"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

SOV/112-59-2-4071

24(1)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, p 269 (USSR)

AUTHOR: Vaymboym, V. S.

TITLE: Variable-Pitch Mechanical Sound Recording
(Sistema mekhanicheskoy zapisi s peremennym shagom)

PERIODICAL: Tr. Vses. n.-i. in-ta, zvukozapisi, 1957, Nr 1, pp 94-112

ABSTRACT: A system is described of a 78-rpm variable-pitch mechanical sound recorder developed by Vsesoyuznyy institut zvukozapisi (All-Union Institute of Sound Recording) in 1952-1953. The system comprises a disk-recording machine of the Neumann Company remodeled so that the motion of the stylus is controlled by a DC motor whose speed is, in turn, controlled by the amplitudes of the signal being recorded. With weak signals, the speed decreases and the grooves are cut closer to each other. With strong signals, they spread so that the amplitudes of the signal in the adjacent grooves have enough room on the disk. The variable-pitch system, because of the

Card 1/3

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SOV/112-59-2-4071

Variable-Pitch Mechanical Sound Recording

sluggishness of its mechanical components, requires an advanced application of the controlling signal; it is not suitable for direct recording. Therefore, a sound recorder with an additional magnetic head is used. The controlling signal is a combination of two signals from the additional and fundamental reproducing heads. After detection, the signals are summed, converted by a mechanical interrupter into a series of square pulses, and applied to a potentiometer and further to 10 pulse-height selectors: the latter pass the signals exceeding a preset value. Each selector is connected to a trigger couple which operates when the signal exceeds the couple's threshold. The trigger energizes an electronic relay whose contacts short-circuit a part of the voltage divider; the divider controls an electrical drive which drives, via a reducer, the feed screw of the disk-recording machine. To ensure necessary control during a full revolution of the turntable, a delay circuit is provided in the grid of the electronic-relay tube; this circuit receives a voltage

Card 2/3

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SOV/112-59-2-4071

Variable-Pitch Mechanical Sound Recording

pulse from the trigger on each operation of the latter. The electric-drive operation is stabilized by a DC tachometer generator fed by an electronic stabilizer circuit. The equipment operates on a pulse no shorter than 30 msec. The drive error is 0.5% of the recording pitch. The maximum gain in the recorded time of a disk record is about 25%. The practical gain depends on the nature of the recorded item. In 1955, an improved outfit was developed for recording long-playing records at 33-1/3 rpm which uses a continuous electric-drive speed variation under influence of the controlling signal. Circuit diagrams and photographs are presented. Bibliography: 8 items.

V.S.V.

Card 3/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYMBOYM, V.S.

Possibility of increasing the dynamic range of reproduction amplifiers for high-quality magnetic sound recorders. Trudy VNAIZ no.2:23-41 '57. (MIRA 12:3)

(Amplifiers, Electron-tube)
(Magnetic recorders and recording)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ARNOL'D, R.R.; APOLLONOVA, L.P., red.; VAYMBOYM, V.S., red.; VASILEVSKIY, D.P., red.; VROBLEVSKIY, A.A., red.; GRIBKOVA, G.L., red.; GRIGORASH, G.L., red.; KAZNACHEY, B.Ye., red.; PARKHOMENKO, V.I., red.; PUSSET, L.A., red.; PEGIREV, Ye.I., red.; ROZENPLAT, M.A., red.; MAIKIYEL', B.A., red.

[Magnetic heads for sound recording apparatus] Magnitnye golovki dlia apparatury zvukozapisi. Moskva, 1958. 153 p. (Moskva. Vsesoiuznyi nauchno-issledovatel'skii institut zvukozapisi. Trudy, no.3). (MIRA 12:4)

(Magnetic recorders and recording--Equipment and supplies)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYMBOYM, V., kand. tekhn. nauk

Artificial reverberation and equipment for obtaining it. Tekh. radioveshch. i telev. no.2:18-39 '63. (MIRA 18:3)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

BESSON, [illegible]; SMIRNOV, Yu.L. [translator]; VAYNBOYM, V.S., red.; BUL'DYAYEV, N.A., tekhn. red.

[All about stereophonic sound systems] Vse o stereofonii. Moskva, Gosenergoizdat, 1963. 127 p. (Massovaia radio-bibliotēka, no.478). Translated from the French. (MIRA 17:1)

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UR/

ACC NR: AM6032824 (A) Monograph

Dubovskiy, B. G.; Kamayev, A. V.; Kuznetsov, F. M.; Vladykov, G. M.; Gurin, V. N.; Murashov, A. P.; Markelov, I. P.; Kochergin, V. P.; Vaymugin, A. A.; Sviridenko, V. Ya.; Diyev, L.V.; Bogatyrev, V.K.; Vavilov, V. V.; Frolov, V. V.

Critical parameters of systems with fissionable materials and nuclear safety; a handbook (Kriticheskiye parametry sistem s delyashchimisya veshchestvami i yadernaya bezopasnost'; spravochnik) Moscow. Atomizdat. 1966. 225 p. biblio., diagrs., tables. 9000 copies printed.

TOPIC TAGS: nuclear safety, nuclear reactor, homogeneous nuclear reactor, heterogeneous nuclear reactor, chain reaction

PURPOSE AND COVERAGE: This handbook is intended for specialists concerned with the problems of assuring nuclear safety as well as for persons calculating, designing, operating, and studying the physics of nuclear reactors of various types, as well as for students in associated departments. The book discusses methods of creating and maintaining conditions which will exclude the possibility of an accidentally chain reaction during the processing, storage, and transportation of fissionable materials. The book is based mainly on the results of studies published before 1965. In addition to information on critical parameters of systems with fissionable materials, the authors considered it useful to include in the handbook the fundamental concepts of criticality, principles for assuring nuclear safety, a review of cases of the occurrence of uncontrolled chain reactions,

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ACC NR: AM6032824

and the basic standards for nuclear safety. The authors express appreciation to M. P. Rodionov, T. I. Sukhoverkhova, M. A.Gavrilova, and L. V. Antonkina for their valuable assistance. There are 64 references, 30 of which are Soviet.

TABLE OF CONTENTS (Abridged)

From the authors -- 3

Ch. I. Basic concepts of nuclear safety -- 5
Ch. II. Review of experimental data on critical parameters of systems with fissionable materials -- 14
Ch. III. Methods of calculating homogeneous reactors -- 88
Ch. IV. Effect of neutron absorbers on the criticality of systems with fissionable materials -- 142
Ch. V. Criticality of systems of interacting subcritical assemblies from fissionable materials -- 169
Ch. VI. Uncontrolled chain reaction outbursts in systems containing fissionable materials --202
Ch. VII. Basic standards for assuring nuclear safety -- 214

References -- 223

SUB CODE: 18/ SUBM DATE: 20May66/ ORIG REF: 030/ OTH REF: 034

Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

S/191/62/000/004/014/017
B110/B138

AUTHORS: Vayn, A. S., Fedorenko, N. P.

TITLE: Application and production economics of synthetic resins of the vinyl acetate group

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 53-55

TEXT: In 1949, the Yerevan plant "Polivinilatsetat" began production of vinyl acetate and its derivatives. By 1965, 64 % polyvinyl acetate is to be used in the paint and varnish industry for the production of approximately 200,000 t of water-soluble paint. 46,000,000 rubles and 25,400 t vegetable oil will thus be saved. The vinyl acetate group includes polyvinyl butaryl for the production of БФ (BF) glues with phenol resins. Polyvinyl alcohol is used for the production of synthetic fibers. However, working costs must be reduced considerably if production is to be increased. Trebled output of the synthesis units of the "Polivinilatsetat" plant, continuous rectification of vinyl acetate, and regeneration of acetic acid, partial utilization of the reaction heat to preheat reaction gases, use of ditolyl methane and highly compressed vapor as heat carrier

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are planned, to improve production processes. Costs of material for 1 t vinyl acetate will thus be reduced 10-15 %, and power costs several times. Production costs of 1 t vinyl acetate will be reduced 41.4 % including raw material, power and overhead reductions of 18.1 %, 18.1 %, and 5.2 %, respectively. Continuous production means that polymerization time can be reduced to nearly 1/5, the amount of reaction apparatus to 1/6, and air , a six-fold increase in output per m^2, 44.4 % reduction in labor force, 9.3 % reduction in the annual vinyl acetate consumption, and almost 10-12 % reduction in the polyvinyl acetate costs. Capital investment for vinyl acetate can thus be reduced by 50 %. Expansion of industrial units and higher capacity increases productivity and reduces capital investment and production costs. The production of acetylene from hydrocarbons reduces costs 35-45 %. New, efficient methods of producing acetic acid will reduce costs to 25-33 % thus involving a reduction of 20-25 % in the cost of vinyl acetate. All these factors would contribute to reducing the cost of producing polyvinyl acetate by 50-55 %. There is 1 table.

