GOL'SHTEYN, L. M.

GOL'SHTEYN, L. M. --"Toward the Question of the Optimal Metods of Group Formation of a Dial Telephone Exchange ATS." Min. Communication USSR, Leningrad Electrical Engineering Inst. of Communications imeni Professor M. A. Bonch-Bruyevich, Leningrad, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 35, 1955

SOV/106-59-1-8/12

AUTHOR: Gol'shteyn, L.M.

TITLE: The Bridge Principle in Construction of Test Circuits for Automatic Telephone Exchanges (O mostovom printsipe postroyeniya probnykh tsepey ATS)

PERIODICAL: Elektrosvyaz', 1959, Nr 1, pp 64-69 (USSR)

ABSTRACT: The use of this principle enables test circuits to be designed which satisfy all the usual requirements including that of security against non-operation during simultaneous testing. The method has already been used (Ref 1) but not in a sufficiently fundamental manner; the basic idea is to include the test relay in the diagonal of a Wheatstone bridge as in Fig 1, where r_2 represents resistance of the line which has been engaged. During the test of a single line a current flowing through the relay is given by Eq (1), where R is the winding resistance of the test relay. The values of the components must be chosen so that the current I_1 is greater than the minimum operating current of the relay. This means that the reliability coefficient is a_1. Fig 2 shows what happens when two test circuits operate on the same line (an equivalent circuit for this case is Fig 3) and it will be seen that the current flowing

Card 1/4

through the relay winding is less than previously. If in fact the conditions in (2) obtained, the bridge is balanced and no current flows through the relay. For reliable operation therefore it is necessary that the coefficient a_1 is increased as much as possible and a_2 (that corresponding to double operation) is reduced. This is expressed in (3) where α is the ratio a_1/a_2. With the usual method of construction α hardly ever exceeds 1.2 to 1.3. If the balanced condition (2) is satisfied then the current flowing through the relay of Fig 1 is given by (4). If testing occurs simultaneously by three relays the equivalent circuit is Fig 4 and the current flowing through the relays is given by (5). If the same balance condition obtains as before (Eq 2) then the current flowing through the relays in simultaneous testing is given by (6) and it will be seen that this is in the opposite direction to that for single testing. The so called controlled reliability coefficient under these circumstances is (7). Allowing for fluctuations in line voltage between 58 and 66 volts the limiting values

SOV/106-59-1-8/12

The Bridge Principle in Construction of Test Circuits for Automatic Telephone Exchanges

of α are 1.464 and 1.934. This is a rather narrow range, and if in addition we take into account the fact that the values of the circuit resistances themselves are subject to tolerances, then the value of α becomes even lower. The problem becomes more acute if simultaneous testing by a greater number of relays is considered. An effective way of increasing the value α is shown in Fig 5 where a diode is wired in series with the relay winding. This of course exploits the fact that the current reverses when the number of simultaneous testing exceeds two. The diode may also be arranged by choosing the circuit elements correctly to avoid lack of balance under double testing. Blocking of the busy line is also possible by the modification shown in Fig 5, where the point A is earthed by the relay itself. A suitable circuit for testing busy lines is shown in Fig 6, and Fig 7 is the equivalent circuit for simultaneous testing by a number of circuits. In practice the test relay used has been the sensitive types RP and TRM.

Card 3/4

SOV/106-59-1-8/12

The Bridge Principle in Construction of Test Circuits for Automatic Telephone Exchanges

There are 7 figures and 2 references, one of which is Soviet and 1 English.

SUBMITTED: August 29, 1958

Card 4/4

GOL'SHTEYN, M.I.; NSTRIN, B.M.; IVANCHENKO, N.P.; AYZENBERG, S.A.

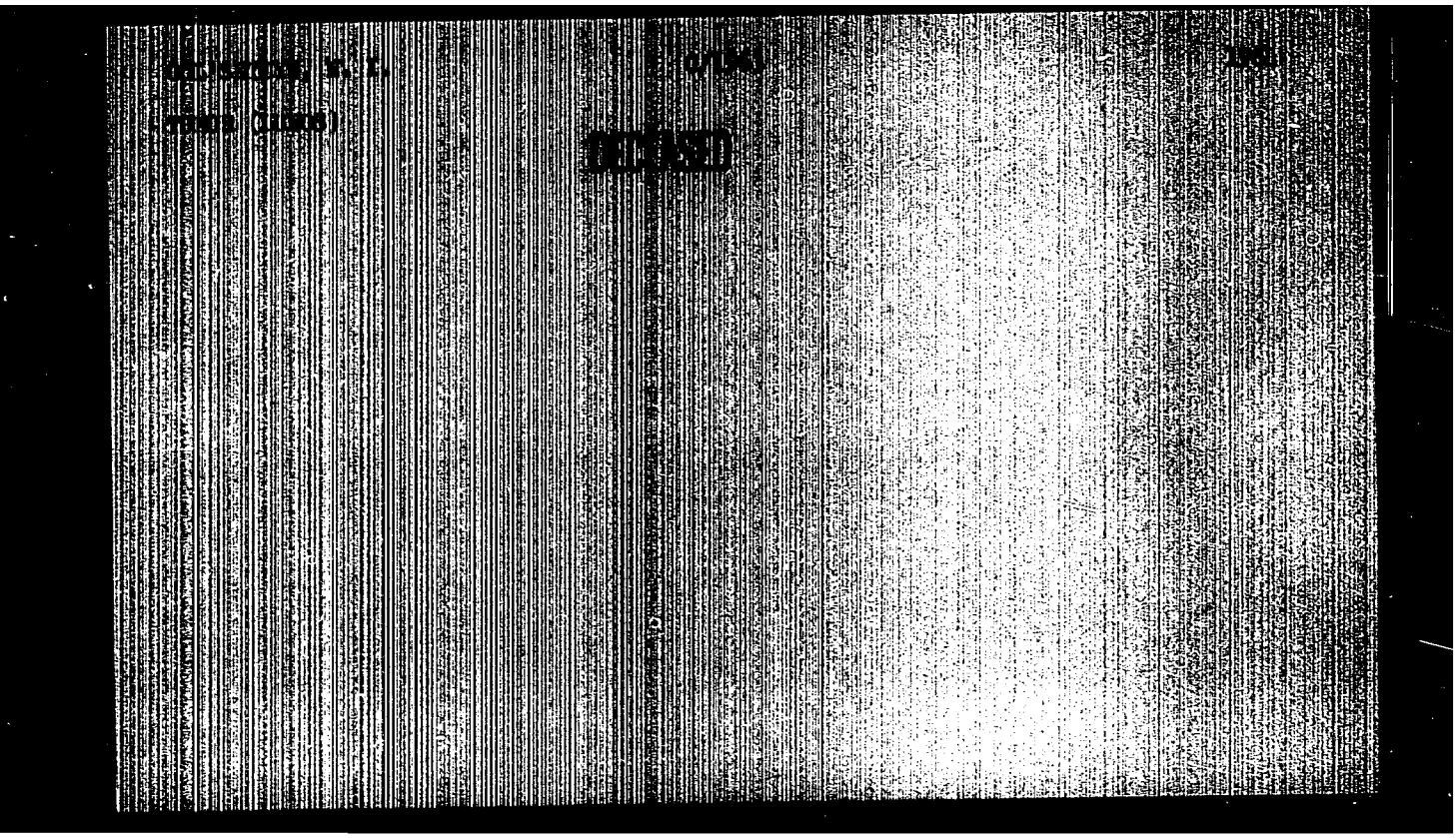
A compound method for the prevention of influenza and of acute catarrhs of the upper respiratory tract in metal workers at the G.I.Petrovskii Plant. Vop.virus. 1 no.2:10-13 Mr-Ap '56. (MLRA 10:1)

1. Kafedra epidemiologii Dnepropetrovskogo meditsinskogo instituta Dnepropetrovskaya gorodskaya sanitarno-epidemiologicheskaya i medikosanitarnaya chast' zavoda imeni G.I.Petrovskogo, Dnepropetrovsk.
(INFLUENZA, prevention and control, in indust. (Rus))
(COMMON COLD, prevention and control, in indust. (Rus))

VASIL'YEVA, V.K.; GOL'SHTEYN, M.M.

Functional shifts of the nervous system in pulmonary tuberculosis in artificial pneumothorax. Probl.tuberk., Moskva no.1:11-17 Jan-Feb 1953. (CIML 24:2)

1. Docent for Vasil'yeva; Professor for Gol'dshteyn. 2. Of Leningrad Scientific-Research Tuberculosis Institute imeni Prof. A. Ya. Shternberg (Director — Candidate Medical Sciences A. D. Semenov).



VOROB'YEV, G.M.; GOL'SHTEYN, R.M.; MAURITS, I.I.

