ONDREJICKA, M.; KADLEC, O.; MIKO, M.; VAJCIK, J.; SIBLIK, J.;
Technicka spolupraca: JASLOVSKA, D.; PANTLOVA, J.

Electrolyte disorders in renal hypertension. Bratisl. lek. listy 45 no.9:521-530 15 N '65.

1. Laboratorium pre vyskum pohybu vody a elektrolytov v organizme Lekarske fakulty Univerzity Komenskeho v Bratislave (veduci prof. MUDr. M. Ondrejicka) a I. interna klinika Lekarske fakulty Univerzity Komenskeho v Bratislave (veduci prof. MUDr. M. Ondrejicka).

POPKOV, V.I., doktor tekhnicheskikh nauk; SIDLIK, L.Z., inzhener.

Invention of split wire conductors. Elektrichestvo no.8:67-69 Ag '53.
(MLRA 6:8)

1. Energeticheskiy institut imeni Krzhizhanovskogo Akademii nauk SSSR.
(Electric cables)

SIVKOV, CHVANOV, A.V., inzhener.

Frequency doubler for supplying power to cables when locating cable faults. Energetik 5 no.6:35-37 Je '57. (MLRA 10:7)
(Electric cables)

SOV/112-59-5-8849

8(6)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 61 (USSR)

AUTHOR: Belen'kiy, L. S., Korobkova, V. P., and Sidlik, L. Z.

TITLE: Determining the Maximum No-Load Current of Transformers and the Charging Current of 110- and 35-kv Lines Cut by Type RLN Disconnects

PERIODICAL: Naladochnyye i eksperim. raboty ORGRES, Nr 15, 1958, pp 156-163

ABSTRACT: To determine the possibility of adopting the substation schemes without circuit-breakers on the high-voltage side, ORGRES jointly with large power systems (Lenenergo, Mosenergo, and others) staged tests intended to determine maximum currents and thereby maximum power of transformers and also maximum length of a transmission line that could be reliably cut off at no-load by a type RLN disconnecting switch. In addition to visual observations, a cinema filming was made which permitted determining the duration of arcing; to determine accurately the moment of arc extinction in relation to the angle of the disconnecting blades, both the current being interrupted and the blade

Card 1/2

Determining the Maximum No-Load Current of Transformers and the Charging . . . .

movement were recorded by an oscillograph. Overvoltages set up by cutting off no-load lines were not measured. The tests enable one to draw the following conclusions: The voltage, maximum transformer capacity, and transmission-line length which could be cut off at no-load can be considerably increased over those specified by the PTE MES standards. No-load currents as high as 7 amp for 20-Mva, 38-kv transformers and 10 amp for 31.5-Mva, 110-kv transformers can be cut off by a RLN disconnect. It is recommended that the disconnects be operated on or off quickly. Pole separation of the disconnect should not be less than 2,500 mm for 110 kv and 1,200 mm for 35 kv. To determine the maximum no-load length of 35- and 110-kv lines that could be cut off by the disconnect, overvoltages accompanying the line interruption need to be studied.

I.S.Sh.

SIDLIK, S.

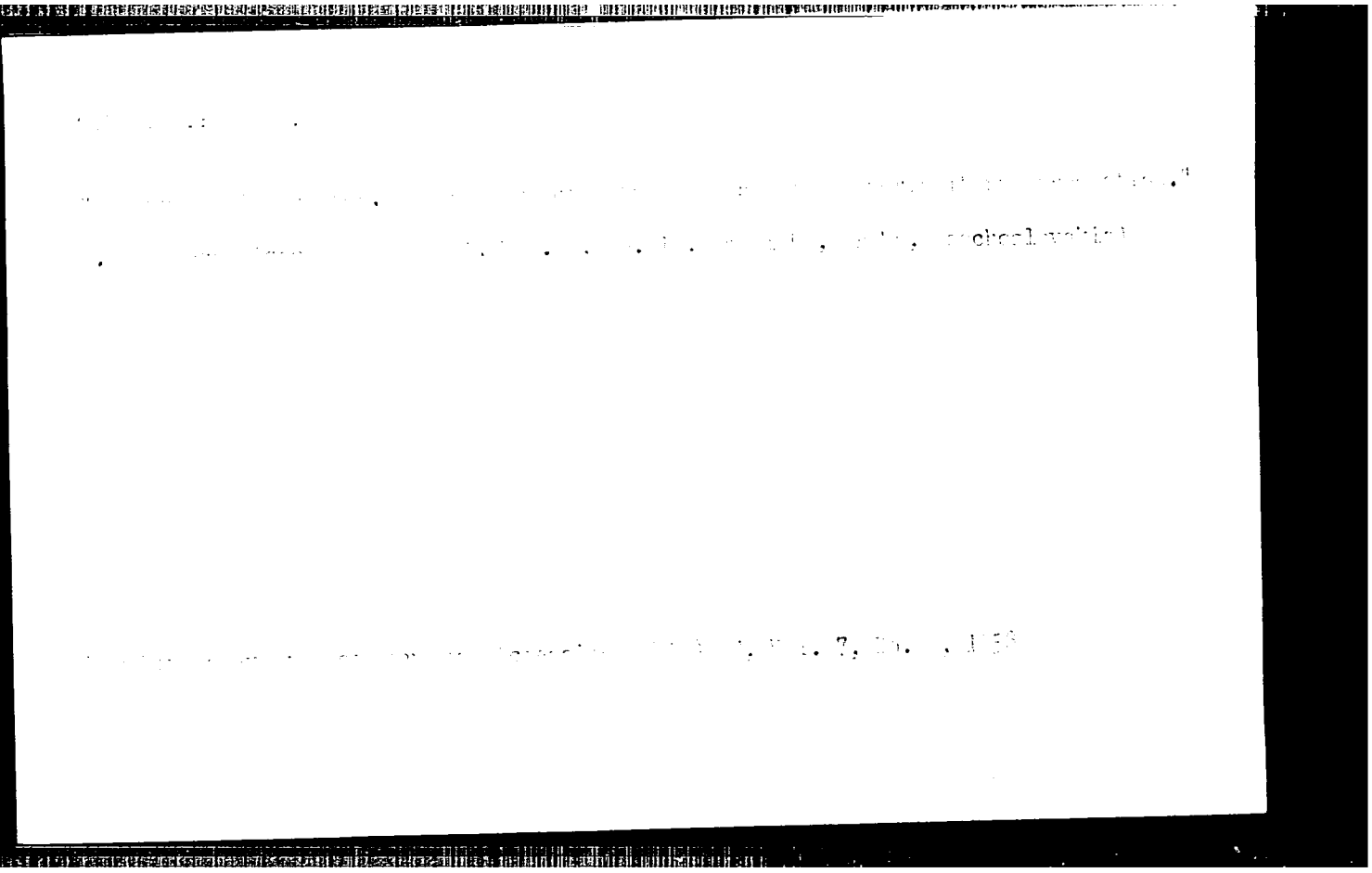
Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Apparatus, Plant Equipment, and Unit Operations

Refrigerated centrifuge. S. Hupka and S. Sidlik (Onkologický ústav, Bratislava, Czech.). *Chemické listy* 47: 632-8(1953).—A lab. centrifuge with a special device for cooling the centrifuge mantel has been constructed.
M. Hudlický

SIDLIK, Z. L.

Sbornik zadach po promyshlennoi statistike [Problems in Industrial statistics].
Gosstatizdat, 1952. 212 p.

SO: Monthly List of Russian Accessions. Vol. 6 no. 7 October 1953



Sidl , J.

CZECH

Desulfuration of cyclic thioamides by means of Raney nickel. J. Staněk and J. Šidlo (Univ. Prague). *Českoslov. farm.* 2, 117–20(1953). [illegible]thione (I), 5,5-diphenylthiohydantoin (II), thiobarbituric acid (III), and 1,3-diphenylthiobarbituric acid (IV) were desulfurated by boiling with Raney Ni in EtOH suspensions 15–30 min. The following compds. resulted: I, piperidine; II, 5,5-diphenylimidazolinone or, with an excess of Raney Ni, 5,5-diphenylimidazolidinone; III, 4,6-dioxohexahydropyrimidine; IV, 1,3-diphenyl-4,6-dioxohexahydropyrimidine. Attempts to desulfurate 5,5-diphenyldithiohydantoin were unsuccessful.
D. Hubíková

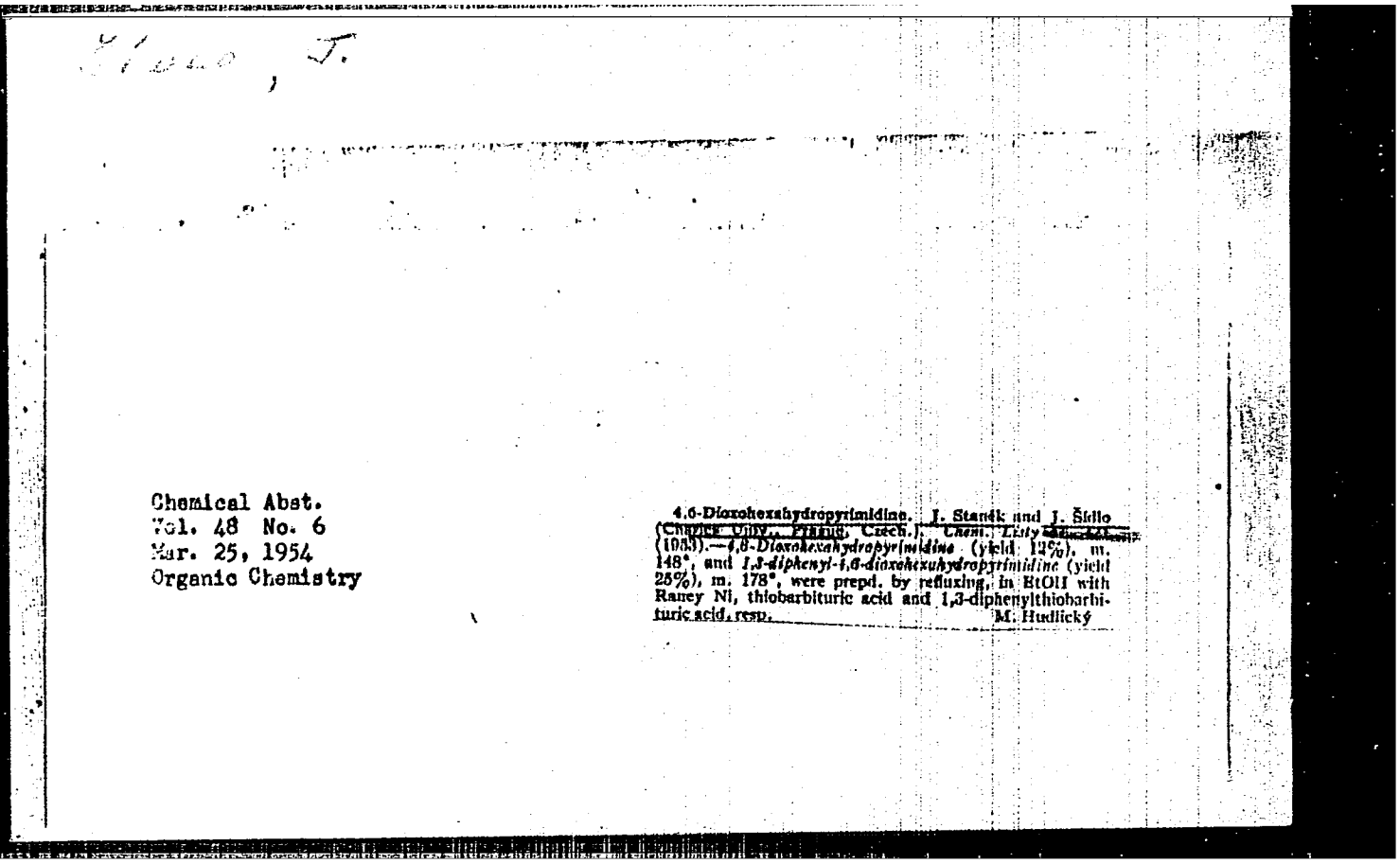
Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Organic Chemistry

