"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, A.I.; PUSHINOV, Yu.V.

Accelerated determination of magnesium in dolomites by the method of differential photometry. Zav. lab. 30 no.9:1053-1054 '64. (MIRA 18:3)

1. Saratovskiy gosudarstvennyy pedagogicheskiy institut.

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L 58897-65 EWT(m)/EPF(n)-2/EWP(j)/T/EWP(t)/EWP(b) Pc-4/Pu-4 IJP(c) JD/WW/JG/RM

ACCESSION NR: AP5016093 UR/0075/65/020/006/0665/0670
543.70

28
27
B

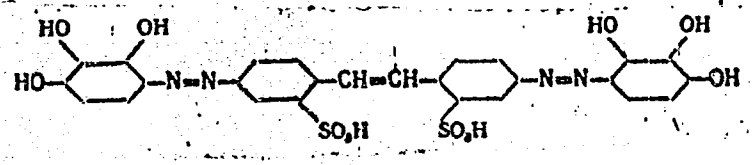
AUTHOR: Cherkesov, A. I., Pushinov, Yu. V.

TITLE: New reagents for zirconium

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 6, 1965, 665-670

TOPIC TAGS: zirconium determination, complex compound, bisazo compound

ABSTRACT: In an attempt to find a highly selective reagent whose complex with zirconium would be stable in strongly acidic media, a search was made among bisazo compounds with long conjugated bonds which would contain readily solvated groups (hydroxyl, carboxyl, etc.) to increase the stability of the reagent and its zirconium complexes to acids. These conditions were met by two reagents:



(1)

Stilbazogall I and

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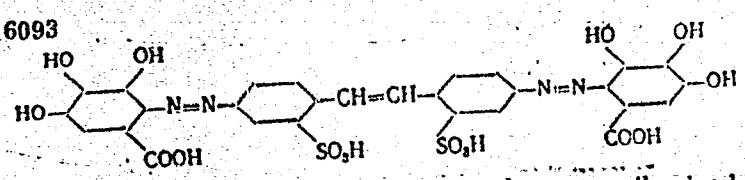
L 58897-65

ACCESSION NR: AP5016093

Stilbazogall II



(2)

Both reagents have double pyrogallol and gallic acid groups, and were synthesized by diazotizing 4,4'-diamino-2,2'-stilbenedisulfonic acid, then combining the bisdiazo compounds with pyrogallol and gallic acid, respectively. The second reagent is more stable in acid media (1-2 N HCl) and is more selective toward zirconium than the first; this is due to the formation of hydrogen bonds with the nitrogen atoms of the azo groups. Spectrophotometric studies of both reagents and their complexes were carried out, and the instability constants of the complexes were determined. The sensitivity of the reactions for zirconium was estimated by determining the oscillating charges f of the colored complexes: for stilbazogall I f = 0.700, and for stilbazogall II f = 0.290 and 0.300 (in units of electronic charge). Orig. art. has: 3 figures, 2 formulas and 3 tables.

ASSOCIATION: Saratovskiy gosudarstvennyy pedagogicheskiy institut (Saratov State Pedagogical Institute)

SUBMITTED: 09May64 ENCL: 00 SUB CODE: IC

NO REF SOV: 018 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, A.I.; ALYKOV, N.M.

Spectrophotometric study of some bisazo derivatives of chromotropic acid and their interaction with metal ions of a scandium group. Zhur. anal. khim. 20 no.12:1312-1320 '65. (MIRA 18:12)

1. Saratovskiy gosudarstvennyy pedagogicheskiy institut. Submitted July 10, 1964.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

PUSHINOV, Yu.V.; CHERKESOV, A.I.

"Stilbazogall-1" as reagent for the photometric determining of molybdenum(VI). Izv.vys.ucheb.zav.; khim.i khim.tekh. 8 no.4:559-563 '65. (MIRA 18:11)

1. Saratovskiy gosudarstvennyy pedagogicheskiy institut, kafedra khimii.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

L 00044-66 EWT(m)/EWP(b)/EWP(t) IJP(c) JD /JG

ACCESSION NR: AP5023716 UR/0075/65/020/008/0870/0871
543.70

18
17
B

AUTHOR: Alykov, N. M.; Cherkesov, A. I.

TITLE: Photometric determination of scandium with stilbazochrome

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 8, 1965, 870-871

TOPIC TAGS: scandium, photometric analysis

ABSTRACT: Stilbazochrome was studied as a reagent for the photometric determination of scandium. The reaction is very sensitive (10^{-2} μg/ml) and very selective. The method was tested on a mineral sample containing scandium and with an artificial mixture of the following composition (in %): V_2O_3--26.3; La_2O_3--10.0; CaO--4.9; UO_2--8.7; ThO_2--5.0; Nb_2O_5--3.8; TiO_2--25.0; SnO_2--0.5; Fe_2O_3--10.0; Ce_2O_3--4.8; Sc_2O_3--1.0. The relative error of the determination did not exceed 5%. A step-by-step description of the analytical procedure employed is given. The maximum permissible content of the ions Al^{3+}, Ga^{3+}, Ti(IV), Zr(IV), V(V), Fe^{3+}, Nb(V), Ta(V), Th^{4+}, rare earth elements, Y^{3+}, and UO_2^{+} is tabulated. Orig. art. has: 3 tables.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

L 00044-66

ACCESSION NR: AP5023716

ASSOCIATION: Saratovskiy gosudarstvennyy pedagogicheskiy institut (Saratov State Pedagogical Institute)

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: GC

NO REF SOV: 003 OTHER: 000

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, A.I.; PUSHINOV, Yu.V.

Gravimetric method for the determination of magnesium, barium, zinc, manganese, cobalt, and nickel by means of brilliant yellow. Zhur. anal. khim. 20 no. 11:1191-1195 '65 (MIRA 19:1)

1. Saratovskiy gosudarstvennyy pedagogicheskiy institut. Submitted September 14, 1964.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

ACC NR: AP6019017 (N) SOURCE CODE: UR/0032/66/032/001/0022/0023

AUTHOR: Pushinov, Yu. V.; Cherkesov, A. I.

ORG: Saratov Pedagogical Institute (Saratovskiy pedagogicheskiy institut)

TITLE: Photometric determination of zirconium in magnesium alloys by stilbazogall II reagent

SOURCE: Zavodskaya laboratoriya, v. 32, no. 1, 1966, 22-23

TOPIC TAGS: zirconium, magnesium alloy, aluminum alloy, colorimetric analysis, photometric analysis

ABSTRACT: A method is offered for the photometric determination of 0.0n% Zr in Mg alloys by using stilbazogall II reagent consisting of stilbene-2,2'-disulfoacid-4,4'-bis[<azo-1> -2-carboxy-4,5,6-trioxybenzene]. The 0.1-0.2 g sample is dissolved in 30 ml of cold HCl (1:1). If the solution is opaque, then 0.5 ml H_2O is added and the solution is evaporated in a sand bath until dry. The dry residue is dissolved in a small amount of 2 N HCl, transferred into a 100 ml measuring flask, brought to the mark by the same acid, and thoroughly mixed. The aliquot samples of 2-4 ml are placed into glasses and the freshly oxidized stilbazogall II solution having a concentration of 1×10^{-3}M is added in 1 ml portions until the volume reaches 10 ml. The total acidity of the solution should be ~1N by HCl. Absorbance is measured immediately by a FEK-M photocolorimeter with a green light filter in the cell having a layer thickness of

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ACC NR: AP6019017

10 mm. The blank sample solution containing the same reagents is used for comparison. The Zr content is determined from the calibration curve. The error of analysis is 2%. The method can also be used for the determination of Zr in Al alloys. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 001

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, A.K.

Problems of the theory of analytical color reactions with organic reagents. Report No.3: Mechanism of reactions involving periodic changes in the coloration of some acid-base indicators. Zhur.anal.khim. 17 no.6:652-659 S '62. (MIRA 16:1)

1. Saratovskiy gosudarstvennyy pedagogicheskiy institut.
(Indicators and test papers) (Spectrophotometry)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

MUSTAFIN, I.S.; CHERKESOV, A.I.

"Principles of analytical chemistry (qualitative and quantitative analysis)", by [prof.] A.P.Kreshkov. Reviewed by I.S.Mustafin, A.I.Cherkesov. Zhur.anal.khim. 17 no.6:773-774 S '62. (MIRA 16:1)

(Chemistry, Analytical) (Kreshkov, A.)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, K.I., inzh. po tekhnike bezopasnosti.

