

Mathematical statistics

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Appendix II

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AVAILABLE: Library of Congress
Card 6/6LK/mal
June 30, 1958

VENETSKIY, Il'ya Grigor'yevich; KIL'DISHEV, Grigoriy Semenovich; BOYARSKIY,
A.Ya., professor, nauchnyy redaktor; SHENTSIS, Ye.M., redaktor;
VINGRADOVA, V.A., tekhnicheskii redaktor

[Manual of mathematical statistics] Posobie po matematicheskoi stati-
stike. Moskva, Gos. statisticheskoe izd-vo, 1956. 201 p. (MLRA 10:3)
(Mathematical statistics)

~~BOYARSKII, Aron Yakovlevich; SHENTSIS, Ye.M., redaktor; VINOGRADOVA, V.A.,
tekhnicheskii redaktor~~

[Mathematics for economists; elements of the analysis of infinitesimals, theory of probabilities and mathematical statistics]
Matematika dlia ekonomistov; elementy analiza beskonечно malykh, teorii veroiatnosti i matematicheskoi statistiki. Moskva, Gos. izd-vo, 1957. 366 p. (MLBA 10:9)
(Economics, Mathematical)

BOYARSKIY, A-Ya.
Card 4

AUTHOR: None Given

2-4-2/7

TITLE: The All-Union Conference of Statisticians (Vsesoyuznoye soveshchaniye statistikov)

PERIODICAL: Vestnik Statistiki, 1957, # 4, pp 12 - 49 (USSR)

ABSTRACT: By order of the Government, the USSR TsSU (Central Statistical Administration attached to the Council of Ministers) held an All-Union Conference of Statisticians in Moscow from 4-8 June 1957, in which more than 650 persons participated. V.N. Starovskiy, Chief of the USSR TsSU, reported on the first subject on the agenda: "Practical and scientific problems of statistics arising from the decisions of the TsK KPSS February Plenum concerning the further improvement in organizing the administration of industry and construction trade". The main problem before the Soviet state statistics is presently, to ensure a centralized system of recording, primarily in industry and the construction trade. The article deals further with the present inflated system of statistics, stating that with the reorganization of the administrations of industry and the construction trade, it will now become possible to deliver and process all statistical records within the organs of state statistics. The

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latter will receive all the required statistical records direct from the enterprises controlled by the Sovnarkhozes, process them, and submit the required data to the Sovnarkhozes, local Party and Soviet organs, Council of Ministers of the USSR Republics and to the planning commissions. The TsSU will process the statistical data according to territory and branches, and submit it to the USSR Government and the Gosplan.

Computer stations will be organized at the statistical administrations of all the oblast's, krays and republics where Sovnarkhozes were established, and central computer stations will be set up at the USSR TsSU and at the statistical administrations of those republics where several Sovnarkhozes exist. Beginning in June 1957, all the records on industry and construction trade will be submitted to the local TsSU organs. In addition to those already in existence, 107 new mechanical computer stations must be established by June 1957.

The reporter further pointed out that the centralization of statistics will also be extended to other branches of the national economy, such as agriculture, trade, health service, education, and to industry controlled by local authorities. He also mentioned the publication of a number of statistical journals which began

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in 1956. A continuation in popularizing statistical data and in furnishing scientific institutions with statistical material, is regarded as one of the most important duties of the TsSU.

The reporter mentioned a conference held by the Moscow Economic-Statistical Institute (Moskovskiy ekonomiko-statisticheskiy institut) on questions of statistical methodology in studying the productivity of labor. It lasted from 24 - 27 December 1956, with a participation of 390 persons.

Favorable results were achieved in the collaboration of the TsSU with the Institute of Economics of the USSR Academy of Sciences, the Scientific Conjuncture Research Institute of the Ministry of Foreign Trade, the Nutrition Institute of the USSR Academy of Medical Science, and with other scientific organizations. An example of fruitful cooperation was seen in the October 1956 conference of statisticians of countries which are partners in the Council of Mutual Economic Assistance, where census questions were discussed.

The report of V.N. Starovskiy was followed by debates in which a number of persons participated. B.T. Kolpakov, Chief of the RSFSR Statistical Administration, stated that it was necessary to increase sharply the standard of economic work

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of the statistical administrations and of the district and city inspection offices. Professor V.S. Novikov of the Moscow Institute of Economics and Statistics dealt with the question of development of statistical science. D.S. Shemetun, Chief of the Statistical Administration of the Drogobych Oblast', Ukrainian SSR, stressed the necessity for submitting correct and authentic data. A.G. Pervukhin, Chief of Planning Administration of the Ministry of Coal Industry, paid special attention to questions connected with the reduction, simplification and unification of records. Doctor of Economics, A.Ya. Boyarskiy, Professor of the Moscow Institute of Economics and Statistics urged that the level of work of all the TsSU offices should be raised considerably. M.S. Markin, Chief of Ukrainian SSR Statistical Administration, stated that 11 administrative economic districts are being established in the Ukraine. The established Sovnarkhozes are large economic productive associations. Academician V.S. Nemchinov spoke about mechanization in the processing of statistical materials. While giving his approval of analytical computing machines, he recommends that electronic computers be introduced in the large economic districts and centers of the USSR Republics. He proposed that an Institute of Statistical Methodology be established and attached to the TsSU and the USSR Academy of Sciences, and that an All-Union Statistical Society

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be founded. L.M. Volodarskiy, Deputy Chief of the TsSU; V.V. Doroshenko, Chief of the Statistical Administration, Mogilev Oblast'; V.P. Perepelkin, Chief of the planning section of a machine construction plant; V.I. Pereslegin, Chief of Book-keeping and Accounting Administration of the USSR Finance Ministry; N.V. Tsogoyev, Chief of the Stavropol' Kray Statistical Administration, and T.U. Uvashev, Chief of the Kazakh SSR Statistical Administration; participated in further discussions. T.V. Ryabushkin, Chief of the Statistical Section, Institute of Economics of the USSR Academy of Sciences, welcomes the actions directed toward the development of a system of centralized state statistics. Academician S.G. Strumilin, considering Soviet statistics as the best in the world, indicates a number of deficiencies especially in the field of agricultural statistics. V.E. Ovsienko, Director of the Moscow Institute of Economics and Statistics, dealt with the question of training cadres for mechanization of accounting and statistical work.

The article mentions a number of other scientists who participated in the debate and summarizes the reporter's concluding speech. The resolution adopted by the Conference thereafter aims at a substantial improvement in the management of the

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building trade and at a removal of the numerous departmental barriers. The reconstruction of the administration of industry and building trade on territorial principles will create the necessary conditions for eliminating superfluous recording and accounting.

The resolution itself is broken up into 5 parts. The first part deals with the centralization of recording and statistics which will eliminate parallelism, and considerably reduce the recording system.

The second part deals with the simplification in recording and accounting, the mechanization of the statistical work and computer stations.

The third part emphasizes the improvement of the analysis of the statistical material. It is also recommended that accounting balances of the income and expenditures of the population, of labor, of production and distribution of the different kinds of production be compiled regularly on a territorial basis.

Part four of the resolution deals with the further development of statistical science and the improvement of methodological work on statistics. Among the problems which the conference considered were: a) questions of classification of industrial branches, b) questions of working out territorial indexes, c) working out methodological foundations for inter-district com-

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parisons for a number of indices for the development of industry and construction trade.

The resolution also emphasizes the necessity to increase the participation of scientific institutions in solving problems of statistics. The establishment of an All-Union scientific-research institute on statistics is also demanded. It requests that the USSR Academy of Sciences and the TsSU create an All-Union Statistical Society as an organization of USSR statisticians, that a bulletin containing the results of statistical works be published, that the journal "Vestnik Statistiki" be issued on a monthly basis instead of bimonthly, and that the printing of statistical literature be increased.

The last part deals with the necessity of training personnel for mechanization of accounting and statistical work.

AVAILABLE: Library of Congress

Card 7/7

BOYARSKIY, A. I.

"An Experiment in the Theory of a Census with Control Bounds."

paper submitted at 31st International Statistical Institute, Brussels, 2-8 Sep '58.

BOYARSKIY, A. U/A.

AUTHOR: Boyarskiy, A.

2-2-7/12

TITLE: Categories of Population to be Listed in a
Census (O kategoriyakh naseleniya, uchityvayemogo pri perepi-
syakh)

PERIODICAL: Vestnik Statistiki, 1958, # 2, pp 61 - 66 (USSR)

ABSTRACT: The author gives some recommendations supposed to ensure a
proper census taking in 1959.

The census takers will have to register either present
or constant population. The first consists of all permanent
residents, excluding those temporarily absent, but including
those temporarily present. The constant population in-
cludes all persons temporarily absent, but does not include
persons temporarily present. It depends on the census taker
whether a man will be put into the right category or not.

After giving instructions to the census-taking personnel, the
author points out that the uniformity of regulations and their
strictest observation is the first rule in carrying out stati-
stical investigations. Every mistake made in determining the
statistical category of a man will lead inevitably to false
results.