Effect of impurities on the basic mechanical properties of silumin. (MIRA 18:6)
Tsvet.met. 38 no.3:83-86 Mr '65.

Gol'shteyn, P.M.

ALEKSEYEV, N.S.; BELYAYEV, A.P.; BUGAREV, L.A.; BUTOMO, D.G.; VASIL'YEV, Z.V.; VERIGIN, V.N.; VOROB'YEV, G.M.; GAYLIT, A.A.; GOL'SHTEYN, P.M.; GOMESHTEYN, M.B.; ZHOLOBOV, V.V.; ZEDIN, N.N.; IVANOV-SKOBLIKOV, N.I.; KUTEPOV, Ya.V.; LANDIKHOV, A.D.; MARAYEV, S.Ye.; MILLER, L.Ye.; OL'KHOV, N.P.; PERLIN, I.L.; POSTNIKOV, N.N.; ROZOV, M.N.; CHERNYAK, S.M.; CHUPRAKOV, V.Ya.; TSENTER, Ya.A.

Vladimir Oskarovich Gagen-Torn; obituary. TSvet.met. 27 no.5:67-68 S-O '54. (MIRA 10:10)

(Gagen-Torn, Vladimir Oskarovich, 1888-1954)

BELYAYEV, A.P., kandidat tekhnicheskikh nauk; GOL'SHTEYN, R.M., inzhener.

Hydrogen content in primary aluminum ingots. TSvet.met. 29 no.5: 61-63 My '56. (MLRA 9:8)
(Aluminum--Metallurgy) (Gases in metals)

GOL'SHTEYN, R.M.

AUTHOR: Belyaev, A.P., Candidate of Technical Sciences, and Gol'shteyn, R.M., Engineer. 136-5-12/14

TITLE: Electrical conductivity of aluminium. (Elektroprovodnost alyuminiya.)

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals) 1957, No.5, pp. 74 - 78 (U.S.S.R.)

ABSTRACT: Determinations are reported and results are tabulated of the effect of impurities on the resistivity, conductivity, tensile strength and relative elongation of annealed aluminium wire. The following impurities in the indicated concentrations were studied: iron (0.0017 - 1.0 %); silicon (0.0025 - 0.50%); copper (0.002-0.50%); titanium (0.0004-0.10%); vanadium (<0.0001 - 0.20%); chromium (approx. 0.00016-0.27%). The results are examined in the light of the requirements of ГОСТ 6132-52 and 3549-55, and of tabulated results of determinations of copper, titanium, vanadium and chromium in commercial aluminium of quality from AB000 to A2. The electrical and mechanical properties of these commercial aluminiums are also tabulated. The investigation has shown the electrical conductivity of high-purity electrolytically refined aluminium (AB000) to be equal to 37.9 m/Ωmm^2, the harmful effect on the conductivity of impurities being represented by the following

Card 1/2

Electrical conductivity of aluminium. (Cont.) 136-5-12/14

series in descending order: Cr - V - Ti - Cu - Si - Fe. The impurities found in the commercial grades of aluminium were not sufficient to bring their resistivities outside the specification.

There are 3 tables and 1 non-Slavic reference.

ASSOCIATION: All-Union Aluminium-magnesium Institute. (VAMI)

AVAILABLE:

Card 2/2

137-58-6-11897

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 101 (USSR)

AUTHORS Belyayev, A.P., Gol'shteyn, R.M.

TITLE Metallic Impurities in Aluminum (Metallicheskiye primesi v alyuminii)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 387-390

ABSTRACT: Raw aluminum obtained by the electrolysis of cryolite-alumina melts contains a number of metallic and nonmetallic impurities. To remove the nonmetallic and part of the metallic impurities (Na, Ca, Pb, Zn, and As), the liquid raw material is blown with Cl_2 and then permitted to stand in our plants. Analysis of chlorinated Al of various aluminum plants demonstrates the following percentage content of impurities, depending upon the grade of product (A00, A0, A1, and A2): Fe 0.09-0.38, Si 0.07-0.34, Cu 0.003-0.019, Zn 0.0024-0.022, Ti 0.002-0.017, Mg 0.0004-0.0028, Mn 0.002-0.004, Na 0.001-0.01, Sb 0.000015-0.000017, As 0.0001, Cd 0.000001, Ga 0.002-0.0085, Bi 0.000004-0.000006, S 0.0004-0.007, Al_2O_3 0.0003-0.007. After electrolytic refining of Al (AB000) its impurities contents are as follows, in %: Fe 0.0017-0.003, Si 0.002-0.004,

Card 1/2

137-58-6-11897

Metallic Impurities in Aluminum

Cu 0.0008-0.0022, Zn 0.0002-0.0008, Ti 0.0004-0.0008, Mg 0.001-0.0040, Mn 0.001-0.002, Na 0.002-0.005, Sb 0.000014-0.000016, As 0.0001, Cd 0.000001, Ga 0.00006, Bi 0.000005-0.000009, S 0.0002-0.0004, Al_2O_3 0.0005-0.0016.

I.G.

1. Aluminum--Impurities 2. Aluminum--Processing 3. Metals--Separation 4. Electrolysis--Effectiveness

Card 2/2

68000

SOV/81-59-8-27801

18.1245
18.8300

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 8, p 324 (USSR)

AUTHORS: Belyayev, A.P., Gol'shtayn, R.M.

TITLE: The Resistance of High-Purity Magnesium Alloys Against Total Corrosion and Corrosion Under Stress

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 358 - 364

ABSTRACT: The results of corrosion tests of commercial Mg in a 3%-solution of NaCl have shown that the Cu and Ni content in Soviet electrolytic Mg does usually not exceed the admissible limits. Fe, the content of which in Mg is 0.005 - 0.018%, is the most harmful impurity. The corrosion rate (CR) of Mg-Mn-alloys increases noticeably at a Ni and Cu content of 0.006% and 0.15%, respectively. The presence of Fe in the Mg-Mn-alloy in the amount of up to 0.04% did not produce a noticeable effect on CR. Three-year tests in the atmosphere of Leningrad detected no difference in the corrosion behavior of Mg alloys with 1.48% Mn containing 0.042 and 0.004 Fe. The CR of a deformed MA5 alloy containing $< 0.005\%$ Fe in a 3%-solution of NaCl is $\sim$ twice as low as that of commercial Mg. The presence of Cu in MA5 and ML5 alloys in the quantity of up to 0.3%

Card 1/2

66000

SOV/81-59-8-27801

The Resistance of High-Purity Magnesium Alloys Against Total Corrosion and Corrosion Under Stress

did not show a noticeable effect. CR of ML6 alloy is ~ 20 times less than that of the same alloy of commercial purity at a Fe content of < 0.005. Under the conditions of alternate immersion into water the samples in the form of forks prepared from MA2-1 and MA5 alloys of usual purity showed a higher tendency to corrosion cracking than in the case of high purity alloys.

Ye.Z.

Card 2/2

74195
S/129/61/000/007/009/016
E073/E535

18 1210

AUTHORS: Belyayev, A.P., Candidate of Technical Sciences and Gol'shteyn, R.M., Engineer

TITLE: Influence of Small Additions of Titanium, Beryllium, Gallium, Rhenium and Niobium on the Grain Size of Aluminium After Heating and Deformation

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No.7, pp.37-38

TEXT: Aluminium sheet cladded with pure aluminium is frequently subjected to high temperature heating during a second quenching after slight deformations. Thereby, in some cases a coarse grain structure forms, as a result of which the manufactured parts have to be scrapped. The authors studied the influence on the macrostructure of recrystallized aluminium of the following small additions: 0.05, 0.11, 0.21% Ti; 0.05, 0.10, 0.22% Be; 0.06, 0.14, 0.23% Nb; 0.008, 0.05, 0.24% Re; 0.029, 0.1, 0.15, 0.48% Ga. The alloys were produced from aluminium A00 (0.14% Fe, 0.11% Si, 0.0055% Cu), whereby aluminium was alloyed with Al-Ti (4.67% Ti), Al-Be (4.7% Be), Al-Nb (2.9% Nb), Al-Re (2.47% Re);

Card 1/5

24195

Influence of Small Additions of . . S/129/61/000/007/009/016
E073/E535

gallium was introduced in the pure form. The ingots were rolled in five passes from 17 to 4 mm at 420°C on a two-high laboratory stand, roll diameter 200 mm. After annealing at 350°C, the material was cold rolled from 4 to 1 mm in four passes. From the 1 mm thick strip, specimens for tensile tests were produced which were annealed at 350°C for 4 hours. The specimens were deformed by stretching on a Mohr-Federgaf 6-ton machine with reductions of 1.5, 2.5, 5, 10 and 15%. After deformation, the specimens were heated in a saltpetre bath at 500°C for two hours. For revealing the macrostructure of the metal, an etching agent was used containing 100 ml HF, 75 ml HCl, 75 ml HNO_3 and 250 ml H_2O. Aluminium A00 without special additions had a coarse grain structure (6-10 grains per cm^2) after heating at 500°C and preliminary deformation of 7-15%. Titanium had a positive influence on the refining of the grain of the recrystallized aluminium. At a content of 0.2% Ti the fine crystalline structure is retained regardless of the degree of preliminary deformation (1.5-15%). Addition of 0.05% Ti produced hardly any changes in the macrostructure of the aluminium; after a reduction by 7-15% there were about 20 grains per cm^2. If the titanium content in

