VASHAKMADZE, B.A.

Effect of the time of nitrogen fertilizer application on grape yields. Soob. AN Gruz. SSR 27 no.5:547-552 N '61. (MIRA 15:1)

1. Akademii sel'skokhozyaystvennykh nauk Gruzinskoy SSR Institut sadovodstva, vinogradarstva i vinodeliya, Tbilisi. Predstavleno chlenom-korrespondentom AN Gruzinskoy SSR Sh.F. Chanishvili.
(Georgia--Grapes--Fertilizers and manures)
(Nitrogen fertilizers)

VASHAKMADZE, R.V.

Mold wash to avoid sand sticking and crumbling. Lit. proizv. no.4:44 Ap '62. (MIRA 15:4)

(Molding (Founding))

S/0208/64/004/004/0623/0637

ACCESSION NR: AP4042751

AUTHOR: Vashakmadze, T. S. (Tiflis)

TITLE: Numerical solution of boundary value problems

SOURCE: Zhurnal vy*chislitel'noy matematiki i matematicheskoy fiziki, v. 4, no. 4, 1964, 623-637

TOPIC TAGS: boundary value problem, approximate solution, Lipschitz condition, existence, uniqueness, quadrature

ABSTRACT: The author studies the problem of approximate solution of a boundary value problem of the form

$$y''(x) = f(x, y(x), y'(x)) \quad (0 < x < 1), \tag{1}$$

$$y(0) = \alpha, \quad y(1) = \beta. \tag{2}$$

and the case where (1) has the form

$$y''(x) = f(x, y(x)) \quad (0 < x < 1), \tag{3}$$

where the function f(x,y) satisfies a Lipschitz condition with respect to y with some constant $L < 8$. This assumption guarantees existence and uniqueness of the

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ACCESSION NR: AP4042751

solution of problem (3), (2). He assumes that

$$\frac{1}{4}(L+L')<1, \qquad (4)$$

where

$$L=\max_x |f_y|, \qquad L'=\max_x |f_{y'}| \quad (-\infty<y,\ y'<\infty). \qquad (5)$$

(4) is a sufficient condition for unique solvability of problem (1)-(2). In the case of (2) convergence of the computational process has second order with respect to a step of the grid. Computational schemes are constructed on the basis of new quadrature formulas for obtaining an approximate solution of (1)-(2) and the derivative of this solution. These functions converge, respectively, to the precise solution of (1)-(2) and its derivative. If $y(x) \in C^{(p+1)}[0,1]$ then convergence has (p-1)-st order of smallness with respect to a step of the grid. "The author uses this opportunity to express his gratitude to Sh. Ye. Mikeladze for his many valuable remarks." Orig. art. has: 57 formulas.

ASSOCIATION: none

SUBMITTED: 28Oct63 ENCL: 00

SUB CODE: MA NO REF SOV: 002 OTHER: 004

Card 2/2

ACCESSION NR: AP4042887 S/0251/64/035/001/0029/0036

AUTHOR: Vashakmadze, T. S.

TITLE: Multiple-point linear boundary problems

SOURCE: AN GruzSSR. Soobshcheniya, v. 35, no. 1, 1964, 29-36

TOPIC TAGS: differential equation, boundary problem, boundary value problem, linear differential equation, multiple point problem

ABSTRACT: The paper investigates multiple-point boundary value problems of the form

$$L[y] \equiv y^{(n)}(x) + X_1(x)\, y^{(n-1)}(x) + \cdots + X_n(x) y = X_0(x) \quad (0 < x < l),$$

$$L_i[y] \equiv \sum_{s=1}^{m} \sum_{j=0}^{n-1} a_{ij}^{(s)} y^{(j-1)}(x_s) = \gamma_i \quad (i = 1, 2, \ldots, n), \qquad (1)$$

$$0 < x_1 < x_2 < \cdots < x_{m-1} < x_m < l.$$

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ACCESSION NR: AP4042887

The first section specializes the boundary conditions to

$$y(x_i) = \gamma_i \; (i = 1, 2, \ldots, p) \qquad (2)$$

which reduces the system to a de la Vallee-Poisson problem. A theorem is given which proves that if the coefficients Xi(x) (i = 1, ... n) are continuous for $0 \leq x \leq 1$, there is an $h_0 > 0$ such that the equations with the above special conditions have a unique solution in the interval $(0, 2h_0 \leq 1)$. Another theorem generalizes this result by proving the same assertion for a system satisfying

$$y^{(j-1)}(x_i) = \gamma_{ij} \left(i = 1, 2, \ldots, p; \; j = 1, 2, \ldots, n_i, \sum_{i=1}^{p} n_i = n \right) \qquad L[y] \equiv X_0(x), \qquad (3)$$

The second section of the paper concerns itself with the approximation of solutions to systems of equations of the above form. Orig. art. has: 23 formulas.

ASSOCIATION: Tbilisskiy matematicheskiy institut im. A. M. Razmadze, Akademiya nauk Gruzinskoy SSR (Tiflis Institute of Mathematics, Academy of Sciences of the Georgian SSR)

SUBMITTED: 15Jan64 ENCL: 00

SUB CODE: MA NO REF SOV: 006 OTHER: 003

Card 2/2

E 28458-66 EWT(d) IJP(c)

ACC NR: AP6017848 SOURCE CODE: UR/0376/66/002/005/0614/0618

AUTHOR: Vashakmadze, T. S.

ORG: Institute of Mathematics, AN GruzSSR (Institut matematiki AN GruzSSR)

TITLE: A generalized finite-difference method

SOURCE: Differentsial'nyye uravneniya, v. 2, no. 5, 1966, 614-618

TOPIC TAGS: numerical analysis, boundary value problem, finite difference method

ABSTRACT: A new finite-difference method for solving the boundary-value problem

$$y''(x) - q(x)y(x) = f(x) \quad (0 \leqslant x \leqslant 1), \tag{1}$$

$$y(0) = \alpha, \quad y(1) = \beta. \tag{2}$$

is presented. Under the assumption that $q(x) \geqslant 0$ and $f(x)$ belong to the class $C^{p-1}(0, 1)$, the computing schemes for numerical solution of the boundary-value problem are constructed by utilizing the formulas derived by the author (Zhurnal vychislitel'noy matematiki i matemati-

Card 1/2 UDC: 517.949.2

L 28458-66

ACC NR: AP6017848

cheskoy fiziki, v. 4, no. 4, 1964). It is proved that the approximate solution of the problem can be determined with the error $|n_i| < c_1 h^{p-1}$ ($p > 2$), where h is the step size of the uniform net and c_1 does not depend on h. It is indicated that the method presented here yields an approximate solution of arbitrary accuracy; by using nonuniform nets, it can be generalized to the case when the solution and coefficients of the differential equation are piece-wise differentiable functions, and can be applied in the case when the boundary conditions are of the Sturm-Liouville type. Orig. art. has: 10 formulas. [LK]

SUB CODE: 12/ SUBM DATE: 21Jul65/ ORIG REF: 004/ ATD PRESS: 5006

Card 2/2

COUNTRY : USSR
CATEGORY : Cultivated Plants - Subtropical. Tropical. M

ABS. JOUR. : RZhBiol., No.14, 1958, No.63661

AUTHOR : Vadachkoriya, P. G., Vashalomidze, A. M.
INST. : All-Union Institute of Tea and Subtropical Crops.
TITLE : Repair of Tea Plantations with Saplings Dressed with Moss.

ORIG. PUB. : Byul. Vses. n.-i. in-ta chaya i subtrop. kul'tur, 1956, No. 4, 32-34
ABSTRACT : Results are reported of the experiment of raising tea planting material in a short period by means of sowing tea seeds in a lump and wrapping it with moss. The nutrient soils was prepared as follows: 1 part of turf soil, 1 part of rotted peat and 1 part of manure; P and K were added; the mixture was moistened and dressed with moss. -- M. M. Mjazdrikova

Card: 1/1

VASHALOMIDZE, A.P., inzh.; AYOLLO, E.S., inzh.

Apparatus for field tests. Mekh. i elek. sots. sel'khoz. 17 no.2: 46-48 '59. (MIRA 12:6)

1.Gruzinskaya mashinoispytatel'naya stantsiya.
(Agricultural machinery--Testing) (Tractors--Testing)

VUL'F, N.N.; VASHANTSEV, A.A.

Use of neuroplegics in local anesthesia. Vest.khir. 89 no.8:64-67 Ag '62. (MIRA 15:10)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. V.P. Radushkevich) Voronezhskogo meditsinskogo instituta.
(LOCAL ANESTHESIA) (AUTONOMIC DRUGS)

VASHANTSEV, A.A.