A comment on the desulfuration of 5,5-diphenyl-2-thiohydantoin with Raney nickel. J. Staněk and J. Sidlo (Charles Univ., Prague, Czech.). *Chem. Listy* 47 [illegible] (1953).—The result of Raney Ni desulfuration of 5,5-diphenyl-2-thiohydantoin (I) depends on the excess of the Raney Ni used. With 9.3 g. Ni per 5 g. I, *5,5-diphenyl-4-imidazolone* (II), m. 166°, prevails over *5,5-diphenyl-4-imidazolidone* (III), m. 180°, whereas 21.5 g. Ni per 5 g. I yields almost pure III. Refluxing II with Raney Ni 30 min. in EtOH gives 45% III. M. Hudlický

Šídlo, J.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Orgnic Chemistry

2,4-Dithio-5,5-diphenylhydantoin. J. Staněk and J. Šídlo (Charles Univ., Prague, Czech.). *Chem. Listy* 47 [illegible] (1953).—Refluxing 24 g. 5,5-diphenylhydantoin with 60 g. P_2S_5 in 400 ml. tetralin 2 hrs. gave 18 g. *2,4-dithio-5,5-diphenylhydantoin* (I), m. 246° (from EtOEt). No desulfuration of I was observed by the action of Raney Ni.
M. Hudlický



Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Organic Chemistry

4,6-*Dioxohexahydropyrimidine*. J. Stanĕk and J. Šilló (Charles Univ., Prague, Czech.). *Chem. Listy* [illegible] (1953).—*4,6-Dioxohexahydropyrimidine* (yield 12%), m. 148°, and *1,3-diphenyl-4,6-dioxohexahydropyrimidine* (yield 25%), m. 178°, were prepd. by refluxing, in EtOH with Raney Ni, thiobarbituric acid and 1,3-diphenylthiobarbituric acid, resp. M. Hudlický

SIDLO, Richard

Frantisek Skoda, M.D. Plzen. lek. sborn. 24:163-176 '64

1. Katedra zdravotnictvi lekarske fakulty University Karlovy v Plzni (vedouci: prof. dr. R. Bures).

SAMAN, K.;CERHOVA, M.;SIDLOVA, A.

Serotonin in patients with glaucoma. Cesk. ofth. 16 no.3/4:181-187 My '60

1. Ocni klinika lekarske fakulty KU pobocka v Plzni, prednosta prof. dr. R. Knobloch Interni klinika lekarske fakulty KU pobocka v Plani, prednosta prof. dr. K. Bobek.

(GLAUCOMA blood)
(SEROTONIN blood)

SAMAN, K.; CERHOVA, M.; SIDLOVA, A.

Biological and chromatographic determination of the "tonizing" substance in the aqueous humor of the rabbit in trigeminal irritation and section. Cesk.ofth.16 no.7:447-453 N'60.

1. Ocni klinika lekarske fakulty KU, pobocka v Plzni, prednosta prof.dr. R.Knobloch. Interni klinika lekarske fakulty KU, pobocka v Plzni, prednosta prof.dr. K. Bobek.
(TRIGEMINAL NERVE physiol)
(AQUEOUS HUMOR chemistry)

VANICEK, F.; SIDLOVA, A.; KNEIFL, J.

Experiments with the preparation and conservation of biological supplement to deficient diets. Acta univ. carol. [Med] Suppl. 15:243-253 '61.

1. Hygienicky ustav lekarske fakulty University Karlovy se sidlem v Plzni, prednosta doc. MUDr. F. Vanicek.
(NUTRITION)

BAUDIS, P.; VANA, J.; CERHOVA, M.; SIDLOVA, A.

A study of the serotonin blood level in the course of schizophrenia. Cesk. psychiat. 57 no.3:164-169 '61.

1. Psychiatricka a interni klinika KU v Pizni.
(SEROTONIN blood) (SCHIZOPHRENIA blood)

CERHOVA, M.; SIDLOVA, A.; ZELENY, A.

The effect of skin inflammation on blood content of serotonin and h histamine. Physiol. Bohemoslov. 11 no.2:136-141 '62.

1. Institute of Physiology, Medical Faculty of Charles University, Plzen.

(ULTRAVIOLET RAYS) (DERMATITIS experimental)
(SEROTONIN blood) HISTAMINE blood)

SIDLOVA, Alena

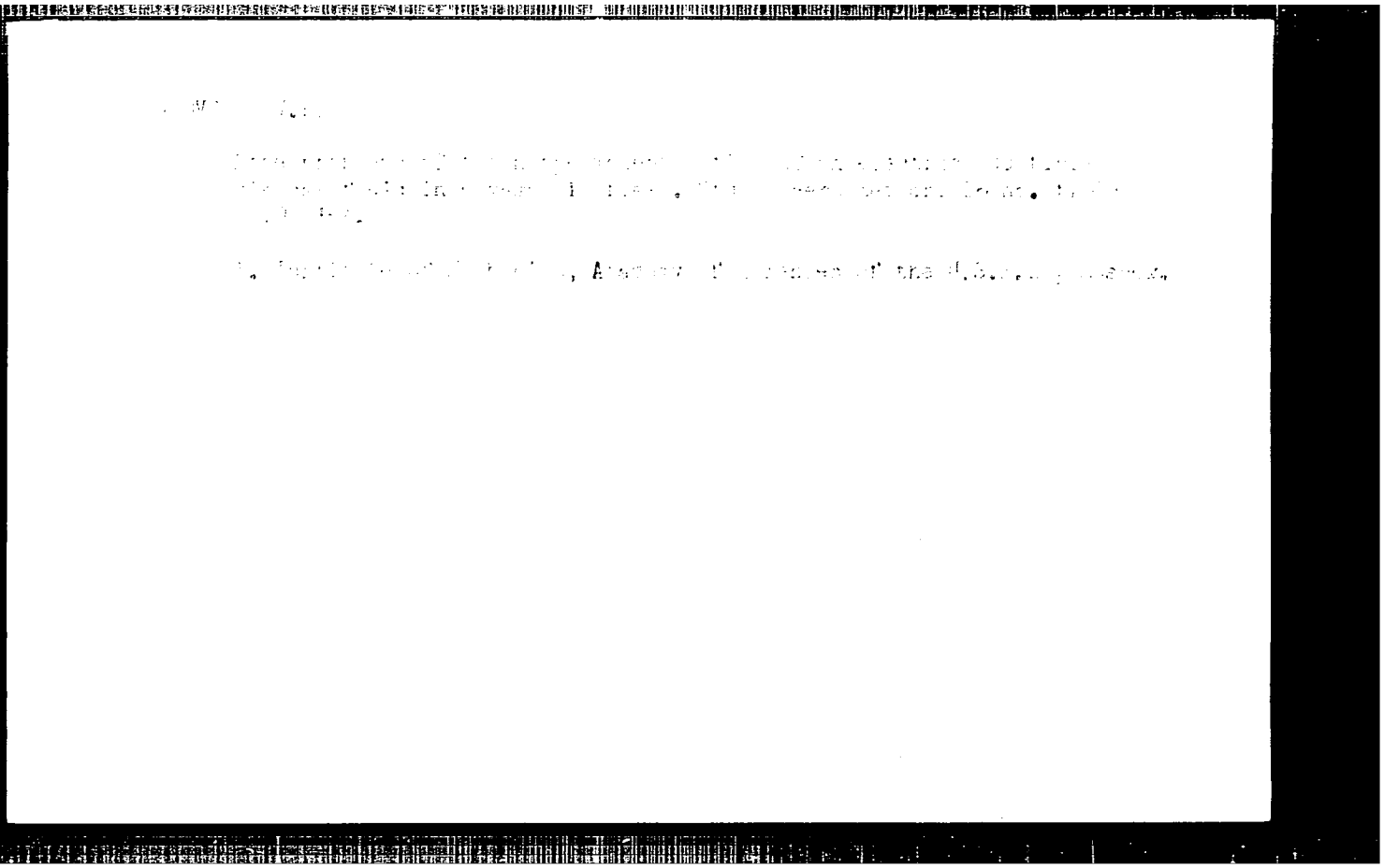
Changes in the body of mountaineers during a 1-week sojourn in the High Tatra Mountains. Plzen. lek. sborn. 23:31-40 '64

1. Hygienicky ustav lekarske fakulty University Karlovy se sidlem v Plzni (prednosta: doc. MUDr. F. Vanicek).

SIDLOVSKI, V.P. [Shidlovsky, V.P.]

Problem of a viscous, electrically conducting gas in the vicinity of a porous infinite plate. Studii cerc mec apl 13 no.3:701-706 '62.

1. Institut mekhaniki Akad. Nauk SSSR.



L 54054-65 EWT(1)/EPF(n)-2/EWG(v)/EPR/ Pe-5/Ps-4/Pu-4 WW/GG

ACCESSION NR: AP4049531 R/0008/64/016/004/1009/1019

AUTHOR: Sidlovski, V. P.

