

Begin reel

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670

PAVINSKIY, P.P.; ZAKHAROV, V.K.

Zeeman effect in the quadrupole exciton line of a cuprous oxide  
crystal. Vest.LGU 16 no.4:143-144 '61. (MIRA 14:3)  
(Copper oxide crystals)

S/058/62/000/007/033/068  
A061/A101

AUTHORS: Zakharov, V. K., Koka, P. A.

TITLE: On the possible use of a "cactus"-type apparatus for flame photometry

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 16, abstract 7G135  
("Tr. Kazakhsk. n.-i. in-ta mineral'n. syr'ya", 1960, no. 3, 350 -  
351)

TEXT: A test made with a "cactus"-type microroentgenometer for use in flame photometry is described. The "cactus"-type apparatus, fitted out with a YM-2 (JM-2) universal monochromator, is insignificantly remodeled to the effect that background and filter compensation is inserted in the circuitry and the ionization chamber voltage stabilizer is eliminated. The apparatus has displayed good performance characteristics in routine analyses for Rb, Cs, and other elements. ✓

F. Ortenberg

[Abstracter's note: Complete translation]

Card 1/1

ZAKHAROV, V. K.

Zakharov, V. K. "The pine fungus (Trametes pini) in the forests of the Belovezha Pushcha. (Study methodology, degree of infection of the pine stands, use of the infected wood), Sbornik nauch. trudov (Belorus. lesotekhn. in-t im. Kirova), Issue 7, 1948, p. 38-65.

SO: U-3736, 21 May 53 (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

ZAKHAROV, V. K.

Zakharov, V. K. "On the investigation of the cedar stands of the northern Urals,"  
Sbornik trudov po les. khoz-vu, Issue 1, 1949, p. 3041.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'aykh Statey, no. 13, 1953).

BUDYKA, S.Kh., kandidat tekhnicheskikh nauk, dotsent; TIKHONOV, A.F.,  
kandidat tekhnicheskikh nauk, dotsent; YURKEVICH, I.D., professor,  
redaktor; ZAKHAROV, V.K., professor, doktor sel'skokhozyaystvennykh  
nauk, redaktor; ALEXANDROVICH, Kh., tekhnicheskiiy redaktor

[Manual for workers in the logging industry] Spravochnik rabotnika  
lesozagotovitel'noi promyshlennosti. Sost. S.Kh.Budyka i A.F.Tikhonov.  
Minsk, 1955. 774 p. (MLRA 10:1)

1. Akademiya nauk BSSR, Minsk. Institut lesa. 2. Chlen-korrespondent  
AN BSSR (for Yurkevich)  
(Lumbering)

ZAKHAROV V. K.

~~ZAKHAROV, V.K.~~, profesor, doktor sel'skagospadarchykh navuk.

Extent of experimental areas, given the number of trunks per hectare.  
Vestsi AN BSSR, Ser. biial. nav. no. 4:111-115 '56. (MLRA 10:6)  
(Forests and forestry--Experimental areas)

ZAKHAROV, V.K.

[Methods for classifying unfelled timber for commercial purpose]  
Metody promyshlennoi sortimentatsii lesa na korne. Izd.2., ispr.  
i dop. Moskva, Goslesbumizdat, 1957. 95 p. (MIRA 11:9)  
(Timber) (Wood)



2 ZAKHAROV V.K.

CHIKILEVSKIY, Nikolay Nikolayevich, prof.; TIKHOMIROV, B.N., dotsent, kand. sel'skokhozyaystvennykh nauk, retsenzent; SHANIN, S.S., dots. kand. sel'skokhozyaystvennykh nauk, retsenzent; ZAKHAROV, V.K., prof.; retsenznet; VZYATYSHEV, P.V., inzh., retsenzent; ANUCHIN, N.P., prof., red.; KHLATIN, S.A., red.; ARNOL'DOVA, K.S., red.isd-va. BACHURINA, A.M., tekhn.red.

[Forest management] Lesoustroistvo. Moskva, Goslesbumizdat, 1957. 331 p. (MIRA 11:7)

1. Onen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk (for Anuchin).
2. Kafedra taktsii i lesoustroystva Sibirskogo lesotekhnicheskogo instituta (for Tikhomirov, Shanin).
3. Otdel lesoustroystva Vsesoyuznogo ob'yedineniya Lesproekt (for Vzyatyshev).
4. Belorusskiy lesotekhnicheskii institut (for Zakharov)  
(Forest management)

ZAKHAROV, V.K.

USSR/Forestry - Forest Management.

K-4

Abs Jour : Ref Zhur - Biol., No 5, 1958, 20146

Author : Zakharov, V.K.

Inst : -

Title : Methods of Investigating the Course of Growth and Condition of the Overmature Coniferous Plantings in the Karelian ASSR.

Orig Pub : Sb. statey po rezul'tatam issled. v obl. lesn. kh-va i lesn. prom-sti v tayezhn. zone SSSR, M.-L., AN SSSR, 1957, 36-44.

Abstract : Stress is placed on the necessity of studying the valuation structure and commeciability of the overmature coniferous groves in the Karelian ASSR. Corresponding methods are suggested.

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- 42 -

ZAKHAROV, V.K.

USSR/Forestry - Forest Management.

K-3

Abstr Jour : Red Zhur - Biol., No 20, 1953, 91530

Author : Zakharov, V.K.

Inst : Forest Engineering Higher School

Title : An Investigation of the Form of Tree Trunks.

Orig Pub : Nauchn. dokl. vyssh. shkoly. Lesoinzh. delo, 1953, No 1, 13-17.

Abstract : The author explains a method which he developed to study tree trunk forms. One divides the trunks into 10 sections of equal length (0.1 H), measuring the diameters both with and without bark, beginning at the root collar, and then at the end of each section. The diameter is also measured at chest height. The diameter at 0.1 H is taken as 100%, the other diameters at the relative heights (0.2 - 0.9 H) are expressed in percentages of the diameter at

Card 1/2

- 22 -

ZAKHAROV, V.K. [Zakharau, V.K.]; doktor sel'skagospadarchykh navuk.;  
SIROTKIN, Yu.D. [Sirotkin, IU.D.]

Pine-spruce associations of the White Russian S.S.R. and their  
composition by timber classes. Vestsi AN BSSR Ser. bial. nav.  
no.1:16-27 '58. (MIRA 11:5)

(White Russia--Pine)  
(White Russia--Spruce)

Country : USSR K  
Category : Forestry. Forest Management.  
Abs Jour : RZhBiol., No 6, 1959, No 24729  
Author : Zakharov, V. K.  
Inst : ~~Negorel'~~ Scientific-Experimental State Forestry.  
Title : Concerning Highly Productive and Economically  
Valuable Coniferous Plantation in BSSR.  
Orig Pub : Izv. vyssh. uchebn. zavedeniy. Lesn. zh., 1958,  
No. 1, 39-45  
Abstract : Data on the taxation investigation of coniferous cultivations in Negorel' Scientific-Experimental State Forestry (BSSR) are submitted. Experimental areas were established in spruce-pine stands of the type of subor'-hazelnut-wood-sorrel forest on peaty-podzol soil and in pure pine stands of the type of pine-hazelnut-wood-sorrel forest with analogous soil ground conditions. At the end of 1955, on the experimental  
Card : 1/3

Country : USSR  
Category : Forestry. Forest Management. K  
Abs Jour : RZhBiol., No 6, 1959, No 24729  
Author :  
Inst :  
Title :  
Orig Pub :  
Abstract : areas, attentive tree-fellings proceeded, which had a slight effect on the structure of the spruce forest but affected strongly the pine stands. It is noted that the current increase of the plantations exceeds their average increase, which indicates the impossibility of their attaining the age of quantitative maturity. Notwithstanding the decrease of the number of trunks due to fellings, the reserve for  
Card : 2/3

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USSR / Forest Science. Forest Management.

K-3

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77505

Author : Zukharov, V. K.

Inst : Not given

Title : Comparative Productivity of Pine and Spruce Plantations with  
Similar Forest Vegetation Environments

Orig Pub : Lesn. kh-vo, 1958, No 2, 8-10

Abstract : No abstract given

Card 1/1

ZAKHAROV, V. K.

USSR/Forestry - Forest Management.

K-3

Abs Jour : Ref Zhur - Biol., No 20, 1950, 91523

Author : Zakharov, V.K., Trull', O.A.

Inst : Belorussian Forest Technology Institute.

Title : The Rate of Growth in Mixed Spruce-Birch Plantations of  
the Belorussian SSR.