Card 2/5

Influence of Small Additions of S/129/61/000/007/009/016
E073/E535

the aluminium was 0.1% the coarse grain structure occurred only after preliminary reduction of the order of 15% A content of 0.05, 0.1, 0.2 and 0.5% beryllium showed no appreciable influence on the macrostructure of the recrystallized sheet material; a coarse grain structure (1.5 to 10 grains per cm^2) was observed for all the beryllium containing specimens after preliminary deformation of at least 10%. Additions of 0.05, 0.15 and 0.2% Nb had no influence on the macrostructure of aluminium although the grain was finer than for pure aluminium for reductions of 7-15%. Gallium in quantities of 0.03, 0.1 and 0.2% showed no influence on the macrostructure of the recrystallized aluminium for reductions of the order of 1.5-15%. In the case of a 0.5% Ga content, a coarse grain structure was observed even after a 5% reduction. The influence of rhenium was as follows: for contents of about 0.01% a coarse grain structure was detected even after reductions of 5-15%; in the case of a content of 0.05% Re, a coarse grain structure was observed for reductions of 7 and 15% in the same way as for pure aluminium. For higher Re contents a coarse grain structure was detected from higher degrees of reduction than for

Card 3/5

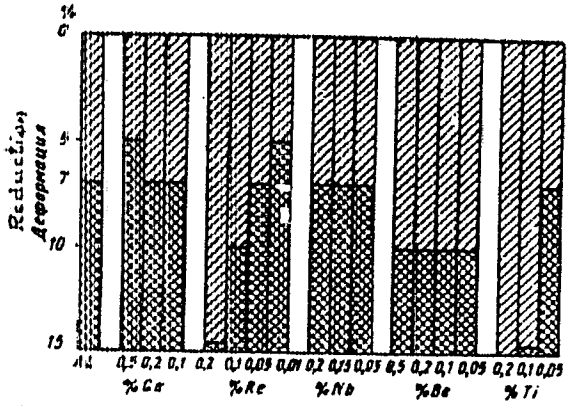
pure aluminium for 0.1% Re for reductions of 10 and 15%, for 0.2% Re only for reductions of the order of 15%. A graph is included which shows the range of reductions for which the aluminium structure will be coarse grained (cross hatched sections of columns; the vertical scale gives the reduction in %). The following conclusions are arrived at:

1. As a result of recrystallization at 500°C a coarse grain structure is detected in sheet aluminium after preliminary reduction by 7 to 15%.
2. Addition of 0.2% Ti prevents entirely formation of a coarse grain structure in aluminium annealed at 500°C even after reductions of up to 15%. Aluminium containing 0.1% Ti will have a coarse grain structure if the material was subjected to a reduction of 15% and in the case of 0.05% Ti if the reduction was 7%.
3. Addition of 0.05-0.5% Be, 0.05-0.2% Nb or 0.1-0.5% Ga did not show any appreciable influence on the grain size in the case of preliminary reductions of 1.5-15%.
4. Aluminium containing 0.2% Re showed a coarse grain structure

only after a 15% reduction before the high temperature heating, whilst smaller additions of Re (0.05-0.01%) did not have any positive influence. There is 1 figure.

[Abstractor's Note: This is a complete translation.]

Figure



Card 5/5

137-58-6-12884

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 243 (USSR)

AUTHORS Belyayev, A.P., Gol'shteyn, R.Zh.

TITLE: Resistance to Ordinary Corrosion and Corrosion Under Stress of High-Purity Magnesium Alloys (Soprotivlyayemost' obshchey korrozii i korrozii pod napryazheniyem magniyevykh splavov vysokoy chistoty)

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 358-364

ABSTRACT: It is shown that the most harmful impurity in Mg, which lowers its corrosion resistance under atmospheric conditions and in a 3% NaCl solution, is Fe, the content of which in domestic electrolytical Mg is > 0.005-0.018%. The corrosion resistance of Mg refined by sublimation is considerably higher. It contains impurities (in %) in amounts less than 0.005 Fe, 0.007 Cu, 0.0001 Ni, 0.001 Si, etc. It is remarked that admixtures of Fe, Ni, and Cu are harmful to Mg alloys, also, but their effect varies depending on the character of the alloy and the content of basic components in it. Ni has a more harmful effect than Fe and Cu upon the corrosion of Mg-Mn alloys

Card 1/2

137-58-6-12884

Resistance to Ordinary (cont.)

alloys (ML2 and MA1). In these alloys up to 0.04% Fe, up to 0.15% Cu, and up to 0.006% of Ni are permissible. In the alloys of the groups Mg-Al-Mn and Mg-Al-Zn-Mn (MA5, ML5, and ML6), Fe and Ni produce a greater harmful effect than Cu. In these alloys the harmful effect of Ni, Cu, and Fe becomes more pronounced as the content of Al in the alloy increases. Technically pure Mg-Al-Mn and Mg-Al-Zn-Mn alloys are susceptible to corrosion cracking under stress. High-purity alloys proved not to be susceptible to corrosion cracking. The practical possibilities of producing high-purity alloys (using sublimated Mg as charge material for the production of alloys, smelting of Mg and its alloys under vacuum without the use of fluxes, etc.) are pointed out.

G.Sh.

1. Magnesium alloys--Corrosion 2. Corrosion--Test results 3. Alloys--Corrosive effects

Card 2/2

STAVROVA, D.S.; MARGARITOVA, M.F.; MEDVEDEV, S.S.; Prinimala uchastiye GOL'SHTEIN, S.B.

Emulsion polymerization kinetics of methyl methacrylate in the presence of organic acids and amines and an anion-active emulsifier. Vysokom. soed. 7 no.4:725-728 Ap '65. (MIRA 18:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

GOL'SHTEYN, YA. M.

112-1-497

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p. 79 (USSR)

AUTHOR: Gol'shteyn, Ya. M.

TITLE: Drying of the Removable Part of Transformers with Currents of Zero Sequence and Short-Circuit Currents (Suggestion of T. Ye. Petrovskaya and V. A. Kulagin) [Sushka vyyemnoy chasti transformatorov tokami nulevoy posledovatel'nosti i korotkogo zamykaniya (Predlozheniye T. Ye. Petrovskoy, V. A. Kulagina)]

PERIODICAL: Sbornik rats. predlozh. M-vo elektrotekhn. prom-sti SSSR, 1956, Nr 2 (60), pp. 4-5

ABSTRACT: Bibliographic entry

Card 1/1

[redacted]

GOL'SHTEYN, Ye. G., Cand Phys-Math Sci -- (diss) "On ~~the~~ optimum approximations by harmonic polynomials." Mos, 1958. 6 pp (Mos Order of Lenin and Order of Labor Red Banner State Univ im M. V. Lomonosov, Mechan-Math Faculty), 100 copies (KL, 18-58, 94)

GOL'SHTEYN, Ye.G.

Evaluating derivatives of harmonic polynomials in several variables. Dokl. AN Arm. SSR 26 no.4:193-200 '58. (MIRA 11:5)

1. Predstavleno S.N. Mergelyanom.
(Polynomials)

16,5200

82224

S/020/60/133/03/01/013
C111/C222

AUTHOR: Gol'shteyn, Ye.G.

TITLE: A Certain Class of Nonlinear Extremum Problems

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 3, pp. 507-510

TEXT: The following generalizations of the linear programming problems are considered :

I. Determine the vector $X = (x_1, x_2, \ldots, x_n)$, which satisfies the conditions

(2) $$\sum_{j=1}^{n} a_{ij} x_j = b_i \quad , \quad i = 1, 2, \ldots, m \quad ,$$

(3) $$\alpha_j \leq x_j \leq \beta_j \quad , \quad j = 1, 2, \ldots, n$$

and by which the function

(1) $$F(x_1, \ldots, x_n) = \sum_{j=1}^{n} f_j(x_j) \quad ,$$

Card 1/3

82224

A Certain Class of Nonlinear Extremum Problems

S/020/60/133/03/01/013
C111/C222

where $f_j(x)$ are continuous piecewise smooth functions convex to above, assumes a maximum. It is shown : In order that X is a solution of the above problem it is necessary and sufficient that there exists a vector $\Lambda = (\lambda_1, \lambda_2, \ldots \lambda_m)$ which satisfies the following conditions : a). $f'_{j+}(x_j) \leq (A_j, \Lambda) \leq f'_{j-}(x_j)$ for $\alpha_j < x_j < \beta_j$; b). $f'_{j+}(x_j) \leq (A_j, \Lambda)$ for $x_j = \alpha_j$; c). $f'_{j-}(x_j) \geqslant (A_j, \Lambda)$ for $x_j = \beta_j$. Here f'_{j+} and f'_{j-} are the right and left derivatives of $f_j(x)$ and $A_j = (a_{1j}, a_{2j}, \ldots, a_{mj})$.