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VAYN, A.S.

Raw material factor in the distribution of the plastic industries. (MIRA 17:12)
Plast. massy no.8:55-58 '64.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYN, D.Sh., inzh.

Use of shunting switches as busbar connectors. Energetik 9 no.12:19-20 D '61. (MIRA 15:1)
(Bus conductors (Electricity)) (Electric switchgear)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYN, Lazar' Il'ich; ZABULIKA, V., red.; ZHEMANYAN, N., tekhn. red.

[For obtaining 70 per cent of young pigs in the first half year] Za poluchenie 70% porosiat v pervom polugodii. Kishinev, Gos. izd-vo "Kartiia moldoveniaske," 1961. 13 p. (MIRA 14:10)

1. Glavnyy zootekhnik Chadyr-Lungskogo rayona (for Vayn).
(Moldavia--Swine)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYN, M. A. (may be same as M. A. Veyn)

Rol' izmeneniya reaktivnoy sposobnosti organizma pri vozdeistvii preparatov sal'varsana

(Dissertation)

In List of Works Produced in the Physiology Dept. of VIEM (All-Union Inst. of Experimental Medicine imeni A. M. Gor'kiy), Report on VIEM's research work for 1938-1939, published Moscow-Leningrad 1940

U-3060 p 2/328

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Fruit bearing of some herbaceous plants in various mountain belts of the Ukrainian Carpathians. Nauk. zap. Nauk.-pryrod. muz. AN URSR 9:121-128 '61. (MIRA 15:2)
(Carpathian Mountains--Plants--Production)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Effect of periodical freezing on the germination of seeds of some herbaceous plants of the Carpathians. Nauk. zap. Nauk.-pryrod. muz. AN URSR 10:45-54 '62. (MIRA 16:8)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Intensity of germination of seeds of certain plants of the Ukrainian Carpathians collected at different altitudes. Ukr.bot.zhur. 17 no.2: 50-60 '60. (MIRA 13:11)

1. L'vovskiy Muzey yestestvennykh nauk, otdel botaniki.
(Carpathian Mountains--Botany) (Germination)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Characteristics features of germination in mountain plants. Ukr. bot.zhur. 18 no.4:74-80 '61. (MIRA 14:8)

1. L'vovskiy nauchno-prirodovedcheskiy muzey AN USSR, otdel botaniki. (Carpathian Mountains--Botany) (Germination)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Germination power of the seeds of Carpathian wild herbaceous plants in a laboratory. Ukr. bot. zhur. 20 no.4:48-57 '63. (MIRA 17:4)

1. Nauchno-prirodovedcheskiy muzey AN UkrSSR, otdel botaniki, L'vov.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAGIY, I.V. [Vainahii, I.V.]

Occurrence of dogtooth violet (Erythronium denscanis L.) in the Ukraine. Ukr. bot. zhur. 21 no.1:99-101 '64. (MIRA 17:3)

1. L'vovskiy nauchno-prirodovedcheskiy muzey AN UkrSSR, otdel botaniki.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, I., starshiy serzhant

From a notebook a little cross fell. Starsh.-serzh. no.1:25 Ja '61. (MIRA 14:7)

(Atheism--Study and teaching)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, I.

Fruits of labor remain. Starsh.-serzh. no.5:21 My '63. (MIRA 16:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V. V.

"Investigation of Errors of Phototriangulation Networks." Cand Tech Sci, Moscow Inst of Engineers of Geodesy, Aerial Photography, and Cartography, 12 Feb 54. Dissertation (Vechernyaya Moskva Moscow, 3 Feb 54)

SO: SUM 186, 19 Aug 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V., kandidat tekhnicheskikh nauk.

Precalculation of anticipated accuracy of aerial triangulation nets plotted on mechanically operated optical instruments. Geod.i kart. no.4:16-21 Je '56. (Triangulation) (MIRA 9:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V., kandidat tekhnicheskikh nauk.

Use of multiple intersections in photogrammetry. Geod.i kart. no.7:13-18 Jl '57. (MIRA 10:10)
(Photogrammetry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V. [Vainauskas, V.], dotsent, kand.tekhn.nauk

Adjustment of aerial triangulation strips with control points located at their ends. Izv.vys.ucheb.zav.; geod.i aerof. no.5:91-96 '59. (MIRA 13:3)

1. Kaunasskiy politekhnicheskiy institut.
(Aerial photogrammetry)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

SOV/154-58-3-6/24

AUTHOR: Vaynauskas, V. V., Candidate of Technical Sciences, Assistant Docent

TITLE: Balancing of Unclosed Traverses by Distributing Lateral Closures According to Higher Power Functions (Uravnoveshivaniye vytyanutykh poligonometricheskikh khodov putem raspredeleniya poperechnykh nevyazok soglasno funktsiyam vysshikh stepeney)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 3, pp 49-56 (USSR)

ABSTRACT: This is an approach to the problem of substituting the balancing by the method of least squares by a distribution of the closures after a preceding elimination of the angle closures. This method is applied to unclosed traverses. The longitudinal closures are distributed proportionally to the first power of $\frac{i}{n}$ and the lateral closures proportionally to twice the second power of this term. n denotes the number of sightings in the traverse, i the subscript numbering the point in the traverse. The accuracy of the results is about equal to that of balancing by least squares. The method proves to be simple and not wearisome. In balancing short traverses it is sufficient to

Card 1/2

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SOV/154-58-3-6/24

Balancing of Unclosed Traverses by Distributing Lateral Closures According to Higher Power Functions

distribute the closures in proportion to the lengths of the sightings. There are 2 figures, 2 tables, and 2 references, 1 of which is Soviet.

ASSOCIATION: Kaunasskiy Politekhnicheskiy institut (Kaunas Polytechnical Institute)

SUBMITTED: March 22, 1958

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V.

Adjustment of large aerial triangulation nets. Geod. i kart. no.8: 40-46 Ag '63. (MIRA 16:9)
(Triangulation) (Aerial photogrammetry)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V.

Combined adjustment of the results of photogrammetric and physical measurements in phototriangulation series. Geod. i kart. no.2:42-49 F '63. (MIRA 16:3)

(Aerial photogrammetry)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V.

Combining analytical and graphic series in aerotriangulation.
Geod.i kart. no.12:40-45 D '62. (MIRA 16:2)
(Aerial photogrammetry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V.