Orig Pub : Sb. nauchn. rabot. Belorussk. lesotekhn. inst, 1950, vyp.  
9, 97-104.

Abstract : No abstract.

Card 1/1



MIROSHNIKOV, Vladimir Semenovich; ZAKHAROV, V.K., prof., red.;  
SHERDYUKOVA, S.I., red.; BELYEN'KAYA, I.Ye., tekhred.

[Methods of field work in forest valuation] Metodika  
provedeniia uchebnoi praktiki po taksatsii lesa. Pod red.  
V.K.Zakharova. Minsk, Izd-vo Belgosuniv. im. V.I.Lenina,  
1960. 40 p. (MIRA 14:4)  
(Forests and forestry--Valuation)

VASIL'YEV, P.V., prof., doktor ekon. nauk; PONOMAREV, A.D.; SOLDATOV, A.G.,  
kand. sel'khoz. nauk; MOTOVILOV, G.P., doktor sel'khoz. nauk;  
NEVZOROV, N.V., kand. ekon. nauk; IOSITSKIY, K.B., kand. sel'khoz.  
nauk; RODIONOV, A.Ya., kand. sel'khoz. nauk; CHARKINA, A.P., kand.  
sel'khoz. nauk; LUTSEVICH, A.A., kand. sel'khoz. nauk; KOZHEVNIKOV,  
M.G., dots.; ALEKSEYEV, P.V., kand. sel'khoz. nauk; ZORIN, A.V.,  
aspirant; BARANOV, N.I., kand. sel'khoz.nauk [deceased]; NAUMENKO,  
I.M., prof., doktor sel'khoz.nauk; IL'IN, A.I., kand.sel'khoz. nauk;  
MOISEYENKO, F.P., kand. biol. nauk; ZAKHAROV, V.K., prof., doktor sel'-  
khoz. nauk; GECHIS, Yu.P., starshiy nauchnyy sotr.; BUTENAS, Yu.P.,  
kand. sel'khoz. nauk; BUBLIS, K.A., aspirant; KALNIN'SH, A.Ya., kand.  
sel'khoz. nauk; ZVIYEDRIS, A.I., kand. sel'khoz. nauk; SUKACHEV, V.N.,  
akad. red.; ZHUKOV, A.B., prof., red.; PRAVDIN, L.F., prof., red.;  
MAKAROVA, I.V., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Problems of increasing forest productivity in four volumes] Pro-  
blemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva,  
Goslesbumizdat. Vol.4. [Economic problems of increasing forest  
productivity and accelerating ripening and cutting ages] Ekonomicheskie  
voprosy povysheniia produktivnosti lesov, vozrasty spelosti i vozrasty  
rubok. 1961. 253 p. (MIRA 15:1)

1. Akademiya nauk SSSR. Institut lesa. 2. Nachal'nik Glavnoy inspektsii  
po lesnomu khozyaystvu i polezashchitnomu lesorazvedeniyu Ministerstva  
sel'skogo khozyaystva SSSR (for Ponomarev).

(Forests and forestry—Economic aspects)

BAYTIN, Ayzik Abramovich, dots.; MOTOVILOV, German Petrovich; GERNITS, Osva'd Ottovich, dots.; BARANOV, Nikolay Ivanovich, dots., [deceased]; KRESLIN, Ernst Petrovich, dots. [deceased]. *Prinipal uchastiye* MOTOVILOV, M.P., prof.; ZAKHAROV, V.K., prof., re-tsenzent; GORYACHEV, I.V., red.; FUKS, Ye.A., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Forest management] *Lesoustroistvo*. [By] A.A. Baitin i dr. Izd.2., perer. i dop. Moskva, Goslesbumizdat, 1961. 283 p.

(MIRA 15:3)

1. Belorusskiy lesotekhnicheskiy institut (for Zakharov).  
(Forest management)

ZAKHAROV, Vasilii Kirillovich, prof.; TRULL', Oleg Antonovich; MIROSHNIKOV,  
Vladimir Semenovich; YERMAKOV, Viktor Yevseyevich; CHERNYAK, I.,  
red.; NOVIKOVA, V., tekhn. red.

[Forest valuation handbook] Lesotaksatsionnyi spravochnik. Pod  
obshchei red. V.K. Zakharova. Izd. 2., ispr. i dop. Minsk, Gos.  
izd-vo BSSR. Red. nauchno-tekhn. lit-ry, 1962. 367 p.  
(MIRA 15:6)

(Forests and forestry--Valuation)

GENKIN, A.A.; ZAKHAROV, V.K.; TARABUKIN, V.I.

Automatic analysis of the duration of ascending and descending phases of electroencephalographic oscillations. Zhur. vyzn. nerv. delat. 14 no.3:553-561 My-Je '64. (MIRA 17:11)

1. Kirov Military Medical Academy and Kalinin Polytechnical Institute, Leningrad.

SAMOYLOVICH, Georgiy Georgiyevich, prof. Primalni uchastiye:  
YERENEYEV, V.S.; KUDRITSKIY, D.M.; ZENIK, F.I.; BAKH, M.K.;  
CHELNOKOV, V.P.; GERTSENOVA, K.N.; RAGES, P.M.; ZAKHAROV,  
P.M.; DEYNEKO, V.F., doktor tekhn. nauk, prof., retsenzent;  
ZAKHAROV, V.K., prof., retsenzent; MIROSHNIKOV, V.S., dots.,  
retsenzent; BELOV, S.V., doktor sel'khoz. nauk, red.

[Use of aerial photographic surveying and airplanes in  
forestry; aerial photography of forests and forest aviation]  
Primenenie aerofotos"emki i aviatsii v lesnom khoziaistve;  
aerofotos"emka lesov i lesnaia aviatsiia. Izd.2., dop. i  
ispr. Moskva, Lesnaia promyshl., 1964. 485 p.

(MIRA 17:10)

1. Kafedra lesnoy taksatsii i lesoustroystva Belorusskogo  
tehnologicheskogo instituta (for Zakharov, Mirosimikov).

L 00481-65 EWT(1)/EWP(e)/EWT(m)/EPF(c)/EWP(i)/EWP(b) IJP(c) WW/CG/WH

ACCESSION NR: AP5012584

UR/0181/65/007/225/1571/1572

AUTHOR: Zakharov, V. K.; Yudin, D. M.

TITLE: Investigation of glasses with chromium by the EPR method

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1571-1572

TOPIC TAGS: EPR spectrum, glass property, spin system, wave function, Hamiltonian

ABSTRACT: This is a continuation of earlier EPR studies of glasses with ions of trivalent chromium (Opt. i spektr. v. 14, 700, 1963). The present investigation had for its purpose to check on the values of the g-factors, which in some cases were found to be different from those calculated in the earlier paper. Measurement of a glass with composition (all molar percent) 50% P<sub>2</sub>O<sub>5</sub>, 7% Al<sub>2</sub>O<sub>3</sub>, 30% ZnO, and 13% K<sub>2</sub>O containing 0.2% and 1.6% Cr<sub>2</sub>O<sub>3</sub>, yielded an EPR spectrum of Cr<sup>3+</sup> ions with values 1.78 ± 0.05 and 5.0 ± 0.2 for the transverse and parallel g-factors. The measurements were made with RE1301 apparatus at an operating frequency ~ 9300 Mcs. A spin Hamiltonian, wave functions, and a scheme for the spin sublevels of the Cr<sup>3+</sup> ion are proposed to reconcile these values of the g-factors. "The authors thank G. O. Karapet'yan for his interest which contributed to the performance of this work." Orig. art. has: 2 figures and 6 formulas.

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L 00481-66

ACCESSION NR: AP5012584

3

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova, Leningrad  
(State Optical Institute)

SUBMITTED: 22Dec64

4.65

ENCL: 00

SUB CODE: OP, SS

NR REF SOV: 002

OTHER: 000

*mlr*  
Card 2/2



ZAKHAROV, V.K.; YUDIN, D.M.

Use of the electron paramagnetic resonance method in studying glasses containing chromium. Fiz. tvor. tela 7 no.5:1571-1572 My '65.  
(MIRA 18:5)

1. Gosudarstvennyy opticheskii institut imeni Vavilova, Leningrad.

DEMIN, A.P.; ZAKHAROV, V.K. [deceased]

Practical recommendations on the taking of tides into account  
for navigation purposes. Inform. sbor. TSNIME no.115. Sudovozh.  
i sviaz' no.26:75-84 '64. (MIRA 18:2)

ZAKHAROV, V.K., kand. tekhn. nauk

Improving the performance of marine diesel engines with small  
loading. Trudy TSNIIMF no.60:14-24 '64. (MIRA 18:4)

ZAFHAROV, V.K.; SARMANOV, O.V.