TITLE: Some problems concerning the discontinuous movement of an electrically conducting viscous fluid in a magnetic field

SOURCE: Studii si cercetari de mecanica aplicata, v. 16, no. 5, 1964, 1009-1019

TOPIC TAGS: hydromechanics, viscous fluid, electrically conducting fluid, magnetic field, discontinuous flow, rotating cylinder, Bessel function, concentric cylinder

ABSTRACT: The author presents two cases of discontinuous movement of an incompressible, electroconductive, viscous fluid in a magnetic field. The first case concerns the flow of an unlimited volume of fluid around an infinite cylinder of radius a, which begins to rotate abruptly at an instant t=0, with a constant angular velocity (ω). The magnetic field is permanent, having the components H_r and H_z. The intensity vector of the magnetic field applied at any point in the interior of the fluid may have an arbitrary direction, the only condition being that of conserving the symmetry with respect to the axis of the cylinder. An electrical field is supposedly absent, so that the magnetic field is station-

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ary. The equations of the problem are set-up starting from Lorenz's force equation. Supposing that H_z=constant=H_1, the equations of the movement of the liquid may be written as:

$$\nu\left[\frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial v}{\partial r}\right)-k^2 v-\alpha^2\frac{v}{r^2}\right]=\frac{\partial v}{\partial t},$$

$$\frac{\partial p}{\partial r}=\rho\frac{v^2}{r}.$$

where :ν = coefficient of kinematic viscosity; p = pressure; ρ= density; v = tangential component of flow velocity; r = radial coordinate; k is the parameter

$$k=\mu_e H_1\sqrt{\frac{\sigma}{\rho\nu}}$$

and α is the parameter.

$$\alpha=\sqrt{1+\frac{\mu_e^2\sigma H_0^2\alpha^2}{\rho\nu}}.$$

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ACCESSION NR: AP4049531

The equation is solved for the following initial and limiting conditions: for $t = 0$, $r > a$ and for $r \longrightarrow \infty$, $v = 0$; for $t > 0$, $r = a$, $v = \omega a$. In the final solution, the velocity v is defined as:

$$(v)_{k=0} = \frac{\omega a^{\alpha+1}}{r^{\alpha}} + \frac{2\omega a}{\pi}\int_0^{\infty} e^{-\lambda^2 \nu t} \cdot \frac{J_{\alpha}(\lambda r)\, Y_{\alpha}(\lambda a) - Y_{\alpha}(\lambda r)\, J_{\alpha}(\lambda a)}{J_{\alpha}^2(\lambda a) + Y_{\alpha}^2(\lambda a)} \cdot \frac{d\lambda}{\lambda}.$$

where J_{α} and Y_{α} are Bessel functions of the first and second kind, and of α order. The variation of the frictional moment as a function of time, and for different intensities of the magnetic field, is shown in a diagram. The second case concerns the axial flow of fluid between two concentric cylinders of infinite length, in the presence of a permanent, axiosymmetrical and stationary magnetic field, and under the influence of a pressure gradient. The case is studied according to the hypothesis that the constant pressure gradient (dp/dz) is applied abruptly at an instant t=0. The equations of the permanent motion of the fluid are set up taking into consideration the presence of the Lorenz force:

$$\frac{1}{r}\frac{d}{dr}\left(r\frac{du}{dr}\right) - n^2 u - \beta^2 \frac{u}{r^2} = \frac{1}{\mu}\frac{dp}{dz} = -4c_1$$

$$n = \mu_e H_1 \sqrt{\sigma/\mu}, \qquad \beta = \mu_e H_0 h \sqrt{\sigma/\mu}.$$

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and must meet the following limiting conditions: u=0 for r=0 and for r=b. Under the same axial-pressure gradient (dp/dz), the discontinuous flow which appears in a stationary fluid in the interior of a concentric tube at an instant t=0 begins with a constant velocity in a section U; the equation of the motion becomes

$$\frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial u}{\partial r}\right)-n^2u-\beta^2\frac{u}{r^2}=-4\sigma+\frac{1}{\nu}\frac{du}{dt}$$

with the initial condition u=U for t=0, and the limiting conditions the same as for continuous motion. Moreover, the asymptotic condition $u\rightarrow u_c$ for $t\rightarrow\infty$ must also be met. In the final solution, the non-dimensional friction-resistance in coefficient (C_T) in the concentric tube of length L, for a fluid with viscosity μ and a total force of friction F_T, is given by the expression:

$$C_T=\frac{F_T}{2\pi\mu LU}=\frac{f_0+f^*}{U}.$$

The variations of the friction coefficient as a function of time, in the absence

L 54054-65
ACCESSION NR: AP4049531

of the magnetic field (β=0) or for β=2, are shown in a diagram. Orig. art. has: 4 figures and 46 formulas.

ASSOCIATION: Institutul de mecanica al Academiei de stiinte a U.R.S.S., Moscow (Institute of Mechanics, Academy of Sciences SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: ME, MA

NO REF SOV: 003 OTHER: 004

Card 5/5

SIDLYAR, M.M.

Concentration of dynamic stresses at the contour of a circular aperture in a plate with longitudinal forces applied to its edges. Part 1. Nauk.zap.Kiev.un. 9 no.9:83-110 '50. (MLRA 9:10)
(Elastic plates and shells) (Strains and stresses)

SIDLYAR, M.M.

Concentration of dynamic stresses at the contour of a circular aperture in a plate with longitudinal forces applied to its edges. Part 2. Nauk.zap.Kiev.un. 9 no.9:111-128 '50. (MLRA 9:10)
(Elastic plates and shells) (Strains and stresses)

124-11-13097

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p. 117 (USSR)

AUTHOR: Sidlyar, M. M.

TITLE: Dynamic Elastic Displacements in a Circular Ring. (Dinamicheskiye uprugiye smeshcheniya v krugovom kol'tse.)

PERIODICAL: Nauk. zap. Kiyivs'k. un-t, 1954, Vol 13, Nr 8, pp 133-147

ABSTRACT: Investigation of the plane dynamic problem of a circular ring subjected to radial forces, uniformly distributed along the inner and outer contour of the ring and varying with time. The forces are applied suddenly. At the starting time the ring is in a state of quiet.

The desired displacements u appear as functions of the radius r and time t and must satisfy the equation

$$\frac{\partial^2 u}{\partial r^2} + \frac{1}{r}\frac{\partial u}{\partial r} - \frac{u}{r^2} = \frac{1}{c^2}\frac{\partial^2 u}{\partial t^2}$$

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Dynamic Elastic Displacements in a Circular Ring. (Continued)

the initial condition

$$\left[u\right]_{t=0} = \left[\frac{\partial u}{\partial t}\right]_{t=0} = 0$$

and the contour conditions

$$[\sigma_r]_{r=r_1} = R_1(t), \qquad [\sigma_r]_{r=r_2} = R_2(t)$$

where σ_r is the radial stress.

Through the application of a one-sided Laplace transformation the equation and the contour conditions are transferred into the sphere of representation. A Bessel equation is obtained, the general integral of which is written in terms of two cylindrical functions of the imaginary argument. This solution satisfies the transformed contour conditions. With the aid of a conversion formula the transfer into the original sphere is then accomplished. The desired displacements for the general case are represented in the form of a Riemann-Mellin integral.

Card 2/3

Dynamic Elastic Displacements in a Circular Ring. (Continued)

An investigation of the roots of the denominator of the integrand function is performed in the complex sphere. It is demonstrated that the denominator has only purely imaginary roots. By means of a change to an asymptotic expansion of Bessel functions a simple approximated formula is obtained for large modulus values of the roots.

A table of the first 10 roots of the denominator is set up for the plane deformed and plane stressed state for various values of the ratio r_2/r_1.

In greater detail an investigation is made for the case in which the external and internal pressures, applied suddenly, remain from then on constant. In that case the Riemann-Mellin integral is evaluated with the aid of computational theory, and the displacements are represented in the form of an infinite series. The uniform convergence of the series thus obtained is demonstrated.

(L. M. Kurshin)

Card 3/3

SOV/124-58-10-11457

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 108 (USSR)

AUTHOR: Sidlyar [Sidlyar, M.M.]

TITLE: On a Dynamic Problem of the Distribution of Stresses Around a Hole (Ob odnoy dinamicheskoy zadache raspredeleniya napryazheniy okolo otverstiya) in Ukrainian

PERIODICAL: Nauk. shchorichnyk. Mekhan.-matem. fak. Kyyivs'k. un-tu, 1956. Kyyiv, 1957, p 545

ABSTRACT: Bibliographic entry

Card 1/1

SIDLYAR, M.M.

Solution of a transcendental equation. Nauk.zap.Kyiv.un. 16 no.2:91-97 '57. (MIRA 11:11)
(Functions, Transcendental)

KIL'CHEVSKIY, M.O.; KOVALENKO, A.D.; SIDLYAR, M.M.

Research in the Department of Mechanics, the Department of the Theory of Elasticity, and the Department of Aerohydromechanics and Heat Exchange. Nauk. zap. Kyiv. un. 16 no.16:29-41 '57. (MIRA 13:3)

(Kiev--Mechanics--Study and teaching)

SIDLYAR, M.M.

A dynamic problem for determining stresses near an opening.
Nauk. zap. Kyiv. un. 16 no.16:103-116 '57. (MIRA 13:3)
(Strains and stresses)

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S/044/62/000/002/049/092
C111/C444

AUTHOR: Sidlyar, M. M.

TITLE: The determination of tensions in closed form in dynamic problems of the theory of elasticity

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1962, 78, abstract 2B350. ("Visnyk Kyivs'k. un-tu," 1958, no. 1, ser. astron. matem. ta mekhan., vyp. 2, 41-48)

TEXT: For the Lamé equations with vanishing initial conditions and inhomogeneous boundary conditions one solves the vectorial instationary boundary value problem. The author uses the Laplace transformation and gains the solution in quadratures. As an example one considers longitudinal oscillations of a bar for variable charge at its ends.

[Abstracter's note: Complete translation.]

Card 1/1

22568
S/198/61/007/006/005/008
D299/D301

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26.2111

AUTHORS: Antonov, A, M. and Sidlyar, M. M. (Kyyiv)

TITLE: Approximate solutions to the problem of hypersonic flow past slender bodies

PERIODICAL: Prykladna mekhanika, v. 7, no. 6, 1961, 649-655

TEXT: Hypersonic flow at Mach numbers M = 16-20 is considered. The problem is solved in the second approximation which permits a more exact description of the body surface and of the pressure distribution. The solution is expressed in series in the small parameter τ, related to the relative thickness of the body. A numerical example of flow past a wedge is considered. After computations, formulas are obtained for the conservation laws, the continuity equation and the second law of thermodynamics. The dimensionless coordinates

$$x = \bar{x}; \quad y = \tau\bar{y}; \quad z = \tau\bar{z} \tag{2.1}$$

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Approximate solutions to ...

are introduced and the first-approximation equations obtained. In the second approximation, a system of 5 equations is derived, the first of which is

$$u_0\frac{\partial u_0}{\partial x}+\frac{\partial u_1}{\partial x}+v_0\frac{\partial u_1}{\partial y}+v_1\frac{\partial u_0}{\partial y}+w_0\frac{\partial u_1}{\partial z}+u_1\frac{\partial w_0}{\partial z}-\frac{\varrho_1}{\varrho_0^2}\frac{\partial P_0}{\partial x}+\frac{1}{\varrho_0}\frac{\partial P_1}{\partial x}=0, \tag{3.1}$$

where ρ is the density, P - the pressure. For the plane problem, the obtained equations are simplified, whereby the stream function in the second approximation is given by the expression

$$\psi = \psi_0 + \varepsilon\psi_1 \tag{4.8}$$

As a numerical example, hypersonic flow past a wedge is considered.