Card 1/2

Categories of Population to be Listed in a Census

2-2-7/12

There is one sketch.

AVAILABLE: Library of Congress

Card 2/2

KHOTIMSKIY, Valentin Ivanovich, statistik-kommunist; BOYARSKIY, A.Ya.,
red.; PYATAKOVA, N.D., tekhn.red.

[Aligning statistical series by the method of least squares
(Chebyshev's method) and tables for the derivation of
equations for parabolic curves] Vyravnivanie statisticheskikh
riadov po metodu naimen'shikh kvadratov (sposob Chebysheva)
i tablitsy dlia nakhozheniia uravnenii parabolicheskikh
kriviykh. Izd.2. Moskva, Gos.stat.izd-vo, 1959. 85 p.
(MIRA 12:6)

(Mathematical statistics)

Boy ARSKiy, A. Ya.

- 8) A. Ya. Arskiy - The Differential Equations of Expanded Reproduction
 - 9) V V Babitskiy - Optimal Planning and Economic Indicators
 - 10) A A Bayev - Mathematical Analysis of the Dynamic Competition of Production
 - 11) B I Babitskiy - Mathematical Analysis of Prices and Proportions in the National Economy (Primarily in Determining the Economic Efficiency of Capital Investment)
 - 12) B I Babitskiy, A P Kuznetsov - Price Relationships in Expanded Reproduction
 - 13) I N Baidin and V N Shabanov - Statistical [sic] and Dynamic Models of a Rational National Economic Balance in Physical Terms
6. Working Session - 15 December 1979, 1600 hours
- IV. The Theory of Linear Programming
 - 1) G S Babitskiy - Review of Methods for the Solution of Linear Programming Problems
 - 2) A I Izrael - Algorithmic Solutions of Transport Problems Through Approximation by Means of Hypothetically Optimal Plans
 - 3) D P Chelintsev - The Algebra of Linear Programming
 - 4) V V Chelintsev - Recommendation for a Method of Re-computing Matrix Coefficients of Linear Programming Problems
 - 5) N Chelintsev - A Practical Interpretation of Kozlovskiy's Controlling Multipliers
 - 6) S Ilov and I Kuznetsov - Linear Programming Methods and Material Supply
7. Working Session - 16 December 1979, 1000 hours
- III. Economic Models and Dynamic Programming
 - 1) V V Kuznetsov - Mathematical Models of the National Economy in Economic Equilibrium and a Critique Thereof
 - 2) B I Babitskiy - Mathematical Methods of Determining the National Economic Balance
 - 3) V V Babitskiy - Generalized Economic Cycle Models and Economic Models of Problems in the Field of Dynamic Programming in Economic Research
 - 4) V V Babitskiy - Problems in the Field of Dynamic Programming in Economic Research
 - 5) I Gorbunov - Single-Period Economic Models and the Analysis of Certain Economic Indicators
 - 6) V I Kuznetsov - The Dynamic Programming Method and Its Use in Economic Models
 - 7) B I Kuznetsov - Building (Constructing) Matrix as a Model for the Solution of Mathematical Problems in Long-Term Economic Planning
8. Working Session - 16 December 1979, 1600 hours
- IV. The Transportation Problem
 - 1) B I Kuznetsov - Finding the Most Suitable Assignment of Various Types of Fleet Vessels to Lines
 - 2) A N Pyralov - Extrapolation Methods in Economic Research on the Optimal Spatial Distribution of Projects
 - 3) S P Bagdasaryan - The Application of Linear Programming to Air Transport Economics

Report submitted at the Soviet Conference on Problems in the Application of Mathematical Methods in Economic Research, Leningrad, 18-21 January 1980.

BOYARSKIY, Aron Yakovlevich; STRONGIN, V.L., red.; MELENT'OV, A.N., tekhn.
red.

[Mathematics for economists] Matematika dlia ekonomistov. Izd.2.,
perer. i dop. Moskva, Gosstatizdat TsSU SSSR, 1961. 463 p.

(MIRA 14:3)

(Economics, Mathematical)

YEZHOV, Anatoliy Ivanovich; BOYARSKIY, A.Ya., red.; SHENTSI, Ye.M.,
red.; PONOMAREVA, A.A., tekhn. red.

[Flattening and calculation of distribution series] Vy-
ravnivanie i vychislenie riadov raspredelenii. Moskva,
Gosstatizdat, 1961. 335 p. (MIRA 15:3)
(Mathematical statistics)

BoyarSKIy, A.
BOYARSKIY, A.

On the problem of applying mathematics to economics. Vop. ekon.
no. 2:59-72 F '61. (HIRA 14:2)
(Economics, Mathematical)

MIKHALEVSKIY, B.N.; NEMCHINOV, V.S., akad., otv. red.; BOYARSKIY, A.Ya., prof., doktor ekon. nauk, red.; DOBRUSHIN, R.L., kand. fiz.-mat. nauk, red.; MSTISLAVSKIY, P.S., kand. ekon. nauk, red.; KHOMYAKOV, A.I., red.izd-va; TIKHOMIROVA, S.G., tekhn. red.

[Transactions of the Conference on the Application of Mathematical Methods in Economic Research and Planning] Trudy Nauchnogo soveshchaniya o primeneni matematicheskikh metodov v ekonomicheskikh issledovaniakh i planirovani, Moscow, 1960. Moskva, Izd-vo Akad. nauk SSSR. Vol.2. [Mathematical analysis of expanded production] Matematicheskii analiz rasshirennogo vosproizvodstva. 1962. 266 p. Vol.3. [Interbranch balance of the means of production and its distribution in the national economy] Mezhotraslevoi balans proizvodstva i raspredelenia produktsii v narodnom khoziaistve. 1962. 342 p. Vol.7. [Mathematical statistics] Matematicheskaya statistika. 1962. 232 p. (MIRA 15:5)

(Continued on next card)

MIKHALEVSKIY, B.N.--- (continued) Card 2.

1. Nauchnoye soveshchaniye o primeneni matematicheskikh metodov v ekonomicheskikh issledovaniyakh i planirovani, Moscow, 1960. 2. Laboratoriya po primeneniyu matematicheskikh metodov v ekonomicheskikh issledovaniyakh i planirovani Akademii nauk SSSR (for Mikhalevskiy). 3. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (for Boyarskiy),
4. Institut ekonomiki Akademii nauk SSSR (for Mstislavskiy).
(Economics, Mathematical--Congresses)

BOYARSKIY, Aron Yakovlevich; SHENTSI, Ye.M., red.; PYATAKOVA, N.D.,
~~tekh. red.~~

[Studies on mathematical economics] Matematiko-ekonomicheskie
oчерki. Moskva, Gosstatizdat, 1962. 399 p. (MIRA 15:9)
(Economics, Mathematical)

SAVINSKIY, D.V., prof.; BOYARSKIY, A.Ya.; PODVARKOV, G.A.; CHEKANSKIY,
N.A.; GROMYKO, G.L. TRUDOVA, M.G.; YEFIMOV, O.S., red.;
KOZLOVA, T.A., tekhn. red.

[Economic statistics]Ekonomicheskaya statistika; kurs leksii.
Pod red. D.V.Savinskogo. Moskva, Izd-vo Mosk. univ., 1962. 270 p.
(MIRA 16:2)

1. Moscow. Universitet. Kafedra statistiki.
(Statistics)

VENETSKIY, Il'ya Grigor'yevich; KIL'DISHEV, Grigoriy Semenovich;
BOYARSKIY, A.Ya., nauchnyy red.; PREVEZENTSEVA, A.G., red.;
IL'YUSHENKOVA, T.P., tekhn. red.

[Basic principles of mathematical statistics] Osnovy matema-
ticheskoi statistiki. Moskva, Gosstatizdat, 1963. 307 p.
(MIRA 16:6)

(Mathematical statistics)

LANGE, Oskar; BOYARSKIY, A.Ya., red.; ZAYTSEV, N.V., red.

[Introduction to econometrics] Vvedenie v ekonometriku.
Pod obshchei red. i s predisl. A.IA.Boiarskogo. Moskva,
Izd-vo "Progress," 1964. 294 p. (MIRA 17:5)

YASTREMKin, Boris Sergeyevich, zasl. deyatel' nauki, prof.;
BOYARSKIY, A.Ya., prof.

[Selected works] Izbrannye trudy. Sost. i nauchn. red.
A.IA.Boiarskii. Moskva, Statistika, 1964. 389 p.
(MIRA 17:10)

BOYARSKIY, B., kand. biolog. nauk

Plant Protection Experiment Station. Zashch. rast. ot vred.
i bol. 10 no.12:13-15 '65. (MIRA 19:1)

1. Direktor stantsii zashchity rasteniy Moskovskoy ordena Lenina
sel'skokhozyaystvennoy akademii im. Timiryazeva.

BOYARSKIY, B.G., aspirant

Methods of preserving Xovirus antigens [with summary in English].
Izv. TSKhA no.2:221-223 '61. (MIRA 14:8)

(Virus diseases of plants)
(Antigens and antibodies)

BOYARSKIY, B.G.; PLOTNIKOV, V.F.; SOBOLEVA-DOKUCHAYEVA, I.I.; TSVETKOVA, N.N.;
ABRAMENKO, V.V.

