BYKOV, V.T.

International symposium on inorganic polymers. Izv. Sib. otd. AN SSSR no.11:150-151 '61. (MIRA 15:1)
(Polymers--Congresses)

BYKOV, V.T.

Simultaneous production of rectified alcohol from molasses beer and raw alcohol. Spirt.prom. 27 no.3'26 '61. (MIRA 14:4)
(Alcohol)

BYKOV, V.T.; SUSHIN, V.N.

Use of infrared spectroscopy for investigating natural sorbents.
Kin.i kat. 3 no.5:788-793 S-O '62. (MIRA 16:1)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR.
(Sorbents--Spectra)

BYKOV, V.T.; PRESNYAKOVA, O.Ye.

Dynamic method of determining the specific surface of adsorbents by means of adsorption from a solution stream. Kin.i kat. 3 no.5:784-787 S-O '62. (MIRA 16:1)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR.
(Adsorption) (Sorbents)

BYKOV, V.T.; SUROVTSEV, G.G.; TKACHENKO, Ye.A.

Electron microscope investigation of bleaching clays from the deposits of Western Siberia. Izv. SO AN SSSR no.3 Ser. khim. nauk no.1:161-162 '63. (MIRA 16:8)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR, Vladivostok.
(Siberia, Western—Clay) (Electron microscopy)

BYKOV, V.T.; TKACHENKO, Ye.A.

Electron microscope studies of natural sorbents of Siberia and Far East. Report No.1: Diatomites and tufadiatomites. Soob. DVFAN SSSR no.17:39-42 '63. (MIRA 17:9)

1. Dal'nevostochnyy filial im. V.L. Komarova Sibirskogo otdeleniya AN SSSR.

BYKOV, V.T., doktor khim. nauk

International Symposium on Inorganic Polymers. Soob. DVFAN SSSR no.17:127-129 '63. (MIRA 17:9)

BYKOV, V.T.; PRESNYAKOVA, O.Ye.

Dynamic method used for the determination of the values of the specific surface of adsorbents from solution stream. Soob. DVFAN SSSR no.19:47-50 '63. (MIRA 17:9)

1. Dal'nevostochnyy filial imeni V.L. Komarova Sibirskogo otdeleniya AN SSSR.

BYKOV, V.T.; BURMAKINA, V.V.

Adsorption of paraffinic hydrocarbons on model sorbents. Part 1. Soob. DVFAN SSSR no.19:51-55 '63.

Adsorption of paraffinic hydrocarbons on model sorbents. Part 2. Ibid.:57-60 (MIRA 17:9)

1. Dal'nevostochnyy filial imeni Komarova Sibirskogo otdeleniya AN SSSR.

BYKOV, V.T.; GERASIMOVA, V.G.

Effect of the thermal treatment of natural sorbents on n-heptane vapor adsorption. Trudy DVFAN SSSR.Ser.khim. no.7:47-51 '65. (MIRA 18:12)

L 61727-65 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) Pc-4/Pr-4/Ps-4 RPL WW/RM
ACCESSION NR: AP5013056 UR/0190/65/007/005/0831/0834
678.84

36
32
B

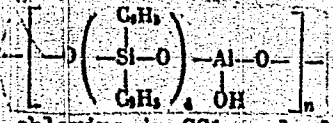
AUTHORS: Avilova, T. P.; Bykov, V. T.; Zolotar', G. Ya.

TITLE: Synthesis of a chlorinated derivative of polyorganosiloxane

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 5, 1965, 831-834

TOPIC TAGS: polymer, resin, organosilicon compound, siloxane, alumorganosiloxane, thermal stability

ABSTRACT: The purpose of the investigation was to extend the knowledge of polyorganosiloxanes to polyalumoorganosiloxanes. The starting material, polyalumodiphenylsiloxane (A), was obtained after K. A. Andrianov and T. N. Ganina, (Izv. AN SSSR. Otd. khim, n., 1956, 74). It is suggested that the structure of A is



By reacting A with activated chlorine in CCl_4 polyalumodi (chlorophenyl) sioloxane (B) was obtained. The proposed structure of (B) is

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L 61727-65
ACCESSION NR: AP5013056

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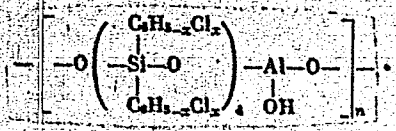


It is concluded that chlorination does not change the linear structure of the polymer and has no significant effect on the degree of polymerization. Low molecular weight polymers undergo chlorination more rapidly than high molecular weight polymers. Chlorination leads to a slight increase in the thermal stability of the polymer. The authors thank D. N. Prokop'yev and N. I. Shergina for the determination of the IR spectra. Orig. art. has: 2 tables and 3 formulas.

ASSOCIATION: Dal'nevostochnyy gosudarstvennyy universitet (Far-Eastern State University)

SUBMITTED: 11Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 003 OTHER: 001

aum

Card 2/2

A L 11524-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6001875 SOURCE CODE: UR/0190/65/007/012/2168/2170

AUTHORS: Avilova, T. P.; Bykov, V. T.; Marinin, V. P.; Shapkin, N. P.

ORG: Far-Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet)

TITLE: Synthesis of chlorinated polytitaniumphenylsiloxane

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2168-2170

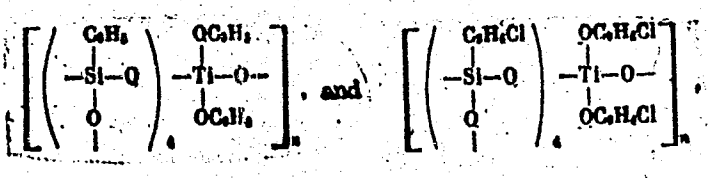
TOPIC TAGS: polymer, organometallic compound, organosilicon compound, organotitanium compound, chlorinated organometallic compound, thermal stability

ABSTRACT: The synthesis of a chloro-derivative of polytitaniumphenylsiloxane is described. The starting material (polytitaniumphenylsiloxane) was prepared after the method of K. A. Andrianov, T. N. Gamina, and Ye. N. Khrustaleva (Izv. AN SSSR, Otd. khim. n., 1956, 798), and the chlorination was carried out in CCl_4 solution by means of activated chlorine. The resultant mixture of chlorinated polymers was subjected to a fractionation analysis. An elemental analysis and molecular weight determination for each fraction was also carried out. The thermal stability of the initial polymer and of its chlorinated derivative, and their solubility in benzene, acetone, and CCl_4 were determined. The experimental results are presented in tables. A structure for the initial polymer and its chloro-derivative is shown by

Card 1/2 UDC: 678.01:54+678.84

L 11524-66

ACC NR: AP6001875



The proposed structure was confirmed by IR spectroscopy. It was found that the chlorinated derivative has a slightly higher thermo-stability as compared with the initial polymer. Orig. art. has: 3 tables and 2 formulas.

SUB CODE: 11/ SUBM DATE: 04Feb65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

BYKOV, V.T.; GOR'KOVSKAYA, V.T.; FROLOV, B.A.

Isotherms and heats of adsorption of benzene vapors on some argillaceous minerals. Kin. i kat. 6 no. 6:1073-1079 N-D '65 (MIRA 19:1)

1. Dal'nevostochnyy gosudarstvennyy universitet. Submitted February 26, 1964.

BYKOV, V.T.; GOR'KOVSKAYA, V.T.; FROLOV, B.A.

