinery and Apparatus Department, Gor'kiy Polytechnic Institute (Kafedra elektricheskikh mashin i apparatov Gor'kovskogo politekhnicheskogo instituta)

TITLE: Ferroresonant controlled voltage and current regulators

SOURCE: IVUZ. Elektromekhanika, no. 7, 1966, 763-766

TOPIC TAGS: voltage regulator, ferromagnetic resonance, control circuit, nonlinear control system, volt ampere characteristic, excitation spectrum

ABSTRACT: The volt-ampere characteristic of the choke used in the ferroresonant controlled voltage regulator is analyzed to explain the operating principle of such regulator because that characteristic of the nonlinear element can be changed by direct current excitation. The fundamental relationships required for designing ferroresonant controlled voltage and current regulators (FRUSN and FRUST) are discussed and calculated, and it is concluded that when the magnitudes of the foregoing are known the production model choke can be calculated or selected and the types of condensers and tubes can also be selected. Orig. art. has: 5 formulas and 3 figures.

SUB CODE: 09/SUBM DATE: 24Sep65/ORIG REF: 003

UDC: 621.316.726+62-501

Card 1/1

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACC NR: AR6021908 SOURCE CODE: UR/0196/66/000/003/1019/1019

AUTHOR: Bamdas, A. M.; Nersesyan, V. S.; Shaginyan, G. A.

TITLE: Work of the Research Laboratory, Gor'kiy Polytechnic Institute im. A. A.Zhdanov, in the domain of brushless machine-type frequency changers

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 3I99

REF SOURCE: Sb. Vses. nauchno-tekhn. konferentsiya po primeneniyu vysokoskorostn. mashin s elektroprivodom povyshen. chastoty toka v nar. kh-ve, Ordzhonikidze, 1965, 52-56

TOPIC TAGS: frequency changer, brushless frequency changer, frequency converter, electronic oscillator

ABSTRACT: The investigation of induction brushless frequency changers and methods of their design is reported. Frequency changers intended for turning 3-phase, 50-cps voltage into 3-phase, 400-, 450-, or 500-cps voltage have been developed and tested. A frequency changer with a capacitor-type self-excitation is being developed. Two figures. Bibliography of 6 titles. G. Salgus [Translation of abstract]

SUB CODE: 09

Card 1/1 UDC: 621.314.261.001.5(047.31)-621.313.3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

L 10006-67 EWP(k)/EWT(d)/EWT(1)/EWT(n)/EWT(1)/EWT(v)

ACC NR: AT6023309 (N) SOURCE CODE: UR/0000/65/000/000/0179/0182

AUTHOR: Damdas, A. M. (Gor'kiy); Zakharov, N. V. (Gor'kiy); Makhin, Yu. I. (Gor'kiy); Shapiro, S. V. (Gor'kiy)

ORG: none

33

TITLE: Ferromagnetic frequency converter for automatic regulators

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. 5th, Novosibirsk, 1963. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy; trudy konferentsii. t. I: Metody elektricheskikh izmereniy. Tsifrovye izmeritel'nyye pribory. Elementy izmeritel'nykh sistem (Automatic control and electrical measuring techniques; transactions of the conference. v. 1: Electrical measuring techniques. Digital measuring instruments. Elements of measuring systems). Novosibirsk, Izd-vo Nauka, 1965, 179-182

TOPIC TAGS: frequency converter, frequency doubling, frequency multiplication, power frequency multiplier

ABSTRACT: A novel frequency quadrupler for high power applications is described. This converter is more efficient than existing types because a multiplication process is utilized in which the input frequency is quadrupled directly, as well as through two-stage process with intermediate doubling. The output is the sum of the energies gene-

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L 10006-67

ACC NR: AT6023389

rated simultaneously by both processes. Figure 1 shows a single phase output converter (A); three phase output converter (C), essentially a combination of three single phase converters shown in (A); and a modification of the 4f output circuit for single phase output. Referring to part A, of figure 1, the unit consists of elements I and II. Each element has two cores, two primary windings ($W_{1(I)}$ and $W_{1(II)}$), which are compensated by three capacitors C_2, a secondary winding W_2, a dc bias winding W_d, and a second harmonic excitation winding W_c. The primary is supplied from a three phase line. Capacitor C_1 is used for series compensation of the output. The magnetic fluxes in all four cores have identical waveforms but are displaced with respect to each other by one quarter of the input power period. Hence, the flux fundamental components are displaced by a quarter period, the second harmonics--by a half period, and the fourth harmonics by a whole period. Consequently, in windings W_d and W_2, the fundamental and second harmonics are cancelled, but the fourth harmonics are added, generating an output of quadrupled frequency. In the winding W_c, the fundamental and fourth harmonics are cancelled but the second harmonics are added. The current in this winding leads the second harmonic input voltage by 90°. As the result, the magnetizing force due to this current contributes to the periodic saturation of the magnetic cores and therefore, increases the 4f output voltage of the converter. Five experimental single phase models (0.5, 1.0, 1.2, 1.6, and 1.9 KVA) and two three phase models (3.0

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

L 10006-67

ACC NR: AT6023389

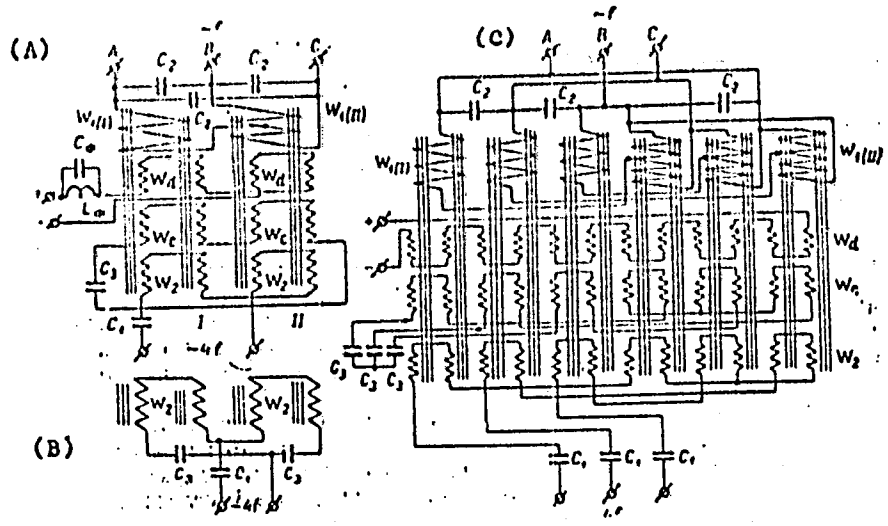

Fig. 1

and 3.6 KVA) were fabricated and tested. The efficiency was 5 to 10% higher than in conventional models and a 30-40% saving in copper and steel was possible. Orig. art. has: 3 figures.

SUB CODE: 09/ SUBM DATE: 20Sep65/ ORIG REF: 003

Card 3/3 FV

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACC NR: AR6028422 SOURCE CODE: UR/0196/66/000/005/I034/I034

AUTHOR: Bamdas, A. M.; Shapiro, S. V.; Yemel'yanov, V. P.; Yevstigneyeva, T. A.; Blinov, I. V.; Davydova, L. N.; Zakharov, N. V.; Makhin, Yu. I.; Roginskaya, L. E.; Frolov, V. T.