Information and brief news. Zashch. rast. ot vred. i bol. 8
no.4:56-59 Ap '63. (MIRA 16:10)

(Plants, Protection of)

BOYARSKIY, B.G., kand. biolog. nauk.

Serodiagnosis in plant protection. Zashch. rast. ot vred. i bol.
9 no.12:36-37 '64. (MIRA 18:4)

1. Opytnaya stantsiya zashchity rasteniy Moskovskoy ordena
Lenina sel'skokhozyaystvennoy akademii imeni K.A.Timiryazeva.

BOYARSKIY, B. V.

"Some Boundary Value Problems for an Elliptic System With Two Independent Variables." Cand Phys-Math Sci, Moscow State U, Moscow, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: Sum. No. 556, 24 Jun 55

BOYARSKIY, B. [V]

USSR/Mathematics

Card 1/2 Pub. 22 - 2/59

Authors : Boyarskiy, B. [V]

Title : On certain boundary problems of a system of equations of the elliptical type in partial derivatives of the first order

Periodical : Dok. AN SSSR 102/2, 201-204, May 11, 1955

Abstract : An analysis is presented of two boundary problems consisting in determining the complex solutions of the following equation: $\frac{\partial U}{\partial z} = AU$.

The first problem seeks continuous regions T of the plane Z under the following boundary condition

$$\operatorname{Re} \left[a \frac{\partial U_t}{\partial z} + bU \right] = \gamma, \quad \frac{\partial U_t}{\partial z} = \lim_{z \rightarrow t} \frac{\partial U}{\partial z}, \quad z \in T, \quad t \in L.$$

Institution : Moscow State University imeni M. V. Lomonosov

Presented by: Academician S. L. Sobolev, February 15, 1955

Card 2/2 Pub. 22 - 2/59

Periodical : Dok. AN SSSR 102/2, 201-204, May 11, 1955

Abstract : The second problem seeks continuous (in the T + L) solutions of the above equation under the following boundary condition:

$$\operatorname{Re} \left[aU + \int K(t, t_0) U(t) dt \right] = f(t_0).$$

The analysis is carried out on the basis of the results obtained by the boundary problems, which are applicable to the theory of envelopes, presented in the Math. Symposium 32(73): 2 (1952). Three USSR references (1946-1952).

BOYARSKIY, B. V.

USSR/ Mathematics - Elliptical equations

Card 1/1 Pub. 22 - 1/53

Authors : Boyarskiy, B. V.

Title : Homeomorphic solutions of the Beltrami systems

Periodical : Dok. AN SSSR 102/4, 661-664, June 1, 1955

Abstract : A proof is presented of the fact, that the solution of the Beltrami system of equations built by vacua,

$$w_{\bar{z}} - q(z)w_z = 0, \quad q(z) = \frac{-\alpha + i(1-\beta)}{-\alpha + i(1+\beta)}$$

represents a homeomorphic mapping of the plane Z on the plane w even in those cases, when the $q(z)$ is nothing but a measurable function. Simultaneously, some other properties of the solution are studied. Seven references: 1 USA, 2 German and 4 USSR (1933-1955).

Institution : The V. M. Lomonosov State University, Moscow

Presented by : Academician A. N. Kolmogorov, March 1, 1955

Boyarshil, B. V. On solutions of a linear elliptic system
of differential equations in the plane

... in which γ is a Hölder condition at the origin. Let $f(z)$ be an analytic function defined in the unit disc D and assume that f satisfies a Hölder condition at the origin. Let D be the unit disc and assume that f satisfies a Hölder condition at the origin. Let $f(z)$ be an analytic function defined in the unit disc D and assume that f satisfies a Hölder condition at the origin.

B... B.V.

Schapiro's theorem in the form...

BoyarSKIY, B.V.

AUTHOR: BOYARSKIY, B.V. (Warszawa) 39-43-4-3/4
 TITLE: Generalized Solutions of a System of Differential Equations of Elliptic Type of First Order With Discontinuous Coefficients (Obobshchennyye resheniya sistem differentsial'nykh uravneniy pervogo por-yadka ellipticheskogo tipa s razryvnymi koeffitsiyentami)
 PERIODICAL: Matematicheskiy Sbornik, 1957, Vol 43, Nr 4, pp 451-503 (USSR)
 ABSTRACT: The author considers linear systems

$$(1) \begin{cases} v_y = \alpha u_x + \beta v_y + au + bv + e \\ -v_x = \gamma u_x + \delta u_y + cu + dv + f \end{cases}$$

where $\alpha, \beta, \gamma, \delta$ are measurable functions and satisfy the condition $4\alpha\delta - (\beta + \gamma)^2 \gg k_0 > 0$. By introduction of the complex variable $w(z) = u + i v$ (1) is brought into the form

$$(2) \quad w_z - q_1(z)w_z - q_2(z)\bar{w}_z = Aw + B\bar{w} + C.$$

Then this equation is investigated whereby it is supposed that the equation is defined in a bounded domain G , that $q_1(z)$ and $q_2(z)$ are measurable, $|q_1(z)| + |q_2(z)| \leq q_0 < 1$

Card 1/3

Generalized Solutions of a System of Differential Equations 39-43-4-3/4
of Elliptic Type of First Order With Discontinuous Coefficients

almost everywhere in G , and that $A, B, C \in L_p(G)$, $p > 2$.

Just like in his former publications [Ref.2, 3] the author applies a method proposed by Vekua [Ref.1] which is based on an inequality of Calderon and Zygmund [Ref.4] allowing a much simplified treatment of the subject in L_p , $p > 2$. At first Beltrami's system $w_{\bar{z}} - q(z)w_z = 0$ is considered, then the more complicated one $w_{\bar{z}} - q(z)w_z = Aw + B\bar{w}$ and finally (2). The structure of the generalized solutions is investigated, different representations of the solutions are obtained and from these a series of properties and exact estimations is derived. In particular it follows that the solutions of (1) are closely connected with analytic functions of a complex variable. A general theorem of existence is set up which in many cases allows an immediate construction of the solution. For $a=b=c=d=e=f=0$ and otherwise continuous coefficients the generalized solutions of (1) are identical with the quasi-conformal mappings according to Lavrent'ev. With the aid of the developed theory the uniqueness of the quasi-conformal mapping of a simply connected domain onto the unit circle is proved. Some examples of application are considered: the Dirichlet problem for the circle,

Card 2/3

Generalized Solutions of a System of Differential Equations $39-42-4-3/4$
of Elliptic Type of First Order With Discontinuous Coefficients

correctness of the Cauchy problem etc. 25 theorems and numerous lemmata and consequences are presented. A small part of the very comprehensive paper was already published as an announcement [Ref.2] . 18 Soviet and 13 foreign references are quoted.

SUBMITTED: 21 January 1957

AVAILABLE: Library of Congress

1. Differential equations--Theory

Card 3/3

BOYARSKIY, B.V.

Homotopic classes of matrix functions. Soob. AN Grus.SSR 21
no.3:263-269 S '58. (MIRA 12:4)

1. AN SSSR, Matematicheskiy institut im. V.A. Steklova, Moskva.
Predstavleno akademikom I.N. Vekua.
(Functional analysis)

BOYARSKIY, B.V.

~~Stability~~ of the Hilbert problem for a holomorphic vector.

Soob. AN Gruz. SSR 21 no.4:391-398 0 '58.

(MIRA 12:4)

1. AN SSSR, Matematicheskiy institut im. V.A. Steklova, Moskva.
Predstavleno akademikom I.N. Vekua.

(Functional analysis)

AUTHOR: Boyarskiy, B.V. 20-119-2-1/60

TITLE: On a Boundary Problem of the Theory of Functions (Ob odnoy granichnoy zadache teorii funktsiy)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 2, pp 199-202 (USSR)

ABSTRACT: Let G be an $(m+1)$ -tuply connected domain of the z -plane being bounded by $\Gamma = \Gamma_0 + \Gamma_1 + \dots + \Gamma_m$, where Γ_i are closed non intersecting curves and Γ_0 encloses all other Γ_i , $i=1,2,\dots,m$. Let Ω denote the class of functions holomorphic in G and continuous in $G + \Gamma$.

Problem I: Find all pairs of functions (φ, ψ) , $\varphi \in \Omega$, $\psi \in \Omega$, satisfying the boundary condition $\varphi + \chi \bar{\psi} = f$ on Γ , where f and χ are given complex functions of the point $t \in \Gamma$ and on Γ being continuous with respect to Hölder.

Problem II: Find all (φ, ψ) , $\varphi \in \Omega$, $\psi \in \Omega$, satisfying the condition $\varphi + \bar{\chi} t' \bar{\psi} = 0$ on Γ , where $t = t(s)$ is the equation of Γ , s - arc length.

Theorem: Every solution of I is continuous with respect to Hölder in $G + \Gamma$.