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Approximate solutions to ...

The first-approximation equations are solved by D. Van Dyke's method. In the second approximation, one obtains for plane flow:

$$v_1 = -\frac{2}{\varkappa+1}\left(\frac{\partial\Phi_1}{\partial x}\right)^3;\quad P_1 = -\frac{2}{\varkappa+1}\left(\frac{\partial\Phi_1}{\partial x}\right)^4;\quad \rho_1 = -\frac{(\varkappa+1)k^2}{\left[2+(\varkappa-1)k^2\right]^2} \qquad (5.6)$$

The expression for the pressure coefficient is

$$\frac{C_p}{\tau^2} = 2\left(\frac{2}{\varkappa+1}\,\frac{k^2-1}{k^2} - \frac{2}{\varkappa+1}\,\tau^2\right) \qquad (5.12)$$

The magnitude of the angle θ_1, related to the thickness of the edge in the first approximation, is determined by the condition that the stream function Ψ is the equation of the wedge surface, i.e.

Card 3/5

Approximate solutions to ...

$$\psi(\theta) = 0 \text{ for } \theta = \theta_0 + \tau^2\theta_1 \qquad (5.13)$$

Expanding (5.13) in series in τ and retaining terms in τ^2 only, one finally obtains for the thickness θ the expression

$$\theta = \frac{2(k^2 - 1)}{(\varkappa + 1)k^2} - \frac{2\tau^2}{\varkappa + 1}\left[1 + \frac{(\varkappa + 1)(k^2 - 1)}{2 + (\varkappa - 1)k^2}\right] \qquad (5.16)$$

Formulas (5.12) and (5.16) are the solutions to the problem in the second approximation. There are 2 figures, 1 table and 4 references, 2 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: D. Hays, F. Probstein, Hypersonic flow theory, Academic Press, 1959; D. Van Dyke, A study of hypersonic small disturbance theory, NACA, Rep. No. 1194, 1954.

Card 4/5

32562
S/198/61/007/006/005/008
D299/D301

Approximate solutions to ...

ASSOCIATION: Kyyivs'kyy derzhavnyy universytet (Kyyiv State University)

SUBMITTED: January 24, 1961

Card 5/5

21365
S/021/61/000/012/002/011
D251/D305

10 1410 1327 2807 2607

26a2114

AUTHORS: Antonov, A. M., and Sidlyar, M. M.

TITLE: On determining the form of a shock-wave in the case of streamlining of thin bodies by a stream of gas

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 12, 1961, 1556-1559

TEXT: The problem of the form of a shock-wave in the case of a body streamlined by a gas stream is investigated for high velocities of the gas ($16 \leqslant M \leqslant 18$). The solution is constructed by the method of successive approximations, the relative thickness of the body being taken as the small parameter. It is assumed that the boundary conditions may be transferred from a shock wave of a higher approximation to the one determined by the previous approximation. The plane case is considered and the equations of the first and second approximations are found to be

X

On determining the form ...

$$\frac{\partial u_o}{\partial \bar{x}} + v_o \frac{\partial u_o}{\partial \bar{y}} + \frac{1}{\rho_o} \frac{\partial P_o}{\partial \bar{x}} = 0$$

$$\frac{\partial v_o}{\partial \bar{x}} + v_o \frac{\partial v_o}{\partial \bar{y}} + \frac{1}{\rho_o} \frac{\partial P_o}{\partial \bar{y}} = 0$$

$$\frac{\partial \rho_o}{\partial \bar{x}} + v_o \frac{\partial \rho_o}{\partial \bar{y}} + \rho_o \frac{\partial v_o}{\partial \bar{y}} = 0$$

$$\frac{\partial}{\partial \bar{x}} \left(\frac{P_o}{\rho_o^x} \right) + v_o \frac{\partial}{\partial \bar{y}} \left(\frac{P_o}{\rho_o^x} \right) = 0 \qquad (4)$$

where

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21365
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D251/D305

On determining the form ...

$$\bar{y} = \bar{F}(\bar{x}), \quad v_0 = \bar{F}'_{\bar{x}} = \frac{d\bar{F}(\bar{x})}{dx} \tag{5}$$

$$\begin{aligned}
&\bar{y} = \bar{B}(\bar{x}),\\
&u_0 = -\frac{2}{\varkappa+1}\left(\bar{B}_{0\bar{x}} - \frac{1}{k^2}\right),\\
&v_0 = \frac{2}{\varkappa+1}\left(\bar{B}_{0\bar{x}} - \frac{1}{k^2\bar{B}_{0\bar{x}}}\right),\\
&P_0 = \frac{2}{\varkappa+1}\left(\bar{B}^2_{0\bar{x}} - \frac{\varkappa-1}{2\varkappa}\cdot\frac{1}{k^2}\right),\\
&Q_0 = \frac{\varkappa+1}{\varkappa-1}\cdot\frac{1}{1+\dfrac{2}{\varkappa-1}\cdot\dfrac{1}{k^2\bar{B}^2_{0\bar{x}}}},
\end{aligned} \tag{6}$$

Card 3/6

On determining the form ...

$$\bar{B}_{0\bar{x}} = \frac{d\bar{B}_0}{d\bar{x}} \qquad (7)$$

and

$$v_1|_{\bar{y}=\bar{B}_0} = \left\{\frac{2}{\varkappa+1}\left(\bar{B}_{1\bar{x}} - \bar{B}_{0\bar{x}}^3 + \frac{\bar{B}_{1\bar{x}}}{\bar{B}_{0\bar{x}}^2}\right) - \frac{\partial v_0}{\partial \bar{y}}\bar{B}_1\right\}_{\bar{y}=\bar{B}_0},$$

$$u_1|_{\bar{y}=\bar{B}_0} = \left(\frac{2}{\varkappa+1}\bar{B}_{0\bar{x}}^4 - \frac{\partial u_0}{\partial \bar{y}}\bar{B}_{1\bar{x}}\right)_{\bar{y}=\bar{B}_0} - \frac{4}{\varkappa+1}(\bar{B}_{0\bar{x}}\bar{B}_{1\bar{x}})_{\bar{y}=\bar{B}_{0\bar{x}}},$$

$$P_1|_{\bar{y}=\bar{B}_0} = \left(-\frac{2}{\varkappa+1}\bar{B}_{0\bar{x}}^4 - \frac{\partial P_0}{\partial \bar{y}}\bar{B}_{1\bar{x}}\right)_{\bar{y}=\bar{B}_0} + \frac{4}{\varkappa+1}(\bar{B}_{0\bar{x}}\bar{B}_{1\bar{x}})_{\bar{y}=\bar{B}_{0\bar{x}}},$$

$$\varrho_1|_{\bar{y}=\bar{B}_0} = \left\{-\frac{\partial \varrho_0}{\partial \bar{y}}\bar{B}_1 - \frac{2(\varkappa+1)k^2\bar{B}_{0\bar{x}}^2}{[(\varkappa-1)k^2\bar{B}_{0\bar{x}}^2+2]^2}\left(\bar{B}_{0\bar{x}}^2 - 2\frac{\bar{B}_{1\bar{x}}}{\bar{B}_{0\bar{x}}}\right)\right\}_{\bar{y}=\bar{B}_0}.$$

Card 4/ 6

On determining the form ...

respectively. Here u,v,w,p,o are parameters of the flow, B(x) is the unknown form of the shock-wave and F(x) is the form of the body and

$$\bar{x} = x; \quad \bar{y} = \tau y \tag{2}$$

$$\bar{y} = \tau B(\bar{x}) = \bar{B}(\bar{x})$$
$$\bar{y} = \tau F(\bar{x}) = \bar{F}(\bar{x}) \tag{3}$$

The possibility of applying the assumption of transfer of form in the case of shock-waves of the second and first order was pointed out to the author by V. V. Sychev. The case of a flat wedge was considered as a check on the correctness of the assumptions. Fairly good results were obtained, even for the first approximation. There are 1 figure and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D. Van-Dyke, Nat. Adv. Com. for Aeronautics,1194 (1954).

Card 5/6

21365
S/021/61/000/012/002/011
D251/D305

On determining the form ...

ASSOCIATION: Kyyivs'kyy Derzhavnyy universytet (State University of Kyyiv)

PRESENTED: By I.T. Shvets', Academician AS UkrSSR

SUBMITTED: May 16, 1961

Card 6/6

PUTYATA, Vsevolod Iosifovich; SIDLYAR, Mikhail Makarovich;
FIL'CHAKOV, P.F., doktor fiz.-mat. nauk, retsenzent;
BALYASNA, O.Ye.[Baliasna, O.IE.], red.; KHOKHANOVSKAYA,
T.I.[Khokhanovs'ka, T.I.], tekhn. red.

[Hydroaeromechanics] Gidroaeromekhanika. Kyiv, Vyd-vo Kyivs'-
kogo univ. 1963. 479 p. (MIRA 16:7)
(Fluid mechanics)

SIDLYAR, M. M. (Kiyev)

Determination of a nonstationary temperature field in a two-layer plate in the case of a heat transfer coefficient varying in time. Prykl. mekh. 9 no.3:308-314 '63. (MIRA 16:4)

1. Kiyevskiy gosudarstvennyy universitet.

(Elastic plates and shells—Thermal properties)

L 39287-65 EWT(d)/EWT(l)/EPF(c)/EPF(n)-2/EWG(v)/EPR Pr-4/Pu-4 IJP(c)
WW/GS

ACCESSION NR: AT5000816 S/0000/64/000/004/0009/0014

33
B+1

AUTHOR: Sidlyar, M. M. (Kiev)

TITLE: The use of the perturbation technique for calculating temperature fields

21

SOURCE: Nauchnoye soveshchaniye po teplovym napryazheniyam v elementakh konstruktsiy, 4th. Teplovyye naprayazheniya v elementakh konstruktsiy (Thermal stresses in construction elements);doklady soveshchaniya, no. 4 Kiev, Naukova dumka, 1964, 9-14

TOPIC TAGS: heat convection, perturbation technique, variational method, temperature field, heat transmission, heat exchange

ABSTRACT: The heat transmission coefficient is a variable in transient heating (cooling) problems for bodies showing convective heat exchange with the medium. Up to the present time, actual calculations of the temperatures of bodies have been made with limitations relating to the coefficient of heat transmission. The results were mainly obtained by assuming that the coefficient of heat transmission is a constant value.

mate solution of the problem, assuming that the coefficient of heat transmission varies

Card 1/2

L 39287-65
ACCESSION NR: AT5000816

either with time or with temperature. It is also assumed that the variable part of the coefficient is negligible in comparison with the constant part, or that there is low perturbation. The variational method is used for solving the problem, employing dimensionless differential equations. Orig. art. has:29 formulas.

