"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

ACCESSION NR: AT4007035

ture of iodine and most plant extracts, the corrosion resistance of Ti alloys other than VT-1 was 10-15 times as high as that of tinned Cu. In tannic or gallic acid, the AT alloys were 90 times as resistant as alloy VT-1, 220 times as resistant as stainless steel and 300 times as resistant as tinned Cu. Analysis of the solution after exposure of the OT alloys to tannic acid revealed leaching out of Mn and Fe. These findings were confirmed by kinetic studies in aqueous tannic acid and tincture of Convalaria maialis, which showed that the corrosion rate of stainless steel, Ni, Cu and tinned Cu increased rapidly with time, while that of the AT alloys remained quite low. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute, AN SSSR)

SUBMITTED: 00 ENCL: 00

SUB CODE: MM, LS NO REF SOV: 000 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

ACCESSION NR: AT4007038 S/2598/63/000/010/0176/0178

AUTHOR: Tavadze, F. N.; Mandzhgaladze, S. N.; Dashniani, T. S.; Lordkipanidze, I. N.; Tavadze, L. F.

TITLE: Electrochemical and corrosion behavior of alloys of the titanium aluminum system

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy*, no. 10, 1963. Issledovaniya titanovy*kh splavov, 176-178

TOPIC TAGS: titanium aluminum alloy, titanium aluminum alloy corrosion, titanium alloy corrosion, titanium aluminum system, titanium alloy, Ti sub 3 Al, Ti sub 2 Al, titanium alloy electrochemical property

ABSTRACT: In order to correct certain deficiences and contradictions in the literature, the authors studied the corrosion resistance and electrochemical potential of 19 Ti-Al alloys with Al contents of 0.5-38.5% by weight. Alloy specimens were heated to 900C for 100 hrs., then at 800C for 200 hrs. and 700C for 100 hrs. before cooling to room temperature and exposure to 40% H_2SO_4, 60% HCl, 5% HNO_3 or 0.5N NaCl. Corrosion was measured by volumetric or gravimetric methods. As shown by Fig. 1 in the Enclosure, these alloys are generally corrosion resistant, especially, in HNO_3, in which there is a single corrosion maximum at an Al concentration of 6-7%. In

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ACCESSION NR: AT4007038

H_2SO_4 and HCl, there are two corrosion maxima, one at 6-8% Al and a much broader maximum at 25-26% Al. The electrochemical potential in NaCl showed a similar behavior, with positive maxima at the same Al contents. In an alloy with 1% Al, the potential became generally more negative with time, while with 7% Al, the potential increased with time, becoming positive in about 6 minutes. These variations in the corrosion resistance of Ti-Al alloys indicate the existence of phases which act as cathodes with respect to the solid solution of Al in α-Ti. Orig. art. has: 3 figures.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute, AN SSSR)

SUBMITTED: 00 DATE ACQ: 27Dec63 ENCL: 01

SUB CODE: MM NO REF SOV: 001 OTHER: 002

Card 2/3

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

CCESSION NR: AT4007038

ENCLOSURE: 01

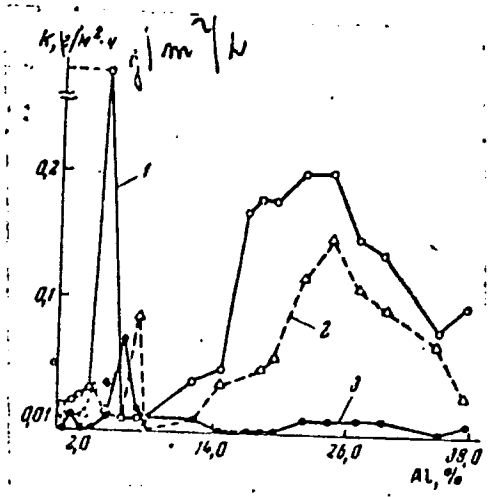

Fig. 1. Dependence of the corrosion rate of Ti-Al alloys on the Al content:
1 - in 40% sulfuric acid; 2 - in 60% hydrochloric acid; 3 - in 5% nitric acid. Ordinate = corrosion in $g/m^2/hr.$; abscissa = % Al.

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

[illegible]LYAV, V.F.; GADZHIYEV, F.G.; [illegible], P.N.; TSENOZHOLAB[illegible], L.N.

Stability of paint and varnish coatings in borazonoi [illegible]. Trudy Inst. met. AN Gruz. SSR [illegible]. [illegible]

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

L 30371-66 EWT(m)/T/EWP(t)/ETI IJP(c) JH/JD/WB/GD

ACC NR: AT6012382 SOURCE CODE: UR/0000/65/000/000/0138/0142

AUTHORS: Tavadze, F. N.; Mandzhgaladze, S. N.; Vul'f, B. K.; Yudina, S. A.; Dashniani, T. S.

62
59
B+1

ORG:

TITLE: The effect of oxygen content and heat treatment on the corrosion resistance of AT3 and AT8 titanium alloys

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 138-142

TOPIC TAGS: OXYGEN, ALUMINUM CONTAINING ALLOY, titanium alloy, corrosion resistance, corrosion resistant alloy, hydrochloric acid, nitric acid, sulfuric acid / AT3 titanium alloy, AT8 titanium alloy

ABSTRACT: The dependence of the corrosion resistance of titanium alloys with both small and considerable contents of aluminum upon their oxygen content is studied. The range of oxygen content was from 0.1 to 0.43%. The alloys were studied in the initial state and after normal heat treatment. The corrosive media were 5% HNO_3, 30% H_2SO_4, 40% HCl, solutions of tannic, gallic, and tartaric acids, 5% solutions of NaCl and NaOH, and a humid subtropical atmosphere. In all but the HCl, H_2SO_4, and tartaric acid, the corrosion resistance of the alloys was almost independent of the oxygen content (see Fig. 1). An increase in the oxygen content considerably worsened