Functional state of external respiration in mitral stenosis. Sov. med. 26 no.4:13-15 Ap '63. (MIRA 17:2)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. V.P. Radushkevich) Voronezhskogo meditsinskogo instituta.

RADUSHKEVICH, V.P., prof.; KOSONOGOV, L.F.; BONDARENKO, V.V.; VASHANTSEV, A.A.; SLIVKIN, A.V.; STARYKH, V.S.

Use of new Soviet ganglionic blocking preparations in surgical practice. Khirurgiia 39 no.7:13-19 Jl'63 (MIRA 16:12)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. V.P.Radushkevich) Voronezhskogo meditsinskogo instituta.

KOSONOGOV, L.F.; VASHANTSEV, A.A.; KIRTHER, G.A.; [illegible], V.V.

Use of [illegible] in clinical surgery. Sov. [illegible] 41 no.4:[illegible]-[illegible] F '64. (MIRA 17:[illegible])

1. Kafedra gospital'noy khirurgii (zav. - prof. V.P. Radushkevich) Voronezhskogo meditsinskogo instituta.

VASHANTSEV, A.A. (Voronezh, ul. Oborony revolyutsii, 68); KLEYNER, G.A.

Spirography as a criterion of the restoration of respiration in residual curarization. Vest. khir. no.7:95-97 Jl '64. (MIRA 18:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. V.P. Radushkevich) Voronezhskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720007-3"

20-5-3/54

AUTHOR: VASHARIN, A.A.

TITLE: Boundary Properties of the Functions Which Possess a Finite Dirichlet Integral With Weight (**Granichnyye svoystva funktsiy**, imeyushchikh konechnyy integral Dirikhle s vesom)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol.117, Nr 5, pp.742-744 (USSR)

ABSTRACT: Let in Ω, which is limited by Γ, be defined a 2k-times continuously differentiable function $\sigma(x,y)$ with

$$c_1 \varrho(x,y) \leqslant \sigma(x,y) \leqslant c_2 \varrho(x,y) ,$$

where $\varrho(x,y)$ denotes the (normal) distance of the point (x,y) from Γ and c_1 and c_2 are two positive constants independent of x,y. Let $f(x,y) \in W^k_{2(\alpha)}$, if $f(x,y)$ possesses on Ω generalized derivatives up to the k-th order and if

$$\mathcal{D}_\alpha^k (f) = \iint_\Omega \left[\sum_{\beta_1+\beta_2=k} \frac{k!}{\beta_1!\ \beta_2!} \left(\frac{{}^k f}{x^{\beta_1}\ y^{\beta_2}} \right)^2 \right] \sigma^\alpha \, dx\, dy < \infty ,$$

$0 \leqslant \alpha < 1$, $k = 1,2,\ldots$. Let Ω_h be the set of those points

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of Ω, the distance of which from Γ is not smaller than h. Let Γ_h be the boundary of Ω_h. Let $f|_\Gamma = \varphi(s)$ denote the function for which the convergence in the mean $f|_{\Gamma_h} = \varphi_h(s) \to \varphi(s)$ takes place. The 2π-periodic function $\varphi(s)$ is assumed to belong to the class A_l (l an integer), if it possesses $l-1$ absolutely continuous derivatives, if the l-th derivative belongs to L_2 and satisfies the condition

$$I_h\left[\varphi^l(s)\right] = \int_0^\delta \int_0^{2\pi} \frac{|\varphi^l(s+h) - \varphi^l(s)|^2}{h^{2-\alpha}}\, ds\, dh < \infty$$

for arbitrary $\delta > 0$.

Let $\left.\frac{\delta^\lambda f}{\delta n^\lambda}\right|_\Gamma = \varphi_\lambda(s)$, $(\lambda = 0, 1, \ldots, k-1)$, where n is the inner normal of Γ.

Boundary Properties of the Functions Which Possess a Finite Dirichlet Integral With Weight 20-5-3/54

A. From $f \in W^{k}_{2(\alpha)}$ it follows : $\varphi_\lambda(s) \in A^{\alpha}_{k-\lambda-1}$

B. If on Γ a system of functions $\varphi_\lambda(s) \in A^{\alpha}_{k-\lambda-1}$ is given, then on Ω there can be constructed an $f(x,y) \in W^{k}_{2(\alpha)}$ for which it is $\left.\frac{\partial^\lambda f}{\partial n^\lambda}\right|_\Gamma = \varphi_\lambda(s)$.

Theorem 2 : The functions $\varphi_\lambda(s)$ are assumed to satisfy the conditions of theorem 1. Then in Ω there exists a unique function $u(x,y)$ belonging to $W^{k}_{2(\alpha)}$ which satisfies the differential equation

$$L(n) = \sum_{\beta_1+\beta_2=k} \frac{k!}{\beta_1!\beta_2!} \frac{\partial^k}{\partial x^{\beta_1} \partial y^{\beta_2}} \left(\sigma^\alpha \frac{\partial^k n}{\partial x^{\beta_1} \partial y^{\beta_2}}\right) = 0$$

Card 3/4

Boundary Properties of the Functions Which Possess a Finite Dirichlet Integral With Weight 20-5-3/54

and the condition $\left.\frac{\partial^{\lambda} u}{\delta n^{\lambda}}\right|_{\Gamma} = \varphi_{\lambda}(s)$. 7 Soviet references are quoted.

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

PRESENTED: By M.A.Lavrent'yev, Academician, 17 May 1957

SUBMITTED: 16 May 1957

AVAILABLE: Library of Congress

Card 4/4

VASHARIN, A.A., Cand Phys-Math Sci—(diss) "Boundary value ~~Border~~ properties of functions of class $W^1_2(a)$ and their application to the solution of one marginal problem of mathematical physics." Moscow, 1958. 6 pp, (Acad Sci USSR. Mathem Inst im V.A.Steklov), 150 copies. Bibliography at end of ~~book~~ text (16 titles). (KL, 38-58, 104).

class $W^1_2(a)$ functions

3

16(1)

AUTHOR: Vasharin, A.A. SOV/38-23-3-5/6

TITLE: Boundary Properties of Functions of the Class $W_2^1(\alpha)$ and Their Application for the Solution of a Boundary Value Problem of Mathematical Physics

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959, Vol 23, Nr 3, pp 421-454 (USSR)

ABSTRACT: The author considers functions of the class $W_2^1(\alpha)$; they are defined on a bounded domain Ω of the R_n and there they have generalized (in the sense of S.L.Sobolev) derivatives of first order summable in the square and with a certain weight on Ω; the weight function is characterized by the fact that for the approach of the point $(x_1, x_2, \ldots, x_n)$ to the boundary Γ of Ω it decreases as the α-th $(0 \leq \alpha < 1)$ power of the distance of the point from the boundary. It is assumed that Γ can be described by curvilinear coordinates $(u_1, \ldots, u_{n-1})$ in a sufficiently small neighborhood of $Q \in \Gamma$ and that the surface normals intersect outside of a certain neighborhood of Γ. Thus every point can be fixed by the coordinates $(u_1, \ldots, u_{n-1})$ and by the distance h

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Boundary Properties of Functions of the Class $W_2^1(\alpha)$ and Their Application for the Solution of a Boundary Value Problem of Mathematical Physics SOV/38-23-3-5/6

measured on the normal. Let a function φ defined on Γ belong to the class $A_0^{\alpha}(\Gamma)$ if it belongs to $L_2(\Gamma)$ and if everywhere on Γ it satisfies the local condition

$$\int_0^{\delta}\int_{S_\varepsilon}\frac{|\varphi(u_1,\ldots,u_{i-1},u_i+h,u_{i+1},\ldots,u_{n-1})-\varphi(u_1,\ldots,u_{n-1})|^2}{h^{2-\alpha}}\,du\,dh<\infty;$$

$du = du_1\ldots du_{n-1}$, $i = 1,2,\ldots,n-1$; S_ε is the set of those points described locally by u_i, the distance of which from the boundary of the considered segment of Γ is not smaller than ε; $\delta=\delta(\varepsilon)$ is a certain sufficiently small positive number.

Theorem: If a function $f(x_1,\ldots,x_n)$ defined on Ω belongs to the class $W_2^1(\alpha)$, then $f|_\Gamma = \varphi$ understood in the sense of

$$\lim_{h\to 0}\,(x_1(u_1,\ldots,u_{n-1},h),\ldots x_n(u_1,\ldots,u_{n-1},h)) = \varphi(u_1,\ldots,u_{n-1})$$

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Boundary Properties of Functions of the Class $W_2^1(\alpha)$ and Their Application for the Solution of a Boundary Value Problem of Mathematical Physics SOV/38-23-3-5/6

belongs to the class $A_0^{\alpha}(\Gamma)$.