Multiscale spatial plane phototriangulation. Geod. i kart. no.9:33-41 S '61. (MIRA 14:9)
(Aerial photogrammetry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNAUSKAS, V.V., dotsent, kand.tekhn.nauk

Estimating the precision of phototriangulation strips by the use of models and geodetic control points. Izv. vys. ucheb. zav.; geod. i aerof. no.4:83-89 '61. (MIRA 15:1)

1. Kaunasskiy politekhnicheskiy institut.
(Aerial photogrammetry)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

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SOV/154-59-5-7/17

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AUTHOR: Vaynauskas, V. V., Docent, Candidate of Technical Sciences

TITLE: Adjustment of Aerial Triangulation Chains Having Two Sets of Initial Control Points

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 5, pp 91-96 (USSR)

ABSTRACT: In the present article the author investigates the problem as to how far the effect of random errors in aerial triangulation chains can be reduced by applying the best adjustment method and how accurately the residual error to be expected can be predetermined. In order to simplify the theoretical treatment, these problems are studied with the help of a straight line divided into regular sections (Fig 1). For this line the author formulates the analytical expression for the residual root mean square deviation of the i-th link of the aerial triangulation chain (1) and estimates the accuracy of triangulation for the linear, square, and cubic distribution law of discrepancies. When establishing aerial triangulation chains from the two end-points of the line and connecting the two symmetrical halves in the middle of the triangulation chain, the similarity of results allows to set up the Legendre function (10)

Card 1/3

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Adjustment of Aerial Triangulation Chains Having Two Sets of Initial Control Points

for the adjustment of a polygonal line, first neglecting angular congruences. The coefficient Q_i known from the Legendre function can be replaced by the relation

$$Q_i = \sqrt{2\left(\frac{i}{n}\right)^3}.$$

The maximum residual error for the value $i = n/2$ is found in the middle of the triangulation chain (Fig 2). With a linear distribution of discrepancies, a very convenient formula is obtained for the residual error of the i-th link. The accuracy of determination of the residual error by the method mentioned in the second place is increased by 50% as compared to the first method. 20 aerial triangulation chains were investigated for the purpose of checking this new method, and the accuracies obtained with the help of various adjustment methods were compared (Fig 3). In all cases the square method proved to be the most suitable adjustment method. Adjustment methods of higher degree offered no further advantages. There are 3 figures and 4 references, 3 of which are Soviet.

Card 2/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

SOV/154-59-5-7/17

Adjustment of Aerial Triangulation Chains Having Two Sets of Initial Control Points

ASSOCIATION: Kaunasskiy politekhnicheskiy institut (Kaunas Polytechnic Institute)

SUBMITTED: January 7, 1959

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ARINUSHKIN, L.S.; DUMOV, V.I.; VAYNBAUM, I.F.

Results of experimental investigations of centrifugal-type hydrodynamic sealings. Izv.vys.ucheb.zav.; av.tekh. 5 no.3: 131-142 '62. (MIRA 15:9)

(Sealing (Technology))

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

L 21411-66 EWT(m)/EWP(w)/EWP(v)/T/EWP(k)/ETC(m)-6 WW/EM/DJ

ACC NR: AP6009927 SOURCE CODE: UR/0413/66/000/004/0119/0120

INVENTOR: Arinushkin, L. S.; Abramovich, R. B.; Vaynbaum, I. F.; Dumov, V. I.; Mikhaylov, Yu. N.; Fedorov, V. A.; Fayzutdinov, N. Z.; Yanyshin, V. V.

60
56

ORG: none

TITLE: Aviation turbogenerator. Class 46, No. 179131

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 119-120

TOPIC TAGS: turbogenerator, gas turbine 44,55

ABSTRACT: The proposed turbogenerator contains a gas turbine, an electric generator,

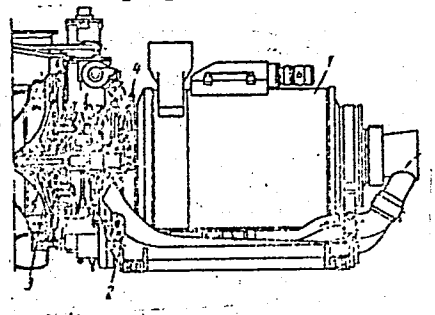

Fig. 1. Turbogenerator

1 - Electrogenerator; 2 - oil heat exchanger; 3 - fan; 4 - auxiliary fan; 5 - turbine disk.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

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ACC NR: AP6009927

a speed regulator for the rotor, an oil system to lubricate and cool the rotor bearings, as well as an air cooling system with a centrifugal fan. To increase the service life of the turbogenerator, the oil system contains a heat exchanger through which cooling air is blown by an auxiliary centrifugal fan mounted on the turbine shaft. In variation of this turbogenerator, the air-cooling fan blades are located on the rear side of the turbine disk. The disk and blades are made in one piece (see Fig. 1). Orig. art. has: 1 figure. [TN]

SUB CODE: 21/ SUBM DATE: 27Aug63/ ATD PRESS: 4221

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

USSR/Engineering - Instruments, Electrical Petroleum, Prospecting Equipment — May 50

"Instrument for Measuring the Potential Difference in Low-Capacitance Systems," S. Ya. Vaynbaum, 2 pp

"Zavod Lab" Vol XVI, No 5

Describes instrument designed on basis of ballistic galvanometer method and constructed maintaining constancy of time for charging condenser and for removing its residual charge. Accuracy of readings is ± 1 mv, and all necessary commutations are automatic.

160T44

[redacted]

USSR/Engineering - Instruments, Electrical (Contd) — May 50

Instrument of this type used for period of over 2 years by petroleum prospecting expedition in the Middle Volga region for mass measuring of oxidation-reduction potentials of rocks.

160T44

[redacted]

VAYNBAUM, S. Ya.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBAUM, S. YA., AND KPROVA, N. A.

Anomalous Values of Bituminosity of Rocks in the Central Volga Regions
Tr. n.-i. in-ta geofiz i geokhim metodov razvedki, No 3, 1954, pp 89-92

Experience in the use of luminescent-bituminological surveys of deposits along the central Volga show that the anomalous values depend upon the geological structure of the deposits and that their lower limit must be determined for each region separately. For deposits with carbonate rocks these values are not less than $n*10^{-3}\%$, but for deposits in whose cross sections hydrochemical depositions have developed they are $6.24*10^{-4}\%$ and higher. (RZhGeol, no 3, 1955)

SO: Sum. No. 639, 2 Sep 55

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBAUM, S. Ya.; YAGOFAROV, E. Kh.

Conditions governing the formation of the Lower Carboniferous terrigenous layer in the Kama-Kinel' Depression. Sov. geol. 5 no.10:104-109 O '62. (MIRA 15:10)

1. Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti.

(Kuybyshev Province—Geology, Stratigraphic)
(Orenburg Province—Geology, Stratigraphic)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ANDREYEV, V.N.; VAYNBAUM, S.Ya.; POLYAKOV, V.A.; SANAROV, S.V.; TRUSHKIN, P.G.; KHAYKIN, L.G.

Structure of the eastern sector of the Zhiguli swell in connection with oil prospects. Geol. nefti i gaza 7 no.12: 6-11 D '63. (MIRA 17:8)

1. Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBAUM, Ya. S.: Cand Master Med Sci (diss) -- "The functional state of the thyroid gland in atherosclerosis. Changes in the function of the thyroid gland under the influence of iodine and ascorbic acid". Moscow, 1958. 14 pp (Min Health USSR, Central Inst for the Advanced Training of Physicians), 200 copies (KL, No 2, 1959, 124)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBAUM, Ya.S. (Moskva)

Functional changes in the thyroid gland under the influence of ascorbic acid and iodine in atherosclerosis. Klin.med. 39 no.2:108-112 F '61. (MIRA 14:3)

1. Iz 1-y kafedry terapii (zav. - prof. M.S. Vovsi [deceased]) TSentral'nogo instituta usovershenstvovaniya vrachey.
(THYROID GLAND) (ASCORBIC ACID) (IODINE) (ARTERIOSCLEROSIS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBAUM, Ya.S.; SHISHKINA, T.N.; SEMENOV, A.A.

Study of external respiration in mitral stenosis. Zdrav. Kazakh. 22 no.10:10-16 '62. (MIRA 17:5)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir.-prof. Ye.N. Meshalkin) Sibirskogo otdeleniya AN SSSR.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

MESHALKIN, Ye.N., prof. (Novosibirsk, ul. Potanina, d.23,kv.1); MESHALKIN, I.N.; LEVINSON, Yu.M.; VAYNBAUM, Ya.S.; SEMENOV, A.A.