Theorem: For $n = \frac{1}{2\pi} \Delta_\Gamma \arg \chi < 0$ the homogeneous problem I

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On a Boundary Problem of the Theory of Functions

20-119-2-1/60

($f \neq 0$) has no solution different from zero.

Theorem: If $n > 2(m-1)$, then the nonhomogeneous problem I always can be solved, while the homogeneous problem has exactly $2n-2(m-1)$ linear independent solutions. If $n < 0$, then the inhomogeneous problem is solvable only then if

$l^* = 2(m-1) - 2n$ conditions of the type $\int_r \varphi_j f dt = 0$ are

satisfied. Then the solution is unique. The φ_j are the complete system of solutions of II. Beside of the mentioned three theorems the author formulates four further similar (partially more special) theorems. There are 5 Soviet references.

PRESENTED: October 16, 1957, by S.L.Sobolev, Academician
SUBMITTED: October 14, 1957

Card 2/2

AUTHOR: Boyarskiy, B.V. and Vekua, I.N. 38-22-2-2/8

TITLE: Proof of the Rigidity of Piecewise-Regular Closed Convex Surfaces of Nonnegative Curvature (Dokazatel'stvo zhestkosti kusochno-regulyarnykh zamknutykh vypuklykh poverkhnostey neotritsatel'noy krivizny)

PERIODICAL: *Izvestiya Akademii nauk SSSR, Seriya Matematicheskaya*, 1958, No. 22, Nr 2, pp 165-176 (USSR)

ABSTRACT: Let $\vec{X} = \vec{X}(u,v)$ be the equation of a regular surface S which is limited by a finite number of piecewise smooth simple curves L_0, L_1, \dots, L_m . Furthermore let $\vec{Y} = \vec{Y}(u,v)$ and $\vec{Z} = \vec{Z}(u,v)$ be the fields of displacement and of rotation which correspond to an infinitely small deformation of the surface. Then it is $d\vec{Y} = \vec{Z} \times d\vec{X}$, $d\vec{X} \cdot d\vec{Y} = 0$, from which Blaschke [Ref 1] with the aid of the Ostrogradsky-formula obtains the following relation:

$$(1) \quad 2 \iint_S \begin{vmatrix} \vec{X} & \vec{Z} & \vec{Z} \\ u & v & \end{vmatrix} dudv = \int_L \begin{vmatrix} \vec{X} & \vec{Z} \\ \vec{Z} & \end{vmatrix} dZ$$

where L denotes the totality of the L_i .

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Proof of the Rigidity of Piecewise-Regular Closed Convex Surfaces of Nonnegative Curvature 38-22-2-2/8

The authors consider closed convex surfaces which are combined together from a finite number of regular surface elements with nonnegative Gauss curvature. By application of (1) (in a somewhat varied form) to each regular part of the surface and by addition the rigidity is proved at first for the case that the limiting contours of the single partial pieces are Jordan curves and then for the general case. At first conical points are excluded. Then it is shown by a limit passage that the proof even holds in presence of conical points. There are 2 references, 1 of which is Soviet, and 1 German.

SUBMITTED: April 1, 1957

AVAILABLE: Library of Congress

1. Surfaces--Mathematical analysis

Card 2/2

BOYARSKIY, B.V.

A boundary problem in the theory of functions. Dokl. AN SSSR
119 no.2:199-202 Mr '58. (MIRA 11:5)

1. Predstavleno akademikom S.L. Sobolevym.
(Functions, Analytic)

AUTHOR: Boyarskiy, B.V. 20-119-3-2/65

TITLE: On a Special Case of the Riemann-Hilbert Problem (Ob osobom sluchaye zadachi Rimana Gil'berta)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 3, pp 411-414 (USSR)

ABSTRACT: In an $(m+1)$ -fold connected domain G with the boundary $\Gamma = \Gamma_0 + \Gamma_1 + \dots + \Gamma_m$, $\Gamma_i \cap \Gamma_j = \emptyset$; Γ_i smooth, functions $\varphi(z)$ are to be determined which are holomorphic in G , continuous in $G + \Gamma$ and for which $\operatorname{Re}(\bar{\lambda}\varphi) = 0$, whereby λ is a function of the point $t \in \Gamma$, $|\lambda| = 1$. As a special case of this Riemann-Hilbert problem the case is denoted, where the so-called index $n = 1/2\sum \Delta_{\Gamma} \arg \lambda$ satisfies the inequality $0 \leq n \leq m - 1$. Since only the question of the solubility of this special case is investigated, the author reduces the problem to a qualitatively equivalent simpler one (Γ_0 unit circle, Γ_j circles etc). Four theorems are proved. As the main result the author states that even in the considered special case the formula of Vekua [Ref 2]:

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On a Special Case of the Riemann-Hilbert Problem

20-119-3-2/65

$$l = \max(0, 2n - m + 1)$$

holds in general for the number of linearly independent solutions. The validity holds in a certain sense for the "preponderant majority" of the cases. There are 4 references, 3 of which are Soviet, and 1 American.

PRESENTED: October 16, 1957,
by S.L. Sobolev, Academician

SUBMITTED: October 14, 1957

Card 2/2

AUTHOR: Boyarskiy, B.V.

SOV/20-122-4-1/57

TITLE: The General Representation of the Solutions of an Elliptic System of $2n$ Equations in the Plane (Obshcheye predstavleniye resheniy ellipticheskoy sistemy $2n$ uravneniy na ploskosti)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4, pp 543-546 (USSR)

ABSTRACT: The author considers the system

$$(1) \quad w_{\bar{z}} - Qw_z = Aw + Bw + F,$$

where $w(z)$ is the sought n -dimensional complex vector, A and B are given quadratic complex matrices, F is a complex vector and $Q = \{Q_1, Q_2, \dots, Q_p\}$ a quasi-diagonal matrix. Here $Q_i = \{q_{1k,i}\}$ are quadratic matrices, $q_{1k,i} = 0$ for $k > 1$, $q_{11,i} = q_i$ and $q_{1k,i} = -B_i^{1-k}$ for $k < 1$, q_i and B_i complex valued functions defined in the domain T of the $(z=x+iy)$ -plane. Furthermore (1) is assumed to be elliptic in the sense of Petrovskiy [Ref 1], so that $|q_i| < 1$ in T . Besides the matrices A, B, Q are assumed to be defined in the whole plane and to be identical =0 outside of a sufficiently large circle K ; A and B are to be measurable and bounded for $z \in K$; Q is to possess the generalized derivatives

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The General Representation of the Solutions of
an Elliptic System of 2n Equations in the Plane

SOV/20-122-4-1/57

Q_z and $Q_{\bar{z}} \in L_p(K)$, $p > 2$.

Under these assumptions the author develops a theory of the systems (1) (the case $n=1$, $Q \neq 0$ was treated by Vekua [Ref 2]).

In analogy to the holomorphic vector the Q-holomorphic vector is introduced; a solution of $\phi_{\bar{z}} - Q\phi_z = 0$ is denoted as such a vector. For Q-holomorphic vectors the author formulates a generalization of the theorem of Liouville and gives a generalization of the integral representation of Pompeiu [Ref 2,3]. The representation allows to replace (1) by an equivalent system of Fredholm equations and to give the representation

$$w(z) = \phi(z) + \iint_T \Gamma_1(z,t) \overline{\phi(t)} dT_t + \iint_T \Gamma_2(z,t) \overline{\phi(t)} dT_t + \sum_{k=1}^N c_k w_k(z)$$

for a solution of (1) bounded in T, where $Q(z)$ is a Q-holomorphic vector, Γ_1 and Γ_2 are matrices only depending on the boundary of T and on the coefficients of (1), $c_k = [w, w_k]$ real constants, w_k nontrivial solutions of the mentioned Fredholm equation.

Furthermore piecewise regular solutions of (1) are sought which

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The General Representation of the Solution of
an Elliptic System of $2n$ Equations in the Plane

SOV/20-122-4-1/57

satisfy the condition $w^+(t) - w^-(t) = \mu(t)$ on L (L - boundary of T), $w(\infty) = 0$. The author gives necessary and sufficient conditions for the existence of such solutions.

There are 5 references, 4 of which are Soviet, and 1 is English.

PRESENTED: May 13, 1958, by I.N.Vekua, Academician

SUBMITTED: May 11, 1958

Card 3/3

SHTEYNGAUZ, G. [Steinhaus, Hugo]; BOYARSKAYA, G.F. [translator];
BOYARSKIY, B.V. [translator]; RYVKIN, A.Z., red.; AKHLAMOV,
S.N., tekhn.red.

[One hundred problems] Sto sadach. Moskva, Gos.izd-vo fiziko-
matem.lit-ry, 1959. 156 p. Translated from the Polish.

(Mathematics--Problems, exercises, etc.)

(MIRA 13:10)

VEKUA, Il'ya Nestorovich; BOYARSKIY, B.V., red.; POZNYAK, E.G.,
red.; TUMARKINA, N.A., tekhn.red.