Theorem: If φ belongs to $A_0^{\alpha}(\Gamma)$, then it can be continued from Γ on Ω so that the continued function f belongs to $W_2^1(\alpha)$ and $f|_{\Gamma} = \varphi$.

12 Theorems and lemmas are formulated.
The author mentions Ul'yanov, V.M.Babich, L.N.Slobodetskiy, L.D.Kudryavtsev, M.V.Keldysh, M.I.Vishik, V.K.Zakharov, S.M. Nikol'skiy.
There are 16 Soviet references.

PRESENTED: by S.L.Sobolev, Academician

SUBMITTED: June 5, 1958

Card 3/3

21700

S/020/61/137/005/003/026
C111/C222

16.3500

AUTHORS: Vasharin, A.A., and Lizorkin, P.I.

TITLE: Certain boundary value problems for elliptic equations with a strong degeneration at the boundary

PERIODICAL: Akademiya nauk SSSR.Doklady, vol.137,no.5,1961,1015-1018

TEXT: Let G be a simply connected region with a piecewise smooth boundary Γ which contains the piece Γ_0 of the Ox-axis. In G the authors consider

$$L(u) = \frac{\partial}{\partial x}\left[\sigma^k(x,y)\frac{\partial u}{\partial x}\right] + \frac{\partial}{\partial y}\left[\sigma^k(x,y)\frac{\partial u}{\partial y}\right] = 0, \qquad (2)$$

where $\sigma(x,y)$ is sufficiently smooth and positive, where $c_1 y < \sigma(x,y) < c_2 y$, $c_1, c_2 > 0$. The degeneration on Γ_0 is called strong for $k \geq 1$ and weak for $k < 1$; $k = 1$ is called the critical case.

Let $k > 1$.

Problem A: Determine a solution of (2) two times continuously differentiable in G which in the mean on Γ assumes the values

$$\lim_{(x,y)\to M\in\Gamma} \left\{\sigma^{k-1}(x,y)u(x,y)\right\} = \varphi(M). \qquad (3)$$

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Theorem 1: Let Γ does not touch the axis Ox and let it have no degenerated corners. If $1<k<2$, if $\sigma(x,y)$ is 4 times boundedly differentiable and $\Delta\sigma \geqslant 0$ then the problem A has a unique solution if the postulates

$$\text{a)}\ \varphi(M)\in L_2(\Gamma); \quad \text{b)}\ \int_\Gamma ds_M \int_\Gamma \frac{|\varphi(M)-\varphi(Q)|^2}{|MQ|^2}\,\omega^{2-k}(M,Q)\,ds_Q < \infty \qquad (4)$$

are satisfied, where $\omega(M,Q)$ is the distance $|MQ|$ between the points M and Q if at least one of the points lies on Γ_0 and in the other case it is equal to the smaller of the distances of these points from the Ox-axis. The restriction $k<2$ is caused by the proof.

As an example the authors consider the problem A for

$$\frac{\partial}{\partial x}\left[y^k \frac{\partial u}{\partial x}\right] + \frac{\partial}{\partial y}\left[y^k \frac{\partial u}{\partial y}\right] = 0 \qquad (1)$$

in the halfplane $y>0$. Putting $y^{k-1}u = v$ then one obtains the equation

$$\frac{\partial}{\partial x}\left(y^{2-k}\frac{\partial v}{\partial x}\right) + \frac{\partial}{\partial y}\left(y^{2-k}\frac{\partial v}{\partial y}\right) = 0,$$

and the solution is given by

$$u_o(x,y) = \frac{1}{\sqrt{\pi}} \frac{\Gamma(k/2)}{\Gamma((k-1)/2)} \int_{-\infty}^{\infty} \frac{\varphi(\xi)\,d\xi}{[(x-\xi)^2+y^2]^{k/2}} \qquad (6)$$

for all $k > 1$.
Let $k = 1$ and for reasons of simplicity $\sigma \equiv y$.
Problem B: Find in G a two times continuously differentiable solution of

$$L_1(u) = y\left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2}\right) + \frac{\partial u}{\partial y} = 0$$

which on the boundary in the mean assumes the values

$$\left[\frac{1}{\ln \frac{M}{y}} \quad u(x,y)\right]_{(x,y)\to P\in\Gamma} = \varphi(P)$$

and which possesses the finite integral

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S/020/61/137/005/003/026
C111/C222

Certain boundary value problems...

$$\iint_G y \ln^2 \frac{M}{y} \left\{ \left[\frac{\partial}{\partial x} \left(\frac{1}{\ln \frac{M}{y}} u \right) \right]^2 + \left[\frac{\partial}{\partial y} \left(\frac{1}{\ln \frac{M}{y}} u \right) \right]^2 \right\} dx\, dy,$$

where M = const is greater than the diameter of the region.
Let G satisfy the postulates of theorem 1 and let $\omega(P,Q)$ have the same sense.
Theorem 2: In order that problem B has a solution it is necessary and sufficient that $\varphi(P)$ satisfies the conditions

$$\text{a) } \varphi(P) \in L_2(\Gamma); \quad \text{b) } \int_\Gamma ds_P \int_\Gamma \frac{|\varphi(P) - \varphi(Q)|^2}{|PQ|^2} \omega(P,Q) ds_Q < \infty. \qquad (7)$$

There are 6 Soviet-bloc and 1 non-Soviet-bloc references.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering-Physical Institute)

PRESENTED: November 25, 1960, by S.L.Sobolev, Academician

SUBMITTED: November 11, 1960

Card 4/4

VASMAKIN, V.I.

В. В. Штагер

Электронная АТС на 10 номеров с пространственным разделением каналов.

Г. А. Новиков

Использование элементов бесконтактной коммутации в цепях управления координатными АТС.

О. Н. Иванова

Анализ бесконтактных схем пробы при свободном и вызывном искании для полностатронных АТС.

Ю. Н. Покровский

Некоторые дополнительные возможности образования электронных АТС.

В. А. Гроховский,
З. С. Коздоева

Анализ бесконтактных способов подключения соединительных линий к регистрам.

9 июня

(с 18 до 22 часов)

В. А. Гладковский

Аппаратура открытой автоматической междугородной телефонной связи.

20

Г. П. Бакирин

О методах расчета систем уравнений состояния для двухпроводных телефонных сетей

Г. З. Максимов

Применение бесконтактных элементов для коммутации в аппаратуре КРР.

10 июня

(с 10 до 16 часов)

К. П. Егоров

Новая система уплотнения цепей внутрирайонной связи.

С. С. Кагаи

Магнитострикционные фильтры для многоканальных систем дальней связи

А. К. Оганян

Исследование помехи в междугородном канале коаксиального кабеля при совместной передаче телефонных и телевизионных сигналов

А. Ф. Уфимцев

Синтез электрических фильтров по рабочим параметрам

21

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow, 8-18 June, 1959

L 22584-65 EWT(m)/EPF(c)/EWP(j) [illegible] RM

ACCESSION NR: AP5004999 S/0186/64/006/004/0484/0490

AUTHOR: Vasharosh, L.; Filatov, [illegible] Ganov, A. N.

TITLE: Chemical action of recoil atoms of Cl^{37} in chloromethanes. Features of the reaction yields of Cl^{37} (n, [illegible]

TOPIC TAGS: chlorine, bromine, isotope, methane, atom, chemical reaction

Abstract: It is shown that the chemical behavior of Cl^{38} recoil atoms produced in the reaction Cl^{37} (n [illegible]

NO REF SOV: 005 OTHER: 004 JPRS

Card 1/1

VASHATKO, Josif [Vašatko, Josef], doktor-inzhener, professor.

Seventieth birthday of P.M. Silin. Sakh. prom. 31 no.5:15-16 My '57. (MLRA 10:6)

1. Akademik ChSAN. 2. Akademik SAN. 3. Slovatskaya vysshey tekhnicheskaya shkola. 4. Direktor Khimicheskogo instituta Akademii nauk v Bratislve.
(Silin, Pavel Mikhailovich, 1887-)

CZECHOSLOVAKIA / Chemical Technology. Carbohydrates and their Processing. II-26

Abs Jour : Ref. Zhur-Khimiya, No 12, 1958, 41223

Author : Vashatko, Kon.

Inst : Not given

Title : Physical-chemical study of beet juice refining. IV. Determination of the electrokinetical potential ζ of $CaCO_3$ particles obtained from the carbonation of sugar-lime solutions by carbon dioxide.