Isotherms of adsorption and of differential heats of adsorption of benzene on montmorillonite. Report No.1. Trudy DVFAN SSSR. Ser.khim. no.7:52-58 '65.

Isotherms of adsorption and of differential heats of adsorption of benzene on kaolinite. Report No.2. Ibid.:59-63

(MIRA 18:12)

AVILOVA, T.P.; BYKOV, V.T.; GLUSHCHENKO, V. Yu.; MARININ, V.P.

Synthesis of polyzirconoörganosiloxane. Vysokom. soed. 8 no. 1: 11-13 Ja '66 (MIRA 19:1)

1. Dal'nevostochnyy gosudarstvennyy universitet. Submitted February 3, 1965.

L 17716-66 EWP(j)/EWT(m)/T RM

ACC NR: AP6003407 (A) SOURCE CODE: UR/0190/66/008/001/0014/0015

AUTHORS: Avilova, T. P.; Bykov, V. T.; Kondratenko, L. A. 46 B

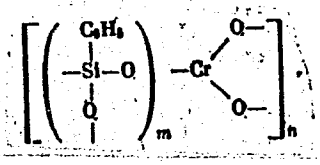
ORG: Far Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet)

TITLE: Synthesis of polychromium phenylsiloxane 7,4455

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 14-15

TOPIC TAGS: polysiloxane, organometallic compound, chromium compound, polymer, organic synthetic process

ABSTRACT: Polychromium phenylsiloxane (I) was prepared in 76% yield in a manner analogous to the synthesis of polyferrophenylsiloxane (K. A. Andrianov, T. N. Ganina, N. N. Sokolov. Vysokomolek. soyed., 4, 679, 1962), using the method of exchange decomposition of phenylsodiumoxysilane with chromium potassium sulfate in aqueous alkaline solution at 78C. The product obtained was a green solid, soluble in organic solvents with a ratio of Si:Cr = 5.8 to 7.1, which corresponds to a probable structure:



Card 1/2 UDC: 541.64+678.84

ACC NR: AP6003407 O

where m = ratio of Si:Cr, n = number of Cr in the chain. Preliminary experiments indicate that thermal stability of I is close to that of other polymetalloorganic siloxanes. Orig. art. has: 2 tables and 1 structure.

SUB CODE: 07/ SUBM DATE: 03Feb65/ ORIG REF: 001

Bykov, V. V.

AID P - 2598

Subject : USSR/Meteorology

Card 1/2 Pub. 71-a - 1/26

Author : Bykov, V. V.

Title : The influence of mountains on changes in pressure in the middle layers of the troposphere

Periodical : Met i gidr, 4, 3-12, Jl/Ag 1955

Abstract : The influence exercised by high mountain ranges on changes in atmospheric pressure and particularly on cyclogenesis is discussed. A theoretical analysis of the numerical method for short-range forecasting is made for cyclones on the lee side and above mountains. The author maintains that the geostrophic wind loses its intensity over mountain ranges. This fact affects the structure of the atmospheric pressure (cyclogenesis). Research was made on theoretical (mathematical) forecasting, the data of which was later compared with factual data on a cyclone over the Scandinavian Mountains, Jan. 2, 1954. Four diagrams. Two Russian

Met 1 gidr, 4, 3-12, Jl/Ag 1955 AID P - 2598

Card 2/2 Pub. 71-a - 1/26

references, 1946, 1948, 2 English, 1949 and 1951.

Institution : None

Submitted : No date

BYKOV V.

ABRAMOVICH, K.G.; ASTAPENKO, P.D.; BYKOV, V.V.; BUSHUK, V.I.; GUROV, V.P.; ZVEREV, A.S.; MININA, L.S.; MOROZKIN, A.A.; RUPPERT, L.L.; SERGEYEV, B.M.; ZVEREV, A.S.; POGOSYANA, Kh.P., redaktor; YASNOGORODSKAYA, M.M., redaktor.

[School synoptical atlas of weather maps] Uchebnyi sinopticheskii atlas. Leningrad, Gidrometeorologicheskoe izd-vo. Pt. 1. 1956. 48 fold. maps (in portfolio)--[Assignments for students using the "school synoptical atlas of weather maps."] Zadaniia dlia studentov k "Uchebnomu, sinopticheskomu atlasu," chast' 1. Sost. A.S. Zverev. 1956. 114 p. (MLRA 10:5)

(Meteorology--Charts, diagrams, etc.)

8.11-166 551.513.551.501.7

Bykov, V. V. and Mashkovich, S. A., O kharakteristike zonal'noi tsirkuliatsii atmosfery. [Characteristics of the zonal circulation of the atmosphere.] *Meteorologiia i Gidrologiia*, Leningrad, No. 2, 3-9, Feb. 1956. 3 figs., 5 tables, 8 refs. Trans. DWB, DLC. The author develops an expression in which the index of zonal circulation is represented physically as the angular velocity of rotation of the atmosphere related to the earth and describes a procedure for calculating the index of zonal circulation and also for describing the velocity of west-east transport over any part of the Northern Hemisphere. Tables and graphs are presented giving the mean monthly values of the index of zonal circulation at 500 mb and 700 mb surface for each of six years, mean monthly index of zonal circulation at levels of 500, 700 and 1000 mb, and at different altitudes and the seasonal values of the index of circulation at different levels. The greatest intensity of zonal circulation is at the level between 10 and 13 km. West-east transport constitutes the predominant condition of the atmosphere at 10 km height during the cold season, while during the summer an opposite zonal circulation prevails. The annual variation of the zonal circulation is similar at all levels in the troposphere and lower stratosphere. *Subject Headings*: 1. Zonal circulation 2. Zonal index. *I.I.P.*

BYKOV, V.V.

Equations of the dynamics of the atmosphere in the hypothesis of quasi-solenoidality. Metero. i gidrol. no.11:8-14 N '56.
(Atmosphere) (MLRA 10:1)

BYKOV, V.V.

KIBEL, Il'ya Afanas'yevich; BELOUSOV, S.L., red.; BYKOV, V.V., red.; KOLESNIKOVA, A.P., tekhn.red.

[Introduction to hydrodynamic methods of short range weather forecasting] Vvedenie v gidrodinamicheskie metody kratkosrochnogo prognoza pgody. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1957. 375 p. (MIRA 11:4)
(Weather forecasting)

Bykov, V. V.