SUBMITTED: 02Jun64 ENCL: 00 SUB CODE:TD

NO REF SOV: 006 OTHER: 001

Card 2/2

L 7006-65 EWT(1)/EPA(s)-2/EPF(n)-2/EWG(v)/EPR/EWA(1) Pe-5/Ps-4/Pt-10/
Pu-4 AFWL/ESD(dp)/ESD(t)/RAEM(t) WW

ACCESSION NR: AP4042816 S/0021/64/000/007/0846/0849

AUTHOR: Sidlyar, M. M.

TITLE: Application of the variational method to the solution of nonstationary problems of heat conduction

SOURCE: AN UkrRSR. Dopovidi, no. 7, 1964, 846-849

TOPIC TAGS: variational method, nonstationary heat conduction, nonstationary temperature field, variational principle, linear differential equation, nonlinear differential equation

ABSTRACT: An approximate method is proposed for solving the nonstationary heat-conduction problem under the assumption that the coefficient of the relative heat transfer is the function of time or temperature; it consists of a stationary part H_0 and a variable part H_1 (perturbation function), which is small as compared with the stationary one. For determining the nonstationary temperature field, the dif-

L 7006-65
ACCESSION NR: AP4042816

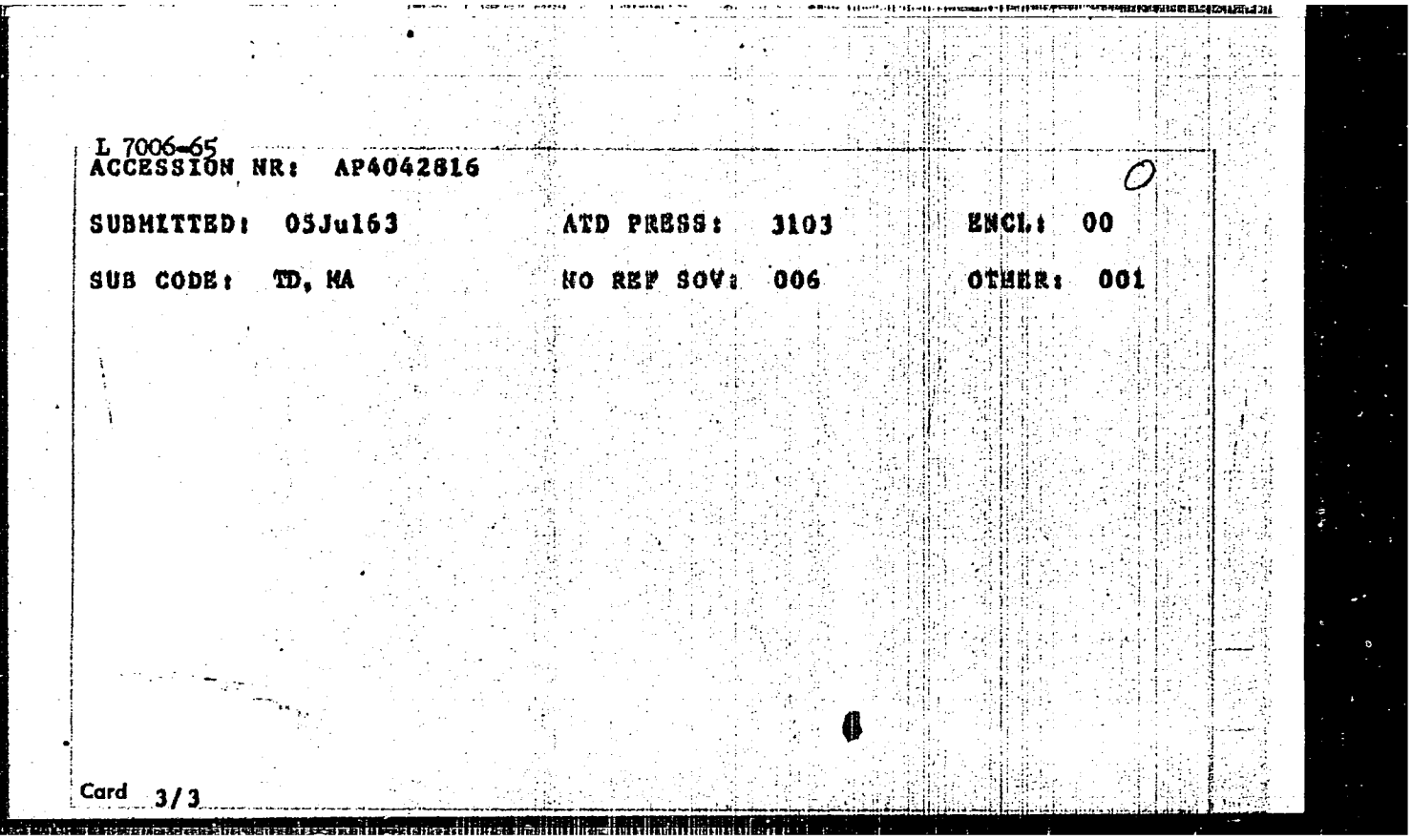
of the problem is sought in the form of a series

$$\theta = \sum_k a_k(\tau)\phi_k,$$

where $a_k(\tau)$ are to be determined and ϕ_k is the system of fundamental functions which satisfy a certain condition on the surface of the body. For determining functions $a_k(\tau)$, a system of differential equations is derived which turns into a system of linear differential equations with variable coefficients when H_1 is a function of time, and into a system of nonlinear differential equations with constant coefficients when H_1 is a function of temperature. When $H_1(\tau)$ is a polynomial or certain special functions, the system of equations can be solved by N. I. Tereshchenko's method (Ukrainskiy matematicheskoy zhurnal, no. 10, 1958, and no. 11, 1959). When $H_1(\tau)$ is sufficiently small, systems of equations for determining $a_k(\tau)$ are simplified. Orig. art. has: 16 formulas.

ASSOCIATION: Ky*yivs'ky*y derzhavny*y universy*tet (Kiev State University)

Card 2/3



L 7006-65
ACCESSION NR: AP4042816

SUBMITTED: 05Jul63 ATD PRESS: 3103 ENCL: 00

SUB CODE: TD, MA NO REF SOV: 006 OTHER: 001

Card 3/3

L 15017-65 EWT(1)/EPA(s)-2/EPF(n)-2/EWG(v)/EPR/EWA(1) Pe-5/Ps-4/Pt-10/Pu-4
AEDC(a)/SSD/ASD(p)-3/AFMDC WW
ACCESSION NR: AP4045895 S/0021/64/000/009/1136/1138

AUTHOR: Sidlyar, M. M.

TITLE: Approximate solution of nonstationary heat conductivity problems in the case of perturbation of form

SOURCE: AN UkrRSR. Dopovidi, no. 9, 1964, 1136-1138

TOPIC TAGS: convective heat, variational method, temperature field

ABSTRACT: The author discusses the theoretical solution of a nonstationary convective heat exchange plane problem, with sporadic slightly damaged body spots for which the unperturbed problems are known, in the form of orthonormed functions. To achieve the complete solution the author uses the variational method, finding the temperature field of the series whose coefficients are determined by means of differential equations of first approximation. Orig. art. has: 17 formulas.

ASSOCIATION: Kyyivsky*y derzhavny*y universytet (Kiev State University)

Card 1/2

L 15017-65
ACCESSION NR: AP4045895

SUBMITTED: 05Jul63 ENCL: 00 SUB CODE: TD

NO REF SOV: 002 OTHER: 000

Card 2/2

L 51514-65 EWT(1)/EWP(m)/EWG(v)/FCS(k)/EWA(c) Pd-1/Pe-5 WW

ACCESSION NR: AP5010785 UR/0021/65/000/004/0450/0454

32
31
B

AUTHOR: Sidlyar, M. M.; Stetsenko, O. H. (Stetsenko, A. G.)

TITLE: Generalization of the problem of effective viscosity on a hypersonic stream of gas

SOURCE: AN UkrRSR. Dopovidi, no. 4, 1965, 450-454

TOPIC TAGS: hypersonic flow, viscosity effect, Prandtl number, boundary layer, laminar boundary layer, streamlining

ABSTRACT: The authors consider a generalization of the problem of flow of a hypersonic stream of viscous gas around a heat-insulated wedge or a cone in the case when the Prandtl number or the ratio of the velocity of the boundary layer to the velocity of the incoming stream both differ little from unity. The equations obtained for a wedge or nonlinear can be solved approximately with the aid of numerical integration. In the case of flow around the cone, it is assumed that the thickness of the cone is comparable with the thickness of the boundary layer. Account is taken of the interaction between the boundary layer and the condensation discontinuity. This report was presented by I. T. Shvets' (Shvets). Orig. art. has: 25 formulas.