Orig Pub : Chem. zvesti, 1956, 10, No 7, 405-415; Listy cukrovarn., 1957, 73, No 4, 9195.

Abstract : A description is given of the experimental part, and of the results obtained from the study of the electrokinetic potential ζ (at 20°C) of $CaCO_3$ particles in carbonated sugar-lime

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GANKEVICH, V.; VASHATOVSKIY, V. (Leningrad)

A creative laboratory. Okhr. truda i sots. strakh. 3 no.8:46-49 Ag '60. (MIRA 13:9)

(Leningrad--Machinery industry--Hygienic aspects)

COUNTRY : USSR M-6
CATEGORY :

ABS. JOUR. : RZBiol., No. 19, 1958, No. 87094

AUTHOR : Vashchenko, A.
INST. : Moscow Agricultural Academy Imeni K. A. *
TITLE : Single and Mixed Sowing of Annual Forage Grasses.

ORIG. PUB. : Sb. stud. nauchno-issled. rabot. Mosk. s.-kh. akad. im. K.A. Timiryazeva, 1957 (1958)**

ABSTRACT : In 1953-1954, at the experiment station of the Academy, studies were conducted on growing of annual ryegrass, sowed singly and in admixture with oats and vetch. After the first harvesting the oats produced no aftermath. With 2 harvesting the highest yields of green crop (292 centners per hectare) were obtained from sowings of the mixture of three components, next best were ryegrass with oats (271.3 centners/hectare) and ryegrass with vetch (258.3 centners/hectare). In the last mentioned case the feed value of the green crop is higher, since the second component is vetch. -- Ye. A. Okorokova.

CARD: 1/1

* Timiryazev.

** No. 2, 81-86

PROCESSES AND PROPERTIES INDEX

M

2

Zinc-Containing Silumins. A. A. Bochvar, A. A. Yashchenko, S. G. Glazunov, O. S. Shadaeva, A. M. Korolkov, K. I. Portnoy, E. M. Kavitsky, and Z. A. Sviderskaya (*Izvest. Akad. Nauk S.S.S.R.*, **1943**, [Tekhn.], (9-10), 3-20; *Brit. Abs.*, **1945**, [B 1], 39).—[In Russian.] Aluminium alloys containing zinc 8-15, silicon 5-8, copper <0·6, magnesium <0·2, and manganese 0·4-0·8% (the amount of manganese varying according to the amount of incidentally introduced iron) consist mainly of an aluminium-zinc solid solution and its eutectic mixture with silicon. Silicon crystals appear at a silicon content >8·5%. Copper is present as $CuAl_2$. The hardness of these constituents is determined. The alloys have sp.gr. 2·94-2·97, heat capacity 0·211, thermal expansion between 0° and 250° C. 24·4 × 10^{-6}, liquidus temp. 575° C., solidus temp. 545° C. The ultimate tensile strength of cast alloys is almost independent of the silicon content; it increases from 16 kg./sq.mm. at 6% of zinc to 23 kg./sq.mm. at 15% of zinc. Annealing for 2 hr. at 100-300° C. does not raise the strength. The strength at 100-300° C. is similar to that of ordinary Silumin. The total elongation of cast alloys is slightly reduced when the silicon content increases; it is lowered from 7-13% for zinc 6% to 1-3% for zinc 15%. Annealing at 150-180° C. raises it; at 300° C. it is 6 times greater than at 20° C. The hardness of quenched alloys increases on keeping at room temperature. The alloys expand irreversibly at about 250° C., but this expansion is reduced by annealing at 150-200° C. Copper and manganese raise the hardness of aluminium-silicon-zinc alloys. The castability of these alloys is as good as that of the Silumins. They can be welded without loss of strength.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SOV/137-58-9-20061

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 279 (USSR

AUTHORS: Drits, M.Ye., Sviderskaya, Z.A., Kadaner, E.S. Vashchenko, A.A.

TITLE: Magnesium Alloys for Work at Elevated Temperatures (Magniyevyye splavy dlya raboty pri povyshennykh temperaturakh)

PERIODICAL: V sb.: Legkiye splavy. Nr 1. Moscow, 1958, pp 147-156

ABSTRACT: MA9, a new Mg alloy (A) based on the Mg-Mn system, plus small additions of other elements, is developed. In heat resistance when cast, MA9 is superior to all the standard foundry A and the majority of A containing the rare elements. At room temperature, the mechanical properties of the cast A are below standard: σ_b 14-16 kg/mm^2, δ 4-6%. In the extruded condition, MA9 combines superior mechanical properties at room temperature: σ_b 30-32 kg/mm^2, σ_s 28-29 kg/mm^2, δ 7-8%, with adequate heat resistance σ^{200}_{100} 7-9 kg/mm^2 and σ^{250}_{100} 5 kg/mm^2. Pilot-plant tests of the properties of MA9 with semifinished products from

Card 1/2

SOV/137-58-9-20061

Magnesium Alloys for Work at Elevated Temperatures

continuous-casting ingots show the minimum longitudinal values of σ_b for sheet 0.8-3.0 mm thick, and for extruded sections and rods, to be 26 kg/mm^2. The heat-resistance characteristics obtained at 200°C with specimens of extruded semifinished products are: σ_{100} 7-8 kg/mm^2, $\sigma_{0.2/100}$ 2.9 kg/mm^2, and at 250° σ_{100} 5 kg/mm^2, and $\sigma_{0.2/100}$ 1.7 kg/mm^2. Comparison of the properties of MA9 A with those of standard A (MA2, MA5, MA8, VM17, VM65-1) shows that at room temperature MA9 has higher strength characteristics than MA2, MA8, and VM17, and that at above 150° the strength of MA9 exceeds those of the above-indicated A. The advantage of MA9 alloy is manifested particularly in terms of $_s$, which at 150° is 65% higher than that of MA8. MA9 A contains no rare elements or elements in short supply, does not need heat treatment, is not subject to corrosion cracking under stress, and undergoes less oxidation in the molten state than do other Mg alloys. A characteristic peculiarity of MA9 A is the small level of softening which it undergoes after annealing. The good engineering properties of MA9 when subjected to pressworking make possible its use for a wide variety of semifinished products. The satisfactory mechanical properties of MA9 at room and elevated temperatures make it suitable for a wider range of uses in aircraft structures than other Mg A. E. K.

Card 2/2 1. Magnesium alloys--Thermodynamic properties 2. Heat resistant alloys--Development

VASHCHENKO, A. A.; DRITS, M. Ye.: SVIDERSKAYA, Z. A.; KADANER, E. S.:

"Magnesium Alloys for Performance at Elevated Temperatures"

Light Alloys. no. 1: Physical Metallurgy, Heat Treatment, Casting, and Forming: Principal Reports of the Conference, Moscow, Izd-vo AN SSSR, 1958, [illegible] p.

[illegible]

SVIDERSKAYA, Z.A.; DRITS, M.Ye.; VASHCHENKO, A.A.

Effect of cold deformation on properties of alloys of Al - Cu and Al - Cu - Mg systems in a state of artificial aging. Izv. vys.ucheb.zav.; tsvet.met. 2 no.6:158-160 '59.
(MIRA 13:4)

1. Institut metallurgii AN SSSR. i Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti, kafedra tekhnologii metallov.
(Aluminum alloys)

VASHCHENKO, A.A.

PHASE I BOOK EXPLOITATION SOV/3422

Akademiya nauk SSSR. Institut metallurgii

Issledovaniye splavov tsvetnykh metallov; sb. rabot 2. (Analysis of Nonferrous Metal Alloys: Collection of Articles, [No.] 2.) Moscow, Izd-vo AN SSSR, 1960. 204 p. Errata slip inserted. 2,000 copies printed.

Ed.: I.A. Oding, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rotkenkov; Tech. Ed.: T.P. Polenova; Editorial Board: A.A. Bochvar, Academician; M.Ye. Drits, Candidate of Technical Sciences (Deputy Resp. Ed.); M.V. Sakharov, Professor, Doctor of Technical Sciences; R.S. Kadasov, Candidate of Technical Sciences (Resp. Secretary); A.V. Kornilov, Doctor of Technical Sciences; M.V. Mal'tsev, Professor, Doctor of Technical Sciences; and T.A. Sviderskaya, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for workers in scientific research institutes, metal and machine works, for teaching personnel, and for students attending schools of higher education.