AUTHORS: Belousov, S. L. and Bykov, V. V. 49-9-5/13

TITLE: On taking into consideration the influence of mountains in forecasting the baric field. (Ob uchete vliyaniya gor pri prognoze baricheskogo polya).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1957, No.9, pp.1142-1153 + 3 plates (USSR)

ABSTRACT: An important drawback of available methods of numerical forecasting based on the single layer model of the atmosphere is due to the fact that vertical movements are not taken into consideration. One of the possible methods of improving the accuracy and the effectiveness of the forecasting at the medium level of the atmosphere by means of high speed computers consists in taking into consideration the influence of vertical movements caused by the presence of non-uniformities on the Earth's surface and, particularly, of large mountain ranges. In spite of the fact that the forced air circulation takes place for specific forms of the circulation and are limited to certain geographical regions, their influence on the atmospheric processes is very considerable in numerous cases. One of the authors showed in an earlier paper (Ref.1) that in forecasting the geopotential at the

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On taking into consideration the influence of mountains in forecasting the baric field.

average level of the atmosphere it is possible to take into consideration the influence of mountain ranges on the air currents; the formulation of the problem is briefly recapitulated, mentioning that a non-linear equation, eq.(7), p.1144, was derived for forecasting the geopotential at the average level of the atmosphere in which the influence of mountain ranges are taken into consideration. In this paper a numerical solution of this equation is arrived at which is free from some of the limiting assumptions made in the earlier paper. For the numerical solution the finite difference method of solving the Poisson equation is used which ensures taking into consideration the dispersion of waves of the baric field. The author deals with the scheme of the numerical solution of the eq.(7) re-written as shown in eqs. (8) and (9), p.1145, and also with certain features of the programming of this problem for the computer BESM. As initial data in the numerical calculation of the system of equations (8) and (9), the data are used pertaining to the altitude AT 700 above the territory for which the height forecasting chart is compiled. These data are given in the nodes of a

On taking into consideration the influence of mountains in forecasting the baric field.

rectangular grid, Fig.3, containing 480 points, the grid spacings are 250 km. The obtained solution is applicable to universal electronic computers and, as an example, a 24 hour forecasting chart is calculated for May 18, 1956 comparing the results obtained by taking into consideration the Scandinavian mountains and by not taking these into consideration. The obtained results indicate that it is possible to calculate more accurately the geopotential at the medium level by taking into consideration the orographic influences within the framework of the single layer model of the atmosphere. Acknowledgments are made to I.A.Kibel on whose initiative the here described work was carried out. There are 11 figures and 3 Slavic references.

SUBMITTED: January 12, 1957.

ASSOCIATION: Central (Weather) Forecasting Institute. (Tsentral'nyy Institut Prognozov).

AVAILABLE: Library of Congress

Card 3/3

BYKOV, V. V

3(7) PHASE I BOOK EXPLOITATION SOV/2115

Tsentral'nyy institut prognozov

Voprosy dinamicheskoy meteorologii (Problems of Dynamic Meteorology) Moscow, Gidrometeoizdat (Otd-niye), 1958. 110 p. (Series: Its: Trudy, vyp. 78) 1,300 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Resp. Ed.: Ya. M. Kheyfets; Ed.: Yu. V. Vlasova; Tech. Ed.: I.M. Zarkh.

PURPOSE: This collection of articles is intended for research workers in dynamic meteorology. It may also be of interest to advanced students in the field.

COVERAGE: These articles deal with hydrodynamic methods of a short-range forecasting of meteorologic elements, the theory of climate,

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and questions of general atmospheric circulation. The article by by S.A. Mashkovich discusses the formation and retention of zonal circulation heat under the influence of the incoming solar heat for given albedo values of the earth's surface. Ye.M. Dobryshman presents a linear theory for long-term humidity forecasting. S.L. Belousov explains the errors occuring in solving forecasting problems for a mean atmospheric level by replacing differential equations with difference equations. V.V. Bykov offers a solution of the spatial problem in forecasting meteorologic elements assuming quasi-solenoidal motion. V.P. Sadokov presents a forecasting method (a spatial problem) adapted for a fast electronic computer. There are 47 references: 30 Soviet, 13 English, and 4 German.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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MM/bg
8-13-59

BYKOV, V.V.; KURBATKIN, G.P.

Analysis of meteorological and aerological data with the aid of an electronic computer. Dokl. AN SSSR 134 no.5:1065-1068 O '60.
(MIRA 13:10)

1. Institut prikladnoy geofiziki Akademii nauk SSSR. Predstavleno akademikom A.A.Dorodnitsynym.
(Electronic data processing) (Meteorology)

BYKOV, V.V.; KURBATKIN, G.P.

Objective analysis of aerological data. Izv. AN SSSR. Ser. geofiz. no. 2:307-318 F '61. (MIRA 14:2)

1. Institut prikladnoy geofiziki AN SSSR.
(Weather forecasting)

BYKOV, V.V.

Taking into account the geostrophic departure in short-range forecasts. Izv. AN SSSR. Ser. geofiz. no.3:418-423 Mr '62. (MIRA 15:2)

1. AN SSSR, Glavnoye Upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR i Ob"yedinennyy meteorologicheskiy vychislitel'nyy tsentr.
(Numerical weather forecasting)

BYKOV, V.V.

Results of the activity of a design and supervision office. Transp. i khran. nefti no.1:29-30 '63. (MIRA 16:9)

1. Saratovskoye rayonnoye nefteprovodnoye upravleniye.

L 24458-65 EWT(1)/FCC GW

ACCESSION NR: AT5002852 S/3118/64/000/004/0056/0072

AUTHOR: Bykov, V.V.; Kurbatkin, G.P.; Gorelysheva, I.V.

TITLE: Experience in the development of a multi-level model for numerical analysis of aerological data

SOURCE: Mirovoy meteorologicheskiy tsentr. Trudy, no. 4, 1964. Voprosy ob"yektivnogo analiza meteorologicheskikh elementov (Problems in the objective analysis of meteorological elements), 56-72

TOPIC TAGS: wind, atmospheric pressure, atmospheric geopotential, atmospheric pressure pattern, weather forecasting, aerological model, numerical analysis, computer programming

ABSTRACT: This article describes experience in developing a model for the numerical analysis of geopotential and wind data at five levels of the atmosphere. In this method, consistent analysis at several levels is achieved by the correction and "filling in" of missing data. The authors provide a brief description of the computation method and cite examples of the analysis of geopotential and wind. They also present a practical variant of a multi-level method of numerical analysis of the absolute geopotential based on the principle of construction of pressure pattern charts. The following is the basis of the

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method: 1. The field of the absolute geopotential of the isobaric surface (or other meteorological element) is approximated in the neighborhood of each grid intersection by a polynomial of the second degree for x and y, that is

$$H = \sum_{i+j=0}^{2} a_{ij} x^i y^j,$$

where H is the height of the isobaric surface. 2. The field of the relative geopotential of the isobaric surface over the nearest standard isobaric surface is represented by a polynomial of the first degree. 3. In analyzing the field of the absolute geopotential wind observation data are used (within the framework of the hypothesis of a geostrophic wind). 4. The most probable coefficients a_{ij} of the approximating polynomial are determined, that is, the system of initial equations written on the basis of observational data is solved by the least squares method. 5. Since both near and distant stations are used for computations at grid intersections during the writing of a system of normal equations, the condition equations are reduced to an "identical weight". Reliability of computations and improvement of the quality of the analysis for areas for which few meteorological data are available is achieved by using data for already computed grid

intersections and by using a sequence of computations in which the analysis is made first for grid intersections for which the best observational data are available; in addition, data from some wind sounding stations are used, as well as from some surface stations. The computation method and structure of the program for numerical analysis on an electronic computer are described fully. The discussed method of numerical analysis can also be applied to analysis of the wind field. In such a case, the analysis of the wind velocity components at the level of the isobaric surface is reduced to an analysis of the components of the thermal wind in the layer between the involved and the lower-lying isobaric surfaces. "The authors wish to thank M.I. Lazutina and O.K. Gorbunova for assistance in the computations". Orig. art. has: 5 formulas, 9 figures and 1 table.

ASSOCIATION: Mirovoy meteorologicheskiy tsentr (World meteorological center)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 004 OTHER: 001

L 32836-65 EWT(d)/EEO-2/EWT(1)/EEC-4/EED-2/EWP(1)/EWA(h) Pn-4/Po-4/Pq-4/PE-4/Peb/Pk-4/Pl-4 IJP(c) BB/GG

ACCESSION NR: AP5005583 S/0106/65/000/002/0057/0063

AUTHOR: Bykov, V. V.