II. The same problem ax I, but $f_j(x)$ satisfies the additional assumption that it is piecewise linear on (α_j, β_j) for every j . The author gives a a method which permits a successive determination of the sought solution X in this case. The method bases on the criterion mentioned in I as well as on arrangements of (Ref. 4). One of the advantages of the method is the fact

Card 2/3

X

82224

A Certain Class of Nonlinear Extremum Problems

S/020/60/133/03/01/013
C111/C222

that the extent of calculations increases only unimportantly with an increase of the number of breaks of $f_j(x)$.

The author mentions L.V. Kantorovich. There are 5 references : 3 Soviet and 2 American.

PRESENTED: March 2, 1960, by A.I. Berg, Academician

SUBMITTED: February 23, 1960

X

Card 3/3

PHASE I BOOK EXPLOITATION SOV/5699

Yudin, D. B., and Ye. G. Gol'shteyn

Zadachi i metody lineynogo programmirovaniya (Problems and Methods of Linear Programming) Moscow, Izd-vo "Sovetskoye radio," 1961. 490 p. Errata slip inserted. 10,000 copies printed.

Eds.: S. M. Movshovich and N. D. Ivanushko; Tech. Ed.: A. A. Sveshnikov.

PURPOSE: This book is intended for mathematicians, engineers, and economists with a background in higher mathematics.

COVERAGE: The book is said to be the first Soviet attempt to present systematically the theoretical basis, methods, and application of linear programming. Particular attention is given to the foundation and description of computational algorithms leading to calculation schemes which are illustrated by examples. Ch. 1 is concerned with the basic concepts and various interpretations of the problem of linear programming. The first four sections of this chapter are of a rather elementary illustrative character; the following are more rigorous. Ch. 2 deals with various practical questions involving general and particular problems of linear programming. Its purpose is to illustrate methods of formulating economic,

Card 1/9

engineering, military, and other problems in terms of linear programming. Chs. 3 and 4 discuss general methods, their foundation, and corresponding algorithms. The method for the iterative improvement of a plan is described in great detail; duality methods are described concisely. Ch. 5 contains a detailed study of one of the important particular problems of linear programming, the transportation problem. Proofs for some of the statements of Ch. 5 may be found in section 3 of Ch. 6. In Sec. 1.1 of 6 the basic concepts of multidimensional space as used in the book are established and explained. The rest of this chapter deals with the mathematical basis of the theory of linear programming. Special problems of linear programming not discussed elsewhere in the book are outlined briefly in the Conclusion. The Bibliography lists only the sources actually used in the text. The authors thank Professor A. A. Lyapunov, I. A. Poletayev, L. S. Gurin, S. M. Movshovich, and V. V. Bokova. There are 69 references: 19 Soviet, 48 English, 1 French, and 1 Finnish.

TABLE OF CONTENTS:

30382
S/582/61/000/005/009/012
D222/D306

6,1200 (1031,1344)

AUTHORS: Gol'shteyn, Ye. G., and Yudin, D. B. (Moscow)

TITLE: On a class of problems in the planning of the national economy

SOURCE: Problemy kibernetiki, no. 5, Moscow, 1961, 165-182

TEXT: The author examines a model for the programming of the production and transportation of homogeneous products and recommends a method for the numerical solution which considerably reduces the number of variables and restrictions involved in the problem of linear programming. The elaboration of such individual specialized methods for some important problems of linear programming is made necessary by the fact that many of them would otherwise require exceedingly high operating speed and storage capacity for solution by computer. The discussion starts from a modified form of the transportation problem which takes into account the limited transfer capacity of the communication lines. It is then shown, through generalization to six other problems, that a general formulation

Card 1/3

30382
S/582/61/000/005/009/012
On a class of problems ... D222/D306

can be given in the form of a model for planning the production and transportation of a homogenous product. This can be reduced to the transportation problem if a special nonlinear payment for the transport is introduced. The nonlinear problem in turn can be solved by an algorithm, being a generalization of the method of potentials, recommended by L. V. Kantorovich (Ref. 1: Primeneniye matematicheskikh metodov v voprosakh analiza gruzopotokov (Application of Mathematical Methods to Problems in the Analysis of Transport Flow), Sb. "Problemy povysheniya effektivnosti raboty transporta" AN SSSR, 1949). This method consists in the iterative improvement of an initial plan, evaluating each step according to some optimality criteria. Two algorithms are given: (a) For the case when the initial plan is known and the problem is nondegenerate, and (b) for the case when the initial plan is not known. Among the conclusions the author mentions that this method can be extended to the generalized transportation problem with a fixed communications network; to the case when payment for transport is any convex, broken-line function of the transport; and, which is

Card 2/3

30382

S/582/61/000/005/009/012
D222/D306

On a class of problems ...

most important, it can be used for constructing a model for the production and transportation of inhomogeneous products. There are 1 table and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: H. W. Kuhn, Naval Res. Logist. Quart. 2, 1955, 83-97; J. Mankres, J. Soc. Industr. Appl. Math. 5, 11, 1957, 32-38.

SUBMITTED: February 9, 1960

Card 3/3

32442

S/044/61/000/010/005/051
C111/C222

16.4100

AUTHOR: Gol'shteyn, Ye.G.

TITLE: On an extremal problem for harmonic polynomials

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 9, abstract 10 B 37. ("Dokl. AN Arm SSR", 1961, 32, 1, 3-8)

TEXT: In spherical coordinates a harmonic polynomial of m variables of degree n has the form

$$P_n = P_n(r, \theta_1, \ldots, \theta_{m-2}, \varphi) = \sum_{k=0}^{n} r^k Y_k^{(m)}(\theta_1, \ldots, \theta_{m-2}, \varphi) ,$$

where $Y_k^{(m)}(\theta_1, \ldots, \theta_{m-2}, \varphi)$ is the spherical function of the order k which corresponds to the m-dimensional space. The author proves the Theorem : Let $\max_{r=\rho} |P_n(r, \theta_1, \ldots, \theta_{m-2}, \varphi)| = M$. If $m = 2l$, $l = 1,2,\ldots$, then for every $R \geq \rho$ it holds

Card 1/3

32442

S/044/61/000/010/005/051
C111/C222

On an extremal problem for harmonic ...

$$|P_n| \leq MT_n^{(m)}\left(\frac{R}{\rho}, 0\right). \qquad (1)$$

The estimation (1) is strong, where the single harmonic polynomial for which in (1) it holds the equal sign it holds $MT_n^{(m)}\left(\frac{r}{\rho}, \gamma\right)$ where γ is the angle between the local vectors to the points

$$(R, \bar{\theta}_1, \ldots, \bar{\theta}_{m-2}, \bar{\varphi}) \text{ and } (r, \theta_1, \ldots, \theta_{m-2}, \varphi);$$

$T_k^{(m)}(r, \theta)$ is a harmonic polynomial being identical with the function $\cos k\theta$ on the unit sphere of the m-dimensional space, where

$$T_k^{(m)}(r, \theta) = \frac{(1-r)^2 \omega_{m-1}}{\omega_m} \int_0^{\pi} \frac{\cos k\theta \sin^{m-2}\theta \, d\theta}{(1 - 2r\cos\theta + r^2)^{m/2}},$$

Card 2/5

32442

S/044/61/000/010/005/051
C111/C222

On an extremal problem for harmonic ...

where ω_m is the area of the surface of the m-dimensional unit sphere and $r<1$. This theorem generalizes the result of S.N. Bernshteyn for algebraic polynomials (Dokl. AN SSSR, 1948, 59, 833-836). The lemmas on which the proof of the theorem is based are given without a proof. There are misprints.

[Abstracter's note : Complete translation.]

Card 3/3

S/020/61/140/001/004/024
C111/C222

AUTHOR: Gol'shteyn, Ye.G.

