L 22672-66   IJP(c)
ACC NR: AP6008027

SOURCE CODE: RU/0019/66/011/001/0003/0022

AUTHOR: Mangeron, D.; Krivoshein, L. E.

ORG: [Mangeron] Jassy Polytechnic Institute

TITLE: New methods of numerical calculation of the solution of various integro-differential systems presenting interest in applied mechanics. III. Boundary problems for integrodifferential equations with caloric operators and retarded argument

SOURCE: Revue roumaine des sciences techniques. Serie de mecanique appliquee, v. 11, no. 1, 1966, 3-22

TOPIC TAGS: integrodifferential equation, linear integral equation, nonlinear integral equation, perturbation theory, operator equation, integral function, double integral

ABSTRACT: The paper, the third part of a series of studies devoted to the numerical calculation of the solutions of various integrodifferential systems presenting interest in applied mechanics (D. Mangeron, L. E. Krivoshein, New methods of numerical computation for the solutions of various integro-differential systems. I. Polyvibrating integro-differential systems. Rev. Roum. Sci. Techn. Méc. Appl., 1964, 9, 6, 1195-1221), (New methods of numerical computation of the solutions of

UDC: 518:621.01

Card 1/2

ACC NR: AP6008027

various integro-differential systems presenting interest in applied mechanics. II.
Polylocal ordinary integro-differential systems. Rev. Roum. Sci. Techn. - Méc.
Appl., 1965, 10, 1, 3-34), presents problems pertaining to linear and nonlinear
integrodifferential equations with parabolic (caloric) operators containing double
integrals and terms with retarded argument. The conditions ensuring the existence,
uniqueness, and stability (with respect to small perturbations of the known coeffi-
cients) of the solutions of the considered systems are examined and evaluations of
the moduli of the solutions of such systems are given. Subsequent studies will
present results pertaining to new problems of functional systems with polycaloric
operators introduced in the mathematical literature by Miron Nicolescu (Miron
Nicolescu, Asupra unor proprietati caracteristice de medie ale functiilor policalo-
rice. Com. Acad. R. P. R., 1954, 4, 11-12, 552-554) The results presented are
based on authors' papers (Nuovi problemi concernenti sistemi funzionali con
operatori iterati. I. Problemi al contorno per le equazioni integro-differenziali
con operatori calorici ed argomenti ritardati. Accademia Nazionale dei Lincei.
Rend., Cl. sci. fis., mat. e nat., 1965, 38, 8, p. 614-620) and (Quelques théorèmes
concernant les systèmes intégro-différentiels caloriques à rémanence. Bull. Acad.
Sci. Belgique (in print)). Orig. art. has: 64 formulas. [Based on author's ab-
stract.]

SUB CODE: 12/
SOV REF: 008/   SUBM DATE: 31Aug65/ ORIG REF: 021/ OTH REF: 015/

Card 2/2

L 01232-67   EWT(d)   IJP(c)

ACC NR: AP6022740   SOURCE CODE: CH/0022/66/009/001/0067/0071

AUTHOR: Mangeron, D.

ORG: Iasi Technological Institute, People's Republic of Romania

TITLE: Study of unreasonable boundary-value problems (I) Cauchy's problem of composite-type partial differential equations under Hadamard's meaning

SOURCE: Shu hsueh chin chan, v. 9, no. 1, 1966, 67-71

TOPIC TAGS: boundary value problem, Cauchy problem, partial differential equation

ABSTRACT: The author attempts to incorporate different types of boundary-value problems in a unified theory he derived for the problems since the Fourth Romanian Mathematics Conference. Theorems stated in the article are the uniqueness, existence, and effective construction theorems for the solutions of the "composite-type" partial differential equations of higher order in the form

$$H[E(u)] = f(x, y) , \tag{1}$$

where H and E are the linear differential operators having respectively real and

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L 01232-67

ACC NR: AP6022740

imaginary characteristic cones. The canonical type of these equations is the Hadamard equation

$$\frac{\partial^4 u}{\partial x^4} - \frac{\partial^4 u}{\partial y^4} = 0. \tag{2}$$

Let H in (1) be a second-order linear hyperbolic operator and E an elliptic operator of analytic coefficients. Assume the coefficients and the function $f(x, y)$ appearing in the expression of H are defined in the region D of the plane (x, y), and the coefficients of the operator $E(u)$ are analytic in D. Also assume $E(u) = v$. If one and only one characteristic passes through each point P in D, it belongs to one of the two characteristic families of the equation Hu = 0. Suppose C is a regular part of an arbitrary curve C^* in D having the end-points P_1 and P_2. Also suppose C is never tangent to the characteristic of Hu = 0. Then there is a quadrilateral Q which is determined by two characteristics introduced from P_1 and P_2. The author gives the following theorem. Under the above assumptions the solution of the Cauchy problem of equation (1) in Q is unique in the function class C^{IV}, where C^{IV} is a function class which together with its fourth-order differential quotient is bounded and continuous. For a class of more general "composite-type" equations, the author gives the following theorem. Suppose

$$H \equiv \frac{\partial^2}{\partial x^2} - \frac{\partial^2}{\partial y^2} + \beta_1 \frac{\partial}{\partial x} + \beta_1 \frac{\partial}{\partial y} + \gamma$$

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ACC NR: AP6022740

and

$$E \equiv a_{20} \frac{\partial^2}{\partial x^2} + 2a_{11} \frac{\partial^2}{\partial x \partial y} + a_{02} \frac{\partial^2}{\partial y^2} + b_1 \frac{\partial}{\partial x} + b_2 \frac{\partial}{\partial y} + \alpha$$

are the operators stated above. For the Cauchy problem of equation (1) the sufficient condition can be expressed by the equality $\beta_1 = b_1 = a_{11} \equiv 0$ and by the fact that the remaining coefficients appearing in H and E are only functions of y, and a_{02} and a_{20} have the same symbol with $|y| \leqslant \frac{b-a}{2}$. Other theorems stated in the article deal with the Hadamard equation (2). Orig. art. has: 24 formulas.

SUB CODE: 12/ SUBM DATE: 16Mar64/ ORIG REF: 001/ SOV REF: 002 OTH REF: 013

Card   3/3 awm

Mangeron, Dumitru Ion.

Mangeron, Dumitru Ion. Special problems and boundary problems for a class of linear differential equations with partial derivatives of higher order. Revista Stiintifică "V. Adamachi" 31, 4 pp. (1945). (Romanian. French summary).

L'auteur étudie quelques problèmes à la frontière du domaine $a \leq x \leq c, b \leq y \leq d$ pour l'équation

$$\frac{\partial^{m+n}y}{\partial x^m \partial y^n} = \sum_{p=0}^{m-1} a_p \frac{\partial^{p+n}u}{\partial x^p \partial y^n} + \sum_{r=0}^{n-1} b_r \frac{\partial^{m+r}u}{\partial x^m \partial y^r} + \sum_{p=0}^{m-1}\sum_{r=0}^{n-1} c_{pr} \frac{\partial^{p+r}u}{\partial x^p \partial y^r}.$$

Ces problèmes peuvent être appellés réductibles au sens de M. Picone, vu qu'ils se ramènent à des équations intégrales dépendantes de la construction des fonctions de Green relatives à des opérateurs d'un ordre inférieur et à un plus petit nombre de variables. Des exemples de noyaux caractéristiques pour quelques-uns de ces problèmes sont données.
From the author's summary.