Surgical treatment of mitral stenosis. Vest.khir.90 no.2: 70-75 F'63. (MIRA 16:7)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir. prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR.
(MITRAL VALVE--SURGERY)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.
CA

112

Improved method for production of pepsin. A. Vainberg and A. Sliozberg. *Myasnaya Ind. S.S.S.R.* 21, No. 3, 86-9(1950).—The factors influencing the yield of pepsin were studied. On the basis of the data obtained a process designed for hog mucous membrane is: ext. with HCl soln. (pH 3.4, raw material: solvent ratio 1:2.5, temp. 40°) for 8 hrs., cool to 18-20°, stand 2 hrs., filter, bring to 40°, ext. once each with 20, 15, and 10% vol. of ether, condense to plastic consistency, add 38 g. lactose for each 10 cc. of thick mass, and dry at 35-38°. For beef mucous membrane use a raw material: extn. liquid ratio of 1:1.25 at pH 3.0. M. M. Piskur

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

DEMSKIY, A.; TAMAROV, Ye.; VAYNBERG, A.

Grain cleaner with the efficiency of 100 tons per hours. Muk.-elev. prom. 29 no.7:24-25 Jl '63. (MIRA 17:1)

1. Nachal'nik konstruktorskogo sektora Gor'kovskogo otdeleniya Vsesoyuznogo nauchno-issledovatel'skogo i eksperimental'no-konstruktorskogo instituta prodovol'stvennogo mashinostroyeniya (for Tamarov). 2. Odesskiy tekhnologicheskiy institut im. M.V. Lomonosova (for Vaynberg).

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A., inzhener.

Pamphlets for workers in farm flour mills. Muk.-elev. prom. 23 no.6:21 Je '57. (MLRA 10:9)

1. Orlovskoye upravleniye promprodtovarov.
(Grain milling machinery)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.A.

Investigating profiled-plant heap cleaners. Trudy Od. tekh. inst. 14:81-86 '62. (MIRA 16:12)

1. Rabota vypolnena na kafedre tekhnologicheskogo oborudovaniya Odesskogo tekhnologicheskogo instituta. Rukovoditel' raboty - kand. tekhn. nauk, dotsent Kotlyar, L.I.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

BANIT, Ye.A.; VAYNBERG, A.A.; DUDAREV, I.R.

Principle of the operation of a centrifugal flowmeter. Izv. vys. uchebn. zav.; pishch. tekh. no. 2:104-107 '61. (MIRA 14:5)

1. Odesskiy tekhnologicheskiy institut imeni I.V. Stalina. Kafedra tekhnologicheskogo oborudovaniya.
(Flowmeters)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

KOTLYAR, Leon Iosifovich; KESTEL'MAN, Nusya Yakovlevich; OSTAPCHUK, Nikolay Vasil'yevich; VAYNBERG, Anton Antonovich; DENISENKOVA, L.M., red.; SOKOLOV, A.Ya., prof., doktor tekhn. nauk, red.

[Design and operation of sieves in screening machines] Konstruktsiia i ekspluatatsiia sit proseivaiushchikh mashin. Moskva, 1963. 130 p. (MIRA 17:7)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A. M., Engineer

"Investigation of Contemporary Systems of Electrical Machines for Automatic Regulation of Steel-Melting Arc Furnaces." Thesis for degree of Cand. Technical Sci. Sub 10 Jun 49, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A. M.

PA 240T72

USSR/Electricity - Literature Nov 52

"Review of Yu. Ye. Efroymovich and V. I. Feygin's Book 'Automatic Control of Metallurgical Arc Furnaces'," Doc A. D. Svenchanskiy, Cand Tech Sci, and Cand Tech Sci A. M. Vaynberg

"Elektrichestvo" No 11, pp 91, 92

Published 1951 by Metallurgizdat, contains 236 pp. The following topics are covered in the book: (1) elec characteristics of arc furnaces; (2) theoretical principles of arc furnace control; (3) description of existing controller systems and designs (including

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amplidyne and relay-contact types); (4) comparative analysis of controllers and selection of most suitable types; (5) problems of adjusting and operating controllers.

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112-57-8-16811

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 126 (USSR)

AUTHOR: Vaynberg, A. M.

TITLE: Electrodynamic Forces in the Channels of Core-Type Induction Furnaces (Elektrodinamicheskiye sily v kanalakh induktsionnykh pechey s serdechnikom)

PERIODICAL: Tr. Mosk. energ. in-ta (Transactions of the Moscow Power-Engineering Institute), 1956, Nr 22, pp 187-200

ABSTRACT: Electrodynamic forces in the channels of melting core-type induction furnaces cause motor or centrifugal effect, pinch effect and eddy-current effect. In present calculation methods, the forces causing the above effects are considered as independent and produced by an interaction of the channel current with two different magnetic fluxes, one due to the inductor, and the other due to the channel current. In addition, skin effect and proximity effect are usually neglected; the cross section of channel is assumed to be round and infinitely thin, and the channel axis to be a straight line. In the calculations, only one effect has been taken into consideration while other effects have been neglected. In the present work, the following assumptions are made: a straight-line channel

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Vaynberg, Aleksandr Moiseyevich

Induktsionnyye plavil'nyye pechi (Induction Melting Furnaces) Moscow, Gosenergoizdat, 1960. 455 p. 6000 copies printed.

Ed.: K.D. Gutterman; Tech. Ed.: K.P. Voronin.

PURPOSE: This book is intended for students specializing in electrothermy and may also be of use to technical personnel in industry.

COVERAGE: The book consists of three parts: 1) the theory of induction heating; 2) coreless induction furnaces; and 3) core-type induction furnaces. Designs of modern induction furnaces are discussed in detail. Special features in designing the main parts of furnaces and methods of designing induction furnaces are also discussed. The author thanks E.P. Leonova, G.S. Vaynberg (deceased), V.I. Krizental', and D.B. Mondrus for their assistance. There are 32 references, all Soviet.

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VAYNBERG, Aleksandr Moiseyevich; GUTTERMAN, K.D., red.; VORONIN, K.P., tekhn. red.

[Induction smelting furnaces] Induktsionnye plavil'nye pechi. Moskva, Gos. energ. izd-vo, 1960. 455 p. (MIRA 14:7)
(Smelting furnaces)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

BELOZEROV, V.G., (Kursk, ul. Engel'sa d.136, kv.27); SKVORTSOV, B.A. (Leningrad, ul. Soyuza pechatnikov, d.7.kv.26); PARKHOMCHUK, Ya. (Leningrad, ul. Soyuza pechatnikov, d.7.kv.26); TRAUBE, Ye.S.(Donetsk, 25, ul. Shchorsa, d.12. kv.8); DROZDOV, A.D. (Novocherkassk, ul. B.Khmel'nitskogo d.151. kv.26); VAYNBERG, A.M. (Moskva, V-180, Malaya Yakimanka, d.22, kv.19); FILATOV, M.A. (Kemerovo, ul. Dzerzhinskogo d.27, kv.11); GANZBURG, L.B. (Leningrad P-3, Krasnosel'skaya, d.12, kv.2); BUDANOV, V.D. (Moskva, A-287, Chuksin tupik, d.4, kv.17); LYSENKO, N.G. (Kiyev, ul. Sulimovskaya, d.5.kv.71); SHERGIN, Ye.N. (Cherkassy, ul Uritskogo, d.37,kv.6); TRUSHCHEV, Ye.A.; SUVOROV, Yu.I. (Riga, ul. Suvorova, d.20, kv.11); ARTAMONOV, I.G. (Riga, ul. Suvorova, d.20, kv.11); OKHAPKIN, V.V. (Yaroslavl', Tutayevskoye shosse, d.32); OL'KHOVSKIY, I.L. (Khar'kov, pr. Moskovskiy, d.199)

Discoveries and inventions. Prom.energ. 19 no.7:55-56 Jl '64. (MIRA 18:1)

1. Bereznikovskiy sodovyy zavod, byuro po ratsionalizatsii i izobretatel'stvu, Permskaya obl., g. Berezniki (for Trushchev).
2. Yaroslavl', Tutayevskoye shosse, d.32, YaZMOGK (for Okhapkin).
3. Khar'kov, pr.Moskovskiy, d.199, Khar'kovskiy elektromekhanicheskiy zavod, byuro po ratsionalizatsii i izobretatel'stvu (for Ol'khovskiy).