TITLE: Development work on static frequency changers in the Gor'kiy Polytechnic Institue im. A. A. Zhdanov

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 5I205

REF SOURCE: Sb. Vses. nauchno-tekhn. konferentsiya po primeneniyu vysokoskorostn. mashin s elektroprivodom povyshen. chastoty toka v nar. kh-ve. Ordzhonikidze, 1945, 47-51

TOPIC TAGS: frequency changer, frequency converter, frequency conversion

ABSTRACT: The Laboratory has developed static ferromagnetic quadruplers, octuplers, and nonuplers with self-magnetization by flux intermediate harmonics, with single- and 3-phase output; also, a 1.5-ratio frequency changer has been developed. Their principal characteristics, power and weight data are reported. Specifically, the weight of active material varies from 36 to 29 kg/kva for capacities 1--6 kva; efficiency, 70--80%. With an input voltage variation of 90-110%, the quadrupler voltage varies only by ± 5--8%. The output voltage of a negative-feedback-type octupler varies only by ± 2% with a load current varying from zero to 130% its

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACC NR: AR6028422

nominal value. The octupler output voltage can be regulated within ± 15% by controlling its magnetization current. The efficiency of the 1.5-ratio frequency changer is 60--70%. It is capable of stable operation despite input voltage and load variations within ± 50% of their nominal values. Four figures. Bibliography of 4 titles. S. Shapiro [Translation of abstract]

SUB CODE: 09

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACC NR: AR6020929 SOURCE CODE: UR/0196/66/000/002/2034/2036

AUTHOR: Bamdas, A. M.; Shapiro, S. V.; Blinov, I. V.; Yemel'yanov, V. P.; Zakharov, N.V. Makhin, Yu. I.; Roginskaya, L. E.

TITLE: Single-stage static ferromagnetic frequency multipliers with ratios 8 and 9

SOURCE: Ref. zh. Elektrotekhn i energ, Abs. 2Г205

REF SOURCE: Tr. Gor'kovsk. politekh. in-ta, v. 20, no. 6, 1965, 5-11

TOPIC TAGS: frequency multiplication, frequency octupler, ferromagnetic material

ABSTRACT: Two single-stage static ferromagnetic frequency multipliers with a magnetic bias produced by intermediate-frequency currents are described. The frequency octupler has 8 saturated cores. Its primary windings supplied by a 3-phase system are connected in a zigzag circuit in such a way that the core fluxes form a symmetrical 8-phase system. In addition, the octupler has secondary (output) windings, and also magnetization and self-magnetization windings fed at frequencies 2 and 4 times the supply frequency. The latter windings are connected to capacitors. The 9-ratio multiplier has 9 cores. In addition to the primary, secondary, and self-magnetization windings, this multiplier has a self-magnetization winding operating at a triple-supply frequency. Characteristics of experimental models of 2-kva and 900-va multipliers, respectively, are presented. The 2-kva octupler has an efficiency of 65%, weight, 80 kg; the 9-ratio multiplier, 70%, 40 kg. Both have a near-sinusoid output voltage wave; they have a fairly hard external characteristic: the no-load to full-load voltage regulation is 20%. Engineering design methods are given. Six figures. Bib. of 9 titles. S.Shapiro

Card 1/1 SUB CODE: 09 UDC:621.314.263.001.24

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S.

Enlarged conference of the Presidium of the Academy of Medical Sciences with the participation of the Ryazan' I.P.Pavlov's Medical Institute on the problem of "Experimental and clinical sleep therapy." Zhur.nevr.i psikh. 53 no.6:476-479 Je '53. (MLRA 6:6)
(Sleep)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S.

Clinical types of the course of neurasthenia. Zhur.nevr.i psikh. 54 no.5:407-414 My '54. (MLRA 7:6)

1. Kafedra psikhiatrii TSentral'nogo instituta usovershenstvovaniya vrachey.
(NEURASTHENIA,
*clin. types)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S.

BAMDAS, B.S.; LANDO, D.I.; LEVKOVICH, A.P.; NULLER, Yu.B.; TARASOV, G.K.; TSIVIL'KO, V.S.

Investigations on prolonged medicinal sleep in animals; preliminary communication. Zhur. nerv. i psikh. 54 no.9:773-787 S '54. (MLRA 7:9)

1. Kafedra psikhiatrii TSentral'nogo instituta usovershenstvovaniya vrachey i Nauchno-issledovatel'skiy institut psikhatrii Ministerstva zdravookhraneniya RSFSR.

(SLEEP, effects, in dogs)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S.

Use of diazil (amyzil) in latent border-line schizophrenia. Zhur. nevr.i psikh 60 no.8:1042-1044 '60. (MIRA 13:9)

1. Kafedra psikhiatrii (zav. - prof.A.V.Snezhnevskiy) TSentral'nogo instituta usovershenstovaniya vrachey, Moskva.
(SCHIZOPHRENIA) (PARASYMPATHOLYTICS)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S.

"Neurasthenia and pseudoneurasthenia" by E.Klimková, S.Deutschová, Z.Maček. Reviewed by B.S. Bamdas. Zhur. nerv. i psikh. 60 no. 12:1688-1690 '60. (MIRA 14:4)

(NEUROASTHENIA) (KLIMKOVÁ, E.) (DEUTSCHOVÁ, S.) (MACEK, Z.)

APPROVED FOR RELEASE: 06/06/2000

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, B.S. (Moskva)

Asthenic states. Med. sestra 20 no.8:20-26 Ag '61. (MIRA 14:10)
(ASTHENIA)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, Boris Solomonovich; GOL'DOVSKAYA, T.I., red.; BALDINA, N.F., tekhn. red.

[Asthenic states]Astenicheskie sostoianiia. Moskva, Medgiz, 1961. 201 p. (MIRA 16:1)
(ASTHENIA)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, Boris Solomonovich; NEYMAN, M.I., red.; CHULKOV, I.F., tekhn. red.

[Neyroses; their treatment and prevention] Nevrozy; lechenie i preduprezhdenie. Moskva, Medgiz, 1963. 53 p. (MIRA 16:5)

(NEUROSES)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

FEDOTOV, D.D., prof., otv. red.GRITSKEVICH, D.I., prof., zam. otv. red.; MELEKHOV, D.Ye., prof., red.; BAMDAS, B.S., red.; ROZOVA, M.S., red.; GROSMAN, A.V., red.

[Social readaptation of mental patients] Sotsial'naia readaptatsiia psikhicheski bol'nykh. Moskva, 1965. 347 p. (MIRA 18:12)

1. Direktor TSentral'nogo nauchno-issledovatel'skogo instituta ekspertizy trudosposobnosti i organizatsii truda invalidov (for Gritskevich). 2. Nauchnyy rukovoditel' Psikhiatricheskogo otdeleniya TSentral'nogo nauchno-issledovatel'skogo instituta ekspertizy trudosposobnosti i organizatsii truda invalidov (for Melekhov). 3. Otdeleniye vosstanovleniya i ekspertizy trudosposobnosti Nauchno-issledovatel'skogo instituta psikhiatrii, Moskva (for Grosman).

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SHEMYAKINA E M

CA

17

Purifying ethylmorphine. K. YA. SHTUBIN and E. M. SHEMYAKINA. Russ. 28,210, Apr. 24, 1930. Crude ethylmorphine is mixed with an aq. soln. of caustic and a mixt. of $CHCl_3$ and petr. ether, the mixt. is settled and the major portion of volatile solvents distd. Et_2O is added to the residue to sep. the ethylmorphine as crystals.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, YE. M.

11 E

Antiscorbutic properties of the methyl ester of 2-keto-gluconic acid. E. M. Bamdas, B. A. Lavrov, V. M. Rudionov and N. S. Yartsova. *Voprosy Pitaniya* 8, No. 4, 63-6(1949).—Physiol. tests show that this substance may be regarded as antiscorbutic. F. H. R.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, YE. M.