Structural errors in units used in exploratory drilling. Bezop. truda v prom. 2 no.11:7-8 N '58. (MIRA 11:11)

1. Apsherono-Prikaspiyskaya geologopoiskovaya kontora tresta Azmornefterazvedka.
(Oil well drilling--Equipment and supplies)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V., Cand Phys Math Sci -- (diss) "Theory of waves formed by wave-producers." Mos, 1959, 7 pp (Acad Sci USSR. ~~Naval~~ Maritime Hydrophysics Inst) 160 copies (KL, 34-59, 111)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

Charkesov, L. V.

PHASE I BOOK EXPLOITATION SOV/5353

Akademiya nauk SSSR. Morskoy gidrofizicheskiy institut

Teoriya voln i techeniy (Theory of Waves and Currents) Moscow, 1959. 171 p. (Series: Its: Trudy, tom 18) Errata slip inserted. 1,200 copies printed.

Resp. Ed.: L. N. Sretenskiy, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: K. P. Gurov; Tech. Ed.: T. P. Polenova.

PURPOSE: This issue of the Transactions of the Marine Hydrophysical Institute is intended for hydrologists, geophysicists, and theoretical physicists.

COVERAGE: This collection of 10 articles deals with problems in the theory of waves and currents. An analysis is made of several types of waves of finite amplitude on surfaces with different parameters. The propagation of a free tidal wave and a tsunami, as well as the motion of liquids over spherical rotating bodies are discussed. No personalities are mentioned. The articles are accompanied by references.

Stavrovskiy, A. S. Propagation of Waves on the Boundary of an Elastic Half Space, Induced by Waves of a Liquid in a Basin With Intermittently Changing Depth 117

Charkesov, L. V. Development of Surface Waves Under the Action of Changing Pressures 139

Lebedkina, L. G. Motion of a Viscous Liquid on a Rotating Sphere Under the Action of Tangential Stresses Applied to the Outer Surface 149

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

SOV/179-59-2-6/40

AUTHOR: Cherkesov, L. V., (Moscow)

TITLE: On the Surface Waves of Liquids (O volnakh na poverkhnosti zhidkosti)

PERIODICAL: Izvestiya Akademii nauk SSSR OTN, Mekhanika i mashinostroyeniye, 1959, Nr 2, pp 37-45 (USSR)

ABSTRACT: The work is divided into two parts. The first part considers the waves on the surface of the liquid inside a right-angle. The waves originate at 2 different points and propagate along the sides of the angle. In both cases the motion is considered in a system of coordinates x, y, z which represent the part of a space $y \geqslant 0$, $z \leqslant 0$, filled with liquid. The vibrating band is placed on the plane zOx where $x = +\infty$ to $x = -\infty$ and $z = 0$ to $z = -h$. From $z = -h$ to $z = -\infty$ the plane zOx represents a stationary wall. The velocity potential $\varphi(x, y, z, t)$ of the unknown waving motion should satisfy both the Laplace equation $\Delta\varphi = 0$ and the Eqs (1.1) and (1.2), the solution of which can be found when $N(y, z)$ is determined from

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On the Surface Waves of Liquids

Eq (1.3) with conditions Eq (1.4). Then the expression Eq (1.5) can be derived, which when multiplied by $e^{-\sigma\eta}d\eta$ and integrated from 0 to $+\infty$ and c taken as Eq (1.6), will be solved as Eq (1.7). By substituting c(p) and $A(\mu)$ in $\varphi(x, y, z, t)$, the Eqs (1.8) to (1.9) are obtained. If in the plane yz a rigid wall $y>0$, $z<0$, is placed then that part of the space will be represented by the function $\Phi(x, y, z, t) = \varphi(x, y, z, t) + \varphi(-x, y, z, t)$ and the rise of the liquid $\zeta(x, y, t)$ in this case will be given by the formula (3.1). The second integral of Eq (3.1) (denoted by J) can be expressed as Eqs (3.2) or (3.3). For $\xi_0 = -\cos\vartheta$, the value of $M'(\xi)$ becomes 0 and that of $M(\xi_0)$ becomes i and the curve fN Be takes the shape as shown in Fig 1. The integral of this curve can be based on the Poincaré formula (J_1 and J_2 on p 40). The value of ζ for $\cos\vartheta = k/\sigma$ is given on p 41. It should be noted that the amplitude of the wave along the chord $\cos\vartheta = k/\sigma$ is twice as small as the amplitude of the wave

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On the Surface Waves of Liquids

in the region of $\cos \vartheta > k/\sigma$. If the waving

$$x = A \exp \left[i (Ky - \Omega t)\right]$$

is directed along the axis y in the plane yoz , then inside the angle $\cos \theta > K/\Sigma$, the plane progressive wave can be described by Eqs (4.1) and (4.2). In order that the waves in the regions $\cos \vartheta \geqslant k/\sigma$ and $\cos \theta \geqslant K/\Sigma$ coincide, it is necessary that the conditions (4.3) are satisfied. Then the waves are defined by Eq (4.4) and they propagate with the velocity $v = \omega/\sigma$ at an angle

$$\text{arc tan } k^{-1}\sqrt{\sigma^2 - k^2} \quad .$$

If n - tangent to the direction of the motion, v - velocity of propagation, N - amplitude, then A , a , ω , K , k are found from Eq (4.5). In the case of the liquid with a finite depth H , the expression (4.6) is used, where

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On the Surface Waves of Liquids

m - a positive root of the equation $m \operatorname{th} mH = \sigma$. The waves generated by the variation of pressure at a point on the surface of the liquid can be defined by the velocity potential $\varphi(x, y, z, t)$ (Eq 5.2) for the condition (5.1). Therefore, if the liquid fills a part of the space $z < 0$, $y > 0$, $x > 0$, the planes $x = 0$, $y = 0$ - stationary rigid walls, and the pressure $p = a \exp[i(kx - \omega t)]$ affects the half-space $0 < y < b$, $x > 0$, then the velocity potential $\Phi(x, y, z, t)$ should satisfy the equation $\Delta\Phi = 0$ and the conditions (6.1). The rise of ζ is found from Eq (6.2), which has two bands at the points:

$$\pm\sqrt{\omega^4/g^2 - k^2} .$$

Fig 2 shows the distribution of the function $\sqrt{k^2 + n^2}$ and the method of integration (J_1 - first integral, J_2 - second integral of the formula (6.2). If on the surface occupying the space $y > 0$, $x > 0$, $z < 0$, the periodic pressure (Eq 7.1) is applied in the band $0 < x < b$, $y > 0$ ($x = 0$, $y = 0$ -- stationary walls) then inside the angle $\cos\theta > K/\Sigma$ ($\Sigma = \Omega^2/g$) the waves of type (7.2) are formed.

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On the Surface Waves of Liquids

Similarly, the waves (7.4) originate if the pressure $p_1 = a \exp[i(kx - \omega t)]$ is applied in the plane $0 < y < b$, $x > 0$. In the case of the liquid with depth H the Eq (7.6) is applied, where α - the positive root of the equation $\alpha \operatorname{th} \alpha = H\sigma$. Thanks are given to L. N. Sretenskiy for directing this work. There are 2 figures and 5 references, of which 4 are Soviet and 1 English.

SUBMITTED: September 15, 1958.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

10 (1)

AUTHOR: Cherkesov, L. V. SOV/20-127-4-12/50

TITLE: Development of Surface Waves Resulting From a Periodically Changing Pressure

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 774 - 776 (USSR)

ABSTRACT: The present paper considers the spatial task of the origin of surface waves resulting from a periodic pressure applied to a certain region of the liquid surface. The waves contained inside and outside the area in which the pressure is exerted are investigated, and a relation between the work of the pressure applied and the formation energy of the waves is set up. At the instant T=0, the liquid surface is assumed to be at rest. From the equation for the pressure applied $p(x,y,t)$ and the velocity potential $\varphi(x,y,z,t)$ represented as the sum of three harmonic functions, the formulas for the superelevation $\zeta=\zeta_1+\zeta_2+\zeta_3$ of the liquid (3), (4), (5) can be found by determining the coefficients of these harmonic functions. The case is investigated in which $\omega^2 > gk$; in this case $\zeta(x,y,t)$ remains finite at $t\to\infty$.

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Development of Surface Waves Resulting From a Periodically Changing Pressure SOV/20-127-4-12/60

The integral (3) is investigated by the line-integral method. For the integrals of (4) and (5), the method of the stationary phase is applied, and thus the expressions for ζ_1, ζ_2, ζ_3 within the region outside the application of pressure are determined. The front of the generated wave moves along the y-axis at a velocity equal to the projection of the group velocity of the waves along the y-axis. Further, the superelevation of the liquid within the range of the pressure applied is determined; the following can be assumed: $k\varepsilon \gg 1$. For the pressure work acting upon the surface of the liquid during a pressure period - the calculation of which is, however, not described in detail - it is found that it is completely consumed for the formation of the non-attenuated propagated wave. There is 1 reference.

