

Short Communications

32-2-56/60

vette-like vessel. This electrode design is considered to be practically useful for measurements of the pH of solutions.

A. I. Borisov (Magnitogorsk Branch, Industrial Constructions Institute) designed an areometer balance. From a figure it can be seen that in principle it consists of an areometer, the top of which carries a scale, which is supposed to receive the object to be weighed. By means of a suitable liquid and of the graduation of the areometer it is possible to observe, e.g. the drying process of a sample, because the areometer rises to the loss of weight of the sample and computations can be conducted on the basis of the graduation.

A. M. Shcherbinin (Ukrainian Institute for Carbon Chemistry) proposes a new method for the sampling of gas-sulfur. Four holes are drilled into every 25th sulfur plate (from 15-20 mm in a diameter and with a depth of from 125-130mm) with an electric drill from the plant "Glavelektroinstrument", Khar'kov. The powder obtained by drilling, which amounts to about 4 kg from a lorry with 18 tons, is then reduced to 1 kg by a four-fold division. There are 2 figures.

AVAILABLE:

Card 2/2

1. Scientific reports-USSR

L. DORISOV, A. I.

PHASE I BOOK EXPLANATION 801/4024

Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, vyp. 4. (Semiconductor Devices and Their Applications; Collection of Articles, No. 4) Moscow, Izd-vo "Sovetskoye radio", 1960. 421 p. Extra slip inserted. No. of copies printed not given.

Ed. (with prep.): Ya. A. Fedotov, Ed. (inside book): I. M. Volkov; Tech. Ed.: A. S. Shteynberg; Editorial Board: Ya. A. Fedotov (Resp. Ed.), S. A. Barabany, I. G. Berezin, A. I. Dorisov, V. I. Gal'perin (Resp. Rep. Ed.), Ya. A. Kamenetskiy, S. F. Kuznetsov, V. I. Kuznetsov, A. A. Kulikovskiy, I. F. Mikhaylovskiy, N. A. Reznik, and V. P. Shchegolev.

PURPOSE: This collection of articles is for technicians and scientists working in the field of semiconductor.

CONTENTS: These articles cover the following problems: physical processes occurring in semiconductor diodes and transistors; transistor parameters, and methods and instruments for measuring them; special features of transistor operation in amplifying and oscillating circuits; and circuits and systems utilizing transistors. Several articles mention personalities. References accompany most articles.

Kamenetskiy, Ya. A. Methods of Measuring Radio Frequency Transistor Parameters. The author characterizes frequency properties of non-drift transistors by parameters of an equivalent circuit. 101

Kamenetskiy, Ya. A., and Ya. A. Smir. Measurement of Cutoff Frequency in the 20-200 mc Band. The method of measuring current amplification cutoff frequency in the 20-200 mc band for transistors in grounded base circuits is examined. 128

Lebedev, Y. K. Rational System of Junction Transistor Parameters and Simplification of a Number of Amplifier Stage Ratios. 139

Rikov, S. G. Junction Transistor Equivalent Circuit for High Sinusoidal Voltage. The relationship between the parameters of a junction transistor and the collector and the base voltages at the band of frequencies is examined. Equivalent transistor parameters with high sinusoidal voltage at the transistor input and output are calculated. 158

Shchegolev, V. P. Investigation of Threshold Operating Conditions of Type 2N3638 Junction Transistors. Methods of investigating germanium junction diodes are proposed and the relation between carrier recombination of DP-NP and DP-NP27 type diodes and their electrical operating parameters is established. 179

Abdumayev, A. A. Behavior of Germanium Junction Transistors at High Resonance Ratings (Part II). Results of investigation of junction transistors in a circuit with a grounded emitter are given. 191

Abdumayev, A. A. Method of Selecting High-Power Transistors for Operation in a Push-Pull Circuit. The principle according to which transistor pairs should be selected for operation in a push-pull circuit with a common active load, without special calculations, is explained. The transistors selected should give minimum nonlinear distortions and maximum output. 202

Dorisov, A. I. Nonlinear Distortions in Junction Transistor Amplifiers. Analytical expressions for junction transistors are briefly examined. Analytical expressions for transistor harmonic distortions are established. Graphical analysis gives special features of nonlinear distortions at high frequencies as an evaluation of nonlinear distortions in multistage feedback amplifiers. 208

Shchegolev, V. P. Stability and Amplification of Point-Contact Transistors with Grounded Base and Collector. Formulas for calculating stability and amplification of circuits with grounded emitter and collector are given. 224

Shchegolev, V. P., and Ya. A. Kuznetsov. Amplifier Stage Input Impedance of a Ground Junction Transistor. Equivalent circuits are obtained for the amplifier stage input circuit of a ground junction transistor connected with a circuit having a grounded base, emitter, and collector. 230

BORISOV, A.I.

Determination of principal parameters of multichannel transistor amplifiers which are used in transmission line networks.
Elektrosviaz' 14 no.2:45-53 P '60. (MIRA 13:5)
(Transistor amplifiers) (Telephone lines)

S/194/61/000/002/036/039
D216/D302

9,4310

AUTHOR: Borisov, A.I.

TITLE: Non-linear distortions in junction transistor amplifiers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 2, 1961, 20, abstract 2 K174 (V sb. Poluprovodnik pribory i ikh primeneniye, no. 4, M., Sov. radio, 1960, 206-223)

TEXT: Non-linear distortions are analyzed which are introduced by alloy junction transistors at low frequencies and low signal levels in common base, common emitter and common collector configurations. The above circuits are compared. Peculiarities of distortions at higher frequencies are discussed. Certain problems in evaluating distortion in multi-stage amplifiers with a negative feedback are noted. The theoretical deductions have been verified experimentally. 3 references.

Card 1/1

MURADYAN, Ashot Gerigenovich; SHAMSHIN, Valentin Maksimovich;
BORISOV, Aleksandr Ivanovich; MIKIRTICHAN, Grigoriy
Makertitivich; RIZKIN, I.Kh., otv. red.; VOLODARSKAYA,
V.Ye., red.; CHURAKOVA, V.A., tekhn. red.

[Use of transistors in long-distance telecommunication
equipment] Primenenie tranzistorov v apparature dal'nei
svyazi. Moskva, Svyaz'izdat, 1963. 71 p. (MIRA 16:7)
(Transistors) (Telecommunication--Equipment and supplies)

BORISOV, A.I.

Review of D.K.McF.Kevan's book "Soil animals". Zool. zhur. 43 no.6:941-
~~944~~ (MIRA 17:12)

SMIRNOV, M.I. (Novosibirsk); BORISOV, A.I. (Novosibirsk)

Efficient utilization of electric trains. Zhel. dor. transp.
47 no.6:36-37 Ja '65. (MIRA 18:6)

1. Nachal'nik passazhirskogo otdela Novosibirskogo otdeleniya
Zapadno-Sibirskoy dorogi (for Smirnov). 2. Starshiy inzh.
passazhirskogo otdela Novosibirskogo otdeleniya Zapadno-Sibirskoy
dorogi (for Borisov).

BIRGER, G.Ye.; BORISOV, A.L.

Prospects and basic trends in the development of the synthetic fiber industry from 1959 to 1965. Khim.volok. no.1:3-8 '59.
(MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstennogo volokna. (for Birger). 2. Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (for Borisov).
(Textile fibers, Synthetic)

S/183/62/000/003/001/002
B117/B144.

AUTHOR: Borisov, A. L.

TITLE: New production methods and tasks of the synthetic fibers industry

PERIODICAL: Khimicheskiye volokna, no. 3, 1962, 4 - 7.