PROCESSES AND PROPERTIES INDEX

The antiscorbutic activity of the synthetic sodium salt of isoascorbic acid. E. M. Bamdas, B. A. Lavrov, V. M. Rodionov and N. S. Yarunova. *Voprosy Pitaniya* 7, No. 2, 6-9(in English 9)(1938).—The min. curative dose of the Na salt of *iso*-ascorbic acid is 20-25 mg., so 1 g. of the salt contains 40-50 biol. units or 2-2½ human doses.

S. A. Kariala

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

CA

10

Mechanism of the thermal decomposition of salts of carboxylic acids. IV. Thermal decomposition of copper salts of carboxylic acids. E. M. Bamdas and M. M. Shemyakin. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 18, 324-36(1948); cf. Kanevskaya and Sh., *C.A.* 31, 95[1].—

The results of investigation of the products of dry distn. of Cu salts of AcOH, BzOH, and opianic acid are consistent with the assumption that, in all cases, cleavage into CuO and the corresponding anhydride is the primary step. In particular, decompn. of $Cu(OAc)_2$ gave about 2% of Ac_2O, and 50% AcOH, the latter being obviously a secondary product of hydration of Ac_2O by the H_2O formed in profound decompn. of part of the $Cu(OAc)_2$. $Cu(OBz)_2$ is decompd. in the main at 180-200°, yielding Bz_2O 16%, BzOH 28%, PhOH 1.4%, BzOPh 8%, and Cu salicylate 14%; of these, Bz_2O was detected for the 1st time. On the other hand, C_6H_6 and Ph_2, detected by other authors at higher temps., are not formed at 180-200°. The processes are summarized in the scheme $(BzO)_2Cu \rightarrow CuO + Bz_2O$; $Bz_2O + H_2O \rightarrow BzOH$; $Bz_2O + CuO \rightarrow PhOH + CO_2$; $PhOH + Bz_2O \rightarrow BzOPh + BzOH$; $(BzO)_2Cu + CuO \rightarrow (HOC_6H_4CO_2)_2Cu$. This mechanism was confirmed by heating Bz_2O with CuO which yielded the same products as the dry distn. of $(BzO)_2Cu$. The Cu salt of opianic acid is decompd. at 220-40°, yielding opianic acid 21, veratraldehyde 18, hemipic anhydride 2%, and a slight amt. of isovanillin; at the given temp. the intermediate opianic anhydride has undergone further reactions and cannot be detected. However, if beginning decompn. is carried out at 180-200°, the products include some anhydride (1.5% of the theory) along with the other products, with the exception only of isovanillin. Heating of a mixt. of opianic anhydride with CuO gave the same products, in somewhat different proportions, plus some veratric acid. The following reaction scheme summarizes the decompn. process: $[(MeO)_2C_6H_2(CHO)CO_2]_2Cu \rightarrow CuO + [(MeO)_2C_6H_2(CHO)CO]_2O \xrightarrow{+CuO} (MeO)_2C_6H_2(CO)_2O$ or $\xrightarrow{+H_2O} (MeO)_2C_6H_2.CH(OH).O.CO$ or $\xrightarrow{-CO_2} (MeO)_2C_6H_2CHO \xrightarrow{+CuO} (MeO)_2C_6H_2CO_2H$ and $(MeO)_2C_6H_2CHO \rightarrow MeO(HO)C_6H_2CHO$. The reactions of the Cu salts are entirely analogous to those of the Ag salts. The primarily formed anhydride partly undergoes hydration to the acid; some of it is oxidized by the metal oxide set free, while another fraction may suffer decarboxylation. These main secondary products may further undergo side reactions such as the reaction between PhOH and Bz_2O.

N. Thon

Mbr., Lab. Organic Chemistry, Inst.Biol. and Med. Chem. , Dept. Medico-Biol. Sci., Acad. Med. Sci, -c1948-.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

CA

10

Mechanism of the thermal decomposition of salts of carboxylic acids. V. Thermal decomposition of calcium salts of carboxylic acids. B. M. Bamdas and M. M. Shemyakin. *Zhur. Obshchei Khim.* (*J. Gen. Chem.*) **18**, 620-30(1948); cf. *C.A.* **43**, 1241.—Proof that in the decompn. of Ca salts of AcOH, H_2OH, and opianic acid the anhydride is the intermediate product was obtained, in the main, in an indirect way. If Ac_2O is passed over CaO at 270°, the only product is $Ca(OAc)_2$, which decomp. with formation of Me_2CO only when heated to 400°. If, however, Ac_2O is passed over CaO at 350°, no $Ca(OAc)_2$ is formed but Me_2CO appears without further heating. Thus, Ac_2O in contact with CaO is able to form Me_2CO at a temp. lower than that required for the decompn. of $Ca(OAc)_2$. This, along with the presence of AcOH in the products of dry distn. of $Ca(OAc)_2$, proves that the 1st stage of the decompn. actually consists in a splitting into CaO and Ac_2O. Decompn. of $Ca(OH_2)_2$ takes place only at 500-530°, the main product being Ph_2CO (yield 7.3%), with some C_6H_6; the yield of H_2OH is only 0.13%, that of H_2O as low as 0.04%, i.e. in just detectable amt., these results are consistent with the assumption of H_2O as intermediate product. Decompn. of the Ca salt of opianic acid at 252-65° yields opianic acid (15%), its α-Me ester (7%), and small amts. of meconin and isovanillin; opianic anhydride is absent, owing, no doubt, to deep secondary pyrolysis, as manifested by considerable carbonization. All indirect evidence points to intermediate formation of anhydride, i.e. to the same mechanism that has been demonstrated more directly in the case of Ag and Cu salts of the same acids. N. Thon

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

CA

The structure of the bisulfite derivatives of aromatic compounds. K. Mr-Hanidias, D. A. Bochvar, and M. M. Shemyakin. *J. Gen. Chem. U.S.S.R.* 21, 1407-14(1951) (Engl. translation).—See *C.A.* 46, 2831c. H. R.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BADMAS, E. M.

USSR/Chemistry - Antibiotics 1 Aug 51

"Synthesis and Properties of Alpha-Dichloro-acetylamino-beta-Hydroxy-p-Nitropropiophenone (I)," E. M. Badmas, Ye. I. Vinogradova, D. N. Vitkovskiy, A. S. Khokhlov, Yu. B. Shvetsov, L. A. Shchukina, Inst of Biol and Med Chem, Acad Med Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIX, No 4, pp 601-603

It was shown recently, that I is an intermediate product of the enzymatic splitting of chloromycetin

211T27

by bacteria (G. S. Smith, C. S. Worrel, Arch Biochem, Vol XXVIII, 1, 232, 1950). In the present work, I was synthesized. Gives a description of the synthesis.

211T27

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, Ye. M.

USSR/Chemistry - Antibiotics 21 Sep 52

"Ways of Synthesizing Optically Active Analogs of D-threo-1-(p-nitrophenyl)-2-dichloracetylamino-1,3-propanediol," M. M. Shemyakin, E. M. Bamdas, Ye. I. Vinogradova, M. G. Karapetyan, M. N. Kolosov, A. S. Khokhlov, Yu. B. Shvetsov and L. A. Shchukina, Lab of Org Chem, Inst of Biol and Med Chem, Acad Med Sci USSR

DAN SSSR, Vol 86, No 3, pp 565-568

Of the four stereoisomers of 1-(p-nitrophenyl)-2-dichloracetylamino-1,3-propanediol, only one (the d-threo-isomer) is antibacterially active

247T11

(1)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, E.H.

