

SNYATINOVSKAYA, L.

DS-5 color film. Sov.foto 21 no.5:41-42 My '61. (MIRA 14:5)  
(Color photography--Films)

SNIATINOVSKAYA, L.

Black-and-white negative motion-picture films. Sov.foto 23  
no.1:30-32 Ja '63. (MIRA 16:5)  
(Motion-picture photography--Films)

SAMSONENKO, G.S. [Samsonenko, H.S.], inzh.; FEDOROVSKIY, L.Kh. [Fedorovs'kyi, L.Kh.], inzh.; SNIYATKOV, L.A., inzh.

Organizing the detection of defects and supply of parts.  
Mekh. sil'. hosp. 14 no.11:19-22 N'63. (MIRA 17:2)

1. Ukrainskiy filial Gosudarstvennogo vsesoyuznogo nauchno-issledovatel'skogo tekhnologicheskogo instituta remonta i ekspluatatsii mashinno-traktornogo parka.

ALIYEV, D.A.; SMYATKOVA, L.K.

Using seawater for recovering sedimentation filters. Neftoper. i  
reflekhin. no.3:29-32 '63. (SIRA 17:9)

1. Bakinskiy zavod "Neftegas".

ACCESSION NR: AP4026850

S/0065/64/000/004/0030/0032

AUTHORS: Aliyev, D.A.; Aliyeva, S.G.; Snyatkova, L.K.

TITLE: Investigation of the water condensate from the gas separator of pyrolysis equipment

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 4, 1964, 30-32

TOPIC TAGS: pyrolysis, by product, condensate, composition, stability, thermooxidation, atomic oxygen formation, free radical formation, acid, ketone, alcohol, water vapor decomposition, heat transfer agent, hydrocarbon, hydrocarbon pyrolysis, high temperature pyrolysis

ABSTRACT: The composition of the water condensate from the bottom of a gas separator of a pyrolysis apparatus was examined to determine the nature of the synthesis products, to determine the stability of the condensate on storage and to confirm the assumption that thermo-oxidative reactions occur as a result of atomic oxygen from the water vapor (Aliyev, V.S., Kasimova, M.P., Al'tman, N.B. Vliyaniye vodyanogo para na vy\*sokotemperaturny\*y kreking gasoylya. "Effect of water vapor on high temperature cracking of gas oil." Khim. i.

Card 1/3

ACCESSION NR: AP4026850

tekhnol. topliv i masel No. 8, 1958). The condensate is a slightly emulsified milky material,  $n_D^{20} = 1.3338$ . On storage, a number of color changes occur but there is no change in refractive index. These changes are attributed to small amounts of free radicals and condensed high molecular aromatic hydrocarbons. The aqueous condensate contains a definite amount of oxygen-containing compounds of different classes: acids (up to 800 mg/l, formic, acetic, propionic and small amounts of butyric and other high molecular acids), ketones (0.25 wt.%, acetone, methylethylketone, diethylketone, and small amounts of higher ketones), and alcohols (0.015-0.9366 wt.%, methanol, ethanol, propanol, isopropanol, some butanol and higher alcohols). This indicates side reactions in the pyrolysis process involving oxygen formed by the decomposition of water vapor to its components. This refutes the opinion (Ostgaus, K.G., Zhurnal "Neftekhimicheskiy sintez za rubezhom" "Petrochemical synthesis abroad". vy\*p. 5, ITEIneftegaz, 1962, str. 50-56) that in high temperature pyrolysis of hydrocarbons the role of a heat transfer agent is fulfilled solely by water vapor. Orig. art. has: 2 tables.

Card. 2/3

ACCESSION NR: AP4026850

ASSOCIATION: Bakinskiy zavod "Neftegaz" (Bakin "Petrogas" Plant)

SUBMITTED: 00

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: CH

NR REF SOV: 010

OTHER: 003

Card 3/3

ALIYEV, D.A.; ALIYEVA, S.G.; SNIATKOVA, L.K.

Investigating a water condensate of a gas separator of a  
pyrogenic unit. Khim. i tekhn. topl. i masel 9 no.4:30-38  
Ap '64. (MIRA 17:8)

1. Bakinskiy zavod "Neftegaz".



ROZINA, D.Sh.; SNYATKOVSKAYA, R.G.

6-Aminothymol hydrochloride. Metod.poluch.khim reak.i prepar.  
no.4/5:109-113 '62. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov  
i sposoby chistykh khimicheskikh veshchestv.

ACC NR: AP7010718

SOURCE CODE: UR 0062/66.000/012/2207,2208

AUTHOR: Gorlin, A. Ya.; Snyatkova, V. I.; Yevdakov, V. P.; Shlenkova, Ye. K.