TEXT: This is a brief summary of a report on the present state and further development of Soviet synthetic fibers production under the program approved by the XXII Party Congress of the CPSU. The report was given at a plenary session of the otraslevoye soveshchaniye rabotnikov promyshlennosti khimicheskikh volokon (Special Conference of Workers of the Synthetic Fibers Industry), held from January 22 to 27, 1962 in the Kiyevskiy kombinat (Kiyev Combine). A number of plants which had already applied new production methods were mentioned, including the Ryazanskiy zavod iskusstvennogo volokna (Ryazan' Plant for Synthetic Fibers), Mogilevskiy zavod (Mogilev Plant), Tekstil'naya fabrika im. Lenina Ul'yanovskogo sovnarkhoza (Textile Plant imeni Lenin Ul'yanov sovnarkhoz), Klin'skiy kombinat (Klin Combine), Kiyevskiy kombinat (Kiyev Combine),

Card 1/3

S/183/62/000/003/001/002
B117/B144

New production methods and...

Darnitskiy shelkovyy kombinat (Darnitsa Silk Combine), Kiyevskiye eksperimental'nyye masterskiye (Kiyev Experimental Laboratories), Kalininskiy kombinat (Kalinin Combine), Barnaul'skiy zavod (Barnaul Plant), Kurskiy zavod sinteticheskogo volokna (Kursk Plant for Synthetic Fibers), Balakovskiy kombinat (Balakovo Combine), Saratovskiy kombinat (Saratov Combine), and Engel'sskiy zavod (Engel's Plant). In 1961 the synthetic fibers industry overfulfilled its target by 0.3%, owing to an increase in capacity and output, introduction of new production methods, and elimination of bottlenecks. Since 1959, the total increase in the synthetic fibers production has been more than 50%. Last year, however, some plants did not reach the target (e.g., Cherkasskiy zavod (Cherkassy Plant), Barnaul Plant, Krasnoyarskiy zavod (Krasnoyarsk Plant)) and consumed too much raw material (e.g. Kamenskiy kombinat (Kamenskiy Combine), Lesogorskiy (Lesogorsk), Krasnoyarskiy (Krasnoyarsk), and Leningradskiy (Leningrad Plants)). Although investments in 1959 - 1961 were 3.6 times those of 1956 - 1958, the erection of new plants and the increase in capacity are still the main problems in the development of the synthetic fibers industry. ✓
From 1959 to 1961, the following plants were put in operation: zavod viskoznoyego shtapel'nogo volokna v.g. Ryazani (Ryazan' Plant for Viscose

Card 2/3

S/183/62/000/003/001/002
- B117/B144

New production methods and...

Staple Fibers), Engel'sskiy zavod iskusstvennogo i sinteticheskogo volokna (Engel's Plant for Synthetic Fibers), the first line of the Cherkasskiy zavod viskoznogo shelka (Cherkassy Plant for Viscose Silk), the first line of the Kurskiy zavod sinteticheskogo volokna (Kursk Plant for Synthetic Fibers), and others. An increase in the capacity of plants for synthetic fibers was reached by: Moscow oblast', Belorussiya, Kiyev, Altay, Rostov, Kalinin, Leningrad, Sverdlovsk sovnarkhoz, and others. Besides, big carbon disulfide plants were put in operation in Ryazan', Kamensk, and Barnaul, and the capacity of cellophane film production of the Mogilev and Barnaul plants was increased. The development and production of machines and apparatus provided by the plan were also insufficient. Only 39 models were produced between 1959 and 1961. Accelerated production of machines and apparatus for the synthetic fibers industry and an improvement in quality were found necessary. Finally, it was stated that the current Seven-year Plan provides for a fourfold increase in the production of synthetic fibers by introducing new production methods.

ASSOCIATION: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii
(State Committee on Chemistry of the Council of Ministers
USSR)

Card 3/3

BORISOV, A.L.

Introduction of new processes and equipment and the objectives
of the synthetic fibers industry. Khim.volok. no.3:4-7 '62.
(MIRA 16:2)

1. Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii.
(Textile fibers, Synthetic)

GRIGOR'YANTS, A.G.; BORISOV, A.L.

Industry of synthetic fibers striving for an accelerated rate
of development. Khim.volok. no.1:1-4 '63. (MIRA 16:2)

1. Sovet narodnogo khozyaystva SSSR (for Grigor'yants).
2. Gosudarstvennyy komitet po khimii pri Gosplane SSSR (for Borisov).

(Textile fibers, Synthetic)

BORISOV, A.L.; DUSEYEVA, Ye.K.

Analysis and prospects of the development of the synthetic
fiber industry. Khim. volok. no.2:1-7 '64. (MIRA 17:5)

1. Gosudarstvennyy komitet khimicheskoy promyshlennosti pri
Gosplane SSSR.

BORISOV, A.M.

New motorship used for fires and lifesaving. Rech.transp. 17
no.11:32-33 N '58. (MIRA 11:12)
(Motorships)

MERZHVINSKAYA, Ye.P.; BORISOV, A.M.

The TU-5 universal conveying machine. *Biul.tekh.-ekon.inform.*
no.12:56-57 '58. (MIRA 11:12)
(Conveying machinery)

BORISOV, A.M.

The BU-60 grain loader and piler. Biul.tekh.-ekon.inform. no.12:
55-57 '59. (MIRA 13:4)
(Grain-handling machinery)

BORISOV, A.M.

BU-60 grain loader and piler. Trakt.i sel'khoz mash. 30 no.2:
35-36 F '60. (MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokho-
zyaystvennogo mashinostroyeniya.
(Grain-handling machinery)

DOX 150 75

I-1

USSR/Chemical Technology - Chemical Products and Their
Application. Industrial Organic Synthesis

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2144

Author : Dalin, M.A., Markevich, S.M., Borisov, A.M., Mamedova,
V.M.,

Inst : Academy of Sciences USSR

Title : Technological Development of the Synthesis of Ethyl Alcohol
by Direct Hydration of Ethylene.

Orig Pub : Sb.: Khim. pererabotka nef. uglevodorodov. M., AN SSSR,
1956, 568-577

Abstract : Description of the technological system and of results of
the experiments on direct hydration of C_2H_4 to C_2H_5OH (I),
in an experimental industrial unit with a reactor of 0.5 m
in diameter and 8 m high, using H_3PO_4 as a catalyst.
During the experiments the following optimal conditions of

Card 1/2

USSR/Chemical Technology - Chemical Products and Their
Application. Industrial Organic Synthesis

I-1

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2144

the process were determined: 280-290°, 75-80 atmospheres, space velocity 2000-2300 hour⁻¹, concentration of C₂H₄ in the circulating gas 80-85%; concentration of I in the aqueous alcohol solution, 15-17% by weight. Under these conditions the conversion of C₂H₄ to I, per single pass, was of 4-5%; recovery of I was 180-200 kg/m³ hour, yield of products on the basis of the converted C₂H₄ was (in %): I 94.5, (C₂H₅)₂O 2.5, CH₃CHO 2, polymers 1. Duration of catalyst operativeness 400-450 hours, after which its activity decreased by 10-15% and regeneration was necessary.

Card 2/2

Avrorov, A.A. and Borisov, A.M., "Pathology of Sheep with Tularemia"
Work of Veronezh Zooveterinary Institute, Vol.XI, pp 207-11, 1948
SO: Letopis Zhurnal'nykh (29821) Vol.40, Oct. 1949

BORISOV, A.M.

Borisov, A.M., "Pathology of Mastitis Infection of Sheep caused by Bacteria Mastitis Ovis of Damman-Freese."

Work of Voronezh Zooveterinary Institute, Vol. XI, p. 213-16, 1948

SO: Letopis Zhurnal'nykh (29822), Vol. 40, Oct. 1949

BORISOV, A.M.

(Lecturer, Voronezh Zooveterinary Institute). "Concerning Toxic Properties of Hexachloran." (From an article on Helminthology by D.N. Antipin)
SO: Veterinariya, Vol. 31; No. 4; 23-27; April 1954

BORISOV, A.M., dotsent

Experimental leptospirosis of dogs. Veterinariia 39 no.4:53-54
Ap '62. (MIRA 17:10)

1. Voronezhskiy zooveterinarnyy institut.

BORISOV, A. M.