Mathematical Reviews,   Vol   No.

Mangeron, D. I.

Mangeron, D. I. Sur les solutions par composition des équations aux dérivées partielles d'ordre supérieur. Bull. Ecole Polytech. Jassy [Bul. Politehn. Gh. Asachi. Iaşi] 1, 295–303 (1946).

Some of the connections between solutions of elliptic, hyperbolic and parabolic differential equations which have been established by G. Doetsch [Math. Z. 46, 315–328 (1940); these Rev. 1, 314] and J. Korevaar [Math. Z. 47, 125–131 (1940); these Rev. 3, 217] are extended here to solutions of corresponding differential equations of higher order. The author considers the generalizations $\partial^n u/\partial x^n \pm \partial^n u/\partial y^n = 0$, $\partial^n u/\partial x^n = \partial^{n-1} u/\partial x^{n-1}$ of the elliptic, hyperbolic and parabolic differential equations. As an example of the connections established here, if $u_h(x, y)$ and $u_p(x, y)$ satisfy the generalized hyperbolic and parabolic equations and certain conditions on the boundary of a rectangular region then the composition

$$U_{h_p}(x, y) = \int_0^t u_h(t, y) u_p(t, x) dt$$

satisfies the generalized parabolic equation when n is an even integer. Tables are presented to show which type of equation is satisfied by each of the various compositions that can be formed.   R. V. Churchill.

Source: Mathematical Reviews,   Vol.   No.

MANGERON, D. I.   PA 21782

RUMANIA/Mechanics, Applied   Jul/Dec 1946
          Mathematics - Computation, Approximate

"Notes on Rational Mechanics: Considerations Con-
cerning the Generalized Problem of the Bell and Its
Clapper," D. I. Mangeron, 4 pp

"Bul Politehnicii 'Gh Asachi' din Iasi" Vol I, No 2

A well-known problem from the theoretical standpoint
is restudied as a problem to be solved by the method
of numerical calculation.

21T82

Mangeron, Dumitru Ion. The scientific work of Gustav
Magnus Mittag-Leffler. Revista Mat. Timişoara 26,
8 pp. (1946). (Romanian)

Source: Mathematical Reviews,   Vol   8 No.   9

MANGERON, D [I,]

Mangeron, D. Sur un théorème de Mr. Pompeiu relatif à une classe d'équations différentielles. Acad. Roum. Bull. Sect. Sci. 28, 349–350 (1946).

The author derives restrictions on the form of a pair of simultaneous first order differential equations which follow from the assumption that $(y_1+y_2, y_1y_2, z_1+z_2, z_1z_2)$ is a solution whenever (y_1, z_1) and (y_2, z_2) are solutions.

P. Franklin (Cambridge, Mass.).

Source: Mathematical Reviews,   Vol 9   No. 8

Mangeron, D. New method for determining the integrals of linear partial differential equations by application of the multiple Laplace transformation with finite domain of integration. Revista Stiintifică "V. Adamachi" 32, 38–40 (1946). (Romanian. English summary)

Source: Mathematical Reviews,   Vol 8, No. 5

Mangeron, D. Green's function of order p in the theory
of total differential equations of higher order, Revista
Stiintifica "V. Adamachi" 32, 40–42 (1946). (Romanian,
French summary)
The word "total" appears to be a misprint for "partial."

Source: Mathematical Reviews,   Vol 8,   No. 5

MANGERON, DUMITRU ION

Mangeron, Dumitru Ion. Gottfried Wilhelm Leibniz (1646-1716) (on the occasion of the tercentary of his birth). I. Mathematical works. Revista Stiintifica "V. Adamachi" 32, 83-90 (1946). (Romanian)

Source: Mathematical Reviews,   Vol 8 No. 6

MANGERON, DUMITRU ION

Mangeron, Dumitru Ion. On a class of differential equations of higher order. Gaz. Mat., Bucureşti 52, 207–212 (1947). (Romanian. French summary)

L'auteur énonce quelques résultats préliminaires concernant des conditions pour qu'une équation différentielle linéaire homogène, d'ordre quelconque, puisse être transformée, par un choix convenable d'une transformation de la variable indépendante, dans une équation à coefficients constants choisis à volonté. *From the author's summary.*

Source: Mathematical Reviews, Vol 6 No. 9

MANGERON, D.

√ Mangeron, D.; Ciobanu, Gh.; et Bruler, A. Sur l'exten- I-FW
sion des formules de Somoff relatives aux accélérations
d'ordre supérieur. Rev. Univ. "Al. I. Cuza" Inst.
Politehn. Iaşi 2 (1955), 95–100. (Romanian. Russian
and French summaries)
Formules recurrentes pour les accélérations d'ordre
supérieur dans le mouvement d'un corps rigide. Les ac-
célérations du mouvement composé et leurs projections
sur les axes du trièdre de Serret-Frenet. O. Bottema.

MANGERON D.

"Asupra unei noi Clase de Polinoame, Interesind Unele Ecuatii cu "Derivate Totale." D. Mangeron. *Ia, i, Polyteh, Inst., Bul., Fasc. 1-2, 1956*, pp. 21-27. 10 refs. In Rumanian. Analysis of a new class of polynomials related to equations with "total derivatives."

MANGERON, P.

1-FW

Mangeron, D.; Ciobanu, Gh.; et Braier, Alfred. Sur la distribution des accélérations d'ordre quelconque dans la cinématique des systèmes matériels. Bul. Inst. Politehn. Iași (N.S.) 2 (1956), 29-37. (Romanian, Russian and French summaries)

Quelques théorèmes sur l'accélération généralisée dans la cinématique plane dont nous citons: le lieu géometrique des points pour lesquels les accélérations d'ordre n passent par un point donné P est une circonférence de

centre C_n; si P décrit une courbe fermée K, le lieu des centres C_n correspondants à P est une courbe K' semblable à K. Extensions à la cinématique affine et à la cinématique de l'espace.   O. Bottema (Delft).

MANGERON, D.

1-FW

Mangeron, D.; et Drăgan, Corneliu. Application de la théorie des accélérations réduites d'ordre quelconque à l'étude des mécanismes plans de troisième classe. Bul. Inst. Politehn. Iaşi (N.S.) 2 (1956), 295–304. (Romanian. Russian and French summaries)

Si θ est l'angle de rotation d'une système plane, $A_1 = \theta^2$, $B_1 = 0$, $A_n = A_{n-1} + \theta B_{n-1}$, l'accélération réduite est définie a_i / A_i, où a_i est l'accélération d'ordre i. Quelques théorèmes comme le suivant: le lieu géométrique des extrémités des accélérations réduites d'ordre i des points d'une droite d est une droite perpendiculaire à d.

O. Bottema (Delft).

MANGERON, D.; BRAIEF, A.

The role of models in teaching mathematics and mechanics. p. 393

GAZETA MATEMATICA SI FIZICA. SFFIA A. (Societatea de Stiinte
Matematice si Fizice din Rominia)
Vol. 8, no. 8, August 1956

Bucuresti, Rumania

SOURCE: East European List (EEAL) Library of
Congress, Vol. 6, No. 1, January 1957

Mangeron, D. Connections between solutions of different boundary value problems of higher order. Bul. Inst. Politehn. Iași (N.S.) 3 (1957), no. 1-2, 39-42. (Romanian. Russian and English summaries)

A short note on considerations about partial differential equations of higher order given by the author elsewhere [Bul. Politehn. Gh. Asachi Iași 1 (1946), 295-303; MR 8, 466].