[Generalized analytical functions] Obobshchennye anali-
ticheskie funktsii. Moskva, Gos.izd-vo fiziko-matem.
lit-ry, 1959. 628 p. (MIRA 12:8)
(Functions, Analytic)

16(1)

AUTHOR:

Boyarskiy, B.V.

SOV/20-124-1-2/69

TITLE:

Some Boundary Value Problems for a System of $2n$ Equations of Elliptic Type in the Plane (Nekotoryye granichnyye zadachi dlya sistemy $2n$ uravneniy ellipticheskogo tipa na ploskosti)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 15-18 (USSR)

ABSTRACT:

In [Ref 1] the author described the general theory for the systems

$$(1) \quad \mathbf{w}_x - Q\mathbf{w}_y = A\mathbf{w} + B\bar{\mathbf{w}} + F,$$

where \mathbf{w}, F are vectors; Q, A, B are matrices, and where certain ellipticity conditions are satisfied. In the present paper the Riemann-Hilbert problem and the Hilbert problem, as well as two conjugate problems for (1) and for the conjugate system are set up. In five theorems the author gives necessary and sufficient conditions for the solvability of the proposed homogeneous and inhomogeneous problems and he calculates the index of the problems and investigates the stability of the number of linearly independent solutions.

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Some Boundary Value Problems for a System of 2^n
Equations of Elliptic Type in the Plane

SOV/20-124-1-2/69

There are 8 references, 7 of which are Soviet and 1 German.

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

PRESENTED: August 8, 1958, by I.N. Vekua, Academician

SUBMITTED: May 21, 1958

Card 2/2

15(i)

AUTHOR: Boyarskiy, B.V.

SOV/20-126-4-1/62

TITLE: ~~The Riemann-Hilbert Problem for a Holomorphic Vector~~

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 695-698 (USSR)

ABSTRACT: In a simply connected domain D with the boundary L the author seeks a holomorphic vector $\varphi = (\varphi_1, \dots, \varphi_n)$ satisfying the boundary condition

$$\operatorname{Re} [A(t) \varphi(t)] = 0 \quad \text{on } L,$$

where $A(t) = \{a_{ik}(t)\}$ is a given matrix-function of the point $t \in L$. L is a smooth curve with a continuous curvature; $A(t) \in \Omega$, i.e. on L it is continuous with respect to Hölder and satisfies the condition $\det A(t) \neq 0$. The number $\varkappa = \varkappa(A) = \frac{1}{2\pi} \Delta_L \arg \det A(t)$ is called the index of $A \in \Omega$. Matrices with the same \varkappa form an open component Ω^\varkappa of Ω . The functions A_1 and A_2 of Ω are called equivalent with respect to the Riemann-Hilbert problem ($A_1^P \sim A_2$) if $A_1(t) = S(t) = S(t)A_2(t)\psi(t)$, if $\psi(t)$ is the boundary value

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The Riemann-Hilbert Problem for a Holomorphic Vector SOV/20-126-4-1/t.2

of a non-singular matrix function of n-th order on L, which is holomorphic in D, and continuous in D+L with respect to Hölder, and if S(t) is real. If $A_1 \sim A_2$, then there follows $\rho(A_1) = \rho(A_2)$.

The matrix $\begin{pmatrix} z^{k+1} & iz^k \\ 0 & z^k \end{pmatrix} \equiv (z^{k+1}, z^k)$ is denoted as an elementary

box, k is called the partial index of the box. Let \mathcal{A} denote the class of quasidiagonal matrices $\lambda(t)$ of the type $\lambda(t) = \{Q_i(t)\}$,

where $Q_i(t) = t^{\kappa_i'}$ or $= (t^{\kappa_{i+1}''}, t^{\kappa_i''})$. The numbers κ_i' are called free partial indices of $\lambda(t)$, the numbers κ_i'' are called bound

partial indices. The matrix $\lambda(t)$ is called normed if $\kappa_i \geq \kappa_j$ for $i \leq j$ and for the equality the boxes are before the single elements.

Theorem: In every equivalence class (with respect to the relation \sim^P) there exists a $\lambda(t) \in \mathcal{A}$. If $\lambda(t)$ is normed, then it is determined uniquely.

Theorem: The partial indices of $A(t) \in \Omega^{\kappa}$ are combined with the index of A(t) by

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$$x = \sum_{i=1}^n x_i.$$

Theorem: The number $l = l(A)$, of holomorphic solutions of the homogeneous Riemann-Hilbert problem linearly independent over the field of real numbers reads

$$l(A) = \sum_{j=1}^r 2 |x_{k_j}| + r + \sum_{j=1}^p 4 |x_{1_j}|,$$

where the first sum relates to all free partial indices $x_{k_j} \leq 0$ and

the second sum relates to all boxes with negative indices.

A further theorem is devoted to the stability of the classes $\Omega_{\{x_i\}}^x$ in a certain sense only one of them is stable. The author mentions N.P.Vekua. There are 8 Soviet references.

PRESENTED: February 23, 1959, by I.N.Vekua, Academician

SUBMITTED: February 21, 1959

Card 3/3

BOYARSKIY, B

~AME I BOO: EAPOTIEMIA 877/392

Zakladeniye po resheniyu problemov teorii funktsiy kompleksnogo peremennogo: shematicheskoye (Introduction of the Problem in the Theory of Complex Variables) Collection of Articles Moscow, Fizmatgiz, 1966. 54 p. 3,000 copies printed.

Ed. (title page) A. I. Nekrasovskiy. (Inside book): V. S. Volynskiy and A. Ya. Izrael'skiy. (Eds. M. I. D. Krasnov).

PURPOSE: This book is intended for specialists in the theory of functions of a complex variable. It may also be used by advanced university students, scientific workers, and specialists in other fields of mathematics.

CONTENTS: The book contains 48 papers originally read at the third All-Union Conference on the theory of functions of a complex variable held at Moscow University from May 25 to June 1, 1966. The papers are collected in the book into 7 parts. The first part discusses the problem of representing a function in the form of a series, boundary and extremal properties. The second part discusses entire functions and interpolation and approximation problems. The third part discusses functions of many complex variables. The fourth part discusses conformal mappings and boundary value problems. The fifth part discusses problems of the theory of differential equations. The sixth part discusses problems of the theory of differential equations. The seventh part discusses problems of the theory of differential equations.

Volynskiy, V. S. (Ed.). Certain Problems of the Theory of Analytic and Quasianalytic Functions on Riemann Surfaces 405

Golubev, S. A. (Chapter). Modern Studies on Riemann's Theory of the Distribution of Values of Finite Order Meromorphic Functions 405

Seidler, S. (Chapter). On Single-Valued Analytic Functions Continuous on a Set of Their Singularities 410

Rainin, L. Ya. (L'vov). The Set of Removable Singularities of Analytic Functions and Conformal Mappings 419

Rainin, L. Ya. (L'vov). Cauchy-Type Integral and the Riemann-Roch Theorem for Quasianalytic Functions on Riemann Surfaces 425

Seidler, S. (Chapter). Boundary Value Problems of the Theory of Analytic Functions on Finite Riemann Surfaces 435

Seidler, S. (Chapter). On the Problem of the Extension of Functions Corresponding to Functions of the Class Σ (n = 1, 2, 3, ...) 445

Seidler, S. (Chapter). On Mappings Which Are Realized by the Solutions of Nonlinear Systems of Partial Differential Equations 451

Seidler, S. (Chapter). Common Properties of the Solutions of Elliptic Systems on a Plane 461

Seidler, S. (Chapter). On (p, q)-Analytic Functions of a Complex Variable and Their Applications 469

Chibrikova, L. I. (Moscow). Application of Automorphic Functions in the Solution of Certain Boundary-Value Problems for Mixed-Type Equations 515

Chibrikova, L. I. (Moscow). Approximate Construction of Certain Quasiconformal Mappings 519

Chibrikova, L. I. (Moscow). Methods of the Theory of Functions of a Complex Variable in Generalized Harmonic Analysis on a Straight Line 525

Chibrikova, L. I. (Moscow). On Maximum Extensions of Linear Functionals in Complex Space C(n) 531

Chibrikova, L. I. (Moscow) and V. G. Vladimirov (Moscow). On the Analytic Continuation of Generalized Functions 535

Chibrikova, L. I. (Moscow). On Certain Properties of Functions of Many Variables 537

SPAIN: LIBRARY OF CONGRESS 82/000/01 7-38-60

BOYARSKIY, B.V.

On the Dirichlet problem for a system of elliptic equations in space.
Bul Ac Pol mat 8 no.1:19-23 '60. (EKAJ 9:11)

1. Institut Gidrodinamiki so AN SSSR. Predstavleno S.Mazurov.
(Differential equations)
(Hyperspace)
(Topology)
(Integral equations)

32488

S/044/61/000/011/005/049

C111/C444

16.3000

AUTHOR: Boyar'skiy, B. V.