ASSOCIATION: Morskoy gidrofizicheskiy institut Akademii nauk SSSR (Naval Hydrophysical Institute of the Academy of Sciences, USSR)

PRESENTED: April 14, 1959, by I. I. Artobolevskiy, Academician

SUBMITTED: April 13, 1959

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S/040/60/024/006/014/024
C 111/ C 333

16.7600

AUTHOR: Cherkesov, L. V. (Moscow)

TITLE: The Formation of Waves Caused by Oscillations of a Strip

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol. 24, No. 6, pp. 1088 - 1093

TEXT: Assume that the fluid fills the volume $y > 0$, $z < 0$. A strip carrying out the oscillation $y = a \exp[i(kx - \omega t)]$ is assumed to reach from $z = 0$ to $z = -h$ in the $y = 0$ plane; let $z < -h$, $y = 0$ be a fixed wall. In the moment $t = 0$ the surface is assumed to be horizontal and the fluid to be in rest. The author states that the equation of the free surface is described by

$$\zeta = \zeta_1 + \zeta_2 + \zeta_3$$

in every moment. Here ζ_1 is given by

$$(1.11) \quad \zeta_1 = \frac{1}{g}\left(\frac{\partial \varphi_1}{\partial t}\right)_{z=0} = -\frac{i\omega}{g} e^{i(kx-\omega t)} \left\{ a e^{iy\sqrt{\sigma^2 - k^2}} + \int_0^\infty \mu A(\mu)\, e^{-y\sqrt{\mu^2+k^2}}\, d\mu \right\}$$

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C 111/ C 333

The Formation of Waves Caused by Oscillations of a Strip

(1.10) $$c = \frac{2a\,\omega}{\sqrt{\sigma^2 - k^2}}\left(1 - e^{-\sigma h}\right),$$

$$A(\mu) = \frac{2ai\,\omega\left[\sigma(1-\cos\mu h) - \mu\sin\mu h\right]}{\pi\mu\sqrt{\mu^2+k^2}\,(\mu^2+\sigma^2)}$$

where $\sigma = \omega^2 g^{-1}$. Furthermore $\xi_2 = \xi_{21} + \xi_{22}$ and $\xi_3 = \xi_{31} + \xi_{32}$, where

$$\xi_{21} = \frac{ic}{2g}e^{ikx}\Big\{2\omega\cos\sqrt{\sigma^2-k^2}\,y\,e^{-i\omega t} + \frac{i\sqrt{gk(\sigma^2-k^2)}}{\pi k}P\int_0^\infty \frac{\omega_1+\sqrt[4]{1+n^2}}{\sigma_1^2-n^2-1}\left[e^{iky\mu_1(n)}+e^{iky\mu_2(n)}\right]dn\Big\} \tag{1.19}$$

$$\xi_{22} = \frac{ik\sqrt{gk}}{2g}e^{ikx}\int_0^\infty\left(\omega_1+\sqrt[4]{1+n^2}\right)\int_0^\infty \frac{\mu A(\mu)\sqrt{\mu^2+k^2}}{k^2n^2+\mu^2+k^2}d\mu\left[e^{iky\mu_1(n)}+e^{iky\mu_2(n)}\right]dn \tag{1.20}$$

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S/040/60/024/006/014/024
C 111/ C 333

The Formation of Waves Caused by Oscillations of a Strip

$$\zeta_{21} = -\frac{c\sqrt{\sigma^2-k^2}}{2\pi\sqrt{gk}} e^{ikx} p \int_0^\infty \frac{\omega_1 - \sqrt[4]{1+n^2}}{\sigma_1^2 - n^2 - 1} [e^{-kyM_1(n)} + e^{-kyM_2(n)}]\, dn \quad (1.22)$$

$$\zeta_{22} = \frac{ik\sqrt{gk}}{2g} e^{ikx} \int_0^\infty (\omega_1 - \sqrt[4]{1+n^2}) \int_0^\infty \frac{\mu A(\mu)\sqrt{\mu^2+k^2}}{k^2n^2+\mu^2+k^2} d\mu\, [e^{-kyM_1(n)} + e^{-kyM_2(n)}]\, dn \quad (1.23)$$

and where the notations are used:

$M_1(n) = i(n - \nu\sqrt[4]{1+n^2})$, $M_2(n) = -i(n + \nu\sqrt[4]{1+n^2})$

$\nu = ty^{-1}g^{1/2}k^{-1/2}$, $\sigma_1 = \sigma k^{-1}$, $\omega_1 = \omega(gk)^{-1/2}$.

For large values of ky there hold the asymptotic formulas:

$$(2.4)\quad \zeta_{21} = \begin{cases} icg^{-1}\omega \exp[i(kx+y\sqrt{\sigma^2-k^2} - \omega t)] + J_4 & (\nu < \nu^0) \\ J_4 & (\nu > \nu^0) \end{cases}$$

where $J_4 = O[(ky)^{-1}]$ for $\nu < \nu_0$, $J_4 = O[(ky)^{-1/2}]$ for $\nu > \nu_0$, $\nu_0 = \sqrt[4]{108}$.

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C 111/ C 333

The Formation of Waves Caused by Oscillations of a Strip

Furthermore:

$$\zeta_{22} = 0\left[(ky)^{-1}\right] \quad \text{for } \nu < \nu_0 \;, \quad \zeta_{22} = 0\left[(ky)^{-1/2}\right] \text{ for } \nu > \nu_0 \tag{2.5}$$

$$\zeta_{31} = 0\left[(ky)^{-1}\right] \text{ for } \nu < \nu_0 \;, \quad \zeta_{31} = 0\left[(ky)^{-1/2}\right] \text{ for } \nu > \nu_0 \tag{2.6}$$

$$\zeta_{32} = 0\left[(ky)^{-1}\right] \text{for } \nu < \nu_0 \;, \quad \zeta_{32} = 0\left[(ky)^{-1/2}\right] \text{ for } \nu > \nu_0 \tag{2.7}$$

For the work E done by the wave length of the strip in the strip period, the author obtains

$$E = \frac{\pi^2 c^2 \rho \sqrt{\sigma^2 - k^2}}{\sigma k}$$

(neglecting the magnitudes of order $t^{-1/2}$). The author proves that

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S/040/60/024/006/014/024
C 111/ C 333

The Formation of Waves Caused by Oscillations of a Strip

for large t-values the energy of the strip is completely exhausted for the formation of non-decaying waves.

The author thanks L. N. Sretenskiy for advices.

There are 3 references: 2 Soviet and 1 American.

SUBMITTED: July 31, 1959

Card 5/5

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Development of waves caused by two moving pressure systems. Trudy MGI 24:117-125 '61. (MIRA 14:6)
(Waves)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

35613
S/201/62/000/001/004/005
D251/D301

10.1200 24.4300

AUTHOR: Cherkesov, L.V.

TITLE: Non-stabilized oscillations of a free surface and a surface of division between two liquids under real variable pressure

PERIODICAL: Vestsi akademii navuk BSSR, Seryya fizika-tekhnichnykh navuk, no. 1, 1962, 30-33

TEXT: The author considers the space problem of non-stabilized division between two liquids, under the action of a periodic variable pressure system, an infinite strip being considered. It is stated that this article is a continuation of the works of L.N. Sretenskiy (Ref. 1: PMM, v. 20, no. 3, 1956), S.S. Voyt (Ref. 2: PMM, vol. 21, no. 1, 1957; Ref. 3: Tr. MGI AN SSSR, v. 18, 1959) and L.V. Cherkesov (Ref. 4: DAN SSSR, v. 127, no. 4, 1959). Wave equations are established for a free surface and a surface of division, and solved by means of expressing the pressure in the form of

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a Fourier integral. Hence integral forms are obtained for the wave-function in each case. By applying the method of the stationary phase (Ref. 4: Op cit), expressions are found for the form of the wave-profile in either case. It is shown that in the case of a free surface two systems of progressive waves are formed. Of these, the forward front of one varies along the y-axis with velocity u_1, and the forward front of the other varies with velocity u_2, where u_1 and u_2 are equal to the projections on the y-axis of the group velocities of waves of the two types respectively. The case of waves at a surface of division is similar to that of a free surface, except in the formula for the amplitude. There are 4 Soviet-bloc references.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

S/179/62/000/006/008/022
E032/E114

AUTHOR: Cherkesov, L.V. (Minsk)

TITLE: Waves due to periodic pressures applied to the surface of a stream of viscous fluid

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.6, 1962, 50-55

TEXT: In this problem a periodic pressure of the form

$$p(x, t) = p_0 a(x) \exp(i\omega t) \qquad (1.1)$$

is applied to the surface of an infinitely deep viscous liquid flowing with a velocity U in the positive direction of the x axis. The perturbations produced by the pressure in the liquid are assumed to be small, so that the boundary conditions on the surface of the liquid are of the form

$$p_{xy} = 0, \qquad p_{yy} = -p(x, t)$$

$$v_y = \partial\eta/\partial t + U \, \partial\eta/\partial x$$

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where $\eta(x, t)$ is the height of the liquid above the free surface.