O. Bottema (Delft)

On a New Tensor Method in the Theory of Mechanisms

2101:

Mangeron, D.; et Drăgan, Corneliu. Sur une nouvelle méthode tensorielle dans la théorie des mécanismes. Bul. Inst. Politehn. Iași (N.S.) 3 (1957), no. 1-2, 151-164. (Romanian. Russian and French summaries)

G. Kron [A short course in tensor analysis for electrical engineers, Wiley, New York, 1942; MR 4, 29] has shown how tensors and transformation theory may be used to study many types of machinery. The authors of this paper use transformation theory for a similar study of mechanisms. They introduce projective coordinates in two Cartesian orthogonal frames attached to the mechanism in any two positions. By relating these coordinates, they determine the position transformation matrix, velocity transformation matrix, etc.

N. Coburn (Ann Arbor, Mich.)

/ 2968. Mangarea, D., and Dragan, C., A new analytic-graphical approach to the problem of the distribution of accelerations of any order (in German), Bull. Inst. Polytech. Iasi 3, 3/4, 161-174, 1957.

By using the concept of reduced acceleration of n order for the points of a rigid solid in parallel plane motion, defined as the acceleration ratio of n order and a certain function $A_n(t)$ given by the recurrence relations which include the derivatives with respect to time of the rotation angle θ, paper establishes a series of properties leading to the solving of the problem of the distribution of accelerations of any order for plane mechanisms. Analytic-graphical applications are included for a sequence of most characteristic Assur groups. Method of reduced accelerations is interesting both for the theory of mechanisms and machines and for the differential geometry of plane curves.

Cr. Pelecudi, Roumania

MANGERON, D.; Dragan, C.; Svijevschi, V.

New method of studies concerning the theory of mechanisms and machines. p. 51.
(STUDII SI CERCETARI DE MECANICA APLICATA. Vol. 8, no. 1, Jan/Mar. 1957,
Bucuresti, Rumania)

So: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957.
Uncl.

SUBJECT   USSR/MATHEMATICS/Differential equations   CARD 1/2   PG - 719
AUTHOR   MANGERON D.I.
TITLE   On reduced accelerations of arbitrary order and some of their
            extremal properties.
PERIODICAL Doklady Akad. Nauk 112, 27-28 (1957)
            reviewed 4/1957

The present paper is the continuation of the author's announcements in Doklady
Akad. Nauk 1C2, 705 and 897 (1955). Let a solid body be in a plane parallel
motion. The acceleration of n-th order $w_M^{(n)}$ of a point M is expressed by the
following formula:

$$\begin{pmatrix} x_1^{(n+1)} \\ x_2^{(n+1)} \end{pmatrix} = \begin{pmatrix} x_{10}^{(n+1)} \\ x_{20}^{(n+1)} \end{pmatrix} + \begin{pmatrix} -A_n & -B_n \\ B_n & -A_n \end{pmatrix} \begin{pmatrix} x_1 & -x_{10} \\ x_2 & -x_{20} \end{pmatrix} ,$$

where $A = A_n(t)$ and $B = B_n(t)$ are given by the recurrence formulas

$$A_{n+1} = \dot{A}_n + \dot{\theta} B_n, \qquad B_{n+1} = \dot{B}_n - \dot{\theta} A_n, \qquad A_1 = \dot{\theta}^2, \qquad B_1 = \ddot{\theta} .$$

$\theta = \theta(t)$ is the angle of rotation of the body, the point denotes the derivative
with respect to the time and $x_i^{(n+1)} = \dfrac{dx_i^{(n)}}{dt}$. Some theorems are formulated
without proof, e.g.:

Doklady Akad.Nauk <u>112</u>, 27-28 (1957)   CARD 2/2   PG - 719

1. Let M be on a straight line D_M which participates in the considered motion

   Then the geometric locus of the points M^* $\mathbf{r}_{M^*} = \mathbf{r}_M + \lambda_n \, \mathit{MO}_M^{(n)}$ is a

   straight line D_{M^*} which with D_M forms an angle φ_n , $\operatorname{tg} \varphi_n = \dfrac{\lambda_n B_n}{1 - \lambda_n A_n}$.

2. The reduced accelerations of n-th order

$$\mathit{MO}^{(n)}_r = \frac{\mathit{MO}^{(n)}}{A_n} \, , \qquad \mathit{MO}^{(1)}_r = \frac{\mathit{MO}^{(1)}}{A_1} \equiv \frac{\mathit{MO}}{A_1} \qquad (n = 1, 2, \ldots)$$

   are characterized by the extremal properties of φ_n.

3. The geometric locus of the ends of the vectors $\mathit{MO}^{(n)}_r$ for the points of a

   moving straight line D is a straight line perpendicular to D.

Two further theorems are generalizations of the theorem of Kotel'nikov
(Mat.Sbornik,n.Ser, <u>34</u>, 238 (1927)) and of the theorem of similarity. The
author's considerations allow a graphic-analytic treatment of some plane
problems of engineering.

INSTITUTION: Polytechnic Institute, Jassy Rumanian.

MANGERON, D.; BOGDA.i, R.

Study, research work and prospects in the field of machines and mechanisms carried
out in Rumania. p.1093

STUDII SI CERCETARI DE MECANICA APTICATA. Academia Republicii Populare Romine
Bucuresti, Rumania
Vol. 9, no.4, 1958

Monthly List of East European Accessions (.EAI) C, Vol.9, no.1, Jan. 1960
Uncl.

41703

S/044/62/000/010/012/042
B180/B186

AUTHORS: Mangeron, D., Krivosein, L. E.

TITLE: Some problems in the solution of integro-differential
equations

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1962, 54,
abstract 10B249 (An. ştiinţ. Univ. Iaşi, sec. 1, v. 6,
no. 3, supl. 1960, 605-616 ([summaries in Rum. and French])

TEXT: Let

$$L[y] \equiv y^{(n)}(x) + \sum_{k=1}^{n} a_k(x) y^{(n-k)}(x);$$

$$P[y] \equiv \sum_{l=1}^{k} b_l(x) D_l[y];$$

$$D_l[y] \equiv \sum_{m=1}^{r} c_m(x_l) y^{(m)}(x_l); \quad S[y] \equiv \sum_{m=1}^{p} d_m(t) y^{(m)}(t);$$

λ is a parameter; x_i, x, $t \in [c,d]$; the well-known functions $a_k(x)$, $b_i(x)$,

$c_m(x)$; $d_m(t)$ $K_i(x,t)$ are determined in the square x, $t \in [c;d]$,

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$z_1(x)$, ..., $z_n(x)$ is an arbitrarily stipulated, linearly independent
n-times differentiable system of functions, the Wronskian of which is
non-vanishing at the segments $[c;d]$; $H(x,t)$ is a given function which has
the property:

$$\left[\frac{\partial^i H(x,t)}{\partial x^i}\right]_{t=x} = \begin{cases} 0, & i = 0, 1,\ldots,n-2; \\ a(x), & i = n-1, \end{cases}$$

where $a(x) \neq 0$ at $x \in [c;d]$. For the boundary problem

$$R_i[y] \equiv \int_c^d r_i(t)\, S[y]\, dt = \gamma_i\ (i = 1,\ldots,n),\ \text{(a)}$$