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I. 30371-66

ACC NR: AT6012382

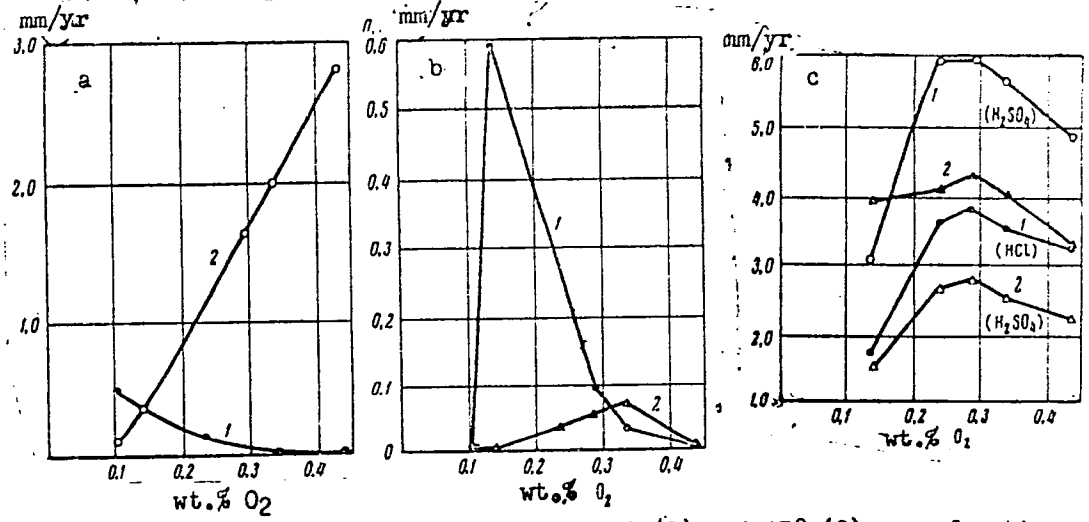

Fig. 1. Corrosion resistance of alloys AT3 (1) and AT8 (2) as a function of oxygen content: a - in 30% H_2SO_4 at room temperature; b - in 40% HCl at room temperature; c - in boiling mineral acids.

the corrosion resistance of AT8 in sulfuric acid (at room temperature) and tartaric acid. In this case, the corrosion resistance of AT3 (with less aluminum) was

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

L 30371-66
ACC NR: AT6012382

improved. Aging of AT3 and AT8 after hardening caused a considerable decrease in corrosion resistance. Regardless of the oxygen content and the conditions of heat treatment, the nature of corrosion of the alloy is uniform. Orig. art. has: 5 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 007

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

L 36463-66 EWT(m)/T/EWP(e)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AR6009968 SOURCE CODE: UR/0137/65/000/012/I058/I058

AUTHOR: Tavadze, F. N.; Tskitishvili, M. D.; Mandzhgaladze, S. N.; Lashkhi, T.

51
46
B

ORG: none

TITLE: Effect of small boron additions on the heat and corrosion resistance of multicomponent chromium-manganese alloys

SOURCE: Ref. zh. Metallurgiya, Abs. 12I437

REF SOURCE: Tr. Gruz. in-t metallurgii, v. 14, 1965, 109-122

TOPIC TAGS: boron, austenite, chromium containing alloy, manganese containing alloy, metal hardening, heat resistance, corrosion resistance, solubility

ABSTRACT: A study was made of the relationship between heat and corrosion resistance and structure of austentic Cr-Mn alloys in solid solution (low-alloyed with boron, nitrogen and carbon) composed (in %) of Cr, 15.0; Mn, 15.0; W, 0.5; Mo, 0.5; Nb ~0.5. The heat

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ACC NR: AR6009968

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resistance of alloys was analyzed by the centrifugal method. Corrosion resistance was studied in solutions of HCl, H_2SO_4, HNO_3, formic and oxalic acids. The increase of the solubility of the alloying elements (B, N_2, and C) in the solid solution causes an increase in heat and corrosion resistance; maximum improvement of properties is achieved in the saturation state. Because of its low solubility in the solid solution, B does not promote the improvement of properties of alloys. The quenching of steel with boron from 1150C improves its heat and corrosion resistance. The solubility of B is also increased by complex alloying with N_2. In the normalized state, alloys are characterized by their high properties. Cr-Mn alloys which contain N_2 and C are capable of strengthening the primary protecting films in HNO_3. In H_2SO_4 only carbon-free alloys are in the passive state. In HCl, all alloys are subjected to uniform failure at a considerable rate. In organic acids alloys simultaneously alloyed with B and N_2 have high corrosion-resistance properties, while in wine-making technological solutions, the same high properties are attributed to alloys alloyed with boron. V. Olenicheva. [Translation of abstract] [NT]

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Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHGALADZE, V. P. Cand Biol Sci -- (diss) "On the problem of the effect of extensive resection of the small intestine upon the enzyme-secretory function of its remaining part. (Experimental study)." Tbilisi, 1957. 17 pp (Tbilisi State Univ im I. V. Stalin), 100 copies (KL, 3-58, 96)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHGALADZE, V.P.

Effect of extensive resection of the small intestine on the ferment secreting function of the remaining part of the intestine. Soob. AN Gruz.SSR 18 no.4:475-482 Ap '57. (MLRA 10:7)

1. Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno akademikom K.D. Eristavi.
(INTESTINES--SURGERY)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

ACCESSION NR: AP4031762 S/0251/64/033/003/0549/0556

AUTHORS: Tumanishvili, G. D.; Mandzhgaladze, V. P.; Dzhanelidze, Kh. N.