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

MEL'NIKOV, A.I.; VAYNBERG, A.S.; VASIL'YEVA, G.N., red.; SOKOLOVA, I.A., tekhn. red.

[Progressive practices in Ukrainian champagne plants] Peredovoi opyt zavodov shampanskikh vin Ukrainy. Moskva, Pishchepromizdat, 1957. 45 p. (MIRA 11:12)

(Ukraine--Champagne(Wine))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.Ya. (Moscow)

Complete automatization of continuous flow processes in the dairy industry. Avtom. i telem. 15 no.5:406-411 S-O '54. (MIRA 8:1)
(Dairy industry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.Ya.

Controlling fat content of high-fat cream in a dairy production line. (MLRA 10:6)
Priborostroenie no.5:28 My '57.
(Cream--Testing)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

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21(3) [illegible]

[illegible]

Trudy... [illegible] 4,500 copies printed.

Sponsoring Agencies: USSR, Glavnoye upravleniye po ispol'zovaniyu atomnoy energii, and Akademiya nauk SSSR.

Editorial Board of Set: V.I. Dikushin, Academician (Resp. Ed.), N.N. Shumilovskiy (Deputy Resp. Ed.), Yu. S. Zaslavskiy (Deputy Resp. Ed.), L.K. Tatochenko, B.I. Verkhovskiy, S.T. Nazarov, L.I. Petrenko and N.G. Zelevinskaya (Secretary).

Ed. of Publishing House: P.N. Belyanin; Tech. Ed.: T.P. Polenova.

PURPOSE: This book is intended for specialists in the field of machine and instrument manufacture who use radioactive isotopes in the study of materials and processes.

COVERAGE: This collection of papers covers a very wide field of the utilization of tracer methods in industrial research and control techniques. The topic of this volume is the use of radioisotopes in the machine- and instrument-manufacturing industry. The individual papers discuss the applications of radioisotope techniques in the study of metals and alloys, problems of friction and lubrication, metal cutting, engine performance, and defects in metals. Several papers are devoted to the use of radioisotopes in the automation of industrial processes, recording and measuring devices, quality control, flowmeters, level gauges, safety devices, radiation counters, etc. These papers represent contributions of various Soviet institutes and laboratories. They were published as transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, April 4-12, 1957. No personalities are mentioned. References are given at the end of most of the papers.

Birger, G.I., B.I. Verkhovskiy, and Ye. Ya. Ovcharenko (Fizicheskiy institut imeni P.N. Lebedeva AN SSSR i Konstruktorskoye byuro "Tsvetmetavtomatika" MTsM SSSR — Institute of Physics imeni P.N. Lebedev, Academy of Sciences, USSR, and Design Bureau "Tsvetmetavtomatika" MTsM USSR). New Type of a Radioactive Densimeter 159

Kardash, Ye.G. (Tsentral'nyy nauchno-issledovatel'skaya laboratoriya Gosgortekhnadzora — Central Scientific Research Laboratory of "Gosgortekhnadzor" USSR). Industrial Instruments for Gamma-ray Density Control 165

Val'ter, A.K., and M. L. Gol'din (Fiziko-tekhnicheskiy institut Akademii nauk USSR i Zavod kontrol'no-izmeritel'nykh priborov — Institute of Physics and Technology, Academy of Sciences, Ukr.SSR, and Monitoring and Metering Instrumentation Factory). Calculation and Study of the Density of Iron-ore Slurry on the Basis of Gamma-ray Absorption 174

Vishnyak, G.B. (Ministerstvo stroitel'stva elektrostantsiy SSSR — Ministry for the Construction of Electric Power Stations in the USSR). Performance of Gamma-ray Spoil Meters on Dredges 182

Lobanov, Ye. M. (Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSR — Leningrad Institute of Physics and Technology, Academy of Sciences, USSR). Application of the Gamma Densimeter Designed by LFTI, Academy of Sciences, USSR 184

Dedyukov, S.M. (Ministerstvo rechnogo flota SSSR — Ministry of the River Fleet, USSR). Use of Radioactive Radiation in River Transport 190

Vaynberg, A.Ya. (Vsesoyuznyy nauchno-issledovatel'skiy institut molochnoy promyshlennosti — All-Union Scientific Research of the Dairy Industry). Use of Radioactive Radiation in the Automatic Control and Regulation of Technological Processes of Dairy Production 192

Smirnov, S.M. (Tsentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti — Central Scientific Research Institute of the Leather and Shoe Industry). Use of Radioactive Isotopes in the Leather Industry 196

VAYNBERG A. YA.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.Ya., kand.tekhn.nauk; BRUSILOVSKIY, L.P.

Automatic control devices for dairies. Biul.tekh.-ekon.inform.-Gos.nauch.-issl.inst.nauch.i tekh.inform. 16 no.7:45-48 '63. (MIRA 16:8)

(Dairies) (Automatic control)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, Arkadiy Yakovlevich, kand. tekhn. nauk; KRUSILOVSKIY, Leonid Petrovich; TEPMAN, L.M., retsenzent; IRZHEVSKIY, V.P., retsenzent; SHUVALOV, V.N., retsenzent; SHABSHAYEVICH, M.L., spets. red.; KORBUT, L.V., red.

[Automation of technological processes in the dairy industry] Avtomatizatsiia tekhnologicheskikh protsessov v molochnoi promyshlennosti. Moskva, Pishchevaia promyshlennost', 1964. 246 p. (MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti (for Shuvalov). 2. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'nyy institut prodovol'stvennogo mashinostroyeniya (for Shabshayevich). 3. Institut Pishchepromavtomatika (for Irzhevskiy).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, A.Ya., kand.tekhn.nauk; BRUSILOVSKIY, L.P.

Devices for the automation of processes in enterprises of the dairy industry. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh. inform. 17 no.7:60-62 Jl '64. (MIRA 17:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B.

VAYNBERG, B., kand.tekhn.nauk.

Indices of adiabatic and isothermal curves for a real gas. (MIRA 10:10)
Khol.tekh. 34 no.3:48-55 Jl-S '57.
(Gases) (Refrigerants)

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VAYNBERG, B.G. DECEASED 1962/4
1896 - 1960

SEE ILC

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B. I.

USSR/Physics - Phosphors
Spectra

May 50

"Certain Properties of Phosphate Phosphors," V. V. Zelinskiy, F. M. Pekerman, T. V. Timofeyev, B. I. Vaynberg, State Opt Inst, 5 pp

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

Describes properties of phosphors prepared from phosphates of Cd, Ca, Sr and activated Mn, Pb, Sb, Ce, or combinations Mn + Pb and Mn + Sb. Gives Their absorption and radiation spectra, damping laws, and temperature dependence of brightness. Submitted 1 Sep 49.