COVERAGE: This is the second volume in a series of works on nonferrous and rare-metal alloys prepared by the Institut metallurgii imeni A.A. Baykova AN SSSR (Institute of Metallurgy imeni A.A. Baykov of the Academy of Sciences USSR), and the Moskovskiy institut tsvetnykh metallov i splavov imeni M.I. Kalinina (Moscow Institute of Nonferrous Metals and Gold imeni M.I. Kalinin). The problems discussed concern the casting and physical metallurgy of nonferrous alloys. The effect of alloying and deformation on the properties of various alloys, and the problems connected with the study of the casting properties and with the plotting of phase diagrams for nonferrous alloys are discussed. No personalities are mentioned. References accompany most of the articles.

Vlasko, S.T., and G.F. Benedikt'ye. The Behavior of Alloys in Contact with Oxide 19

Drits, M.Ye., T.A. Sviderskaya, and R.S. Kadasov. The Effect of Silicon on the Properties of the D16 Alloy at Room Temperature and at Elevated Temperatures 24

Drits, M.Ye., T.A. Sviderskaya, A.A. Vashchenko, and R.S. Kadasov. Comparative Study of Heat Strength of the Aluminum Alloys VAM and VAD 32

[illegible], and V.V. [illegible]. The Effect of a Repeated Heat Treatment on the Mechanical Properties of D16 Alloy at Room Temperature and Elevated Temperatures 39

[illegible]. Utilization of Bonds Developing Between Adjoining Metal Surfaces in Pressure Treatment 43

Sviderskaya, T.A., M.Ye. Drits, A.A. Vashchenko, and L.L. [illegible]. The Effect of Cold Deformation on the Properties of Some Aluminum Alloys Hardened by Heat Treatment 67

[illegible], V.A., P.M. [illegible], and G.A. [illegible]. The Application of Low Temperature Homogenization in the Extrusion of Large Aluminum-Alloy Shapes 7[illegible]

Sviderskaya, T.A., and L.L. [illegible]. The Effect of Cold Deformation on the Mechanical Properties of the Alloy Aluminum + [illegible] Under Different Conditions of Aging 84

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[illegible], and [illegible]. Nucleation and Growth of Light and Dark Grains during Recrystallization 9[illegible]

[illegible], and [illegible]. Brittleness in Nickel as Related to Atomic Ordering of Grain Boundaries 101

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[illegible], and [illegible]. Study of the Alloys [illegible] 114

[illegible] 1[illegible]

VASHCHENKO, A. A.

PHASE I BOOK EXPLOITATION SOV/4558
SOV/15-6-5

Akademiya nauk SSSR. Institut metallurgii

Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya (Physicochemical Research Methods in Metallurgy and Metal Science) Moscow, Izd-vo AN SSSR, 1960. 251 p. (Series: Its: Trudy, vyp. 5) Errata slip inserted. 2,800 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: I.P. Bardin, Academician (Deceased); Ed. of Publishing House: V.A. Klimov; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles is intended for metallurgists and metal researchers.

COVERAGE: The collection contains articles on metallurgy, metal science, and physicochemical research methods. Separate articles discuss the structure and properties of some metals and alloys. The effect of cold treatment and inclusions on the properties of alloys are analyzed, and instruments and

Bulkov, I.S., and A.N. Samarin. Study of the Sulfur Absorption Capacity of Magnesium Oxide and Calcium Oxide 16

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Frants, G.S., and Ye. I. Danilova. Interaction of Sulfur Dioxide With the Oxides and Sulfides of Some of the Nonferrous Metals 76

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Sviderskaya, Z.A., and A.A. Vashchenko. Effect of Cold Work on the Properties of Aluminum-Copper and Aluminum-Copper-Magnesium Alloys Under Various Aging Conditions 95

Pavlov, I.M., and V.Ya. Mezis. Dependence of Metal Hardness on Change of Deformation Sign During Cold Hardening 100

Pavlov, I.M., and V. Ya. Mezis. Dependence of Tensile Strength, Nominal Yield Point, and Specific Elongation on Sign Change of Plastic Deformation of Metal 113

Pavlov, I.M., and V. Ya. Mezis. Dependence of the Microstructure of a Metal on Change in the Plastic Deformation Sign 127

Osipov, V.G. Final Deformations of Simple Shear 133

Kornilov, I.I., and E.S. Polyakova. Study of the Heat Resistance of Platinum Alloys With Rhodium, Iridium, Ruthenium, Chromium, and Aluminum, by the Bending Method 139

Orem-Orthimaylo, N.V., and V.G. Oromova. Fusibility Curve of the Ti — Cr — Mo System 145

DRITS, M.Ye., kand.tekhn.nauk; SVIDERSKAYA, Z.A., kand.tekhn.nauk; VASHCHENKO, A.A.; KADANER, E.S., kand.tekhn.nauk

Comparative investigation of the heat resistance of MA8 and MA9 magnesium alloys. Issl.splav.tsvet.met. no.2:30-32 '60. (MIRA 13:5)

(Magnesium alloys--Testing)

SVIDERSKAYA, Z.A., kand.tekhn.nauk; DRITS, M.Ye., kand.tekhn.nauk; VASHCHENKO, A.A.; ROKHLIN, L.L.

Effect of cold deformation on the properties of certain aluminum alloys hardened by heat treatment. Issl.splav.tsvet. met. no.2:67-71 '60. (MIRA 13:5)
(Aluminum alloys--Cold working)

SVIDERSKAYA, Z.A.; VASHCHENKO, A.A.

Effect of cold deformation on the properties of aluminum-copper and aluminum-copper-magnesium alloys under various conditions of aging. Trudy Inst.met. no.5:95-99 '60. (MIRA 13:6)
(Aluminum-copper alloys--Cold working)

SVIDERSKAYA, Z.A.; DRITS, M.Ye.; VASHCHENKO, A.A.

Effect of cold deformation on the properties of artificially aged aluminum alloys at high temperatures. Issl. splav. tsvet. met. no.3:48-57 '62. (MIRA 15:8)
(Aluminum alloys—Cold working)
(Metals at high temperatures)

SVIDERSKAYA, Z.A.; VASHCHENKO, A.A.

Changes in properties and structure during the annealing of aluminum alloys subjected to plastic deformation between hardening and artificial aging. Issl. splav. tsvet. met. no.4:171-184 '63. (MIRA 16:8)

(Aluminum alloys—Metallography)
(Annealing of metals)

L 1707-66 EWT(d)/EWT(m)/EWP(w)/EPF(n)-2/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) MJW/JD/WW/HM/JG/EM UR/0125/65/000/008/0026/0030
ACCESSION NR: AP5021222 621.791.0:620.183:546.3-19

AUTHOR: Drits, M. Ye. (Doctor of technical sciences); Kadaner, E. S. (Candidate of technical sciences); Vashchenko, A. A. (Engineer)

TITLE: Study of the structure of the welded joints of some aluminum alloys

SOURCE: Avtomaticheskaya svarka, no. 8, 1965, 26-30

TOPIC TAGS: aluminum alloy, zinc containing alloy, magnesium containing alloy, manganese containing alloy, zirconium containing alloy, alloy welding, alloy weld, weld structure

ABSTRACT: The structure of the welded joints of two AMts-type aluminum alloys containing 1) 4.6% Zn, 1.9% Mg, 0.6% Mn and 2) 4.6% Zn, 1.9% Mg, 0.6% Mn, and 0.2% Zr has been investigated. Alloy sheets 2.5 mm thick were heat treated (solution annealed at 440C for 1 hr, water quenched, and aged at 100C for 100 hr) and TIG welded with filler wire of the same composition. Microscopic examination showed that the segregation-induced heterogeneity of the solid solution and the precipitation of secondary phases at the grain boundaries occur mainly in the weld-adjacent zone, which makes this zone the most probable place for stresses and microcracks to

Card 1/2

L 1707-66

ACCESSION NR: AP5021222 3

originate. The addition of zirconium, in addition to refining the structure of the base metal, also modifies the structure of cast metal of the weld-adjacent zone and prevents the formation of a continuous network at grain boundaries. Orig. art. has: 6 figures. [AZ]

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy) 44,55

SUBMITTED: 30Jul64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 001 ATD PRESS: 4093

Card 2/2

L 37168-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JG/GD/JH

ACC NR: AT6016420 (A) SOURCE CODE: UR/0000/65/000/000/0135/0144

AUTHORS: Sviderskaya, Z. A.; Vashchenko, A. A.