An exact solution for η is obtained under the above approximations in an integral form.

SUBMITTED: May 8, 1962

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43190

S/250/62/006/007/001/002
I027/I242

AUTHOR: Cherkesov, L.V.

TITLE: Investigation of transient waves arising under the application of pressure

PERIODICAL: Akademiya nauk BSSR. Doklady, v.6, no.7, 1962, 415-417

TEXT: L.N. Sretenskiy (Ref.1: PMM, v.20, no.3, 1956) has studied the problem of stationary waves arising under pressure on a liquid surface. The present paper considers the transient waves arising when a periodic pressure $p = p_0 e^{iwt}$ is applied in the domain $|x| < a$, $|y| < b$ of the liquid surface, the liquid

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Investigation of....

being at rest (z=o) at t=o. The wave-movement potential $\varphi(x,y,z,t)$ satisfies $\Delta\varphi = 0$ and the following conditions

$$\frac{\partial^2\varphi}{\partial t^2} + g\frac{\partial\varphi}{\partial z} = \frac{1}{\rho}\frac{\partial p}{\partial t} \quad \text{at } z=0 \qquad (3)$$

$$\frac{\partial\varphi}{\partial t} - \frac{p}{\rho} = 0 \quad \text{at } z=0,\ t=0 \qquad (4)$$

$$\varphi(x,y,z,0) = 0 \qquad (5)$$

[Abstracter's note: g, ρ are not defined]. A solution of the form $\varphi = \frac{p_0}{4\pi^2\rho}\iint_{-\infty}^{\infty} A(m,n,t)\exp[i(mx+ny)+z\sqrt{m^2+n^2}]\,dm\,dn$ is sought. A(m,n,t) is determined by (3)-(5). Next, an expression (containing similar integrals) for the height $\zeta(x,y,t)$ of the liquid surface is obtained. For $|x|<a$, $|y|<b$ the waves are undamped, outside $|x|<a$,

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I027/I242

Investigation of...

$|y|<b$ the waves die down with the distance $\sqrt{x^2+y^2}$.

ASSOCIATION: Institut matematiki i vychislitel'noy tekhniki AN BSSR (Institute of Mathematics and Computing Technology, AS BSSR)

PRESENTED: by V.I. Kry'lov, Academician

SUBMITTED: September 12, 1961

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Irregular vibrations of an undamped surface and of the interface between two fluids subjected to dynamic pressure. Vestsi AN BSSR.Ser.fiz.-tekh.nav. no.1:30-33 '62. (MIRA 16:9)
(Fluid dynamics)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V. (Minsk)

Development of waves on the free surface and on the interface of two liquids under a system of shifting pressures. Prikl. mat. i mekh. 26 no.3:559-563 My-Je '62. (MIRA 16:5)
(Waves) (Hydrodynamics)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V. (Minsk)

Development and damping of ship waves. Prikl. mat i mekh. 27 no.4: 725-730 Jl-Ag '63. (MIRA 16:9)

(Waves)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Ship waves in a viscous liquid. Dokl. AN SSSR 153 no.6: 1288-1290 D '63. (MIRA 17:1)

1. Institut matematiki i vychislitel'noy tekhniki AN BSSR. Predstavleno akademikom I.I. Artobolevskim.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.; ABRASHINA, N.N.

Unsteady waves due to periodic pressures in a liquid of finite depth. Dokl. AN BSSR 7 no.9:591-593 S '63. (MIRA 17:1)

1. Institut matematiki AN BSSR. Predstavleno akademikom AN BSSR V.I. Krylovym.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHENINOGA, M.M.; CHERKESOV, L.V.

Forced oscillations of a sphere in a viscuous fluid. Inzh.-fiz. zhur. 7 no.2:108-116 F '64. (MIRA 17:2)

1. Institut matematiki i vychislitel'noy tekhniki AN BSSR, Minsk.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Development of surface waves generated by two vibrating strips. Trudy Mor. gidrofiz. inst.AN URSR 27:114-127 '63. (MIRA 17:3)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.; PASTUSHENKO, V.V.

Waves in a viscous fluid due to a periodic moving system of pressures. Dokl. AN BSSR 8 no. 1:18-20 Ja '64. (MIRA 17:5)

1. Institut matemtiki i vychislitel'noy tekhniki AN BSSR. Predstavleno akademikom AN BSSR V.I.Krylovym.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Long waves in a viscous fluid. Izv. AN SSSR. Fiz. atm. i okeana 1 no.1:84-93 Ja '65. (MIRA 18:5)

1. Institut matematiki i vychislitel'noy tekhniki AN BSSR.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Problem of the tsunami in a heterogeneous sea. Izv. AN SSSR. Fiz. atm. i okeana 1 no.8:861-871 Ag '65. (MIRA 18:9)

1. Institut matematiki AN BSSR.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOV, L.V.

Waves due to periodic surface perturbations in an inhomogeneous fluid. Izv. AN SSSR. Fiz. atm. i okeana 1 no.5:517-526 My '65. (MIRA 18:8)

1. Institut matematiki AN BSSR.

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L 10810-66 EWT(d)/EWT(1)/EWT(m)/EWP(1)/T/ETC(m) IJP(c) WW/RM

ACC NR: AP6000553 SOURCE CODE: UR/0040/65/029/006/1138/1146

AUTHOR: Cherkesov, L. V. (Minsk)

ORG: none

44,55

49

B

TITLE: Three-dimensional problem of the Cauchy-Poisson type for waves in viscous liquids

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 6, 1965, 1138-1146

TOPIC TAGS: viscous flow, surface wave, Cauchy problem, integral equation

16,44,55 21,44,55

ABSTRACT: The three-dimensional problem of wave propagation on the surface of a viscous fluid generated by small initial disturbances is analyzed. At time $t = 0$ the viscous incompressible fluid occupies the half-space $z < 0$ and has the free surface $\zeta(x, y, 0) = \zeta_0(x, y)$. It is desired to find the equation of the fluid surface at time $t > 0$. The governing equations are given by

$$\rho u_t = -p_x + \mu \Delta u, \quad \rho v_t = -p_y + \mu \Delta v, \quad \rho w_t = -p_z - \rho g + \mu \Delta w,$$

$$u_x + v_y + w_z = 0.$$

with initial conditions

$$u = v = w = 0, \quad \zeta = \zeta_0(x, y) \quad \text{при } t = 0,$$

and boundary conditions

$$p_{nn} = p_{n\tau_1} = p_{n\tau_2} = 0, \quad \zeta_t = w \quad \text{при } z = \zeta.$$

The function ψ is introduced such that $p = \rho\dot{\psi} - g\rho z$

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and the equations are Laplace and Fourier transformed, integrated, and expressed in terms of inverse transforms of the form

$$\varkappa_j = \frac{1}{2\pi i}\int_{\varepsilon-i\infty}^{\varepsilon+i\infty} \varphi_j(\alpha, r)\, e^{\alpha t} d\alpha$$

$$Z_0 = \frac{1}{2\pi}\int_0^{2\pi}\int_0^{\infty} \zeta_0(R, \gamma)\exp(-irR_1\cos(\theta-\gamma))\, R\, dR\, d\gamma \qquad (j = 1, 2, 3)$$

$$\varphi_1 = \frac{\alpha + 4\varepsilon r^2}{\Delta}, \quad \varphi_2 = \frac{-4r^2\sqrt{\alpha+\varepsilon r^2} + 2\varepsilon^{1/2} r^4}{\alpha\Delta_1}, \quad \varphi_3 = \frac{(\alpha + 4\varepsilon r^2)\Delta_2}{\Delta\Delta_1},$$

leading to the final expression for the fluid surface

$$\zeta = \frac{\sigma^4}{2\pi g^2}\int_0^{2\pi}\int_0^{\infty} Z_0(r, \theta)\, \varkappa_1(r, t)\exp[iRr\cos(\theta-\gamma)]\, r\, dr\, d\theta.$$

As a special case, let the surface of the liquid be represented by

$$\zeta_0(x, y) = \begin{cases} \zeta_0(1 - R^2a^{-2})^\mu & (R < a) \\ 0 & (R > a) \end{cases} \quad \begin{pmatrix} \mu > 0 \\ \zeta_0 = \text{const} \end{pmatrix}.$$