PA 160T108

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

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CA

3

Phosphate-type luminescent powders for fluorescent lamps. A. A. Bundel, B. I. Valnberg, T. S. Dobrolyubskaya, V. V. Zelinskii, F. M. Pekerman, R. O. Smirnova, A. K. Trofimov, and S. P. Frenkel. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 15, 818-23(1951).—Halophosphate phosphors $3Ca_3(PO_4)_2.Ca(F, Cl)_2$-Mn, Sb can be obtained without flux: (1) by direct heating of the required powder mixt.; (2) by reaction of the halogen compd. with the phosphate. The first process is more desirable but complicated by evapn. and reactions of P_2O_5. Preparations were made by heating mixt. of $CaCO_3$ with P_2O_5 and later with halogen compds. or direct heating of pptd. products. Products with excess CaO are not luminescent; the best luminescence is obtained with a powder of theoretical compn. The change in F/Cl ratio changes the brightness and slightly the position of the emission peak. The best ratio was found to be 3:1. The amt. of Sb in the phosphor is undetermined because of loss by evapn.; it can be of the order of 0-0.0%. The Sb band at 475-480 mμ disappears when the content of Mn rises to 3%. Phosphors with 1.5-2% Mn have max. brightness. If Ca is replaced by Sr, the Mn and Sb bands are displaced in opposite directions. Fe, Cu, Cr, and Pb have a quenching action. Absorption spectra show that Sb absorbs short-wave radiation and transmits the energy to Mn. Sb can be replaced by Bi or Pb. The spectral distribution of halophosphates depends on the exciting radiation. At high concns. of Sb appears a new band at 510 mμ having a long afterglow. It is shown that Sb_2O_3-Mn has a red radiation (max. 615 mμ) but addn. of Ca salts makes the green band appear in this phosphor. The brightness of emission of halophosphates activated with Bi-Mn or Pb-Mn is reduced; the color is not favorable for one-component screens. The afterglow consists of 2 components, short due to Sb and long due to Mn. S. Pakswer

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VAYNBERG, B.I.

USSR/Physics-Luminiscence, for defectoscopy FD-1235

Card 1/1 Pub. 153-19/22

Author : Vaynberg, B. I., Danilov, V. P. and Pekerman F. M.

Title : Luminescent lamp for analysis of luminiscence

Periodical : Zhur. tekh. fiz., 24, 1707-1710, Sep 1954

Abstract : A source of luminiscence excitation for the analysis of materials is described. The source consists of a luminescent vacuum tube made of glass transparent in the near ultraviolet up to 360 millimicrons and absorbing in visual light (glass UFS-4). This lamp is considered advantageous in comparison with other. Indebted to P. P. Feofilov and S. I. Levikov. Three references including one US.

Institution :

Submitted : January 1954

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VAYNBERG, B...

PRIKHOT'KO, A.F.

24(7) p3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Babushkin, A.A., B.A. Gvozdev, and P. Ya. Glazunov. Spectrophotometric Equipment for the Continuous Absorption Analysis and Registration of Gas Concentration 360

Arkhangel'skaya, V.A., B.I. Vaynberg, and T.K. Razumova Simple Method of Determining the Passing of Some Optical Materials in Schumann's Spectrum Region 363

Grudinkina, N.P. Spectrophotometric Determination of Water Purity 364

Ovechkin, G.V. Condensed Discharge Through a Capillary as a Powerful Source of Continuous Spectrum in Spectral Studies 365

Yakovlev, S. Ya. A Wedge-shaped Black Body as a Source of Radiation for Spectrophotometric Measurements 368

Card 23/30

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; RAZUMOVA, T.K.

Determination of the permeability of the Schumann spectrum region by optical materials. Fiz. sbor. no.3:363 '57. (MIRA 11:8)

1. Gosudarstvennyy ordena Lenina opticheskiy institut im. S.I. Vavilova.
(Phosphors--Optical properties) (Spectrum, Ultraviolet)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG B.I.

51-4-5-19/29

AUTHORS: Arkhangel'skaya, V.A., Vaynberg, B.I. and Kazumova, T.K.

TITLE: Thermoluminescent Monocrystals of $CaSO_4$-Mn (Termolyuminestsiruyushchiye monokristally $CaSO_4$-Mn)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp. 681-683 (USSR)

ABSTRACT: The authors prepared large crystals (1 x 10 x 10 mm plates) of $CaSO_4$-Mn by slow cooling of a melt consisting of 45% NaCl, 45% $CaSO_4$ and 10% $MnSO_4$. The melt was cooled from 1000°C to room temperature. The amount of Mn varied from about 0.01% to 0.1%. These crystals exhibited bright green thermoluminescence when excited by short-wavelength ultraviolet, X-rays, β-rays or γ-rays. Thermoluminescent intensity of powders prepared from monocrystals grown as described in the present paper was 2-3 times higher than the emission of powders prepared from monocrystals grown from a solution in H_2SO_4 (Ref 6). The main maximum of the thermal stimulation curves (83°C) was the same for monocrystals prepared by growing from melt and those grown from solution (Fig 1a, 1b). Thermoluminescence curves of monocrystals and powders differ considerably in the half-width of the main maximum and the position of the maximum is slightly displaced towards low temperatures in

Card 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

Thermoluminescent Monocrystals of $CaSO_4$-Mn

51-4-5-19/29

the case of monocrystals (compare Fig 1a, 1b with Fig 1v). It is found that $CaSO_4$-Mn may be used as a sensitive dosimeter for γ-rays, β-rays and X-rays (Fig 2 shows thermoluminescent intensity as a function of γ-ray dose). The use of monocrystalline samples, instead of powders, of $CaSO_4$-Mn makes it possible to increase the dosimeter sensitivity. There are 2 figures and 7 references, 3 of which are American, 2 German and 2 Soviet.

ASSOCIATION: Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova (State Optical Institute imeni S.I. Vavilov)

SUBMITTED: August 12, 1957

1. Crystals - Thermoluminescence 2. Crystals - Excitation 3. Crystals - Growth

Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B. I.

"Arkheologo-etnograficheskoye izucheniye pamyatnikov Khorezma XVI-XIX vv."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

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ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; KODYUKOV, V.M.; RAZUMOVA, T.K.

Luminescence dosimeters for γ-radiation, β-particles, and neutrons, based on the phosphor $CaSO_4$.Mn. Atom.energ. 8 no.6:559-561 Je '60. (MIRA 13:6)
(Radiation--Dosage) (Calcium sulfate) (Phosphors)

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S/089/60/008/06/13/021
B006/B063 82314

21.5200

AUTHORS: Arkhangel'skaya, V. A., Vaynberg, B. I., Kodyukov, V. M., Razumova, T. K.

TITLE: Dosimetry 19 of γ-Radiation, β-Particles, and Neutrons by Means of the Luminescence 21 of the Phosphor $CaSO_4$.Mn 21

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 6, pp. 559-561

TEXT: In the present article, the authors report on their investigations of the luminescence of the phosphor $CaSO_4$.Mn. The energy, L, stored by this phosphor during its irradiation (called light sum) can be regained as light when heating this phosphor. The maximum in the spectrum of this thermoluminescence is near 500 mμ, as may be seen from Fig. 1. The brightness of this luminescence is a function of the temperature to which the phosphor was heated (Fig. 2). This curve has a peak within the range 80-100°C, which does not depend on the kind of excitation of the phosphor. The phosphor is much more sensitive to X-rays and soft gamma radiation than to harder gamma rays (Curve 1 in

Card 1/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

Dosimetry of γ-Radiation, β-Particles, and Neutrons by Means of the Luminescence of the Phosphor $CaSO_4$.Mn

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Fig. 3). When using a lead filter it is possible to extend the sensitivity of a $CaSO_4$.Mn dosimeter to the range 0.1-2.6 Mev (Curve 2 in Fig. 3). With a luminescent area of 2 cm^2, the lower limit is 0.001 r, and the upper limit is about 400 r. Above this dose the L(D) curve is no longer straight (Fig. 4a). At $D \simeq 1000$ r, this deviation is only 30% approximately. A dose of beta rays (e.g., of Sr^{90}, Y^{90}) can be recorded by this apparatus within a range of 1.10^5 - 1.10^8 particles/cm^2 without the occurrence of non-linearity in the L(D) curve (Fig. 4b). The sensitivity of this phosphor at ~15-kev X-radiation amounts to some microroentgens. The L(D) curve for this range is shown in Fig. 4v. When the phosphor is stored at room or higher temperatures, its light sum decreases the quicker the higher is the temperature. Fig. 5 shows L(t) for a phosphor stored at 22°C, 37°C, and 57°C. L drops exponentially with t; at 57°C (Curve 3) it drops so rapidly that L drops to one-tenth of its initial value within 40 hours. This phosphor has some advantages over SrSEu.Sm, such as its insensitiveness to moisture, light, and ultraviolet radiation up to 1500 A. High-density

Card 2/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

Dosimetry of γ-Radiation, β-Particles, and Neutrons by Means of the Luminescence of the Phosphor $CaSO_4$.Mn

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irradiation of 2600-1800 A for some time leads to a partial loss of the light sum without radiation (which, however, cannot be brought about with a lamp or direct sunlight). $CaSO_4$.Mn may also be used to record thermal and fast neutrons. In the first case, the lead filter is replaced by a thin cadmium layer, and in the second case, polymethyl methacrylate is introduced into the phosphor after its preparation. There are 5 figures and 3 references: 1 German and 1 US.