TITLE: One method of simulating a stationary normal noise on a digital computer

SOURCE: Elektrosvyaz', no. 2, 1965, 57-63

TOPIC TAGS: noise analysis, digital computer, computer simulation

ABSTRACT: A new approach to the problem of noise simulation on a digital computer is suggested. A normal noise F with an energy spectrum $F(\omega)$ does not contain constant or periodic components and satisfies this condition:

$$\int_0^\infty F(\omega)\,d\omega \leqslant P, \quad \int_0^\infty |R(\tau)|\,d\tau \leqslant Q,$$

where P and Q are positive constants, $R(\tau)=\int_{-\infty}^{\infty} F(\omega)\,e^{i\omega\tau}\,d\tau$ is the correlation

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L 32836-65

ACCESSION NR: AP5005583

function of the process. By considering the transmission of an equivalent normal white noise through a theoretical linear system, an algorithm for simulating the initial noise on a digital computer is developed. A sequence of independent normal random numbers with zero mathematical expectation and a unit dispersion is obtained from the computer (sequence a_k); then, by a sliding summation operation, this orthonormalized sequence is turned into the desirable sequence. The process may be continued infinitely. The problem of determining weight coefficients is solved by conventional expansion into a Fourier series. Orig. art. has: 40 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 24Jul64 ENCL: 00 SUB CODE: DP, EC

NO REF SOV: 005 OTHER: 001

Card 2/2

L 30393-66 EWT(d)/EWP(1) IJP(c) GG/BB
ACC NR: AP6007866 SOURCE CODE: UR/0103/66/000/002/0093/0099

38
B

AUTHOR: Bykov, V. V. (Voronezh); Malaychuk, V. P. (Voronezh)

ORG: none

TITLE: The error of digital integration of a steady-state random process

SOURCE: Avtomatika i telemekhanika, no. 2, 1966, 93-99

TOPIC TAGS: random process, error function, error measurement, ~~digital~~ integration

ABSTRACT: In some cases, for example, in the employment of digital computers, integration of a continuous steady-state random signal ξ (t) is performed by summation of its discrete values according to the formula

$$I = \int_0^T \xi(t)\,dt \approx \Delta t \sum_{n=1}^{N} \xi_{0n} = I_*,$$

where I_* is the approximated value of the integral I; $\xi_{0n} = \xi[(n - 1/2)\Delta t]$ are reading values of the function ξ (t) in the points $t_n = (n - 1/2)\,\Delta t$, corresponding to the means of the intervals ($\Delta t(n - 1)$, Δtn) (it is assumed that the rounding off error is negligible);

Card 1/2

UDC: 681.142.82:517.3

L 30393-66
ACC NR: AP6007866

$\Delta t = \pi / \omega_0 = 1/2 f_c$ is the spacing of the time quantization of the process; $\omega_c = 2\pi f_c$ is the frequency of quantization; and $N = T/\Delta t$ is the number of reading values on the integration interval. The present author evaluates the error originating in this case. A simple relationship is obtained which relates the value error dispersion to the high frequency spectrum of the function being integrated. An example of application of the results obtained is investigated. Orig. art. has: 1 table and 14 formulas.

SUB CODE: 12 / SUBM DATE: 17Mar65 / ORIG REF: 004

Card 2/2 CC

BYKOV, Viktor Vasil'yevich; KOVAL', Yefim Ivanovich; KHOKHLOVKIN, D.M., otvetstvennyy redaktor; KRASOVSKIY, I.P., redaktor izdatelstva; KOROVKINOVA, Z.A., tekhnicheskiy redaktor; ZAZUL'SKAYA, V.F., tekhnicheskiy redaktor

[Automatization of pumping apparatus] Avtomatizatsiia nasosnykh ustanovok. Moskva, Ugletekhizdat, 1956. 41 p. (MLRA 10:5)
(Pumping machinery) (Automatic control)

Bykov, V.V.

Subject : USSR/Engineering AID P - 5209

Card 1/1 Pub. 107-a - 8/13

Author : Bykov, V. V., Eng. (First Moscow Autogenous Plant)

Title : Gas welding of the L62 thin-sheet brass

Periodical : Svar. proizv., 7, 26-27, Jl 1956

Abstract : The author describes the research conducted at the All-Union Scientific Research Institute of the Autogenous Treatment of Metals (VNIIAvtogen) in 1953-54 on the welding of the L62 sheet brass of over 3mm thickness. A new welding admixture of the LK62-05 type was used for the purpose. Two tables, one Russian reference (1955).

Institution : As above

Submitted : No date

Bykov, V. V.

Subject : USSR/Engineering AID P - 5408

Card 1/2 Pub. 107a - 10/12

Authors : Bykov, V. V., Eng., and A. N. Kazanskiy, Eng.

Title : New equipment for processing metals by flame

Periodical : Svar. proizv., 10, 30-31, O 1956

Abstract : The authors briefly describe several newly designed gas-welding and gas-cutting equipment, such as: the GS-53, GSM-53 and GAO-55 torches, the PP-53, RAP-55 and RZP-55 cutters, and the RGS-53, RGM-53, RAT-55, RAO-55 and RAZ-55 insert cutters. They provide some technical characteristics of the cutters and torches. Five tables, 1 graph and 4 photos (showing numerous pieces of equipment and parts).

AID P - 5408

Svar. proizv., 10, 30-31, 0 1956

Card 2/2 Pub. 107a - 10/12

Institution : All-Union Scientific Research Institute of the Autogenous Treatment of Metals (VNIIAvtogen), Main Administration for Design and Manufacture of Oxygen Apparatus (Glavkislorod mash).

Submitted : No date

BYKOV, VIKTOR VASIL'YEVICH

SEREBRENNIKOV, Veniamin Vasil'yevich; BYKOV, Viktor Vasil'yevich; NOVIK, A., redaktor; MATUSEVICH, S., tekhnicheskiy redaktor

[Mine drainage control] Upravlenie prokhodcheskim vodootlivom. Kiev, Gos.izd-vo tekhn. lit-ry USSR, 1957. 34 p. (MLRA 10:9)
(Mine pumps)

BIKOV, V. V.

"On New Equipment Produced by the First Moscow Autogenous Plant."

Paper presented at the Sverdlovsk Regional Conference on Gas-Flame Metal Working and Electric-Gas Processes, Sverdlovsk, 14-16 May 1958, Sponsored by VNIIAtogen.

BYKOV, V.V.; TROFIMOV, A.A.; ANTONOV, I.A., kand.tekhn.nauk, red.; MEZHOVA, V.A., red.izd-va; UVAROVA, A.F., tekhn.red.

[Repair of equipment for gas welding and cutting] Remont apparatury dlia gazovoi svarki i rezki. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry. Part 1. [Torches and cutters] Gorelki i rezaki. 1958. 198 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut avtogennoi obrabotki metallov. Spravochnye materialy po gazoplamennoi obrabotke metallov, no.13) (MIRA 12:2)
(Gas welding and cutting--Equipment and supplies)
(Industrial equipment--Maintenance and repair)

Bykov, V. V.