The expression for ζ at $t > 0$ then becomes

$$\zeta = \zeta_0 \frac{\sigma^4 a^2}{g^2 k^2}\int_0^{\infty} \varphi(r)\, \varkappa_1(r, t)\, J_0(rR)\, e^{\varepsilon r}\, r\, dr$$

which can be integrated for the special case of $a \to 0$ and $\zeta_0 \to \infty$. The general equation for ζ is then studied asymptotically for large R using the method of

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stationary phases for double integrals. The analysis is then extended to the case where the initial conditions are specified pressure impulses applied in a short interval τ or,

$$u_0 = -\rho^{-1}\Phi_x, \quad v_0 = -\rho^{-1}\Phi_y, \quad w_0 = -\rho^{-1}\Phi_z \left(\Phi = \int_0^\tau p\,d\tau\right).$$

The corresponding expression for ζ correct to within $\varepsilon^{2/3}$ is given by

$$\zeta = -\frac{G^3}{2\pi\rho g^2}\int_0^{2\pi}\int_0^{\infty} r^{3/2}K(r,\theta)\sin\sqrt{rt}\exp\left[iRr\cos(\theta-\gamma)-2\varepsilon r^2 t\right]dr\,d\theta .$$

This integral is studied under special values of the integrand $K(r,\theta)$. Orig. art. has: 43 equations.

SUB CODE: 20/ 12 SUBM DATE: 10Feb65/ ORIG REF: 006

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

ACC NR: AP6034000 (N) SOURCE CODE: UR/0213/66/006/005/0752/0759

AUTHOR: Cherkesov, L. V. (Minsk)

ORG: none

TITLE: The problem of a tsunami in a heterogeneous sea

SOURCE: Okeanologiya, v. 6, no. 5, 1966, 752-759

TOPCI TAGS: ocean dynamics, ocean floor topography ocean property, oceanography

ABSTRACT: This article presents a mathematical analysis of tsunami propagation in a two-layer sea with abruptly changing depth along a vertical interface. The long sea waves are generated by the initial disturbances in deep bodies of water. A detailed analysis is conducted of the tsunami in shallow waters and the effect of the Coriolis force and a comparison is made of the amplitudes on a free surface and the vertical interface. It is shown that the nonhomogeneity of a sea with abruptly changing depths may be a prime factor in the creation of secondary tsunamis. Computations indicate that the amplitude of an internal wave in a shallow body of water may be much greater than the amplitude of a surface wave. Formulas are derived for the amplitude of the free surface and the interface wave in a body of water. Orig. art. has: 24 formulas, 1 figure, and 1 table.

SUB CODE: 08/ SUBM DATE: 15May65/ ORIG REF: 004/ OTH REF: 001

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

(N)

ACC NR: AP7001886 SOURCE CODE: UR/0362/66/002/012/1296/1306

AUTHOR: Cherkesov, L. V.

ORG: Academy of Sciences BSSR, Institute of Mathematics (Akademiya nauk BSSR, Institut matematiki)

TITLE: The effect of viscosity on the propagation of tsunamis

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 12, 1966, 1296-1306

TOPIC TAGS: traveling wave, viscous fluid, wave propagation

ABSTRACT: The author considers the two- and three-dimensional problems of long waves arising on the free surface of a viscous liquid. Beginning with consideration of an infinite layer of viscous liquid bounded beneath by a horizontal floor and above by a free surface, the form of the free surface is examined at the instant equilibrium is disturbed by the appearance of a long wave. For the two-dimensional case, it was found that, in traveling through an ideal liquid without change in form (with a velocity of $\sqrt{gh}$) the half wave of the cosine curve travels with a velocity less than $\sqrt{gh}$ and the amplitude of the cosine curve tends toward zero with time. The limits of the damping coefficient are defined. Expressions are obtained for defining the wave form for both the two- and the three-dimensional case. The effects of viscosity were computed for waves of various parameters, for both turbulent and laminar friction.

UDC: 551.466.62

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ACC NR: AP7001886

Reduction in amplitude because of viscosity is greater for turbulent friction than for laminar. For waves with amplitudes ranging from 40 m to 4000 m and periods from 2 minutes to 2 hours, the decrease in amplitude because of viscosity ranges from $0.82 \cdot 10^{-2}$ to $1.58 \cdot 10^{-2}$% for laminar friction and from 0.86 to 1.61% for turbulent friction. The numerical calculations, the results of which are given in the paper, were made on a Minsk-2 electronic computer by G. M. Koblova. Orig. art. has: 25 formulas.

SUB CODE: 20,09 SUBM DATE: 14Mar66/ ORIG REF: 010

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

KORYAKIN, Sergey Fedorovich, dotsent, kand.ekon.nauk; BERNSHTEYN, Iosif L'vovich, dotsent, kand.ekon.nauk; ELLINSKIY, Yuriy Fedorovich, starshiy prepodavatel'; DOLITSKIY, Ya.I., prof., doktor ekon.nauk, retsenzent; CHERKESOV-TSIBIZOV, A.A., starshiy prepodavatel', retsenzent; FROLOV, A.S., dotsent, kand.tekhn.nauk, retsenzent; KRUGLENKO, N.K., inzh., retsenzent; ZOLOTUKHIN, Yu.A., obshchiy red.. V redaktirovanii prinimali uchastiye: OGANOV, N.K., dotsent, red.; DUBCHAK, V.Kh., inzh., red.; MARTIROSOV, A.Ye., inzh., red.; KHAR'KOV, G.I., starshiy nauchnyy sotrudnik, red.; KRASHENINNIKOV, V.G., dotsent, kand.ekon.nauk, red.; GEKHTBARG, Ye.A., inzh., red.; SHCHEGOLEV, G.G., inzh., red.; PRILUTSKIY, M.A., inzh., red.; KANTOR, I.M., dotsent, kand.ekon.nauk, red.; KUZ'MIN, T.P., inzh., red.; FILIPPOV, K.D., red.. KSENOFONTOVA, Ye.F., red.izd-va; TIKHONOVA, Ye.A., tekhn.red.

[Economics of water transportation] Ekonomika morskogo transporta. Pod obshchei red. IU.A.Zolotukhina. Moskva, Izd-vo "Morskoi transport", 1959. 391 p. (MIRA 13:3)

(Shipping--Finance)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

SHRABSHTEYN, I., dots.; CHERKESOV-TSYBIZOV, A., starshiy prepodavatel'; MILYUKOV, M.; prepodavatel'; BORISOV, B., inzh.-ekonomist; LAPINA, N.

"Economics of transportation by sea" by S.F.Koriakin, I.L.Bernshtein, IU.F.Ellinskii. Reviewed by I. Shrabshtein and others. Mor.flot 20 no.10:46-48 O '60. (MIRA 13:10)

1. Odesskiy institut inzhenerov morskogo flota (for Shrabshteyn, Cherkesov-TSybizov, Milyukov). 2. Nachal'nik Planovogo otdela Baltiyskogo parokhodstva (for Borisov). 3. Nachal'nik Planovo-ekonomicheskogo otdela Kanonerskogo zavoda (for Lapina).

(Shipping)

(Koriakin, S.F.) (Bernshtein, I.L.) (Ellinskii, IU.F.)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

GAMOVA-KAYUKOVA, N.I., kand.biol.nauk; SAMYSHKINA, M.A., starshiy nauchnyy sotrudnik; BERNSHTEYN, M.M., kand.tekhn.nauk; MUSATOVA, M.D., mladshiy nauchnyy sotrudnik; ABOLTINA, E.M., mladshiy nauchnyy sotrudnik; CHERKESOVA, E.I., mladshiy nauchnyy sotrudnik; IVANOVA, R.A., laborant.

Resistance to moulds of artificial leather, cardboard and 'ent-duck samples. Nauch.-issl. trudy VNIIPIK no.13:65-83 '62. (MIRA 18:1)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

PONOMAREV, A.A.; CHERKESOVA, L.V.

Furan compounds. Part 24: Synthesis of 5-(5'-nitro-2'-furyl) pyrazoles. Zhur.ob.khim. 33 no.12:3946-3950 D '63. (MIRA 17:3)

1. Saratovskiy gosudarstgennyy universitet imeni Chernyshevskogo.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

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CHERKESOVA, S.V.

Gradations in facies in the strata of middle Devonian deposits on the southern island of Novaya Zemlya and Vaygach Island. Sbor.st.po paleont.i biostrat. no.11:8-20 '58. (MIRA 13:1)

(Novaya Zemlya--Geology, Stratigraphic)
(Vaygach Island--Geology, Stratigraphic)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESOVA, S.V.