SUBMITTED: September 11, 1959

Card 3/3

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E201/E391

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AUTHORS: Arkhangel'skaya, V.A., Vaynberg, B.I. and Razumova, T.K.

TITLE: A Reflexometer Based on a $CaSO_4$-Mn Phosphor, for Use in the Vacuum Ultraviolet Region

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2, pp 279 - 280 (USSR)

ABSTRACT: In an earlier paper (Ref 1) the authors reported the possibility of measuring transmission of optical materials in the region 120-145 mμ using $CaSO_4$-Mn. This possibility was based on the ability of this phosphor to store energy when irradiated with ultraviolet light with wavelength $\lambda \leqslant 1500$ Å and to liberate this energy in the form of light on heating (thermoluminescence). Within a wide range of values the magnitude of the stored energy (the "light-sum") depends linearly on the intensity of ultraviolet radiation and the duration of the radiation. Using a phosphor sensitive only to hard ultraviolet radiation and auxiliary light filters with gradually displaced short-wavelength transmission cut-offs (LiF, CaF_2, etc), it is possible to separate out narrow spectral

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E201/E391

A Reflexometer, Based on a $CaSO_4$-Mn Phosphor, for Use in the Vacuum Ultraviolet Region

regions and to measure transmission in them. With such a procedure it is not necessary to use a vacuum monochromator and this simplifies the apparatus and makes the method much less laborious (Ref 2). The present paper deals with the possibility of constructing a simple reflexometer based on $CaSO_4$-Mn and reports results of measurements of the reflection coefficients of some surfaces at 120-145 mμ wavelengths (I.N. Panova took part in these measurements). A hydrogen lamp with an LiF window was used as the source of ultraviolet radiation. To record thermoluminescence of $CaSO_4$-Mn the authors used a simple method described earlier (Ref 1). Auxiliary filters were in the form of plates of LiF (transmission cut-off at 1050 Å), CaF_2 (transmission cut-off at 1250 Å) and SrF_2 (transmission cut-off at 1400 Å). The optical, receiver and recording components of the reflexometer are shown schematically on p 280. The optical component was

Card2/4

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E201/E391

A Reflexometer, Based on a $CaSO_4$-Mn Phosphor for Use in the Vacuum Ultraviolet Region

a hermetically sealed chamber with LiF windows and a hydrogen lamp (Figure a). The reflecting surface was placed inside the chamber on a moving axis which had several fixed positions corresponding to different angles of incidence of ultraviolet radiation. Because ozone, CO_2 and water vapour in air absorb strongly in the ultraviolet region the experiments were carried out with the chamber evacuated to 10^{-2} - 10^{-3} mm Hg. Screens coated with the phosphor were placed outside the vacuum chamber so that their surfaces were in the immediate vicinity of a lithium fluoride window. One of these windows was used to measure the intensity of the incident beam and the others to measure reflected radiation at various angles of incidence. Calculations and control tests, carried out with a vacuum spectrometer, showed that the auxiliary filters made of LiF, CaF_2 and SrF_2 make it possible to separate out from radiation of the hydrogen lamp regions

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E201/E391

A Reflexometer, Based on a $CaSO_4$-Mn Phosphor for Use in the Vacuum Ultraviolet Region

with maxima at 122, 127 and 144 mμ. The reflection coefficients of aluminized and Pd-coated mirrors, glass F-1 and fused quartz measured in these regions were found to agree well with the reflection coefficients of the same samples at the same wavelengths measured with the vacuum spectrometer. For example an aluminized mirror Nr 5 had reflection coefficients of 24, 28 and 40% at λ = 122, 127 and 140 mμ, respectively, as measured by means of the reflexometer; the corresponding values found with the vacuum spectrometer were 23, 28 and 37%. The technique described can be recommended for rapid measurement of the reflection coefficients in mass production of mirrors and diffraction gratings meant for use in the ultraviolet region. The reflexometer can be used also to measure transmission of optical materials in the three spectral regions listed above. There are 1 figure, 1 table and 3 references, 1 of which is Soviet and 2 English.

SUBMITTED: July 25, 1959

Card 4/4

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ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; RAZUMOVA, T.K.

Reflesometer based on the $CaSO_4$,Mn phosphor for use in the vacuum ultraviolet region. Opt. i spektr. 8 no.2:279-280 F '60. (MIRA 13:10)

(Spectrum, Ultraviolet)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B.R.

Asymptotic behavior of fundamental solutions to hypoelliptic equations with two variables and a problem with conditions at infinity. Dokl. AN SSSR 144 no.5:958-961 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova. Predstavleno akademikom I.G.Petrovskim.
(Differential equations, Partial)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B.R. (Moskva)

Some correct problems over the whole plane for hyperelliptic equations. Mat. sbor. 62 no.2:186-248 O '63. (MIRA 16:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

VAYNBERG, B.R.

Hypoelliptic equations throughout a space and the principle of limit absorption. Dokl. AN SSSR 155 no.1:20-23 Mr '64. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom G.I.Petrovym.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ACCESSION NR: AP4022945 S/0020/64/155/001/0020/0023

AUTHOR: Vaynberg, B. R.

TITLE: Hypoelliptic equations in the entire space and the limiting absorption principle

SOURCE: AN SSSR. Doklady*, v. 155, no. 1, 1964, 20-23

TOPIC TAGS: mathematical analysis, theory of functions, elliptic equation, hypoelliptic operator, finite function, limiting absorption coefficient, differentiable function

ABSTRACT: This paper is a corollary to author's previous papers (DAN, 145, no. 1, 1962; UMN, 18, 2, 1963; Doctoral dissertation, Moscow State University, 1963) in which he examined the problem dealing with infinity conditions distinguishing the class of functions W in which a unique solution in the entire space of the equation

$$P\left(\frac{\partial}{\partial x}\right)u(x) = f(x), \tag{1}$$

exists. In this equation, $P(i\partial/\partial x) = P(i\partial/\partial x_1, \ldots, i\partial/\partial x_n)$ is a hypoelliptic operator with constant coefficients, $P(\sigma) = P(\sigma_1, \ldots, \sigma_n)$ is its characteristic

Card 1/2

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polynomial, and f(x) is an finite function (possibly generalized). In this paper, author demonstrates one more method of distinguishing the W classes by means of infinity conditions in integral form. The applicability of the principle of limiting absorption to equation (1) is proven and the infinity conditions, obtained by the limiting absorption principle, which are necessary for singling out a solution to equation (1) are determined. Author also generalizes the results of his previous studies to the case when the operator $P(i\partial/\partial x)$ has variable coefficients. Orig. art. has: 10 equations.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 24Oct63 DATE ACQ: 08Apr64 ENCL: 00

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Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

ACCESSION NR: AP4035359 S/0039/63/062/002/0186/0248

AUTHOR: Vaynberg, B. R. (Moscow)

TITLE: Certain properly formulated problems in the entire plane for hypoelliptic equations

SOURCE: Matematicheskiy sbornik, v. 62, no. 2, 1963, 186-248

TOPIC TAGS: properly formulated problem, hypoelliptic equation, constant coefficients, asymptotics, uniqueness, existence, singular direction, fundamental solution