TITLE: Effect of ionizing radiation on the stimulating properties of tissue extracts (Presented by Academician E. L. Andronikashvili on 2 September 1963)

SOURCE: AN GruzSSR. Soobshcheniya, v. 33, no. 3, 1964, 549-556

TOPIC TAGS: frog liver extract, chicken liver extract, irradiated liver extract, nucleic acid synthesis, DNA liver synthesis, RNA liver synthesis, x ray apparatus RUP 200

ABSTRACT: Experiments were conducted on frogs (Rana ridibunda) injected intraperitoneally with 0.4 ml of chicken liver and frog liver extracts irradiated with a 1000 r dose by means of the x-ray apparatus RUP-200. The injections were administered immediately after surgical removal of a section of the liver. The amount of nucleic acid (DNA and RNA) was determined within 12-96 hours after perfusion of the frogs with 0.14 molar NaCl. The obtained values (divided by the number of nuclei counted under a microscope) were used to gauge the dynamics of stimulation. The details of the technique are given in an earlier paper by G. D.

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

ACCESSION NR: AP4031762

Tumanishvili, V. P. Mandzhgaladze, and G. N. Dzhanelidze (Deystviye ekstraktov pecheni na sintez nukleinovykh kislot v regeneriruyushchey pecheni lyagushki. Biokhimiya, 28, v. 6, 942-950, 1963). It was found that irradiated chicken liver extract had a more pronounced and earlier stimulating effect on the synthesis of nucleic acids than the native extract. Evidence points to the fact that the stimulation by irradiated liver extracts tends to preserve a constant DNA concentration. Orig. art. has: 2 tables and 1 chart.

ASSOCIATION: Academiya Nauk Gruzinskoy SSR, Institut fiziki (Academy of Sciences, Georgian SSR, Institute of Physics)

SUBMITTED: 27Nov63 DATE ACQ: 01May64 ENCL: 00

SUB CODE: LS NO REF SOV: 005 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F., inzhener (Kuybyshev)

Drying wood in petrolatum. Gor.i sel'.stroi. no.7:20 Jl '57. (MLRA 10:10)

(Wood--Drying) (Petrolatum)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F., inzh.

Manufacturing "one-story" size cored blocks. Stroitel' no.1:2-3 Ja '58. (MIRA 11:2)
(Building blocks) (Concrete construction--Formwork)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F.CH., inzh.

MANDZHIKOV, F.Ch., inzh.

Operation of semi-automatized concrete and mortar plants at industrial construction sites. Mekh. stroi. 15 no.1:16-18 Ja '58. (MIRA 11:1)
(Concrete plants)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F., inzh.

Heating aggregates in cylindrical drums. Stroitel' no.1:18 Ja '59.
(MIRA 12:3)

1. Nachal'nik prokatnogo otdela tresta Metallurgtrest.
(Concrete) (Drying apparatus)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

SOSKIND, A.M., inzh.; MANDZHIKOV, F.Ch., inzh.

Using hot gases in heating aggregates of concrete mixes. Energ. stroi. no.4:78-79 '59. (MIRA 13:8)

1. Institut "Orgenergostroy".
(Concrete) (Aggregates (Building materials))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F.Ch.; SAVINKOV, B.N.; USTINENKO, L.P.

Unit for making one story-high concrete ventilation blocks. Suggested by F.Ch.Mandzhikov, B.N.Savinkov, L.P.Ustinenko. Rats.i izobr.predl. v stroi. no.10:32-36 '59. (MIRA 12:11)

1. Po materialam tresta Metallurgstroy Kuybyshevskogo sovnarkhoza. (Concrete slabs)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHIKOV, F. Ch., inzh.

Using pile foundations in constructing industrial buildings.
Prom. stroi. 38 no.8:62-63, 3 of cover '60. (MIRA 13:8)
(Piling (Civil engineering)) (Foundations)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZHOYAN, A.L.; TERZYAN, A.G.; TATEVOSYAN, G.T.

β-(2-methyl-3-indolyl)propionic acid. Sint. geterotsikl. soed. no.4:58-60 '59. (MIRA 13:11)
(Indolepropionic acid)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

L 22120-66 EWT(1) IJP(c)

ACC NR: AF6004920 SOURCE CODE: UR/0056/66/050/001/0062/0068

AUTHOR: Bonchev, Ts.; Aydemirski, P.; Mandzhukov, I.; Nedyalkova, N.; Skorchev, B.; Strigachev, A.

56
13

ORG: Sofia University "Kliment Okhridski" (Sofiyskiy universitet)

TITLE: A study of Brownian motion by means of the Mossbauer effect

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 1, 1966, 62-68

TOPIC TAGS: Mossbauer effect, tin, Brownian motion, resonance absorption, viscous fluid, silicone, glycerin, isotope, gamma quantum

ABSTRACT: The authors have investigated the resonance absorption of γ quanta in Sn^{119} in SnO_2 particles suspended in different liquids. The resonance absorption spectra were obtained with a Mossbauer spectrometer with a moving source having a velocity ranging from 0 to 30 mm/sec. The source was $Sn^{119m}O_2$ kept at room temperature. The absorber temperature ranged from -196 to +250C. Variation of the viscosity of a glycerin suspension by diluting the latter with water, at constant temperature, increased the line width in accordance with the law formulated by Singwi and Sjolander (Phys. Rev. v. 120, 1093, 1960). The same takes place in a

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ACC NR: AP6004920

suspension in a silicone oil whose viscosity is altered by changing the temperature. The results are analyzed from the point of view of the mechanism whereby the γ quantum is absorbed by the SnO_2. It is concluded that in suspensions, unlike ordinary liquids, the absorption does not occur spontaneously, nor does it occur within a certain time interval of the order of the half-life of the nuclear level, but it must be assumed that the suspension particles stay in equilibrium during some time. The absorption of the γ quantum then depends not only on the instantaneous particle velocity but also on the time interval between the jumplike changes of velocity which occur in suspension, which have a statistical nature similar to that of Brownian motion. This feature uncovers interesting possibilities for the investigation of the structure of liquids and of the γ quantum absorption mechanism. Orig. art. has: 8 figures and 10 formulas.