TITLE: An infinite-dimensional analogue of the problem of linear programming and its applications to certain problems in the theory of approximations

PERIODICAL: Akademiya nauk SSSR. Doklady, v.140, no.1, 1961, 23 - 26

TEXT: Let : C_E - - the space of real-valued functions being continuous on the compact E ; V_E - - the space of functions of bounded variation defined on the system of Borel subsets of E. The author seeks a function $x \in V_{E_1}$ which gives a minimum to the Radon - Stieltjes integral

$$\int_{E_1} c(\tau)dx \qquad (1)$$

under the conditions

$$\int_{\tau \in E_1} a_1(t,\tau)dx \geqslant b_1(t) \quad , \qquad t \in E_2 \quad , \qquad (2)$$

Card 1/9

$$\int_{\tau \in E_1} a_2(t,\tau)dx = b_2(t), \qquad t \in E_3 \quad . \tag{3}$$

E_i, $i = 1,2,3$ are arbitrary compacts ; $c(\tau) \in C_{E_1}$, $b_i(t) \in C_{E_{i+1}}$, $a_i(t,\tau) \in C_{E_1 x E_{i+1}}$, $i = 1,2$. An $x \in V_{E_1}$ satisfying (2), (3) is called possible. A possible function which gives a conditional minimum to (1) is called optimal. The problem (1)-(3) is called regular if there exists an $\epsilon > 0$ so that for every function $b(t) \in C_{E_3}$, $|b(t)-b_2(t)|_{C_{E_3}} \leq \epsilon$, there exists an $\bar{x} \in V_{E_1}$ satisfying (3), where $b_2(t)$ is replaced by $b(t)$, and for which (2) changes to strong inequalities.

Theorem 1 : In order that a possible function x^* is optimal it is sufficient, and if (1)-(3) is regular, also necessary that there exist a non-negative function $y_1 \in V_{E_2^*}$ and a $y_2 \in V_{E_3}$ so that

$$c(\tau) = \int_{t \in E_2^*} a_1(t,\tau)dy_1 + \int_{t \in E_3} a_2(t,\tau)dy_2$$

Here E_2^* is the set of the points $t \in E_2$ for which $\int_{\tau \in E_1} a_1(t,\tau)dx^* = b_1(t)$.

Theorem 2 as a special case of theorem 1 considers the determination of a vector $X = (x_1, x_2, \ldots, x_N)$ which minimizes

$$\sum_{j=1}^{N} c_j x_j \tag{4}$$

under the conditions

$$\sum_{j=1}^{N} a_j(t)x_j \geqslant b(t), \quad t \in E , \tag{5}$$

$$\sum_{j=1}^{N} a_{ij}x_j = b_i \quad , \quad i = 1,2,\ldots, r \quad ; \tag{6}$$

here E is a compact, the vectors $(a_{i1}, a_{i2}, \ldots, a_{iN})$, $i = 1,2,\ldots, r$ are linearly independent, $a_j(t)$, $b(t) \in C_E$.
Let $f(\tau)$ and $\varphi_j(\tau)$, $j = 1,2,\ldots, n$, be continuous on the compact K , let the $\varphi_j(\tau)$ be linearly independent. Determine a polynomial $P(\tau) = \sum_{j=1}^{n} d_j \varphi_j(\tau)$ deviating least from $f(\tau)$ in the metric of the C_K , under the conditions

$$\sum_{j=1}^{n} d_j a_j(t) \geqslant b(t) \quad , \quad t \in E \quad , \tag{7}$$

$$\sum_{j=1}^{n} d_j a_{ij} = b_i \quad , \quad i = 1,2,\ldots, r \quad . \tag{8}$$

Theorem 3 : In order that $P^*(\tau) = \sum_{j=1}^{n} d_j^* \varphi_j(\tau)$ which satisfies (7), (8) is the polynomial of best approximation of $f_j(t)$ it is necessary and sufficient that there exist points

$\tau_i \in K$, $\max_{\tau \in K} |f(\tau) - P^*(\tau)| = |f(\tau_i - P^*(\tau_i)|$, $i = 1,2,\ldots,k$; $k \geq 1$;

$t_i \in E$, $\sum_{j=1}^{n} a_j(t_i) d_j^* = b(t_i)$, $i = 1,2,\ldots, s$

so that

a) the matrix

$$M = \begin{pmatrix} \varphi_1(\tau_1) & \varphi_2(\tau_1) & \dots & \varphi_n(\tau_1) \\ \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots \\ \varphi_1(\tau_k) & \varphi_2(\tau_k) & \dots & \varphi_n(\tau_k) \\ a_1(t_1) & a_2(t_1) & \dots & a_n(t_1) \\ \dots & \dots & \dots & \dots \\ a_1(t_s) & a_2(t_s) & \dots & a_n(t_s) \\ a_{11} & a_{12} & \dots & a_{1n} \\ \dots & \dots & \dots & \dots \\ a_{r1} & a_{r2} & \dots & a_{rn} \end{pmatrix}$$

has the rank $p - 1$, where $1 \leq p = k + s + r \leq n + 1$.

b) in M there exist columns $p - 1$ so that for every i, $1 \leq i \leq p$ the determinant is $\Delta_i \neq 0$; Δ_i consists of the elements of M being at the intersection points of these columns with the rows of M - except of the i-th one - .

Card 6/9

c). $(-1)^{i+\nu}$ sign Δ_i = sign $\left[f(\tau_i) - P^*(\tau_i)\right]$, $i = 1,2,\ldots,k$;

$(-1)^{i+\nu} \times$ sign $\Delta_i > 0$, $i = k+1,\ldots, k+s$; $\nu = 0$ or 1 .

Theorem 4 contains an assertion of uniqueness for the generalized Chebyshev problem considered in theorem 3 which is analogous to the theorem of Haar.

The theorems 1 and 2 can be used for estimations of the theory of approximation. As an example the author considers a Chebyshev system $\varphi_j(\tau)$, $j = 1,2,\ldots, k$, $1 \leq k \leq n$, $\varphi_1(\tau) = 1$ on $[a,b]$. Let R_n be the set of the polynomials $P(\tau) = \sum_{j=1}^{n} d_j \varphi_j(\tau)$ the amounts of which on $[a,b]$ are smaller than or equal to 1 . The author seeks necessary and sufficient conditions which must be satisfied by the numbers

γ_j, $j = 1, \ldots, n$ in order that $\sup_{P \in R_n} \left| \sum_{j=1}^{n} \gamma_j d_j \right|$ is reached on

$P^*(\tau) = \sum_{j=1}^{n} d_j^* \varphi_j(\tau) \neq \text{const}$.

Theorem 5 : Let $\tau_1, \tau_2, \ldots, \tau_p$ be those points of $[a,b]$ in which $|P^*(\tau)| = 1$ $(p \leq n)$; let the numbers $\delta_1, \delta_2, \ldots, \delta_p$ be defined by

$$\sum_{i=1}^{p} \delta_i \varphi_j(\tau_i) = \gamma_j \quad , \; j = 1, 2, \ldots, p \; .$$

The sought necessary and sufficient conditions are

a) $(-1)^{\nu} \delta_j P^*(\tau_j) \geq 0$, $j = 1, 2, \ldots, p$, $\nu = 0$ or 1

b) $\gamma_j = \sum_{i=1}^{p} \delta_i \varphi_j(\tau_i)$ for $j = p + 1, \ldots, n$.

The author mentions L.V. Kantorovich, P.L. Chebyshev, V.A. Markov, A.P. Psheborskiy, and S.N. Bernshteyn. There are 7 Soviet-bloc and 2 non-Soviet-bloc references. The reference to the English-language publication reads as follows : W.W. Rogosinski, J. London Math.Soc., 29, no. 3, 259 (1954).

PRESENTED: April 27, 1961, by A.N. Kolmogorov, Academician

SUBMITTED: April 27, 1961

Card 9/9

GOL'SHTEYN, Ye.G.

Problem of the best Chebyshev approximation in the complex region with certain supplementary conditions imposed on the coefficients of the approximating polynomial. Dokl. AN SSSR 141 no.2:274-276 N '61. (MIRA 14:11)

1. Predstavleno akademikom A.N.Kolmogorovym.
(Polynomials) (Approximate computation)

GOL'SHTEYN, Ye.G.

General formulation of the problem of best approximation. Dokl. AN SSSR 144 no.1:21-22 My '62. (MIRA 15:5)

1. Predstavlyeno akademikom A.N.Kolmogorovym.
(Banach spaces) (Approximate computation)

AM4033658 BOOK EXPLOITATION S/

YUdin, David Borisovich; Gol'shteyn, YEvgeniy Grigor'yevich

Linear programming; theory and terminal methods (Lineynoye programmirovaniye; teoriya i konechnye metody). Moscow, Fizmatgiz, 63, 0775 p. illus., biblio., index. 26,000 copies printed.

Series note: Fiziko-matematicheskaya biblioteka

TOPIC TAGS: linear programming, convex polyhedral set, duality theory, successive approximation, operations research, finite set

PURPOSE AND COVERAGE: The book contains a detailed exposition of the mathematical theory of linear programming and computational methods which make it possible to find an exact solution of the problem within a finite number of steps. The book is intended for engineers, economists, and mathematicians engaged in applied mathematics. It can also be used by students in mathematics, economics, and engineering-economics departments of higher educational institutions.