Consolidation of the states in a Markov chain and the stationary variation of the spectrum. Dokl. AN SSSR 160 no.4:762-764 P 1965. (MIRA 18:2)

1. Matematicheskiiy institut im. V.A. Steklova AN SSSR. Submitted July 21, 1964.

L 45723-67 EWT(1)/BEC(b)-2/EED-2/EWA(h) Feb/Pj-4 IJP(c) GS

ACCESSION NR: AT5011625

UR/0000/64/000/000/0496/0503

AUTHOR: Suchilin, A.M.; Zakharov, V.K. 1/8+1

TITLE: Design of ferrite-transistor cells using a delayed blocking-generator with a rectangular hysteresis loop ferrite

SOURCE: Vsesoyuzatsya soveshchaniya po magnitnym elementam avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki. Lvov, 1962. Magnitnyye elementy avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki (Magnetic elements of automatic control, remote control, measurement and computer engineering); trudy soveshchaniya. Kiev, Naukova dumka, 1964, 496-503

TOPIC TAGS: ferrite transistor cell, ferrite blocking generator, delay blocking generator, rectangular hysteresis loop

ABSTRACT: Modern digital computers and various other devices for automation and telecommunications often use ferrite-transistor cells based on a delayed blocking-generator with rectangular hysteresis loop transformers. A survey of the available scientific literature showed that, as a rule, the analysis and design of such cells are carried out in an extremely simplified and quite superficial manner. To fill this gap the author 1. thoroughly discussed the basic theoretical approximations and the characteristics of

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ACCESSION NR: AT5011625

the elements used in the circuit; and 2. compared the theoretical predictions with experimental results. The pulse current amplitudes were within 5-35% of the calculated values, and the largest (35%) error appeared in the collector current due to uncertainties in the value of the ferrite coercive force used during calculations. The error in the pulse duration determination did not exceed 20-30%. The largest time error was encountered during the determination of the back (decreasing) portion of the pulse (from 50-100%); however, this is a small fraction of the total duration of the pulse and does not appreciably affect the overall result. Orig. art. has: 31 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 29Sep64

ENCL: 00

SUB CODE: DP

NO REF SOV: 004

OTHER: 000

Card *SW*  
2/2

*З. ЗАХАРОВ*  
VASIL'YEV, V.P.; ZAKHAROV, V.K.; CHERNOMORCHENKO, S.G.

Radioactive tracer technique for the study of metal diffusion  
processes in metals (applicable to the technology of oxide cathodes).  
Trudy SAGU no.91:17-38 '57. (MIRA 11:2)  
(Diffusion) (Electron tubes)  
(Radioactive tracers--Industrial applications)

S/194/61/000/012/054/097  
D256/D303

6,9500

AUTHOR: Zakharov, V. K.

TITLE: Choosing methods of disturbance-stable codings

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1961, 57, abstract 12V506 (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1960, no. 12, 103-106)

TEXT: A number of disturbance stable methods of digital computer data communication was compared. Using coding with error detection and correction inevitably leads to a surplus of information in the code. The objective of choosing a suitable method of coding is to keep the surplus small, and at the same time to obtain as small as possible the probability of passing an undetected error. In comparing the codes the following assumptions were used: 1) The numbers communicated are of the order  $10^{10}$  to  $10^{15}$ ; 2) binary symbols are used for coding; 3) the probability of an error occurring

✓  
B

Card 1/2



Choosing methods of ...

S/194/61/000/012/054/097  
D256/D303

is determined by a mean probability  $p$  being of the order  $10^{-2}$  to  $10^{-4}$ . The results of the comparison are collected in a table showing that an optimum choice presents a code with a provision for detecting double errors and correcting single ones, giving a high disturbance stability and a small surplus. [ Abstractor's note: Complete translation. ]

✓  
B

Card 2/2

GOL'DBAUM, I. Ya.; ZAKHAROV, V. K.

Interference proof code for a remote transmission system.  
Priborostroenie no.10:3-4 0 '62. (MIRA 15:10)

(Electronic control) (Information theory)

8/194/62/000/010/052/084  
A051/A126

AUTHORS: Zakharov, V.K., Lazarev, Yu.A.

TITLE: A photoelectronic generator with photoconductive cell and neon lamp<sup>1)</sup>

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962,  
5 - 6, abstract 10Zh40 (Tr. Kazakhsk. n.-1. in-ta mineral'n. syr'ya,  
1960, no. 3, 352 - 353)

TEXT: A version of the circuit of a breaking-oscillation generator with a neon lamp is presented in which the role of the capacitor, shunting the neon lamp, is played by a photoconductive cell. The time characteristics of the majority of photoconductive cells have the form of time characteristics of capacitor charge or discharge. The photoconductive cell and the neon lamp are contained in a light-tight shield such that the luminous flux from the neon lamp almost fully hits the working part of the photoconductive cell. The shield has an aperture to allow for illumination by the external light source. The generating period depends on the voltage fed to the generator, and on the degree to which the photoconductive cell is illuminated by the external light source. The pulse shape on

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SEE 8/194/62/000/010/052/084

A photoelectronic generator with ....

S/194/62/000/010/052/084  
A051/A126

the neon-lamp electrodes is almost rectangular. Diagrams of generation frequency as a function of the voltage fed and of illumination by the external light source are given. The frequency of generation largely depends on the external luminous flux; it increases with a decrease of illumination. This makes it possible to use photogenerators in luminous-flux measurements.

T. Yastrebtseva

[Abstractor's note: Complete translation]

Card 2/2

43020

S/194/62/000/010/043/084  
A051/A126

9.6000

AUTHORS: Zakharov, V.K., Lazarev, Yu.A.

TITLE: A photoelectronic generator with photoconductive cell and neon lamp

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962,  
4, abstract 10-5-8ts (Tr. Kazakhsk. n.-i. in-ta mineral'n. syr'ya,  
1960, no. 3, 352 - 353)

TEXT: In the relaxation generator described, the capacitor function is per-  
formed by an  $\Phi C-K1$  (FS-K1) photoconductive cell. Both the photoconductive cell  
and the neon lamp are contained in a light-tight shield and are arranged one over  
the other such that the luminous flux of the neon lamp hits more fully the work-  
ing part of the cell. An aperture for the exposure to light is provided in the  
shield. A circuit diagram of the generator is given and its operation is de-  
scribed. The period of generation depends on the voltage fed to the generator,  
and on the degree to which the photoconductive cell is illuminated by the exter-  
nal light source. The pulse shape on the neon-lamp electrodes is almost rectan-  
gular with a slight slope toward the trailing-edge side. The generation frequen-

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!! S/194/62/000/010/052/084 based on ...

A photoelectronic generator with photoconductive ....

S/194/62/000/010/043/084

A061/A126

cy is given as a function of the voltage fed and of illumination by the external light source. A photogenerator with these functions can be employed in luminous-flux measurements, particularly when developing apparatus for spectrum analysis. There are 3 figures and 3 references.

[Abstracter's note: Complete translation]

Card 2/2

ZAKHAROV, V. K.

ZAKHAROV, V. K.: "Some questions in the theory of limiting problems for elliptic equations generated at the boundary of a region." Acad Sci USSR. Mathematics Inst imeni V. A. Steklov, Moscow, 1956. (DISSERTATION For the Degree of Candidate in PHYSICO-MATHEMATICAL SCIENCES.)

So: Knizhnaya letopis' No 24 1956

Zakharov, V. K.

2  
1248

Мария Клеопатра Тодича д-ла Уиар

и Влада Илеичековиц: Ипа Четвртице



ЗАКАРОВА, В.К.

103-8-4/8

**AUTHOR:** BAYDA, L.I., ZAKHAROV, V.K. (Leningrad)  
**TITLE:** Predetermination of the Operating Regime and Calculation of Electronic Voltage Stabilizers. (Vybor rezhima i raschet elektronnykh stabilizatorov napryazheniya, Russian)  
**PERIODICAL:** Avtomatika i Telemekhanika, 1957, Vol 18, Nr 8, pp 724-739 (U.S.S.R.)

**ABSTRACT:** Systems of electronic voltage stabilizers of the compensation type are investigated. A method of calculation is given, with the help of which sufficiently rational modes of operation for the assembly groups of the device can be selected and the corresponding parameters of the stabilizer can be calculated. By this means the experimental examination as well as tuning of the devices is considerably simplified. Small series (of 5-10 each) of some types of electronic voltage stabilizers were developed and built in the Laboratory for Automation and Remote Control of the Leningrad Electrotechnic Institute. Two of them are investigated in short and the schemes and parameters are described. (With 12 illustrations and 2 Slavic References).