ABSTRACT: The author studies the equations

$$P\left(i\frac{\partial}{\partial x},\ i\frac{\partial}{\partial y}\right)u(x, y)=f(x, y), \qquad (1)$$

where $P(i\frac{\partial}{\partial x}, i\frac{\partial}{\partial y})$ is a hypoelliptic operator with constant coefficients operating on functions of two variables defined in the entire (x,y) plane. He gives detailed proofs of results formulated in a previous paper (Asimptoticheskoye povedeniye fundamental'nykh resheniy gipoellipticheskikh uravneniy s dvumya peremennymi i zadacha s usloviyami na beskonechnosti, DAN SSSR, t. 144, No. 5

Card 1/6

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4

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(1962), 958-961) and some generalizations of these results. The polynomial $P(s,z)$ is called the characteristic polynomial of the operator $P(i\frac{\partial}{\partial x}, i\frac{\partial}{\partial y})$. Let $s = \xi + i\eta$, $z = \sigma + i\tau$. The operator $P(i\frac{\partial}{\partial x}, i\frac{\partial}{\partial y})$ is called hypoelliptic if the zeros of its characteristic polynomial satisfy the inequality

$$\eta^2 + \tau^2 > a_1(\xi^2 + \sigma^2)^\gamma - a_2 \qquad (2)$$

for some $a_1 > 0$, a_2 and $\gamma < 0$. W denotes a class of functions given on the entire (x,y) plane in which there exists a unique solution of (1) for any finite function $f(x,y)$. The author obtains asymptotics of the fundamental solutions at infinity and classes W for any hypoelliptic operator with constant coefficients satisfying two conditions: 1) the polynomial $P(s,z)$ has real zeros; 2) grad $P(s,z) \neq 0$ at real zeros of the polynomial $P(s,z)$. For the given equations, the author constructs fundamental solutions (and their corresponding classes W) which have not only a "uniform" but also a "nonuniform" asymptotic for $r \to \infty$. For the equation

$$\frac{\partial^2 u(x,y)}{\partial x^2} + \frac{\partial^2 u(x,y)}{\partial y^2} + k\, u(x,y) = f(x,y) \qquad (3)$$

the following conditions, which distinguish the class W, are known: Theorem 1.

Card 2/6

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ACCESSION NR: AP4035359

Let f(x,y) be a finite summable function. There exists a unique solution of (3) in the following class of functions W (in the class W_1): $u(x,y) \in W$ ($u(x,y) \in W_1$) if, as $r \to \infty$,

$$u(x, y) = O\left(\frac{1}{\sqrt{r}}\right), \tag{4}$$

$$\frac{\partial u(x, y)}{\partial r} - iku(x, y) = o\left(\frac{1}{\sqrt{r}}\right) \tag{5}$$

(for the class W_1: $\frac{\partial u(x, y)}{\partial r} + iku(x, y) = o\left(\frac{1}{\sqrt{r}}\right)$). The following theorem and corollary follow for (3) from the general theorem on W classes and the remark following it. Separate the (x,y) plane arbitrarily into angles by the straight lines P_ν: $y = x \operatorname{tg} \varphi_\nu$, $0 \leq \varphi_\nu < \varphi_{\nu+1} < \pi$, $\nu = 1,2,\ldots,n$. The straight line P_1 is also denoted by P_{n+1}. The straight lines P_ν, $\nu = 1,2,\ldots,n$ divide the plane into n pairs of vertical angles. From them, arbitrarily choose n_1 ($0 \leq n_1 \leq n$) pairs of vertical angles. These are called angles of the first type. Of the remaining ones, arbitrarily choose n_2 ($0 \leq n_2 \leq n-n_1$) pairs of vertical angles and call them angles of the second type. Take one angle from each of the remaining $n-n_1-n_2$ pairs of

Card 3/6

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110011-4"

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vertical angles. They are called angles of third type, and the angles vertical to them -- fourth type. Theorem 1 is a special case of Theorem 2. Theorem 2: Let $f(x,y)$ be a finite summable function. There exists a unique solution of (3) in the following class of functions W: $u(x,y) \in W$ if for any ϵ in the interval $0 < \epsilon < 1/2$ the following estimates are valid: 1) at angles of the first type

$$|u(x, y)| < Cr^{-\frac{1}{2}}, \quad \left|\frac{\partial u(x, y)}{\partial r} - iku(x, y)\right| < Cr^{-\frac{1}{2}-\epsilon}\left[\prod_{\nu=1}^{2n} |\varphi - \varphi_\nu|\right]^{-2\epsilon} \tag{6}$$

2) at angles of the second type

$$|u(x, y)| < Cr^{-\frac{1}{2}}, \quad \left|\frac{\partial u(x, y)}{\partial r} + iku(x, y)\right| < Cr^{-\frac{1}{2}-\epsilon}\left[\prod_{\nu=1}^{2n} |\varphi - \varphi_\nu|\right]^{-2\epsilon} \tag{7}$$

3) at angles of the third type

$$u(x,y) | < Cr^{-\frac{1}{2}}; \tag{8}$$

4) at angles of the fourth type

$$|u(x, y)| < Cr^{-\frac{1}{2}-\epsilon}\left[\prod_{\nu=1}^{2n} |\varphi - \varphi_\nu|\right]^{-2\epsilon} \tag{9}$$

Card 4/6

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Depending on how the (x,y) plane is divided into angles of the various types, various W classes are obtained. Let ω be an arbitrary number and let $W_1, W_2, \ldots, W_\omega$ be some classes of functions which are distinct in that, in their construction, the (x,y) plane is variously separated into angles of the corresponding types. Corollary: there exists a unique solution of (3) in the following class of functions W^0: $u(x,y) \in W^0$ if $u(x,y) = \sum_{n=1}^{\omega} \alpha_n u_n(x, y)$ where

$$\sum_{n=1}^{\omega} \alpha_n = 1, \quad u_n(x, y) \in W_n, \quad n = 1, 2, \ldots, \omega, \tag{10}$$

Section titles are:

1. Some auxiliary assertions
2. Construction of fundamental solutions
3. Asymptotics of fundamental solutions
4. Asymptotics of fundamental solutions. Ordinary directions
5. Asymptotics of fundamental solutions. Singular directions
6. Asymptotics of the integral H_k for $\theta\beta > 0$
7. Asymptotics of the integral H_k for $\theta\beta < 0$

Card 5/6

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8. Asymptotics of the integral J_k satisfying condition e of theorem 7
9. Asymptotics of fundamental solutions in a neighborhood of singular directions
10. Asymptotics of fundamental solutions. Basic theorem
11. The classes W

"In conclusion the author expresses his deep gratitude to S. A. Gal'pern for his constant attention to this work and to P. P. Mosolov for much valuable advice."
Orig. art. has: 175 formulas.

ASSOCIATION: none

SUBMITTED: 04Oct62 DATE ACQ: 30Oct63 ENCL: 00

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Card 6/6

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AUTHOR: Vaynberg, B. R.

TITLE: The existence and uniqueness of the solution to certain elliptic equations all over the plane

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 1, 1962, 14-16

TEXT: One investigates the existence and the uniqueness of the solution of the equation

$$P\left(i\frac{\partial}{\partial x}, i\frac{\partial}{\partial y}\right) u \equiv \left[(-1)^n \frac{\partial^{2n}}{\partial x^{2n}} + (-1)^n \frac{\partial^{2n}}{\partial y^{2n}} - k^{2n}\right] u = f . \quad (2)$$

In order to determine the function class W, in which (2) possesses a unique solution, one constructs a special fundamental solution and investigates its asymptotic behavior for

$$r = \sqrt{x^2 + x^2} \to \infty .$$

Let $s_1 = \sigma_1 + i\tau_1$, $s_2 = \sigma_2 + i\tau_2$. In the space $(\sigma_1, \sigma_2, \tau_1)$ the set $M(\alpha)$ be defined as follows: for $|\sigma_2| \geq kM(\alpha)$ is the plane $\tau_1 = 0$; for $|\sigma_2| < k$ it is the plane $\tau_1 + \alpha\sigma_1 = 0$; for $|\sigma_2| < k$ and

Card 1/6

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