TABLE OF CONTENTS [abridged]:

Card 1/2

L 18401-63 EWT(d)/EDS AFFTC/ASD/AFOC/IJP(C) Pg-4/Pk-4/Pl-4/Po-4/
Pq-4 BC
ACCESSION NR: AP3003739 S/0103/63/024/007/0921/0928 76

AUTHOR: Gol'shteyn, Ye. G. (Moscow); Yudin, D. B. (Moscow)

TITLE: Methods for calculating and synthesizing sampled data automatic systems. 1

SOURCE: Avtomatika i telemekhanika, v. 24, no. 7, 1963, 921-928

TOPIC TAGS: automatic system, sampled data

ABSTRACT: The present first part of the article develops the problem formulated by Ya. Z. Tsypkin (Izv. AN SSSR. Otd. tekhn. n., Energetika i avtomatika, no. 4, 1960). Calculating and synthesizing sampled-data automatic systems can be reduced to consecutive solution of mathematical-programing problems on a digital computer included in the automatic system. In the authors' terminology, the calculation of an optimum system is a sequence of computing operations used for determining the optimum controlling actions within specified constraints; the

Card 1/2

0

L 18401-63
ACCESSION NR: AP3003739

synthesizing is a determining of the system structure or the computer program that ensures the system control in accordance with the optimum action. An example of an automatic system with pulse-amplitude modulation is considered in several versions. It is noted that the constraints imposed on the system can be expressed as linear and quadratic equalities or inequalities. Orig. art. has: 1 figure and 26 formulas.

ASSOCIATION: none

SUBMITTED: 18Aug62 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: IE NO REF SOV: 006 OTHER: 001

Card 2/2

YUDIN, David Borisovich; GOL'SHTEYN, Yevgeniy Grigor'yevich;
IVANUSHKO, N.D., red.

[Problems and methods for linear programming] Zadachi i metody lineinogo programmirovaniia. Izd.2., perer. i dop. Moskva, Sovetskoe radio, 1964. [illegible] p. (MIRA 18:1)

ACC NR: AM6029189 Monograph UR/

Gol'shteyn, Yevgeniy Grigor'yevich; Yudin, David Borisovich

New trends in linear programming (Novyye napravleniya v lineynom programmirovanii) Moscow, Izd-vo "Sovetskoye radio", 1966. 524 p. illus., biblio., index. Errata slip inserted. 9,400 copies printed

TOPIC TAGS: linear programming, transport theory, parametric programming, block programming, integer programming, stochastic programming,

PURPOSE AND COVERAGE: This book systematically sets forth promising and practically important trends in linear programming developed in recent years. It should be regarded as a continuation of a previous book by the same authors /Zadachi i metory lineynogo programmirovaniya (Problems and methods of linear programming). Second edition, revised and supplemented. Izd-vo "Sovetskoye radio,", 1964/. The material includes new approaches and methods, also some important problems that usually receive insufficient attention in linear programming courses. New results presented here include methods for solving some pert system problems; a scheme for analyzing the general single-parameter problem of linear programming and some applications of parametric programming; new and quite general approaches to analysis of the problem of block programming; theory, methods, and

Card 1/3 UDC: 519.82

ACC NR: AM6029189

algorithms for solving various classes of piecewise linear problems, et cetera. The book is intended for a wide circle of mathematicians, engineers, and economists working in the field of mathematical economics, automatic control, studies of military operations, and systems engineering. It is assumed that the readers are familiar with the basic concepts, qualitative results, and computational algorithms presented in the previous book. The book may also be used by graduate students and other students specializing in computational mathematics, mathematical economics, automatic control, operations research, and the planning of large complexes and systems for modern technology.

TABLE OF CONTENTS /Abridged/:

Card 2/3

ACC NR: AM6029189

SUB CODE: 12/ SUBM DATE:23Feb66/ ORIG REF: 030/ OTH REF: 065/

Card 3/3

L 15680-66 EWT(d)/T/EWP(1) IJP(c)

ACC NR: AP6008076 SOURCE CODE: UR/0020/66/166/005/1062/1065

AUTHOR: Gol'shteyn, Ye. G.

ORG: Central Economics-Mathematics Institute, Academy of Sciences SSSR (Tsentral'nyy ekonomiko-matematicheskiy institut Akademii nauk SSSR)

TITLE: A general approach to problems in block linear programming

SOURCE: AN SSSR. Doklady, v. 166, no. 5, 1966, 1062-1065

TOPIC TAGS: linear programming, game theory

ABSTRACT: Block programming is defined as an algorithm for solving the problem

$$(C, X) \to \max, \quad (1)$$
$$AX = B, \quad (2)$$
$$A^{(i)}X = B^{(i)}, \quad (3)$$
$$X \geqslant 0. \quad (4)$$

By analyzing a set of problems with conditions (3) and (4). In the above problem A and $A^{(i)}$ are $m \times n$ and $m_1 \times n$ matrices, respectively; B, $B^{(i)}$ and C are vectors with m, m_1 and n components respectively. A general approach to the development of block

UDC: 512.25/26+519.3

Card 1/2

L 45680-66

ACC NR: AP6008076

programming methods is given. The method has a real geometric interpretation and involves searching for the vector of estimates of conditions (?). The method also yields block analogs of the four fundamental finite methods of linear programming. Presented by Academician L. V. Kantorovich on 29 May 1965. Orig. art. has: 8 formulas.

SUB CODE: 09,12/ SUBM DATE: 17May65/ ORIG REF: 003/ OTH REF: 002

fv

Card 2/2

S/196/61/000/006/014/014
E194/E435

AUTHORS: Gol'shtik, M.A., Leont'yev, A.K., Paleyev, I.I.

TITLE: An experimental study of the motion of solid particles in a vortex chamber

PERIODICAL: Referativnyy zhurnal. Elektrotekhnika i energetika, 1961 No.6 p.11, abstract 6G67. (Nauchno-tekhn. sbornik, byul. Leningr. politekhn. in-t. 1960. No.2. pp.81-89)

TEXT: Many works have been published on the motion of gas in cyclone furnaces and dust separators. However, there has apparently been no experimental work on the motion of solid or liquid particles in the gas flow of such chambers and the mechanism of motion of particles, particularly after impact with the chamber wall, remains unknown. Investigation of the motion of solid particles was carried out in a vortex chamber made up of four blades. Each of these was part of a cylindrical surface 600 mm long and of 210 mm radius. The chamber was 600 mm long and the mean diameter was 400 mm. The height of the gap was varied from 10 to 50 mm by turning the blades relative to their axis of rotation. In cross-section the gap was convergent. The actual chamber was contained

Card 1/2

S/196/61/000/006/014/014
E194/E435

An experimental study of the motion...

in a casing of 800 mm diameter which served as a receiver. This ensured uniform distribution of gas (or air) within the gap. The position of the particles was recorded photographically. The tests were made with particles of wood charcoal of from 53 to 210 microns. It was established that all the particles of 53 micron size reached the walls of the chamber. The time of flight up to the first impact with the wall was 0.1 to 0.2 of the total residence time. On hitting the wall the particle commences to rotate and rebounds so that the motion of the solid particles is of a discontinuous nature. It follows from theoretical considerations that this is only possible when the particles are acted upon by forces that arise as a result of the flow passing over the rotating particles. The rate of motion of the particles is rapidly established. Formulae are obtained for the maximum speed and residence time of particles in a vortex chamber. There are 4 references.

Abstractor: S. Tager.

[Abstractor's note. Complete translation.]

Card 2/2

GOL'SHUKH, V.V.

VICHKREVIN, Aleksandr Yefimovich; SOKOLOV, Fedor Grigor'yevich; GOL'SHUKH, V.V., inzh., red.; KHITROV, P.A., tekhn. red.

[Construction and track structures] Stroitel'noe proizvodstvo i putevye zdaniia. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 245 p. (MIRA 11:7)

(Railroads—Construction)

BARANOV, V.N., insh.; GOL'SHUKH, V.V., insh., red.; BOBROVA, Ye.N., tekhn. red.

[Advanced technology in construction; experience of road-building organizations] Peredovaia tekhnologiia v stroitel'stve; opyt dorozhnykh stroitel'nykh organizatsii. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1960. 73 p. (MIRA 14:6)

1. Glavnyy inzhener Normativno-issledovatel'skogo byuro Glavnogo upravleniya kapital'nogo stroitel'stva (for Baranov)
(Construction industry—Technological innovations)

ALEKSEYEV, Aleksey Pavlovich, kand. tekhn. nauk; DISSON, Pavel Solomonovich, inzh.; SESSAREVSKIY, Aleksandr Nikolayevich, inzh.; SMOL'YANINOV, Aleksandr Andreyevich, kand.tekhn. nauk; SHURYGIN, Vladimir Pavlovich, kand. tekhn. nauk; SHADRIN, N.A., prof., retsensent; GOL'SHUKH, V.V., inzh., retsenzent; ABRAGAM, S., inzh., red.; KOBROVA, B.N., tekhn. red.