**ASSOCIATION:** Not given  
**PRESENTED BY:**  
**SUBMITTED:** 10.5.1956  
**AVAILABLE:** Library of Congress  
 Card 1/1

Zakharov, U.K.

✓ Теорема Влохенца для Пространства  
с Метрикой, Вырождающейся на Пре-  
делах некоторой Части Области.  
Учен. зап. Казан. ун-та. Сер. Физ.-  
Мат. Наук.

... for a  
space having a metric degenerating on a  
boundary...

20-114-3-5/60

AUTHOR: Zakharov, V. K.

TITLE: Embedding Theorems for a Space With a Metrics That Degenerates on a Rectilinear Part of the Boundary of Domain (Teoremy vlozheniya dlya prostranstva s metrikoy, vyrozhdayushchey na pryamolineynom uchastke granitsy oblasti)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 3, pp 468-471 (USSR)

ABSTRACT: Let  $D$  be a finite domain in the upper semiplane, a part of its boundary  $\Gamma_0$  lies on the  $Ox$ -axis. The other part of the boundary is denoted by  $\Gamma_1$ . For the complete boundary  $\Gamma = \Gamma_0 \cup \Gamma_1$  is written down in this case. Let  $\Omega^0$  be the manifold of all functions continuous in the domain  $D$  which have limited partially continuous second derivatives and in a certain boundary-strip of the domain  $D$ , become equal to zero. On the set of the functions  $u^0 \in \Omega^0$  an operator of the type of a gradient:

$$Gu^0 = \left( \frac{\partial^2 u^0}{\partial x^2}, \frac{\partial^2 u^0}{\partial x \partial y}, \frac{\partial^2 u^0}{\partial y^2} \right)$$

is defined. The manifold (where  $u^0 \in \Omega^0$  applies) consisting of the elements  $Gu^0$  is here denoted with  $R^0$ . A certain scalar is

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Embedding Theorems for a Space With a Metrics That Degenerates on a Recti-  
linear Part of the Boundary of Domain

then introduced in  $R^0$ . The termination of the space  $R^0$  in the metrics defined by the just-mentioned scalar product is denoted by  $R$ . In any domain  $D^0$  the functions  $u_n \in \Omega^0$  on the average tend toward a certain function  $u$  which has generalized second derivatives in this domain. Therefore the element  $g \in R$  is equal to the system of the generalized second order derivatives of the function  $u$  in the domain  $D^0$ . This also holds for the partial derivatives of this type, i.e.

$$g = Gu = (\partial^2 u / \partial x^2, \partial^2 u / \partial x \partial y, \partial^2 u / \partial y^2)$$

applies. Two relevant theorems are given and the proofs are outlined. All results of this paper can also be generalized for the case that the derivatives of the  $m$ -th order are contained in the scalar product and that the coefficients and derivatives depend on  $n$  variables. There are 2 references, both of which are **Soviet**.

ASSOCIATION: Mathematical Institute AS USSR imeni V. A. Steklov  
(Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR)  
PRESENTED: November 16, 1956, by S. L. Sobolev, Member of the Academy

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20-114-3-5/60

Embedding Theorems for a Space With a Metrics That Degenerates on a Recti-  
linear Part of the Boundary of Domain

SUBMITTED: November 13, 1956

Card 3/3

ZAKHAROV, V. K.

20-5-6/60

AUTHOR  
TITLE

ZAKHAROV, V.K.

Embedding Theorems for a Space Having its Metric Degenerating at a finite Number of Internal Points within a Bounded Domain.

(Teoremy vlozheniya dlya prostranstva s metrikoy, vyrozhdayushchey v konechnom chisle vnutrennikh tochek ogranichennoy oblasti.- Russian.)  
Doklady Akademii Nauk SSSR 1957, Vol 114, Nr 5, pp 938-941 (USSR)

PERIODICAL

ABSTRACT

Be it assumed  $D'$  is a finite domain located in the plane of the variables  $(x, y)$ . The author denotes the closed curve limiting the domain  $D'$  with  $\Gamma'$ . The coordinate source is assumed to be located within  $D'$  and for the entire limit  $\Gamma = \Gamma' + (0, 0)$  is assumed to be valid.  $M_0$  is the manifold of all functions steady in  $D'$  which have limited and piece-wise steady deviations and in a certain boundary strip of the domain and in a certain neighborhood of the point  $(0, 0)$  tend towards zero. Next, a manifold consisting of gradients is defined and a scalar product is introduced. A voluminous theorem is given.

The author next investigated the manifold of all functions

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15(1)

AUTHOR:

Zakharov, V.K.

SOV/20-124-4-4, 67

TITLE:

**First Boundary-Value Problem for Second and Fourth Degree Elliptical Equations Degenerating or Having Singularities in a Finite Number of Internal Points in a Region** (Pervaya krayevaya zadacha dlya uravneniy ellipticheskogo tipa vtorogo i chetvertogo poryadkov, vyzhdayushchikhsya ili imeyushchikh osobennosti v konechnom chisle vnutrennikh tochek oblasti)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 747-750 (USSR)

ABSTRACT: The author considers the first boundary value problem for two partial differential equations with two independent variables. In three theorems formulated without proof, the author gives sufficient conditions for the existence of a unique generalized solution  $u=u(x,y)$ . The boundary of the considered domain satisfies the imbedding theorems of S.L.Sobolev. The proofs of the theorems based on the application of the functional method of M.I.Vishik [Ref 3].  
There are 3 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A.Steklova Akademii nauk SSSR (Mathematical Institute imeni V.A.Steklov AS USSR)

PRESENTED: October 8, 1958, by S.L.Sobolev, Academician

SUBMITTED: October 3, 1958

Card 1/1

16(1)

AUTHORS: Sarmanov, O.V., and Zakharov, V.K. SOV/20-128-2-6/59

TITLE: Spectra of Enlarged Stochastic Matrices

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 2, pp 243-245 (USSR)

ABSTRACT: Let  $\{A_i\}$ ,  $\{B_i\}$  be two dependent finite sequences of events with a symmetric table of correlation  $\{p_{ij}\}$ ,  $i, j=1, 2, \dots, n$ :

$$(1) \quad 0 \leq p_{ij} = p_{ji} = P(A_i \cap B_i).$$

Let

$$(2) \quad p_i = P(A_i) = P(B_i) = \sum_{j=1}^n p_{ij} > 0$$

and

$$(3) \quad \sum_{i,j=1}^n p_{ij} = \sum_{i=1}^n p_i = 1.$$

The spectrum of the stochastic matrix

$$(4) \quad \left\{ \frac{p_{ij}}{p_i} \right\}, \quad i, j=1, \dots, n$$

has the form

$$(5) \quad 1 \geq \frac{1}{|\lambda_1|} \geq \frac{1}{|\lambda_2|} \geq \dots \geq \frac{1}{|\lambda_{n-1}|}.$$

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Spectra of Enlarged Stochastic Matrices

SOV/20-128-2-6/59

Some events  $A_i$  (and simultaneously the events  $B_i$  with the corresponding numbers) are united in one event. The authors obtain a stochastic matrix of lower order. Let e.g.  $A'_1 = A_1 \cup A_2$ .

Principal theorem: The eigenvalues  $1/\lambda'_i$  of this enlarged stochastic matrix are always weighted means of the eigenvalues  $1/\lambda_i, 1/\lambda_{i+1}, \dots, 1/\lambda_{n-1}$  of the initial matrix (4), i.e.:

$$(10) \quad \frac{1}{\lambda'_i} = \sum_{k=i}^{n-1} \frac{a_{ik}^2}{\lambda_k},$$

where

$$(11) \quad \sum_{k=i}^{n-1} a_{ik}^2 = 1.$$

Several conclusions are given. There are 2 Soviet references.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova Akademii nauk SSSR  
(Mathematical Institute imeni V.A. Steklov, AS USSR)

PRESENTED: May 18, 1959, by S.N. Bernshteyn, Academician

SUBMITTED: May 15, 1959

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S/039/60/052/004/001/002  
C111/C222

AUTHORS: Sarmanov, O.V., and Zak-harov, V.K. (Moscow)

TITLE: Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

PERIODICAL: Matematicheskii sbornik, 1960, Vol.52, No.4, pp.953-990.

