"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALTYNOVA, A.L.

Effect of the arragnement of exhaust outlets on the motion of onflowing streams. Vod. i san. tekh. no. 12:12-14 D '60. (MIRA 14:4)
(Ventilation)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

SOV-117-58-8-21/28

AUTHOR: Altyntsev, A.N.

TITLE: Fire Pump Made from the Block of an Automobile Engine (Pozharnyy nasos iz bloka avtomobil'nogo motora)

PERIODICAL: Mashinostroitel', 1958, Nr 8, p 40 (USSR)

ABSTRACT: The block of an old motorcar can be transformed into a fire pump. If the pistons in the cylinders go upward, a vacuum is formed. The inlet valves open and water flows into the collector, from which it is pressed into the fire hose. The pressure in the collector reaches 3-4 atm. The water jet attains a height of 10-12 m.
There is 1 diagram.

1. Fire pumps 2. Gasoline engines - Applications

Card 1/1

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALTYNTSEV, A.N.

Screwdriver with hatchet gearing. Mashinostroitel' no. [illegible]27 My '64. (MIRA 17.7)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

BORISENKO, S.A., inzh.; ALTYN-PARA, L.F., inzh.

Production of spirally welded pipe. Stal' 23 no.9:826-829 S '63. (MIRA 16:10)

1. Zhdanovskiy metallurgicheskiy zavod im. Il'icha.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALTYPARMAKOV, Anton; SHIFMAN, N.D.[translator]; BOGUSH, L.K., red.; GROMOVA, L.S., red.; MIRONOVA, A.M., tekhn. red.

[Bronchoscopy and bronchography] Bronkhoskopiia i bronkhografiia. Pod red. L .K.Bogusha. Moskva, Medgiz, 1961. 126 p. (MIRA 15:4)

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Bogush).
(BRONCHI--RADIOGRAPHY) (BRONCHOSCOPY)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALTYREV, A. (g.Stalino)

There is no dust in the stope. Okhr.truda i sots.strakh. no.3:78 Mr '59. (MIRA 12:4)
(Dust collectors)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALTYTSER, I.

Bank control over the production and financial planning on collective farms. Den. i kred. 21 no.10:49-52 O '63. (MIRA 16:10)

1. Starshiy ekonomist Odesskoy kontory Gosbanka.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

22566
S/190/61/003/005/009/014
B110/B220

15.9000 1436, 2209

AUTHORS: Dogadkin, B. A., Tutorskiy, I. A., Tugov, I. I., Al'tzitser, V. S., Krokhina, L. S., Shershnev, V. A.

TITLE: The chemical modification of vulcanizates. I. The reaction of vulcanizates with styrene, methyl methacrylate, and isoprene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 5, 1961, 729-733

TEXT: The chemical modification of vulcanizates is completely new and hardly mentioned in literature. The purpose of the present paper was to study the chemical modification process caused by copolymerization of the vulcanizates with the monomer. Natural rubber (I) or a mixture of natural rubber and butadiene styrene rubber СКС-30 (SKS-30) (II) were disintegrated to particles of about 1 mm, scrubbed in the Soxhlet with acetone, and filled into a weighed ampulla. The monomer (purified styrene, methyl methacrylate, or isoprene) was added in quantities assuring the uniform swelling of the vulcanizate. Then the ampulla was sealed and heated in

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The chemical...

an oil thermostat. Conversion of monomer and yield in graft polymer were determined by weight. The product of copolymerization was extracted with the hot solvent of the formed homopolymer: methyl ethyl ketone for polystyrene, acetone for polymethyl methacrylate, benzene for polyisoprene. In order to initiate the copolymerization process the vulcanizates were ozonized first of all in a suspension of CCl_4 to introduce functional (probably peroxide) groups. One has made use of the ozonizer developed by the Kafedra gazovoy elektrokhimii MGU im. Lomonosova (Department for Gas Electrochemistry of the Moscow State University imeni Lomonosov). The experimental temperatures were: 60, 100, 110, 150, and 180°C. The curves of kinetic copolymerization of non-ozonized I and II are represented in Figs. 2a and 6. In case the vulcanizate had been ozonized previously, a large fraction of the isoprene added polymerized already at 60°C. A considerable part of the polymerized isoprene forms with the vulcanizate a graft polymer (Fig. 6). Also for the copolymerization of methyl methacrylate with vulcanizate, its previous ozonizing raises the reaction rate and yield in graft polymer (Fig. 7). The active centers of the rubber existing in the vulcanizate (double bonds and α-methylene groups)

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The chemical...

are able to act as branching points in the chain of the trimeric polymer and, thus, form the graft polymer. Moreover, the initial polymerization may be effected by oxygen-containing groups existing on the surface of the crushed vulcanizate. The surface increase effected by adsorption of monomers on the crushed polymerizate also accelerates the reaction. When polymerizing the non-ozonized vulcanizates with styrene at 150-180°C, the polymerization reaches its maximum already after the first 2 to 3 hr and then remains constant, since the thermopolymerization of styrene is practically completed. With a decrease in temperature of polymerization the yield in copolymers increases as compared to the total monomer polymerized. Yu. M. Yemel'yanov assisted in the experiments. There are 7 figures and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The two references to English-language publications read as follows:
Ref. 1: R. I. Ceresa, W. F. Watson, Trans. and Proceed 35, 19, 1959.
Ref. 4: I. Green, E. F. Sverdrup, Industr. and Engng. Chem. 48, 2138, 1956.

Card 3/8 4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

The chemical...

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova (Moscow Institute of Fine Chemical Technology imeni Lomonosov) Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (All-Union Scientific Research Institute of Film Materials and Artificial Leather)

SUBMITTED: July 25, 1960

Fig. 2: kinetics of copolymerization: Legend: a) Vulcanizate of natural rubber with styrene; b) vulcanizate of natural + SKC-30 rubber with styrene. Full-line curves = styrene conversion; broken-line curves = yield in graft polystyrene. Temperature of polymerization: 1) = 110°C; 2) = 150°C; 3) = 180°C. c) time of polymerization, hr.

Card 4/8 4

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

L 14946-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3003795 S/0190/63/005/007/1059/1061

AUTHORS: Al'tshuler, V. S.; Sheremev, V. A.; Tutorskiy, I. A.; Dogadkin, B. A. 73 71

TITLE: Chemical modification of vulcanizates. 2. Reaction of comminuted vulcanizates with p-tert.butylphenylformaldehyde resin

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 7, 1963, 1059-1061

TOPIC TAGS: vulcanizate, revulcanization, butylphenylformaldehyde resin

ABSTRACT: Revulcanization of natural vulcanized rubber by means of p-tert.butylphenolformaldehyde resin (BPF) was conducted on samples of natural vulcanized rubber without previous regeneration of the latter. The comminuted vulcanized rubber was mixed with BPF, followed by heating within a 140-180C range for 20-120 min. periods in the presence of zinc chloride or stannous chlorides as activators. The amount of bound resin was estimated by the difference between the added and the acetone-extractable resin. It was found that at an early stage nearly 90% of the resin became bound to the vulcanizate. The effect of vulcanization was checked by means of the swelling test in xylene. It was found that at 160C the addition of from 10 to 60% of BPF reduces within 30 minutes the percentage of swelling of the vulcanizate from 370 to 221, with further reduction to 201 within 120 min. The

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

L 14946-63
ACCESSION NR: AP3003795

authors claim that a superior vulcanized polymer is obtained which possesses a higher temperature of plastic flow as well as greater strength, which is attributed to a chemical process where the hydrocarbon end of EPF becomes linked to the original vulcanized rubber material. Orig. art. has: 1 chart and 1 table.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova, vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (Moscow Institute of Fine Chemical Technology, All-Union Scientific Research Institute of Layered Materials and Synthetic Leather)

SUBMITTED: 03Jan61 DATE ACQ: 08Aug63 ENCL: 00

SUB CODE: CH NO REF SOV: 001 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AL'TZITSER, V.S., nauchnyy sotrudnik; TUGOV, I.I., kand. tekhn. nauk

Reclaiming of rubber obtained in the complex processing of worn-out tire treads with the swelling method. Nauch.-issl. trudy VNIIPIK no.14:15-25 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AL'TZITSER, V.S.; TUGOV, I.I.; ROGOV, V.M.; POMERANTSEVA, T.K.

Manufacture of water pipes of secondary polymer materials for agriculture. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. 16 no.8:23-25 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AL'TZITSER, V.S.; SAFRONOV, Yu.M.; TUGOV, I.I.; ROGOV, V.M.

Roof materials based on used resins. Biul.tekh.-ekon.inform.Gos. nauch.-issl.inst.nauch.i tekh.inform. no.12:17-18 '63. (MIRA 17:3)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

L 43099-65 EWT(m)/EPF(c)/EPR/ENP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM
ACCESSION NR: AP5008365 S/0190/65/007/003/0417/0419

AUTHORS: Al'tzitser, V. S.; Gul', V. Ye.; Tutorskiy, I. A.; Shershnev, V. A.; Dogadkin, B. A.

TITLE: Copolymerization of ozonated pulverized vulcanizers with polyacrylate esters

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 3, 1965, 417-419

TOPIC TAGS: rubber, copolymerization, ozone, vulcanizer, resin/ SKI vulcanizer, NK vulcanizer, SKS 30 ARM vulcanizer, SKB vulcanizer, SKD vulcanizer

ABSTRACT: This article, the third of the series "Chemical Modification of Vulcanizers," presents data from an investigation of the interaction between ozonated pulverized vulcanizers and polyacrylate esters. Vulcanizers SKI, NK, SKS-30 ARM, SKB, and SKD, and polyester resin MGF-9 were tested. Figure 1 shows the amount of peroxides formed by ozone and various vulcanizers. These peroxide groups, though stable at room temperature, readily decompose upon heating, and apparently form free radicals, initiating polymerization. Heating of ozonized pulverized vulcanizers with polyester resin causes the hardening of the mixture. Modified products formed during the latter process show properties common to both substances, the elastic vulcanized rubber, and the oil-, gasoline-, and heat-resistant polyacrylate ester.

Card 1/3

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

L 43099-65
ACCESSION NR: AP5008365

The authors postulate that the vulcanizate particles are bound chemically with the polyacrylate ester molecules, forming a composite three-dimensional polymer structure. Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 06May64 ENCL: 01 SUB CODE: OC, MT

NO REF SOV: 003 OTHER: 000

Card 2/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

KHOROSHAYA, Ye.S., kand. khim. nauk; KOROL'KOVA, K.D., mladshiy nauchnyy sotrudnik; AL'TZITSER, V.S., mladshiy nauchnyy sotrudnik; Prinimali uchastiye: YELISEYEVA, L.I.; ANYUTINA, N.S.; TUGOV, I.I.; SHAKHNINA, L.V.

Rapid method for analyzing swollen rubber chips obtained in the complex processing of worn-out tire treads. Nauch.-issl. trudy VNIIPIK no.14:170-177 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

MARUSCIAC, D.; POP, V.; MORUSCA, I.; HOSSU, T.; ALIAS, V.

Study on some methods of soil consolidation in the Cluj region in view of their utilization in agrozootechnical construction. Bul stiint polit Cluj 6:171-186 '63.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUCHNA, G.