ORG: none

TITLE: Influence of plastic deformation on the properties of aging alloys of the system aluminum--copper--lithium

SOURCE: AN SSSR. Institut metallurgii. Metallovedeniye legkikh splavov (Metallography of light alloys). Moscow, Izd-vo Nauka, 1965, 135-144

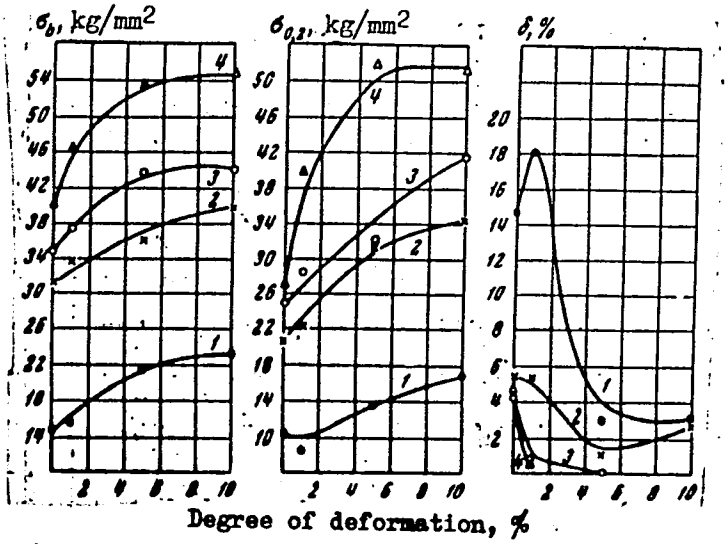
TOPIC TAGS: aluminum containing alloy, copper containing alloy, lithium containing alloy

ABSTRACT: The effect of intermediate deformation (between annealing and aging) on the mechanical properties, electrical resistance, microstructure, and lattice parameter of aluminum--copper--lithium alloys containing 2--3% Cu and sufficient lithium to form the compound Al_2CuLi were investigated. The investigation supplements the results of H. K. Hardy and J. M. Silcock (The Phase Sections at 500° and 350° of Aluminum-rich Aluminum-Copper-Lithium Alloys. - J. Inst. Metals, 1955--1956, 84, 423). The experimental results are summarized in graphs and tables (see Fig. 1). Cold intermediate deformation between annealing and aging of Al-Cu-Li alloys leads to a considerable increase in their mechanical properties. However, the increase in mechanical

Card 1/3

L 37168-66

ACC NR: AT6016420



Curve	Composition, %	
	Cu	Li
1	2	0.22
2	4	0.43
3	6	0.66
4	8	0.77

Fig. 1. Mechanical properties of different Al-Cu-Li alloys as a function of the degree of cold deformation.

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L 37168-66

ACC NR: AT6016420

properties disappears for highly alloyed specimens when they are exposed for short periods of time to relatively low temperatures (150--200C). It is concluded that the deformation enhances the diffusion processes in the alloys which in turn cause a weakening of the alloy structure. Orig. art. has: 2 tables and 7 figures.

SUB CODE: 11/ SUBM DATE: 16Sep65/ ORIG REF: 010/ OTH REF: 002

Card 3/3 af

L 45267-66 EWP(k)/EWT(d)/EWT(m)/T/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) JD/WW/JG

ACC NR: AT6024925 (A,N) SOURCE CODE: UR/2981/66/000/004/0159/0169

AUTHOR: Drits, M. Ye.; Kadaner, E. S.; Vashchenko, A. A.; Shiryayeva, N. V.; Fridlyander, I. N.

ORG: none

37
36
B+1

TITLE: Structure of weld joints of V96-type alloys

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 159-169

TOPIC TAGS: aluminum zinc alloy, aluminum alloy property, weld evaluation / V96 aluminum zinc alloy

ABSTRACT: The purpose of the study was to determine the influence of various alloying elements on the structure of V96-type weld joints by using filler wire of various compositions. A definite relationship was found between the tendency of the alloys to form hot cracks during welding and the structure of the transition zone of the weld joint. As a rule, the structure of the transition zone differs from the center of the seam in that it has coarser agglomerates of second excess phases along the grain boundaries; in most cases, these phases form a continuous network. The coarser the structure of the transition zone, greater its extent, more pronounced the network character of the structure, and greater the enrichment of the boundaries with brittle second phases, the more distinct is the tendency of the alloys to form hot cracks dur-

Card 1/2

L 45577-66

ACC NR: AT6024925

ing welding. Conversely, a fine, regular structure of the transition metal zone and a discontinuity of the network of second phases correspond to lower values of the cracking coefficient. By selecting optimum welding conditions, one can influence the process so as to obtain a favorable structure in the transition zone and thus reduce the danger of failure of the weld joints. Orig. art. has: 7 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 2/2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

15

M

Substitution of Cu_3P_2 by CaC_2 (as Deoxidant). A. I. Vashchenko (*Liteynoe Delo*, 1941, **12**, (6), 29–31; *Chem. Zentr.*, 1943, **114**, (1), 85; *C. Abs.*, 1946, **38**, 2602).—[In Russian.] The effect of CaC_2 as a deoxidizer for non-ferrous metals and alloys was investigated. It can fully replace the Cu_3P_2 ordinarily used. With a mixture of the two, the mechanical properties, especially tensile strength and elongation at fracture, and the structure are improved with decreasing Cu_3P_2 content. The economy of using CaC_2 is pointed out.

COMMON ELEMENTS

MATERIALS INDEX

CODES

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

A. I. VASHCHENKO, and LITVIN, G. E.

Plamennye pechi. Moskva. Mashgiz, 1945. 71 p. illus. (Ratsionalizatsiia energeispol'zovaniia na mashinostroitel'nykh zavodakh, vyp 3)

[Flame furnaces.]

DLC: TH7121.L5

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

VASHCHENKO, A.L., dotsent.

Developments in the design of movable bottom heating furnaces.
Stal' 7 no.2:155-157 '47. (MLRA 9:1)

1.Moskovskiy Institut stali,
(Metallurgical furnaces)

VASHCHENKO, A.I.

The biggest rotary heating furnace in the world. Stal' 7 no.2: 187 '47. (MLRA 9:1)
(Canton, Ohio--Metallurgical Furnaces)

VASHCHENKO, A. I. Docent

PA 41T18

USSR/Engineering Feb 1948
Metallurgical Plants
Fuel - Conservation

"Transfer of Foundry Driers to Solid Fuel," Docent A. I. Vashchenko, Moscow Steel Inst, 4 pp

"Stal'" No 2 p.173-76

For economy all foundry driers using liquid fuel are being changed over to cheaper solid fuel. With this change the heaters can be equipped with simple fireboxes, with means for ejection of smoke gases. Such units have been used successfully at Moscow Steel Institute.

[redacted] 41T18

VASHCHENKO, A. I.

"Investigation of the Movement and Distribution of Gas Pressure on the Walls of Three-Chamber Holding Furnaces." Sub 22 Mar 51, Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

BAOM, V. A.; BUTKIN, D. V.; VAZHENKO, A. I.; GLINKOV, M. A.; GRANOVSKIY, B. L.; KITAYEV, B.I. KUZMIN, M. A.; MIKHAYLENKO, A. Ya.; NAZAROV, I. S.; PLOTNIKOV, L. A.; SEMIKIN, I. D.; TAYS, N. U.; TROIB, S. G.

Metallurgiueskie Peui (Metallurgical Furnaces), 975 p., 1951.

VASHCHENKO, A.I., dotsent, kandidat tekhnicheskikh nauk.

Distribution of gas pressure on walls in triple-fired holding furnaces. Sbor.Inst.stali no.31:242-284 '53. (MIRA 9:9)

1.Kafedra "Metallurgicheskiye pechi".
(Smelting furnaces) (Gas flow)

VASHCHENKO, A.I.

MIKHAYLENKO, A.Ya. KRAPUKHIN, V.V.; VASHCHENKO, A.I., kandidat tekhnicheskikh nauk, retsenzent; YEVDOKIMENKO, A.T., kandidat tekhnicheskikh nauk, retsenzent; GHERHOV, A.N., redaktor; ARKHANGEL'SKAYA, M.S., redaktor; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Furnaces used in non-ferrous metallurgy] Pechi tsvetnoi metallurgii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 458 p. (MLRA 7:9)
(Metallurgical furnaces)

SOV/123-59-16-64226

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 16, p 87 (USSR)

AUTHOR: Vashchenko, A.I.

TITLE: On Some Questions of Improving the Work and Design of Continuous Furnaces

PERIODICAL: Tr. Nauchno-tekhn. konferentsii po prom. pecham, 1955, M.-L. Gosenergoizdat, 1958, 205-212

ABSTRACT: The article has not been reviewed.

Card 1/1

SOV/137-58-10-20869

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 74 (USSR)

AUTHORS: Vashchenko, A.I., Nevedomskaya, I.N.