TEXT: The authors consider two continuous dependent random variables in  $\Omega = [a \leq x \leq b, c \leq y \leq d]$ . Let  $F(x,y)$  be the distribution density of  $x$  and  $y$ ; let  $p(x)$  and  $P(y)$  be the a priori distribution densities of  $x$  and  $y$ .  
Let

$$(0.1) \left\{ \begin{array}{l} F(x,y) \geq 0, \int_a^b \int_c^d F(x,y) dx dy = 1, \\ p(x) = \int_c^d F(x,y) dy > 0, \quad P(y) = \int_a^b F(x,y) dx > 0, \\ \int_a^b \int_c^d \frac{F^2(x,y)}{p(x)P(y)} dx dy < \infty. \end{array} \right.$$

The random terms shall have the first and second moments  $m_x, m_y, m_{xy}$ ,

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S/039/60/052/004/001/002  
C111/C222Measures of the Dependence Between Random Terms and Spectra of  
Stochastic Kernels and Matrices $\sigma_x^2, \sigma_y^2$  so that the correlation coefficient

$$(1.1) \quad R_{xy} = \frac{m_{xy} - m_x m_y}{\sigma_x \sigma_y}$$

has a sense. The authors seek functions  $\varphi(x), \psi(y)$  with the property that their correlation coefficient characterizes completely the dependence between  $x$  and  $y$  so that from  $R_{\varphi\psi} = 0$  it follows that  $x$

and  $y$  are independent. It is stated that the determination of  $\varphi$  and  $\psi$  leads to an isoperimetric variation problem for which  $\varphi$  and  $\psi$  under certain conditions give a maximum to the form

$$(1.3) \quad L(\varphi, \psi) = \int_a^b \int_c^d \varphi(x) \psi(y) F(x, y) dx dy$$

Definition 3:  $R^* = \frac{1}{\lambda_1}$ , where  $\lambda_1$  is the first eigennumber of the kernel

$\frac{F(x, y)}{\sqrt{p(x)p(y)}}$ , is called the maximal correlation coefficient.

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

Theorem 1.1: For the independence of the random terms  $x$  and  $y$  it is necessary and sufficient that the maximal correlation coefficient equals zero.

Let  $A_1, A_2, \dots, A_n, P(A_i A_j) = 0, i \neq j$   
 $B_1, B_2, \dots, B_m, P(B_k B_l) = 0, k \neq l$

be two complete series of incompatible events. Let the dependence between these schemes be given by the rectangular correlation table  $\{p_{ij}\}$  ( $i=1, 2, \dots, n; j=1, 2, \dots, m$ ), where

$$(0.3) \begin{cases} p_{ij} = P(A_i B_j) \geq 0, \\ p_i = \sum_{j=1}^m p_{ij} = P(A_i) > 0, & p_j = \sum_{i=1}^n p_{ij} = P(B_j) > 0, \\ \sum_{i=1}^n \sum_{j=1}^m p_{ij} = \sum_{i=1}^n p_i = \sum_{j=1}^m p_j = 1. \end{cases}$$

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Measures of the Dependence Between Random Terms and Spectra of  
Stochastic Kernels and Matrices

Let besides

$$(0.4) \quad p_{ij} = p_{ji} \quad (i, j=1, 2, \dots, n), \quad m = n, \quad P_j = p_j \quad (j=1, 2, \dots, n)$$

(symmetric case). The first eigennumber  $R^{\lambda} = \frac{1}{\lambda_1}$  of the matrices

$$\left\{ \frac{p_{ij}}{\sqrt{p_i p_j}} \right\}, \left\{ \frac{p_{ij}}{p_i} \right\} \quad (i, j=1, 2, \dots, n)$$

is called the maximal correlation coefficient (definition 4). Here, too, it holds theorem 1. In the unsymmetric case, where only (0.3) is valid, two quadratic symmetric matrices

$$(1.16) \quad \left\{ \frac{p_{ij}^{(1)}}{\sqrt{p_i p_j}} \right\} \quad (i, j=1, 2, \dots, n), \quad \left\{ \frac{p_{ij}^{(2)}}{\sqrt{p_i p_j}} \right\} \quad (i, j=1, 2, \dots, m)$$

are formed, where

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

$$(1.7) \quad p_{ij}^{(1)} = \sum_{k=1}^m \frac{P_{ik}P_{jk}}{P_k}, \quad p_{ij}^{(2)} = \sum_{k=1}^n \frac{P_{ki}P_{kj}}{P_k}.$$

Here the correlation coefficient between the first eigenvectors of the matrices (1-16) is the maximal correlation coefficient.

Given the correlation table  $\{p_{ij}\}$ ,  $p_{ij} = p_{ji}$ ;  $i, j=1, 2, \dots, n$ .

Definition: The table  $\{p_{ij}\}$  and the corresponding stochastic matrix

$\left\{ \begin{array}{c} p_{ij} \\ p_i \end{array} \right\}$  is called indifferent for the arithmetization if the correlation

coefficient (calculated with the aid of  $\{p_{ij}\}$ ) between two arbitrary equally distributed vectors having each at least two different coordinates, is always one and the same constant. X

Theorem 2.1: In order that the correlation table is indifferent for the arithmetization it is necessary and sufficient that it has the form

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

(2.6) 
$$\begin{vmatrix} \rho_1^2 \left[ 1 + R \left( \frac{1}{\rho_1} - 1 \right) \right] & \rho_1 \rho_2 (1 - R) & \dots & \rho_1 \rho_n (1 - R) \\ \rho_1 \rho_2 (1 - R) & \rho_2^2 \left[ 1 + R \left( \frac{1}{\rho_2} - 1 \right) \right] & \dots & \rho_2 \rho_n (1 - R) \\ \dots & \dots & \dots & \dots \\ \rho_1 \rho_n (1 - R) & \rho_2 \rho_n (1 - R) & \dots & \rho_n^2 \left[ 1 + R \left( \frac{1}{\rho_n} - 1 \right) \right] \end{vmatrix} \quad (2.6)$$

✓

where R is the constant mentioned in the preceding definition.  
Conclusion: R is the maximal correlation coefficient corresponding to the table (2.6).

Theorem 2.2: In order that the stochastic matrix is indifferent for the arithmetization it is necessary and sufficient that its spectrum has the form  $1, \underbrace{\lambda^{-1}, \lambda^{-1}, \dots, \lambda^{-1}}_{(n-1) \text{ times}}$ .

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

Given two dependent finite schemes of only possible incompatible events  $(A_1^{(1)}, A_2^{(1)}, \dots, A_n^{(1)})$  and  $(A_1^{(2)}, A_2^{(2)}, \dots, A_n^{(2)})$  with a symmetric correlation table  $\{p_{ij}\}$ . The symmetrizable stochastic matrix

$\mathcal{P} = \left\{ \frac{p_{ij}}{p_i} \right\}, i, j=1, 2, \dots, n$  is called the matrix of the given schemes

of events. If two events, e.g.  $A_1^{(i)}$  and  $A_2^{(i)}$  are united:  $A_k^{(i)} = A_1^{(i)} \cup A_2^{(i)}$  then the correlation table changes according to the scheme

$$\left\| \begin{array}{ccc|ccc} \boxed{p_{11}} & \boxed{p_{12}} & \boxed{p_{13}} & \dots & \boxed{p_{1n}} & \\ \boxed{p_{12}} & \boxed{p_{22}} & \boxed{p_{23}} & \dots & \boxed{p_{2n}} & \\ \hline \boxed{p_{13}} & \boxed{p_{23}} & p_{33} & \dots & p_{3n} & \\ \dots & \dots & \dots & \dots & \dots & \\ \hline \boxed{p_{1n}} & \boxed{p_{2n}} & p_{3n} & \dots & p_{nn} & \end{array} \right\| \rightarrow \left\| \begin{array}{cccc} p'_{11} & p'_{13} & \dots & p'_{1n} \\ p'_{13} & p'_{33} & \dots & p'_{3n} \\ \dots & \dots & \dots & \dots \\ p'_{1n} & p'_{3n} & \dots & p'_{nn} \end{array} \right\|$$

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

where  $p'_{11} = p_{11} + 2p_{12} + p_{22}$ ,  $p'_{13} = p_{13} + p_{23}$ , ...,  $p'_{1n} = p_{1n} + p_{2n}$ . Let

$1, \frac{1}{\lambda'_1}, \frac{1}{\lambda'_2}, \dots, \frac{1}{\lambda'_{n-2}}$  be the spectrum of the eigennumbers of the

new matrix.