PHASE I BOOK EXPLOITATION 1204

Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov

Remont apparatury dlya gazovoy svarki i rezki. Ch. 1: Gorelki i rezaki (Repair of Gas Welding and Cutting Equipment. Pt. 1: Torches and Cutters) Moscow, Mashgiz, 1958. 199 p. (Series: Spravochnyye materialy po gazoplamennoy obrabotke metallov, vyp. 13) 7,000 copies printed.

Compilers: Bykov, V.V. and Trofimov, A.A.; Ed.: Antonov, I.A., Candidate of Technical Sciences; Ed. of Publishing House: Mezhova, V.A.; Tech. Ed.: Uvarova, A.F.; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): Golovin, S.Ya., Engineer.

PURPOSE: This book is intended for engineers and technicians working in the field of gas welding and cutting.

COVERAGE: The book contains information on the repair of gas-welding and gas-cutting equipment. It discusses organization of the work of bench workers and repair men, various types of repairs and their periodicity, and conditions for accepting equipment for repair and returning it. Instructions are given for the operation and care of equipment. Chapters I, II, and VII were compiled by

Card 1/4

A.A. Trofimov, and Chapters III-VI by V.V. Bykov. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

Repair of Gas Welding and Cutting (Cont.) 1204

AVAILABLE: Library of Congress
Card 4/4

GO/fal
3-2-59

ZELINSKIY, V.M., kand.tekhn.nauk; SEREBRENNIKOV, V.V., inzh.; BYKOV, V.V., inzh.

Equipment for automatic control of mine pumps. Shakht. stroi. no.5:17-21 '58. (MIRA 11:6)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Mine pumps) (Automatic control)

SOV/135-59-11-20/26

18(5)

AUTHORS: Bykov, V.V., and Korshunova, V.A., Engineers

TITLE: New State Standards on Reducers for Gas-Flame Working of Metals

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 11, pp 42-43 (USSR)

ABSTRACT: 3 classes of reducers are encompassed by the new GOST 6268-59: 1st class ensuring a working pressure accuracy of ± 5%; 2nd class with ± 10% and 3rd class with ± 15% accuracy. Types $\frac{0.1-1.5}{3.0-5}$.25-I, $\frac{0.1-1.5}{3.0-5}$.25-III and $\frac{0.1-1.5}{30.0-50}$.25-II are acetylene, and Types $\frac{0.5-8}{1.0-8}$.150-I and $\frac{1.0-15.0}{7.5-60}$ are oxygen reducers. There is 1 table.

ASSOCIATION: VNIIAVTOGEN

Card 1/1

VELIKIY, B.G., inzh.; BYKOV, V.V., inzh.

Equipment for the automotisation of mine drainage. Ugol' Ukr. 4 no.5:34 My '60. (MIRA 13:8)
(Mine drainage)
(Automatic control)

SEREBRENNIKOV, Veniamin Vasil'yevich; RUKMAN, Gidaliy L'vovich; BYKOV, Viktor Vasil'yevich; MOSIYCHUK, Konstantin Aleksandrovich; SHOROKHOVA, A.V., red.izd-va; LOMILINA, L.N., tekhn.red.

[Mine electrician's handbook] Spravochnik shakhtnogo elektroslesaria. By V.V.Serebrennikov i dr. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 383 p. (MIRA 15:2)

(Electricity in mining)

SEREBRENNIKOV, V.V. (Khar'kov); BYKOV, V.V. (Khar'kov)

Level relay for automating pumping units. Vod. i san. tekh. no.10:10-11 O '61. (MIRA 14:11)
(Pumping machinery)

SEREBRENNIKOV, V.V., inzh.; BYKOV, V.V., inzh.

New automatic water-drainage apparatus. Shakht. stroi. 5 no. 3:22-24 Mr '61. (MIRA 14:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Mine pumps) (Automatic control)

SEREBRENNIKOV, V.V.; BYKOV, V.V.; AVDEYENKO, I.T.

NZU-1 pump for slope drainage. Ugol' Ukr. 5 no.4:39 Ap '61.
(MIRA 14:4)

(Mine pumps)

PUGACHEV, A.N.; BYKOV, V.V.

Vibration chamber of the KPN-2 grain harvesting comgine. Trakt. i sel'khozmash. 31 [1.e.32] no.11:21-22 N '62. (MIRA 15:12)

1. TSentral'naya mashioispytatel'naya stantsiya
(Harvesting machinery)

BYKOV, V.V.; SHASHKOV, A.N., kand. tekhn. nauk, red.

[Equipment for gas welding and cutting; operation maintenance and repair] Apparatura dlia gazovoi svarki i rezki; ekspluatatsiia, obsluzhivanie i remont. Moskva, Izd-vo "Mashinostroenie," 1964. 135 p. (Bibliotechka avtogenshchika, no.11-12) (MIRA 17:7)

SEREBRENNIKOV, Veniamin Vasil'yevich; BYKOV, Viktor Vasil'yevich; RUKMAN, Gidaliy L'vovich; VOLOBUYEV, S.Kh., inzh., retsenzent; LYAKHNOVICH, P.D., inzh., retsenzent; MARKOV, A.A., inzh., retsenzent;

[Drainage during the construction and reorganization of mines] Vodootliv pri stroitel'stve i rekonstruktsii shakht. Moskva, Izd-vo "Nedra," 1964. 144 p.
(MIRA 17:6)

BYKOV, V.V.; KURBATKIN, G.P.; GORELYSHEVA, I.V.

Construction of a multilevel system of numerical analysis of aerological data. Trudy MMTS no.4:56-72 '64 (MIRA 18:2)

L 19370-66 EWT(1)/FCC GS/GW

ACCESSION NR: AT5008059 S/0000/64/000/000/0204/0213

AUTHOR: Bykov, V. V.; Kurbatkin, G. P.; Gorelysheva, I.V. 12,44,55 12 B+1

TITLE: Numerical analysis of the geopotential and of wind at five atmospheric levels

SOURCE: Simpozium po chislennym metodam prognoza pogody. Moscow, 1963. Trudy. Leningrad, Gidrometeoizdat, 1964, 204-213

TOPIC TAGS: meteorology, geopotential, wind, objective analysis

ABSTRACT: A multilevel method for objective analysis of aerological data is described. This method is based on representation of the field of the analyzed meteorological element by means of a polynomial. In the proposed scheme of objective analysis of geopotential and wind at five atmospheric levels some methods adopted from the usual synoptic analysis of charts of baric topography were used. In the matched analysis at several levels erroneous information was corrected and gaps in the data were filled in. The results of the computations are given. A new method of numerical analysis of the absolute geopotential is proposed which is based on the principles of plotting of baric topography charts. Orig. art. has:

Card 1/2

L 19370-66

ACCESSION NR: AT5008059 0

2 figures, 3 tables, 6 equations.

ASSOCIATION: none

SUBMITTED: 060ct64 ENCL: 00 SUB CODE: ES

NO REF SOV: 005 OTHER: 001

Card 2/2 BC

BYKOV, V.V., kand.fiz.-matem.nauk; GORBUNOVA, O.K.

Using the principle of plotting constant-pressure charts for the numerical analysis of aerological data. Meteor. i gidrol. no.5:14-22 My '65. (MIRA 18:4)

1. Mirovoy meteorologicheskiy tsentr.

L 17061-66 EWT(1)/FCC GW

ACC NR: AT5024831 UR/3118/65/000/006/0019/0024

AUTHOR: Bykov, V.V.