TITLE: On the generalised boundary value problem of Hilbert

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1961, 14,
abstract 11B54. (Soobshch. A N GruzSSR, 1960, 25, no. 4:
385 - 390)

TEXT: The contour L , consisting of a finite number of closed curves with continuous curvature, is assumed to divide the plane into the finite domain S^+ and its complement S^- . Searched is a piecewise holomorphic function $\omega = u + iv$, satisfying the boundary conditions on the contour:

$$u^+ = au^- + bv^- + c, \quad v^+ = cu^- + dv^- + f \quad (1)$$

or in complex form:

$$\omega^+ = g_1 \omega^- + g_2 \bar{\omega}^- + h(t).$$

Let $g_1(t) \neq 0$. The solution is searched by the set-up:

$$\omega(z) = \frac{1}{\pi i} \int_L \frac{y(t)}{t-z} dt + iC, \quad z \in S^+; \quad \omega(z) = \frac{1}{\pi i} \int_L \frac{\mu(t)}{t-z} dt; \quad z \in S^-;$$

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On the generalised boundary value...

where μ, ν are searched real functions such that the boundary value problem leads to a system of two singular integral equations. In the investigation of the latter one two theorems are obtained which combine the questions of the solvability of the considered boundary value problem with the questions of the solvability of the adjoint problem

$$g_1 \psi^+ + g_2 t^{l_2} \psi^+ = \psi^{\sim}. \quad (2)$$

Let l and l' be the numbers of the solutions of the boundary value problems (1) and (2), and let $x = \text{Ind } g_1(t)$ indicate the index of the problem. 1.) For the solvability of the problem (1) in the class of the functions, piecewise holomorphic at infinity, it is necessary and sufficient that

$$\text{Re} \left(\int h \psi_j^+ dt \right) = 0, \quad j = 1, 2, \dots, l'. \quad (3)$$

is satisfied.

2.) There holds the formula: $l - l' = 2x$. If besides $|g_1(t)| > |g_2(t)|$, and if the Hölder exponents of g_1, g_2 are arbitrarily

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little different from 1, then one can prove that the considered problem behaves qualitatively just like the most simple boundary value

problem $\omega^+ = g_1(t)\omega^-$.

The following theorems hold:

3.) If $x \geq 0$, then the inhomogeneous problem (1) is unconditionally solvable, and the homogeneous problem has $l = 2x$ solutions which are linear independent (in the sense of real linear combinations). If $x < 0$, then the homogeneous problem has no non-trivial solutions; the inhomogeneous problem is only solvable if $2x$ conditions of the kind of (3) are satisfied.

4.) The zeros of the solution of the homogeneous problem satisfy the condition: $N_{S^+} + N_{S^-} + N_L = x$.

One refers to the possibility of generalisations and to the application on the investigation of surface-bending.

[Abstracter's note: Complete translation.]

Card 3/3

YELEN'SKIY, Shchepan [Jelenski, Shchepan]; BOYARSKAYA, G.F. [translator];
BOYARSKIY, B.Y. [translator]; YAKUSHEV, A.A. [translator]; SHIROKOV,
F.V., nauchnyy red.; MIKOYAN, E.P., otv. red.; MARKOVICH, S.G.,
tekh. red.

[Following the tracks of Pythagoras; entertaining mathematics] Po sledam Pifagora; zanimatel'naya matematika. Moskva, Gos. izd-vo detskoj lit-ry M-va prosv. RSFSR, 1961. 485 p. Translated from the Polish. (MIRA 14:9)

(Mathematics--Juvenile literature)

S/763/61/000/000/004/013

AUTHOR: Boyarskiy B.V.

TITLE: Quasi-conformal representations and the theory of generalized analytical functions.

SOURCE: Nekotoryye problemy matematiki i mekhaniki. Novosibirsk, Izd-vo Sib. otd. AN SSSR, 1961, 50-56.

TEXT: The paper deals with the concepts of the theory of generalized analytical functions, the broadest embodiment of which is the theory of the solutions of a system of 2 equations of the elliptical type with 2 independent variables. Instead of following the reasoning (introduced by I. N. Vekua) that any generalized analytical function in the "broad" sense can be transformed into a generalized analytical function in the "narrow" sense, which is not suitable for applications to the theory of quasi-conformal mapping, the present paper is concerned with systems of 2 elliptical equations in which minimal assumptions only are made relative to the coefficients on the right-hand sides of the equations, namely, that the coefficients are arbitrary, measurable, bounded, functions. Concepts developed by M. A. Lavrent'yev are used to arrive at single-sheet representations which are termed quasi-conformal at a certain point if they transform an infinitely small ellipse having the same character-

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Quasi-conformal representations and the theory S/763/61/000/000/004/013

istics as that point into an infinitely small circle. A solution is found for the problem of the uniqueness of quasi-conformal representation. The new theoretical findings set forth here appear to be primarily an extension to the systems of equations regarded here of the results and methods of the theory of generalized analytical functions in the narrow sense, and that the new findings afford a general approach to the problems of the theory of quasi-conformal representations. The new method, especially in distortion theorems, utilizes substantially a geometric approach to mapping problems, an approach which had been more intensely developed initially. In the geometric method many problems require the use of separate partial procedures for their solution. These individual procedures produce more accurate results in many problems, for example, in problems on the best constants in various evaluations or in problems of the finding of extremal representations, than a method based on the investigation of the properties of the solutions of the systems of equations. In other problems, for example, in uniqueness problems, a method based on the theory of generalized analytical functions has been found more effective. Thus, at present, these two approaches to problems of the theory of quasi-conformal representations must supplement one another. There are 7 Russian-language Soviet references.

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~~BOYARSKIY, E.A., KRYUKOV, Yu.A.~~

Change in the accuracy of the measurement of angles within the
limits of a single program. Geod. i kart. no.9:31-34 S'62.
(MIRA 15:10)

(Goniometry)

KRYUKOV, Yu.A.; BOYARSKIY, E.A.

Comments on I.M.Konopal'tsev's article. Geod. i kart. no.10:
34-35 0 '63. (MIRA 16:12)

S/154/60/000/006/003/006
B116/B201

AUTHOR: Boyarskiy, E. A., Engineer

TITLE: Estimation of the accuracy of gravimetric relations according to the formulas by Yu. D. Bulanzhe

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, no. 6, 1960, 45-51

TEXT: In Ref. 1 Yu. D. Bulanzhe has offered formulas for estimating the accuracy of several measurements made by a surveying team. In practical applications, these formulas lead to impossible values. Thus, the squares of some errors become negative. The author of the present paper studied the cause of the appearance of "imaginary" errors when estimating the accuracy according to the abovementioned formulas, and to give some advice as to their application. On the basis of such a study (Bulanzhe's formulas are not given here) the author reaches the conclusion that these formulas can be used with the following corrections: 1) in formula (16) of Ref. 1, the product $(n - 1)(k - 1)$ should be in the denominator. 2) Formulas (11) and (12) of the same paper should be replaced by the

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Estimation of the accuracy of ...

S/154/60/000/006/003/006
B116/B201

formulas given here:

$$\left. \begin{aligned} E\sigma_1^2 &= \alpha_1^2 \\ E\sigma_n^2 &= \frac{1}{k} \alpha_1^2 + \alpha_2^2 \\ E\sigma_k^2 &= \frac{1}{n} \alpha_1^2 + \alpha_3^2 \end{aligned} \right\} \quad (15)$$

$$\left. \begin{aligned} \alpha_1^2 &= E\sigma_1^2 \\ \alpha_2^2 &= E\sigma_n^2 - \frac{1}{k} E\sigma_1^2 \\ \alpha_3^2 &= E\sigma_k^2 - \frac{1}{n} E\sigma_1^2 \end{aligned} \right\} \quad (16)$$

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Estimation of the accuracy of ...

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B116/B201

$$\left. \begin{aligned} \alpha_1^2 &= \sigma_1^2 \\ \alpha_2^2 &= \sigma_n^2 - \frac{1}{k} \sigma_1^2 \\ \alpha_3^2 &= \sigma_k^2 - \frac{1}{n} \sigma_1^2 \end{aligned} \right\} \quad (17)$$

k is the number of measurements, n the number of devices, α_1^2 , α_2^2 , α_3^2 are the mathematical expectation values of the random error ϵ_{ij}^2 , or of the constant error p_j^2 , respectively, of the j-th device or of the constant error r_i^2 of the i-th measurement, respectively. 3) In the absence of "imaginary" values of α_2 and α_3 , the root mean square error of the relation according to Bulanzhe has to be calculated from formula

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S/154/60/000/006/003/006
B116/B201

Estimation of the accuracy of ...

$$\alpha^2 = \alpha_1^2 / nk + \alpha_2^2 / n + \alpha_3^2 / k \quad (20) \text{ or } \alpha^2 = \sigma_n^2 / n + \sigma_k^2 / k - \sigma_1^2 / nk$$

(21). 4) If, in the estimation of the gravimetric relation by the method concerned, both half-systematic errors prove to be "imaginary", such results of the accuracy estimation will be inadmissible. This only shows that the half-systematic errors are apparently too small and cannot be established with this restricted number of measurements. In such a case, the accuracy of measurements can be determined only from the total dispersion

$$\left. \begin{aligned} \alpha_1^2 &= \frac{\sum_{i=1}^{nk} (\Delta g_{ij} - \Delta g_{i0})^2}{nk - 1} \\ \alpha^2 &= \frac{\alpha_1^2}{nk} \end{aligned} \right\} \quad (22)$$

Δg_{ij} is the result obtained from measurements with the aid of the j-device in the i-th measurement. 5) If only a half-systematic error

Card 4/6

Estimation of the accuracy of ...