BORISOV, A. M. -- "Machines for Digging Mine Wells and Their working Components." Min of Higher Education USSR, Moscow Geological Prospecting Inst iment S. Ordzhonikidze, Moscow, 1956
(Dissertation for the degree of Candiate in Chemical Science.)

KNIZHNAV LETOPIS
No. 41, October 1956

ВОДИСЬ ИЛИ ИЛИ ИЛИ ИЛИ

BORISOV, Arkhip Markovich; VOLOD'KO, I.F.; KASHEKOV, L.Ya.; SMELYANSKIY,
V.A., red.; GUREVICH, M.M., tekhn.red.

[The construction of well shafts] Stroitel'stvo shakhtnykh
kolodtsev. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 141 p.
(MIRA 11:1)

(Wells)

NAGORNYI, A.I.; BORISOV, A.M.

Foam silicate made from loess-type argillaceous soils. Trudy Inst.
stroi. i stroimat. AN Kazakh SSR 1:28-41 '58. (MIRA 11:6)
(Kazakhstan--Building materials) (Soil cement)

NAGORNYI, A.I.; BORISOV, A.M.

Microporite made of loess-like clayey soils of eastern Kazakhstan.
Trudy Inst. stroi. i stroimat. AN Kazakh SSR 2:251-255 '59.
(MIRA 12:10)

(Building materials)

BORISOV, A.M., kand.tekhn.nauk

Concerning the types of grain loaders. Trakt. i sel'khoz mash. 31
no.12:15:17 D '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystven-
nogo mashinostroyeniya.
(Grain handling machinery)

BORISOV, A.M.

6

SAVEL'YEV, A.P., BORISOV, A.M., VOL'NOV, YE.G., LITVIN, A.P.,
MARKSON, P.I., BELEN'KAYA, YE.L., BURMISTROVA, R.S.

Production of high purity ethylene.

Report presented to the 12th Conference on high molecular weight
compounds, devoted to the monomers, 3-7 April 62

BORISOV, A.M.; MERZHVINSKAYA, Ye.P.; FATEYEV, M.N.

Types of loaders of continuous action for agriculture. Trakt.
i sel'khoz mash. 33 no.6:35-38 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyayst-
vennogo mashinostroyeniya.
(Loading and unloading)
(Agricultural machinery)

BORISOV, A.M., kand.tekhn.nauk

Basis for determining the basic parameters of the working parts of machines for digging wells. Trakt. i sel'khoz mash. no.1:26-27
Ja '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'sko-khozyaystvennogo mashinostroyeniya.

SIMAKIN, A.M.; BARABANOV, V.Ye.; BORISOV, A.M.; AFONITOSHIN, V.N.;
GRIBKOV, V.M.; CHUDESOV, I.D.; VOECHKOV, B.A.;
KUZNETSOVA, N.Ya., red.

[Technology of the maintenance of ZIL-150, ZIL-164 and
ZIL-585 motor vehicles in agriculture] Tekhnologiya tekhnicheskogo
obslyuzhivaniia avtomobilei ZIL-150, ZIL-164 i
ZIL-585 v sel'skom khoziaistve. Moskva, 1963. 78 p.
(MIRA 77:0)

1. Perovo. Gosudarstvennyy Vsesoyuznyy nauchno-issledovatel'skiy
tekhnologicheskii institut remonta i ekspluatatsii mashinno-traktornogo
parka. 2. Laboratoriya tekhnologii remonta i tekhnicheskogo
obslyuzhivaniya avtomobiley i reziny Gosudarstvennogo soyuznogo
nauchno-issledovatel'skogo tekhnologicheskogo instituta.

CHUDESOV, I.D.; BORISOV, A.M.; ZAYTSEVA, S.I.; DOLGOPOLOV, N.L.;
KRAVTSOV, Yu.I.; VOLK, P.I.

[Technology of the repair of tires of motor vehicles,
tractors and agricultural machinery] Tekhnologiya remonta
shin avtomobilei, traktorov i sel'skokhoziaistvennykh ma-
shin. Moskva, 1963. 200 p. (MIRA 18:5)

1. Perovo. Gosudarstvennyy vsesoyuznyy nauchno-issledova-
tel'skiy tekhnologicheskii institut remonta i ekspluatatsii
mashinno-traktornogo parka.

BORISOV, Aleksandr Mikhaylovich, assistant; MIKHAYLOV, Vitaliy Stepanovich,
kand.tekhn.nauk, dotsent

Method for increasing the accuracy of magnetoelastic torsimeters.
Izv.vys.ucheb.zav.; elektromekh. 8 no.7:828-831 '65.

(MIRA 18:8)

1. Kafedra elektroprivoda i avtomatizatsii promyshlennykh ustanovok Chelyabinskogo politekhnicheskogo instituta (for Borisov). 2. Zaveduyushchiy kafedroy elektrooborudovaniya sudov Nikolayevskogo korablestroitel'nogo instituta (for Mikhaylov).

BORISOV, A.M.

At the threshold of the fourth year of the seven-year plan. Za
indus.Riaz. no.2:5-8 D '61. (MIRA 16:10)

1. Zamestitel' predsedatelya Ryazanskogo soveta narodnogo khozyaystva.

MEANDROV, L.V.; GOLOVAMENKO, S.A.; BYKOV, A.A.; MYAGKOV, A.P.; KOROTKEVICH, B.M.;
BORISOV, A.N.; KOSSOVSKIY, L.D.; GINDIN, A.Sh.

Experimental rolling of two-layer sheets. Stal' 23 no.4:343-345
Ap '63. (MIRA 16:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii
Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii i
Chelyabinskiy metallurgicheskiy zavod.
(Laminated metals) (Rolling (Metalwork))

BORISOV, A.P.

Simplified method for calculating the characteristics of a network with an asynchronous frequency converter for feeding an induction motor with a fan load. Trudy LPI no.241:53-57 '64.

(MIRA 18:4)

BORISOV, A.P.

Structural networks of contactless d.c. tachometer generators.
Trudy LPI no.241:90-95 '64.

The mal design of enclosed asynchronous machines with low power
ratings. Ibid. 196-10: (MIRA 18:4)

BORISOV, A. P., kand. ekonomicheskikh nauk

Lowering the investment in the creation of reservoirs of large
hydroelectric power stations. Gidr. stroi. 33 no. 12:25-26
D '62. (MIRA 16:1)

(Reservoirs—Cost of construction)

BORISOV, Aleksandr Prokof'yevich, kand.ekonom.nauk; CHISTYAKOV, Pavel
Mikhaylovich, inzh.; KURDYUMOV, M.D., red.; UCHITEL', I.Z., red.
izd-va; LELYUKHIN, A.A., tekhn.red.

[Municipal economy in reservoir areas; technical and economic
aspects] Gorodskoe khoziaistvo v zone vodokhranilishch; tekhniko-
ekonomicheskie voprosy. Moskva, Izd-vo M-va kommun.khoz.RSFSSR,
1960. 286 p. (MIRA 13:9)
(Reservoirs) (Flood control)

BCRICOV, A. P.

"Method of Determining Non-uniformity in the Winding of the Focusing
Arrangement of Travelling Wave Tubes"

Authors' Certificates
Elktrosvyaz', 1958, No. 2, p. 78 (USSR)

GIMMEL'MAN, Nikolay Robertovich; KOCHUROV, Aleksey Stepanovich;
Prinimali uchastiye: BORISOV, A.P., inzh.; ZHIDKIKH, I.A.,
inzh.; VOLEGOV, A.F., inzh.; SHABALIN, L.A., inzh.
MIKHAYEV, N.P., kand.tekhn.nauk, retsenzent; ABAKUMOV, S.F.,
inzh., retsenzent; ZASYPKIN, A.G., inzh., retsenzent;
ZALOZHNEV, G.N., inzh., retsenzent; KLOTSMAN, M.I., inzh.,
retsenzent; KOLMOGOROV, S.M., inzh., retsenzent; BLANK, E.M.,
inzh., red.; DUGINA, N.A., tekhn.red.