Distr: 4E2c(j)/4E3d

Some highly nitrated triphenyl diethers. K. Okoń and G. Aluchna (Wojsk. Akad. Tech., Warsaw). *Biul. Wojskowej Akad. Technicznej im. J. Dąbrowskiego* 7, No. 38, 49–55(1957).—The *o*-, *m*-, and *p*-*bis*(*2,4,6-trinitrophenoxy*)-*benzenes* were prepd. by O.'s method (*C.A.* 52, 20152i). It was observed that the yellow *m-isomer* became violet in the air. Nitration with a 1:1 mixt. of HNO_3 (d. 1.52) and H_2SO_4 (d. 1.84) at 90° for 5–8 hrs. afforded, after crystn. from AcOH or acetone, the colorless *1,2-bis*(*2,4,6-trinitrophenoxy*)-*4,6-dinitrobenzene*, m. 308–10° (decompn.), *1,3-bis*(*2,4,6-trinitrophenoxy*)-*2,5-dinitrobenzene*, m. 280° (decompn.), and *1,4-bis*(*2,4,6-trinitrophenoxy*)-*2,5-dinitrobenzene*, m. 327° (decompn.). These *explosives* were slightly stronger than trotyl.

J. Stecki

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

OKON, K.; ALUCHNA, G.

Chlorides of the acid form of nitroparaffins. Bul Ac Pol chim 7 no.2:83-86 '59. (EEAI 9:7)

1. Military Technical College, Warsaw. Presented by T.Urbanski.
(Chlorides) (Paraffins) (Acids)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

OKON, Kazimierz; ALUCHNA, Grzegorz; LUKIANIUK, Jerzy

On some polynitro aryl ethers. Rocz chemii 34 no.5:1455-1459 '60.
(EEAI 10:9)

1. Military Technical College, Warszawa.

(Ethers) (Nitro group)

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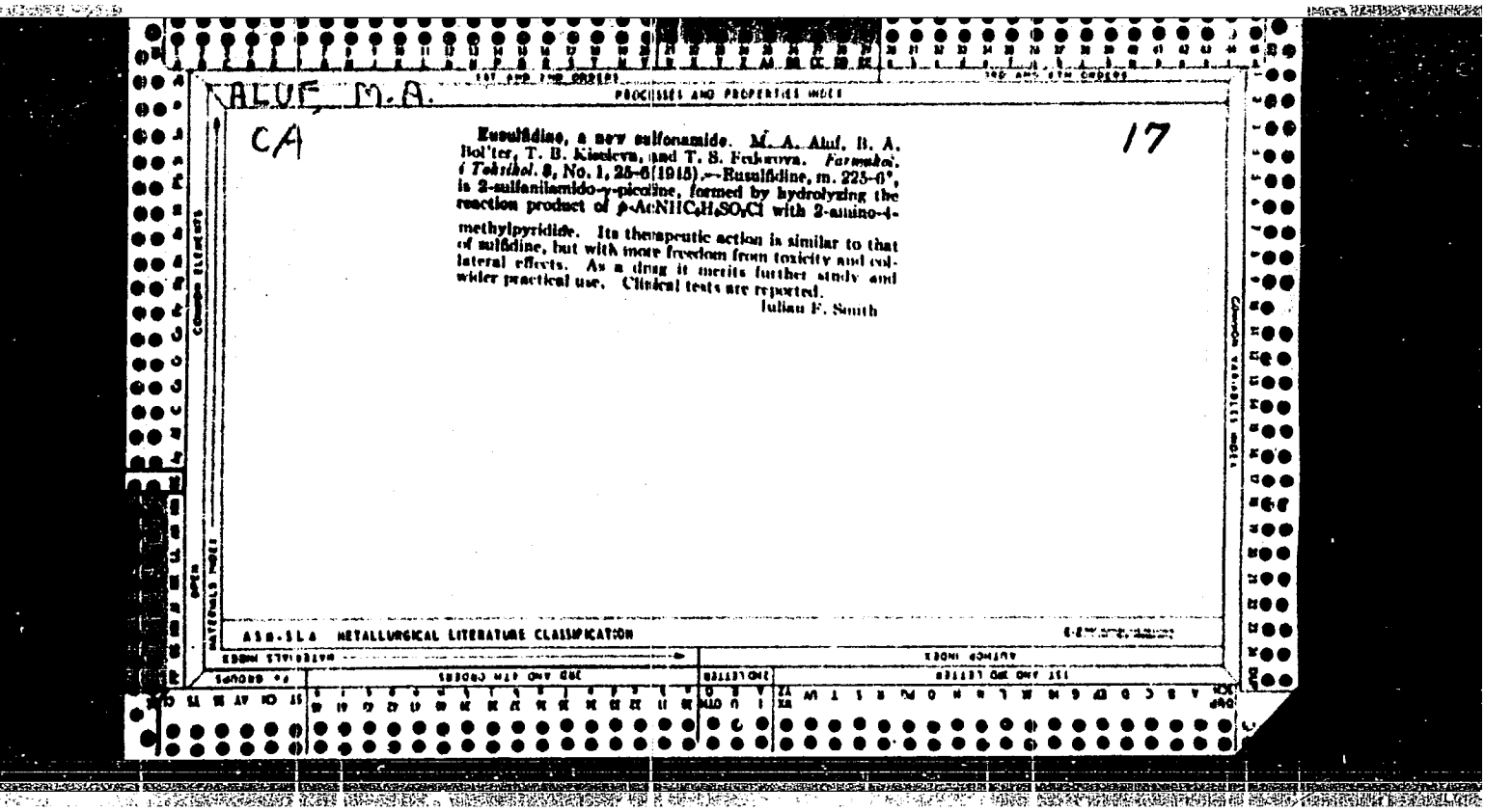

ALUF, M.A.

CA

17

Rusulfidine, a new sulfonamide. M. A. Aluf, B. A. Bol'ter, T. B. Kiseleva, and T. S. Fedorova. *Farmakol. i Toksikol.* 8, No. 1, 25-6(1945).—Rusulfidine, m. 225-6°, is 2-sulfanilamido-γ-picoline, formed by hydrolyzing the reaction product of *p*-AcNHC$_6$H$_4$SO$_2$Cl with 2-amino-4-methylpyridine. Its therapeutic action is similar to that of sulfidine, but with more freedom from toxicity and collateral effects. As a drug it merits further study and wider practical use. Clinical tests are reported.

Julian F. Smith

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALVE, M.A.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

11H

Ciperin, a new respiratory stimulant. M. A. Alut and ___ Raspopova (Kazan Med. Inst.). *Farmakol. i Toksikol.* 8, No. 1, 20 (1945). Ciperin is Et 2-methyl-1-N-(1-methyl-2-pyrrolidyl)imidazo[1,2-a]pyridine-3-carboxylate.2HCl. It stimulates respiration in cats, rabbits, and dogs after intravenous or intramuscular injection. The effect is intensified by morphine or $CCl_3CHO.H_2O$. Rabbits were the most sensitive test animals. Effects of petacetin and ciperin are compared.

Julian F. Smith

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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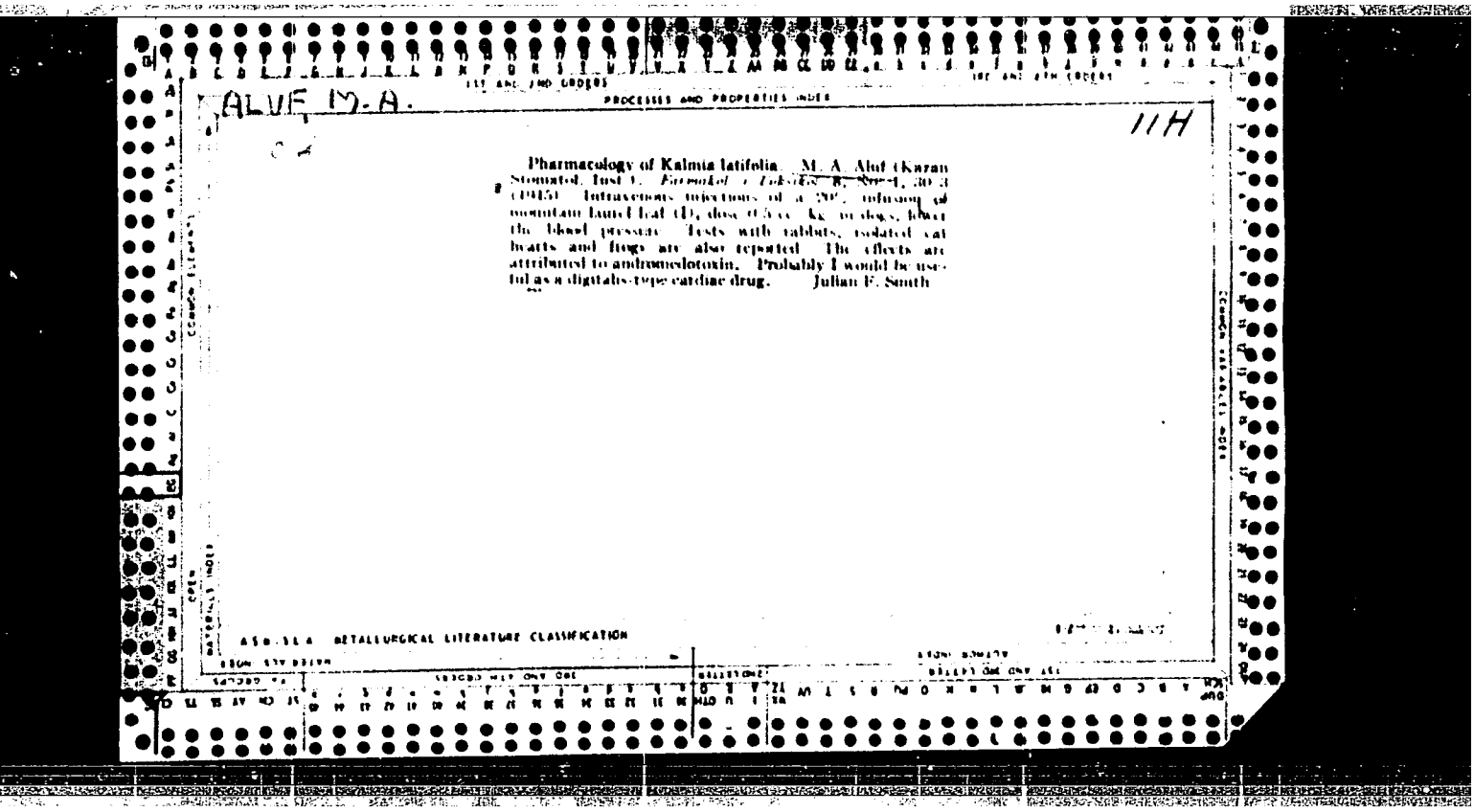

ALVF M-A.