Theorem 3.1 states that  $\frac{1}{\lambda'_i} = \sum_{k=i}^{n-1} \frac{a_{ik}^2}{\lambda_k}$  ( $i=1,2,\dots,n-2$ ), where  $\frac{1}{\lambda_k}$

are the eigennumbers of the old matrix and the sum of the weights  $a_{ik}^2$  always equals 1.

Theorem 3.2 generalizes this result by a multiple application of the last formula to the case where not two but several events are united so that the new matrix gets a certain order  $m < n$ .

Finally the authors consider the connection between the normal correlation coefficient and other characteristics of dependence between probability schemes. A measure of the dependence the vanishing of which is equivalent with the independence of the random terms, is called "objective".

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Measures of the Dependence Between Random Terms and Spectra of Stochastic Kernels and Matrices

Theorem 4.1: In order that the ordinary correlation coefficient is an objective measure of dependence it is necessary and sufficient that it is identical with the maximal correlation coefficient. In the symmetric case, the ordinary correlation coefficient is given by

$$(4.7) \quad R = \sum_{i,j=1}^n P_{i,j} x_i x_j \quad (\text{discrete case})$$

or

$$(4.8) \quad R = \int_a^b \int_a^b xy F(x,y) dx dy \quad (\text{continuous case}).$$

Theorem 4.2: The correlation coefficient between two equally distributed random terms having at least two different values and combined with a positive definite correlation table, satisfies the inequality

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Measures of the Dependence Between Random Terms and Spectra of  
Stochastic Kernels and Matrices

$$(4.12) \quad \inf_i \frac{1}{\lambda_i} \leq R \leq \sup_i \frac{1}{\lambda_i} = R^*$$

The authors mention A.N.Kolmogorov. There are 9 references: 6 Soviet,  
1 German and 2 American.

SUBMITTED: March 26, 1959

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~~16(1)~~ 16.6100

AUTHORS: Sarmanov, O.V., Zakharov, V.K. SOV/20-130-2-7/69

TITLE: Maximum Coefficients of Multiple Correlation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2,  
pp 269 - 271 (USSR)

ABSTRACT: The random variables  $x_1, x_2, \dots, x_n$  take values from  $\Omega : \{a_i \leq x_i \leq b_i, i = 1, 2, \dots, n\}$ . Let  $R_m$  be subspace of  $R_n$ ,  $m \leq n$ .  $R_m$  is assumed to be decomposed into two disjoint subspaces  $R_k$  and  $R_{m-k}$ . Let  $\Omega_1$  be the intersection of  $\Omega$  and  $R_k$  and  $\Omega_2$  the intersection of  $\Omega$  and  $R_{m-k}$ . Let  $Q, Q_1, Q_2$  be vectors of  $R_m, R_k, R_{m-k}$ . Let  $p(Q)$  be a distribution density in  $\Omega_1 + \Omega_2$ , then the distribution densities in  $\Omega_1$  and  $\Omega_2$  are given by

$$(1) \quad p_1(Q_1) = \int_{\Omega_2} p(Q) dQ_2, \quad p_2(Q_2) = \int_{\Omega_1} p(Q) dQ \quad \checkmark$$

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Maximum Coefficients of Multiple Correlation

SOV/20-130-2-7/69

It is assumed that

$$(2) \int_{\Omega_1 + \Omega_2} \frac{p^2(Q)}{p_1(Q_1)p_2(Q_2)} dQ < \infty$$

Definition : The maximum correlation coefficient  $\bar{F}(Q_1, Q_2)$  for the random vectors  $Q_1$  and  $Q_2$  is defined to be the maximum of the integral

$$(3) I(\varphi, \psi) = \int_{\Omega_1 + \Omega_2} p(Q) \varphi(Q_1) \psi(Q_2) dQ$$

with respect to absolute value, where  $\varphi$  and  $\psi$  run through the functions for which

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## Maximum Coefficients of Multiple Correlation

SOV/20-130-2-7/69

$$(4) \int_{\Omega_1} p_1(q_1) \psi(q_1) d q_1 = \int_{\Omega_2} p_2(q_2) \psi(q_2) d q_2 = 0$$

$$(5) \int_{\Omega_1} p_1(q_1) \psi^2(q_1) d q_1 = \int_{\Omega_2} p_2(q_2) \psi^2(q_2) d q_2 = 1$$

Fundamental theorem: For the complete independence of the random magnitudes  $x_1, x_2, \dots, x_n$  it is necessary and sufficient

that all possible maximum correlation coefficients vanish each one is obtained for two vectors from 2 disjoint subspaces of the  $R_n$ ; the sum of the dimensions of them varies between 2 and  $n$ ).

The authors mention A.N. Kolmogorov.

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Maximum Coefficients of Multiple Correlation

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There are 3 Soviet references.

ASSOCIATION: Matematicheskii institut imeni V.A. Steklova Akademii nauk SSSR (Mathematical Institute imeni V.A. Steklov AS USSR)

PRESENTED: October 8, 1959, by S.N. Bernshteyn, Academician

SUBMITTED: October 6, 1959

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## Transactions of the Sixth Conference (Cont.)

SOV/6371

26. Sarmanov, O. V., and V. K. Zakharov, Change of the Spectrum of a Stochastic Matrix Upon Enlargement 153
27. Sarymsakov, T. A. On One General Theorem Regarding Fixed Points, and Its Connections With Ergodic Theorems 155
28. Sevast'yanov, B. A. Limit Theorems for Branching Processes With Diffusion 157
29. Skorokhod, A. V. On Stochastic Differential Equations 159
30. Stratonovich, R. L. On the Infinitesimal Operator of a Markov Process (Published after Ye. B. Dynkin's Report "Survey of Some Trends in the Theory of Markov Processes") 169
31. Freydlin, M. I. Application of K. Ito's Stochastic Equations to the Investigation of the Second Boundary-Value Problem 173

Transactions of the 6th Conf. on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vil'nyus, 5-10 Sep '60. Vil'nyus :Gospolitizdat Lit SSR, 1962. 493 p. 2500 copies printed



ZAKHAROV, V.K.

Mixed plantations in the Priluki forest tract. Bot.; issl. Bel. otd.  
VBO no.6;144-148 '64. (MIRA 18:7)

BAYDA, L.I., ZAKHAROV, V.K.

Electronic low a.c. voltage regulator. Priborostroenie no.11:13-14  
N '56. (MLRA 10:1)  
(Electronic instruments) (Voltage regulators)

*211 K H H A O U, V. K.*

GOL'DREYER, Iona Gutelevich; BAYDE, L.I., retsensent; ZAKHAROV, K.K.,  
retsensent; MÄHLIN, B.Z., redaktor; ZABRODINA, A.A., tekhnicheskij  
redaktor.

[Voltage regulators] Stabilizatory napriazhenia. Izd. 2-oe,  
perer. Moskva, Gos.energ.isd-vo, 1957. 227 p. (MIRA 10:11)  
(Voltage regulators)

9.7000

S/119/60/000/010/007/014  
B012/B063

AUTHORS: Gol'dbaum, I. Ya., Engineer, Zakharov, V. K., Candidate of Technical Sciences, Trenkin, N. T., Engineer

TITLE: Telecommunication System for Special Digital Computers <sup>16</sup>

PERIODICAL: Priborostroyeniye, 1960, No. 10, pp. 18 - 21

TEXT: This is a description of a telecommunication apparatus, which is used in a system of "centralized" computation and control of financial operations. The present work was carried out at the laboratoriya avtomatiki i telemekhaniki LPI im. M. I. Kalinina (Laboratory of Automation and Telemechanics LPI imeni M. I. Kalinin) jointly with the konstruktorskoye byuro po proyektirovaniyu schetnykh mashin (Design Office for the Planning of Computers). The mode of operation of this system is illustrated by a block diagram shown in Fig. 1. Ordinary blocks of computers were used for it. Fig. 2 shows the circuit diagram of the receiving and transforming apparatus, which is then described in detail. This circuit diagram is characterized by the transformer  $Tp_2$  ( $Tp_5$ ) which has a fer- ✓

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S/119/62/000/010/001/003  
D201/D303

1.15.00  
AUTHORS:

Gol'dbaum, I.Ya. and Zakharov, V.K.

TITLE:

Interference-killing code for remotely controlled transmission systems

PERIODICAL:

Prib'rostroyeniye, no. 10, 1962, 3-4

TEXT:

The analysis of several codes shows that the code "2 from 5" has a relatively high interference immunity and can therefore be used for the transmission of information. Two types of converters of parallel 2 from 5 code into a series code, a converter of binary-decimal code into a series 2 from 5 code and a receiving converter of 2 from 5 code into an ordinary decimal code are described. One of the first two is a ferrite matrix with rectangular hysteresis loop. The other type utilizes the principle of "current steering". The latter is stated to have the advantage of having no pulses of complex shape at the output rails during the registration of the code being formed and that current pulses of considerable magnitude may be obtained (up to 1A with ferrite type ПП -24 (PP-24)). It

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Interference-killing ...