[Making models] Model'noe proizvodstvo. 3. perer. izd.
Moskva, Mashgiz, 1961. 295 p. (MIRA 14:12)
(Engineering models)
(Molding (Founding)--Equipment and supplies)

SERGEICHEV, Nikolay Fedorovich; TALANOV, P.I., prof., retsenzent;
KOCHUROV, A.S., inzh., retsenzent; LOS'KOV, D.I., dotsent, red.;
ZHIDKIKH, I.A., inzh., red.; BORISOV, A.P., inzh., red.; BLANK,
E.M., inzh., red.; BOGOSLAVETS, N.P., tekhn. red.

[Manufacture of models] Model'noe proizvodstvo. Moskva, Mashgiz,
1962. 158 p. (MIRA 15:6)
(Models and modelmaking)

NESGOVOROVA, Ye.D., kand.tekhn.nauk; KAASIK, P.Yu., kand.tekhn.nauk;
PARTS, R.R., inzh.; BORISOV, A.P., inzh.

Basic principles for designing regulated asynchronous motors.
Vest. elektroprom. 32 no.4:68-71 Ap '61. (MIRA 15:5)
(Electric motors, Induction)

BORISOV, A. P.

"The Training of a Sportsman and Maximum Oxygen Need." Cand Biol
Sci, Moscow State Pedagogical Inst imeni V. I. Lenin; Chair of Human
and Animal Physiology, State Order of Lenin and Order of the Red Banner
Inst of Physical Culture imeni P. F. Lesgaft, Leningrad 1955. (Kl, No 9,
Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical
Dissertation Defended at USSR Higher Educational Institutions.
(14)

BORISOV, A.P., kand.biolog.nauk

Retention of respiration and the condition of alveolar air in
children of school age. *Pediatrics* 37 no.12:42-46 D '59.

(MIRA 13:5)

1. Iz laboratorii obmena veshchestv i energii otdela fiziologii
(zav. - chlen-korrespondent AMN SSSR prof. O.P. Molchanova) Insti-
tuta pitaniya AMN SSSR.

(RESPIRATION function tests)

BOHISOV, A.P.

Number of limiting cycles occurring in a system of differential equations with discontinuous right-hand sides. Vest. Mosk. un. Ser. 1: Mat., mekh. 21 no.1:21-32 Ja-F '66.

(MIRA 19:1)

1. Kafedra differentsial'nykh uravneniy Moskovskogo gosudarstvennogo universiteta. Submitted April 18, 1964.

BORISOV, A.P.

Determination of energy consumption among boarding school pupils.
Vop. pit. 20 no. 1:21-24 Ja-F '61. (MIRA 14:2)

1. Iz laboratorii obmena veshchestv i energii (zav. - prof. O.P. Molchanova) Instituta pitaniya AMN SSSR, Moskva.
(SCHOOL CHILDREN—DISEASES AND HYGIENE)
(METABOLISM)

BORISOV, A.P.; MARKOVA, G.F.

Specific dynamic action of food after total resection of the stomach in man. Vop.pit. 21 no.3:32-37 My-Je '62. (MIRA 15:10)

1. Iz kliniki lechebnogo pitaniya (zav. L.M.Levitskiy) i laboratorii obmena veshchestv i energii (zav. - chlen-korrespondent AMN SSSR prof. A.P.Molchanova) Instituta pitaniya AMN SSSR, Moskva.
(PROTEINS) (STOMACH--SURGERY) (METABOLISM)

BEYUL, Ye.A.; BORISOV, A.P.

Specific dynamic action of proteins in insufficient function
of the small intestine. Vop. pit. 22 no.2:15-19 Mr-Apr '63.
(MIRA 17:2)

1. Iz kliniki lechebnogo pitaniya (zav. L.M. Levitskiy) i
laboratorii obmena veshchestv i energii (zav. - chlen-
korrespondent AMN SSSR prof. O.P. Molchanova) Instituta
pitaniya AMN SSSR, Moskva.

BORISOV, A.P.; BABYANOV, V.M.

Individual characteristics of higher nervous activity in school-age twins. Zhur. vys. nerv. deist. 14 no.3:436-442 My-Je '64. (MERA 17:11)

1. Institute of Nutrition, U.S.S.R. Academy of Medical Sciences, Moscow.

BORISOV, A.P.

Sufficient conditions for the existence of periodic solutions to a system of two differential equations with discontinuous right-hand sides. Vest. Mosk. un. Ser. 1: Mat., nek. 20 no.2:22-34 Mr-Apr '65. (MIRA 18:6)

1. Kafedra differentsial'nykh uravneniy Moskovskogo universiteta.

BORISOV, A.P.

Reducing capital investments in building the reservoirs of large
hydroelectric power stations. Trudy Lengidroproekta no.1:121-127
'64.

(MIRA 18:10)

NESGOVOROVA, Yelena Dmitriyevna, kand.tekhn.nauk, dotsent; KAAZIK, Paul'
Yuliyevich, kand.tekhn.nauk, dotsent; SHARAKHIN, Vladimir Nikolayevich,
assistent; ZABOROVSKIY, Sergey Aleksandrovich, assistant; BORESOV,
Al'bert Petrovich, assistant; TOKOV, Mikhail Ivanovich, assistant

Frequency system for regulating the angular velocity of an asynchronous
motor with fan load and auxiliary power supply. Izv.vys.ucheb.zav.;
elektromekh. 8 no.9:966-975 '65. (MIRA 18:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo
instituta (for Nesgovorova, Kaazik, Borisov, Tokov). 2. Kafedra
elektrooborudovaniya promyshlennykh predpriyatiy Leningradskogo
politekhnicheskogo instituta (for Sharakhin, Zaborovskiy).

L 18428-66 EWT(a) IJP(c)
ACC NR: AP6003437

SOURCE CODE: IT. /0055/66/000/001/0021/0032

AUTHOR: Borisov, A. P.

32
31
8

ORG: Moscow State University, Department of Differential Equations (Moskovskiy gosudarstvennyy universitet, Kafedra differentsial'nykh uravneniy)

TITLE: Questions on the quantity of limiting cycles occurring in systems of differential equations with discontinuous right parts

16144.5-5

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 1, 1966, 21-32

TOPIC TAGS: differential equation, linear system, linear transformation

ABSTRACT: The author develops a continuation of his earlier work (Dostatochnyye usloviya sushchestvovaniya periodicheskikh resheniy u sistemy dvukh differentsial'nykh uravneniy s razryvnymi pravymi chastyami. Vesti. Mosk. un-ta, Matem., mekh. No. 2, 22-34, 1965). It is proved that for the system

$$\frac{dx}{dt} = ax + by + e, \quad \frac{dy}{dt} = cx + dy + f,$$

with discontinuities of the right-hand members along the straight line $y = 0$ there

Card 1/2

UDC: 517.9

2

L 18428-66

ACC NR: AP6003437

can be no more than 12 limiting cycles. The proof is made through consideration of a transformation function $z_1(x)$ in the case of linear systems with a right-hand discontinuity, where z_1 is related to the affine transformation

$$x_1 = \alpha x + \beta y + \xi, \quad y_1 = \gamma x + \delta y + \zeta,$$

such that

$$x_1 = \Pi(x) = \alpha x + \xi, \quad z_1 = \Pi(z) = \alpha z + \xi.$$

Canonical forms of the system with discontinuities are developed and analyzed with expressions for the z-transformation. The analyses are supported with graphs of z versus x showing that for each concrete case there will be a finite number of limiting cycles. The "limit of 12" hypothesis is stated and proved by demonstration that a limit of 13 leads to a contradiction. Four related theorems are stated and proved, and the author demonstrates that additional conditions can ensure uniqueness of the limiting cycle. The author's gratitude is extended to Professor V. V. Nemytskiy for his direction and advice in the conduct of the work. Orig. art. has: 17 equations and 8 figures.