(I)

$$L[y] = f(x) + P[y] + \lambda \int_a^u \sum_{k=0}^m K_k(x,t)\, y^{(k)}(t)\, dt,\ \text{(b)},$$

where u = x or u = b, the following are expounded: (1) Methods of
deriving a solution; (2) Methods of deriving approximate solutions;
(3) Conditions for the unambiguous and ambiguous solvability of problem
(I). We will only outline the method for obtaining a solution to
problem (I) for the case u = x; $n \geqslant (m,p,z)$. If the functions

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Some problems in the solution ...

$$y(x) = \sum_{k=1}^{n} c_k z_k(x) + \int_a^x H(x, t) \varphi(t)\, dt, \qquad (\text{II}),$$

where $c_1, \ldots, c_n$ are certain constants, are substituted in equation (b),
an integral equation of the Volterra type will be obtained in respect
of $\varphi(t)$. Having found $\varphi(t)$ from this and then substituting it in (II),
the following equality is obtained

$$y(x) = f_2(x, \lambda) + \sum_{l=1}^{n} c_l v_l(x, \lambda) + \sum_{l=1}^{k} \beta_l(x, \lambda) D_l[y]. \qquad (\text{III}).$$

If the (III) functions are substituted in boundary conditions (a),

$$\sum_{l=1}^{n} c_l \delta_{ij}(\lambda) = \mu_j(\lambda) + \sum_{l=1}^{k} w_{ij}(\lambda) D_l[y]\ (l=1,\ldots,n). \qquad (\text{IV}).$$

If the $c_1, \ldots, c_2$ solution of the (IV) system is substituted in (III),

$$y(x) = F(x, \lambda) + \sum_{l}^{k} u_l(x, \lambda) D_l[y]. \qquad (\text{V}).$$

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Some problems in the solution ...

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B180/B186

After applying the operators $D_j[\cdot]$ (j = 1,...,k), to (V) we get the system of equations

$$\sum_{l=1}^{k} \epsilon_{lj}(\lambda) D_l[y] = a_j(\lambda) \ (j = 1,\ldots,k).$$

Finding $D_j[y]$ (j = 1,...,k) from this, and then substituting it in (V), we shall get an explicit term for the solution to problem (I). Also studied is the case where

$$\det (\partial_{lj}(\lambda)) = 0; \ \det (\epsilon_{lj}(\lambda)) = 0.$$

[Abstracter's note: Complete translation.]

Card 4/4

IL 6500

AUTHORS: Mangeron, D., Krivochéine, L. E.

TITLE: On several approximation problems which refer to a new
              class of integro-differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 33-34
              abstract 7V150. ("Bull. Acad. polon. sci. Sér. sci. math.,
              astron. et phys.", 1961, 9, no. 10, 707-712)

TEXT: Investigated is the boundary value problem

$$[D^l u]_{x=a} = [D^l u]_{x=b} = 0 \quad (l = 0, 1, \ldots, n-1), \quad (1)$$

$$D^n u(x, y) - \lambda (n-1)!^2 [A(x, y) u(x, y) + B(x, y) D^2 u(x, y)] =$$

$$= (n-1)!^2 \, i f(x, y) + \lambda \int_P E(x, y, \xi, \eta) \sum_0^m F_p(\xi, \eta) D^p \times$$

$$\times u(\xi, \eta) \, d\xi d\eta. \quad (2)$$

where Du is a general derivative in the sense of Picone, $A(x,y)$, $B(x,y)$, $E(x,y,\xi,\eta)$ $F_p(\xi,\eta)$ being continuous functions of its arguments and different from zero in P_1 and $P-P_1$; $P = \{ a \leq x, \xi \leq c; b \leq y, \eta \leq d \}$;
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On several approximation problems ...

$P_1 = \left\{ a \leqslant \xi \leqslant x, \; b \leqslant \eta \leqslant y \right\}$; λ being a parameter and $u(x,y)$ being the searched solution.

By aid of the transformation

$$u(x,y) = \frac{1}{(n-1)!^2} \iint\limits_{P_1} \left[(x-\xi)(y-\eta) \right]^{n-1} \varphi(\xi, \eta) \, d\xi \, d\eta \qquad (3)$$

one passes over from problem (1)-(2) to the integral equation

$$\varphi(x,y) - \lambda \iint\limits_{P} R(x,y,\xi,\eta) \varphi(\xi, \eta) \, d\xi \, d\eta = F(x,y) \qquad (4)$$

with well-known functions $F(x,y)$, $R(x,y,\xi,\eta)$. The authors search the solution of (4) under the supposition

$$l = 1 - |\lambda_o| \; \max_{P} \iint\limits_{P} |R(x,y,\xi,\eta)| \, d\xi \, d\eta > 0 \qquad (5)$$

Card 2/4

On several approximation problems ...   C111/C333

in the form of an absolutely and informaly converging series

$\tau(x,y) = \sum_{0}^{\infty} \lambda_{0}^{i} v_i(x,y)$. They confine themselves in this series to s

members, put them into (3) and obtain an approximative solution $u_s(x,y)$

of problem (1), (2); the error $|u(x,y) - u_s(x,y)|$ is estimated. If (5)

is not satisfied, then (4) is transformed into a system of linear alge-
braic equations by aid of cubature formulas. The approximative solution
$\gamma(x_i, y_i)$ (i=1,...,k; j=1,...,s) of (4) serves for the construction of
the approximative solution u(x,y) of (1), (2). The error $u(x,y)-u(x,y)$
is estimated. The last method is applicable to the solution of the
equation (2) with the boundary conditions

$$u\big|_L \equiv 0; \ Du\big|_{L_1} \equiv \ldots \equiv D^{n-1}u\big|_{L_1} = 0$$

where

$$L_1 \equiv \begin{cases} x=a, \ b \leqslant y \leqslant d \\ y=b, \ a \leqslant x \leqslant c \end{cases}$$

Card 3/4

On several approximation problems ...   S/044/62/000/007/058/100
C111/C333
and L denoting the boundary of P.

[Abstracter's note: Complete translation.]

Card 4/4

MANGERON, D.; DRAGAN, C.

Study on the mechanism in the space by the method of reduced accelera-
tions. I. The space four-link mechanisms. Studii cerc mec apl 12 no.5:
1025-1046 '61.

1. Institutul politehnic, Iasi.

MANGERON, D. DRAGAN, C.

Kinematic study of the four-unit space mechanisms with the
matrix-tensorial method. Studii cerc mec apl 12 no.6:1257-1270
'61.

MANZHERON, D. [Mangeron, D.] (Iassy); KRIVOSHEIN, L. Ye. (Frunze, SSSR)

Solutions of a class of boundary problems. Rev math pures 7 no. 4:603-615 '62.

1. Yasskiy politekhnicheskiy institut, Kirgizskiy Gosudarstvennyy universitet.

MANGERON, D.

The 3d Polish General Conference on the Theory of Mechanisms
and Machines; Rogov-Warsav, June 8-10, 1961. Studii cerc mec
apl 13 no.1:235-240 '62.

MANGERON, D.