31
B+1

ORG: World meteorological center(Mirovoy meteorologicheskiy tsentr)

TITLE: Computations of predicted atmospheric geopotential magnitudes

12,44,55

SOURCE: Mirovoy meteorologicheskiy tsentr. Trudy, no. 6, 1965. Voprosy gidrodinamicheskogo kratkosrochnogo prognoza pogody i mezometeorologii, (Problems in hydrodynamic short range weather forecasting and mesometeorology), 19-24.

TOPIC TAGS: weather prediction, atmospheric geopotential, numeric solution, mathematic model, wind, computer calculation, atmospheric model

ABSTRACT: The author develops a mathematical model for weather forecasting in terms of the prognosis of atmospheric geopotential and winds. His point of departure is a complete system of single layer atmosphere nonlinear differential equations:

$$\frac{\partial u}{\partial t}+u\frac{\partial u}{\partial x}+v\frac{\partial u}{\partial y}=-g\frac{\partial h}{\partial x}+lv, \quad (1)$$

$$\frac{\partial v}{\partial t}+u\frac{\partial v}{\partial x}+v\frac{\partial v}{\partial y}=-g\frac{\partial h}{\partial y}-lu, \quad (2)$$

$$\frac{\partial h}{\partial t}+u\frac{\partial h}{\partial x}+v\frac{\partial h}{\partial y}=-\frac{c^2}{g}\left(\frac{\partial u}{\partial x}+\frac{\partial v}{\partial y}\right), \quad (3)$$

where: u, v - are wind velocity components along axes x and y;
h - isobaric surface height,
l - Coriolis parameter
c - coefficient with the dimension of velocity

UDC: None

Card 1/3

2

ACC NR: AT5024831

Integration of (1), (2) and (3) with respect to time yieds difference-differential approximation equations amenable to cell-network iterative numerical solution methods. The next step is the introduction of stationarity assumption (in the sence of alternate assumptions of zero derivatives for one of the variables at a time, along the cell boudaries); this leads to a further simplification and the possibility of reduction, by a change of variables to a set of linear Cauchy equations for the computation of variables at the cell interface, such as e.g.

$$\frac{1}{c^2}\frac{\partial^2 u}{\partial \tau^2} + \frac{l^2}{c^2}u = \frac{\partial^2 u}{\partial \xi^2}. \qquad (13)$$

Prognostic weather problems based upon this model were programmed on the World meteorological center computer. The initial conditions were sampled at a 22 x 26 network of 572 points; the network step was 300 km (cell size 300x300 km). Predictions were made for the inside network of (18 x 22) 396 points. Some results are shown in the enclosed figures, which represent; Fig.#1 - the actual and Fig.#2 - the predicted regions of positive (clear) and negative (shaded) changes in the isobaric surface height, 24 hours after the initial sampling on which the prediction was made. The date is 3 AM, December 9, 1961. Comparison shows satisfactory confirmation of rationality for the proposed computational method. A drawback of the proposed methodology is, so far, the enhanced smoothing of predicted pressure fields for 24 hour predictions. It is hoped to improve this situation by an optimization of the cell size. Further research is aimed at an extension of the model concept to a 5 - layer atmosphere. The computational program shows a stability of results regardless of the

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ACC NR: AT5024831

large number of time intervals, e.g. n=56. The author thanks L.P. Shulenina for her programming of forecasts on the electronic computer. Orig. art. has 3 fig., 13 formulas.

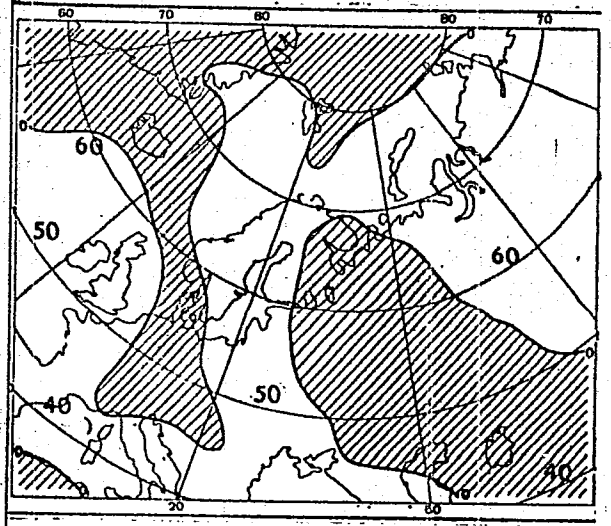

Fig. 1. Actual isobaric height changes.

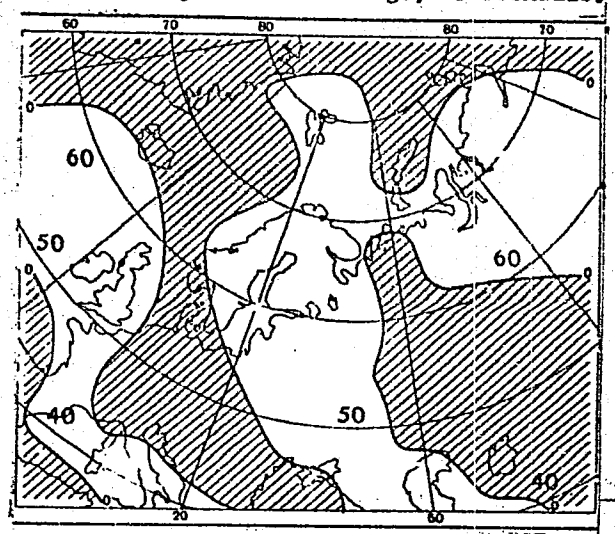

Fig. 2. Predicted isobaric height changes.

SUB CODE: 04 SUBM DATE: none ORIG REF: 004

Card 3/3

L 09203-67 EWT(1)

ACC NR: AP7002771 SOURCE CODE: UR/0106/66/000/007/0067/0072

AUTHOR: Bykov, V. V.; Malaychuk, V. P. 21 e

ORG: none

TITLE: Calculation of the energy spectrum of oscillation frequency modulated by a stationary normal noise

SOURCE: Elektrosvyaz', no. 7, 1966, 67-72

TOPIC TAGS: wave function, noise modulation

ABSTRACT: The evaluation of the energy spectrum of oscillations whose frequency is modulated by a stationary normal noise encounters, in the case of arbitrary magnitudes of modulation index, significant mathematical difficulties. The authors show that these difficulties can be surmounted if instead of an approximation by a square wave function (or by one, characteristic for RC filters) one utilizes specially chosen approximations of the energy spectrum of the modulating noise. Final calculational formulas are obtained in closed form for two types of approximation functions, and graphs of the relative widths of the energy spectrum of FM oscillations and of the shape of the energy spectrum as functions of the effective modulation index are given. Orig. art. has: 3 figures and 8 formulas. [JPRS: 38,202]

SUB CODE: 09 / SUBM DATE: 21Jun65 / ORIG REF: 006

Card 1/1 bmp

UDC: 621.391.144

0925 1646

ZHELTAKOV, M.M., prof.; SOMOV, B.A., assistent; ABRAMOVA, Ye.I., ordinator; BYKOV, V.V., ordinator

USSR

Use of a cortisone and hydrocortisone aerosol in some dermatoses. Vest.derm.i ven. 35 no.5:36-40 '62. (MIRA 15:5)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. M.M. Zheltakov) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.
(AEROSOL--THERAPY) (CORTICOSTEROIDS) (SKIN--DISEASES)

BYKOV, V. V.