SUB CODE: 20/ SUBM DATE: 09Aug65/ ORIG REF: 008/ OTH REF: 003

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

IANEV, Sp., inzh.; GANEV, P., inzh.; MANDZHUKOV, St., inzh.

A method of determining friction losses. Mashinostroene 13 no.12: 16-18 D '64.

1. Scientific Research Institute for the Design, Development, and Manufacture of Metal-Cutting Machines and Instruments (for IAnev).
2. Machinery and Electrotechnical Institute, Sofia (for Mandzhukov).

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIC, Ahmed, Engineer

Magnetic and transistor device for the formation of teletype impulses. Telekomunikacije 9 no.1:11-15 Ja '60. (EEAI 9:8)

1. Asistent Instituta za nuklearne nauke "Boris Kidric", Vinca, Belgrade.
(Teletype) (Magnetic recorders and recording)
(Transistors)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIC, A., inz.

International Symposium on the Theory of Switching Systems and Limiting Automata. Automatika 4 no.1:70-71 '63.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIC, A.

An international symposium on the theory of switching systems and finite automata. Automatika 4 no.3:204 '63.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIC, A.

"Automation of production, and industrial electronics, an encyclopedia in 4 volumes," edited by A.I. Berg, and V.A. Trapeznikov. Reviewed by A. Mandzic. Automatika 4 no.3:209 '63.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIC, Ahmed, vanredni prof.

Automation in Bosnia and Hercegovina. Automatika 5 no.6:457-458 '64.

1. Dean, Faculty of Electrical Engineering of the University of Sarajevo, Sarajevo.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIUK, W.

Sanitary protection of wells and water pipes. p. 7. (Budownictwo Wiejskie, Vol. 8, No. 7, July 1956, Warsaw, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZIUK WOJCIECH

POLAND / Chemical Technology. Chemical Products and Their Application. Water treatment. Sewage water H-5

Abs Jour : Ref. Zhur. - Khimiya, No 2, 1958, No 5137

Author : Mandziuk Wojciech

Inst : Not Given

Title : Purification of Sewage Water of Silk Textiles Manufacture

Orig Pub : Gaz, woda, techn. sanit., 1956, 30, No 8, 303-305

Abstract : Description of a unit for the purification of sewage water according to the following procedure: coagulation with CaO and $FeSO_4$, settling, treatment in high-load biofilters with recircu-

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

METYUSHEV, B.D.; PETROVA, R.S.; MANDZYUK, A.I.

Analytical relations in the system ethanol - isobutyl. Izv.vys. ucheb.zav.; pishch.tekh. no.1:123-127 '64. (MIRA 17:4)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti, kafedra vysshey matematiki i kafedra brodil'nykh proizvodstv.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZYUK, A. I.

K voprosu o postroyenii nomogramm. M., Trudy zootekhn. in-ta, 4(1936), 121-132. Nomogrammy s nemym binarnym polem. M., Uchen, zap. Un-ta. 28(1939), 71-74. O bobshcheniye teoremy prof. D. D. Mordukhay-Boltovskogo o kuadratichnykh diametrakh krivoy tret'ego poryadka. M., Trudy zootekhn. in-ta, 4(1936), 133-135. O nekotorykh teoremakh frof. D. D. Mordukhay-Boltovskogo i yaponskogo matematika ogino shazaki. L., Trudy Nauchnotekhn. Konfer. Voyenno-transp. Akad. SB., 2(1938), 61-64. Primeneniye odno-chetyrekhznachnogo sootvetstviya k razresheniyu osnovnoy konstruktivnoy zadachi, otnosyashcheysya k involyutsii tret'ego poryadka vtorogo izmereniya. L., Trudy Nauchno-Tekhn. Konfer. Voyenno-transp. Akad , SB., 2(1938), 67-72.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.,
Markushevich, A. I.
Rashevskiy, P. K.
Moscow-Leningrad, 1948

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANDZYUK, A.I.

Mandzyuk, A. I. On some many-valued correspondences in projective geometry. Ukrain. Mat. Žurnal 5, 439–452 (1953). (Russian)

This is a critical survey of the dissertation of K. A. Andreev [Mat. Sbornik 9, 361–434 (1879)], the dissertation of A. K. Vlasov [Učenye Zapiski Imp. Moskov. Univ. Otd. Fiz.-Mat. 25 (1911)] and paper of A. A. Glagolev [C. R. (Doklady) Acad. Sci. URSS (N.S.) 54, 291–292 (1946); these Rev. 8, 483]. It is pointed out that an incomplete proof of Andreev on the construction of further corresponding pairs in a 2-2 correspondence between two line pencils from 9 given pairs was later (independently) completed by R. Sturm. The only new contributions of the author are: (1) an outline of a method of filling similar gaps in the construction of further corresponding pairs in 3-3 correspondences from 15 given pairs; (2) a method of making Vlasov's results more easily accessible by using higher-dimensional spaces. *H. Busemann* (Copenhagen).

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Rumania

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RUMANIA/Cosmochemistry - Geochemistry - Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24603

Author : Nitulescu, I., Manea, A.
Inst : -
Title : Structural Connection of Pyrite with Petrographic Components of Coal in the Jiului Valley.

Orig Pub : Rev. minelor, 1957, 8, No 6, 253-254, 292-297

Abstract : In relation to coal, two varieties of pyrite have been determined: a syngenetic and an epigenetic which was deposited along the fissures and planes of stratification during the filtration of iron containing solutions.

Card 1/1

15

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Equivalent generator in the study of static stability. In French p.221

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"Rapid Regulating Possibilities of a Rheostatic Voltage Regulator with Rolling Sections. Use of the "Hecan" Analog Computer for Studying the Stability of Adjustment of an Asynchronous Machine."