PA 247T11

(chloromycetin, chloramphenicol, levomycetin). To learn the relationship between the structure of these compds and antibacterial activity, more analogs of these compds must be synthesized. Two ways of synthesis have been worked out at present. D- or l-threo-1-(p-nitrophenyl)-2-amino-1,3-propanediol (I) is converted into the N-benzoyl derivative (II) which is reduced to the corresponding amino compd (III). This is diazotized into (IV). The diazo group is then substituted in several different ways to form an optically active compd (V). The benzoyl group is then removed from (V) to form the aminodiol (VI) which is dichloracetylated into (VII). The other synthesis also starts with (I) which is reduced to the diamino compound (VIII). This is

(2) 247T11

N-dichloracetylated into the hydrochloride (IX) which is diazotized into (X). (X) is converted into (VII) in the same way as (IV) was into (V). [Reaction schemes are shown in the original paper.] Presented by Acad V. M. Rodionov 14 Jul 52

(3) 247T11

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

[illegible] *t*-(dichloroacetamide) analog of VI: D-*threo form*, m. 103–4°, [α]$^{22}_{D}$ 9.7°; L-*threo form* (VIII), m. 103–4°, [α]$^{22}_{D}$ −10.5°; DL-*threo form* was obtained by mixing the D- and [illegible] *form*, m. 135.5–6.5°, [α]$^{22}_{D}$ −17.0°, mixing these gave the

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SHEMYAKIN, M.M.; BAMDAS, B.M.; VINOGRADOVA, Ye.I.; GUBERNIYEV, M.A.; OREKHOVICH, V.N.; KHOKHLOV, A.S.; SHVETSOV, Yu.B.; SHCHUKINA, L.A.

Research in the chemistry of chloromycetin (levomycetin). Racemization of ℓ-threo-1-(n-nitrophenyl)-2-dichloroacetylamino-1,3-propanediol. Dokl.AN SSSR 94 no.2:257-259 Ja '54. (MLRA 7:1)

1. Chlen korrespondent Akademii nauk SSSR (for Shemyakin). 2. Deystvitel'nyy chlen AMN SSSR (for Orekhovich). 3. Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR. (Racemization) (Propanediol)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

Chemistry of chloromycetin (levomycetin). VI. Syn-

filtered and recrystd. from C_6H_6 gives 1.4 g. $BzCl(:NOH)$

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

[illegible] in 128.9°, $[\alpha]_D^{20}$ −29.0° BzH, kept 1 hr at 20° and heated to reflux, gave after [illegible] with H_2O 71% [illegible] $NHCOCH_3$ [illegible]

[illegible] translation). [illegible] 25, 1147-54 (1965) (Engl. [illegible]

G. M. Kosolapoff

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, Ye. M.

USSR/Chemistry - Antibiotics

Card 1/2 Pub. 22 - 27/54

Authors : Shemyakin, M. M., Memb. Cor. Acad. of Sc., USSR; Lolosov, M. N.; Levitov, M. M.; Germanova, K. I.; Karapetyan, M. G.; Shvetsov, Yu. B.; and Bamdas, Ye. M.

Title : Relation between structure and antimicrobic activity of chloromycetin (levomycetin) and the Mechanism of its reaction

Periodical : Dok. AN SSSR 102/5, 953-956, Jun 11, 1955

Abstract : It is shown that the high selectivity of the biological effect of chloromycetin on microbes is determined simultaneously by the following factors: 1) strong polarizing effect of the p-nitrophenyl radical, the geometrical dimensions of which are of no importance; 2) strong polarizing effect of the dichloroacetyl radical, which should satisfy even the most specific geometrical requirements; and 3) defined geometrical dimensions and corresponding conformation of the aminopropanediol group. The relation between the structure and biological activity of chloromycetin is explained.

Institution : Acad. of Med. Sc., USSR, Inst. of Biol. and Med. Chem.

Submitted : January 27, 1955

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

Card 2/2 Pub. 22 - 27/54

Periodical : Dok. AN SSR 102/5, 953-956, Jun 11, 1955.

Abstract : Five references: 2 USSR and 3 USA (1858-1955). Diagrams.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SHEMYAKIN, M.M.; KOLOSOV, M.N.; LEVITOV, M.M.; GERMANOVA, K.I.; KARAPETYAN, M.G.; SHVETSOV, Yu.B.; BAMDAS, E.M.

Chemistry of chloromycetin (levomycetin). Part 8. Relation of the antibacterial activity of chloromycetin to its structure and the mechanism of this activity. Zhur.ob.khim. 26 no.3:773-782 Mr '56. (MLRA 9:8)

1. Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR.
(Chloromycetin)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SHEMYAKIN, M.M.; SHCHUKINA, L.A.; VINOGRADOVA, Ye.I.; KOLOSOV, M.N.; VDOVINA, R.G.; KARAPETYAN, M.G.; RODIONOV, V.Ya.; RAVDEL', G.A.; SHVETSOV, Yu.B., BAMDAS, E.M.; CHAMAN, Ye.S.; YERMOLAYEV, K.M.; SEMKIN, Ye.P.

Research data on sarkomycin and its analogues. Part 1: Synthesis of dihydrosarkomycin and its antipode. Zhur. ob. khim. 27 no.3:742-748 Mr '57. (MLRA 10:6)

1. Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR.

(Sarkomycin)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, E.M.

5.3400,5.3500,5.3610

T1077
SOV/62-59-12-21/43

AUTHORS: Shemyakin, M. M., Ravdel', G. A., Chizhov, E. S., Shvetsov, Yu. B., Vinogradova, E. I., Vdovina, N. G., Yermolayev, K. M., Bamdas, E. M.

TITLE: Studies in the Field of Sarcomycine and Its Analogs. Communication 4. Study of Synthetic Routes to Sarcomycine and Its Analogs

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2177-2187 (USSR)

ABSTRACT: 2-Methylcyclopentan-3-one-1,1-dicarboxylic acid (III) was used for the preparation of (Sarcomycine) 2-methylene-cyclopentanone-3-carboxylic acid (I). (III) was assumed to be converted into (V) by bromination. It seemed possible to synthesize (I) from (V) by removal of HBr and by decarboxylation. Diacid (V) could not be obtained because elimination of HBr from (IV) and simultaneous decarboxylation formed (VI) with an endocyclic double bond.

Card 1/10

ASSOCIATION: Institute of Biological and Medical Chemistry, Academy of Medical Sciences (Institut biologicheskiy i meditsinskoy khimii Akademii meditsinskikh nauk)

SUBMITTED: April 12, 1958; Additions made, December 28, 1958

Card 10/10

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

5(2, 3) SOV/20-128-3-36/58

AUTHORS: Shemyakin, M. M., Academician, Maymind, V. I., Yermolayev, K. M., Bamdas, E. M.