11H

Pharmacology of Kalmia latifolia. M. A. Aluf (Kazan Stomatol. Inst.). *Farmakol. i Toksikol.* [illegible], No. 4, 30-3 (1945). Intravenous injections of a 20% infusion of mountain laurel leaf (I), dose 0.5 cc. kg. to dogs, lower the blood pressure. Tests with rabbits, isolated cat hearts and frogs are also reported. The effects are attributed to andromeslotoxin. Probably I would be useful as a digitalis-type cardiac drug. Julian F. Smith

A50-11A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

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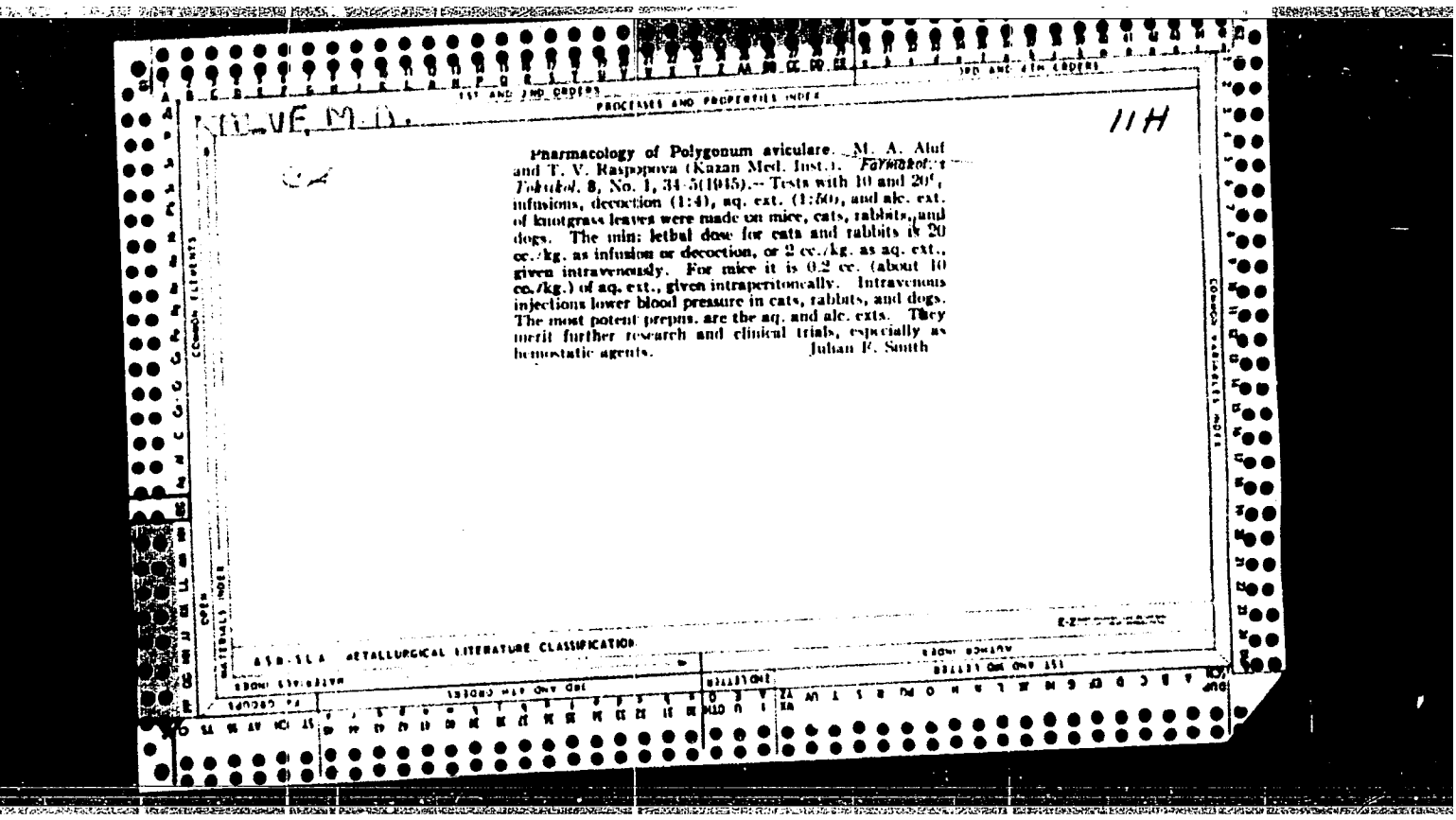

Pharmacology of Polygonum aviculare. M. A. Aluf and T. V. Raspopova (Kazan Med. Inst.). *Farmakol. i Toksikol.* 8, No. 1, 34-5(1945).—Tests with 10 and 20% infusions, decoction (1:4), aq. ext. (1:50), and alc. ext. of knotgrass leaves were made on mice, cats, rabbits, and dogs. The min. lethal dose for cats and rabbits is 20 cc./kg. as infusion or decoction, or 2 cc./kg. as aq. ext., given intravenously. For mice it is 0.2 cc. (about 10 cc./kg.) of aq. ext., given intraperitoneally. Intravenous injections lower blood pressure in cats, rabbits, and dogs. The most potent prepns. are the aq. and alc. exts. They merit further research and clinical trials, especially as hemostatic agents. Julian F. Smith

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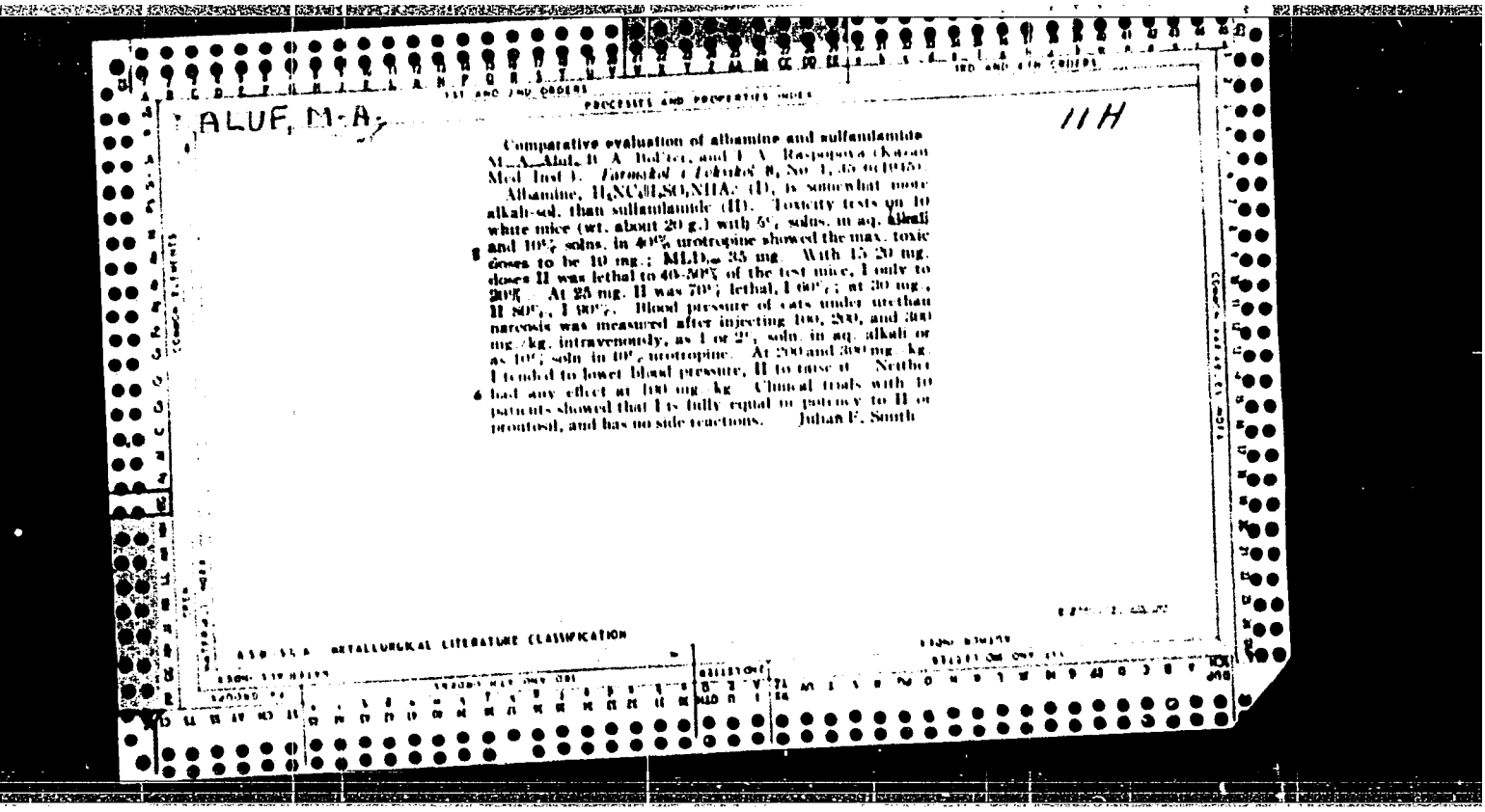

ALUF, M-A;

11H

Comparative evaluation of albamine and sulfanilamide. M. A. Aluf, B. A. Baĭter, and I. A. Rasposova (Kazan Med. Inst.). *Farmakol. i Toksikol.* 8, No. 1, 45-9 (1945).—Albamine, $H_2NC_6H_4SO_2NHAc$ (I), is somewhat more alkali-sol. than sulfanilamide (II). Toxicity tests on 10 white mice (wt. about 20 g.) with 5% solns. in aq. alkali and 10% solns. in 40% urotropine showed the max. toxic doses to be 10 mg.; MLD_{50} 35 mg. With 15-20 mg. doses II was lethal to 40-50% of the test mice, I only to 20%. At 25 mg. II was 70% lethal, I 60%; at 30 mg., II 80%, I 80%. Blood pressure of cats under urethan narcosis was measured after injecting 100, 200, and 300 mg./kg. intravenously, as 1 or 2% soln. in aq. alkali or as 10% soln in 40% urotropine. At 200 and 300 mg./kg. I tended to lower blood pressure, II to raise it. Neither had any effect at 100 mg./kg. Clinical tests with 10 patients showed that I is fully equal in potency to II or prontosil, and has no side reactions. Julian F. Smith

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

Akif, M.A.

USSR.

Pharmacology of armine. M. A. Akif (Med. Inst., Kazan). *Farmakol. i Toksikol.* 18, No. 2, 21-7(1955).—Armine, a compd. alkylphosphinate ester, has higher anticholinesterase activity than proserine, eserine, or phosphacol; it sensitizes frog muscle and the guinea-pig cardiovascular system to acetylcholine and has a strong myotic action. Its effects on respiration, hematogenesis, the eye and the intestine, but not its effects on uterine and fibril contraction, are inhibited by atropine. It is 10 times more active than phosphacol, but also more toxic (2-fold in mice and cats, 3-fold in rabbits). Julian F. Smith

Chair of Pharmacology

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUGISHVILI, Z. Z., Cand. Tech. Sci. (diss) "On the Problem of Planning and Provision of Services for Kolkhoz Villages of Georgian SSR," Tbilisi, 1961, 19 pp (Georg. Agricul. Inst.) 180 copies (KL Supp 12-61, 262).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

L 41714-65 EWA(k)/EWT(l)/EWT(m)/EEC(t)/EWP(t)/EWP(b) Pi-4 IJP(c)
ACCESSION NR: AR5008416 JD/LHB UR/0058/65/000/001/D054/D054

SOURCE: Ref. zh. Fizika, Abs. 1D409

AUTHORS: Aluker, E. D.; Mezina, I. P.

TITLE: Temperature dependence of the x-ray luminescence spectra of alkali halide crystals activated with thallium

CITED SOURCE: Izv. AN LatvSSR. Ser. fiz. i tekhn. n., no. 4, 1964, 17-22

TOPIC TAGS: x ray luminescence, luminescence spectrum, alkali halide, thallium, temperature dependence, thermal luminescence, activator center

TRANSLATION: The authors measured the temperature dependence of x-ray luminescence (XS) and of thermal luminescence spectra (TS) of KCl-Tl, KBr-Tl, KI-Tl, NaI-Tl, and CsI-Tl in the temperature interval [illegible]. It was shown that the TS coincides with the XS. Only the usual activator centers (Tl of type I) show in iodides with large Tl concentration. With decreasing temperature, the spectra of KCl-Tl and KBr-Tl experience a redistribution of the intensity among the bands

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L 41714-65
ACCESSION NR: AR5008416 0

corresponding to the glow of the different Tl centers and pure matter.

SUB CODE: OP ENCL: 00

Card 2/2

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L 20765-65 EWA(k)/EWT(l)/EWT(m)/EPF(c)/EPF(n)-2/EEC(t)/EEC(b)-2
Pr-4/Pu-4/Pb-4 IJP(c)/BSD/ASD(a)-5/AS(mp)-2/APMDC/ESD(t) GG
ACCESSION NR: AT5000401 S/3119/64/000/001/0073/0088

AUTHOR: Shvarts, K.K., Aluker, E.D., Mezina, I.P., Grube, M.M.