[Construction work in railroad electrification]Stroitel'nye raboty pri elektrifikatsii zheleznykh dorog. Utverzhdeno Glavnym upravleniem uchebnymi zavedeniiami MPS v kachestve uchebnogo posobiia dlia vysshikh uchebnykh zavedenii zheleznodorozhnogo transporta. [By]A.P.Alekseev i dr. Moskva, Transzheldorizdat, 1962. 287 p. (MIRA 16:2)
(Railroads--Electrification)

NIKOLAYEV, M.P., inzh.; GOL'SHUKH, V.V., inzh.

Pile foundations of the "Frankipile" Company. Transp. stroi. 14 no.2:57 F '64. (MIRA 17:4)

MYSKOVA, N.M.; TOMA, O.F.; PECHKIN, K.P.; KHALEVSKAYA, S.I.; GOL'SKAYA, I.E.; NEPOMOZHNIY, P.S., red.; NOVITSKIY, L.M., nauchn. red.; GORDEYEV, P.A., red.; GOL'BERG, T.M., tekhn. red.

[Album of new construction equipment; recommended for use] Al'bom novoi stroitel'noi tekhniki, rekomenduemoi k vnedreniiu. Moskva, Gosstroiizdat. No.2. [Construction of power engineering structures. Electrical engineering structures] Energeticheskoe stroitel'stvo. Elektrotekhnicheskie raboty. 1963. 111 p. (MIRA 16:10)
(Power engineering) (Hydraulic structures)

ANDREYEVA, M.; KHEYFETS, L.S.; GOL'SKAYA, I.F., inzh.-metodist; VODYANITSKAYA, Zh.I.; KOZHEVNIKOVA, E.I., starshiy nauchnyy sotrudnik; BLIDMAN, A.I.; VORONOV, B.V.

Exhibitions and displays. Inform. biul. VDNKH no.11:10-11,15-18, 26-27,31-32 N '63 (MIRA 18:1)

1. Starshiy ekskursovod pavil'ona "Khimicheskaya promyshlennost'" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Andreyeva). 2. Glavnyy inzh. pavil'ona "Stroitel'nyye materialy" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Kheyfets). 3. Pavil'on "Energeticheskoye stroitel'stvo" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Gol'skaya). 4. Direktor pavil'ona "Sel'skoye stroitel'stvo" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Vodyanitskaya). 5. Pavil(on "Sel'skoye stroitel'stvo" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Kozhevnikova). 6. Starshiy inzh.-metodist po khraneniyu i pererabotke zerna pavil'ona "Khraneniye i pererabotka zerna" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Blidman). 7. Glavnyy metodist pavil'ona "Professional'notekhnicheskoye obrazovaniye" na Vystavke dostizheniy narodnogo khozyaystva SSSR (for Voronov).

GOLSHTINSKIY, V.

Additional theorems on the weight of topological spaces. Dokl. AN SSSR 151 no.5:1018-1020 Ag '63. (MIRA 16:9)

1. Varshavskiy gosudarstvennyy universitet. Predstavleno akademikom P.S.Aleksandrovym. (Topology)

GOLSOVKER, A.M.

Intramuscular application of tetracycline in the treatment of acute gonorrhea in males. Urologiia no.4:34-37 '63. (MIRA 17:10)

1. Iz Uzbekistanskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir.- dotsent V.N. Matveyev).

GOL'STREM, V.A.

Fuel cells. Energ. i elektrotekh. prom. no.2:72-77 Ap-Je '62. (MIRA 15:6)

(Thermoelectric generators)

GOL'STREM, V.A.

Electric transformers with nitrogen protection in the electric power plants of the French Electrical Engineering Administration. Energ. i elektrotekh. prom. no.2:72-74 Ap-Je '63. (MIRA 16:7)

(France—Electric transformers)

GOL'STREM, V.A.

Protection of electric motors. Energ. i elektrotekh. prom. no.3:34-37 Jl-S '63. (MIRA 16:10)

GOL'STREM, V. [Hol'strem, V.], insh.

Production in an electrostatic field. Nauka i zhyttia 12 no.2: 16-17 F '63. (MIRA 16:4)

(Electrostatics)

GOL'STREM, V.A., inzh.

Development of nuclear power engineering. Energ. i elektrotekh. prom. no.1:61-63 Ja-Mr '65. (MIRA 18:5)

HOISMAN, C.; PANCIU, I.

HOISMAN, C.; PANCIU, I. Contributions for improvement of the method of determining oil in petroleum jelly. p. 690.

Vol. 6, No. 12, Dec. 1955.
PETROL SI GAZE.
TECHNOLOGY
Bucuresti, Rumania

Sc: East European Accession, Vol. 5, No. 5, May 1956

EXCERPTA MEDICA Sec 17 Vol 5/2 Public Health Feb 59

623. DIMETHYLPHTHALATE, IN PURE FORM AND AS A CREAM, AND ITS EFFICACY AS AN INSECT REPELLENT (Russian text) - Golter I. M. and Elin I. S. - ZDRAVOOKHR. BELOR. 1957, 6 (65-67)

During the experiment bloodsucking insects made 150 attacks on human beings in 20 min. The experiment showed the efficacy of DMF and pure dimethylphthalate as a repellent of mosquitoes and midges. The duration of the effect is 2-3 hr.; when heavy perspiration occurs it lasts 1-2 hr., and rain also decreases the duration of activity. The minimum effective amount for rubbing on the face, neck and hands is 1.0-1.5 g. of DMF cream or 30 drops of dimethylphthalate. (S)

KURATOVA, T.S.; TERESHKEVICH, M.O.; GOL'TEUZEN, E.E.; POZHIDAYEVA, E.Yu.; SKARRE, O.K.

Oxygen atomic mobility in certain anions and mixed solvents. Sodium and potassium bromates. Zhur.fiz.khim. 39 no.10:2365-2369 O '65. (MIRA 18:12)

1. Dnepropetrovskiy gosudarstvennyy universitet. Submitted April 14, 1964.

Golyma Z. S.

GOLYMA, Z.S.; TIMOSHENKO, Ye.P.

Effect of gramicidin C and sanazine in vitro on Gonococcus and associated with autogenous blood in the treatment of gonorrhea. Vest. vener., Moskva No.1:36-40 Jan-Feb 52. (CLML 21:4)

1. Of the Ukrainian Scientific-Research Skin-Venereological Institute (Director--Prof. A.M. Krichevskiy).

SUKSVICH, V.G.; GOL'TMAN, A.G.

Determination of terpin hydrate by the method of [illegible]. Zhur. anal. khim. 20 no.12:[illegible]-1374 '65. (MIRA [illegible])

1. Khar'kovskiy farmatsevticheskiy institut. Submitted October 23, 1964.

MA GOLTMAN, A.D.

Electro deposition

Determination of the Thickness of Galvanic Tin Coatings. [illegible] A. D. Goltman, and Yu. R. Lukov (*Zavod. Lab.* (*Works' Lab.*), 1941, 10, 417–440); *C. Abs.*, 1941, 35, 7889).—[In Russian.] For determining the thickness of tin coatings by the drop method the solution suggested is: HNO_3 (of 1·40) 130, HCl (d 1·18) 50 ml./litre, anhydrous $Fe_2(SO_4)_3$ 26·4 grm./litre. The rate of solution increases with the temperature of the surrounding medium. The rate is not affected much by the following variations in concentrations of the reagents: c.d., 0·5–2 amps./dm.^{2}; temperature of electrolyte 60°–80° C.; concentration of soda, 18–72 grm./litre; and coeff. of alkalinity $K = [Sn]/[NaOH]$, 0·8–1·2.

1942

GOL'TMAN, A.D.

Separation of curcumin from curcuma roots. Ukr. khim. zhur. 23 no.5: 659-661 '57. (MIRA 10:11)

1. Khar'kovskiy farmatsevticheskiy institut.
(Curcumin)

GOL'TMAN, A.D.; GUREVICH, V.G.

Study of the colorimetric curcumin determination of microquantities of boron. Ukr. khim. zhur. 24 no. 2:244-250 '58. (MIRA 11:6)

1. Khar'kovskiy farmatsevticheskiy institut.
(Curcumin)
(Boron)
(Colorimetry)

GOL'TMAN, A. D., Cand of Chem Sci — (diss) "Investigation of the Colorimetric Method of Determining Microscopic Amounts of Boron by Turmeric Yellow," Khar'kov, 1959, 17 pp (Khar'kov State Univ im Gor'kiy) (KL, 5-60, 123)

GOL'TRAF, I.