International Symposium on Nonlinear Oscillations; Kiev, September
12-18, 1961. Studii cerc mec apl 13 no.1:241-246 '62.

MANGERON, D.; BOGDAN, R.C.

The third All-Union conference on the basic problems of the
theory of mechanisms and machines, held in Moscow, June 23-28,
1961. Studii cerc mec apl 13 no.3:783-790 '62.

MANGERON, D.

Joint jubilee session of the Academies of Sciences of the
U.S.S.R., Georgian S.S.R., Azerbaijan S.S.R., and Armenian
S.S.R., dedicated to the 40th anniversary of the establishment
of Soviet Power in Georgia and the founding of the Communist
Party of Georgia, November 30-December 4, 1961. Studii cerc
mec apl 13 no.3:791-793 '62.

1. Institutul politehnic, Iasi.

MANGERON, D.; CROITORU, E.

Theory of the reduced accelerations in punctual and tangential
coordinates. Studii cerc mec apl 13 no.5:1177-1192 '62.

1. Institutul politehnic, Iași.

MANGERON, D.; DELEANU, S.

A class of equations of the analytic mechanic in the sense of
I. Tsenov. Doklady BAN 15 no.1:9-12 '62.

1. Note présentée L. Tchakaloff [L. Chakalov], member de l'Académie
et membre du Comité de rédaction, "Doklady Bolgarskoy Akademii nauk."

MANGERON, D.; KRIVOCHÉINE, L. [Krivoshein, L.]

Solutions of the integral differential equations by polynomial method. Doklady BAN 15 no.4:345-348 '62.

1. Institut Polytechnique, Jassy, R.P. Roumanie (for Mangeron).
2. Université d'Etat "Frunze," U.R.S.S. (for Krivoshein). Note présentée par L. Tchakaloff [Chakalov, L.], membre de l'Académie.

MANGERON, D.

Methods of approximation in the study of a new class of contour problems regarding linear integrodifferential equations with higher order partial derivatives. Bul stiint polit Cluj 6:31-41 '63.

1. Polytechnic Institute, Bucharest.

MANGERON, D.; KRIVOSEIN, L.E.

Some methods for solving the contour problems of a new
class of linear integrodifferential equations. Pt. 1.
Bul St si Tehn Tim 8 no.1:19-35 Ja-Je '63.

1. Institutul politehnic, Iasi (for Mangeron). 2. Universi-
tatea de State, Frunze, U.R.S.S. (for Krivosein).

MANGERON, D.

The First Conference on the Theory of Mechanics and Machines in the
Baltic region. Kaunas, Lithuania, U.S.S.R., June 26-30, 1962. Studii
cerc mec apl 14 no.1:251-255 '63.

1. Institutul politehnic, Iasi.

MANGERON, D.

International Congress of Mathematicians, Stockholm,
August 15-22, 1962. Studii cerc mec apl 14 no. 6:
1501-1503 '63.

AUTHORS: Mangeron, D., Croitoru, E.

TITLE: The general theory of reduced accelerations in tangential coordinates

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 1, 1963, 54-56

TEXT: For the vector system

$$r_M = r_{M_0} + \mu_1 u_1 + \mu_2 u_2, \quad (u_1 \cdot u_2) = 0, \quad u_1^2 = u_2^2 = 1, \tag{1}$$

$$r_{M^*} = r_{M_0} + \mu_1 u_1 + \mu_2 u_2 + \lambda \frac{d^{m+1}}{dt^{m+1}} (r_{M_0} + \mu_1 u_1 + \mu_2 u_2) \equiv r_M + \lambda a_M^{(m)} \tag{2}$$

$$a_M^{(m)} = a_{M_0}^{(m)} + (-\overline{A_m + B_m \times}) u + \sum_{l=0}^{m-1} \vec{\omega}^{(l)} (C_{ml} \cdot u),$$

$$A_{m+1} = \frac{dA_m}{dt} + \vec{\omega} \cdot B_m, \tag{3}$$

$$A_1(u) = (\vec{\omega} \cdot u)(\vec{\omega} \cdot u) \quad \text{при} \quad A_1 = (\vec{\omega} \cdot \vec{\omega}),$$

$$A_2(u) = 3(\vec{\omega}^{(2)} \cdot u)(\vec{\omega} \cdot u) \quad \text{при} \quad A_2 = 3(\vec{\omega}^{(2)} \cdot \vec{\omega}) \text{ и т. д.}, \tag{4}$$

Card 1/3

The general theory of reduced ...

$$S/020/63/148/001/009/032$$
$$B112/B180$$

$$B_{m+1} = \frac{d\,B_m}{dt} - A_m \vec{\omega},$$

$$B_1(u) = (B_1 \cdot u) = (\vec{\omega}^{(2)} \cdot u) \qquad \text{при } B_1 = \vec{\omega}^{(2)}, \qquad (5)$$

$$B_2(u) = (B_2 \cdot u) = (\vec{\omega}^{(3)} \cdot u) - (\vec{\omega} \cdot u)(\vec{\omega} \cdot \vec{\omega}) \text{ при } B_2 = \vec{\omega}^{(3)} - (\vec{\omega} \cdot \vec{\omega})\vec{\omega} \text{ и т. д.;}$$

$$C_{mj} = C_{m-1,\,j-1} + D\,C_{m-1,\,j} \quad (m = 1, 2, \ldots;\ j = 0, 1, \ldots, m-1),$$

$$C_{10} = \vec{\omega}, \quad C_{m-1,\,-1} = B_{m-1}, \quad D \equiv \frac{d}{dt} - \vec{\omega} \times, \qquad (6)$$

the following two theorems are derived: (1) The planes

$$(P),\,(P'_m) \quad r'_{M\cdot} = r_{M_\bullet} + \mu_1 u_1 + \mu_2 u_2 + \lambda'_m a_M^{(m)}, \qquad (9)$$

$$(P),\,(P''_m) \quad r''_{M\cdot} = r_{M_\bullet} + \mu_1 u_1 + \mu_2 u_2 + \lambda''_m a_M^{(m)}, \qquad (10)$$

and the reduced accelerations

$$a_{Mr}^{(m)'} = \lambda'_m a_M^{(m)}; \quad a_{Mr}^{(m)''} = \lambda''_m a_M^{(m)}, \qquad (11)$$

where

Card 2/3

The general theory of reduced ...   S/020/63/148/001/009/032
B112/B180

$$\lambda'_m = \frac{1}{2} \frac{A_m + A_m(u_3) + \sqrt{(A_m - A_m(u_3))^2 - 4B_m^2(u_3)}}{A_m \cdot A_m(u_3) + B_m^2(u_3)},$$ (7)

$$\lambda''_m = \frac{1}{2} \frac{A_m + A_m(u_3) - \sqrt{(A_m - A_m(u_3))^2 - 4B_m^2(u_3)}}{A_m \cdot A_m(u_3) + B_m^2(u_3)},$$ (8)

$$u_3 = u_1 \times u_2,$$

constitute generalized Kotel'nikov frames of reference. (2) The planes
(P), (P'$_m$), (P''$_m$) form a right triangle.