S/119/62/000/010/001/003  
D201/D308

is stated that the circuits described can be used, after certain modifications, for designing other types of code converters. There are 2 tables and 3 figures.

Card 2/2

ACC NR: AP6013889 SOURCE CODE: UR/0020/66/167/006/1238/1241

AUTHOR: Smirnov, N. V. (Corresponding member AN SSSR); Sarmanov, O. V.; Zakharov, Vt K.

ORG: Mathematics Institute im. V. A. Steklov, Academy of Sciences, SSSR (Matematicheskii institut Akademii nauk SSSR)

TITLE: Local limit theorem for the number of transitions in a Markov chain and its application

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1238-1241

TOPIC TAGS: Markov process, transition probability

ABSTRACT: A simple homogeneous Markov chain with s + 1 states E\_i, i = 1, 2, ..., s + 1 and a positive matrix of transition probabilities {P\_ij}, P\_ij > 0, i, j = 1, 2, ..., s + 1 is considered. It is assumed that the initial probability of E\_i is P\_i(i) > 0. A chain consisting of s states among whose elements must be distributed in a definite way a series of states E\_{s+1} is treated. It is noted that the expression for the number of different chains of length n consisting of s + 1 states reduced earlier by the same author (Vestn. LGU, No. 11, 47, 1955) is in error. It is pointed out that the assumption that P\_ij be always positive is not necessary. Orig. art. has: 14 formulas.

SUB CODE: 12/ SUBM DATE: 08Dec65/ ORIG REF: 003/ OTH REF: 001 Cord 1/1 MLP UDC: 519.217

ZAKHAROV, V.Kh.

Interpreting the anomalies of dipole electromagnetic profiling.  
Izv. vys. ucheb. zav.; geol. i razv. 4 no.3:102-106 Mr '61.

(MIRA 14:6)

1. Leningradskiy gornyy institut imeni G.V.Plekhanova.  
(Electromagnetic prospecting)



ZAKHAROV, V.Kh.

Relation between the anomaly and the direction of intersection of a vertical thin stratum in dipole electromagnetic profiling. Izv. AN SSSR. Ser. geofiz. no.12:1818-1822 D '61. (MIRA 14:12)

1. Gornyy institut im. G.V.Plekhanova.  
(Electromagnetic prospecting)

ZAKHAROV, V. Kh.

Interpretation of the anomalies of dipole electromagnetic profiling over solids of revolution (spheres, cylinders). Izv. AN SSSR.Ser.geofiz. no. 4:564-569 Ap '64. (MIRA 17:5)

1. Gornyy institut im. G. V. Plekhanova.

ZAKHAROV, V.Kh.

Modeling a dipole electromagnetic profile. Zap. LGI 46  
no.2:105-110 '63. (MIRA 17:6)

PASKIN, A . A. and ZAKHAROV, V. K.

Lotsia morskogo puti. [Sailing directions for sea navigation]. (Moskva) Morskoj transport, (1951). 288 p.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department , Washington, 1952, Unclassified.

ZAKHAROV, VLADIMIR, Kuz'mich

PASKIN, Aleksandr Aleksandrovich; ZAKHAROV, Vladimir Kuz'mich; IVANOV, K.A.,  
redaktor; MUDRAK, M.P., redaktor; VOLKOVA, I.G., tekhnicheskii redaktor

[Sailing directions for ocean navigation] Lotsia morskogo puti. Iss.  
2-oe, ispr. i dop. Moskva, Izd-vo "Morskoi transport," 1955. 223 p.  
(Navigation) (MLRA 9:1)

BELOBROV, Andrey Pavlovich, professor; ZAKHAROV, V.K., redaktor; IVANOV, K.A.  
redaktor izdatel'stva; TROPIMOV, A.V., tekhnicheskij redaktor.

[A collection of problems in nautical astronomy] Sbornik zadach po  
morekhodnoi astronomii. Moskva, Izd-vo "Morskoi transport," 1956.  
75 p. (MLRA 10:4)

(Nautical astronomy)

ZAKHAROV, V. K., Candidate Phys-Math Sci (diss) -- "Astronomic observations on the sea and their processing". Odessa, 1958. 10 pp (Odessa State U im I. I. Mechnikov), 150 copies (KL, No 24, 1959, 125)

KOZHUKHOV, V.P., dotsent; VORONOV, V.V., kand.tekhn.nauk; GRIGOR'YEV,  
V.V., inzh.; ZAKHAROV, V.K., kand.fiz.-matem.nauk, retsenzent;  
RYBALTOVSKIY, M.Yu., prof., spetsred.; DENISOV, K.N., red.izd-va;  
DROZHZHINA, L.P., tekhn.red.

[Deviations of the magnetic compass] *Deviatsia magnitnogo*  
kompass. Leningrad, Izd-vo "Morskoi transport," 1960. 291 p.  
(MIRA 13:11)

(Compass)



ZAKHAROV, Vladimir Kuz'mich, dots.; KHACHATUROV, V.V., red.; TIKHONOVA,  
Ye.A., tekhn. red.

[Sailing directions] Morskaja lotsia. Moskva, Izd-vo  
"Morskoi transport," 1962. 414 p. (MIRA 16:3)  
(Navigation)

ZAKHAROV, Vladimir Kuz'mich [deceased]; SERKO, G.S., red.

[Organization of navigator duties on merchant ships]  
Organizatsiia shturmanskoi sluzhby na morskikh su-  
dakh. Moskva, Izd-vo "Transport," 1964. 66 p.  
(MIRA 17:7)

ACCESSION NR: AR4028408

S/0275/63/000/011/V004/V004

SOURCE: Referativny\*y zhurnal. Elektronika i yeye primeneniye.  
Svodny\*y tom, Abs. 11V21

AUTHORS: Kovalev, V. V.; Zakharov, V. L.

TITLE: Electronic instrument for the measurement of air humidity

CITED SOURCE: Sb. Issled. v obl. teploobmena i aerodinamiki potokov. Minsk, M-vo vy\*ssh., sredn. spets. i prof. obrazovaniya BSSR, 1963, 18-26

TOPIC TAGS: humidity measurement, air humidity measurement, electronic humidity measurement, hygroscope, air moisture meter, humidity monitor

TRANSLATION: The pickup of the instrument is a parallelepiped made of foamed glass purified of extraneous admixtures, dried, and im-

Card 1/2

ACCESSION NR: AR4028408

pregnated with a 5% solution of lithium chloride. The pickup is connected by means of a high-resistance circuit to the input of a dc amplifier, which consists of two balanced stages. The first stage employs a 2E2P dual electrometric tetrode, and the second employs two 2P1P beam tetrodes. Moisture causes the resistance of the pickup and the current in its circuit to vary. The indicating instrument is connected to the output of the amplifier. A procedure is proposed for calibrating the pickup, and the theory of measurement of air humidity is developed. The temperature range is 15--88C (accuracy 2%). The instrument can be used to monitor humidity in closed rooms. N. M.

DATE ACQ: 26Nov63

SUB CODE: SD, GE

ENCL: 00

Card 2/2

ZAKHAROV, V.L., inzh.

Study of the heat transmission of humid air. Izv.vys.ucheb.zsv.;  
energ. 5 no.5:104-110 My '62. (MIRA 15:5)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy  
teplogazosnabzheniya i ventilyatsii.

(Heat-Transmission) (Air-Thermal properties)

MIKHAYLOV, A.V. (Chitinskaya obl.); BEVZ, G.P. (Kiyev); GISIN, B.V.,  
(Alma-Ata); SANDLER, TS.M (Sumy); AVERBUKH, M.P. (Leninabad);  
SHNIPOR, B.H. (Vinnitsa); ZAKHAROV, V.L. (Minsk); YASINOVYY,  
E.A. (Kuybyshev); VOSKRESENSKIY, S.N. (Kuybyshev)

Problems. Mat.v shkole no.4:94-95 J1-Ag '59.  
(MIRA 12:11)  
(Geometry--Problems, exercises, etc.)

BOLOTOV, B.V.; ZAKHAROV, V.M.

Compensation of the analog memory errors of a magnetic memory device.  
Izv. vys. ucheb. zav.; radiotekh. 4 no. 2:215-217 Mr-Ap '61.