TITLE: On the Reaction Mechanism of Osazone Formation

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 564-566(USSR)

ABSTRACT: In spite of many investigations (Refs 1-15), the formation of osazones from α-oxycarbonyl compounds remains unclear. All respective hypotheses and assumptions can be reduced to 3 schemes: A (Ref 1), B (Ref 3), and C (Ref 3). In order to find the correct scheme, the osazone reaction was marked with ^{15}N. If scheme A applies, the resulting ammonia may not contain an excess in ^{15}N, but the ^{15}N must completely remain in the osazone. If, however, scheme B is correct, the osazone will remain unmarked while the ammonia will contain the entire marking. Finally, if scheme C is the right one, the ^{15}N excess will be distributed, in equal shares, between osazone and ammonia. Unfortunately, the investigation of the mechanism under discussion by means of tagged atoms is much impeded by the fact that the marking may be diluted by exchange reactions, hydrolysis or substitution. These secondary processes could be avoided to a large extent, by producing the osazones in boiling isoamyl alcohol and removing the water from the reac-

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

tion sphere. Then, the dilution of the marking in the hydrazone is inconsiderable at the beginning, and cannot conceal the reaction mechanism of osazone formation. Therefore, it can be rather accurately judged which of the 3 schemes really applies. For this purpose, the reaction must be interrupted after a certain period (depending on the type of hydrazone used). The investigations were carried out with β-^{15}N-p-nitrophenyl hydrazones of fructose, cyclohexanolone and benzoin. Boiling alcoholic solutions of the said hydrazone and of an unmarked p-nitrophenyl hydrazine (2 moles) were poured together, and subsequently boiled in the nitrogen current. The resulting ammonia was immediately removed from the reaction solution. The isolation and separation of osazone, hydrazone and hydrazine was done as quickly as possible under conditions which prevent a further change in the marking by exchange reactions. As they could not be fully eliminated, it was more convenient to measure the isotopic composition of ammonia, not of osazone. Table 1 shows that the escaping ammonia at first always contained much more than half of the marking of the initial hydrazone. Hence it is concluded that scheme B applies to all cases investigated. This scheme is distinguished from the others by the fact that the 1st reaction stage proceeds without par-

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On the Reaction Mechanism of Osazone Formation SOV/20-128-3-36/58

ticipation of hydrazine. As was expected, it could be observed that the osazone-formation process can be divided into 2 stages with separation of an intermediate monoimine of α-diketone (I). By the example of p-nitrophenyl hydrazone of benzoin, it was ascertained that prolonged heating at 60° in glacial acetic acid and without hydrazine causes its disappearance. If 2 moles of hydrazine are subsequently added, an osazone precipitation is quickly formed. There are 1 table and 15 references.

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR
(Institute of Biological and Medical Chemistry of the Academy of Medical Sciences, USSR)

SUBMITTED: June 22, 1959

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, S.

Great friendship. Voen. znan. 39 no.1:13-14 Ja '63.
(MIRA 16:1)

(Popov, Aleksandr Serafimovich, 1863-1949)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMDAS, S.I. (Moskva)

A.S. Serafimovich and I.V. Michurin. Priroda 51 no.12:76-77 D '62. (MIRA 15:12)
(Michurin, Ivan Vladimirovich, 1855-1935)
(Popov, Aleksandr Serafimovich, 1863-1949)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

AKIM, L.Ye.; BAMDAS, T.G.; MEL'CHAKOVA, N.A.; TALMUD, S.L.

On the preparation of sulfite viscose. Zhur. prikl. khim. 33 no.8:1867-1874 Ag '60. (MIRA 13:9)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.

(Viscose)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

TAIMUD, S.L.; BAMDAS, T.G.; ZEL'DINA, A.Ye.

Obtaining sulfite viscose cellulose. Report No.1: Reactivity of cold-refined cellulose for viscose formation. Trudy LTITSBP no.13:16-20 '64. (MIRA 18:2)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

OBRAZTSOV, B.N.; POPOV, Ye.F., professor, doktor tekhnicheskikh nauk, retsenzent; BANIN, I.A., inzhener, nauchnyy redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Installation of ship pipelines] Montazh sudovykh truboprovodov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 111 p. (MLRA 7:11)
(Marine pipe fitting)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMM, A. I.

The manufacture of special packing; (corking) instructions. Moskva, Goslestekhizdat, 1943. 27 p.

Cyr.4 TS3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMM, A.I., inzhener

Semiautomatic continuous line for assembling dowel panels. Der. prom.4 no.7:5-7 Jl'55. (MIRA 8:10)

1. TSentral'nyy Nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny

(Woodworking industries)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

OTLIVANCHIK, A.N., kand. tekhn.nauk; BAMM, Aleksandr Isaakovich, red.

[Simplified production of panels made of wood shavings at woodworking plants and sawmills] Uproshchennoe proizvodstvo drevesno-strushechnykh plit na derevoobrabatyvaiushchikh i lesopil'nykh zavodakh. Moskva, M-vo lesnoi promyshl. SSSR, 1957. 37 p. (MIRA 11:11)

(Wallboard)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

MOROZOV, Nikolay Aleksandrovich,; BAHN, A.L., insh., retsenzent,; KALITEYEVSKIY, R.Ye., kand. tekhn. nauk, red.; MONASTYRSKAYA, A.M., red. izd-va,; GERASIMOVA, Ye.S., tekhn. red.; SOKOLOVA, T.F., tekhn. red.

[Automatic control of woodworking processes] Avtomatizatsiia derevoobrabotki. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 242 p. (MIRA 11:12)

(Woodwork)
(Automatic control)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMM, A.I.; BYVSHIKH, M.D.

Over-all mechanization of the production of small boards for packing containers on NTD machines. Der. prom. 8 no.9:3-6 S '59. (MIRA 12:12)

(Woodworking machinery) (Automatic control)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BOLDENKOV, R.P.; BAMM, A.I., red.

[Wood bending; bibliography of Soviet literature of 1945-1959] Gnut'e drevesiny; bibliograficheskii ukazatel' otechestvennoi literatury za 1945-1959 gg. Moskva, 1960. 13 p. (MIRA 15:5)

1. Moscow. TSentral'naya nauchno-tekhnicheskaya biblioteka lesnoy i bumazhnoy promyshlennosti.
(Bibliography--Woodwork)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BRANDT, Georgiy Georgiyevich [deceased]; MAZUR, Moisey Ven'yaminovich [deceased]; TAMARKIN, Mark L'vovich; BAMDI, A.I., red.; ZOTOV, G.A., red.; PEYCH, N.N., red.; RANTSEV, A.A., red.; MOROZOVA, A.N., red.izd-va; KUZNETSOVA, A.I., tekhn.red.

[English-Russian timber dictionary] Anglo-russkii lesotekhnicheskii slovar'. Izd.1. Moskva, Goslesbumizdat, 1960. 414 p. (MIRA 14:4)

(Lumbering--Dictionaries)
(English language--Dictionaries--Russian)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

PLOTNIKOV, M.A.; YEVSTIFEYEVA, T.V.; TAUBER, B.A.; PETROV, V.Ye.; ZAV'YALOV, M.A.; NAZAROV, V.V.; ANOPOL'SKIY, M.G.; OBRAZTSOV, S.A.; BAMM, A.I.; GATSKEVICH, V.A.; CHEVAZHEVSKIY, A.P.; DRANISHNIKOV, L.G., retsenzent; ALKEYEV, N.F., otv. red.; SLUTSKER, M.Z., red. izd-va; VOOVINA, V.M., tekhn. red.

[Lumbering camps; mechanization of work at lower timber landings. A handbook] Lesozagotovki; mekhanizatsiia rabot na nizhnikh skladakh. Spravochnik. Moskva, Goslesbumizdat, 1962. 441 p. (MIRA 16:6)

(Lumbering)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SHKUL'TIN, Vasiliy Ivanovich, inzh.; SHER, Yuliya Mikhaylovna, kand. tekhn. nauk; GAZIYEV, Abdul Gafurovich, inzh.; BAMM, Aleksandr Isaakovich, inzh.; NIKITIN, Grigoriy Vasil'yevich, inzh.; POTOLOKOV, Sergey Ivanovich, inzh.; DONNIKOVA, A.A., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Containers for shipment] Transportnaia tara. [By] V.I. Shkul'tin. i dr. Moskva, Goslesbumizdat, 1963. 436 p. (MIRA 16:11)

(Containers)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

AKHUNDOV, E.B.; AVRAMENKO, A.V.; BAMPI, Yu.S.