TITLE: A New Ejection Burner for a Soaking Pit, With Fuel Delivery From the Center of the Bottom (Novaya ezhektsionnaya gorelka dlya kolodtsa s podachey topliva iz tsentra podiny)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958, Nr 2, pp 93-98

ABSTRACT: A new design for a type of annular ejector, providing a shorter flame and greater ejection capacity, is provided. Employment of a burner of this type makes it possible to increase the heightwise uniformity of the heating of the billets and to reduce air leakage in recuperators.

V.T.

1. Metals--Heating 2. Industrial plants--Equipment 3. Waters--Design

Card 1/1

18(5)

SOV/148-59-2-17/24

AUTHORS: Vashchenko, A.I. and Zen'kovskiy, A.G., Docents, Candidates of Technical Sciences

TITLE: Investigation of Non-Oxidizing Metal Preheating in Flame Muffleless Furnaces (Issledovaniye bezokislitel'nogo nagreva metalla v plamennykh bezmufel'nykh pechakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavadeniy, Chernaya metallurgiya, 1959, Nr 2, pp 127-133 (USSR)

ABSTRACT: The authors investigate the efficiency of a new method of non-oxidizing metal preheating in flame furnaces. The method consists in the burning of high-calory gaseous fuel with a considerable undercontent of oxygen. The investigations were carried out in a special laboratory on a compartment kiln and a continuous furnace. Technological recommendations are given including the operation of the furnaces and computations of gas and air preheating temperatures, which were partly carried out by A. Ye. Lifshits.

There are 2 diagrams, 4 graphs, 1 table and 4 references, 1 of which is Soviet, 2 English and 1 German

Card 1/2

18(5) SOV/148-59-2-17/24

Investigation of Non-Oxidizing Metal Preheating in Flame Muffleless Furnaces

ASSOCIATION: Moskovskiy vecherniy metallurgicheskiy institut, (Moscow Metallurgical Evening Institute), Kafedra metallurgicheskikh pechey i energetiki (Chair of Metallurgical Furnaces and Power Engineering)

SUBMITTED: January 9, 1959

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S/709/60/025/001/001/006
D040/D113

AUTHOR: Vashchenko, A.I., Candidate of Technical Sciences, Dozent

TITLE: Nonoxidizing billet heating in flame furnaces

SOURCE: Nauchno-tekhnicheskoye obshchestvo chernoy metallurgii. Trudy, v. 25, pt. 1. Moscow, 1960. Raschety, konstruirovaniye i ekspluatatsiya nagrevatel'nykh pechey; materialy Vsesoyuznogo soveshchaniya, 138-146

TEXT: The paper deals with modern nonoxidizing heating furnace designs, and data obtained in an investigation at the Moskovskiy vecherniy metallurgicheskiy institut (Moscow Metallurgical Evening Institute) -MVMI, conducted in view of the expected extensive use of natural gas. Experiments were conducted in compartment and holding furnaces, with an electric heater for the air. Specimens of 45 steel, 25 and 40 mm in diameter and 40 and 60 mm in length, were heated. Fuel and flue gases were analyzed in the process and the fuel and air flow, furnace temperature, and the surface and center

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of specimens were measured. The "Equiverse" furnaces of the British "Incandescent" Company are considered unreliable because of their complex regenerator valve control and metal checkers. Reference is made to calculations made by Engineer A.Ye.Lifshits of Stal'proyekt on the amount of oxygen to be used with natural gas, and calculations by Candidate of Technical Sciences, Docent A.G.Zen'kovskiy of MVMI on the effect of air and gas preheating. The latter proved that air can be preheated to 800-850°C when regenerators and recuperators are used. In the MVMI experiments, practically scalefree heating to 1100, 1150, 1200 and 1250°C was possible at an air consumption factor of about 0.5 and air preheating to 580-600°C. The burning temperature of Moscow gas with a 0.52 air factor was 1640°C. According to Soviet and foreign data 1600°C is sufficient for medium-size forging furnaces working with 300 kg load per m^2 of the furnace floor. The following conclusions were drawn: (1) Furnaces fired with gas of high heat value must work at an air consumption factor of 0.55 and preheating of air or air and gas. (2) The furnace burners must ensure good mixing of

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gas and air. (3) If secondary air is fed into the work space for burning the imcomplete fuel combustion products, air must be well mixed with these products, and the contact of atmospheric oxygen and of the products of more complete combustion (at $\alpha = 0.5$) with metal heated over 500-600°C must be prevented. (4) Furnaces for nonoxidizing heating have to be lower than furnaces designed for complete combustion of fuel in the work space, because if the flame is nearer, local oxidation of metal will be avoided and high temperatures will be easier to obtain in a lower furnace. (5) Heat insulation has to be much more effective that in ordinary furnaces, and the refractories much denser. (6) Increased pressure must be maintained in the furnace work space. (7) The furnace (including the roof) must be covered completely with a solid casing to seal the furnace work space. (8) Draught screens with air and water curtains must be provided at the furnace doors for the convenience and safety of operators. (9) Nonoxidizing heating furnaces must be fully automated and mechanized. There are 11 figures and 8 references: 2 Soviet and 6 non-Soviet bloc. The 4 English-language references are: Iron and Coal Trades Review, 1955, no. 4556;

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1957, no. 4639; Metal Progress, 1957, no. 1; Fuel Efficiency, 1957, no. 12; Industrial Heating, 1956, no. 4

ASSOCIATION: Moskovskiy vecherniy metallurgicheskiy institut (Moscow Metallurgical Evening Institute) - MVMI

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VASHCHENKO, A.I.; ZEN'KOVSKIY, A.G.; LIFSHITS, A.Ye.

Effect of certain factors on the composition of combustion products in nonmuffle furnaces for nonoxidizing heating. Izv. vys.ucheb.zav.; chern.met. 4 no.9:153-160 '61. (MIRA 14:10)

1. Moskovskiy vecherniy metallurgicheskiy institut i Stal'proyekt.
(Furnaces, Heating) (Combustion gases)

S/148/62/000/001/015/015
E194/E180

AUTHORS: Kondakov, Ye.A., and Vashchenko, A.I.

TITLE: Oxidation-free heating of steel in an open flame furnace fired with fuel oil

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.1, 1962, 190-197

TEXT: Gas is best for oxidation-free heating of steel in open flame furnaces, but many furnaces still burn fuel oil. Oxidation-free heating of steel in furnaces fired with fuel oil may take place in a reducing or neutral atmosphere of incomplete combustion products. Ordinary burners are not suitable and work is in progress on the preliminary gasification of the fuel oil. A laboratory furnace was built with a cyclone combustion chamber 200 mm in diameter and 840 mm long with an electric air heater. The furnace dimensions were 120 mm cube. The fuel oil, vapourised by steam, was delivered at 80 °C with high-pressure (3 atm. 150 °C) steam nozzles fitted tangentially to the cylindrical part of the furnace. Oxidation was assessed by loss in weight of grade 45 steel specimens. The work was carried out

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with fuel oil grade 80 (85.6% C, 10.5% H_2, 0.7% S, 0.5% O_2, 0.5% N_2, 2% W, 0.2% A). Two methods of combustion were used. In the first method steam and gas were delivered to the first nozzle and burnt with hot air in the horizontal cyclone chamber. The air consumption factor n ranged from 0.31 to 0.52; the specific steam consumption was 0.6 kg per kg of fuel oil. At a hot air temperature of 500 °C the furnace temperature ranged from 1030 to 1080 °C. With the second method of combustion the first nozzle was supplied with fuel oil pulverized by steam and with air sufficient for complete combustion. A second nozzle delivered fuel oil and steam into the flow of hot gas from the first nozzle in sufficient amount to reduce the overall air factor to 0.3-0.54. Furnace temperature was 1000-1070 °C. Both methods gave practically oxidation-free heating with an air factor of 0.3; the specimens were covered with a dense layer of soot; coke was deposited on the furnace walls. The soot content of combustion products was less with the second method than the first, and accordingly further tests at higher temperatures were carried out by the second method, placing

samples at a distance of 490 mm from the start of the chamber where the temperature was 1200 °C. Heating conditions were found to be oxidation-free. It is concluded that metal can be heated without oxidation to a temperature of 1100-1200 °C in furnaces fired by fuel oil provided that the air is heated to a temperature of not less than 500 °C. The method of burning fuel oil in cyclone furnaces offers promise and sectional furnaces for high speed heating of metal are of particular interest.
There are 4 figures, 2 tables and 8 references: 6 Soviet-bloc and 2 non-Soviet-bloc. The English language reference reads as follows:

Ref.6: I.A. Haveman and K. Mahodevan, Journal of the Inst. of Fuel, v.30, no.192, January 1957.