N/5
741.3
.B9

Automatizatsiya Nasosnykh Ustanovok (Automatization Of Pumping Equipment, By) V.V. Bykov I Ye. I. Koval' Moskva, Ugletekhizdat, 1956.
41, (2) p. Illus., Diagrs.
"Literatura": p. (43)

SAVONICHEV, G.V.; FIGUROVSKIY, I.A.; SOBOLEVSKIY, S.I.; BYKOV, V.V.

Preparing lead crystal in a pot furnace. Stek.i ker. 18 no.5:9-11 My '61. (MIRA 14:5)

(Glass furnaces)

SAVONICHEV, G.V.; FIGUROVSKIY, I.A.; KALMYKOV, V.I.; BYKOV, V.V.

Conveyor-production line system of manufacturing and treating high-quality dishes. Stek. i ker. 18 no.7:15-18 Jl '61. (MIRA 14:7)

(Gusev--Glassware)

DYATLOVA, O.N.; BYKOV, V.V.

Chemical polishing of glass. Stek. i ker. 19 no.2:19-23 F '62. (MIRA 15:3)
(Grinding and polishing) (Glass manufacture)

BYKOV, V.V., inzh.

The S-399 modernized concrete mixer. Stroi. i dor mash. 7 no.6:19 Je '62. (MIRA 15:7)
(Concrete mixers)

BYKOV, Ya.I.

Effectiveness of combining a telegraph office and a trunk exchange. Vest.sviazi 16 no.5:16-17 Je '56. (MLRA 9:8)

1. Nachal'nik Omskogo telegrafa i mezhdugorodnoy telefonnoy stantsii. (Telegraph stations) (Telephone stations)

BYKOV, Ya.I.

Ideological and educational work helps the development of communist labor. Vest. sviazi 23 no.8:4 Ag '63.
(MIRA 16:11)

1. Nachal'nik Omskoy telegrafno-telefonnoy stantsii.

BYKOV, Ya.M.

Special attachment for preventing the repeated transfer of half-loops. Leh. prom. no.4:60 O-D '65.
(MIRA 19:1)

BYKOV, Yakov Vasil'yevich; KRIVOSHEIN, L.Ye., red.; ANOKHINA, M.G., tekhn.red.

[Some methods for deriving solutions of integral and integro-differential equations] O nekotorykh metodakh postroeniia reshenii integral'nykh i integro-differentsial'nykh uravnenii. Frunze, Izd-vo Kirgizskoi SSR, 1961. 107 p. (MIRA 14:3)

(Integral equations)

BYKOV, YA. V.

K teorii trigonometricheskikh ryadov. Kazan', Uchen. Zap. Un-ta, 98: 7 (1939), 47-51.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

BYKOV, YA. V.

PA 175T37

USSR/Mathematics - Nonlinear Mechanics 21 May 50

"Problem of Eigenfunctions of Nonlinear Integral Equations," Ya. V. Bykov, Kirgiz State Pedagogical Inst, Frunze (→ im M.V. Frunze)

"Dok Ak Nauk SSSR" Vol LXXII No 3, pp 449-452

Considers following nonlinear integral eq: $\lambda F(x)=\int_B \cdots \int K(x,v)\cdot f(v,t_1, \cdots t_m,F(t_1), \cdots F(t_m),F(v)\cdot ds_m dv$, which is generalization of Hammerstein's eq: $\lambda F(x)= \int_b k(x,v)\, f(v,F(v))dv$. Submitted 18 Mar 50 by Acad S. L. Sobolev.

175T37

BYKOV, Ya. V.

Mathematical Reviews
Vol. 14 No. 11
Dec. 1953
Analysis

Bykov, Ya. V. On a class of linear integro-differential equations. Doklady Akad. Nauk SSSR (N.S.) 86, 221–224 (1952). (Russian) Kirgiz State U.

The author considers integro-differential equations of the form

$$(1) \qquad L[z(x)] = \varphi(x) + \lambda \int_a^b K(x,t) M[z(t)]\,dt,$$

where L is a linear differential operator of order n with continuous coefficients and leading coefficient 1, and M is a linear operator with appropriate (though complicated) continuity properties. By using the explicit solution of the differential equation $L[z(x)] = F(x)$ in terms of the Wronskian of a fundamental system $y_1, y_2, \cdots, y_n$ of solutions of the associated homogeneous equation, the author transforms (1) into an equation of the form

$$(2) \qquad z(x) = \sum_{k=1}^{n} c_k y_k(x) + \lambda \int_a^b H(x,t) M[z(t)]\,dt + f(x),$$

where the c_k are arbitrary constants. Applying the operator M to both sides of (2) and writing $M[z] = \psi$, he then reduces the problem of solving (1) to the solution of an ordinary integral equation

$$(3) \qquad \psi(x) = v(x) + \sum_{k=1}^{n} c_k v_k(x) + \lambda \int_a^b E(x,t)\psi(t)\,dt.$$

This enables him to show that the Cauchy initial value problem for (1) has a unique solution if and only if λ is not a characteristic value of the kernel $E(x,t)$. *F. Smithies.*

Bykov, Ya. V.

Math

Bykov, Ya. V. On the theory of linear integro-differential equations of Volterra's type. Kirgiz. Gos. Univ. Trudy Fiz.-Mat. Fak. 1953, no. 2, 67–83. (Russian)

Let $[c, d]$ be an interval containing a and x; $a_{ij}(x)$ and $K_{ij}(x, t)$ functions continuous for x and t in $[c, d]$. The system

$$(1) \qquad \frac{dz_i}{dx}+\sum_{j=1}^{n} a_{ij}(x)z_j(x)=\lambda\int_a^x \sum_{j=1}^{n} K_{ij}(x, t)z_j(t)\,dt,$$

$$z_i(x_0)=l_i \quad (i=1, 2, \cdots, n)$$

has, for every l, a unique solution $z_i(x)$ if $x_0=a$. The solution can be obtained [illegible] fundamental system [illegible] of this system [illegible]

For a [illegible] and [illegible] numbers [illegible] are the characteristic [illegible]

M. Golomb (Lafayette, Ind.)

Bykov, Ya. V. On a class of integro-differential equations. Kirgiz. Gos. Univ. Trudy Fiz.-Mat. Fak. 1953, no. 2, 85–109. (Russian)

A much more detailed account of the methods reported in another paper by the author Dokl. Akad. Nauk UzSSR 1953 no 6, 3–6, for solving the integro-differential equation

$$L(y)+\int_a^x \sum_{j=1}^{b} P_j(x-t)\cdot \exp \beta_j(t-x)M(y(t))\,dt=0,$$

where L and M are homogeneous linear differential operators with constant coefficients, P_{ju} are polynomials in u and β_j are constants. Some related problems are also considered.

L. Cesari (Kiev)

BYKOV, YA. V.

Integral Equations (2175)
Dokl. AN Uzb. SSR, No 6, 1953, pp 3-6
Bykov, Ya. V.
"On One Class of Integro-Differential Equations"
Gives a resume of algebraic rules for solving an equation involving linear differential operators with constant coefficients.

SO: Referativnyy Zhurnal--Matematika, No 2, Feb 54; SO: (W-30785, 28 July 1954)

Bykov, Ya. V., On the theory of linear integro-differential equations. — Dokl. Akad. Nauk Uzbek. SSR. 1953, no. 5, 3–6 (Russian Uzbek summary)

A series of existence theorems without proofs of uniqueness

$$\sum_{i=1}^{n} \dots = \lambda \int_a^b \sum_{i=1}^{n} \dots$$

conditions $x(a) = b_i$ where $a \dots$

BYKOV, Ya.V.