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RUMANIA

BALMUS, G., LUNGU, Micaella, NASTAC, Elizabeta, RUTTER, G., STOIAN, M., CAPOTA, Stela, and MANEA, Tanta, of the Institute of Inframicrobiology (Institutul de Inframicrobiologie) of the Academy of the Socialist Republic of Rumania (al Academiei Republicii Socialiste Romania).

"Experimental Studies in Murine Leukemia. X. The Pathogenetic Character of a Suspension of Human Fibroblast Cells Infected with Virus C57 for the Developing Chick Embryo."

Bucharest, Studii si Cercetari de Inframicrobiologie, Vol 17, No 2, 66, pp 105-109.

Abstract: The authors found that a suspension of 1,000,000 human fibroblast cells inoculated in vitro with virus C57 brought about the death of developing chick embryos in 100 percent of the observed cases. Death occurred after 3 to 5 days; the lesions observed were of the infiltrative and particularly of the proliferative type.

Includes 7 figures and 10 references, of which 5 Rumanian and 5 English-language. -- Manuscript submitted 3 January 1966.

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Calculation of the apparent mass for elongated hulls.

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On the Torsion of Certain Cylindrical Rods

Hamburger, L.; Dincă, Fl.; and Manea, V. Sur la torsion de certaines barres cylindriques. Acad. R. P. Romîne. Stud. Cerc. Mec. Apl. 8 (1957), 1091–1100. (Romanian. Russian and French summaries)

Dans la première partie du travail, on construit la fonction qui réalise la transformation conforme de l'intérieur du cercle unitaire sur l'intérieur d'un profil, ayant pour frontière deux courbes lisses, qui s'entrecoupent sous deux angles différents.

Dans la seconde partie, on indique une méthode de calcul approximative, utile dans le cas où l'intégrale de Schwartz, donnant la solution du problème, ne peut être effectuée sous forme fermée. *Résumé de l'auteur*

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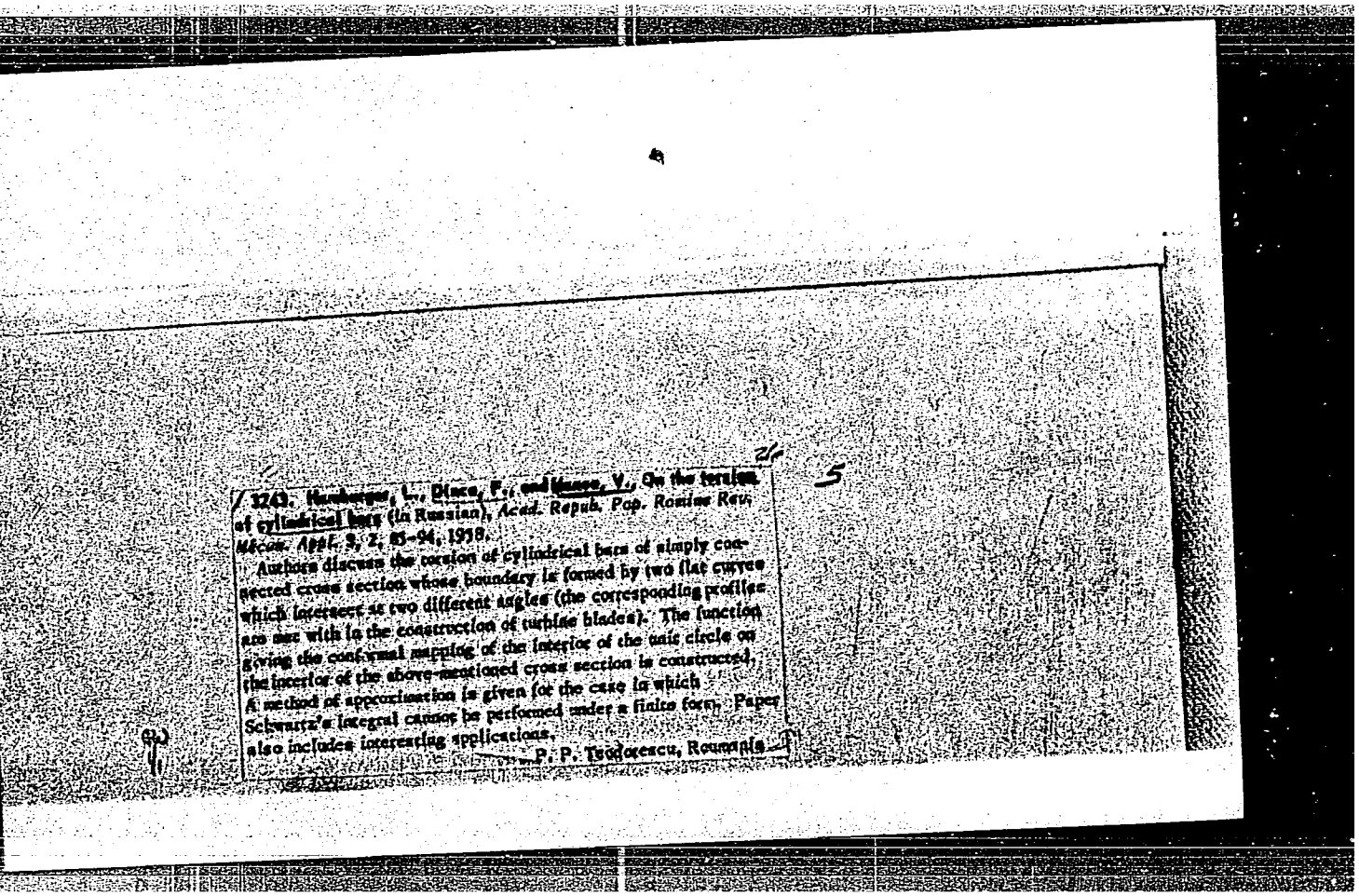

1243. Hamburger, L., Dinca, F., and Vasaru, V., On the torsion of cylindrical bars (in Russian), *Acad. Repub. Pop. Romine Rev. Mécan. Appl.* 3, 2, 85–94, 1958.