TITLE: Thermal quenching of the x-ray luminescence of some alkali halide crystals

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 1, 1964. Ionny*ye kristally* (ionic crystals), 73-88

TOPIC TAGS: alkali halide crystal, x-ray luminescence, luminescence activator, thermal quenching, neutron bombardment, ionizing radiation, thermoluminescence

ABSTRACT: This paper constitutes the beginning of a series of papers on the quenching of the luminescence of alkali halide crystals activated by mercurylike ions. The purpose of these investigations was to study quenching processes as a function of the mode of excitation (x, beta and gamma rays, neutrons), type of activator (Tl, Pb, In, etc.), and its concentration. The program also included a study of scintillation. In this paper, the authors studied the temperature dependence of the intensity of steady luminescence, of the flare-up of x-ray luminescence, and the thermoluminescence in the range 100-700K. In order to study the effect of x-irradiation on the state of the activator, the flare-up and the excitation spectrum of the activator cross section were measured. Grown crystals of KCl-Tl, KBr-Tl, KI-Tl, and KI-In were employed.

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Basic assumptions are made concerning the mechanism of quenching of x-ray luminescence, mechanism of transfer of energy to the activator centers, and the nature of the flare-up of luminescence, but the need for additional data is emphasized. Orig. art has: 14 figures and 2 tables.

ASSOCIATION: Institut fiziki AN Lat.SSR (Physics Institute, AN Lat. SSR)

SUBMITTED: 18Mar64 ENCL: 00 SUB CODE: OP, SS

NO REF SOV: 021 OTHER: 013

Card 2/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ACC NR: AT7001788 SOURCE CODE: UR/3119/66/000/004/0099/0106

AUTHOR: Aluker, E. D.; Dobrzhanskiy, G. F.; Mezina, I. P.

ORG: Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR); Institute of Crystallography AN SSSR (Institut kristallografii AN SSSR)

TITLE: Temperature dependence of x-ray luminescence of alkali-halide crystals activated with In

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 99 -106

TOPIC TAGS: alkali halide, activated crystal, x ray luminescence, thermoluminescence, temperature dependence

ABSTRACT: This is a continuation of earlier work (Izv. AN Latviyskoy SSR, Ser. fiz.-tekh. nauk v. 4, 17, 1964 and elsewhere) dealing with radioluminescence processes in different alkali-halide crystals activated with thallium. The present investigation extends these reulsts to other bases and to other activators. The tests were made on KCl-In, KBr-In, and KI-In crystal phosphors grown by the Stockbarger method. They consisted of measuring the x-ray luminescence spectra at various temperatures and the temperature dependence of the intensity of activator glow under x-ray excitation at temperatures 77 - 600K, and plotting the thermoluminescence curves following x-ray exposure at liquid-nitrogen and room temperatures. The temperature dependence of the x-ray luminescence of the measured crystals exhibited many features common to those

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ACC NR: AT7001788

for crystals activated with thallium. Just as in the case of thallium, the samples activated with indium had temperatures at which the intensity of the activator glow had a maximum (340, 270, and 260° for KCl, KBr, and KI). The most intense thermoluminescence peaks (330, 140, and 130°, respectively) were observed in this region. In the chlorides and bromides activated with indium, unlike those activated with thallium, the low-temperature decrease of the activator glow was not accompanied by an increase in the glow of another spectral composition, whose intensity increased with decreasing concentration of the activator. The growth of the activator concentration decreased the depth of the low-temperature decrease of the activator-glow intensity. The authors thank K. K. Shvarts for suggesting the topic and continuous interest. Orig. art. has: 7 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 008

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ACC NR: AP7003891 SOURCE CODE: GE/0030/67/019/001/0035/0040

AUTHOR: Aluker, E. D.; Mezina, I. P.

ORG:

TITLE: Radioluminescence output in alkali halide crystal phosphors as a function of temperature

SOURCE: Physica status solidi, v. 19, no. 1, 1967, 35-40

TOPIC TAGS: radioluminescence, alkali halide, crystal phosphor, luminescence, thermoluminescence, temperature dependence, thallium compound, indium compound, x radiation, color center

ABSTRACT: The emission spectrum, the thermoluminescence, and the temperature dependence of the output of luminescence of thallium and indium doped halide phosphors were determined and measured under the effect of x-ray radiation in the 80 to 600K range. The decrease in the output of luminescence at low temperatures is explained as being due to the formation of electron activated coloration centers. The authors express their thanks to K. K. Shvarts for his interest and assistance in this work. Orig. art. has: 5 figs. and 1 table. [Based on authors' abstract]

SUB CODE: 20/SUBM DATE: 13Sep66/ORIG REF: 013/OTH REF: 004/ [SP]

Card 1/1

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

SCHWARZ, K.K.; ALUKER, E.D.; MEZINA, I.P.

On the temperature quenching of radioluminescence of some thallium activated alkali halides. Acta physica Pol 26 no.3/4:795-799 S-O '64.

1. Institute of Physics of the Academy of Sciences of the Latvian S.S.R.

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ALUKER, N. N., et al.

Elektrokehnika v risunkakh i chertezhakh, chast' II. Elektricheskie mashiny, apparaty i ustanovki (Electrotechnics in diagrams and drawings; vol. 2, Electricla machines, apparatuses and equipment). Serija uchebnykh tablits. (125 tabl.) Moskva, Gosenergoizdat, 1951.

SO: MLRA. November 1952

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ALUKER, N. A.

Tolkachevskaya, N. V. and Aluker, N. A. "Ontogenesis of change and balance of nitrogen in one-year old children," Trudy VI Vsesoyuz. s'yezda det. vrachey, posvyashch. pamyati prof. Filatova, Moscow, 1946, p. 428-31

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALDAKER, R. A.

"Sulfur in the Urine of Children in the First Year of Life." Sub 4 Oct 51, Acad Med Sci USSR.

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

SO: Sum. No. 480, 9 May 55

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ALUKER, S. M.	DECEASED
Medicine	See ILC

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUKER, Seyel Monosovich, kand. tekhn. nauk; VOSTROKNUTOV, N.G., kand. tekhn. nauk, nauchnyy red.; DEMINA, G.A., red.; TOKER, A.M., tekhn. red.

[Electric measuring devices] Elektroizmeritel'nye pribory. Moskva, Proftekhizdat, 1962. 287 p. (MIRA 15:7)
(Electric measurements)

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ALEKEE, Sh, M., [illegible]

Electricheskii raschet setei s ispol'zovaniem semle v kachestve odnogo iz fuznykh provodov
(Dva provoda-zemlia) Electrical computation of circuits utilizing ground as one of the phase conductors (two places - ground)
Moskva, Gos. energ. izd-vo, 1949. 67 p. (50-21360)

TK3226.E2

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ALUKER, Sh.M.; VASIL'YEVA, I.A.; RASOVSKIY, E.I.; SKVORTSOV, P.F.

[General electrical engineering in illustrations and drawings] Elektrotekhnika v risunkakh i chertezhakh. Leningrad, Gos. energ.izd-vo. Pt.2. [Electric machines, apparatus and installations] Elektricheskie mashiny, apparaty i ustanovki. 1951. 1., diagrs. (in portfolio) (MIRA 13:2)
(Electric engineering)

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RASOVSKIY, E.I.; ALUKER, Sh.M.; VASIL'YEVA, I.A.; KAMINSKIY, M.D. [deceased]; SKVORTSOV, P.F.; LOMONOSOV, V.Yu., prof., retsenzent

[General electrical engineering in illustrations and drawings] Obshchaia elektrotekhnika v risunkakh i chertezhakh. Izd.2., perer. Leningrad, Gos.energ.izd-vo. Pt.1. [Fundamentals of electric engineering] Osnovy elektrotekhniki. 1952. 13 p. (MIRA 13:2)

1. Kafedra osnov elektrotekhniki Moskovskogo instituta mekhanizatsii i elektrifikatsii sel'skogo khozyaystva imeni V.M.Molotova (MIMESKh) (for all except Lomonosov).
(Electric engineering)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

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ALUKER, SH. M., VASIL'YEVA, I. A. , SKVORTSOV, P. F., RASOVSKIY, YE. I.

Rasovskiy, Ye. I.

Electric engineering in sketches and drawings. Part I. Fundamentals of electric engineering; YE. I. Rasovskiy,, Part II. Electric machinery, apparatus and appliances. Reviewed by V. YU. Lomonosov. Elektrichestvo no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

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ALUKER, Sh.M.; VASIL'YEVA, I.A.; ROSOVSKIY, E.I.; SKOVRTSOV, P.F.

[Electric engineering in sketches and charts] Elektrotekhnika v risunkakh i chertezhakh. Pod obshchey red. E.I.Rasovskogo. Izd. 2-oe, perer. i dop. Moskva, Gos. energ. izd-vo. Pt.2. [Electric motors, apparatus and equipment] Elektricheskie mashiny, apparaty i ustanovki. 1957. 7 p. and 147 tables (in portfolio) (MIRA 11:3)
(Electric machinery)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

8(2) PHASE I BOOK EXPLOITATION SOV/5001

Aluker, Shel Monosovich, Candidate of Technical Sciences

Sovremennyye elektroizmeritel'nyye pribory (Modern Electrical Measuring Instruments) Moscow, Trudrezervizdat, 1958. 192 p. (Series: Biblioteka Molodogo rabochego) 5,000 copies printed.

Scientific Ed.: A. S. Kasatkin, Professor; Ed.: A. L. [illegible]skaya; Tech. Ed.: M. N. Person.

PURPOSE: This booklet is intended for newly graduated electricians. It may also be useful for improving the skills of workers servicing electrical measuring instruments.

COVERAGE: The booklet presents a short description of modern electrical measuring instruments and methods of using them. The principle of operation and construction of the most common systems of electrical measuring instruments, as well as their method of connection, are examined. Data and characteristics of instruments used in measuring basic parameters of electrical networks are presented. No personalities are mentioned. There is a list of 17 Soviet books given as recommended literature.

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Modern Electrical Measuring Instruments SOV/3001

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

SERGOVANTSEV, V.T., kand.tekhn.nauk; YURASOV, V.V., kand.tekhn.nauk; ALUKER, Sh.M., kand.tekhn.nauk; ANDRIANOV, V.N., doktor tekhn. nauk; ASTAF'YEV, N.N., kand.tekhn.nauk; BUDZKO, I.A., akademik; BYSTRITSKIY, D.N., kand.tekhn.nauk; VEYALIS, B.S., kand.tekhn. nauk; GIRSHBERG, V.V., inzh.; GORSHKOV, Ye.M., inzh.; GRICHEVSKIY, E.Ya., inzh.; ZAKHARIN, A.G., doktor tekhn.nauk; ZLATKOVSKIY, A.P., kand.tekhn.nauk; IOSIPYAN, S.G., inzh.; ITSKOVICH, A.M., dotsent; KAUFMAN, B.M., inzh.; KVITKO, M.N., inzh.; KORSHUNOV, A.P., inzh.; LEVIN, M.S., kand.tekhn.nauk; LOBANOV, V.N., dotsent; LITVINENKO, A.F., inzh.; MERKELOV, G.F., inzh.; PIRKHAVKA, P.Ya., kand.tekhn.nauk; PRONNIKOVA, M.I., kand.tekhn.nauk; SMIRNOV, B.V., kand.tekhn.nauk; FATYUSHENKO, S.G., inzh.; KHODNEV, V.V., inzh.; SHCHATS, Ye.L., kand.tekhn.nauk; EBIN, L.Ye., doktor tekhn.nauk; ENTIN, I.A., kand.tekhn.nauk; SILIN, V.S., red.; SMELYANSKIY, V.A., red.; BALLOD, A.I., tekhn.red.; SMIRNOVA, Ye.A., tekhn.red.