Optimum power of a condensing electric power plant operated on peat. Trudy Inst.energ. AN BSSR no.10:12-21 '59. (MIRA 13:6)

(Peat) (Electric power plants)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMPI, Yu.S., inzh.; KHARIKHARAN, M.V., inzh.

Special features of the stability of an asynchronous load with generator excitation regulation. Izv. vys. ucheb. zav.; energ. 5 no.10:5-12 O '62. (MIRA 15:11)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy elektricheskikh sistem.
(Electric power distribution)
(Electric motors)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

[illegible]

AUTHOR: Bampi, Yu.S.

TITLE: The application of continuous-action computers to [illegible] voltage fluctuation

[illegible]

[illegible]

Card 1/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

NOVIKOV, I.T.; NEPOROZHNIY, P.S.; GANICHEV, I.A.; LAVRENENKO, K.D.; FINOGENOV, Ya.I.; ALEKSANDROV, D.Ya.; SERDYUKOV, N.P.; KUDRYAVTSEV, L.N.; PETROV, A.N.; BANNIK, V.P.; VOLKOV, I.M.; MEL'NIKOV, B.V.; STAROSTIN, I.A.; BUBNOVSKIY, G.A.; SUVORIN, F.Ya.; GRITSAY, B.I.; SKUPKOV, A.A.; BAMSHTEYN, Ye.B.; TURCHIN, N.Ya.

IUrii Nikolaevich Pongil'skii; obituary. Energ. stroi. no.27:99 '62. (MIRA 15:9)
(Pongil'skii, IUrii Nikolaevich, 1925-1962)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMSHTEYN, Ye.B., inzh.

Experience in the construction of fuel supply galleries and car dumpers in the Krasnoyarsk Thermal Electric Power Plant. Energ. stroi. no.30:33-35 '62. (MIRA 16:2)

1. Stroitel'stvo Krasnoyarskoy teplofikatsionnoy elektrostantsii.
(Krasnoyarsk—Electric power plants)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

FOGEL', Aleksandr Aleksandrovich, kandidat tekhnicheskikh nauk, SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, kandidat tekhnicheskikh nauk, redaktor; RAMUNER, A.B., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Industrial application of high-frequency currents] Promyshlennoe primenenie tokov vysokoi chastoty. Izd.2-oe, ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 58 p. (Biblioteshka vysokochastotnika-termista, no.1) (MLRA 10:6)
(Induction heating)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

B[illegible]MUNER, A. V., inzh.

Stabilized thyratron rectifier with a wide range of regulation. Trudy NIITVCH no.1/2[illegible]68-177 [illegible]. (MIRA 17:7)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

YEVANGULOVA, Yevgeniya Pavlovna; FOGEL', A.A., kandidat tekhnicheskikh nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tekhnicheskikh nauk, redaktor; BAMUNER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; MIKHAYLOV-MIKHEYEV, P.B., doktor tekhnicheskikh nauk, retsenzent; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Quality control of surface hardening] Kontrol' kachestva poverkhnostnoi zakalki, Izd. 2-ee, ispr. i dop. Pod.red. A.A. Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 33 p.(Bibliotechka vysokochastotnika-termista, no5] (MLRA 10:6)

(Metals--Hardening) (Quality control)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

RYSKIN, Solomon Yefimovich; FOGEL', A.A., kandidat tekhnicheskikh nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tekhnicheskikh nauk, redaktor; [redacted] inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, retsenzent; SYCHEVA, O.V., tekhnicheskiy redaktor

[Hardening machines] Zakalochnye stanki. Izd. 2-oe, ispr. i dop. Pod red. A.A.Fogelia. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 46 p. (Bibliotechka vysokochastotnika-termista, no.11)
(Induction heating) (Metals--Hardening)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNER, A.V.

SHEKALOV, Aleksandr Alekseyevich; SHTREYS, Yakov Iosifovich; BLINOV, Boris Vladimirovich; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, retsenzent; FOGEL', A.A., kandidat tekhnicheskiy nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tekhnicheskikh nauk, redaktor; BAMUNER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; SYCHEVA, O.V., tekhnicheskiy redaktor

[Smelting in small coreless induction furnaces] Plavka v malykh besserdechnikovykh onduktsionnykh pechakh. Izd. 2-oe, ispr. i dop. Pod red. A.A.Fogelia. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 53 p. (Bibliotechka vysokochastotnika-termista, no.14) (MIRA 10:7)

(Electric furnaces)

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BAMUNER A.V.

BRITSYN, N.L.; DONSKOY, A.V., prof., doktor tekhn.nauk, retsenzent; FOGEL', A.A., kand.tekhn.nauk, red.; SPITSYN, M.A., kand.tekhn.nauk, red.; SLUKHOTSKIY, A.Ye., kand.tekhn.nauk, red.; GLUKHANOV, N.P., kand. tekhn.nauk, red.; BAMUNER, A.V., insh., red.; GOFMAN, Ye.K., red. izd-va; SPERANSKAYA, O.V., tekhn.red.

[High-frequency electric field heat treatment] Nagrev v elektricheskom pole vysokoi chastoty. Izd. 2-oe, ispr. i dop. Pod red. A.A. Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 62 p. (Bibliotechka vysokochastotnika-termista, no.15) (MIRA 11:2)

(Dielectric)
(Lumber--Drying)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNLK, A V

BOGDANOV, Valentin Nikolayevich; FOGEL', A.A. kandidat tekhnicheskikh nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, G.P., kandidat tekhnicheskikh nauk, redaktor; BAMUNER, A.V., inzhener, redaktor; VASIL'YEVA, V.P., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, retsenzent; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Use of through induction heating in industry] Primenenie skvoznogo induktsionnogo nagreva v promyshelnnosti. Izd.2-oe, ispr. i dop. Pod red. A.A.Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 78 p.(Bibliotechka vysokochastotnika-termista, no.12) (MLRA 10:6)

(Induction heating)
(Metals--Heat treatment)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNER, A.V.

ZHEZHERIN, Rostislav Petrovich; SPITSYN, Mikhail Aleksandrovich, kandidat tekhnicheskikh nauk; FOGEL', A.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, N.P., kandidat tekhnicheskikh nauk, redaktor; BAMUNER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, retsenzent; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Power generators for high-frequency heating] Mashinnye generatory dlia vysokochastotnogo nagreva, Izd.2-oe, ispr. i dop. Pod red. A.A. Fogelia, Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 49 p. (Bibliotechka vysokochastotnika-termista, no.8) (MLRA 10:6)

(Induction heating) (Electric generators)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

GLUKHANOV, Nikolay Parmenovich , ; FOGEL', A.A., kandidat metkhnicheskikh nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; BAMYNER, A.V., inzhener, redaktor; SIMONOVSKIY, N.Z., redaktor izdatel'stva; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Physical basis of high frequency heating] Fizicheskie osnovy vysokochastotnogo nagreva, Izd.2-oe, ispr.i dorp. Pod red. A.A. Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 58 p. (Biblitechka vysokochastotnika-termista, no.2) (MLRA 10:5)
(Induction heating)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNE, A.V.

SUDAKOV, P.M.; DONSKOY, A.V., prof., doktor tekhn.nauk, retsenzent; FOGEL', A.A., kand.tekhn.nauk, red.; SPITSYN, M.A., kand.tekhn.nauk, red.; SLUKHOTSKIY, A.Ye., kand.tekhn.nauk, red.; GLUKHANOV, N.P., kand. tekhn.nauk, red. BAMUNER, A.V., inzh., red.; SPERANSKAYA, O.V., tekhn.red.