ASSOCIATION: Moskovskiy vecherniy mashinostroitel'nyy institut (Moscow Machinery Evening Institute)

SUBMITTED: May 8, 1961

VASHCHENKO, A.I.; LIFSHITS, A.Ye.

Precipitation of soot carbon in flame furnaces for nonoxidizing heating. Izv. vys. ucheb. zav.; chern met. 5 no.1:198-203 '62. (MIRA 15:2)

1. Moskovskiy vecherniy metallurgicheskiy institut i Gosudarstvennyy soyuznyy proyektnyy institut Ministerstva chernoy metallurgii.
(Furnaces, Heating)
(Soot)

KONDAKOV, E.A. [Kondakov, Ye.A.]; VASCENKO, A.I. [Vashchenko, A.I.]

Steel tempering without oxidation in the mazut open-flame furnaces. Analele metalurgie 16 no.3:132-140 Jl-S '62.

BOGOYAVLENSKIY, M.S.; VASHCHENKO, A.I.; DENISOV, A.N.; ZHETVIN, A.N.; ZEN'KOVSKIY, A.G.; MAKAROV, D.M.; MAKSIMOV, B.M.; FILATOVA, A.I.; SHABUNIN, Ye.M.

Oxidation and decarburizing of certain steels in duo-muffle furnaces of nonoxidizing heating. Stal' 23 no.12:1124-1126 D '63. (MIRA 17:2)

MITKALINNYY, Vsevolod Ivanovich; KRAFUKHIN, Vsevolod Valer'yanovich; VASHCHENKO, Aleksandr Ivanovich; GRANOVSKIY, Boris L'vovich; GLINKOV, M.A., prof., doktor tekhn. nauk, red.

[Metallurgical furnaces; an atlas] Metallurgicheskie pechi; atlas. Izd.2., perer. Moskva, Metallurgiia, 1964. 219 p. ___[Data for the atlas "Metallurgical furnaces"] K atlasu "Metallurgicheskie pechi." 45 p. (MIRA 17:9)

VASHCHENKO, Aleksandr Ivanovich; GLINKOV, Mark Alekseyevich, prof., doktor tekhn. nauk; KITAYEV, Boris Ivanovich; TAYTS, Noy Yur'yevich

[Metallurgical furnaces] Metallurgicheskie pechi. Izd.2., dop. i perer. Moskva, Metallurgiia. Pt.2. 1964. 343 p. (MIRA 18:3)

VASHCHENKO, A.I.; ZEN'KOVSKIY, A.G.; CHIZHOV, D.I.

Burning off gas to achieve a brighter flame in nonscale heating furnaces. Kuz.-shtam.proizv. 7 no.2:33-35 F '65.

(MIRA 18:4)

VASHCHENKO, A.I.; SHUL'TS, L.A.

One of the characteristics of heat processes in furnaces for the nonoxidizing heating of metals. Izv. vys. ucheb. zav.; chern. met. 7 no.3:203-211 '64. (MIRA 17:4)

1. Moskovskiy vecherniy metallurgicheskiy institut.

[illegible]

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1965, 188-193

TOPIC TAGS: lithium salt, oxidation inhibition, steel

ABSTRACT: The authors have attempted to illuminate the conditions relating to the [illegible]

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The authors submit that a change in the

VASHCHENKO, A.I.; ROZENFEL'D, E.I.

Calculating heat exchange in furnaces with radiant tubes. Izv. vys. ucheb. zav.; chern. met. 8 no.7:180-187 '65. (MIRA 18:7)

1. Moskovskiy vecherniy metallurgicheskiy institut.

VASHCHENKO, A.I.; ZEN'KOVSKIY, A.G.; MOGILEVSKIY, Ye.I.

Lithium atmosphere flame furnaces operating on natural gas.
Gaz. prom. 10 no.7:36-38 '65. (MIRA 18:8)

YAMPOL'SKIY, D.S. (Moskva); CHIGVA, T.A. (Moskva); SPIVAK, I.M. (Moskva); VASHCHENKO, A.F. (Moskva)

Experimental determination of the time constant of a d.c. motor with independent excitation. Elektrichestvo no.9:65-71 S '64. (MIRA 17:10)

VASHCHENKO, A.T., dotsent.

Division of western regions of the Ukrainian S.S.R. into natural and historical districts. Dop.ta pov.L'viv.un. no.3 pt.2:3-4 '52.

(MLRA 9:11)

(Ukraine--Geography)

VASHCHENKO, A.T., dotsent.

Some tasks of Soviet economic geography in the light of resolutions of the 19th Party Congress and I.V. Stalin's work "Economic problems of socialism in the U.S.S.R." Dop. ta pov.L'viv.un. no.4, pt.2:3-6 '53. (MLRA 9:11)

(Geography, Economic)

VASHCHENKO, A.T.; LUTSKIY, S.L.

Brotherly union and friendship of the Ukrainian and Russian people. Geog.v shkole no.2:1-14 Mr-Ap '54. (MLRA 7:2)
(Ukraine--History)

VASHCHENKO, A.T.

Review of the scientific sessions of the Department of Geography of the Lvov State University and the Lvov branch of the Geographical Society of the U.S.S.R. (1946-1953). Nauk.zap.L'viv.un. 28:133-135 '54. (MLRA 9:10)

(Lvov--Geography--Societies)

VASHCHENKO, A.T.

Dividing the territory of the Soviet Carpathians into natural history regions. Dop. ta pov. L'viv. un. no. 5 pt.2:44-46 '55.
(MLRA 9:10)

(Carpathian Mountains--Physical geography)

VASHCHENKO, A.T.

Reclamation of new lands in western provinces of the Ukrainian S.S.R. is an important resource for the development of agriculture. Dop. ta pov. L'viv. un. no.5 pt.2:46-49 '55. (MLRA 9:10)

(Ukraine--Reclamation of land)

VASHCHENKO, A.T.

The Lvov-Volyn Coal Basin. Geog.v shkole 19 no.1:14-15 Ja-F '56.
(MLRA 9:5)

(Lvov-Volyn Coal Basin)

VASHCHENKO, A.T.

Natural conditions and agricultural potentialities of the Soviet Carpathians. Nauk.zap. L'viv un. 39:34-49 '56. (MIRA 11:1)
(Carpathian Mountain region--Physical geography)
(Carpathian Mountain region--Agriculture)

VASHCHENKO, Afanasiy Trofimovich [Vashchenko, P.T.]; DERKACH, I., red.; NEDOVIZ, S., tekhred.

[Natural resources of western regions of the Ukrainian S.S.R.; economic-geographical study] Pryrodni resursy zakhidnykh raioniv URSR; ekonomiko-geografichnyi narys. L'viv, Knyzhkovo-zhurnal'ne vyd-vo, 1959. 125 p. (MIRA 13:4)
(Ukraine, Western--Natural resources)

VASHCHENKO, A.T.

Major characteristics of the development and geographical distribution of agricultural areas in the western provinces of the Ukrainian S.S.R. Nauch.dokl.vys.shkoly; geol.-geog.nauki no.1:210-217 '59. (MIRA 12:6)

1. L'vovskiy universitet, geograficheskiy fakul'tet, kafedra ekonomicheskoy geografii.
(Ukraine--Agriculture)

VASHCHENKO, A. T.

Doc Geog Sci - (diss) "Geography of the productive forces of the western regions of the Ukrainian SSR." Moscow, 1961. 34 pp; (Ministry of Higher and Secondary Specialist Education USSR, Moscow Order of Lenin and Order of Labor Red Banner State Univ imeni M. V. Lomonosov, Geography Faculty); 150 copies; price not given; list of author's works on pp 33-34 (23 entries); (KL, 6-61 sup, 200)

VASHCHENKO, A.T.

Peat resources of the southwestern economic region of the Ukrainian S.S.R. and their economic use. Geog. zbir. no.7: 84-89 '63.
(MIRA 17:12)

VASHCHENKO, D.

A knowledge of economics for workers. Prof.-tekh. obr. 13 no.10:29-30 O '56. (MLRA 9:11)

1. Starshiy inzhener po tekhnicheskomu obucheniyu Bereznikovskogo sodovogo zavoda.
(Economics--Study and teaching)

VASHCHENKO, D. I.

N/5
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Vysokoprochnyye chuguny (Hichly resistant pig iron) Red. Kollegiya A. A. Vasilenko, D. I. Vashchenko (i Dr.) Kiyev, Mashgiz, 1954.
303 p. illus., diagrs., tables.
Includes Bibliographies.