Some representatives of the genus Lazutkinia from middle Devonian deposits of the southern island of Novaya Zemlya. Sbor.st.po paleont. i biostrat. no.18:28-37 '60. (MIRA 13:8)
(Novaya Zemlya--Brachiopoda, Fossil)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

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NEKHOROSHEVA, L.V.; CHERKESOVA, S.V.

Stratigraphy and Bryozoa from Lower Devonian sediments of the Tareya Valley (central Taymyr). Sbor.st. po paleont. i biostrat. no.26:10-34 '61. (MIRA 15:8)
(Tareya Valley (Krasnoyarsk Territory)--Polyzoa, Fossil)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESS, L. A.

"Airtaminoses and the organs of disgestion." (p. 54)
by Cherkess, L. A.

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologie)
Vol. XI, No. 1, 1939

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKESYAN, Z. S., Cand Biol Sci -- (diss) "Effect of pain and conditioned-pain stimuli on some aspects of phosphorus metabolism." Yerevan, 1960. 28 pp; (Committee of the Council of Ministers Armenian SSR, for Higher and Secondary Specialist Education, Yerevan Zoo-veterinary Inst); 120 copies; price not given; (KL, 22-60, 134)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKES-ZADE, D.I.

Extension splint for the treatment of fractures of the metatarsal bones and phalanges of the toes by skeletal traction. Ortop., travm. i protez. 26 no.3:64-65 Mr '65. (MIRA 18:7)

1. Iz otdeleniya neotlozhnoy travmatologii (zav. - prof. A.V. Kaplan) TSentral'nogo instituta travmatologii i ortopedii (dir. - chlen-korrespondent AMN SSSR prof. M.V.Solkov). Adres avtora: Moskva A-299, ul. Priorova, d.2, TSentral'nyy institut travmatologii i ortopedii.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKASOV, D.I.

Fractures and dislocations of Lisfranc's joint. Ortop., travm. i protez. 26 no.11:82-85 N '65. (MIRA 18:12)

1. Iz Tsentral'nogo instituta travmatologii i ortopedii (direktor - chlen-korrespondent AMN SSSR prof. M.V. Volkov). Adres avtora: Moskva K-299, ul. Priorova, d. 10, Tsentral'nyy institut travmatologii i ortopedii.

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SCHASTNEV, P.N.; CHERKES-ZADE, N.M., uchitel'nitsa; KORNEYEV, V., uchitel'; AZAROVA, Yu.

Editor's mail. Geog.v shkole 24 no.6:68-71 N-D '61. (MIRA 14:10)

1. 5-ya shkola g. Batumi (for Cherkes-zade). 2. Gnilitskaya shkola Chernigovskoy oblasti (for Korneyev). 3. Starosta krayevedcheskoy organizatsii 1-oy sredney shkoly imeni Lenina, g.Buynaksk (for Azarova).

(Geography--Study and teaching)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

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GORBOVITSKAYA, R.M., uchitel'nitsa khimii; LIMONNIKOVA, A.I., uchitel'nitsa khimii; ZHIRYAKHINA, G.V., uchitel'nitsa khimii; ORLOVA, K.P., uchitel'nitsa khimii; CHERKEYEVA, P.I., uchitel'nitsa khimii; TSVETKOVA, L.T., uchitel'nitsa khimii; PLATOVA, V.M., uchitel'nitsa khimii; KOTLOV, V.N., uchitel' khimii

Our comments. Khim.v shkole 15 no.1:54-56 Ja-F '60. (MIRA 13:5)

1. Srednyaya shkola No.626 Kirovskogo rayona Moskvy (for Gorbovitskaya). 2. Srednyaya shkola No.518 Kirovskogo rayona Moskvy (for Limonnikova). 3. Srednyaya shkola No.526 Kirovskogo rayona Moskvy (for Zhiryakhina). 4. Srednyaya shkola No.525 Kirovskogo rayona Moskvy (for Orlova). 5. Srednyaya shkola No.514 Kirovskogo rayona Moskvy (for Cherkeyeva). 6. Srednyaya shkola No.528 Kirovskogo rayona Moskvy (for TSvetkova). 7. Srednyaya shkola No.527 Kirovskogo rayona Moskvy (for Platova). 8. Srednyaya shkola No.627 Kirovskogo rayona Moskvy (for Kotlov).
(Moscow--Chemistry--Study and teaching)

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CHERKEZ, A YA

BABARIN, V. I., and A. YA. CHERKEZ.

Issledovanie i novyi metod rascheta reaktivnogo vykhlopnogo kollektora. Moskva, TSIAM, 1946.

Title tr.: Investigation and a new method of calculating the jet exhaust collector.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

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CHERKEZ, A. YA

BABARIN, V. I., and A. YA. CHERKEZ.

Novyi metod rascheta individual'nykh vykhlopnykh patrubkov. Moskva, BNT, 1946.

Title tr.: New method of designing individual exhaust stacks.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

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CHERKEZ, A. YA

BABARIN, V. I., and A. YA. CHERKEZ.

O vliianii protivodavleniia na vykhlope na moshchnost' aviatsionnogo dvigatelia i raskhod vozdukha. Moskva, Oborongiz, 1947.

Title tr.: Effect of counter-pressure in the exhaust stroke upon the capacity of an aircraft engine and on air consumption.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

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CHERKEZ, Abram Yakovlevich

Primeneniye metoda malykh otkloneniy v teorii i raschete aviatsionnykh turboreaktivnykh dvigateley (application of the method of small variations in the theory and computation of aviation turbo-reactive engines) Moskva, Oborongiz, 1955.

155 p. diagrs., tables.

"Literatura": p. (154)

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ABRAMOVICH, Genrikh Naumovich. Prinimali uchastiye: YAKOVLEVSKIY, O.V.; AVDUYEVSKIY, V.S.; SMIRNOVA, I.P.; CHERKEZ, A.Ya. APEL'BAUM, S.O., red.; TUMARKINA, N.A., tekhn.red.

[Theory of turbulent jets] Teoriia turbulentnykh strui. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1960. 715 p. (MIRA 13:10)
(Turbulence) (Jets)

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CHERKEZ, A.Ya. (Moskva)

Some characteristics of the averaging of parameters in a supersonic gas flow. Izv.AN SSSR.Otd.tekh.nauk.Mekh. i mashinostr. no.4:23-26 Jl-Ag '62. (MIRA 15:8)
(Aerodynamics, Supersonic)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

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CHERKEZ, A.Ya. (Moskva)

One-dimensional theory of an unrated supersonic gas jet. Izv. AN SSSR. Otd.tekh.nauk.Makh.i mashinostr. no.5:13-25 S-O '62. (MIRA 15:10)
(Jets)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

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CHERKEZ, A.Ya. (Moskva)

Some characteristics of supersonic flow in the entrance region of a gas ejector. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.6: 40-49 N-D '62. (MIRA 15:12)

(Supersonic nozzles)

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Cherkez, Abram Yakovlevich

Engineering : calculations of gas turbine engines by the method of small deviations (Inzhenernyye raschety gazoturbinnykh dvigateley metodom malykh otkloneniy) 2d ed., rev. and enl. Moscow, Izd-vo "Mashinostroyeniye", 1965. 354 p. illus., biblio. 3000 copies printed

TOPIC TAGS: gas turbine engine, turbine design, turbine test

PURPOSE AND COVERAGE: This book is intended for engineers engaged in the research, development, and designing of stationary and aviation gas-turbine engines and it may also be useful to professors and students in schools of higher education. A simple method is presented of calculating the interdependence of the working process parameters of all contemporary types of gas-turbine engine arrangements, i.e., turbojet, engines with two-stage compressors, and so forth. The effect of variations in parameters or the characteristics of engine components, e.g., coefficient of losses, efficiency, etc., on thrust, power, air intake, and fuel are calculated by the method of small deviations and converted into a system of linear algebraic equations, which yield both general and specific answers to practical problems. Examples illustrating the use of the method are given and the limitations of the method as well as its margin of error are also covered.