Card 1/2

L 51514-65

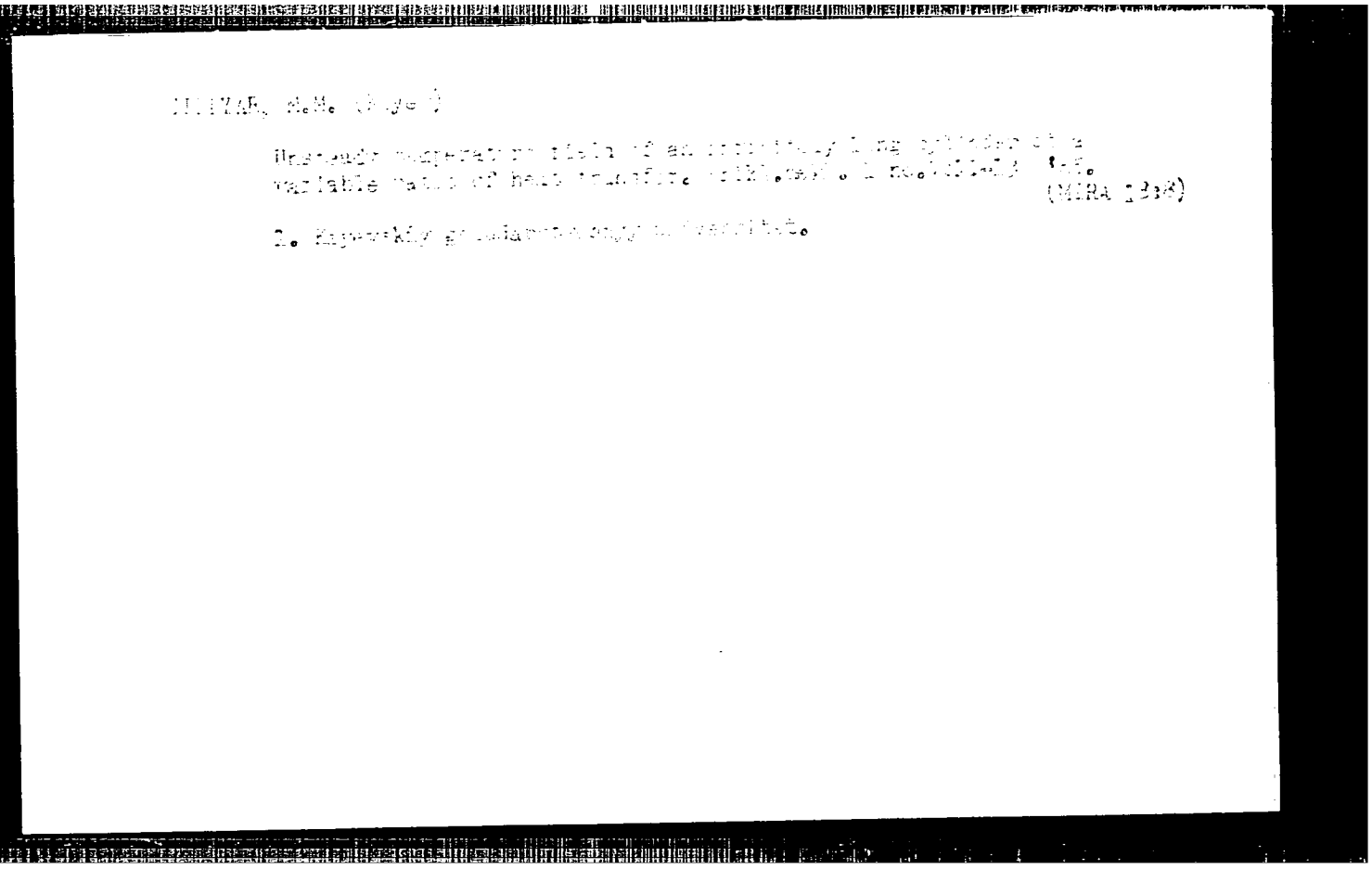
ACCESSION NR: AP5010785

ASSOCIATION: Kyivs'kyy derzhavnyy universytet [Kiyevskiy gosudarstvenny universitet] (Kiyev State University)

SUBMITTED: 10Mar64 ENCL: 00 SUB CODE: ME

NR REF SOV: 002 OTHER: 004

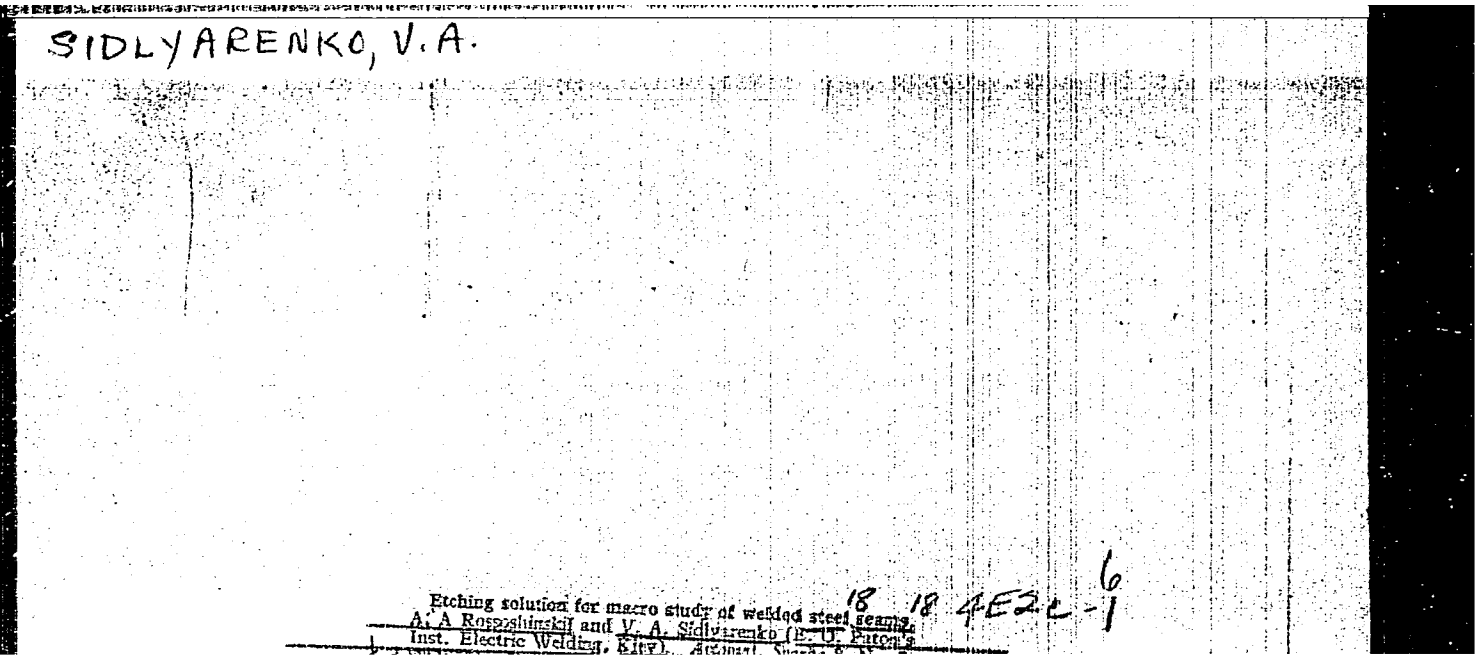
Card 2/2



ABAYEVA, B.T.; OKINSHEVICH, N.A.; AGAFONOV, A.V.; SIDLYARENOK, F.S.; KAZANSKIY, V.L.; GYUL'MISAR'HAN, T.G.; SUYETENKO, L.P.; GILYAZETDINOV, L.P.

Using extracts as stock for the production of active and semi-active carbon black. Nefteper. i neftekhim. no.5:30-33 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva, Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.



Allow the soln. to stand on the object 1-5 min., and wash well in water.

A. N. Pestoff

125-1-14/15

AUTHORS: Sidlyarenko, V.A., Parfessa, G.I., Rossoshinskiy, A.A.

TITLE: Detection of Crystallization Layers in Welded Seams by Methods of Electrolytic Etching (Vyyavleniye kristallizatsionnykh sloyev svarnykh shvov metodom elektroliticheskogo travleniya)

PERIODICAL: Avtomaticheskaya Svarka, 1958, # 1, pp 89-90 (USSR)

ABSTRACT: Crystallization layers in welded seams are detected by electrolytic etching, with the aid of the usual devices. The reagent is a 20% aqueous solution of sulphuric acid (density 1.84). The voltage at the etching bath terminals is 0.5 v. Figure No 1 shows crystallization layers in the seam, detected by this method which is recommended for use by metallographic laboratories because of its simplicity and reliability.

There is one figure and 3 Russian references.

ASSOCIATION: Institute of Electrowelding imeni Ye.O. Paton (Institut elektrosvarki imeni Ye.O. Patona) of the Ukrainian SSR Academy of Sciences.

SUBMITTED: 2 August 1957

AVAILABLE: Library of Congress

Card 1/1

AUTHOR: Parfessa, G.I., and Sidlyarenko, V.A. 125-58-7-14/14

TITLE: A Universal Electrolyte for Polishing Stainless, Heat-Resistant Low-Carbon Steels and "VT-5" Titanium Alloy (Universal'nyy elektrolit dlya polirovki nerzhaveyushchikh, teploustoychivykh malouglerodistykh staley i titanovogo splava VT-5)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 7, pp 82-84 (USSR)

ABSTRACT: Information is presented on a new method of electrolytic polishing of welded joints with the use of electrolytes possessing comparatively low electric resistance and not interacting with metals under usual process conditions. The electrolyte consists of 500 cm^3 glacial acetic acid and 16.5 cm^3 perchloric acid. The process parameters for different grades of steel and "VT-5" titanium alloy are given. There are 3 photos.

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

SUBMITTED: April 26, 1958

1. Welded joints--Electrolytic polishing 2. Electrolytes--Properties

Card 1/1

USCOMM-DC-55356

SOV/32-24-10-17/70

AUTHORS: Sidlyarenko, V. A., Parfenov, G. I., Rossokhinskiy, A. A.

TITLE: The Development of Crystallisation Layers at Weld Seams According to the Method of Electrolytic Etching (Vyyavleniye kristallizatsionnykh sloyev svarnykh shvov metodom elektroliticheskogo travleniya)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1217 - 1217 (USSR)

ABSTRACT: The development of crystallisation layers in weld seams at lowly- and middle-alloyed steels that are low in carbon is connected with some difficulties (Ref 1). In the present case electrolytic etching is employed. A 20 per cent solution of sulfuric acid (density 1,84) served as reagent. The cathode was a lamella of stainless steel the surface of which was 1,5 - 2 times larger than the surface of the sample to be etched. The distance between the electrodes was about 35 mm. The terminal voltage was 0,5 volts. The duration of etching was 6 hours. After the process of etching the sample is carefully cleaned, washed, and dried. A microphoto of a weld sample

Card 1/2

The Development of Crystallisation Layers at Weld Seams SOV/32-24-10-17/70
According to the Method of Electrolytic Etching

is shown in a figure; the crystallisation layers obtained according to the described method are clearly visible. There are 1 figure and 2 references which are Soviet.

Card 2/2

25(1) SOV/125-60-2-14/21

AUTHOR: Sidlyarenko, V.A.

TITLE: A Reagent for Macroetching Welds of Titanium and Its Alloys

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 2, pp 88-89 (USSR)

ABSTRACT: The different existing methods of etching produce a shiny structure in titanium welds, which makes it very difficult to take macrosection pictures (Figure 1). A simple method has been developed for macroetching welds of titanium and its alloys of the types BT1, BT5, and BT6, which gives good results. The structure becomes clear, slightly mat, and the shine disappears (Figure 2). The composition of the reagent is: H_2SO_4 (1.84) - 90 cm^3, H_2O - 180 cm^3, HCl (1.19) - 420 cm^3. The solution is heated to 90-100°C, and the surface of the macrosection is rubbed with a piece of wadding wetted

Card 1/2

SOV/125-60-2-14/21

A Reagent for Macroetching Welds of Titanium and Its Alloys

in the etching solutions till the structure becomes clear (15-20 seconds). Then the macrosection is washed and dried. There are 2 photographs.

Card 2/2

S/125/61/000/011/011/012
D040/D113

AUTHORS: Parfessa, G.I., Sidlyarenko, V.A. and Kharchenko, G.K.

TITLE: Polishing and etching molybdenum welds

PERIODICAL: Avtomaticheskaya svarka, no. 11, 1961, 84-85

TEXT: The metallographic laboratory of the Institut elektrosvarki (Electric Welding Institute) has developed and is using new electrolytes and etching solutions for molybdenum welds. It is mentioned that the usually recommended electrolytes for metallographic polishing caused pitting. The new compounds give satisfactory results. The compositions and process data are as follows:

Card 1/6

S/125/61/000/011/011/012
D040/D113

Polishing and etching ...