ASSOCIATION: Yasskiy politekhnicheskiy institut, Yassy, Rumyniya
(Yassy Polytechnic Institute, Yassy, Rumania)

PRESENTED: July 13, 1962, by I. I. Artobolevskiy, Academician

SUBMITTED: April 26, 1962

Card 3/3

MANOTON, D.; SHESTOPAL, F.

problem of triangular plate apertura. Rev med appl 9 no.4:335-342

Polytechnic Institute, Dept. for Engineer. R. Rumanian
Academy of Sciences, Dev for Histopath.

MANZHERON, D. [Mangeron, D.]; SHESTOPAL, A.F.

Contribution to the problem of applications of the Green
Functions. Pt. 1. Rev math Roum 9 no.9:863-875 '64.

1. Polytechnic Institute, Uasi (for Mangeron). 2. Academy
of Sciences of the U.R.S.R., Kiev (for Shestopal).

MANZHERON, D. [Mangeron, D.]; KHANGANU, V. [Hanganu, V.]

Problems in the automatic regulation of warp tension
on the loom. Tekstilna prom 13 no. 1:14-15 '64.

MANGERON, D.; JASIULIONIS, A.; MAT.....L, Liliana

New matrix meth... : ... ... randi..,. ... .
Studii ... mec a... .. ..i...;.. ...

i. Polytechi... Inst.. ..., ...'... ... Manu... ... .. A.... .. ..
Sciences for the Li...... ... . "... . ...."
University, iasi (for ... .

MORGAN, ...; & ...th, ... (...ch ...a, ...

Contour problems for linear differential equation ... operators of parabolic type. Doklad ... ...

1. Polytechnic institute, ... (... ... ... University, ... (... ... ...).

MANGERON, D.; KRIVOSEIN, L.E. [Krivoshe'n, L.Ye.]

Mixed problems of a class of integrodifferential equations
of the parabolic type. Bul Inst Politeh 26 no.1:17-31 Ja-F '64.

1. Polytechnic Institute, Iasi (for Mangeron).
2. Kirghiz State University, U.S.S.R. (for Krivosein).

MANGEYM, A YE.

33555

O Nekotorykh Dopolnitel'nykh Metodakh Lecheniya Tyazhelo Ranenykh S Ognestrel'nymi
Povrezhdeniyami Trubchatykh Kostev. Uchen. Zapiski (Chernovits Gos. Med. In-T),
T. 1, 1949, c. 64-74

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Maskva 1949

MANGEYM, R.A.

Perineal hernia with benign tumor. Khirurgiia no.2:67-68 F '55.

(MLRA 8:5)

1. Klinika fakul'tetskoy khirurgii Chernovitskogo meditsinskogo instituta.

(HERNIA,
    ischiorectal, with tumor)
(PERINEUM, neoplasms,
    with ischiorectal hernia)

26-58-5-35/57

AUTHOR: Mangheron, D., Professor (Iasi , Rumania)

TITLE: The Scientific Activity of the Yassy Polytechnical Institute
                 (Nauchnaya deyatel'nost' Yasskogo politekhnicheskogo instituta)

PERIODICAL: Priroda, 1958, Nr 5, pp 109 - 110 (USSR)

ABSTRACT: The Yasskiy politekhnicheskiy institut (Yassy Polytechnical
                 Institute) was established in 1937 and expanded in 1948. At
                 present, it is one of Rumania's largest institutions of its
                 kind and has 5 faculties, modern equipment, experimental sta-
                 tions and an up-to-date library. This institute publishes a
                 journal "Izvestiya Yasskogo politekhnicheskogo instituta",
                 which contains articles in the fields of mathematics, mechanics,
                 physics, chemistry and technical sciences. Of the 500 original
                 articles published since 1946, 125 were written by authors
                 of other towns of the country or foreign scientists. The
                 editors of the journal want an increased contact with foreign
                 scientists, mainly Soviet, and a stepped-up exchange of
                 foreign literature.

AVAILABLE: Library of Congress
Card 1/1   1. Study and teaching-Rumania   2. Yassy Polytechnical Institute-
                 Rumania

MANGINA, D.V.

Motor activity of the stomach stump following resections of
various extent and its interrelationship with the motor activity
of the abducent joint formed by a loop of the small intestine
sutured to the anastomosis. Trudy Inst. fiziol. 7:343-351 '58.
(MIRA 12:3)

1. Khirurgicheskiy sektor (zav. - V.I. Sazontov). Instituta
fiziologii im. I.P. Pavlova AN SSSR.
(STOMACH--SURGERY)

MANGINA, D.V.

Relation between the chemism of digestion in the stomach and
the extent of gastric resection. Trudy Inst. fiziol. 7:352-360
'58.   (MIRA 12:3)

1. Khirurgicheskiy sektor (zav. - V.I. Sazontov [deceased] In-
stituta fiziologii im. I.P. Pavlova AN SSSR.
        (STOMACH--SURGERY) (DIGESTION)

MANGINA, D.V.

Effect of extirpation of parts of the forward cortex on the function of the intact and partically resected stomach during a test with drugs. Trudy Inst.fiziol. 8:273-280 '59.

(MIRA 13:5)

1. Laboratoriya interotseptivnykh uslovnykh refleksov (zavedu-yushchiy - E.Sh. Ayrapet'yants) Instituta fiziologii im. I.P. Pavlova AN SSSR.

(CEREBRAL CORTEX)   (STOMACH)

AID Nr. 996-4   24 June

METHODS FOR EVALUATING RADIOPROTECTIVE ACTIVITY OF CHEMICAL COMPOUNDS (USSR)

Mangina, D. V. Radiobiologiya, v. 3, no. 2, 1963, 240-246.

S/205/63/003/002/014/024

Aqueous suspensions of yeast cells (Saccharomyces vini, Megri 139 B strain; $1.5 \cdot 10^6$ cells per ml) were introduced into freshly prepared solutions of chemical compounds 15 to 20 min before exposure. The specimens were irradiated with 30, 45, or 60 kr from an PYM-3 apparatus (180 kv; 15 ma; filters, 0.5 mm Cu and 0.2 mm Al; distance, 7 cm; dosage, 1000 r/min). The nonirradiated and the irradiated yeast cells were diluted immediately after exposure with sterile distilled water, inoculated on Petri dishes, covered with a nutrient medium which contained brewer's wort, and placed in a thermostat at 30° C for four days, whereupon the number of macrocolonies was counted. Of 47

Card 1/2

AID Nr. 996-4   24 June

METHODS FOR EVALUATING RADIOPROTECTIVE [Cont'd]   8/205/63/003/002/014/024

tested chemical compounds, 15 were found to be radioprotectors in experiments with yeast cells, and 14 in experiments with mice. In 13 cases, the radio-protective chemicals were effective both with yeast cells and with mice. Micro-organisms, particularly yeast cells, proved to be the most suitable objects for studying the effectiveness of radioprotectors because the biological ef-fects of ionizing irradiation on yeast cells have been thoroughly investigated and the testing procedure is very simple. The method, however, can be used only for water-soluble chemical preparations.   [SGM]

Card 2/2

. 1C7Q..-67   LPT(1)   GW

ACC NR: AP6029899   (A, N)   SOURCE CODE: UR/0413/66/000/015/0062/0062

INVENTORS: Alekseyev, A. M.; Bezruk, I. A.; Bulanov, N. A.; Shchukin, S. N.; Klyuchkin, V. N.; Kulikov, A. V.; Molikadze, S. Ye.; Chinarova, O. M.; Yemel'yanov, A. M.; Mangirova, G. S.; Rozin, G. I. M.; Boltalin, A. P.; Zlatkovich, L. A.; Iova, G. M.; Sokolova, E. D.