SUB CODE: 12/ SUBM DATE: 18Apr64/ ORIG REF: 004/ OTH REF: 002

Card 2/2 mc

ACC NR: AP6021765

SOURCE CODE: UR/0413/66/000/012/0020/0020

INVENTOR: Kurbatov, V. A.; Borisov, A. P.; Chernozemov, V. T.

ORG: None

TITLE: A press for making pipes and structural shapes. Class 7, No. 182664

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 20

TOPIC TAGS: metal forming press, die, pipe, fabricated structural metal

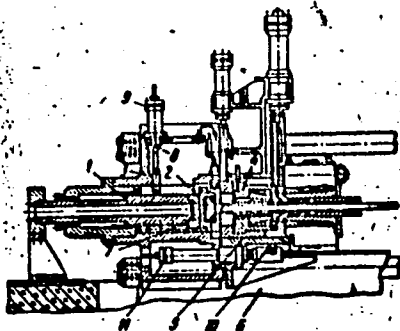
ABSTRACT: This Author's Certificate introduces: 1. A press for making tubes and structural shapes from light metals and alloys. This press consists of a frame on which is mounted a front cross member with back stroke cylinders, die and tool assembly. Parts with flanged ends are produced by an upsetting cylinder. This cylinder has a punch fastened to it and is equipped with a mechanism for removing this punch from its working position. These units are set in the front cross member. The press is also equipped with a mechanism mounted on the frame for separating the removable female die assembly which is mounted on the nozzle of the press. 2. A modification of this press in which the mechanism for removing the punch from its working position is made in the form of a lock which interacts with the punch. This mechanism is fixed to the power cylinder rod mounted on the front cross member of the press. 3. A modification of this press in which the mechanism for separating the removable die assembly

Card 1/2

UDC: 621.777.06:621.979

ACC NR: AP6021765

is made in the form of a lever which interacts with the die assembly and is driven by the power cylinder mounted on the frame.



1-upsetting cylinder; 2-removable punch; 3-front cross member; 4-removable die assembly; 5-die; 6-frame; 7-lock; 8-rod; 9-power cylinder; 10-lever; 11-power cylinder

SUB CODE: 13/ SUBM DATE: 06Mar65

Card 2/2

L 36487-65 BWA(h)/EWT(1) Pz-6/Peo TT/AT

ACCESSION NR: AT5004641

S/2563/64/000/241/0090/0095

AUTHOR: Borisov, A. P.

17
16
8+1

TITLE: Design sketches of contactless d-c tachometer generators

25

SOURCE: Leningrad, Politeknicheskiiy institut. Trudy, no. 241, 1964.
Elektromashinostroyeniye (Electrical machinery manufacture), 90-95

TOPIC TAGS: tachometer, tachometer generator

ABSTRACT: Four types of contactless tachometer generators are briefly reviewed: (1) A Hall-generator tachometer based on a salient-pole induction-type permanent-magnet construction; an experimental model developed 0.003--0.005 mv per rpm -- a voltage far insufficient for practical purposes; (2) A phase-sensitive rectifier-type tachometer which requires two a-c supply sources of equal frequencies but different phases; (3) A two-synchronous-generator tachometer using the principle of rectification of an asymmetrical voltage; an

Card 1/2

L 36487-65

ACCESSION NR: AT5004641

experimental model yielded 0.0018 v per rpm at 8000 rpm with a nonlinearity of 1.8% and an asymmetry of 1.3% in the output voltage; (4) A two-phase permanent-magnet synchronous-generator tachometer in which two transformers supply two bridge rectifiers; the output d-c polarity depends on the direction of rotation. Contactless tachometers are being developed in the Laboratory of Microelectric Machines, LPI, the main difficulty being that of obtaining a sufficient reversible output. Orig. art. has: 5 figures and 3 formulas.

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M. I. Kalinina
(Leningrad Polytechnic Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: DP, EE

NO REF SOV: 004

OTHER: 001

Card 2/2

L 43222-65 EWT(d) Pg-4 IJP(o)
ACCESSION NR: AP5009260

S/0055/65/000/002/0022/0034

AUTHOR: Borisov, A. P. (Member of differential equations dept)

TITLE: Sufficient conditions for existence of periodic solutions for a system of two differential equations with discontinuous right parts

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 2, 1965, 22-34

TOPIC TAGS: differential equation

ABSTRACT: The author considers the piecewise-linear system

$$\frac{dx}{dt} = a_1x + b_1y + e_1 \quad (1)$$

$$\frac{dy}{dt} = c_1x + d_1y + f_1 \quad (2)$$

where $\nu = 1$ for $y > 0$, $\nu = 2$ for $y < 0$. He shows that there exist singular or quasistationary points in every periodic solution arising from a discontinuity of the right part. He constructs an annular region across the "exterior" and "interior" boundaries in which all motion of the system goes inwards for $t > 0$, and then considers a wider region in which a periodic solution is possible. He gives Cord 1/2

L 43222-65

ACCESSION NR: AP5009260

necessary conditions for existence of a periodic solution arising from a discontinuity of the right parts and having only two common points with the line of discontinuity. He gives sufficient conditions for passage of a periodic solution through a given interval. "I use this opportunity to thank Professor V. V. Nemytskiy for his guidance and valuable advice concerning this work." Orig. art. has: 6 figures and 8 formulas. 3

ASSOCIATION: Kafedra differentsial'nykh uravneniy (Department of Differential Equations); Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 17May63

ENCL: 00

SUB CODE: MA

NO REF SOV: 008

OTHER: 000

658
Card 2/2

BORISOV, A. S.

BORISOV, A. S. "Methods of finishing the facing surface of brick", Most. stroit. material
1946, Issue 6, p. 32-33.

SO: U-3042, 11 March 53, (Utopis 'Zhurnal 'nykh Statey, No. 7 1949).

POPOV, M.A.; TITOV, V.I., redaktor; ~~BORISOV, A.S., redaktor.~~

[Field methods of chemical analysis] Polevye metody khimicheskogo
analiza. Izd. 2. Moskva, Gos. izd-vo geol. lit-ry, 1953. 125 p.
(MLBA 7:1)

(Mineralogy. Determinative) (Colorimetry)

BORISOV, A.S., inzhener.

Designing and investigating small-module gearwheels used in watch
trains. Chas.mekh. no.1:135-154 '55. (MLRA 9:12)
(Clockmaking and watchmaking) (Gearing)

BORISOV, A.S.

Calculating faced gears for watches. Priborostroenie no.2:
16-19 F '60. (MIRA 13:5)
(Clocks and watches)

BORISOV, A.S.

"Design and assembly technology of mechanical clocks and watches"
by S. M. Tagirov. Reviewed by A. S. Borisov. Priborostroenie
no.5:3 of cover My '61. (MIRA 14:5)
(Clockmaking and watchmaking)
(Tagirov, S. M.)

BORISOV, A.S.

Calculation of watch crown gears. Jemna mech opt 6 no.9:279-281 S
'61.

TISHCHENKO, O.F.; BORISOV, A.S., kand. tekhn. nauk, retsenzent;
KURATSEV, L.Ie., red. izd-va; EL'KIND, V.D., tekhn. red.