No.	Composition of electrolyte	Purpose	Voltage, V	Current density, amp/cm^2	Duration, sec	Anode to cathode space, mm	Remarks
1	2	3	4	5	6	7	8
1	200 ml H_2SO_4 (d = 1.84), 100 ml H_3PO_4, 100 ml H_2O	Polishing	30	0.2	3÷30	25÷30	
2	50 ml $HClO_4$ (d = 1.54), 100 ml HCl (d = 1.19), 250 ml glacial acetic acid	Etching polishing	35 5	0.25 0.15÷0.2	10 ÷ 35 15	25÷30 25÷30	Polishing Etching

Card 2/6

S-125/61/000/011/011/012
D040/D113

Polishing and etching ...

No.	Composition of electrolyte	Purpose	Voltage, v.	Current density, amp/cm^2	Duration, sec	Anode to cathode space, mm	Remarks
1	2	3	4	5	6	7	8
3	40 ml H_2SO_4 (d = 1.84); 70 ml HCl (d = 1.19) 200 ml methyl alcohol	as above	32	0.2	5	30	Polishing
			3 ÷ 5	0.15÷0.2	15	25 ÷ 30	Etching
4	Murakami reagent: 10 g KOH, 10 g $K_3Fe(CN)_6$, 80 ml H_2O	Etching	3 ÷ 5	0.25	3 ÷ 10	25 ÷ 30	Recommended electrolyte

Card 3/6

Polishing and etching ...

No.	Composition of electrolyte	Purpose	Voltage, v.	Current density, amp/cm^2	Duration, sec	Anode to cathode space, mm	Remarks
1	2	3	4	5	6	7	8
5	50 ml HCl (d = 1,19), 20 ml H_2SO_4 (d = 1.84), 150 ml methyl alcohol	Etching	3 ÷ 5	0.25	3 ÷ 10	32	Recommended electrolyte
6	0.5 g $FeCl_3$, 1 ml HCl (d = 1.19), 98 ml methyl alcohol	"	5	0.2	5 ÷ 6	30	

Card 4/4

Polishing and etching ...

No.	Composition of electrolyte	Purpose	Voltage, v.	Current density, amp/cm^2	Duration, sec	Anode to cathode space, mm	Remarks
1	2	3	4	5	6	7	8
7	0.5-percentage water solution of oxalic acid	Etching	3÷5	0.25	2 ÷ 3	22	
	Note: Cathode of stainless steel						

The electrolytes Nos. 2 and 3 permit polishing and etching in the same solution, which is very convenient. The No. 1 electrolyte is durable and simple to prepare, and can be used for polishing after mechanical treatment of specimens with 100-grain paper or even with a grinding stone. The electrolytes Nos. 6 and 7 are used for etching prior to as well as after mechanical polish-

Card 5/6

Polishing and etching ...

ing; however, their use on specimens electrolytically polished gives better results. The oxide film sometimes forming after etching in the No. 7 reagent dissolves readily when submerged in hydrochloric acid. Two photomicrographs are included. There are 2 figures and 1 table. [Abstracter's note: Essentially complete translation.]

Card 6/6

32961
S/125/62/000/001/008/011
D036/D113

1.2300

AUTHORS: Perfessa, G.I.; Kharchenko, G.K.; Sidlyarenko, V.A.

TITLE: Etching welded joints in dissimilar refractory metals

PERIODICAL: Avtomaticheskaya svarka, no. 1, 1962, 88-89

TEXT: The article contains a table giving the compositions of reagents for chemical etching and electrolytes for electrolytic etching of welds produced by electron beam between dissimilar refractory metals. Two photo-micrographs are included.

Card 1/6

32961
S/135/62/000/001/009/011
D036/D113

Etching welded joints in dissimilar ...

TABLE

Structure revealed	Welded metals	Composition of reagent or electrolyte	Etching	Conditions			Temperature of solution in °C
				voltage, v	current density, amp/cm²	time, secs.	
Microstructure	Molybdenum and titanium	2 parts H_2SO_4 (d-1.8) 1 part HNO_3 (d-1.4). 2 parts HF (40%)	Chemical	-	-	-	17
	Molybdenum and niobium	1 part H_2SO_4 (d-1.8). 2 parts HNO_3 (d-1.4). 2 parts HF (40%)	Chemical	-	-	-	17

Card 2/3

32961
S/125/62/000/001/009/011
D036/D113

Etching welded joints in dissimilar ...

TABLE (contd)

	Molybdenum and tungsten	20% aqueous solution of alkali	Electrolytic	25	0.23	≥5	17
Microstructure	Molybdenum and 1Kh18N9T (1Khl8N9T) steel	0.5 g FeCl, 1 ml HCl (d=1.19), 98 ml methyl alcohol	Electrolytic	25	0.2	3-5	17
Macrostructure		30 ml HNO_3, 20 g $FeCl_3$, 10 ml H_2O	Chemical	-	-	-	

Card 3/6

Etching welded joints in dissimilar ...

TABLE (contd)

Micro-structure	Molyb-denum and ЭИ437Б (EI437B) steel	20% solution of chromic acid	Electro-lytic	20	0.2	≥3
Macro-structure		50% H_2O, 45% HCl (d=1.19), 5% HNO_3	Chemical	-	-	50-60 -

Card 4/6

Etching welded joints in dissimilar ...

TABLE (contd)

Micro-structure	Niobium and titanium	(a) 1 part HNO_3, (d=1.4), 1 part H_2SO_4 (d=1.8), 1 part HF (48%) (b) 1 part HF (48%), 1-2 parts HNO_3 (d=1.4), 2-4 parts glycerine or glycol	Chemical	-	-	5-10	17
			Final chemical etching of titanium	-	-	5-10	
Macro-structure		2 parts HF (48%), 1 part ammonium fluoride	Chemical	-	-	-	

Card 5/6

ACC NR: AP6027436 SOURCE CODE: UR/0125/66/000/007/0077/0078

AUTHOR: Sidlyarenko, V. A.; Kushnirenko, N. A.; Levandovskaya, S. A. 40 B

ORG: none

TITLE: Revealing the microstructure of Ti-30% Mo alloy welds

SOURCE: Avtomaticheskaya svarka, no. 7, 1966, 77-78

TOPIC TAGS: titanium alloy, molybdenum containing alloy, ~~alloy~~ metal weld, ~~alloy~~ weld ~~etching~~ evaluation

ABSTRACT: Since the usual etching methods do not produce satisfactory results in the case of Ti alloy containing 30% Mo, a new etching method has been developed at the Electric Welding Institute im. Ye. O. Paton. Mechanically polished samples are electrolytically polished in a solution consisting of 80 cm^3 perchloric acid and 920 cm^3 acetic acid. For improving the surface quality and accelerating the preparation process, the electrolytic polishing can be combined with etching in a 1:1:1 solution of concentrated hydrofluoric, nitric, and sulfuric acids. The final stage is electrolytic etching in 20% oxalic acid followed, if necessary, by brightening in a mixture of hydrofluoric, nitric and sulfuric acids. Orig. art. has: 1 figure. [WW]

SUB CODE: 11, 13/ SUBM DATE: none/ ATD PRESS: 5060

Card 1/1 hs UDC: 621.791:669.295:621.794.4

SIDLYARENKO, V.I.; ZAITOV, F.N.; LUKANTSEVER, Yu.L.

Existence of F-centers with different thermal stability in alkali halide phosphors. Opt.i spektr. 13 no.1:143-144 Jl '62. (MIRA 15:7)

(Alkali metal halides--Thermal properties) (Phosphors)

SIDLYARENKO, V.I.; LUKANTSEVER, Yu.L.; ZAITOV, F.N.

Distribution of F-centers in alkali halide crystal phosphors. Izv. vys. ucheb.zav.;fiz.no.2:42-45 '63.

(MIRA 16:5)

1. Oshskiy gosudarstvennyy pedagogicheskiy institut Kirgizskoy SSR.
(Color centers) (Alkali metal halide crystals)

SIDLYARENKO, V.I.; ZAITOV, F.N.; LUKANTSEVER, Yu.L.

Thermal stability of F-centers in KCL -Tl,Sr and KCl - Tl, Ca crystal phosphors. Izv. vys. ucheb. zav.; fiz. no.5:50-54 '63. (MIRA 16:12)

1. Oshskiy gosudarstvennyy pedagogicheskiy institut.

L 64730-65 EWT(l)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/GG

ACCESSION NR: AT5021779 UR/2613/64/000/028/0111/0120

AUTHOR: Sidlyarenko, V. I.; Lukantsever, Yu. L.; Zaitov, F. N.

TITLE: Investigation by microscopic methods of the processes of the formation and destruction of color centers in NaCl single crystals

SOURCE: AN EstSSR. Institut fiziki i astronomii. Trudy, no. 28, 1964. Issledovaniya po lyuminestsentii (Research on luminescence), 111-120

TOPIC TAGS: color center, x ray coloring, activated crystal, crystal lattice deformation

ABSTRACT: Special features of the formation and destruction of F- and M-color centers in microscopic regions of nonactivated natural NaCl single crystals were investigated. The color centers were generated at room temperature with the aid of x-rays on a URS-55 installation. The formation of centers was tracked by photographing the same section of irradiated crystal after definite time intervals at the maxima of the corresponding absorption bands. The maxima were isolated by using an MK monochromator and filters: the SZS-8 filter for the F-band (λ_{max} = 460 mm) and the PS-8 filter for the M-band (λ_{max} = 720 mm). The microscopic thermal bleaching method (Izv. V. U. Z., Fizika, no. 2, 42, 1963) was used for the observation of the destruction of color centers. The formation

Card 1/2

L 64730-65
ACCESSION NR: AT5021779

3

and destruction of F-centers in nonactivated crystals proceeds in one stage, and after irradiation in several stages. In various crystal domains the number of F-centers increases and decreases at different rates. M-centers virtually do not form in nonactivated crystals. Multiple x-raying and subsequent heating of the crystal, when followed by x-ray excitation, caused M-centers with different thermal stabilities to form. Variations in thermal stability within a given type of color center in a natural NaCl crystal are attributed to the inherently uneven ionic distribution surrounding the centers in nonactivated centers. Orig. art. has: 7 formulas and 4 figures. [JA]

ASSOCIATION: Institut fiziki i astronomii, Akademiya nauk Estonskoy SSR (Institute of Physics and Astronomy, Academy of Sciences, Estonian SSR)

44,55

SUBMITTED: 13Dec63 ENCL: 00 SUB CODE: SS

NO REF SOV: 013 OTHER: 006 ATD PRESS: 4079

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L 22457-66 EWT(m)/T/EWP(t) IJP(c) JD/JG

ACC NR: AP6009148 SOURCE CODE: UR/0139/65/000/005/0097/0101

AUTHORS: Sidlyarenko, V. I.; Zaitov, F. N.; Lukantsever, Yu. L. 85 82 B

ORG: Osha State Pedagogical Institute (Oshskiy pedagogicheskiy institut)

TITLE: Investigation of processes involving the creation and destruction of color centers in alkali-halide crystals by microscopic methods 27

SOURCE: IVUZ. Fizika, no. 5, 1965, 97-101

TOPIC TAGS: alkali halide, color center, x ray effect, single crystal, sodium chloride, fiber crystal