Eigenvalues and functions of an integral-differential system. Trudy Inst.mat. i mekh. AN Uz.SSR no.10:55-84 part 2 '53. (MLRA 8:4)
(Eigenvalues) (Differential equations) (Integral equations)

Bykov Ya.V.

YEGOROV, A.I.; BYKOV, Ya.V.

Existence theorem for the solution of an integrodifferential equation. Trudy Fiz-mat.fak.Kir.un. no.2:119-123 '53. (MLRA 10:5)
(Integral equations)

FRANKL', F.I.; SUKHOMLINOV, G.A.; BYKOV, Ya.V., redaktor; SEREBRYAKOV, V.I., tekhnicheskiy redaktor

[Introduction to deformation mechanics] Vvedenie v mekhaniku deformiruemykh tel. Frunze, Kirgizskii gos. univ., 1954. 201 p. (MLRA 10:1)
(Deformations (Mechanics))

Bykov, Ya. V.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '57, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp. Field method in the theory of hyperbolic systems of differential equations of mathematical physics.

Barbashin, Ye. A. (Sverdlovsk). Work of Sverdlovsk Seminar Members on the Qualitative Methods of the Theory of Differential Equations. 42-43

Mention is made of Skalkina, M. A., Repin, Yu. M., Yegorov, V. G., Lushnikova, Z. M., and Tabuyeva, V. A.

Bykov, Ya. V. (Moscow). On the Asymptotic Behavior of Solutions of Integral Differential Equations of Volterra Type. 43

Vol'pert, A. I. (Moscow). Investigation of a Boundary Problem for Elliptic Systems of Differential Equation in a Plane. 43-44

There is 1 USSR reference.

Card 14/80

BYKOV Ya. V.

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/2 PG - 609
AUTHOR BYKOV Ya.V.:
TITLE On the existence of eigenvectors of non-linear operators.
PERIODICAL Doklady Akad.Nauk 111, 265-268 (1956)
reviewed 2/1957

Let H be a real, separable Hilbert space, $A(\varphi)$ - operator in H, $\{e_k\}$ - a complete normalized orthogonal system of vectors in H; S_m^c - surface of the sphere $\sum_{k=1}^{m} c_k^2 = c^2$, c - fixed; $h_m = \sum_{k=1}^{m} c_k e_k$. Let the operator $A(\varphi)$ satisfy the condition (E) if for every sequence of elements $\{v_n\}$ which converges weakly to v, also $A(v_n)$ converges weakly to $A(v)$. Let the operator $A(\varphi)$ satisfy the condition (F) if there exists a functional $B(h_m)$ which for every fixed m satisfies the equation

$$\frac{\partial B(h_m)}{\partial c_k} = (A(h_m); e_k) .$$

The following theorems are formulated:
1. If the operator A satisfies the conditions (E) and (F), then the equation

Doklady Akad.Nauk 111, 265-268 (1956) CARD 2/2 PG - 609

$$\lambda\varphi = A(\varphi) + f$$

has a solution for at least one real value λ.
2. If A satisfies the conditions (E) and (F), if $A(0) = 0$, if there exists a $\lim_{m\to\infty} B(h_m)$, if h_m converges weakly to 0, then there exists at least a countable number of eigenvectors of the operator A(h).
Beside of these theorems, several conclusions are given and examples of operators are considered which satisfy the conditions (E) and (F)

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16.4500

AUTHOR: Bykov, Ya.V.

TITLE: On methods for the construction of compositional integral, integro-differential, and other types of equations

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 128. Abstract no.7761. In sb: Materialy 8-y Nauchn. konferentsii professorsko-prepodovat. sostava Fiz.-matem. fak. (Kirg. un-t). Frunze, 1959, 10-11

TEXT: This is a short communication on the author's lecture. In the publication it is said thatfor some classes of integral and integro-differential equations the solutions can be constructed according to one and the same scheme (the scheme is not given) and that a method was found (the method is not given) according to which the solution of the equation

$$L_0(u)+\sum_{k=1}^{q} P_k L_k(u) = f(x_1,\ldots,x_n,t_1,\ldots,t_m)$$

can be constructed, where L_0, L_k, P_k are linear operators, where L_i, $P_1,\ldots,P_q$ $(i=0,1,\ldots,q)$ are exchangeable in a certain class of functions.

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[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

IX

Card 2/2

BYKOV, YA. V.

"On the conditions of the existence of limit periodical regime for nonlinear intergo-differential equations."

Paper presented at the Intl. Symposium on Nonlinear Vibrations, Kiev, USSR, 9-19 Sep 61

Institute of Physics, Mathematics and Mechanics of the Academy of Sciences of the Kirgizian SSR, Frunze, USSR

BYKOV, Ya.V., otv. red.

[Studies on integral-differential equations in Kirghizistan] Issledovaniia po integro-differentsial'nym uravneniiam v Kirgizii. Frunze, Izd-vo AN Kirgizskoi SSR. Vol.1. 1961. (MIRA 15:3)

1. Akademiya nauk Kirgizskoy SSR, Frunze. Institut fiziki, matematiki, mekhaniki.

(Differential equations) (Integral equations)

16.4500

S/044/62/000/005/019/072
C111/C333

AUTHOR: Bykov, Ya. V.

TITLE: On some questions about the qualitative theory of integro-differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 5, 1962, 76, abstract 5B347. ("Issled. po integro-differents. uravneniyam v Kirgizii." no. 1, Frunze, AN Kirg SSR, 1961, 3-54)

TEXT: In § 1 the author constructs the characteristic polynomial $\varphi(s)$ of the system of integro-differential equations

$$\frac{du}{dt} = Au + \int_a^t K(t-\tau)\, u(\tau)\, d\tau \,, \qquad (1)$$

where A and $K(x)$ are $n \times n$-matrices, whereby A is constant and $K(x)$ is a quasi-polynomial; the concept of the almost simple root of the polynomial $\varphi(s)$ is introduced. In § 2 the conditions are examined which are sufficient for the system of integro-differential equations

$$\frac{du}{dt} = B(t)u + \int_a^t K(t-\tau)u(\tau)d\tau + \Psi(t,u) + \int_a^t \Psi[t,\tau,u(\tau)]\, d\tau \qquad (2) .$$

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On some questions about the ...

where ψ and η are vectors with weak non-linearities, to tend to a periodic or almost periodic behavior. In § 3 the author examines the possible growth character of the solution of (2) as it depends on the position of the roots of the polynomial $\varphi(s)$. The sufficient conditions for the stability of the solution of system

$$\frac{du}{dt} = B(t)u + \int_a^t \left[K(t-\tau) + M(t,\tau) \right] u(\tau)\, d\tau + f(t, u); \qquad (3)$$

$$\frac{du}{dt} = Au + \int_a^t K(t-\tau)\, u(\tau)\, d\tau + f(t,u)$$

are examined in § 4. Asymptotical estimates of the solutions of (3) are given, and the stability of the solution in the critical case is examined, where $\varphi(s)$ has almost simple roots with vanishing real parts and the real parts of the other roots are negative. The behavior of the derivatives (for $t \to \infty$) of the solutions of (3) are examined in § 5. In § 6 the author gives sufficient conditions that every solution