[Handbook pertaining to the production and distribution of electricity in agriculture] Spravochnik po proizvodstvu i raspredeleniiu elektricheskoi energii v sel'skom khoziaistve. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 900 p. (MIRA 13:2)

1.Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Budzko).
(Rural electrification)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUKER, Sh.M.; ANDRIANOV, V.N.; BUDZKO, I.A.; BURGUCHEV, S.A.; ZAKHARIN, A.G.; NAZAROV, G.I.; PRISHCHEP, L.G.; POYARKOV, M.F.; RASOVSKIY, E.I.; RUNOV, B.A.; SKVORTSOV, P.F.; SERGEYEV, A.V.

P.N.Listov; on his sixtieth birthday and the thirty-fifth anniversary of his industrial, theoretical, and educational work. Elektrichestvo no.11:94 N '62. (MIRA 15:11)
(Listov, Petr Nikolaevich, 1902-)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUKER, Sh.M.; VASIL'YEVA, I.A.; RASOVSKIY, E.I.; SEVCHENKOV, I.F.

[Electrical engineering in drawings and diagrams] Elektrotekhnika v risunkakh i chertezhakh. Izd. 3., perer. i dop. Moskva, Energiia. Pt.2. 1964. 7 p. (MIRA 18:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

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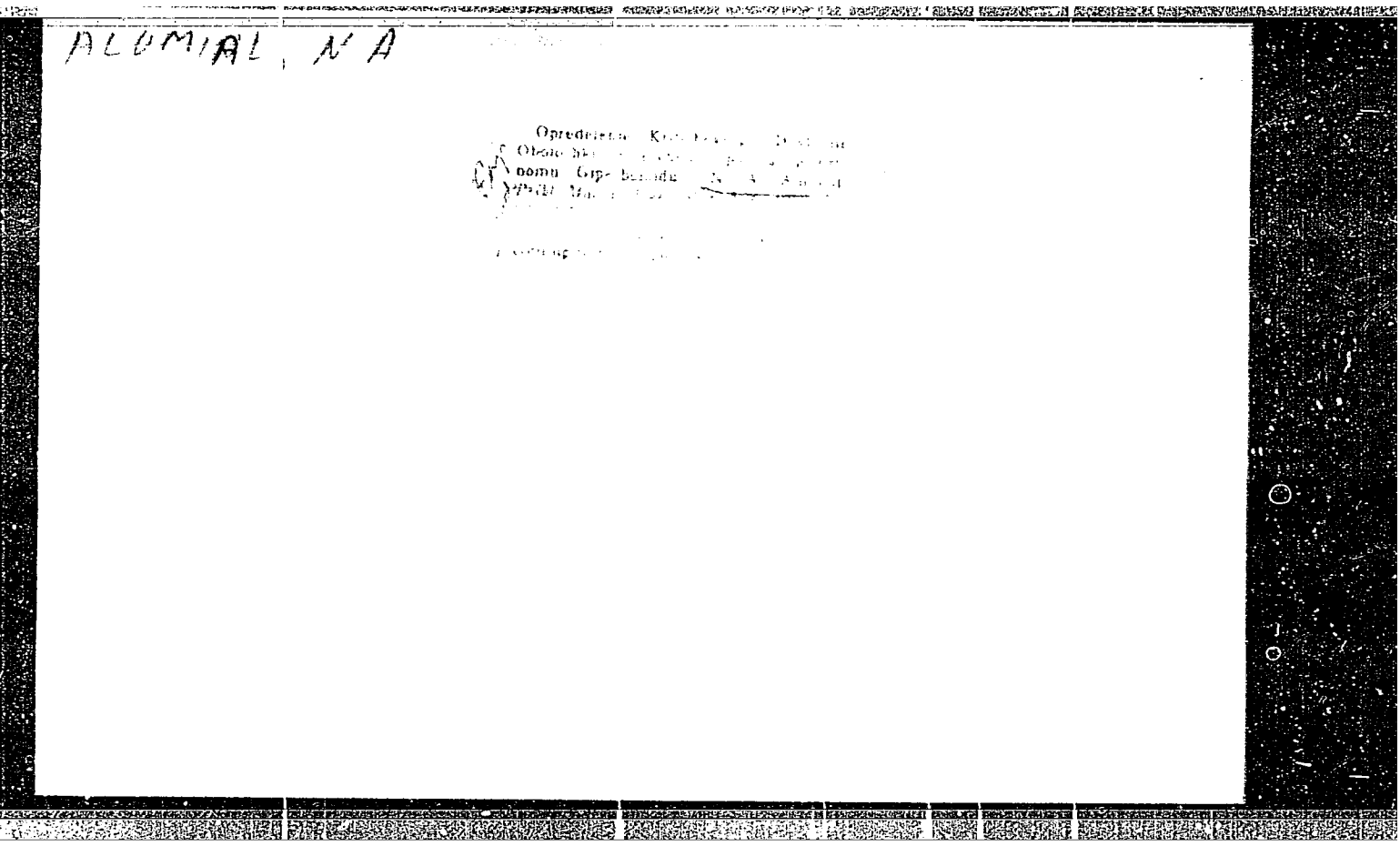

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

Alumäe, A.E.

AUTHOR: Alumäe, A., (Alyumyae, A.E.) 23-4-8/18

TITLE: Thermal and Moisture Properties of Walls Made of Shale-Cinder "Microporite" and Silica Bricks (Teplo-vlazhnostnyye svoystva sten iz slantsezol'nogo mikroporita i silikatnogo kirpicha)

PERIODICAL: Izvestiya Akademii Nauk Estonskoy SSR, Seriya Tekhnicheskikh i Fiziko-Matematicheskikh Nauk, 1957, # 4, pp 368-374 (USSR)

ABSTRACT: This article describes laboratory investigations regarding the thermal and moisture conductivity of some materials and determines the properties of walls made of these materials in a test house. The materials investigated are: "microporite", i.e., vapor-treated oil-shale cinder concrete without foam, and silica bricks.

The thickness of large blocks of "microporite" was 40 cm, and the thickness of the walls of silica bricks was 51 cm (two bricks). The thermal conductivity of the walls made of silica br cks was determined, and it was shown that neither of the walls have sufficient heat-protective properties, and therefore, cannot be recommended for housing.

The article contains 3 graphs, 3 tables, and 5 Russin references.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

23-4-8/18

Thermal and Moisture Properties of Walls Made of Shale-Cinder "Microporite" and Silica Bricks.

ASSOCIATION: Academy of Sciences of the Estonian SSR, Institute of Construction and Construction Materials

SUBMITTED: 16 July 1957

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ARUYAN, A.E., Cand Tech Sci --(T)"Thermo-moisture properties of cort in types of large-~~panel~~ block walls from local materials under conditions of the Estonian SSR." Len, 1958. 19 pp with graphs (Academy of Construction and Architecture USSR, Inst of Construction Physics and ~~Safety Constructions~~ Enclosure Designs), 150 copies (KL,27-59, 119)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

S/170/60/003/012/011/015
B019/B056

11.9200

AUTHOR: Alumyae, A. E.

TITLE: The Problem of the Effect of Moisture Exchange Upon Heat Exchange in Determining Heat Coefficients

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 12, pp. 107-110

TEXT: As shown by A. V. Lykov (Ref. 1), the thermal coefficients of moist materials are equivalent to natural thermal coefficients only if Lu $\ll$ 1. By using non-steady experimental conditions, the effect of the moisture content in determining the thermal coefficients may be avoided providing there is a low temperature gradient. In materials with a high Lu number, the effect of moisture exchange must in no case be neglected. To illustrate these opinions, the author carried out experiments with temperature gradients of 0.8 and 8°C/cm. As may be seen from the results shown in diagrams, the effect of moisture exchange when determining the thermal coefficients depends on the Lu number. If Lu $\ll$ 1, the effect of moisture exchange is negligible. If Lu $>$ 1, moisture exchange must be taken into

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AIUMYAE, A. [Alumäe, A.]

Investigating moisture content in the outside walls. Inzh.-fiz. zhur. 8 no.2:255-256 F '65. (MIRA 18:5)

1. Institut stroitel'stva i stroitel'nykh materialov Gosstroya Estonskoy SSR, Tallin.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, L.A.

New methods for manufacturing cutting tools. Mashinostroitel' no. 5:34 My '64. (MIRA 17:7)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N. A.

FA 39/49T41

USSR/Engineering
Mechanics
Mathematics - Differential Equations

Jan/Feb 49

"Differential Equations of Equilibrium for Thin-Walled Elastic Shells in the Postcritical Stage," N. A. Alumyae (Tallin), Inst of Constr and Archit, Acad Sci Estonian SSR, 12 pp

"Priklad Matemat i Mekh" Vol XIII, No 1

Attempts to derive basic differential equations which, although approximate, describe the equilibrium state of thin-walled elastic shells after loss of stability in the basic form of equilibrium. Derived system of differential equations to determine load at which loss of stability of the basic form of equilibrium occurs, and clarified quantitative form of deformation after loss of stability. Submitted 2 Nov 48.

39/49T41

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N. A.

PA 153T95

USSR/Physics - Shells Nov/Dec 49

"Formula for the Critical Stress in the Momentless Stressed State of Thin-Walled Elastic Shells," N. A. Alumyaye, Tallin Inst of Mech, Acad Sci USSR; Inst of Constr and Arch, Acad Sci Estonian SSR, 3 pp

"Prik Matemat i Mekh" Vol XIII, No 6, p 647

An expression is found for the stress in tensor-analysis notation, by a method employed by V. Z. Vlasov ("General Theory of Shells," 1949). Submitted 13 Oct 49

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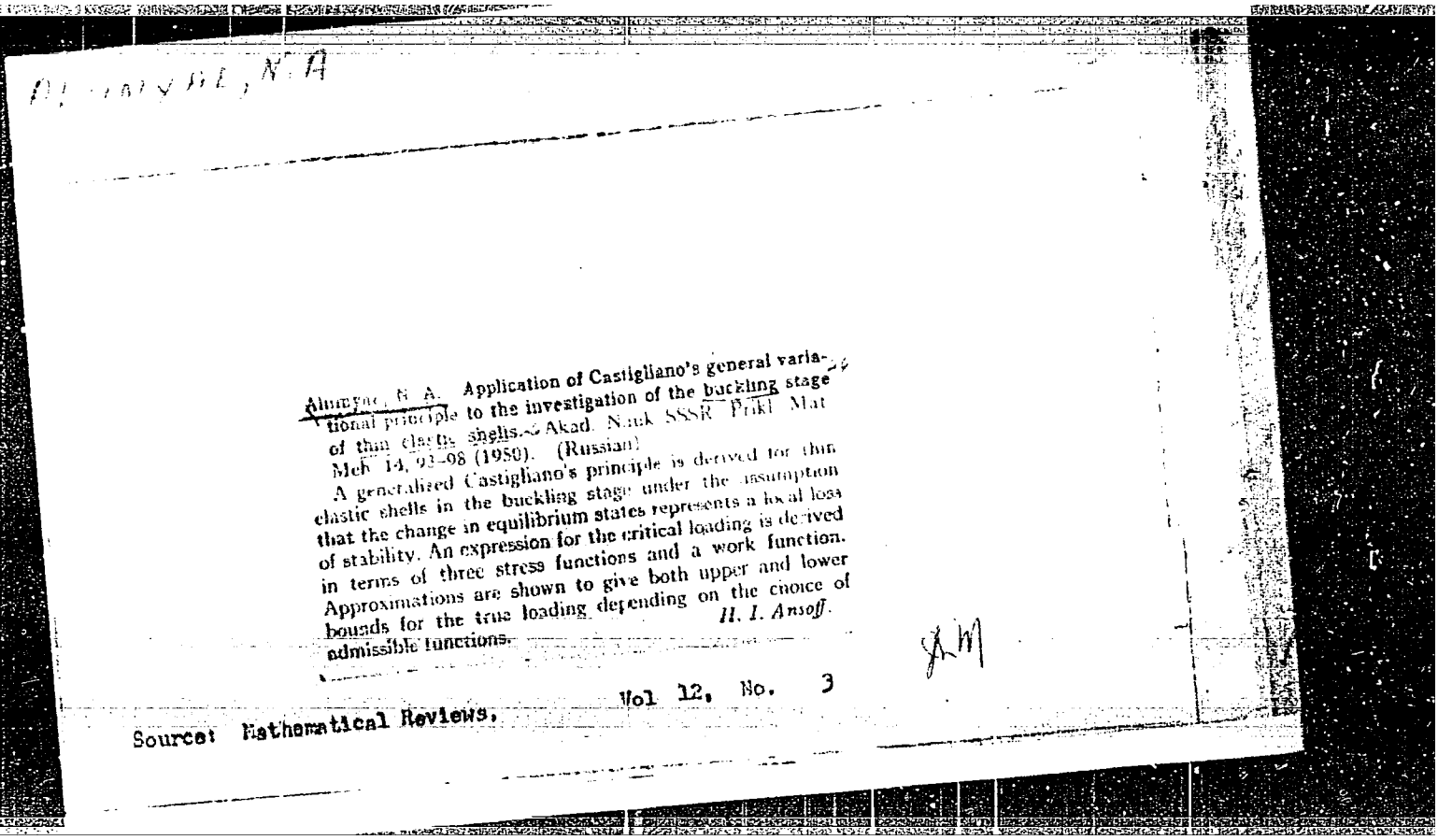