S/154/60/000/006/003/006
B116/B201

proves to be "imaginary", the other half-systematic error can be determined from formula

$$\left. \begin{aligned} \alpha_1^2 &= \frac{\sum (\Delta g_{ij} - \Delta g_{0j})^2}{n(k-1)} \\ \sigma_n^2 &= \frac{\sum \Delta_{0j}^2}{n-1} \\ \alpha_2^2 &= \sigma_n^2 - \frac{1}{k} \alpha_1^2 \\ \alpha^2 &= \frac{1}{kn} \alpha_1^2 + \frac{x_2^2}{n} \end{aligned} \right\} (23)$$

6) Estimation of accuracy according to the series of gravimetric relations is the most reliable procedure, and "imaginary" errors will rarely appear in such estimations. When summarizing the results of estimation of individual relations, however, the resulting negative

Card 5/6

Estimation of the accuracy of ...

S/154/60/000/006/003/006
B116/B201

α_2^2 and α_3^2 values should not be replaced by zero, but should be maintained in the form obtained. This corresponds to a separate averaging of σ_1^2 , σ_n^2 , σ_k^2 with subsequent calculation from formula (17). If, however, "imaginary" errors should be still present when summarizing the results of the estimation, one must apply the procedure indicated in 4) and 5). There are 1 table and 4 Soviet-bloc references.

ASSOCIATION: Moskovskiy geologo-razvedochnyy institut im. S. Ordzhonikidze
(Moscow Institute for Geological Exploration imeni
S. Ordzhonikidze)

SUBMITTED: August 8, 1960

Card 6/6

BOYARSKIY, E.A., student IV kursa

Adjustment of the central system and the geodetic quadrangle in linear triangulation. Trudy MIIGAIK no.41:65-73 '60.

(MIRA 13:11)

1. Kafedra vyshey geodesii, Geodesicheskogo fakul'teta inzhenerov geodesii, aerofotos'yemki i kartografii.
(Triangulation)

I 35894-66 EWT(1) GW/GD
ACC NR: AT6006252

SOURCE CODE: UR/0000/65/000/000/0089/0096

AUTHOR: Pushchina, L. V.; Boyarskiy, E. A.

36
B+1

ORG: None

TITLE: The navigational data needed in aerogravimetric surveying

SOURCE: AN SSSR, Institut fiziki Zemli. Apparatura i metody morskikh gravimetricheskikh nablyudeniy (Apparatus and methods of marine gravimetric observations). Moscow, Izd-vo Nauka, 1965, 89-96

TOPIC TAGS: gravimetric survey, gravimetry, gravimetric analysis, aerial survey, photo interpretation

ABSTRACT: The position, course, and speed of the survey aircraft must be known in order to process aerogravimetric surveying data. After listing the necessary accuracy requirement and developing formulas for the Eotvoes effect correction, the author concentrates on a description of the aerophotographic method for navigational data determination which is of fundamental importance in the Soviet Union as well as in the USA. A detailed exposition is given of the procedures developed at the Institute of Earth Physics, AN SSSR (Institut fiziki Zemli AN SSSR). A table of coefficients for the Eotvoes correction estimates is also given. An analysis of various experimental results shows that the determination of the Eotvoes correction using visual observations is approximately as accurate as when calculating the correction from aerophotographs. The former requires, however, highly trained pilots.

Card 1/2

L 35894-56

ACC NR: AT6006262

Orig. art. has: 13 formulas and 1 table.

SUB CODE: 08 / SUBM DATE: 29Oct65 /

Card

2/2

ell

BOYARSKIY, F.F.; SHALABAYEV, K.N.

[Nikita Sergeyevich Khrushchev in Kazakhstan during March, 1961] Nikita Sergeevich Khrushchev v Kazakhstane, mart 1961. Alma-Ata, Kazakhskoe gos. izd-vo, 1961. 362 p. (MIRA 15:1)
(Kazakhstan--Agriculture, Cooperative)
(Khrushchev, Nikita Sergeevich, 1894-)

BOYARSKIY, Izrail' Abramovich; VAYSFEL'D, Yakov L'vovich; VEZUMSKAYA,
R.M.; MASHIKHIN, Ye.A., otv. red.; PARASHUTIN, N.V., otv. red.;
IL'YUSHENKOVA, T.P., tekhn. red.

[Album of charts, documents, accounting registers and graphs
for the course on "Accounting in industry"; textbook. Subject:
materials accounting] Al'bom skhem, dolumentov, uchetrykh
registrov, dokumentogramm po kursu "Bukhgalterskii uchet v
promyshlennosti"; uchebnoe posobie. Tema "Uchet materialov."
Moskva, Gosstatizdat, 1961. 47 p. (MIRA 15:4)

1. Russia (1923- U.S.S.R.) Upravleniye podgotovki kadrov schet-
nykh rabotnikov.

(Accounting--Audio-visual aids)

BOYARSKIY, L.; SLEPYAN, I.; ROSENBLAT, A.

Food industry enterprises for rural areas. Stroi.i arkhit. 8
no.6:8-9 Je '60. (MIRA 13:6)

1. Direktor Ukgiproproda (for Boyarskiy). 2. Glavnyy inzhener
Ukgiproproda (for Slepyan). 3. Glavnyy arkhitekto'r Ukgiproproda
(for Rosenblat).
(Ukraine--Food industry--Equipment and supplies)

AUTHORS: Kovalevskiy, V.A., Royarskiy, L.A. SOV/115-58-6-23/43

TITLE: **Lens** Spectro-Pyrometer "SPK-2" (Ob'yektivnyy spektropirometr SPK-2)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 6, pp 57-58 (USSR)

ABSTRACT: In the Khar'kov State Institute of Measures and Measuring Devices a new spectro-pyrometer "SPK-2" (Figure 1) has been developed. It is an improvement of the similar apparatus "SPK-1". It is used for calibrating and checking standard temperature tubes for brilliance and collar temperature. In the apparatus a new modulator with an oscillating mirror which consecutively transmits light to the monochromator from both compared sources has been installed. In the outside optical system (Figure 2) several improvements have also been made. Tests have shown that the apparatus is very sensitive and may be used for measuring **temperature by its brilliance**. The precision of pyrometric measurements is higher

Card 1/2

Lens Spectro-Pyrometer "SPK-2"

SOV/115-58-6-23/43

than in the best **optical** pyrometers.
There is 1 photo, 1 diagram, and 4 Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Devices)

Card 2/2

BOYARSKIY, L.A., inzh., BUL'VAROVA, Z.I., kand.farmatsevticheskikh nauk.

New vertical autoclaves with electric heating for sterilization
in drugstores. Apt.delo 7 no.5159-65 S-O '58 (MIRA 11:10)

1. Iz Tsentral'nogo aptechnogo nauchno-issledovatel'skogo instituta
(dir. Ye.N. Kotonova) Ministerstva zdavookhraneniya SSSR.
(AUTOCLAVES)
(PHARMACY--EQUIPMENT AND SUPPLIES)

BOYALSKIY, L.A.; GORDOV, A.M.; IOSEL'SON, G.L.; KANDYBA, V.V.; KIRENKOV,
I.I.; KOVALYVSKIY, V.A.; KRAKHMAL'NIKOVA, G.A.; LAPINA, E.A.;
TARAYANTS, K.G.

Using the photoelectric method for precise work in the field of
optical pyrometry. Trudy VNIIM no.36:23-32 '58. (MIRA 11:11)
(Pyrometry)

SOV/58-59-5-10825

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 131 (USSR)

AUTHORS: Borovik, Ye.S., Boyarksiy, L.A.

TITLE: Study of Ferromagnetic Resonance in Mass-Radiator Waves

PERIODICAL: Uca. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. Fiz. otd. fiz.-matem. fak., Vol 7, pp 203 - 207

ABSTRACT: Using the mass radiator method, the authors studied ferromagnetic resonance in nickel and superalloy in the 1 - 3 cm wavelength region. To extend the measurement region they made use of the phenomenon of the electromagnetic wave absorption minimum. The region of the possible observation of the minimum (the "antiresonance point") was determined by means of calculations.

The authors' résumé



Card 1/1

SOV/115-60-1-15/28

AUTHOR: Boyarskiy, L. A. and Kovalevskiy, V. A.