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ACCESSION NR: AP5008823 S/0096/65/000/004/0068/0072

38
B

AUTHOR: Cherkez, A. Ya. (Candidate of technical sciences)

TITLE: Small variation calculation method in investigation and adjustment of gas turbines

SOURCE: Teploenergetika, no. 4, 1965, 68-72

TOPIC TAGS: gas turbine, thermodynamics, temperature field, adiabatic flow, pressure distribution, turbine blade, turbine nozzle

ABSTRACT: A detailed investigation was made of the pressure drop in a multistage turbine by the method of small variations. The section under investigation is shown in Fig. 1 on the Enclosure where the various pressure ratios are expressed by

$$\frac{p^*_T}{p^*_T} = \frac{p^*_1}{p^*_2}\frac{p^*_2}{p^*_3}\frac{p^*_3}{p^*_4}\frac{p^*_4}{p^*_T}$$

or $\pi_T = \pi_1\pi_2\pi_3\pi_4$, and from the continuity equation $\frac{p^*_1 F_1 q(\lambda_1)}{\sqrt{T^*_1}} = \frac{p^*_2 F_2 q(\lambda_2)}{\sqrt{T^*_2}}$,

or $\pi_1 = \frac{F_2}{F_1}\sqrt{\frac{T^*_1}{T^*_2}}\cdot\frac{q(\lambda_2)}{q(\lambda_1)}$.

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The following expression is derived for $q(\lambda_1)$ from gas dynamic considerations $q(\lambda_1)=\left(\frac{k+1}{2}\right)^{\frac{1}{k-1}}\lambda_1\left(1-\frac{k-1}{k+1}\lambda_1^2\right)^{\frac{1}{k-1}}$. The pressure expansion ratio is expressed in Mach numbers by using the turbine velocity vector diagram. These results are differentiated and expressed in terms of small variations δ, for example, the variation in the pressure ratio is given in terms of the independent variables δF_i and $\delta\pi_t$ or, $\delta\pi_1=N_1[a_2a_3N_2N_3\delta F_4+a_2N_2(1-a_3N_3)\delta F_3+(1-a_2N_2)\delta F_2-\delta F_1+a_2a_3a_4N_2N_3\delta\pi_T]$; where the a's and the N's are various turbine parameters. A numerical example is given which indicates that more than 60% of the pressure drop in the turbine occurs in the rotor wheel of the second stage. Orig. art. has: 37 equations and 6 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: PR, TD

NO REF SOV: 003 OTHER: 000

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

TSURAI, I. [Turai, I.], prof.; PAPAKHAGI, E. [Papahaghi, E.], dotsent; CHERKEZ, E. [Cerchez, E.]

Emergency surgery in aging subjects. Khirurgiia 17 no.2: 189-191 '64.

1. Iz Klinikata po spesna khirurgiia pri bolnitsata "I.Frimu", Bukuresht.

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137-58-6-12947

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 252 (USSR)

AUTHOR: Cherkez, M.B.

TITLE: On the Anodic Dissolution of Chromium (K voprosu ob anodnom rastvorenii khroma)

PERIODICAL: V sb.. Teoriya i praktika elektrolit. khromirovaniya. Moscow, AN SSSR, 1957, pp 175-193

ABSTRACT: A study of the effect of the operating conditions of electrolytic etching of porous Cr coating intended for widening and deepening of the extremely fine fissures which occur during the deposition of Cr. Anodic etching of Cr coating ensures higher wear resistance of parts. It is shown that the cd, the temperature of the electrolyte, and the duration of the etching do not exert any effect on the anode current efficiency which, with the usual content of Cr electrolyte and when referred to Cr^{6+}, lies between 104-106%. The high (>100%) current efficiency is attributed to the passing into solution of Cr^{3+} together with Cr^{6+}. The increase of Cr^{3+} concentration in the electrolyte results in a decrease of current efficiency at the anode. The more intense dissolution on the facets of the

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On the Anodic Dissolution of Chromium

fissures in the Cr coating is attributable to the higher activity of the Cr in the fissures than on the surface of the coating. The time point when a stationary anode potential is attained is connected with the fact that the channels reach their maximum depth and no further change in the size of the effective surface of the coating takes place.

L.A.

1. Chromium plating--Theory

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PHASE I BOOK EXPLOITATION SOV/3965

Cherkez, Mikhail Borisovich

Khromirovaniye i zheleznenie (Chrome Plating and Iron Plating) Moscow, Mashgiz, 1958. 84 p. (Series: Bibliotechka gal'vanotekhnika, vyp. 6) Errata slip inserted. 10,500 copies printed.

General Ed.: P. M. Vyacheslavov, Candidate of Chemistry, Docent; Reviewer: L. Ya. Bogorad, Engineer; Editorial Board: P. M. Vyacheslavov (Chairman), S. Ya. Grilikhes, Candidate of Technical Sciences, and A. M. Yampol'skiy, Engineer; Ed. of this book: A. M. Yampol'skiy; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F. I. Fetisov, Engineer; Ed. of Publishing House: N. Z. Simonovskiy; Tech. Ed.: L. V. Sokolova.

PURPOSE: This book is intended for skilled workers, laboratory technicians, and foremen of electroplating and electroforming shops.

COVERAGE: The book is the sixth volume of the "Little Library of Electrodeposition" series. The author gives a brief description of the properties of electrodeposited chrome and iron coatings, deposition processes, and methods of applying protective, decorative, and wear-resistant coatings on metals. Principal methods and examples of the chrome- and iron-

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plating of typical articles, and fields of application for chrome- and iron-plating are also reviewed. No personalities are mentioned. There are 17 references, all Soviet.

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AVAILABLE: Library of Congress (TS670.B6)

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ZAPOL'SKIY, Nikolay Vasil'yevich, kand.tekhn.nauk; CHERKEZ, M.B., kand.tekhn.nauk, red.; VASIL'YEV, Yu.A., red.izd-va; GVIRTS, V.L., tekhn.red.

[Reconditioning and hardening parts by iron plating on automatically controlled equipment] Vosstanovlenie i uprochnenie detalei ostalivaniem na avtomatizirovannoi ustanovke. Leningrad, 1961. 29 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Zashchitnye pokrytiia metallov, no.15).

(MIRA 15:4)

(Iron plating)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKEZ, Mikhail Borisovich; VORONITSYN, I.S., kand. tekhn. nauk, retsenzent; VYACHESLAVOV, P.M., kand. khim.nauk, dots., red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; BARDINA, A.A., tekhn. red.

[Chromium plating and iron plating] Khromirovanie i zheleznenie. Izd.2., dop. i perer. Pod red. P.M.Viacheslavova. Moskva, Mashgiz. 1961. 83 p. (Bibliotechka gal'vanotekhnika, no.5) (MIRA 14:12)

(Chromium plating) (Iron plating)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

YAMPOL'SKIY, Anatoliy Mikhaylovich; IL'IN, Vitaliy Alekseyevich; DANILOV, I.A., inzh., retsenzent; CHERKEZ, M.B., kand. tekhn. nauk, red.; ONISHCHENKO, R.N., red. izd-va; SHCHETININA, L.V., tekhn. red.

[Brief handbook of electroplating and electroforming] Kratkii spravochnik gal'vanotekhnika. Moskva, Mashgiz, 1962. 244 p. (MIRA 15:7)
(Electroplating--Handbooks, manuals, etc.)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

ACCESSION NR: AP4000450 S/0032/63/029/011/1341/1343

AUTHORS: Cherkez, M. B.; Ordin, V. P.

TITLE: Study of corrosion processes in passivating metals by application of anodic polarization

SOURCE: Zavodskaya laboratoriya, v. 29, no. 11, 1963, 1341-1343

TOPIC TAGS: passivating metal, metal corrosion, passivating metal corrosion, corrosion study, potentiostatic method, corrosion study potentiostatic method, anodic polarization, anodic polarization current, EI602 steel corrosion, EI602 steel passivation, passivation potential, EI602 steel passivation potential, transpassivation potential, EI602 steel transpassivation potential, EI602 steel, anode current polarization, metal passivation, critical passivation current density, passivation current density

ABSTRACT: A potentiostatic apparatus was used to study corrosion processes, to determine the limits of a stable passive state, and to establish the relative variation in the metal corrosion rate during its transition from an active state into a stable passive and transpassivation state. The experimental results are

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ACCESSION NR: AP4000450

presented graphically in Figures 1 and 2 on the Enclosures. They represent the polarization curves (voltage current density) which reflect the variation in the corrosion process intensity during a gradual metal passivation induced by anodic currents. The density of the anodic polarization current corresponded to the metal affinity toward passivation. It is shown that polarization curves may be used for the determination of corrosion velocity, limits of a stable passive state, relative variation of metal corrosion velocity in active and passive states, and the absolute value of the corrosion rate in the passivation state. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 02