Authors discuss the torsion of cylindrical bars of simply connected cross section whose boundary is formed by two flat curves which intersect at two different angles (the corresponding profiles are met with in the construction of turbine blades). The function giving the conformal mapping of the interior of the unit circle on the interior of the above-mentioned cross section is constructed. A method of approximation is given for the case in which Schwartz's integral cannot be performed under a finite form. Paper also includes interesting applications.

—P. P. Teodorescu, Roumania

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3244. Manea, V., Torsion of external radially grooved crankshafts (in Roumanian), *Studii si Cercetari Mecan. Appl.* 9, 2, 423-433, 1958.

Computation of the torsion of external radially grooved crankshafts is reduced to a set of infinite linear algebraic equations by means of certain series development. Both the crankshaft rigidity and the shear stresses that occur are calculated. Results are applied to two particular cases.

P. P. Teodorescu, Roumania

Distr: 4E2b(w)

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Manca, V.

Torsion of a hollow axle with radial internal or external grooves. p. 1035.

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

Monthly List of East Accessions (EEAL) LC Vol. 9, No. 2, January 1960.

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AUTHORS: Manea, V., Procopovici, E.

TITLE: An Extension of the Solution of the Torsion Problem of Some Turbine Blades

PERIODICAL: Studii si Cercetări de Mecanică Aplicată, 1959, Nr 1, pp 203 - 209 (RUM)

ABSTRACT: Studying the bending and the torsion of some turbine blades, Jan Polasek and Ladislav Spacek [Ref 1] give the solution for only a special type of blade shape, obtained by the transformation:

$$z_1 = \left(\frac{1+\zeta}{2}\right)^{\tau}, \quad 0 < \tau < 1. \qquad (1).$$

If $\tau = \frac{1}{2}$, one obtains the Benoulli's lemniscate, which is also treated by N.I. Mesulishviliy [Ref 2]. The authors first consider the function:

$$z_1 = c_1 \left(\frac{1+\zeta}{2}\right)^{\tau}, \quad 0 < \tau < 1, \qquad (3),$$

which transforms the unity circle into a symmetric biconvex shape, having the dehydral angle equal with $\tau\pi$, and the chord equal with c_1, and accomplish then the transformation:

$$z = (z_1 - z_0)^m, \qquad (4).$$

In case that $m = 2$, the Ox_1 axis is transformed into a parabola (Figure 1).

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An Extension of the Solution of the Torsion Problem of Some Turbine Blades

Inserting $y_1 = 0$ in (4), they obtain:

$$x = (\alpha - x_1)^2 - \beta^2, \quad (5)$$

and $$y = 2\beta(\alpha - x_1) \quad (5').$$

After eliminating they derive the equation of the parabola:

$$x = \frac{y^2}{4\beta^2} - \beta^2, \quad (6),$$

the shape of which is depending on the value selected for β. The c_1 chord of the symmetric biconvex shape is bended and becomes a parabola arc, thus the obtained shape has the chord "c" and the "f" rise given by the formulae:

$$c = c_1 \sqrt{(c_1 - 2\alpha)^2 + 4\beta^2} \quad (7),$$

$$f = \frac{\beta c_1^2}{2} \frac{1}{\sqrt{(c_1 - 2\alpha)^3 + 4\beta^2}} \quad (8).$$

In case of thin shapes, the parabola arc $\overline{AB}$ represents the shape skeleton, which allows the evaluation of its curving by the relation (8). The corresponding coordinates of the leading and trailing edges can be deter-

Card 2/ 5

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

An Extension of the Solution of the Torsion Problem of Some Turbine Blades

mined by the relations (5) and (5'), by taking for the first $x_1 = c_1$ and for the latter $x_1 = 0$. The resulting shapes have a more evenly distributed thickness along the chord. The tracing of the shapes can be easily accomplished by using the polar coordinates. Choosing the point $P(x_o)$ named modeling pole (Figure 1), it can be established that if $z_1 - z_o = \rho_1 e^{i\tau} 1$, then on the base of the used transformation (4) z is: $z = \rho e^{i\tau} = (z_1 - z_o)^m = \rho_1^m e^{im\tau_1}$. Thus, the vector radius ρ of the point "M_1" from the plane "z_1" corresponds in the "z" plane the vector radius $\rho = \rho_1^m$, the angles having the relation $\tau = 2\tau_1$. The profile can be graphically constructed with all these elements. If $m > 2$, the real axis of the z_1 plane is transformed in a curve which can be determined in the same way. If $m = 3$, the $0x_1$ axis is transformed into a folium of Descartes. Shapes with rounded trailing edges can be obtained on the basis of the transformation (3). A smaller curved radius at the trailing edge can be obtained the smaller δ is. Using the transformation (4) in a similar way, shapes of different curvings with rounded trailing edges can be obtained. An approximate method given in [Ref 5] is being used for the solution of the torsion problem of turbine blades having a shape mentioned in subject article.