[Toothed transmissions of watch mechanisms] Zubchatye pe-
redachi chasovykh mekhanizmov. 2., dop. i perer. izd. Mo-
skva, Mashgiz, 1963. 211 p. (MIRA 16:9)
(Clocks and watches)

BORISOV, A.S. (Moskva); CHEREMISIN, F.G. (Moskva)

Problem with the initial data for a relaxational kinetic equation
in a uniformly expanding (compressing) gas. Inzh.zhur. 5 no.2:348-
352 '65. (MIRA 18:4)

ACC NR: AP6002619

SOURCE CODE: UR/0258/65/005/006/1051/1057

AUTHOR: Borisov, A. S. (Moscow)

ORG: none

25
24
B

TITLE: Asymptotic behavior of some solutions in the set of kinetic moments of Grad

SOURCE: Inzhenernyy zhurnal, v. 5, no. 6, 1965, 1051-1057

TOPIC TAGS: kinetic theory, rarefied gas dynamics, asymptotic property, Navier Stokes equation

ABSTRACT: The asymptotic behavior $t \rightarrow \infty$ of Grad's thirteen moment equations is investigated using the Maxwell molecule as well as the general inverse power law collision models. For Maxwell molecules, the temperature field is given by

16, 44, 55

21, 44, 55
$$t^2 T'' + t(3t + \beta) T' + \frac{4}{3} \beta T = 0.$$

which for $t \rightarrow \infty$ yields

$$T_1 \sim 1, T_2 \sim 1/t^2 \text{ for } t \rightarrow \infty.$$

For a third order moment S_{ijk} there is

$$S_{ijk} \rightarrow 0 (t \rightarrow \infty).$$

Card 1/3

UDC: 533.6.011.8

2

ACC NR: AP6002619

The equivalent temperature field in the case of the general power law $r^{-\nu}$ is given by

$$T' + \frac{\nu}{3t} T = BT^s,$$

$$B = \frac{8\mu_0}{9R\rho_0^2}, \quad \mu_0 = \frac{\mu}{T^s}, \quad s = \frac{1}{2} + \frac{2}{\nu-1}.$$

The asymptotic behavior of this equation is given by

$$\lim_{t \rightarrow 0} T = \infty \quad (\text{for any } s),$$

$$\lim_{t \rightarrow \infty} T = \begin{cases} \infty & \text{for } s < 1 \quad (\nu > 5), \\ 0 & \text{for } s > 1 \quad (\nu < 5), \end{cases}$$

For a one-dimensional flow this becomes

$$\lim_{t \rightarrow \infty} T = \begin{cases} [3B_1/2(1-s)]^{\frac{1}{1-s}} & \text{for } s < 1 \quad (\nu > 5), \\ 0 & \text{for } s > 1 \quad (\nu < 5). \end{cases}$$

In the two-dimensional case, the third order moment becomes

$$S_{ijk} \rightarrow 0 \quad (t \rightarrow \infty, \nu > 5).$$

Card 2/3

ACC NR: AP6002619

Finally, the case is considered where some of the gas dynamics parameters are assumed to be unbounded functions of time such that

$$S'_{111} = -aS_{111} - 3(kt + c)S_{111} - 3aS_{112} + \frac{a}{2}S_{122} + \frac{a}{2}S_{132}$$

where the a, b, c are constants. For the Maxwell molecules, the solution of the above equation is shown to be unstable in the Lyapunov sense for $t \rightarrow \infty$. The author expresses his gratitude to his scientific colleague A. A. Nikol'skiy for his valuable evaluation of the work. Orig. art. has: 23 equations.

SUB CODE: 20/ SUBM DATE: 09Jul65/ ORIG REF: 013/ OTH REF: 002

Card 3/3 m j e

L 51125-65 EWT(1)/EWP(m)/EPR/EGS(k)/EWA(1) Pd-1/Ps-4 WW

ACCESSION NR: AP5011328

UR/0258/65/005/002/0348/0352
533.6.011.8

16
B

AUTHOR: Borisov, A. S. (Moscow); Cheremisin, F. G. (Moscow)

TITLE: A problem with initial conditions for a relaxational kinetic model in a uniformly expansible (contractile) gas

SOURCE: Inzhenernyy zhurnal, v. 5, no. 2, 1965, 348-352

TOPIC TAGS: molecular collision, uniformly expansible gas, Boltzmann equation, relaxational model, Maxwellian molecule, solution accuracy, solution asymptotic property, uniformly contractile gas

ABSTRACT: The authors discuss the merits of relaxational models evolved by various authors (Bhatnagar, Gross and Krook; M.N. Kogan for Maxwellian molecules) as a replacement for Boltzmann's complex integro-differential equation in calculating molecular collisions in gases. They analyze a problem on the relaxation of initial distribution in a uniformly expansible (contractile) gas (a simple case of variable temperature and density), a problem involving Maxwellian molecules and a more general instance of intermolecular interaction conforming to *F₂ H₂*. It is concluded that the discrepancy between solutions obtained

Card 1/2

L 51125-65

ACCESSION NR: AP5011328

with the Boltzmann equation and the relaxational model for a uniformly expansible (contractile) gas is no greater than for a gas with constant density and temperature. The solutions obtained are analyzed for asymptotic properties. Orig. art. has: 30 formulas.

ASSOCIATION: None

SUBMITTED: 08Dec64

ENCL: 00

SUB CODE: ME, *NP*

NO REF SOV: 003

OTHER: 003

bs
Card 2/2

BORISOV, A.V. (Moskva)

Role of psychological reasons in the causation of electrical accidents [with summary in English]. Vop.psikhol. 5 no.1:141-146
Ja-F '59. (MIRA 12:4)
(Electricity, Injuries from--Psychological aspects)

Академия наук Урвына'кыт БЕР. Институт математики
Zastouyanya metodu elektrodinamicheskoy analogii dlya resheniya zadach (Application of the Method of Electrodynamic Analogy to the Solution of Various Engineering Problems) Kyryl, Vyshnoye AN USSR, 1959. 160 p. 1,000 copies printed.

Ed. of Publishing House: T.F. Rozemnik, Tech. Ed.: O.O. Metriyukh; Editorial Board: P.F. Fil'chikov (Resp. Ed.), V.M. Ostapenko (Resp. Secretary), Yu.V. Blabovreshchenskiy, I.B. Pokryshev, and V.B. Shumakov.

PURPOSE: This book is intended for scientific workers, engineers, assistants and students.

CONTENTS: This book is a collection of articles on the application of the electrodynamic analogy method to the solution of various engineering problems. Among the topics discussed is the solution of certain technical problems on resistance paper by the electrodynamic analogy method. Special attention is given to the study of problems of filtration, in both homogeneous and nonhomogeneous media, problems of plane bending, heat engineering problems, problems of the physical and technical properties of foundry alloys, and the accuracy of the electrodynamic analogy method. The attached paper and the new, more universal model of the EDA integrator is described. All the articles and with summaries in Russian and English.

TABLE OF CONTENTS:

From The Editors	3
ARSENTEV, V.V. Estimates of the General Stability of Pressure Slopes of Hydro-mechanical Earth Structures Under Conditions of Falling Safety Level Before Them	3
BLABOVRESHCHENSKIY, Yu.V. Modelling Problems of Prismatic Beam Bending	12
BOGOSLOVSKIY, P.O. Applying the Method of Electrochemical Analogy for Investigating the Temperature Conditions of Earth Mass Built on Permafrost	19
KOROVY, A.V. Application of the Electrodynamic Analogy Method to the Investigation of Filtration Under the Foundation, Taking into Consideration the Permeability of Sheet Piling, in the Presence of a Subfoundational Pressure	29
BUNCEV, V.B. Method of Calculating the Drainage of Flooded Ore Fields by Applying Electrical Analogy	40
GLAZOVSKIY, A.A. On Modelling Problems in the Theory of Dratings	49
GURVIL, B.B. Resistance Paper for Electrical Modelling	55
Kozdoba, L.O. Methods of Modelling the Temperature Fields of Diets Under Given Boundary Conditions of the First and Third Kind Employing the EDA-6/53 Integrator	65
MOZGOREV, K.O. Application of the Electrodynamic Analogy Method to the Design of the Underground Contour of Low-pressure Block-Type Dams	78
NETVISHIL, A.V. Modelling of Electro-osmotic Water-Level Fall by the Electrodynamic Analogy Method	90
Ostapenko, V.M. Certain Questions of the Precision of the Electrodynamic Analogy Method	109
Ostapenko, V.M. Solving Boundary-value Problems with Special Form Coefficient by the Electrodynamic Analogy Method	117
PAKUCHIN, Y.L. and YIL'CHIKOV, P.F. The EDA-8/56 Universal Integrator	121
ST. P. AND. M. G. Study of Spatial Filtration on the EDA Integrator	131
ZHURAVL'YAN, M.M. Determining the Efficient Depth of the Screen in a Dam Base With a Variable Coefficient of Filtration	142
VOZNESEV, A.G. Compensation of Errors in Applying Approximate Analogy to the Conformal Mapping Problem on an EDA-6 Integrator	154

36304 BORISOV, A. V. I ZHIVOV, V. I.
Semenovodstvo (Zernovykh) v krasnoufimskom rayone sverdlovskoy o'lasti.
Selektsiya i semenovodstvo, 1949, No. 11, S. 16-21

SO: Leto'is' Zhurnal'nykh Statey, No. 49, 1949

BORISOV, A. V.