[Instruments and measuring in high-frequency heating] Pribory i izmereniia pri vysokochastotnom nagreve. Pod.red. A.A.Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 54 p. (Bibliotechka vysokochastotnika-termista, no.16) (MIRA 11:2)
(Electric heating--Measurement)
(Electric meters)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

8(4) SOV/112-59-4-7273

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 118 (USSR)

AUTHOR: Slukhotskiy, A. Ye., and Bamuner, A. V.

TITLE: Automatic Stabilization of Heating in Outfits Using Electron-Tube Oscillators

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp 232-241

ABSTRACT: Two types of thermal-treatment stabilization are in use in induction-heating electron-tube outfits: stabilizing the oscillator operating conditions and stabilizing the surface temperature by a direct method. The first method includes maintaining constant the tube-heater and average anode voltages within ±1.5% by resonant stabilizers and by automatic control of firing angles of rectifier thyratrons and also by smoothing filters. The scheme, characteristics, and data of a SAN-56 anode-voltage stabilizer are presented. It maintains the anode voltage constant when load and supply voltage vary and

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Automatic Stabilization of Heating in Outfits Using Electron-Tube Oscillators SOV/112-59-4-7273

permits a continuous adjustment of voltage. Functioning of the second-method stabilization scheme — a temperature pickup with an FEP NII TVCh photopyrometer — is described. The photopyrometer operates on a deviation of the work temperature from the prescribed temperature and changes the oscillator power by controlling its anode voltage; the latter is done by a phototube and an electron amplifier whose output includes controlled-magnetization reactors connected in the arms of a phase-shifting bridge. The bridge controls the phase of the voltage on the thyratron grids. The stabilization accuracy is $\pm 5^{\circ}$ within the 700-1,300°C range for supply voltage variation 180-260 v.
Bibliography: 2 items.

L.A.G.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

VASIL'YEV, Aleksandr Sergeyevich; SLUKHOTSKIY, Aleksandr Yevgen'yevich; B/MUNER, A.V., red.; SOBOLEVA, Ye.M., tekhn. red.

[High-frequency ionic and electronic inverters] Ionnye i elektronnye invertory vysokoi chastoty. Moskva, Gos.energ.izd-vo, 1961. 177 p. (MIRA 14:12)

(Electric current converters)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ZHEZHERIN, Rostislav; MERKIN, G.B., kand. tekhn. nauk, retsenzent; BAMUNER, A.V., inzh., red.; ZHITNIKOVA, O.S., tekhn. red.

[Inductor alternators] Induktornye generatory. Moskva, Gos. energ. izd-vo, 1961. 318 p. (MIRA 15:3)
(Electric generators)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

S/196/62/000/010/031/035
E194/E155

AUTHORS: Bamuner, A.V., Rubchinskiy, A.V., and Slukhotskiy, A.Ye.

TITLE: An ionic frequency convertor for supply to induction heaters

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1962, 15-16, abstract 10 K82. (In the Symposium 'Vysokochastotn. elektrotermich. ustanovki' (High-frequency electro-thermal installations), M.-L., Gosenergoizdat, 1961, 40-49).

TEXT: A schematic circuit diagram is given for a convertor based on mercury tubes (ignitron frequency-convertors) with an output of 300 kW at a frequency of 1 kc/s, and data about various parts of the equipment are given. The equipment was of satisfactory service reliability and is recommended for heating forging billets.
6 literature references.

[Abstractor's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNER, A.V., inzh.; RUBCHINSKIY, A.V., kand.tekhn.nauk; SLUKHOTSKIY, A.Ye., kand.tekhn.nauk

Ionic frequency converter for coverting 300 kw. power 1000 c.p.s. Vest.elektroprom. 33 no.2:30-33 F '62. (MIRA 15:2)
(Electric current converters) (Frequency changers)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAMUNER, A.V.; DONSKOY, A.V., doktor tekhn. nauk, prof., retsenzent; FOGEL', A.A., kand. tekhn. nauk, red.

[Automatic control of high-frequency heating processes] Avtomaticheskoe regulirovanie protsessov vysokochastotnogo nagreva. Moskva, Mashinostroenie, 1965. 56 p. (Biblioteka vysokochastotnika-termista, no.17) (MIRA 18:8)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAM-ZELIKOVICH, G. M., NEKRASOV, I. P., CHERNYY, G. G. (Moscow)

"Boundary Layer Separation at Supersonic Speeds."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAM-ZELIKOVICH, G. M. (Moscow)

"The Motion of an Axisymmetric Gas Stream (Jet) of Small Conductivity in an Axisymmetric Magnetic Field."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

69294

S/179/60/000/01/005/034
E031/E535

10.6000

AUTHORS: Bam-Zelikovich, G.M., Bunimovich, A.I. and Mikhaylova, M.P. (Moscow)

TITLE: The Motion of Slender Bodies at Large Supersonic Velocities

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, Nr 1, pp 33-40 (USSR)

ABSTRACT: In Ref 1 (near sonic velocities) Karman and in Ref 2 (high supersonic velocities) Tsien discussed the flow round slender bodies assuming it to be plane or axisymmetric, potential and isentropic. The discussions of these authors, which were not strict because of the assumptions that the flow was potential and isentropic, clearly did not correspond to the physical properties of the flow. In the present paper Tsien's results are generalized to the case of three-dimensional motion, taking shock waves and vortices into account and it is shown that the problem of the steady flow round a slender body of a gas at large supersonic velocities can be reduced approximately to the problem of the unsteady motion of a gas in a space with one dimension fewer. A comparison of the results obtained

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E031/E535

The Motion of Slender Bodies at Large Supersonic Velocities

with exact solutions establishes the limits within which the theory may be applied. Euler's equation, the equation of continuity and the adiabatic equation referred to a fixed coordinate system are transformed by changing the system to one rigidly attached to the body in which the x-axis is opposite to the direction of motion. Non-dimensional coordinates are introduced and simplications are made in accordance with the assumption that the body is slender. A parameter $K = M_o \frac{\delta}{b}$ is introduced (M_o is the Mach number referred to the velocity of sound in the undisturbed fluid, δ is a linear parameter characterizing the cross-section and b is the chord of the body). The question of shock waves is discussed. It is assumed that the direction of the tangent to the shock wave makes a small angle with the x-axis. Velocity, pressure and density on the shock wave are obtained in non-dimensional form. It is now clear that K and $\varkappa$ (ratio of the specific heats) are the only parameters of the flow. It is now shown that the above approximate

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E031/E535

The Motion of Slender Bodies at Large Supersonic Velocities

formulation of the problem is the same as the formulation of the problem of unsteady motion in a space of one dimension fewer. The limits within which the derived similarity criteria may be applied are obtained by comparison with exact solutions. The first example is motion of a wedge in the direction of the x-axis at supersonic velocity. Good agreement is obtained for large Mach number and small wedge angle. As a second example the axisymmetric problem of the motion of a right circular cone in the direction of the x-axis at supersonic velocity is considered. Again agreement improves as the Mach number increases. The paper concludes with a determination of the functional form (depending on K) of the lift and drag forces for a wing of infinite span and an axisymmetric body.

(Note: This paper was published in a small number of copies in the Symposium "Teoreticheskaya gidromekhanika" (Theoretical Hydromechanics), Nr 4, 1949, where it was mentioned that it represented a report read at a seminary

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69294

S/179/60/000/01/005/034
E031/E535

The Motion of Slender Bodies at Large Supersonic Velocities

on hydromechanics at the Moscow State University in March, 1948).
There are 7 figures and 8 references, 2 of which are Soviet, 2 German and 4 English.