Alumyae, N. A. Application of Castigliano's general variational principle to the investigation of the buckling stage of thin elastic shells. Akad. Nauk SSSR. Prikl. Mat. Meh. 14, 93–98 (1950). (Russian)

A generalized Castigliano's principle is derived for thin elastic shells in the buckling stage under the assumption that the change in equilibrium states represents a local loss of stability. An expression for the critical loading is derived in terms of three stress functions and a work function. Approximations are shown to give both upper and lower bounds for the true loading depending on the choice of admissible functions. *H. I. Ansoff.*

Source: Mathematical Reviews, Vol 12, No. 3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

Alumyae, N. A. A variational method for the investigation of thin elastic shells in the buckling stage. Akad. Nauk SSSR. Prikl. Mat. Mech. 14, 197-202 (1950). (Russian)

The buckling of thin elastic shells is discussed under the condition of hydrostatic surface loading. A variational formula is presented in which the associated contour integral contains a variation of the stress function instead of a variation of the tangential component of deflection which is employed in Lagrange's formula. The choice of admissible functions is thus simplified. The results are applied to the problem of buckling of a cylindrical strip.

H. J. Ansoff (Santa Monica, Calif.).

Source: Mathematical Reviews, Vol 11 No. 4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAYE, N. K.

"Investigations of Thin-Walled Elastic Casings In the Postcritical Phase." Sub 14 Jun 51, Inst of Mechanics, Acad Sci USSR.

Dissertations presented for science and engineering degrees in Moscow during 1951. Dr. Physico-Mathematical Sci.

SO: Sum. No. 480, 9 May 55.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N. A.

Mathematical Reviews
Vol. 14 No. 11
December, 1953
Mechanics.

Galimov, K. Z. On the general theory of plates and shells with finite displacements and deformations. Akad. Nauk SSSR. Prikl. Mat. Meh. 15, 723–742 (1951). (Russian)

The author continues the researches of two previous papers [Izvestiya Kazan. Filial. Akad. Nauk SSSR. Ser. Fiz.-Mat. Tehn. Nauk 1, 25–46 (1948); 2, 3–38 (1950); these Rev. 14, 516] and obtains some new results. By making a hypothesis concerning the distribution of stress through the thickness of the shell, it is possible to set up symmetric tensors for stress and moment which lead to equations of a type similar to those of Castigliano but valid for finite deformations. The author also introduces a variation principle which is applicable to nonlinear problems. [Something on these lines was initiated by N. A. Alumyaè, same journal 14, 93–98 (1950); these Rev. 12, 221.]

L. M. Milne-Thomson (Greenwich).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, [illegible] A.

"Resistive thin, resilient membranes in the post-[illegible]" [illegible]. Izv. Ak. SSSR Otd. tekh. nauk, no. 4, 1952. [illegible], November 1952.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

USSR/Physics - Shells Deformation Jul/Aug 52

"Theory of Axisymmetrical Deformation of Shells of Revolution for Finite Displacements," N. A. Alumyae, Inst of Constr and Archit, Acad Sci Estonian SSR

"Prik Matemat i Mekh" Vol XVI, No 4, pp 419-428

Reduces the main system of differential eqs of axisym deformation of shells of revolution to a problem of calculus of variation in the case of finite displacements. The variational formulas are in the generalized Galerkin form, which gives

225T86

immediately the conditions governing integrability of the main system of differential eqs. Considers some geometrically nonlinear problems.

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ALUMYAE, N. A.

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ALUMYAE, N. A.

PA 241T59

USSR/Mathematics - Stress

Nov/Dec 52

"Critical Value of the Axisymmetrical Momentless Stressed State of a Long Catenoid Shell," N. A. Alumyae, Inst of Constr and Archit, Acad Sci Estonian SSR

"Priklad Matemat i Mekhan" Vol 16, No 6, pp 649-658

Subject shell is under a line load. This problem is essentially an extension of V. Z. Vlasov's soln of the problem of finding the momentless stressed state in a shell of negative Gaussian curvature (cf. V. V. Novozhilov, Teoriya Tonkikh Obolochek (Theory of Thin Shells), Ship Industry Press, 1951). Submitted 29 Aug 52.

241T59

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N.A.
~~PRIKLAD MATEM. I MEKHAN~~

USSR/Mathemtics - Shells Sep/Oct 53

"Determination of the Equilibrium State of a Circular Shell Under Axially Symmetrical Load," N. A. Alumyae, Tallin, Inst of Construction and Construction Materials, Acad Sci Estonian SSR

Priklad Matem i Mekhan, Vol 17, No 5, pp 517-528

Purpose is to study non-axisymmetrical forms of equilibrium, which evidently exist for sufficiently large values of the external pressure. Finds the critical values of the loads. Presented 16 Jun 53.

276T85

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N. A.

"Determination of the Equilibrium States of Long Cylindrical Shells During Axisymmetrical Loading".
Izv. AN EstSSR, Vol, 3, No. 1, pp 89-99, 1954

Derives the nonlinear differential equations of equilibrium and the conditions of coincidence of deformations of long cylindrical shells under the assumption that the axial stresses are at most of the same order as the stresses of the lateral load. Uses the method of investigating the asymptotic behacior of the integrals of the differential equations and the boundary conditions as the ratio of shell thickness to radius approaches zero. (RZhMekh, No 8, 1955)

SO: Sum No 812, 6 Feb 1956

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

USSR/Mathematics - Shell Theory

Card 1/1

Author : Alumyae, N. A. (Alumäe - Estonian)

Title : The critical load of a long cylindrical circular shell under torsion

Periodical : Prikl. mat. i mekh., 18, 27-34, Jan/Feb 1954

Abstract : Shows that the determination of the critical load of shells of great and moderate length depends upon the integration of a differential equation of the fourth order which satisfies two boundary conditions on each of the contours of the median surface. Gives a graphical representation of the solution in the case of long shells.

Institution : Institute of Construction and Construction Materials, Academy of Sciences of the Estonian SSR, Tallin

Submitted : November 23, 1953

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

SOV/124-57-4-4619

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 108 (USSR)

AUTHOR: Alumyae, N. A.

TITLE: On the Determination of Critical Loading of a Shell of Revolution Having the Shape of a Cone With a Closed Apex and Being Subjected to an External Pressure (K opredeleniyu kriticheskoy nagruzki zamknutoy v vershine konicheskoy obolochki vrashcheniya, nakhodyashcheysya pod deystviyem vneshnego davleniya)

PERIODICAL: Tr. Tallinsk. politekhn. in-ta, 1955, Vol A, Nr 65, pp 5-13

ABSTRACT: The author proves that the equations of local buckling stability proposed by Kh. M. Mushtari (Prikl. matem. i mekhanika, 1939, Vol 2, Nr 4) for the case of an externally pressure-loaded conical shell with a closed apex may be simplified. It is shown that the critical loading of the shell, the length of the generatrix of which is commensurate with the nonzero radius of curvature at the base, may be determined, within the asymptotic error $\sqrt{t/s_0 \cot\beta}$, (where t is the thickness of the shell, s_0 the length of the generatrix, and β the angle of taper of the cone) from a fourth-order equation. The method of the simplification of differential equations was outlined by the author earlier (RZhMekh, 1954, abstract 3070).

Card 1/1

A. V. Sachenkov

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N.A.

124-11-13033

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p. 105 (USSR)

AUTHOR: Alumyae, N. A.

TITLE: Basic Energy Relationships in the Deformation of Thin-Walled Elastic Shells.(Osnovnyye energeticheskiye sootnosheniya pri deformatsii tonkostennykh obolochek)

PERIODICAL: Issledovaniya po vopr. ustoychivosti i prochnosti. Kiyev. AN Ukr. SSR, 1956, pp 70-74

ABSTRACT: Derivation of the formula of the virtual work of deformation in a thin-walled elastic shell subjected to finite displacements. The deformations are not assumed to be small. While there is no explicit mention of any hypothetical distribution of deformations across the thickness of the shell, it appears to have been employed implicitly in the calculation of the virtual work.

Assuming that the work of deformation depends solely on the finite state, the Author derives relationships which the laws of elasticity in the theory of shells must satisfy (same as Green's formulas in the general theory of elasticity)

(A. L. Gol'denveyzer)

Card 1/1

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMAE, N.A. (Tallin); LUR'YE, A.I. (Leningrad)

Review of A.L. Gol'denveizer's book ("Theory of elastic thin shells." Reviewed by N.A. Alumae, A.I. Lur'e.). Izv.AN SSSR.Otd.tekh.nauk no.5:171-176 My '56. (MLRA 9:8)
(Elastic plates and shells) (Gol'denveizer. A.L.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N.A.

124-11-13040

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p. 106 (USSR)

AUTHOR: Alumyae, N. A.

TITLE: The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid. (Kriticheskoye davleniye uprugoy obolochki vrashcheniya, ocherchennoy po poverkhnosti ellipsoida)

PERIODICAL: Izv. A. N. EstSSR, ser. tekhn. i fiz.-matem. n.; Vol. 5, Nr 3, pp 175-190. 1956 (ENSV teaduste Akad. toimetised. Tehn. ja füüs.-matem. teaduste seer).

ABSTRACT: The paper describes an investigation of the stability of a portion of an ellipsoidal shell of revolution, symmetrical with respect to its principal plane and subjected to a hydrostatic pressure p. It is assumed that the ends of the shell are sealed with rigid base plates. Its surface is defined by the radius vector

$$\bar{r} = \frac{\gamma c}{\cosh \alpha}(\bar{u}_x \cos\beta + \bar{u}_y \sin\beta) + c \tanh\alpha\, \bar{u}_z \qquad (1)$$

$\gamma^2 = R_2/R_1$, $c = \sqrt{R_1 R_2}$

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

where $\bar{u}_x$, $\bar{u}_y$, and $\bar{u}_z$ are the unit vectors in the Cartesian system of coordinates, α = const. and β = const. are the parallels and meridians of the surface, R_2 is the radius of the parallel $\alpha = 0$, and R_1 is the radius of curvature of the meridian at that parallel. The stress pattern is assumed to be free of moments, so long as stability prevails. On the assumption that during the buckling process n sinusoidal waves will form along a parallel, where $n^2 >> 1$, the well-known approximation equations of neutral equilibrium relative to the supplementary tangential stresses are reduced to the following form:

$$(BS_\alpha)' + nAS - B'S_\beta = 0 \qquad (2)$$

$$-(nAS_\beta) + (BS)' + B'S = 0 \qquad (3)$$

where $A\,d\alpha$ and $B\,d\beta$ are lineal elements of the parallel and meridian, and the apostrophe denotes differentiation with respect to α.