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An Extension of the Solution of the Torsion Problem of Some Turbine Blades

Starting with a complex function of torsion:

$$f(\zeta) = \varphi + i\psi \,, \tag{10}$$

the authors deduce

$$C_n = \int \frac{|z(\sigma)|^2}{\sigma^{n+1}} \, d\sigma \,, \tag{12}$$

and

$$|Z(\theta)|^2 = k^2 |z(\theta)|^2 = k^2 \left(\frac{\alpha_o}{2} + \sum_1^\infty \alpha_n \cos n\theta + \beta_n \sin \theta \right) \tag{14},$$

which lead to:

$$C_n = k^2 \pi (\beta_n + i\alpha_n), \tag{15}$$

and

$$f(\zeta) = \frac{k^2}{2} \sum_0^\infty (\beta_n + i\alpha_n) \zeta^n \tag{16}.$$

The torsion rigidity [Ref 2] expressed by:

$$D = \mu (D_o + I) \tag{17}$$

in which:

$$D_o = -\frac{k^4 \pi}{4} \sum_0^\infty (\alpha_n^2 + \beta_n^2), \tag{18},$$

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An Extension of the Solution of the Torsion Problem of Some Turbine Blades

$$I = \frac{k^4}{4} \int_{\Gamma} | z(\tau) |^4 \, d\tau , \qquad (19).$$

The complex effort is determined by the known formula and the angle of specific twisting by the formula: $\omega = \frac{M_t}{D}$.

For the practical solution it has been observed that the function $|z(\theta)|^2$ can be represented graphically. $|z(\tau)|^4$ necessary for the integration of (19) is also graphically traces. The recommended problem can thus be completely solved. In the present case, the integral equation (12) can be analytically solved, which is reduced to the sum of Euler integrals of the first species.

There are: 3 sets of diagrams and 7 references, 3 of which are Rumanian, 2 English, 1 Russian and 1 Czechoslovakian.

SUBMITTED: October 9, 1958

Card 5/5

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, V.

On the torsion of the axles with radial grooves. In Russian. p.529.

REVUE DE MECANIQUE APPLIQUEE. (Academia Republicii Populare Romine. Institutul de Mecanica Aplicata)
Bucuresti, Rumania
Vol. 4, no. 3, 1959.

Monthly list of Eastern European Accession Index (EEAI) LC vol. 8, No. 11
November 1959
Uncl.

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23656

R/008/60/000/004/004/018
A125/A126

10 9020

AUTHOR: Manea, V.

TITLE: Extended use of the Darcy Law

PERIODICAL: Studii şi Cercetări de Mecanică Aplicată, no. 4, 1960, 865 - 875

TEXT: The author examines the possibilities for an extended use of the Darcy Law $V = kj$ (1). After briefly referring to N. P. Puzrevskiy and K. Terzagi, C.A. Khristianovich, and N. N. Pavlovski, he derives the differential equation of the fluid motion through porous media:

$$\frac{d\bar{V}}{dt} = -\frac{1}{\rho}\nabla p + m\bar{f}_e - q\bar{V} \qquad (4)$$

in which V = the filtration speed, m = porosity coefficient, $\bar{f}_e$ = the field of external forces applied to the mass unit and $-q\bar{V}$ is taken from the function: $m\bar{R} = -q\bar{V}$, (3), $\bar{R}$ being the filtration resistance referred to the mass unit. This equation shows that in case m = 1, there is an ideal flow, and in case m = 0, the flow speed is zero. The author completes the equation (4) to obtain a Navier-

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23656

R/008/60/000/004/004/018
A125/A126

Extended use of the Darcy Law

-Stokes equation, i.e., the flow of a viscous fluid. On the impermeable walls which limit the respective porous media, the filtration speed is zero. In case of free surfaces which limit the porous medium, the pressure is equal to the external pressure. The author then studies several simple flow examples. He first considers a two-dimensional stationary flow through a porous medium, limited by two parallel plane walls of an incompressible fluid neglecting the field of external forces. The flow through a porous medium with low permeability is slightly influenced by the pressure of the walls. More interesting is the flow in the vicinity of the wall. This consideration requires a smooth surface and an adherence of the fluid to the wall. If the surface presents a certain roughness, the flow along the surface can be assumed to be a flow through a medium with a porosity varying between 0 and 1. The author has tried to explain in subject article the extension possibilities for the application of Darcy's Law, or eventually a more general law. In case of hydromechanical flows around bodies one can assume the roughness to be a medium of variable porosity, having a certain thickness. Thus, interesting results regarding the friction of the fluid on the surface of the body arround which it flows, can be obtained. There are 6 figures and 4 Soviet-bloc references.

SUBMITTED: February 6, 1960

Card 2/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

R/008/62/013/003/003/006
D272/D308

AUTHOR: Manea, V.

TITLE: Non-linear equations of motion of a continuous deformable medium in any curvilinear coordinates

PERIODICAL: Studii şi cercetări de mecanică aplicată, no. 3, 1962, 669 - 680

TEXT: The non-linear equations of motion of a deformable continuous medium established earlier for a tri-orthogonal straight-line coordinates system are now generalized for a system of any curvilinear coordinates, after first determining the velocity of deformation of such a medium and the variation of the tensions in it with time. These generalized equations are then applied to the particular case of a system of orthogonal curvilinear coordinates. Further simplification to a system of orthogonal rectilinear coordinates yields the results of the previous paper.

SUBMITTED: February 22, 1962

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

R/008/62/013/004/001/002
D409/D301

AUTHOR: Manea, V.