ORG: none

TITLE: Geoelectric prospecting device. Class 21, No. 184361 /announced by All-Union Scientific Research Institute of Geophysical Prospecting Methods (Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki)7

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 62

TOPIC TAGS: prospecting, geologic instrument

ABSTRACT: This Author Certificate presents a geoelectric prospecting device containing a dc generator, a master oscillator, a thyratron bridge commutator, a reference phase synchropulse shaper unit, a radio station, and a measuring laboratory. The laboratory contains an electromagnetic field receiver, a calibration unit, a selective amplifier, a radio station, a synchropulse shaper unit, an electronic oscillograph, a recorder, a time setting unit, and a detector voltmeter. For generalized utilization of the device in the VP, MPP, and INFAZ methods, to increase the accuracy of measuring the phase angles in the infrasonic frequency range, and to increase the noise

Card 1/2   UDC: 550.837

L 10306-67

ACC NR: AP6029899   0

protection when measuring pulsed signals, a phase marker in the form of a diode
regenerative comparator is placed in the measuring laboratory. The comparator is
connected to the output of the selective amplifier. An input signal divider connected
to the input of the selective amplifier is used in the calibration unit. A do
amplifier operating in the electrometric mode is connected between the register and
recorder (see Fig. 1).
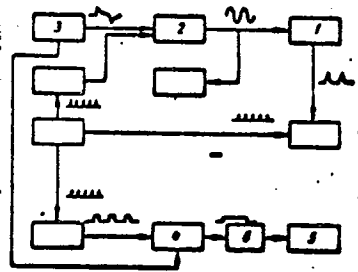
Fig. 1, 1 - phase marker; 2 -
selective amplifier; 3 - cali-
bration unit; 4 - register; 5 -
recorder; 6 - dc amplifier

Orig. art. has: 1 diagram.

SUB CODE: 09/08/   SUBM DATE: 30Jun64

Card 2/2

MANGIUREA, D., ing.; MANGIUREA, F., ing.

Performance of single-phase induction meters manufactured
by the "Electromagnetica" works. Metrologia apl 11 no. 6:
263-268 Je '64.

. MANGIUREA, D., ing.; MANGIUREA, F., ing.

Performance of single-phase induction meters manufactured
by the "Electromagnetica" works. Metrologia apl 11 no. 6:
263-268 Je '64.

8/271/63/000/002/001/030
A060/A126

AUTHOR: Mangiurea, Frederic

TITLE: Dynamic characteristics of code relays

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya
             Technika, no. 2, 1963, 7, abstract 2A30 (Automat. şi electron.,
             1961, v. 5, no. 6, 253 - 258, Rumanian)

TEXT: The author considers the dynamic characteristics of telephone-type
valve relays with several contact groups. Structurally, the relay is made with
a U- or E-shape armature with an exciter coil in one of the branches. High-speed
relays possess structural differences in the shape of the armature, the material
of the exciter coil bobbin (bakelite or brass). Brass bobbins, possessing a
better heat emission, make it possible to build small-sized relays. Moreover,
relays are distinguished as to the form of the contact groups amounting to ten
configurations. The supply voltages of the relay are 6, 12, 24, 48, 110, and
220 volts; environmental temperature is in the range from -40 to +60°C, humidity
up to 70%. The exciting power is from 1 to 5 w and the power controlled by the

Card 1/2

Dynamic characteristics of code relays

contacts is 50 w DC and up to 80 va AC. The reliability of the relays is characterized by a guaranteed number of $5 \cdot 10^6$ operations. The operating time for various types of relays varies between 10 msec and 1 sec. A number of graphs is given characterizing the variation of the dynamic parameters as a function of external influences. There are 8 figures and 4 references.

A. M.

[Abstracter's note: Complete translation]

Card 2/2

MANGIUREA, Frederic, ing.

Preventive statistical control of the parts with complicated profiles
by means of profile projectors. Metalurgia constr mas 13 no.10:
903-907 0 '61.

(Projectors)

RANCU, Nicolae; MANGIUREA, Frederic Octavian

Statistical calculation of the precision of machine tools in
view of optimum allotment of the working parts depending on
their tolerances. Constr mas 15 no.5:376-381 My '63.

L 1217-66   EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(1)/ETC(m) WW

ACCESSION NR: AP5025825   RU/0005/65/000/004/0120/0126

23

AUTHOR: Mangiurea, Frederic Octavian (Engineer)

TITLE: Automatic telephone set manufactured by the Electromagnetica Works of Bucharest

SOURCE: Telecomunicatii, no. 4, 1965, 120-126

TOPIC TAGS: telephone equipment, telephone system, telecommunication industry, quality control

ABSTRACT: A description of the new dial telephone and its operation, as well as a summary of the quality-control methods used during its manufacture. Circuit diagrams and technical specifications are included. Orig. art. has: 12 fig/r figures, 7 graphs, 2 tables.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: EC, GO

NR REF SOV: 000   OTHER: 000   JPRS

Card 1/1

MANGIUREA, Octavian.F., ing.

Control of forged and cast parts by ultrasonics. Industria usoara 11
no.2:88-91 F '64.

MANGOLD, Jossef, dr.; RADY, Lajos

        General shipping conditions. Kozleked kozl 18 no.33:620-622
        19 Ag '62.

MANGOLD, Jozsef, dr.

Some questions of the responsibility of transfer companies.
Kozleked kozl 20 no.34:568-571 23 Ag '64.

MAGGAD. Jozsef, dr.

New conditions of internal combustion aviation. Oz ....
el no.6 96:13   F 12.

MANGU, G.; POPESCU, C.

Electric traction controller. p. 471.

ELECTROTEHNICA. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din
    Rominia si Ministerul Energiei Electrice si Industriei Electrotehnice)
    Bucuresti, Rumania. Vol. 6, no. 12, Dec. 1958.

MANGU, G.

Criteria of comparison for circuit breakers with minimum of oil
and compressed air. Energetica Rum 13 no.2: 75-80 F '65.

1. Planning Engineer, Enterprise for Rationalization and Moder-
nization of Electric Power Installations. Submitted March 13,
1964.

H

COUNTRY   : RUMANIA
CATEGORY   : Chemical Technology. Chemical Products and Their
                 Application. Pharmaceuticals. Vitamins. Antibio*

ABS. JOUR.   : RZhKhim., No 17, 1959, No. 61835

AUTHOR   : Vasiliyev, R.; Cosmin, A.; Wermesher, B.; Mangu,M;**
INSTITUTE   : -
TITLE   : Nitrometric Method for Quantitative Determination
                 of Certain Sulfamides: Sulfanilamide, Sulfaguanidine,*

ORIG. PUB.   : Farmacia (Romin.), 1958, 6, No 4, 327-332

ABSTRACT   : Described is application of the nitrometric
                 method for quantitative determination of cer-
                 ain sulfamides. Orange IV is used as an indi-
                 cator. The determinations are carried out in the
                 presence of KBr which acts as catalyst. Check of
                 the obtained results is made with the aid of the
                 potentiometric method and gives close values. The
                 method is simple and requires little time to per-
                 form.