SUBMITTED: August 26, 1959

Card 4/4

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

86

AUTHOR: Bam-Zelikovich, G. M. (M [illegible]

TITLE: One-dimensional unstabilized motion of a conducting gas subject to [illegible]

[illegible]

ABSTRACT: Equations for the one-dimensional unstabilized motion of a compressible conducting gas subject to a strong electromagnetic field have been derived for flow along a channel with a constant rectangular cross section. The effects of viscosity were disregarded, and the electromagnetic forces were [illegible] constant over the cross section of the channel. Solutions were [illegible]

tive terms was carried out be means of quadratures. [illegible] was entering the [illegible]

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ACCESSION NR: AP3000876

channel 1) had a constant velocity and density at the inlet and 2) had a constant velocity, while the density, and consequently gas consumption, was proportional to the square of the generated voltage. The results of the analysis show a considerable deviation -- 30% in the second case -- from predictions based on the quasi-stationary theory. Orig. art. has: 5 figures and 36 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

BAM-ZELIKOVICH, G.M. (Moscow)

"Conductive gas acceleration with minimum losses in high intensity electromagnetic fields"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

ACCESSION NR: AP4041412 S/0179/64/000/003/0009/0015

AUTHOR: Bam-Zelikovich, G. M. (Moscow)

TITLE: Some variational problems on the acceleration of carrier gas in strong electromagnetic fields

SOURCE: AN SSSR. Izv. Mekhanika i mashinostroyeniye, no. 3, 1964, 9-15

TOPIG TAGS: plasma acceleration, carrier gas, crossed electromagnetic field, acceleration channel parameter, plasma velocity calculation, maximum efficiency calculation, minimal Joule dissipation, electromagnetic field intensity

ABSTRACT: Two specific problems are posed and solved with respect to the maximum efficiency of plasma acceleration in crossed magnetic and electrical fields when electromagnetic forces are much greater than the forces of pressure. Plasma in the accepted model (see Fig. 1 is the Enclosure) flows in a channel of constant width and variable height. Motion in considered unidimensional. Viscosity, heat conductivity and the induced magnetic field are ignored. Gas conductivity is assumed constant and isotropic. The pressure gradient is ignored in view of the much greater force of the magnetic and electrical fields. Efficiency η is defined as the ratio of total energy imparted to the

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ACCESSION NR: AP4041412

plasma to the kinetic energy it gains in the process of acceleration. The first problem is to determine that distribution of channel cross sectional area, potential difference and intensity of external magnetic field along the channel length which will produce the maximum plasma velocity for a fixed channel length. This is reduced to finding the function h(x) at which $v_1 = v(1)$ is maximal, other components being given, and is solved as

$$h = \frac{\varphi}{\sqrt{2s}} \frac{1}{[2v_0^2 + \Phi(x)]^{1/2}}, \qquad \max v_1 = [v_0^2 + {}^1/_2\Phi(1)]^{1/2} \tag{1}$$

Here

$$x = \frac{X}{L}, \quad s = \frac{S}{S_0}, \quad v = \frac{4\pi\sigma L}{c^2} V$$
$$h = H\left(\frac{\sigma L S_0}{c^2 Q}\right)^{1/2}, \quad \varphi = \frac{4\pi\sigma L}{c^2}\left(\frac{\sigma L}{S_0 Q}\right)^{1/2} ES \tag{2}$$

and ρ is density, V is plasma velocity, X is a coordinate along the channel axis, H and E are magnetic and electric field intensities, σ is conductivity, L is channel length, S is channel cross sectional area, Q is plasma flow per second, c is the velocity of light,

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ACCESSION NR: AP4041412

S_* is the characteristic area value and Φ is a dimensionless expression for the potential difference on the upper and lower walls of the channel. It is concluded here that v_1 is about 10% below maximum even for the most suitably selected constant magnetic field. The second problem is to determine values of $s(x)$, $h(x)$ and $\varphi(x)$ assuring minimal losses due to Joule dissipation, assuming that the plasma must be accelerated from v_0 to v_1 over an assigned channel length. This problem is reduced to finding one of the stated functions, the other two being known in each case, and is solved with minimum q determined as

$$\min q = \frac{(v_1 - v_0)^2}{[\Psi(1)]^2} \int_0^1 s\,dx \qquad (3)$$

for $\varphi(x)$ unknown,

$$\min q = \frac{4}{9} \frac{(v_1^{3/2} - v_0^{3/2})^2}{\Theta(1) - (v_1 - v_0)} \qquad (2.9) \qquad (4)$$

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ACCESSION NR: AP4041412

for s(x) unknown and

$$\min g = {}^1/_2 \left[y_1 - \sqrt{y_1^2 - 2 (v_1^2 - v_0^2) y_1} - (v_1^2 - v_0^2) \right] \quad (5)$$

for h(x) unknown. Orig. art. has: 6 graphs and 22 numbered equations.

ASSOCIATION: none

SUBMITTED: 05Sep63 ENCL: 01

SUB CODE: ME, EM NO REF SOV: 002 OTHER: 002

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ENCLOSURE: 01

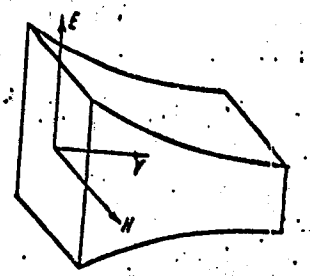

Figure 1.

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The plasma is assumed to flow in an

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All variables are [illegible] pressure gradients are assumed small compared to electromagnetic body forces, [illegible] and [illegible] The boundary condition on H_θ is [illegible] dimensional analysis, the problem is

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dimensional potential, radial distance, axial distance, and magnetic field. Two methods are used to minimize q. The first requires an h(x) for a given channel [illegible] Using the Euler equation

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difference φ is given as a function of x, and an a(x) is found for which the joule heat dissipation is a minimum. Analysis of the results shows that, depending on the

ASSOCIATION: none

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ACCESSION NR: AP4043287 S/0040/64/028/004/0664/0669

AUTHOR: Bam-Zelikovich, G. M. (Moscow)

TITLE: Solution of certain problems of onedimensional nonstationary motion of a conducting gas under the action of strong electromagnetic fields

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 4, 1964, 664-669

TOPIC TAGS: plasma motion, conducting gas motion, plasma, electromagnetic field, magnetic Reynolds number

ABSTRACT: The author considers the one dimensional nonstationary plasma motion under the assumption that the electromagnetic forces are greater than the pressure, so that the term containing the pressure gradient can be omitted in the equation of motion. These equations are reduced, by a proper choice of variables, to one equation for the case of small magnetic Reynolds numbers. The automodel solutions of this equation are investigated, and the solution of the problem of the motion of a conducting gas in an infinite channel under the influence of an electromagnetic field is given. Orig. art. has: no figures and 30 equations.

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ACCESSION NR: AP4043287

ASSOCIATION: None

SUBMITTED: 06Apr64 ENCL: 00

SUB CODE: ME, EM NO REF SOV: 002 OTHER: 000

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103330010-0

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1965, 27-34

TOPIC TAGS: differential equation, fluid flow, gas flow, conductive fluid

ABSTRACT: By considering approximate solution of Ohm's law

$$I_y = [\sigma/(1+\sigma^2)](E_y - uH/c + k(E_y + vH/c))$$ (2)

continuity equations

$$E_y' + (H/c)(v_x' - u_y' + k(u_x' + v_y')) = 0$$ (3)

$$u = u_\infty = \text{const}, \quad v = 0, \quad p = p_\infty = \text{const} \quad \text{for } x = 0$$ (5)

$$v = 0 \quad \text{for } y = 0 \text{ and } y = \varphi(x), \quad Eu_y = \psi(x)$$ (6)

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