TITLE: On linearization of the equations of motion of a continuum

PERIODICAL: Mecanică aplicată, v. 13, no. 4, 1962, 903-910

TEXT: The author linearizes the equations of motion of the following two types of media: a) elastic, homogeneous and isotropic, and b) viscous, homogeneous, isotropic and incompressible fluids. In his work (Ref. 1: Mecanică aplicată 2, 1962), the author obtained the equation of motion in vectorial form:

$$\frac{\partial \bar{\sigma}_{x_i}}{\partial X_i} + \rho\left(\bar{F} - \frac{d\bar{V}}{dt}\right) + \int_{t_0}^{t} \bar{M}\,(X_i, t)\,dt = 0, \qquad (i = 1, 2, 3) \qquad (1)$$

which holds for $t > t_0$. The vector $\bar{M}$ is expressed by

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

On linearization of the equations ...

$$\bar{M} = \frac{\partial}{\partial X_i}\left(\dot{\alpha}_i \bar{\sigma}_{x_i} + \sigma_{x_i x_k} \dot{\bar{\tau}}'_k\right) + \left(\frac{\bar{V}}{X_i}\nabla\right)\bar{\sigma}_{x_i} + \rho\nabla\bar{V}\left(\bar{F} - \frac{d\bar{V}}{dt}\right), \quad (2)$$

where $\bar{\sigma}_{x_i}$ is the stress vector, $\dot{\alpha}_i$ are the components of the strain-rate vector, $\dot{\bar{\tau}}'_k$ is related to the velocity vector, strain-rate vector and to the unit vectors $\bar{\tau}_i$ of the coordinate-axes, $\nabla = \bar{\tau}_i \frac{\partial}{\partial X_i}$. Simplifying assumptions are made, and equation 1 is rewritten. The equation obtained is still fairly complicated. It is further simplifying for the types of continua under consideration: a) elastic and b) fluid. In the first case, the equation is rewritten in tensor form, Hooke's law is adopted, and Lamé's generalized equation is obtained. Neglecting the influence of surface strain and dropping the last terms in this equation, one obtains

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

On linearization of the equations ...

$$(\lambda + \mu)\frac{\partial \theta'}{\partial x_k} + \mu \Delta u_k' + \rho\left(F_k' - \frac{\partial^2 u_k'}{\partial t^2}\right) + \frac{\partial}{\partial x_i}\left(\frac{\partial u_k'}{\partial x_j}\sigma^0_{x_i x_j}\right) = 0,$$

$$(i,j,k = 1,2,3;\ j \neq k), \qquad (14)$$

which can be used in applications; $\sigma^0_{x_i x_j}$ is determined from the equation

$$\frac{\partial \sigma_{x_i x_j}}{\partial x_i} + \rho F_j^0 = 0, \qquad (15)$$

with the corresponding boundary-conditions. The author, however, does not dwell on the boundary conditions. In the second case (viscous fluid-flow), the author obtains a linearized equation which can be further simplified in particular cases; thus, one could assume that the viscous perturbed flow is superposed on an initial motion with- or without friction. The most important English-language reference reads

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

On linearization of the equations ... R/008/62/013/004/001/002
D409/D301

as follows: C.C. Lin, Some mathematical problems in the theory of the stability of parallel flows. J. of Fluid Mechanics, 10/3 May (1961). /B.

SUBMITTED: April 28, 1962

Card 4/4

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, V.

On the theory of elastic plane plates of mean thickness.
Rev mec appl Roum 9 no.6:1361-1380 '64.

1. Institute of Applied Mechanics of the Rumanian Academy, Bucharest. Submitted July 17, 1964.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, V.

A theory of elastic plane plates of medium thickness. Studii cerc mec apl 17 no.6:1513-1532 '64.

1. Institute of Applied Mechanics, Rumanian Academy. Submitted July 17, 1964.

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ACCESSION NR: AP5014660 RU/0019/65/010/002/0333/0350

539.3:517.9

21
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13

AUTHOR: Manea, V.

26

TITLE: On the nonlinear theory of thin elastic plates without considering the Love-Kirchhoff hypothesis

SOURCE: Revue Roumaine des sciences techniques. Serie de mecanique appliquee, v. 10, no. 2, 1965, 333-350

TOPIC TAGS: elastic plate, plate bending, plate flexure, thin plate 26

ABSTRACT: The author uses some previous results of his work (Rev. Roum. Sci. Techn.-Mec. Appl. 1964, v. 9, no. 1, and no. 2) concerning the nonlinear equations of motion of a continuous medium and a formulation of the theory of thin elastic plates, to develop nonlinear equations for thin elastic plates in a formulation independent of the Love-Kirchhoff hypothesis. The conditions for dynamic equilibrium of the plates is expressed in terms of forces and moments, with account taken of some geometrical nonlinearities. Nonlinear equations of thin elastic plates are expressed in terms of displacements and equations are derived which can be used to study in a nonlinear approximation the bending of plates, especially their elastic

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buckling. On the basis of the analysis it is concluded that the classical formulation is approximate and that the proposed equations can improve the accuracy of the results. Orig. art. has: 59 formulas. [02]

ASSOCIATION: Institute of Applied Mechanics of the Academy of the RPR

SUBMITTED: 10Dec64 ENCL: 00 SUB CODE: AS

NO REF SOV: 002 OTHER: 005 ATD PRESS: 4033

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, V.

Preliminary note on the Hydroidea along the Rumanian littoral of the Black Sea. p. 149.

STUDII SI CERCETARI DE BIOLOGIE. SERIA BIOLOGIE ANIMALA. Bucuresti. Vol. 11, No. 2, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1, January 1960.

Uncl.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, Vasile; SKOLKA, Hilarius

Marine microphytobenthos of the littoral of Chituc, Comunicarile AR 11 no.5:535-538 My '61.

1. Statiunea de cercetari marine, Constanta. Comunicare prezentata de Th.Busnita, membru corespondent al Academiei R.P.R.

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MANEA, Vasile

New hydroids in the Rumanian waters of the Black Sea. Comunicarile AR 11 no.7:845-853 '61.

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BECHESKU, M. [Bacescu, M.] GOMOIU, M. T. [Gomoiu, M. T.]; BODIANU, N. [Bodeanu, N.]; [illegible], Adriana; MIULLER, G. "Miuller, G.] MANIA, V. [Manea, V.]

Ecologic investigations of the Black Sea. Rev biol 7 no. 4: 561-582 '62.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001032120008-4

MANEA, V.

Computing thin elastic circular plates in theory without the Love-Kirchhoff hypothesis. Studii cerc mec apl 14 no. 6:1277-1302 '63.

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