                 *tics.
                 **Burnea, I.
                  *Sulfadiazine.
Card:
                 1/1   H - 71

VASILIEV, R.; COSMIN, A.; MANGU, M.; BURNEA, I.

Nitritometric determination of p-aminophippuric acid (P.A.H.)
by the internal indicator orange IV. Rev chimie Min petr 13
no.3:170 Mr '62.

VASILIEV, R.; COSMIN, A.; MANGU, M.; BURNEA, I.

Nitritometric determination with internal indicator of procaine amide hydrochloride (pronestyl), scuroform, sulfacetamide (Na), and sulfamethazine. Rev chimie Min petr 13 no.4:239 Ap '62.

VASILIEV, R.; MANGU, M.

Determination of lactobionic acid. Rev chimie Min petr 14
no.1:49 Ja '63.

1. Institutul pentru controlul de stat at medicamentelor si
cercetari farmaceutice.

VASILIEV, R.; MANGU, M.; COSMIN, A.; BURNEA, I.

Determining procaine hydrochloride in the Rinosept pomade by
the nitritometric method in the presence of internal indicators.
Rev chimie Min petr 15 no. 4:223-224 Ap '64.

1. Institute of State Control of Medicines and Pharmaceutical
Research.

L 47272-66

ACC NR: AP6034664   SOURCE CODE: RU/0003/66/017/003/0174/0175

VASILIEV, R., MANGU, M., BURNEA, I. and COSMIN, A., of the
Institute for the State Control of Drugs and Pharmaceutical
Research (Institutul Pentru Controlul de Stat al Medicamentelor
si Cercetari Farmaceutice).

   "Determination of Sulphaproxiline and Sulphomerazine in
'Dosulfin'."

Bucharest, Revista de Chimie, Vol 17, No 3, Mar 66, pp 174-175.

Abstract: The authors describe the determination of sulpha-
proxiline and sulphomerazine in Dosulfin tablets by a nitrito-
metric method, in the presence of internal indicators. The
method is simple and gives good results, allowing an accurate
determination of total nitrogen. The excipients used in the
tablets do not interfere with the analysis and need not be
removed in advance. Orig. art. has: 1 table. [JPRS: 36,862]

TOPIC TAGS;   organic sulfur compound, quantitative analysis

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 005

Card 1/1

S/724/61/000/000/01%/020

AUTHORS: Loktionova, N. A., Mangubi, N. M.

TITLE: The influence of anneal and cold treatment on the dimensional stability of die-cast Aluminum-alloy castings.

SOURCE: Liteynyye alyuminiyevyye splavy; svoystva, tekhnologiya plavki, lit'ya i termicheskoy obrabotki. Sbornik statey. Ed. by I. N. Fridlyander and M. B. Al'tman. Moscow, Oborongiz, 1961, 111-117.

TEXT: The paper describes an experimental investigation intended to determine under what circumstances cold treatment of Al castings contributes to the dimensional stability of the castings. More especially, the work described here was intended to verify the advisability of cold treatment under pressure of Al castings which are not subjected to a strengthening heat treatment and also to develop an optimal annealing regime for castings and parts made of the Al alloys A Λ2 (AL2), A Λ3 (AL3), and A Λ9 (AL9), a regime that would stabilize their dimensions after casting and machining. The method used for the measurement of the dimensional changes resulting from residual stresses consisted in the drawing of short straight lines on suitable portions of a part, and two transverse segments were drawn at a specified distance from one another, in a manner that permitted repeated verification

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The influence of anneal and cold treatment S/724/61/000/000/014/020

of the distance between the two lines as the process progressed. The measurements between the control lines were made with an accuracy of ±0.01 mm. Both castings and machined parts were tested in that fashion. Cold treatment consisted in soaking at -50°C for 3, 6, 9, 12, 15, and 30 hrs. In the determinations of the effect of holding time at 300° on the dimensional stability of the castings, the specimens were heated in air-circulation furnaces for 0.5, 2, 4, 6, and 8 hrs. Three cyclic procedures were also employed, as follows: (a) Anneal at 300 ± 10°C for 4 hrs; (b) anneal at 300 ± 10° for 4 hrs, followed by cold treatment at -50°C for 3 hrs; (c) cold treatment at -50° for 3 hrs, followed by anneal at 300 ± 10° for 4 hrs. The residual-stress investigation consisted of an anneal of the castings at 300° for 4 hrs, followed by machining according to the respective blueprints; the finished parts were again heated to 300°, and the various high- and low-temperature sequences outlined above were repeated. It was found that the second annealing of parts after machining is indispensable in the following cases: (a) When the part has a complex contour and, also, sharp variations in cross-section; (b) if the requirements for dimensional stability of a part are very stringent; (c) if the ratio of the machined surface to the unmachined surface is great. Following is the recommended heat treatment for a first-stage treatment for castings and for a second-stage treatment for some types of parts after machining to obtain the best possible dimensional stability: Anneal at 300 ± 10°, holding for 2-4 hrs, and water cooling. Castings

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and parts must not be subjected to any kind of external dynamic action, such as
impact, shaking, compression, etc., either during or after anneal and also during
transportation. Cold treatment at $-50^{\circ}C$ of castings and parts made of AL2, AL3,
and AL9 alloys, which have not been strengthened by heat treatment, have no
effect on the magnitude of the deformations. There are 6 figures and 1 table;
no references. The participation of L. U. Rodicheva, A. F. Chuvikova, and T.I.
Suvorova in the investigation is acknowledged.

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MANGUBI, V A

PHASE I BOOK EXPLOITATION   SOV/5452

Donskoy, Ya. Ye., G.I. Kardash, and I.P. Lyulyuk, eds.

Mekhanizatsiya i avtomatizatsiya; sbornik statey ob opyte vnedreniya mekhanizatsii i avtomatizatsii na khar'kovskikh mashinostroitel'nykh zavodakh [Mechanization and Automation; Collection of Articles on the Introduction of Mechanization and Automation in Khar'kov Machinery-Manufacturing Plants] [Khar'kov] Khar'kovskoye knizhnoye izd-vo, 1960. 373 p. 3,900 copies printed.

Editorial Board: S.A. Vorob'yev, Candidate of Technical Sciences; Chairman of the Editorial Board: P.I. Zmigo, Engineer; A.A. Kotlov, Engineer; V.I. Kurshov, Engineer, A. Ye. Leonov, Docent, A.I. Tupitsyn, Candidate of Technical Sciences, and S.M. Khmara, Candidate of Technical Sciences; Eds.: Ya. Ye. Donskoy, G.I. Kardash, and I.P. Lyulyuk; Tech. Ed.: M.I. Lisunova.

PURPOSE: This collection of articles is intended for technical and scientific personnel, outstanding workers, and shock workers of communist labor.

COVERAGE: The multifaceted experience of Khar'kov enterprises in the mechanization, automation, and improvement of manufacturing processes is generalized. The development of new machines, instruments, and production methods is considered and attention is given to newly established enterprises, and to the introduction of telemechanics in the Khar'kov gas-system management. By including concrete examples and facts, the authors of the various articles attempt to demonstrate the achievements of the Khar'kov industrial complex in fulfilling the resolutions of the June (1959) and July (1960) Plenums of the Central Committee of the Communist Party of the Soviet Union. No personalities are mentioned. There are no references.

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[Adjustment and operation of equipment in the Novo-Ufimskii Heat and
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