(MIRA 14:5)

1. Rekomendovana kafedroy dal'ney svyazi Odesskogo elektrotekhni-  
cheskogo instituta svyazi.

(Magnetic memory (Calculating machines))

L 62236-65 EWT(d)/EWP(1) IJP(c) EG

ACCESSION NR: AR5004635

S/0274/64/000/011/V005/V005  
621.395.66

SOURCE: Ref. zh. Radiotekhn. i elektrosvyaz'. Sv. t., Abs. 11V25

12  
B

AUTHOR: Zakharov, V. M.

TITLE: Determining overcontrol at the output of a series of controllers

CITED SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 19, 1964, 117-125

TOPIC TAGS: controller, AGC device, overcontrol

TRANSLATION: Various mathematical methods of approximate determination of overcontrol in amplifiers connected in series with AGC devices are considered. The Laplace method and the stationary-phase method are considered. The first method yields better results with the controllers having a pronounced peak in their amplitude-frequency characteristic, while the second method is better with monotonous amplitude-frequency characteristics. Both methods are satisfactory even with a small number of controllers connected in series. An inference is offered that the sharp peaks in the controller amplitude-frequency characteristic should be avoided in designing the controller.

SUB CODE: EG

ENCL: 00

Card 1/1



YEGOROV, Yu.,L.; KASPAROV, A.A.; ZAKHAROV, V.M.

Materials concerning the toxicology of synthetic fatty acids.  
Uch. zap. Mosk. nauch.-issl. inst.san. i gig. no.9:40-46 '61  
(MIRA 16:11)

\*

S/126/62/014/004/015/017  
E193/E383

AUTHORS: Tyapunina, N.A., Predvoditelev, A.A., Yurasova, V.Ye.,  
Gusarova, S.M. and Zakharov, V.M.

TITLE: Distribution of impurities and dislocations in cadmium  
crystals

PERIODICAL: Fizika metallov i metallovedeniye, v. 14, no. 4,  
1962, 582 - 588

TEXT: It has been established by Borovskiy et al (Kristallografiya, 1962, 7, no. 4) that zinc tends to segregate at dislocations in cadmium crystals, the points of emergence of dislocations on the surface of a polished specimen being revealed by etching pits. It has also been found that in some specimens two systems of etch figures can be observed, their dimensions being about 1 - 2  $\mu$  and about 0.1  $\mu$ , respectively. The object of the present investigation was to elucidate the causes of the appearance of these two systems of etch figures by studying the effect of the zinc concentration on the size and shape of the etching pits. The concentration of zinc in the experimental cadmium-zinc alloy specimens ranged from 0.01 - 10%. Electrolytic  
Card 1/4

S/126/62/014/004/015/017

E193/E383

Distribution of impurities ....

and ion-bombardment etching techniques were used to produce the etching pits. The etch figures were examined with the aid of an optical microscope in the case of alloys containing less than 4% Zn, an electron microscope being also used to examine the alloys with lower Zn contents. In some cases, cine-photography was employed to study the process of formation of etch figures. The angle between the surface of the polished specimen and the basal plane (0001) of cadmium ranged from 0 - 90°. Rows of small etching pits were observed in specimens with the zinc content lower than 1%. Both small and coarse etching pits were formed as the zinc concentration increased. In specimens with 4% Zn the formation of isolated hexagonal pits was observed. Starting from the zinc concentration of 6%, plate-like pits of regular hexagonal shape formed in the (0001) plane were observed only. The density of the small and coarse etch figures was practically independent of the zinc concentration, which supported the view that the etch pits corresponded to the points of emergence of the dislocations on the surface of the specimens. The results of measurements of the etch pits formed on various alloys are reproduced in Fig.6, where the relative number ( $n_i / \sum n_i$ ) of pits in a given specimen

Card 2/4

Distribution of impurities ....

S/126/62/014/004/015/017  
E193/E383

is plotted against the etch-pits dimensions ( $d, \mu$ ), the various graphs relating to alloys with the Zn content indicated. Comparison of these distribution curves with the constitution diagram of the cadmium/zinc system shows that alloys with a Zn content lower than the limit of its solid solubility in Cd at room temperature are characterized by one system of (small) etch figures. Two systems of etch figures are formed in two-phase alloys, each with a characteristic size of etching pit. It can be postulated that the system of the coarse etch figures corresponds to dislocations decorated by the second-phase precipitates, whereas the fine etch figures correspond to dislocations with increased solute concentration, i.e. to Cottrell atmospheres. The results of the present investigation were taken as a proof that the presence of dislocations considerably affected the distribution of Zn in the alloys studied. There are 6 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.  
M.V. Lomonosova (Moscow State University im.  
M.V. Lomonosov)  
October 2, 1961

SUBMITTED:  
Card 3/4

L 18440-66 EAT(d)/EWP(1) IJP(o) BB/GG

ACC NR: AP6006388

SOURCE CODE: UR/0413/66/000/002/0118/0118

INVENTOR: Zakharov, V. M.; Ashman, A. Ye.; Bolotov, B. V.

ORG: none

TITLE: A magnetic analog memory unit. <sup>166,44</sup> Class 42, No. 178179

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 118

TOPIC TAGS: analog computer system, computer memory

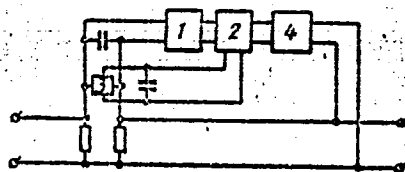
ABSTRACT: This Author's Certificate introduces a magnetic closed analog memory unit which contains a null indicator, a shaper and a switching circuit. Reliability and accuracy are improved by connecting the mismatch signal shaper through a two-way switch to the null indicator and the pulse shaper. One pulse shaper input is connected to the switching circuit, and the other is connected to a full wave magnetic memory element.

Card 1/2

UDC: 681.14.001.57

L 18440-66

ACC NR: AP6006388



1 - null indicator; 2 - shaper; 3 - switching circuit;  
4 - full wave magnetic memory element.

SUB CODE: 09/ SUBM DATE: 23Nov62

Card 2/2 170

ZAKHAROV, V.M.; KOL'NER, G.M.

Single-cycle parallel summation device using ferrites and transistors (summator without transfer). Trudy MEI no.41: 45-56 '62. (MIRA 16:7)

(Electronic computers—Circuits)

ZAKHAROV, V. M. Cand Med Sci -- "On <sup>Amplitude in</sup> ~~changes of~~ higher nervous activity ~~and~~  
and arterial pressure <sup>upon</sup> ~~with~~ the action <sup>upon the organism</sup> of small doses of internal ~~sodium~~ irradiation  
<sup>with sodium</sup> ~~in the organism.~~" Mos, 1960 (Acad Med Sci USSR. Inst of Labor Hygiene and  
<sup>Occupational</sup> ~~Professional~~ Diseases). (KL, 1-61, 207)



ZAKHAROV, V.M.

New system of inspection in the winder sections. Tekst.prom.  
19 no.12:81 D '59. (MIRA 13:9)  
(Ivanovo--Cotton spinning)

ZAKHAROV, V. M.

659 Posobiye po proeyktirovaniyu kavalou suyazi po simmerrichnaya - liniyam. Odessa, 1954. 20sm. (M-vo suyazi SSSR. Odes. Elektortekhn. in-t suyazi Kafeora dal'ney suyazi). B. ts. - Sosr. ukazany v kovtse teksra. Ch. 1. Osobennosti proyektirovaniya kanolov suyazi po s'mmerrichnym kabel'nyam liniyam. 32s s chert. 300 eks. - (54-55371) 641.39.052.0011

SO: Knishnaya Letopis, Vol 1, 1955

ШАХАРОВ, В.М., инженер, преподаватель; РУЗНИНСКИЙ, Д.П., инженер.  
кандидат технических наук.

Tuning differential bridge filters for voice-frequency carrier  
telegraphy. Vest.svyazi 16 no.11:6-8 N '56. (MIRA 10:1)

1. Odesskiy elektrotekhnicheskiy institut svyazi.  
(Telegraph)

ZAKHAROV, V.M.

On changes in conditioned reflex activity of white rats caused by small doses of internal radiation. Zhur.vys. nerv. deiat. 11 no.2: 361-369 Mr-Apr '61. (MIRA 14:6)

1. Laboratory of Radiobiology, Erisman Research Institute of Hygiene, Moscow.

(RADIOACTIVITY---PHYSIOLOGICAL EFFECTS) (CONDITIONED RESPONSE)  
(SODIUM---ISOTOPES)