TITLE: A Laboratory Objective Spectropyrometer ✓

PERIODICAL: Izmeritel'naya tekhnika, 1960, Nr 1, pp 31-33 (USSR)

ABSTRACT: Detailed design and operational information is given on the "SPP-58" electronic optical pyrometer which was described previously /Ref. 2 and 3/. This inexpensive, portable desk instrument is recommended for laboratory use in place of the bulky and expensive "SPK-1" and "SPK-2" optical spectropyrometers developed at the KhGIMIP, for use by "GKL" (State Control Laboratories). By means of the "SPP-58" pyrometer the monochromatic brightness of different objects is measured at wave lengths from 0.4 to 0.8 microns. Measurements compare the brightness of the object with that of a standard lamp built into the instrument. The modulator of the pyrometer, also described previously /Ref. 2 and 4/, is able to work at any

Card 1/2

SOV/115-60-1-15/28

A Laboratory Objective Spectropyrometer

frequency from zero to 1,000 cycles. The "SPP-58" pyrometer can be used to check standard temperature lamps graduated for brightness and to measure accurately brightness color temperatures, monochromatic brightness, illuminance, light intensity and other light values. The circuit components include a UM-2 monochromator, an FEU-27 phototube, 6SIP, 6Zh2P, 6ZhSP and 6PIP valves and an M24 microammeter. There are 2 diagrams, 1 table, 1 graph and 5 Soviet references.

Card 2/2

BOYARSKIY, L.A. (Novosibirsk); YEFREMOVA, R.I. (Novosibirsk)

Widening the scale of a lens spectropyrrometer. PMF no.6:138-141
N-D '62. (MIRA 16:6)

(Pyrometers)

L 1902-66

ACCESSION NR: AP5024166

UR/0115/65/000/008/0015/0017
536.52.088

AUTHOR: Boyarskiy, L. A.; Strelkov, P. G.

31
B

TITLE: Reproducibility of the position of the temperature lamp on the optical bench of a spectropyrometer

SOURCE: Izmeritel'naya tekhnika, no. 8, 1965, 15-17

TOPIC TAGS: optic pyrometer, optic brightness, light source, temperature measurement *qm*

ABSTRACT: Data were obtained on the angular distribution of the brightness of temperature lamps (standard brightness sources) for spectropyrometers. Measurements of the apparent brightness temperature were made with an SPP-50 spectropyrometer first on a steady lamp, and then while the latter was turned around the vertical and horizontal axis in different directions. A fairly strong angular dependence of the brightness, and hence, brightness temperature was found for all the lamps tested (lamps 51, 52, and 53). The magnitude of the effect considerably surpassed any errors connected with the manipulation. Turning by the same angle but in two different directions usually produced different changes in apparent
Card 1/2

L 1902-66
ACCESSION NR: AP5024166

temperature. The temperature dependence of this effect was studied. The experiments showed that at the present time the accuracy of basic metrological work in the field of optical pyrometry is restricted not so much by the capabilities of the apparatus employed as by the shortcomings of the standard measures of brightness. Orig. art. has: . 4 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: OP, TD

NO REF SOV: 002

OTHER: 001

mlr
Card 2/2

BOYARSKIY, L.A.

Errors in measuring color temperature. Izv. tekhn. no.9:59-60 S '65.
(MIRA 18:10)

L 26111-66 EWT(1) IJP(c) GG/WW

ACC NR: AP6010877

SOURCE CODE: UR/0115/66/000/002/0087/0088

AUTHOR: Boyarskiy, L. A.

ORG: none

TITLE: Addition of light fluxes by means of a dispersing surface

SOURCE: Izmeritel'naya tekhnika, no. 2, 1966, 87-88

TOPIC TAGS: light dispersion, photoelectric pyrometer, optic brightness, light reflection

ABSTRACT: A new method is proposed for summarizing the intensity of two radiation fluxes. This method uses a dispersing surface instead of semitransparent mirrors. The radiation of an auxiliary source is directed to a white mat surface. The dispersed light from the surface enters the objective lens of a spectropyrometer where its brightness is compared with that of a standardizing lamp whose light is incident on another objective of the pyrometer. A system of diaphragms divides the flux of the auxiliary source into individual beams. A surface illuminated by two beams acquires a brightness which is equal to the sum of both beams and which holds good for any part of the visible spectral range. The experiment can succeed well when the dispersing surface is a rotation ellipsoid. An ideal ellipsoidal surface yields an image of a point-shaped source without aberration when the source is located in one of the ellipsoidal focal points. If this condition

Card 1/3

UDC: 535.231.1:536.5

L 26111-66

ACC NR: AP6010877

is not fulfilled, the image is diffused. The diffusion of the image can be computed using the formula

$$\Delta_s = \left(\frac{2e + (e^2 + 1) \cos \theta}{(1 + 2e \cos \theta + e^2)^{1/2} \cos \theta} - \frac{1-e}{1+e} \right) \delta, \quad (1)$$

where e is the eccentricity of the ellipse of the section formed by a plane passing through both focal points of the ellipsoid; δ is the linear deviation of the source from the focal point, and θ is the angle between the focal line of the ellipsoid and the reflected ray.

The illumination E of a light cone the solid angle of which is 2θ is equal to $E = b\pi \sin^2 \theta$, and the ratio of the intensity of the reflected light from the dispersing surface to the incident light is $b/b_0 = \sin^2 \theta$ where b and b_0 express the intensities. Dimensions of the ellipsoidal reflecting and dispersing surfaces are determined experimentally from the dimensions of the standard lamp and the aperture of the pyrometer. The block of diaphragms must separate the beams independently of one another. The areas of sections between the diaphragms must have the ratios 1:1:2:4:8:16. Fig. 1 shows the distribution of rays when the source is bigger than a point; Fig. 2 shows the course of rays reflected from the ellipsoidal scattering surface, and Fig. 3 shows the distribution of diaphragms maintaining the prescribed

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L 26111-66

ACC NR: AP6010877

areas.

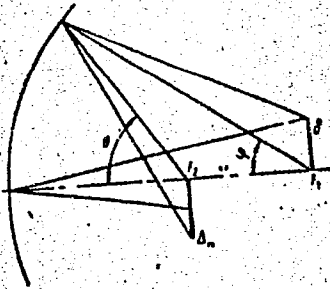


Fig. 1.

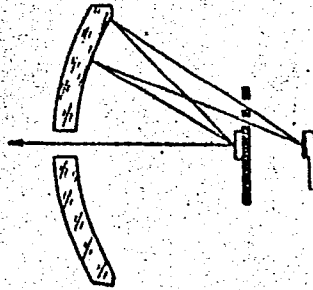


Fig. 2.

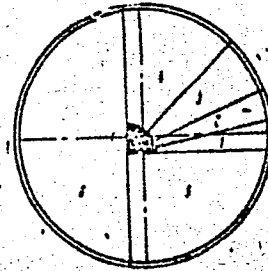


Fig. 3

Experimental investigations proved that the use of an ellipsoidal reflective surface causes very small aberration. Orig. art. has: 3 figures and 3 formulas. [ATD PRESS: 4220-F]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 002

Card 3/3 CC

PHASE I BOOK EXPLOITATION

SOV/3755

BoyarSKIY, Lazar' Todrisovich, and Nikolay Petrovich Korshikov

Tekhnologiya stankostroyeniya (Machine-Tool Manufacturing Methods) Moscow, Mashgiz, 1959. 371 p. 22,000 copies printed.

Reviewers: (Moscow and Alapayev Machine-Tool Tekhnikums) B.S. Liberman, Engineer, I.S. Yegorov, Engineer, B.K. Shunayev, Candidate of Technical Sciences, and V.V. Loskutov, Candidate of Technical Sciences; Ed.: Yu.S. Sharin, Candidate of Technical Sciences; Tech. Eds.: N.A. Dugina and V.D. El'kind; Exec. Eds. (Ural-Siberian Division, Mashgiz): L.A. Kon'shina, Engineer, and A.V. Kaletina, Engineer.

PURPOSE: The textbook is intended for students at machine-tool tekhnikums.

COVERAGE: The book contains information on the fundamentals of machine-tool manufacture, methods of machining standard machine-tool parts, and the equipment, tools, and fixtures used in these processes. According to the authors the book is based on the latest achievements in the field of machine-tool manufacture. The work was compiled from works of Soviet scientists in the field, data supplied

Card 1/13

Machine-Tool Manufacturing Methods

SOV/3755

by the Eksperimental'nyy nauchno-issledovatel'skiy institut metallo-rezhushchikh stankov (Experimental Scientific Research Institute of Metal-Cutting Machine Tools), and the practices of several machine-tool plants. No personalities are mentioned. There are 84 references, all Soviet.

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~~Card 2/19~~

BOYARSKIY, Lazar' Todrisovich; KORSHIKOV, Nikolay Petrovich; VERBOVSKIY,
I.I., inzh., retsenzent; SHKURO, V.M., inzh., retsenzent, red.;
BUKHVALOVA, K.I., inzh., red.; DUGINA, N.A., tekhn.red.

[Technology of the manufacture of forging and pressing machinery]
Tekhnologiya kuznechno-pressovogo mashinostroeniya. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 432 p.
(MIRA 14:4)

(Forging machinery)

BOYARSKIY, M., inzh.

On the article "Economic aspects of cutting out chrome-tanned
pigskin butts." Leg. prom. 18 no.2:10 F '58. (MIRA 11:2)
(Hides and skins)