SUB CODE: MM NO REF SOV: 001 OTHER: 000

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ACCESSION NR: AP4000450

ENCLOSURE: 01

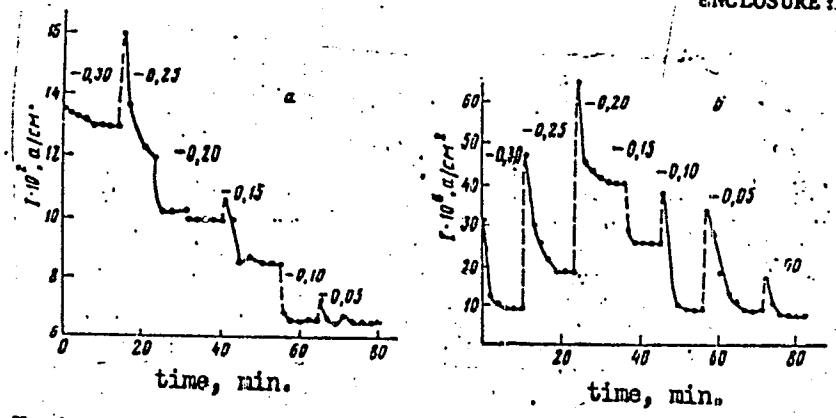

Fig. 1. Variation of anodic polarization current with time at constant electrode potential: steel 10KP (a) and alloy EI602 (b)

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ACCESSION NR: AP4000450

ENCLOSURE: 02

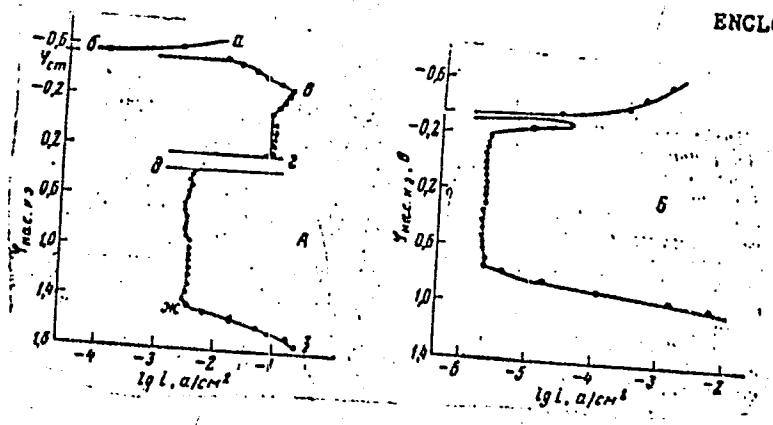

Fig. 2. Polarization curves; steel 10KP electrode (A) and EI 602 electrode (B)

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BARSKIY, M.R.; ZVORYKIN, M.L.; SURGUCHEV, I.V.; CHERKEZ, V.E.; SHENDEROVICH, M.Ye., retsenzent; SARANTSEV, Yu.S., red.; USENKO, L.A., tekhn. red.

[Electric equipment and air-conditioning systems for passenger cars] Elektrooborudovanie i konditsionirovanie ovzdukha passazhirskikh vagonov. [By] M.R.Barskii i dr. Moskva, Transzheldorizdat, 1963. 234 p. (MIRA 16:12)
(Railroads--Passenger cars--Air conditioning)
(Railroads--Electric equipment)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

LOPATINA, A.V., inzh., red.; CHERKEZ, Yu.S., red.; PETROV, S.P., tekhn.red.

[Founding] Liteinoe proizvodstvo. Moskva, TSentr.biuro nauchno-tekhn.inform.tiazhelogo mashinostroeniia, 1958. 54 p. (Obmen peredovym opytom, no.13/34) (MIRA 14:2)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Founding)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

LISITSINA, E.F.; KRICHEVSKIY, Ya.M., inzh., red.; CHERKEZ, Yu.S., red.; PETROV, S.P., tekhn.red.

[Technology of making large-size shaped castings of structural steel] Tekhnologiia proizvodstva krupnogabaritnogo fasonnogo lit'ia iz konstruktsionnoi stali. Moskva, TSentr.biuro nauchno-tekhn.informatsii tiazhelogo mashinostroeniia, 1959. 51 p. (MIRA 12:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (TsNIITMASh) (for Lisitsina).
(Steel castings)

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USSR / Cultivated Plants. Forage Crops. M-5

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73030.

Author : Cherkezishvili, G. Z.
Inst : Scientific-Research Institute of Animal Breeding GeorgianSSR.
Title : Preliminary Data on Variety Tests of Jerusalem Artichoke in the Georgian SSR.

Orig Pub: Sb. tr. N.-i. in-t zhivotnovodstva, GruzSSR, 1957, 2, 34-59.

Abstract: As a result of variety tests, the following varieties of Jerusalem artichoke are proposed for cultivation in the animal breeding rayons of Georgia: Hybrid 71-39, "Vadim", "Belyy Kiyevskiy" and "Belyy urozhaynyy". All the varieties indicated have large tubers, located compactly at the base of the shrub, which endure storage well in pits and do not

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USSR / Cultivated Plants. Forage Crops. M-5

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73030.

Abstract: rot when left in the field. The part above ground gives a large amount of green mass for ensilage. The average harvest of tubers for three years (1951-1953) under irrigation, according to data of the Experimental Base of the Institute (Tbilisi), comprised in t/ha per variety: "Vadim" - 40.8, Hybrid 71-39 - 46.6, "Belyy Kiyevskiy" - 40.4 and "Belyy urozhaynyy" - 44.5. -- Ye. M. Tsvetayeva.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308420017-6

CHERKEZISHVILI, G. Z., Cand of Agric Sci -- (diss) "Zemlyanaya Pear in Georgian SSR," Moscow, 1959, 17 pp (Moscow Agric Acad im K. A. Timiryazev) (KL, 1-60, 124)

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5.3700 (B) (c)

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SOV/20-129-4-25/68

AUTHORS: Petrov, A. D., Corresponding Member AS USSR, Gverdtsiteli, I. M., Cherkezishvili, K. I.

TITLE: Interaction of Triethylsilane With Secondary and Tertiary Vinyl Ethinyl Carbinols in the Presence of H_2PtCl_6

PERI CAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 805-808 (USSR)

ABSTRACT: In the addition of hydrosilanes to olefines higher yields are obtained on platinized coal (pt/c) than by means of other catalysts and the side reactions of polymerization are suppressed more strongly. Higher yields are obtained also on the addition of methyl- and ethyl dichlorosilane to unsaturated compounds on pt/c, polymerization, however, takes place also in this case (A. D. Petrov, V. A. Ponomarenko et al, Ref 2). A. D. Petrov et al (Ref 3) investigated metals of the VIII group on various carriers in this respect. The catalysts investigated are classified into 2 groups: a) groups which favor the main reaction, b) groups which favor the side reaction. A new catalyst: 0.1 m-solution of $H_2PtCl_6 \cdot 6H_2O$ in isopropyl alcohol (Ref 4) shows an increased catalytic activity and makes possible the addition of hydride silanes to olefines

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Interaction of Triethylsilane With Secondary and Tertiary Vinyl Ethinyl Carbinols in the Presence of H_2PtCl_6 SOV/20-129-4-25/68

already at room temperature. The duration of reaction is shortened and the yield is increased. In the present paper the authors repeated the reactions mentioned in the title (Ref 5) using the new catalyst. In the latter case the reaction was completed at room temperature within 2 hours. The yield in tertiary vinyl ethinyl carbinols attains in this case 55-65% of the theoretically possible yield. The reaction with the secondary carbinols however proceeds according to another scheme (see Scheme) and an ether (II) is formed. A. D. Petrov et al. suspected already in 1953 (Ref 6) that the interaction between the Grignard reagent with acetylene alcohol and with R_3SiX may proceed in 2 directions (a) and (b). The authors proved however, (as was done also by I. A. Shikhiyev et al., Refs 8, 9) that for their experimental conditions only reaction (b) is concerned. In the present case it was found, however, that the reaction may proceed according to scheme (I) and to (II) according to the conditions and the state of carbinol and the catalyst. For the purpose of identifying the obtained organosilicon ether reaction (III) was carried out. All constants of this substance from the reactions (II) and (III) are in good agreement. Thus it may be maintained that the addition of

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Interaction of Triethylsilane With Secondary and Tertiary Vinyl Ethinyl Carbinols in the Presence of H_2PtCl_6 SOV/20-129-4-25/68

hydride silanes to the secondary vinyl acetylene alcohols may take place according to scheme (I) and (II). The type of reaction depends on the character of the catalyst and on the unsaturated initial compound. By dehydrogenating the produced organosilicon compounds with double bonds in an α- and γ-position with respect to the silicon atom and with a hydroxyl group in a β-position (by $KHSO_4$) trienes for the first time obtained in good yields. Table 1 shows the properties of all compounds obtained. There are 1 table and 9 references, 6 of which are Soviet.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet im. I. V. Stalina (Tbilisi State University imeni I. V. Stalin)

SUBMITTED: August 12, 1959

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