ABSTRACT: The authors investigate the production of F and M color centers by x rays in different microscopic regions of single-crystal alkali-halide compounds. The objects of the investigation were synthesized NaCl single crystals, natural NaCl single crystals from different sources, and filamentary NaCl crystals. The laws governing the thermal destruction of color centers in the same microscopic

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sections of the crystal were investigated by the authors earlier by a method of microscopic thermal discoloring (microdiscoloring) (Izv. vuzov SSSR, Fizika, no. 2, 42, 1963 and no. 5, 50, 1963). The present study was by a method developed for this purpose, called the micro-coloring method, consisting of photographing the same sections of the single crystals (with linear dimensions $\ell = 5 \times 10^{-2}$ cm) during the course of the x ray exposure at the maxima of certain absorption bands. The apparatus for the microphotography was described in the earlier work. The method makes it possible to trace the formation of color centers in sections with linear dimensions $\sim 10^{-3}$ mm. The x-ray exposures range from 90 to 240 minutes, depending on the type of crystal and on the type of centers. The color-center destruction was by means of uniform heating and was investigated by the microthermal discoloring method. The use of both microscopic methods (microcoloring and microdiscoloring) permits a study, on the one hand, of the formation and destruction of the color centers in one and the same section of the single crystal, and on the other hand, comparison of the laws governing the coloring and discoloring in microscopic

sections with different locations in the crystal. The results show that the increase in the degree of destruction of the regular crystal lattice of NaCl under various influences distorts both the coloring and discoloring curves. The higher the perfection of the crystal, the more regular the curves. It is concluded that a more detailed investigation by microscopic means is necessary to determine the relaxation processes in alkali-halide crystal phosphors. The authors thank Doctor Ch. B. Lushchik, M. A. Elango, and R. I. Gindina for valuable discussions and for supplying several of the crystals for the investigation. Orig. art. has: 5 figures

SUB CODE: 20/ SUBM DATE: 20Apr63/ ORIG REF: 011/ OTHREF: 006

L 6416-66 EWT(l)/T IJP(c) GG

ACC NR: AP5027408 SOURCE CODE: UR/0181/65/007/011/3302/3309

AUTHOR: Sidlyarenko, V. I.; Zaitov, F. N.; Lukantsever, Yu. L. 44,55

ORG: Osh State Teachers' Institute (Oshskiy gosudarstvennyy pedagogicheskiy institut) 44,55

TITLE: Effect of some structural factors on the thermal stability of color centers in alkali halide phosphor crystals 21,44,55

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3302-3309

TOPIC TAGS: alkali halide, sodium chloride, crystal phosphor, color center 21,44,55

ABSTRACT: The authors study the following factors with regard to their effect on the thermal stability of F-centers in NaCl-based phosphor crystals: 1. impurity ions (presence or absence, effect of ion individuality); 2. variation in the concentration of a given type of impurity ion; 3. plastic deformation; 4. previous thermal and radiation treatment; 5. preheating of the activated crystal. The results are tabulated for NaCl phosphors activated by thallium, calcium, silver, strontium and cadmium. Some of the characteristics of thermal dissolution of color centers in

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ACC NR: AP5027408

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these phosphors are experimentally determined. A theoretical expression is derived and analyzed for the rate of dissolution of color centers assuming that a considerable part in the mechanism of thermal dissolution is played by ion processes. The various factors which may change the thermal stability of color centers are discussed. Theoretical predictions are made on the basis of the ion mechanism of color dissolution. The theoretical and experimental data show that the ion mechanism may be useful in explaining the thermal dissolution of color centers in alkali halide phosphor crystals. The authors are grateful to N. L. Lukantsever for plotting the theoretical curves. Orig. art. has: 1 figure, 6 tables, 4 formulas.

SUB CODE: SS/ SUBM DATE: 15Mar65/ ORIG REF: 016/ OTH REF: 006

6C

Card 2/2

[illegible]OV, F.N., LUKANTSEVER, Yu.L.; SIDOYARENKO, V.I.

Use of microscopic techniques in studying the production and breakdown of color centers in NaCl single crystals. Izv. AN SSSR. Ser.fiz. 29 no.3:449-453 Mr '65. (MIRA 18:4)

1. Oshskiy gosudarstvennyy pedagogicheskiy institut KirgSSR.

ACC NR: AP6036957 (A, N) SOURCE CODE: UR/0181/66/008/011/3201/3203

AUTHOR: Sidlyarenko, V. I.; Spikin, V. I.

ORG: Osh State Pedagogical Institute (Oshskiy gosudarstvennyy pedagogicheskiy institut)

TITLE: Microspectrophotometric study of the influence of dislocations on the stability of F color centers in NaCl-base phosphor crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3201-3203

TOPIC TAGS: crystal phosphor, sodium chloride, color center, crystal dislocation

ABSTRACT: A microspectrophotometric method was used to study the effect of dislocations on the stability of F-centers on topographically different domains of an NaCl single crystal containing 0.2 mole % Ag. The method made it possible to correlate the dislocation density with the thermal destruction of color centers on microscopic areas with $l \leq 10^{-2}$ cm. It was found that in domains with a higher dislocation density the F-centers have a greator thermal stability. The results confirm the ionic mechanism of thermal destruction of color centers in alkali halide crystals. The data also indicate that in addition to dislocations, other structural imperfections can also act as ionic trapping centers. In conclusion, authors are deeply grateful to Yu. L. Lukantsev and F. N. Zaitov for their constant interest in this work and useful remarks

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ACC NR: AP6036957

during its discussion. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 26Feb66/ ORIG REF: 007

Card 2/2

ACC NR: AP7004978 SOURCE CODE: UR/0048/66/030/009/1477/1478

AUTHOR: Sidlyarenko,V.I.; Spikin,V.I.

ORG: Osh State Pedagogic Institute of the Kirgiz SSR (Oshskiy gosudarstvennyy pedagogicheskiy institut Kirgizskoy SSR)

TITLE: Microspectrophotometric investigation of the influence of dislocations on the stability of F centers in NaCl crystal phosphors /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no.9, 1966, 1477-1478

TOPIC TAGS: color center, sodium chloride, silver, x ray irradiation, thermal stability, crystal lattice dislocation

ABSTRACT: The authors employed the microspectrophotometric technique of V.I. Sidlyarenko, F.N.Zaitov, and Yu.L.Lukantsever (Optika i spektroskopiya, 13, 143 (1962)) to investigate the thermal bleaching of F centers in regions with linear dimensions of the order of 0.01 cm in x irradiated NaCl crystals grown by the Kyropoulos technique and containing 0.2 mole percent Ag. The investigation was undertaken because a correlation had previously been found between the thermal stability of F centers and the density of dislocations in individual alkali halide crystals and it was desired to determine whether this correlation would extend to different regions of the same crystal. Thermal bleaching of the F centers was found to take place in two stages.

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ACC NR: AP7004978

The temperature at which the first (low temperature) stage of the thermal bleaching occurred varied from region to region and was higher in the regions with the higher dislocation densities, while the temperature at which the second stage took place was the same (from about 475 to 575° K) in all the regions. It is concluded that the presence of dislocations contributes to the low temperature thermal stability of F centers, but not to the high temperature thermal stability thereof. A brief explanation of the observed correlation is given in terms of the ionic thermal bleaching mechanism of Y.L.Lukantsever and F.N.Zaitov (Izv. AN SSSR, Ser.fiz.,25, 473 (1961)).
The authors thank Yu.L.Lukantsever and F.N.Zaitov for their interest in the work and for valuable discussions. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20 DATE SUBM: none ORIG. REF: 007

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ACC NR: AP7004979 SOURCE CODE: UR/0048/66/030/009/1479/1482

AUTHOR: Lukantsever, Yu.L.; Zaitov,F.N.; Sidlyarenko,V.I.

ORG: Osh State Pedagogical Institute of the KirgSSR (Oshskiy gosudarstvennyy pedagogicheskiy institut KirgSSR)

TITLE: Influence of microdefects on the thermal stability of F centers in alkali halide crystal phosphors /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1479-1482

TOPIC TAGS: sodium chloride, luminescent crystal, color center, lattice defect, ion interaction, thermal effect, THERMAL STABILITY, ALKALI HALIDE

ABSTRACT: There is given a brief theoretical discksion of the thermal bleaching of color centers in alkali halide phosphors based on the hypothesis that the bleaching is effected by ions that can also be captured by trapping centers associated with lattice defects. The calculations involve the simplifying assumption that the probability for the interaction of an ion with a trapping center is much greater than that for its interaction with a color center. An equation is obtained relating the temperature T_M at which the rate of thermal bleaching is maximum to the energy $u = Q_V + Q_F - Q_t$, the frequency of lattice ion vibrations in the vicinity of a color center, the rate of heating of the crystal, and the quantity $n/\gamma N$, where Q_V is the activation energy for

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ACC NR: AP7004979

movement of an ion through the lattice, Q_F is the activation energy for interaction of an ion with an F center, Q_t is the activation energy for interaction of an ion with a trapping center, n is the concentration of the ions that interact with the trapping and color centers, N is the concentration of trapping centers and γ is the ratio of the interaction cross section of a trapping center to that of a color center. The relation between T_M and u is involved and not even necessarily single valued. Experiments with NaCl crystals containing different activators revealed a wide range of T_M values and values of $n/\gamma N$ for only a small range of u values. The thermal bleaching curve of each of these crystals gave a linear relation between $\log(dn_F/n_F dT)$ and $1/T$, where n_F is the F center concentration and T is the temperature. The experimental thermal bleaching curves were in good agreement with the theory even under conditions in which the essential simplifying assumption concerning the relative probabilities of bleaching and trapping appeared not to be satisfied. It is suggested that N, which was taken as the dislocation concentration, was underestimated and that other lattice defects also contribute to the trapping. Orig. art. has: 6 formulas, 2 figures and 1 table.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 006 OTH REF: 002

Card 2/2

SIDLYARENKO, V.V.

Tow braking and scutching machine for primary processing of hemp on collective farms. Sel'khozmashina no.10:16-18 O'55.
(MLRA 8:12)

1. Nauchnyy sotrudnik Vsesoyuznogo nauchno-issledovatel'skogo instituta lubyanykh kul'tur
(Agricultural machinery)

SIDLYARENKO, V.V.

Combine for harvesting hemp. Sel'khozmashina no.11:3-5 N '55.
(MLRA 9:1)

1.Naychnyy sotrudnik Vsesoyuznogo nauchno-issledovatel'skogo instituta lubyanykh kultur.

(Combines(Agricultural machinery)

BUYANOV, Viktor Ivanovich; VOLOVIK, S.S.; GONCHAROV, G.I.; LYASHENKO, S.N.; SIDLYARENKO, V.V.; PESTRYAKOV, A.I., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor.

[Mechanization of hemp growing] Mekhanizatsiia konoplevodstva. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1956. 290 p. (MLRA 10:6)
(Hemp) (Agricultural machinery)