GOL'TRAF, I.

New method of prophylactic servicing for gas plants. Zhil.-kom.khoz. 5 no.5:16-17 '55. (MIRA 8:11)

1. Nachal'nik 15-y kontory tresta "Mosgaz"
(Gas manufacture and works)

GOL'TRAF, I.S., kand.tekhn.nauk

Actual work loads on main marine diesel engines, limitation and control methods. Sudostroenie 28 no.6:32-38 Je '62. (MIRA 15:6)

(Marine diesel engines)

BRUK, Moisey Abramovich; RIKHTER, Andrey Aleksandrovich; GOL'TRAF, I.S., kand.tekhn.nauk, retsenzent; ZAKHARENKO, B.A., kand.tekhn.nauk, retsenzent; SULOYEV, A.V., nauchnyy red.; VLASOVA, Z.V., red.; CHISTYAKOVA, R.K., tekhn. red.

[Operating conditions of marine diesel engines] Rezhimy raboty sudovykh dizelei. Leningrad, Sudpromgiz, 1963. 483 p. (MIRA 16:6)

(Marine diesel engines)

GOL'TIAF, I.S., kand.tekhn.nauk

Conditions for the use of an indirect method in estimating the diesel load by the fuel consumption and the revolution number. Sudostroenie no.5:24-27 My '65. (MIRA 18:8)

GOL'TRAF, I.S., kand.tekhn.nauk

Methods of testing ship diesels under working conditions. Sudostroenie 31 no.1:33-35 Ja '65. (MIRA 18:3)

ACC NR: AN6023683

Monograph

UR/

Gol'traf, Isaak Samoylovich

Cooling of air in marine diesel engines (Okhlazhdeniye vozdukha v sudovykh dizelyakh) Leningrad, Izd-vo "Sudostroyeniye", 1966. 198 p. illus., biblio., tables. 2900 copies printed.

TOPIC TAGS: marine engine, diesel engine, engine cooling system

PURPOSE AND COVERAGE: The book is intended for use by mechanical engineers working in the fields of design, research and operation of marine diesel engines. It may also be of use to students in higher educational institutions. A number of problems are analyzed in connection with the cooling of marine diesel engines with supercharging. Methods of air cooling and the conditions requiring its application are studied in detail. The effects of air cooling on the functional process and of heat stresses on various air-cooling components are discussed. The effect of supercharging on rpm and its applications are described as well as the development, design and functioning of air-cooling systems for marine diesel engines and their components. Research was been conducted on various cooling-system components. The author expresses his appreciation to R. N. Vasil'yev-Yuzhin and B. A. Zakharenko for their assistance. The book has 51 references, 42 of which are Soviet.

Card 1/2 UDC 621.431.74:621.436

ACC NR: AM6023683

TABLE OF CONTENTS (Abridged):

SUB CODE: 21, 13/ SUBM DATE: 28Feb66/ ORIG REF: 041/ OTH REF: 010/

Card 2/2

GOL'TRAF, V.I. (Leningrad)

Motion of hydraulic servomotors in automatic control systems with jet amplifiers. Avtom. i telem. 21 no.8:1224-1227 Ag '60. (MIRA 13:9)

(Servomechanisms) (Automatic control)

SEREBRYANYY, Z.I.; GOL'TS, A.S.

Grinding grooves in hobbing cutter bodies. Stan.i instr. 34 no.4:37 Ap '63. (MIRA 16:3)

(Grinding and polishing)

ACC NR: AP6[illegible]

SOURCE CODE: UR/0386/65/002/010/0463/0465

AUTHOR: [illegible]

ORG: [illegible]

TITLE: [illegible]

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Zhurnal, v. 2, no. 10, 1965, [illegible]

TOPIC TAGS: mercury, exploding wire

ABSTRACT: In view of the difficulties involved in replacing electrically exploded wires, the author investigated the possibility of replacing the wire with a jet of liquid metal, so as to produce powerful electric explosions in a simple manner. The [illegible] mercury. The mercury jet was made to explode both under [illegible] (Fig. 1) consisted of a system [illegible] with which to apply voltage from a [illegible] the mercury jet (1) escaped under [illegible] electrodes (5). The diameter of the [illegible] 0.30 mm) and its length was 25 mm. [illegible] was connected directly to the [illegible] from a capacitor (5) [illegible] was produced by pressing on the [illegible] through the capillary to electrode 5.

Card 1/2

L 13987-66

ACC NR: AP6001776

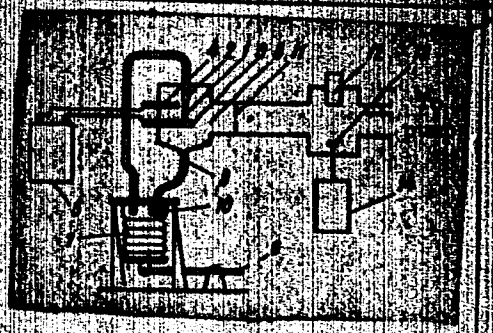


Fig. 1. Schematic diagram of sweep

[02]

SUB CODE: 20/ SUBM DATE: [illegible]/ ORIG REF: 001/ OTH REF: 005/ ATD PRESS: [illegible]

Card 2/2

[illegible]

Source code: UR/0386/65/003/010/0404/0407

[illegible]

[illegible] Institute of Science USSR (Fizicheskiy [illegible]

[illegible]

[illegible] Fizika. Pis'ma v redaktsiyu, [illegible]

[illegible]

[illegible] electric discharge, electric breakdown, flame, discharge plasma, exploding wire

[illegible] through a flame with an aim at obtaining [illegible] have production under laboratory condi- [illegible] cumulative collapses, pinches, etc. At [illegible] the discharge with chamber walls, the [illegible] of a bank of four capacitors of 150 μF each, charged to 7—10 kv, [illegible] discharge gas into a flame plasma. The discharge development was [illegible] by a high-speed camera (SFR). The flash of light was recorded with a photo- [illegible] and the energy measured with a special calorimeter. The current flowing [illegible] loop and reached several hundred ka. [illegible] was produced by a burner using a mixture of illuminating gas and [illegible] usually does not exceed 2000°. One electrode [illegible] the body of the burner, and the other was a high-melting-point metal rod. The

Card 1/2

L 39572-66

ACC NR: AP6015804

5

experiment has shown that the initial breakdown voltage in the plasma is close to 1 kv/cm, which is several dozen times smaller than the breakdown voltage under normal conditions. A flash lasting 1 μsec long arose from regularly at 10 kv, and the flash was not extinguished after the breakdown. The duration of the intense glow was ~150 μsec. Comparison of the signals from the photomultiplier used to record the glow from the discharge chamber with the current through the discharge shows that the building and glow phase [illegible] from the growth and duration of the discharge currents. [illegible] radiation with the flash energy produced [illegible] an exploding wire it is concluded that the [illegible] in the given section of the spectrum is not the initial one, but the maximum development of the discharge, in view of the long duration of the process of discharging the capacitor bank. The use of a flame from one or several burners, besides facilitating the breakdown of long gaps, makes it possible to increase further the linear dimensions of the breakdown path without resorting to the inconvenient [illegible] of contacts (foils and wires) required in other methods. Discharge through a flame is also of practical interest for [illegible] for physics of atmospheric phenomena. [illegible] Volkov, B. P. Shurubkin, and A. V. [illegible] for help in [illegible]. Orig. art. has: 2 figures. [07]

SUB CODE: 20/ SUBM DATE: 22Jun66/ ORIG REF: 002/ ATD PRESS: 4252

Card 2/2

L 10402-67 EWT(1) IJP(c) AT

ACC NR: AT6033036 SOURCE CODE: UR/2504/66/032/000/0060/0079

39

AUTHOR: Veksler, V. I.; Gekker, I. R.; Gol'ts, E. Ya.; Kononov, B. I.; Luk'yanchikov, G. S.; Rabinovich, M. S.; Sarkisyan, K. A.; Sergeychev, K. F.; Silin, V. A.; Tsytovich, L. E.

ORG: none

TITLE: Radiation acceleration of a plasma

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 60-79

TOPIC TAGS: plasma acceleration, HF oscillator

ABSTRACT: The article is of the review type (41 literature references) and surveys work done in the field in the Soviet Union, Japan, the United States and France. After a general mathematical introduction to the subject, the authors describe the first experiments on the radiation acceleration of plasmas using superhigh frequency generators. Detailed diagrams are given of two such systems. Detailed consideration is given to the investigation of the special characteristics of the interaction of superhigh frequency oscillations in a plasma, including the effect of plasma resonance, and the acceleration of a plasma by the action of the gradient of a superhigh frequency field. The two final sections deal respectively with the acceleration of a plasma in

Card 1/2