In the generally accepted theory of tapered shells these equations are approximately satisfied by expressing the stresses in terms of the

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The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

stress function φ according to the formulas

$$\frac{BS_\alpha}{Et} = \frac{n^2\varphi}{B} + \frac{B'\varphi'}{A^2}, \quad \frac{AS_\beta}{Et} = \left(\frac{\varphi'}{A}\right)' \qquad (4)$$

$$ABS = nEt(\varphi' - B'\varphi/B).$$

Here Eq. (2) is satisfied within an error of the order of magnitude $B^2 k_\alpha k_\beta / n^2$ as referred to unity, while the permissible error in Eq. (3) is of the order of magnitude of $\varphi A^2 k_\alpha k_\beta / \varphi''$. Here k_α and k_β are the principal curvatures of the surface.

The Author contends that Eqs. (4) are not suitable for use in the case under investigation and proposes the introduction of a stress function expressed as follows:

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The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

$$S_\beta = \frac{E\,t}{A\,B}\left(\frac{B^2}{A}\,\varphi'\right)', \qquad S = \frac{E\,t\,n}{A}\,\varphi' \tag{5}$$

while retaining the former expression for S_α, whereupon Eqs. (2) and (3) are satisfied within an error of an order of magnitude $1/n^2$ as referred to unity. The A. expresses the curvature-change parameters $\varkappa_\alpha$, $\varkappa_\beta$, and τ in terms of a function ψ in a manner somewhat at variance with that obtained in terms of the deflection according to the deformation theory of surfaces.

Therein Codazzi's coincidence equations, analogous to Eqs. (2) and (3), are satisfied to within $1/n^2$. However, it can be demonstrated that these equations already contain an error of that order of magnitude, introduced by Eqs. (4), so that the proposed new variant of the theory of stability of tapered shells is no more accurate than the generally accepted variant. Both variants of the theory are acceptable in the, for them, less suitable case, when an extremely elongated shell ($\mu^2 \ll 1$) is investigated for the action of a hydrostatic pressure and the principal part of the deflection is characterized, for hinged supports, by the function $\cos(\pi z/L)$, where L is the distance

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The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

between the base plates. In fact, if $-\alpha_* \leq \alpha \leq \alpha_*$, then, according to (1),

$$L \approx 2c \tanh \alpha_*, \qquad \tanh \alpha_* = L/(2\sqrt{R_1 R_2}) \tag{6}$$

and, if the shell is of moderate length ($L \sim R_2$), then

$$\alpha_*^2 \sim \gamma^2 \ll 1, \quad A \approx c, \quad k_\alpha k_\beta \approx 1/c^2$$

$$dz \approx A\, d\alpha, \qquad \frac{d^2}{d\alpha^2}\left(\cos \frac{\pi z}{L}\right) \approx -A \frac{\pi^2}{L^2} \cos \frac{\pi z}{L}.$$

Consequently, the error introduced by formulas (4) is

$$\frac{\varphi A^2 k\ k}{\varphi''} \sim \frac{L^2}{\pi^2 c^2} = \frac{L^2}{\pi^2 R_1 R_2} \ll 1 \tag{7}$$

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

This error, having an order of magnitude γ^2, is admitted in Eq. (3), the principal terms of which are n times smaller than the corresponding terms in Eq. (2).

The solution of the approximate equations obtained relative to φ and the deflection function ψ, in the paper, are sought in the form of an asymptotic expansion

$$(\varphi) = e^{nr(\alpha)}\left[\varphi_0(\alpha) + \frac{1}{n}\varphi_1(\alpha) + \ldots\ldots\right], \psi = \ldots$$

wherein a detailed analysis of the characteristic equation for r' is carried out for small values of α_*.

For cylindrical shells, satisfying the condition

$$k_\alpha / k_\beta \leq \sqrt{\lambda}, \qquad \lambda = t/R_2 \sqrt{12(1-\nu^2)} \qquad (8)$$

a parametric relationship is given between the values of η and $\varkappa$, where

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

The Critical Pressure of an Elastic Shell of Revolution, Traced on the Surface of an Ellipsoid (continued).

$$\eta = \frac{\sqrt{\lambda}}{\gamma \alpha_*} , \qquad \varkappa = \frac{p \alpha_* \lambda^{-5/2}}{E \gamma \sqrt{12(1-\nu^2)}} \tag{9}$$

The values of $\varkappa$ for a number of values of η are presented in tabular form.

In particular, in the boundary condition of a cylindrical shell of center length $\eta = \infty$, $\varkappa = 4.5$, we find from Eqs. (8) and (9) that

$$p = \frac{4.15\, E\, t^{5/2}}{L\, R_2^{3/2} \sqrt{2} \left[3(1-\nu^2) \right]^{3/4}} .$$

This value is 50 percent greater than the critical pressure found for the case of the free peripheral support.

In conclusion we note a printing error in the paper; in formula (8.1), L should read 1/2 L.

(Kh. M. Mushtari)

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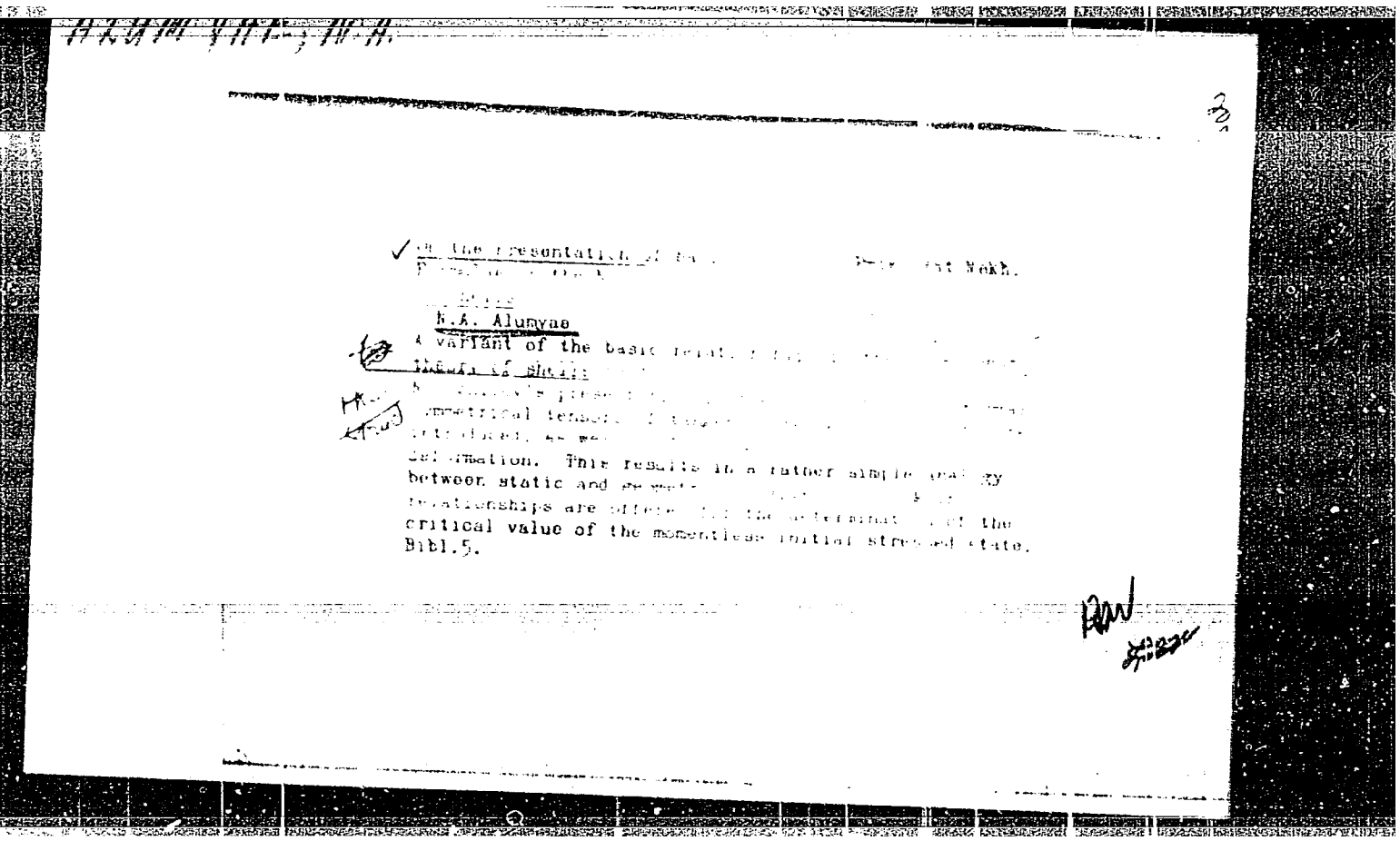

✓ On the representation of [illegible] [illegible] Nekh.

[illegible]

K.A. Alumyae

A variant of the basic [illegible]

[illegible]

[illegible] symmetrical tensor [illegible]

[illegible] deformation. This results in a rather simple analogy between static and [illegible] relationships are offered [illegible] the determination of the critical value of the momentless initial stressed state. Bibl.5.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

ALUMYAE, N.A. [Alumäe, N.A.] (Tallinn)

Determination of the critical load for a shell outlined by a hyperboloid of one sheet. Prikl.mat. i mekh. 20 no.2:223-235 Mr-Ap '56. (MLRA 9:7)

1.Institut stroitel'stva i stroitel'nykh materialov Akademii nauk Estonskoy SSR.

(Elastic plates and shells)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AUTHOR: Alumäe, A. (Alyumyae, N.A.) 23-4-17/18

TITLE: Conference on the Theory and Designs of Thin Shells (Soveshchaniye po teorii i konstruktsiyam tonkikh obolochek)

PERIODICAL: Izvestiya Akademii Nauk Estonskoy SSR, Seriya Tekhnicheskikh i Fiziko-Matematicheskikh Nauk, 1957, # 4, pp 396-397 (USSR)

ABSTRACT: From 21 to 25 June 1957, a conference on the theory and designs of thin shells was held in Tartu. The conference was called by the Department of Technical and Physico-Mathematical Sciences of the Estonian Academy of Sciences and the Tallin Polytechnic Institute,and was attended by 56 specialists from vuzes, scientific research institutes and designing organizations in Moscow, Leningrad, Kiyev, Yerevan, Tallin, Khar'kov, Kazan', Rostov/Don and Tartu. The following reports were delivered by:

A. I. Lur'ye on "Rigorous Setting of the Problem about the Joint Performance of the Shell and Elastic Ribs"; A. S. Vol'-mir and A. Ya. Birkgan on "Application of Digital Electronic Computers for Solving Some Problems in the Theory of Flexible Shells"; V. V. Bolotin on "Some New Problems in the Theory of Oscillations of Shells"; V. M. Darevskiy on "Stability of

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

Cylindrical Shells at Combined Loads"; A. L. Gol'denveyzer on "Linear Theory Equations of Elastic Shells in Displacements and Functions of Stress"; K. F. Chernykh on "Boundary Conditions in the Theory of Shells"; S. A. Alekseyev on "Some New Methods for Determination of Critical Loads in Cylindrical Shells"; L. M. Kachanov on "Plastic Bending of Curved Thin-Walled Tubes"; A. A. Tseytlin on "Designs and Experimental Investigations of a Thin-Walled Vault of a Double Curvature"; G. M. Shagal on "Design and Manufacture of Prefabricated Ferro-Concrete Shells of Double Curvature"; Kh. Laul' on "Calculation of Ferro-Concrete Thin-Section Coverings"; U. Nigul' on "Stressed State of the Ferro-Concrete Cylindrical Shell at the Membrane"; A. Sumbak on "Experimental Investigation of a Model of Ferro-Concrete Cylindrical Shell with Pre-Stressed Reinforcement"; S.A. Ambartsumyan on "Some Special Problems in the Theory of Anisotropic Shells"; A.S. Grigor'yev on "Large Sagging of Rectangular Membranes"; V. P. Lyskov on "Bending of Tubes with Allowance for Deformations of Cross Section"; L. Aynola on "Variational Problems of the Non-Linear Theory of Elastic Shells"; Kh. Aben on "Investigation of the Stressed State of Curved Plates by the

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and technical theory of shells; 2) Problems in the non-linear theory of shells; 3) Investigation of shells with allowance for the plastic properties of materials, and determination of the supporting power; 4) Dynamic problems of the theory of shells, in particular, problems of aero-elasticity; 5) Theory of anisotropic foliated shells; 6) Application of statistical methods to the theory of shell stability; 7) Development of methods for solving the problems of the shell theory as applied to high-speed computers.