BORISOV A.V.

Mehanicheskaya Tsentralizatsiya Na Zheleznih Dorogah, SSSR (Mechanical Centrali-
zation on Railroads in the USSR, Moscow, 1950.

BORISOV, A.V.

Fall of meteoritic dust in the region of Omsk. Priroda 46
no.4:112-113 Ap '57. (MLRA 10:5)

1. Meteoritnaya komissiya (Omsk).
(Omsk--Cosmic dust)

BORISOV, A.V. (Omsk)

Smoke fog. Priroda 50 no.5:65-66 My '61. (MIRA 14:5)
(Siberia--Forest fires) (Atmospheric transparency)

BOGOSLOVSKIY, A.M., inzh.; BORISOV, A.V., inzh.; STRELETSKIY, D.N.,
kand.tekhn.nauk

Analysis of labor required in the mechanized assembly of
a "250" mill. Mont. i spets. rab. v stroi. 24 no.7:10-12
Jl '62. (MIRA 15:6)

1. Normativno-issledovatel'skaya stantsiya No.5 i Nauchno-
issledovatel'skiy institut stroitel'noy promyshlennosti Ministerstva
stroitel'stva RSFSR.
(Cherepovets--Rolling mills)

21(5)

SOV/76-33-9-7/37

AUTHORS:

Semiokhin, I. A., Panchenkov, G. M., Korovkin, V. K.,
Borisov, A. V.

TITLE:

Separation of Oxygen Isotopes in the Process of Electro-
synthesis of Ozone

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9, pp 1933-1938
(USSR)

ABSTRACT:

The equilibrium constant of the reaction of isotope exchange
 $2 \text{O}_3^{16} + 3 \text{O}_2^{18} \rightleftharpoons 2 \text{O}_3^{18} + 3 \text{O}_2^{16}$ (1) in a silent electric dis-
charge was calculated in the Laboratoriya khimii i razdeleniya
izotopov MGU (Laboratory of Chemistry and Isotope Separation
of MSU) by means of the approximation method by V. M. Tatevskiy
(Ref 1), it amounts to 1.174 at 20°C. In order to determine
the dependence of the distribution of the oxygen isotopes on
the duration of gas in the discharge zone, on the length
of the ozonizer, on the method of ozone concentration, and on
the way of taking samples, investigations were performed by
means of a special device (Fig 1) made of molybdenum glass.
The oxygen was conducted through a system to be purified and
dried and was then introduced into the ozonizer. The ozone

Card 1/3

SOV/76-33-9-7/37

Separation of Oxygen Isotopes in the Process of Electrosynthesis of Ozone

concentration of the oxygen-ozone mixture was measured and the ozone was adsorbed in silica gel to be either analyzed by means of a mass spectrograph or (in multistage investigations) was dissociated by heat-treatment and was again converted into ozone in the ozonizer. The pressure was measured by means of an ionization thermocouple vacuummeter type VIT-1 or by a Hg-manometer respectively. The current supply of the ozonizer was accomplished by a sound-frequency generator type ZG-2A and a translation amplifier type TU-500-3, by the use of a transformer of the type OM-6. The current intensity of the ozonizer was measured by means of a "Mul'titset" type Ts-312, the voltage being measured by means of a static voltmeter type S-96. The ozone concentration was determined iodometrically, the analysis of the isotope composition of the oxygen was performed by means of the apparatus type MS-3. The factor of the specific energy U/v permitting the comparison of the performance efficiency of electrochemical processes as shown by experiments in the Laboratoriya kataliza i gazovoy elektrokhimii MGU (Laboratory of Catalysis and Gas Electrochemistry of the MSU) this factor was applied to the analysis of measur-

Card 2/3

SOV/76-33-9-7/37

Separation of Oxygen Isotopes in the Process of Electrolysis of Ozone

ing results in relation to the concentration coefficient S . It was observed that a steady state in the isotopic exchange between oxygen and ozone is reached for $U/v = 2 \text{ wh/l}$ that means in about 1 second. The enrichment of ozone with O^{18} depends practically neither on the length of the ozonizer nor on the method of ozone-concentration nor on the sample taking. Values of 1.08 to 1.10 for S were obtained by one-stage investigations in ozonizers of different lengths (20-65 cm) at 20°C and 750 torr. The following scientists were mentioned: Ye. N. Yeregin, S. S. Vasil'yev and N. I. Kobozev. There are 6 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: February 13, 1958

Card 3/3

24652

S/076/61/035/006/002/013
B127/B203

24.6210

AUTHORS: Borisov, A.V., and Gversdtsiteli, I.G.

TITLE: Measurement of the pressure difference between $B^{10}F_3$ and $B^{11}F_3$

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 6, 1961, 1212-1214

TEXT: The authors distilled BF_3 to obtain highly concentrated isotopic compounds. The volatility of $B^{10}F_3$ and $B^{11}F_3$ was measured near the boiling point of BF_3 ($-100, 7^\circ C$): $p_{O1}/p_{O2} = 1.0082$ at $-103^\circ C$, $p_{O1}/p_{O2} = 1.0075 \pm 0.005$ at $-100^\circ C$. p_{O1} and p_{O2} are the partial pressures of the saturated vapors of $B^{10}F_3$ and $B^{11}F_3$. In the presence of partially concentrated isotopes, the measurement of the concentration coefficients is essentially a measurement of the pressure difference between them at
Card 1/4

Measurement of the ...

21652
S/076/61/035/006/002/013
B127/B203

an equilibrium of the system vapor - liquid. The concentration coefficient $\xi = (p_{01} - p_{02}) / p_{02}$ (1) for ideal solutions is, according to Raoult's law, expressed by the measurable pressure and the measurable concentration: $\xi = (p_1 - p_2) / p_2 (c_1 - c_2)$. Here, p_1 and p_2 are the pressures of the saturated vapors of the mixture with the concentrations c_1 and c_2 . The results of measurement are tabulated. The measurements were made at a concentration of 81.6% and 18.6% $B^{10}F_3$ with a differential manometer in a temperature range of 160-170.4°K. At these temperatures, $B^{11}F_3$ appeared to be the more volatile compound. The concentration coefficient

$\xi = \frac{p_{01}}{p_{02}} - 1 \approx \frac{p_1 - p_2}{p_2 \Delta c}$ grew with the decrease in temperature from

$(8.4 \pm 0.13) \cdot 10^{-3}$ at $T = 170.4^\circ K$ to $(10.1 \pm 0.24) \cdot 10^{-3}$ at $T = 160^\circ K$.

There are 1 figure, 5 tables, and 5 references, 2 Soviet bloc.
Card 2/4

Measurement of the ...

24652
S/076/61/035/006/002/013
B127/B203

The most important reference to English-language publications reads as follows: Nettley P.T., Cartwright D.K., Kronberger H. Proc. Sympos. on isotope separation, Amsterdam, 1957, p.385.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 4, 1959

Card 3/4

S/020/63/149/001/014/023
B144/B186

AUTHORS: Amirkhanova, I. B., Borisov, A. V., Gverdtsiteli, I. G.,
Karanyan, A. T., Kucherov, R. Ya.