The Conference considered it as necessary to establish in the USSR a magazine on the theory of elasticity.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AUTHOR ALUMYAE, N.A. PA - 2210

TITLE The Asymptotic Integration of the Equations of the Static Stability of a Conical Rotation Shell (Asimptoticheskoye integrirovaniye staticheskoy ustoychivosti konicheskoy obolochki vrashcheniya).

PERIODICAL Prikladnaia Matematika i Mekhanika, 1957, Vol 21, Nr 1, pp 83-88(U.S.S.R.)
Received 3/1957 Reviewed 4/1957

ABSTRACT The present paper investigates the determination of the critical stress of a thin, elastic, conical, rotation-symmetric shell, on which exterior pressure acts from all sides.

Basic relations. Let this shell be assumed to be closed off by thin bottoms. The critical value $q = q_{kr}$ of exterior pressure at which, apart from the initial state of tension, at least one not axial-symmetric equilibrium which is an infinitely near approach to the initial state exists, is determined. Determination of critical pressure according to the theory developed by CH.M.MUSHTARI and V.Z.VLASOV is reduced to the determination of the lowest eigenvalue of the system of differential equations $A\varphi + \psi'' = 0$, $-\varphi'' + A\psi - \sigma B\psi = 0$. Here A and B denote differential expressions. The corresponding boundary conditions depend on the elastic properties of the surfaces closing off the shells. The equations applying in the case of stiff surfaces are here given.

The simplified problem. By putting one parameter equal to zero a more simple problem is obtained. Also here the smallest eigenvalue of the (here given) differential equations must be determined. The solution is sought in the form $\psi(x) = \psi_0(x)u\,[pr(x)]$, $\varphi(x) = \varphi_0(x)u[pr(x)]$, so that the function u(t) of the equation $d^2u/dt^2 + (1/2t)du/dt + t^{1/2}u = 0$ suffices.

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PA - 2210

The Asymptotic Integration of the Equations of the Static Stability of a Conical Rotation Shell.

Here p is considered as a large parameter according to which the solution is developed asymptotically. If in this asymptotic development only the most important terms are retained, a so-called "head equation" is obtained. It and an ansatz for its solution are here given.
The method described above is now used for the integration of the system of equations for a shell that is closed in its apex. This system of equations was, by the way, integrated by the energetic method in the case of certain boundary conditions by P.K.RYAYAMET. In conclusion the asymptotic integration of the system of equations $(p^8/x^3)\varphi + \psi'' = 0$, $-\varphi'' + ((p^8/x^3) - \sigma p)\psi = 0$ is discussed.
(No illustrations)

ASSOCIATION Institute for Building and Building Materials of the Academy of Science of the Estonian S.S.R.
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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101210015-0

AUTHOR: Alumyae, N.A. (Tallin) 40-21-6-11/18

TITLE: The Stability of the Equilibrium of Helicoidal Shells (Ustoychivost' Ravnovesiya gelikoidal'noy obolochki)

PERIODICAL: Prikladnaya Matematika i Mekhanika, 1957, Vol 21, Nr 6, pp 823-826 (USSR)

ABSTRACT: For shells, the surface of which has the form of a helicoid which is bounded by its asymptotes, the author determines the critical load and the state of stress for the case that the system has "locally" lost the stability for an initial state of the shell which is free of moments. For the derivation of the equations of the considered shell system which are necessary for this problem the author decomposes the general state of stress into elementary states of stress and applies for the solution of the equations valid for these an asymptotic integration method. Although the method given by the author is favorable as approximation for the present problem, the determination of eigenvalues remains still rather complicated and irksome. There are 2 Soviet references.

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The Stability of the Equilibrium of Helicoidal Shells 40-21-6-11/18

ASSOCIATION: Akademiya nauk Estonskoy SSR (Academy of Sciences, Estonian SSR)

SUBMITTED: July 18, 1957

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ALUMYAE, M.O. [Alumiae, N.A.] (Tallinn).

Linear problems in the theory of static stability and flexural vibrations of thin elastic shells [in Ukrainian]. Prykl. mekh. 4 no.1:3-10 '58. (MIRA 11:4)

1. AN Estons'koi RSR.
(Elastic plates and shells)

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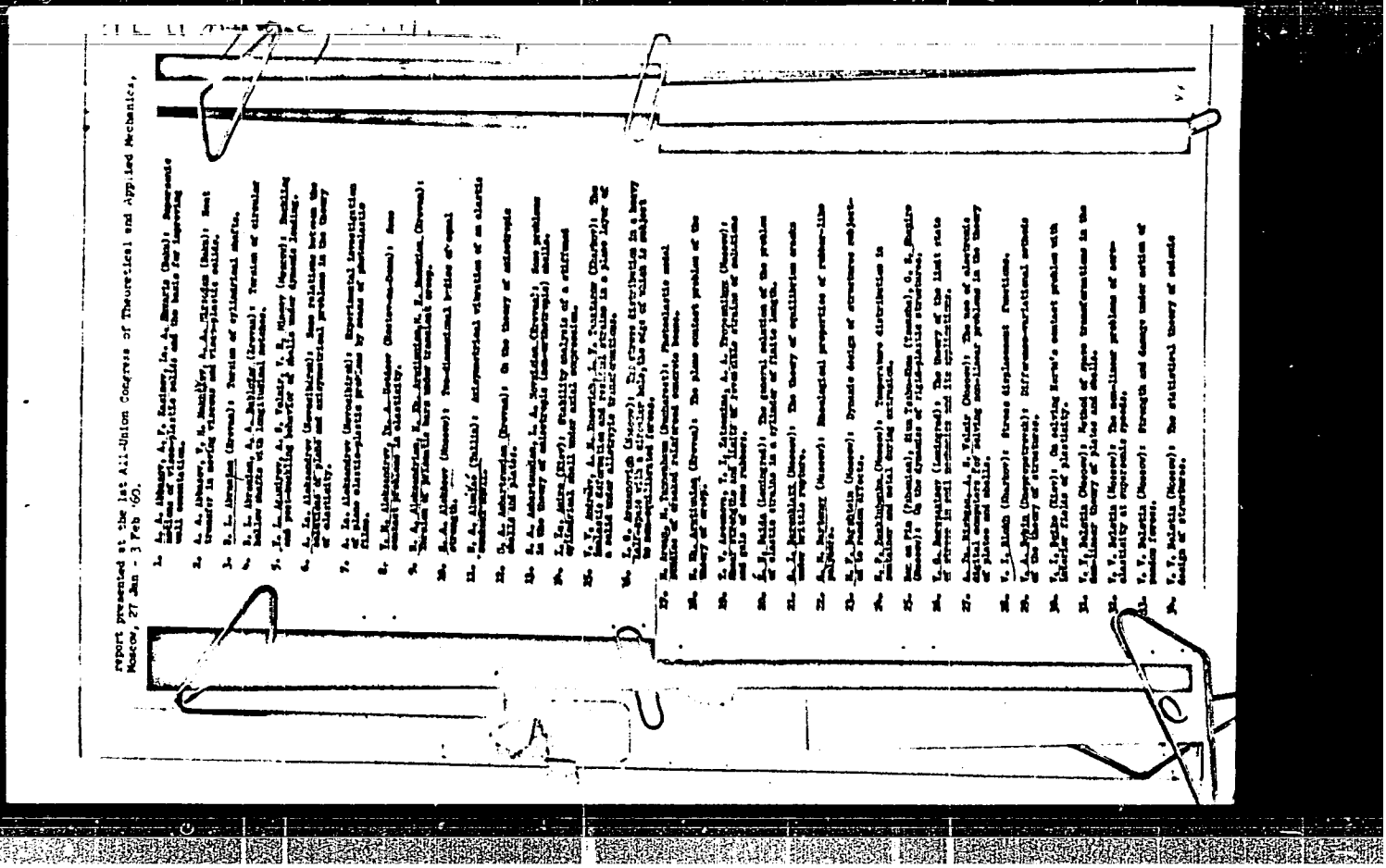

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 60.

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MUSHTARI, Kh.M., red.; ALUMYAE, N.A., red.; BOLOTIN, V.V., red.; VOL'MIR, A.S., red.; GANIYEV, N.S., red.; GOL'DENVEYZER, A.L., red.; ISANBAYEVA, F.S., red.; KIL'CHEVSKIY, N.A., red.; KORNISHIN, M.S., red.; LUR'YE, A.I., red.; SAVIN, G.N., red.; SACHENKOV, A.V., red.; SVIRSKIY, I.V., red.; SURKIN, R.G., red.; FILIPPOV, A.P., red.; ALEKSAGIN, V.I., red.; SEMENOV, Yu.P., tekhn. red.

[Proceedings of the Conference on the Theory of Plates and Shells] Trudy Konferentsii po teorii plastin i obolochek, Kazan', 1960. Kazan', Akad. nauk SSSR, Kazanskii filial, 1960. 426 p. (MIRA 15:7)

1. Konferentsiya po teorii plastin i obolochek, Kazan', 1960. 2. Moskovskiy energeticheskiy institut (for Bolotin). 3. Kazanskiy khimiko-tekhnologicheskiy institut (for Ganiyev). 4. Institut mekhaniki Akademii nauk USSR (for Kil'chevskiy). 5. Kazanskiy gosudarstvennyy universitet (for Sachenkov). 6. Kazanskiy filial Akademii nauk SSSR (for Svirskiy).
(Elastic plates and shells)

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AUTHOR: Alumyae, N. (N.Alumäe), Corresponding Member of the AS, Estonskaya SSR

TITLE: The Fundamental System of Integrals of the Equation of Small Steady Axisymmetrical Vibrations of an Elastic Conical Shell of Rotation

PERIODICAL: Izvestiya Akademii nauk Estonskoy SSR, Seriya tekhnicheskikh i fiziko-matematicheskikh nauk, 1960, Volume IX, Nr 1, pp 3 - 15 (USSR)

ABSTRACT: The equations of forced stationary vibrations of the shell are reduced to a single equation (1.1), including a small complex parameter ε. The coefficients of this equation follow from (1.3) to (1.5) where is the logarithmical decrement of damping, E - the modulus of elasticity, ν - Poisson's ratio, μ - density, ω - circular frequency of vibrations, h -

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The Fundamental System of Integrals of the Equation of Small Steady Axisymmetrical Vibrations of an Elastic Conical Shell of Rotation

thickness of shell; the geometrical quantities s, s_b, r_b, θ are presented in Figure 1 of the paper [Ref. 10 published in this periodical]. If frequency ω is in the interval given by (1.8), the independent variable x takes the value x = 0, if λ = 0 (no damping) or a small value, if λ is small. In this case at least one of the solutions of Eq. (1.6) - equation of the membrane theory - does not satisfy the basic assumption of the membrane theory in a complex neighborhood of the point x = 0, and the more complete Eq. (1.1) should be used. This article concerns the formal construction of solutions of Eq. (1.1) in a domain containing the transition point x = 0. Following the method described in Ref.

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