TITLE: Evaporation coefficients of liquid C_2H_5OH , BCl_3 , BF_3 , and
 CH_4

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 1, 1963,
114-116

TEXT: The evaporation coefficients were determined by measuring the pressure increase effected by evaporation of the substance in a closed system. The apparatus used consisted of an evaporation vessel with a screw stirrer and a counterpressure chamber, both put into a Dewar flask, and was calibrated on the basis of the evaporation coefficient of C_2H_5OH . After evacuation to 10^{-5} mm Hg, the apparatus was purged with the gas studied; then the substance was condensed. After establishing a pressure equilibrium, the pressure was quickly reduced with a syphon and the subsequent pressure increase due to the evaporation of the liquid

Card 1/2

Evaporation coefficients of liquid ...

S/020/63/149/001/014/023
B144/B186

studied was recorded. With the same apparatus the condensation coefficients of liquids can be measured if the initial pressure in the evaporating vessel is adjusted so that it exceeds the equilibrium pressure. It is asserted that this was done for the first time. The evaporation and condensation coefficients were calculated from the measurements using the formula of L. Bogdandy et al. (Zs. Elektrochem. 59, 460 (1955)) and compared in the case of C_2H_5OH with previous results. For BF_3 and BCl_3 the evaporation and condensation coefficients were almost consistent. Further theoretical and experimental research should clear up why the values found are so low. There are 2 figures and 1 table.

PRESENTED: October 27, 1962, by N. M. Zhavoronkov, Academician

SUBMITTED: June 27, 1962

Card 2/2

VERTSMAN, G.Z., kand. tekhn. nauk; PANTELEYEV, P.I., kand. tekhn. nauk; GOMOLIYAKO, I.M.; TAL', K.K.; GUSEVA, K.G.; LUGOVOY, P.A.; MASSAN, A.M.; GALKIN, N.V.; SAPHYGINA, G.M.; CHESNOKOV, D.S.; DROZDKOV, V.I.; IZYUMOV, P.S.; ZAK, B.O.; KOROGID, P.Ye.; MAKSIMOVICH, L.N.; ZBOROVSKAYA, M.I.; PAVLOVSKAYA, S.A.; BORISOV, A.V.; SELIVANETS, N.Ye.; ITKES, V.M.; YATSKEVICH, Ya.D.; KOZYRSKIY, N.P.; NIKITIN, V.D.; NEKLEPAYEVA, Z.A., inzh., red.; MEDVEDEVA, M.A., tekhn.red.

[Design and planning of railroad stations and junctions]
Proektirovanie zheleznodorozhnykh stantsii i uzlov; spravochnoe i metodicheskoe proizvodstvo. Moskva, Tranzsheldorizdat, 1963. 443 p. (MIRA 16:12)

1. Nauchno-issledovatel'skiy institut transportnogo stroitel'stva (for Guseva). 2. Gosudarstvennyy institut tekhniko-ekonomicheskikh izyskaniy i proyektirovaniya zheleznodorozhnogo transporta (for Zak). 3. Kiyevskiy gosudarstvennyy proyektno-izyskatel'skiy institut (for Kozyrskiy). 4. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta Im. I.V. Stalina (for Nikitin).

(Railroad engineering)

AMIRKHANOVA, I.B.; BORISOV, A.V.; GVERDTSITELI, I.G.; KUCHEROV, R.Ya.

Possible reason for divergence in the results of measurements of the ratios of isotope vapor pressures at equilibrium as shown by the differential and Rayleigh methods. Dokl. AN SSSR 149 no.2: 351-352 Mr '63. (MIRA 16:3)

1. Fiziko-tekhnicheskiy institut AN GruzSSR. Predstavleno akademikom N.M.Zhavoronkovym.
(Isotope separation) (Vapor pressure)

BORISOV, A.V.

Commercially valuable wild animals of Omsk Province. Izv.
Omsk. otd. Geog. ob-va no.5:161-173 '63. (MIRA 17:5)

BORISOV, A.V., aspirant

Lymphatic system of the jejunal and ileal walls in man. Trudy
ISGMI 17:116-134 '53. (MLR 10:8)

1. Kafedra normal'noy anatomii Leningradskogo sanitarno-gigiyeniche-
skogo meditsinskogo instituta (zav. kafedroy - chlen-korrespondent
AMN SSSR, prof. D.A.Zhdanov)

(LYMPHATIC SYSTEM,

ileum & jejunum)

(ILEUM, anatomy and histology,

lymphatic system)

(JEJUNUM, anatomy and histology,

lymphatic system)

EXCERPTA MEDICA Sec 5 Vol 12/8 General Path. Aug 59

2260. LYMPHATIC VESSELS OF THE SMALL INTESTINE IN PERITONEAL CARCINOMATOSIS IN MAN (Russian text) - Borisov A. V. Med. Inst. of Sanit. and Hyg., Leningrad - VOPR.ONKOL. 1958, 4/6 (691-697) illus. 5

The author examined 26 specimens from the small intestine of adults who died either from cancer of the stomach (20 cases) or of the uterus (6 cases). Among these 26 cases, carcinomatosis of the intestinal wall was found in 19, and metastases to mesenteric lymph nodes in 7 cases. Lymph vessels were injected with Herota blue mass, blood vessels with 30-50% solution of India ink. The examinations showed a great dilatation of lymphatic vessels in the serosa and muscularis. This phenomenon could be observed only when the mesenteric lymph nodes were not involved by the tumour; when the nodes were affected, resulting in the interference of the lymph reflux, the mesenteric lymphatic vessels, particularly those of submucosa, were found to undergo a strong dilatation and to be filled with the protein fibrinous coagulate, containing lymphocytes, visible microscopically as white cords; in contrast, lymphatic vessels from the serosa contained little or no coagulate. As may be gathered from the unpublished studies of the author, this finding is due to the fact that part of the lymphatic vessels of the serosa join lymph nodes, while others pass into the lymphatic capillary net of the mesenteric serosa, thus bypassing the lymph nodes. The tumour metastases showed no lymphatic vessels, in distinction to blood vessels which form a vascular net inside the tumour. In view of the fact that the tumour metastases exerted a strong pressure on the blood vessels of the submucosa, it can be assumed that the dilatation of the lymphatic vessels round the metastasis is but a compensatory reaction to the mechanical pressure on the blood vessels.

Albert - Wroclaw (V, 9, 16)

USSR / Human and Animal Morphology - Lymphatic System. S

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, No. 101494

Author : Borisov, A. V.

Inst : -

Title : New Findings on the Morphology of the Lymph
Vessels of the Mesentery of the Human Small
Intestine.

Orig Pub : Arkhiv Anatomii, Gistol. i Embriol., 1958,
Vol. 35, No. 1, 76-81

Abstract : In the mesentery of the small intestine of adults,
the Gerota mass injection method revealed two
functionally and morphologically different systems
of lymph vessels (LV). One of them is a network
of capillaries which drains the mesentery itself.
The diameter of the capillaries is 15-70 microns.
From the fusion of the capillaries (3-5 at a time)

Card 1/2

USSR / Human and Animal Morphology - Lymphatic System. S

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, No. 101494

small LV are formed which comprise a plexus disposed beneath the lymph capillaries. The lymph from the plexus then goes into still larger lymph channels. The second system consists of LV which drain the intestine. Both systems of LV fuse in the regional lymph nodes, but up to this point remain isolated from each other. -- A. I. Braude

Card 2/2

BALASHOV, V.N. (Leningrad, Kurakina, 1/3, pavil'on 26, kv. 66); BORISOV,
A.V. (Leningrad, Institutskiy per., d. 5, fl. 7, kv. 62-a)

The 50th anniversary of the Department of Normal Anatomy at the
Leningrad Medical Institute of Sanitation and Hygiene. Arkh.anat.
gist. 1 embr. 35 no.6:110-113 N-D '58. (MIRA 12:1)
(ANATOMY, education,
hist. in Russia (Rus))