ORG: Institute of the Chemistry of Natural Compounds, Academy of Sciences USSR (Institut khimii prirodnikh soyedineniy AN SSSR)

TITLE: Synthesis of 2,3,4,6-tetra-O-acetyl- $\beta$ -D-glucopyranosyldibutyl-phosphite

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1966, 2207-2208

TOPIC TAGS: chemical synthesis, pyridine, phosphate ester, nuclear magnetic resonance

SUB CODE: 07

ABSTRACT: The action of dibutylacetylphosphite as a phosphorylating agent for carbohydrate derivatives with a free hemiacetal hydroxyl was investigated using 2,3,4,6-tetra-O-acetyl- $\beta$ -D-glucopyranose as an example. The condensation proceeded without inversion of the configuration, forming 2,3,4,6-tetra-O-acetyl- $\beta$ -D-glucopyranosyldibutylphosphite. The reaction was conducted in absolute benzene medium, in the presence of absolute pyridine as an acetic acid acceptor. The structure of the reaction product was proven by element analysis, hydrolysis upon standing, acid methanolysis to the methylglucoside, and a study of the nuclear magnetic resonance spectrum. The phosphite could subsequently be oxidized to the corresponding phosphate. Orig. art. has: 1 formula. [JPRS: 40,351]

Card 1/1

UDC: 542.91 + 547.454 + 661.718.1

PEVTSOV, G.A.; MANGVA, T.G.; ZELOVA, V.S.; SNIATKOVSKAYA, R.G.

Chemical-spectral determination of the traces of metals in  
chemical reagents. Trudy IREA no.25:303-310 '63.  
(MIRA 18:6)

SHIATOVSKIY, A.

Improving the role of inspectors in the Office of Specialists for Starting and Adjusting Operations. Stroi. truboprov. 9 no.1:31 Ja '64. (MIRA 17:3)

1. Uchastok Spetsializirovannogo upravleniya pusko-naladochnykh rabot gazoprovoda Bukhara - Ural, Sverdlovsk.

SERENSEN, S.V., akademik; BUKHARIN, N.A., doktor tekhn.nauk, prof.;  
BUGLOV, Ye.G., inzh.; SNYTIN, M.Ye., inzh.

Establishing variable stress conditions for fatigue analysis.  
Vest.mash. 41 no.1:15-21 Ja '61. (MIRA 14:3)

1. AN USSR (for Serensen).  
(Strength of materials)

BUKHARIN, N.A., doktor tekhn. nauk; YERMOLAYEV, A.I.;  
SNYTIN, M.Ye., kand. tekhn. nauk

Evaluation of operational reliability and durability of  
parts and units of a motor vehicle. Avt. prom. 29 no.8:  
25-27 Ag '63. (MIRA 16:11)

1. Leningradskiy inzhenerno-stroitel'nyy institut i  
Moskovskiy avtozavod imeni Likhacheva.

SHURUPOV, A.; SNYTKIN, A.

Under one roof. Zhil.-kom.khoz. 12 no.6:15 Je '62.

(MIRA 15:12)

1. Nachal'nik upravleniya "Vodokanalizatsiya" Ishimbay (for Shurupov). 2. Ispolnyayushchiy obyazannosti direktora kontory elektrosetey, g. Ishimbay (for Snytkin).

(Ishimbay → Municipal services)

88228

S/006/60/000/012/002/002  
B012/B063

9.5300 (also 2801)

AUTHORS: Voronkova, N. M., Meleshko, K. Ye., Semenchenko, I. V.,  
Snytkin, A. V., and Shishkina, T. A.

TITLE: Use of the Spectrovisor for Studying the Spectral Brightness  
of Landscape Objects

PERIODICAL: Geodeziya i kartografiya, 1960, No. 12, pp. 20 - 25

TEXT: The spectral reflective power of natural objects has been studied for several years by the Laboratoriya aerometodov Akademii nauk SSSR (Laboratory for Aerometods of the Academy of Sciences USSR). A quick-acting spectrophotometer (spectrovisor) has been designed for measuring the coefficients of spectral brightness of small and medium-size ground objects from the air (Ref., footnote p. 20). One of the spectrovisors built in 1959 by this laboratory and the method used to measure the coefficients of spectral brightness by airplane are described; several test results are given. The operating range of the spectrum extends from 450 to 950 mμ. The resolution determined from the half-width of the

Card 1/5



V

88228

Use of the Spectrovisor for Studying  
the Spectral Brightness of Landscape  
Objects

S/006/60/000/012/002/002  
B012/B063

mercury spectral line is 20  $\mu$ . The root mean square error of the measurements is 2 - 3%. The instrument has a total weight of 80 kg and is fed with a current of 10 a from the net on board (27 v). The spectrovisor consists of a monochromator with a receiver and a recorder, and a feeder for the circuits. The instrument is fastened to a frame in the opening and turns round its horizontal axis. The specific feature in the determination of coefficients of the spectral brightness of natural objects is the fact that it is not possible to attain equal conditions of illumination and surveying for the object and the calibration instrument. In 1959, calibration was carried out on the plane by means of a calibration instrument before and after "spectrometrizing" of the object. In order to obtain a coefficient of the spectral brightness of the objects which corresponds to the brightness of baryta paper, the calibration instrument was calibrated against this paper in different light. 24 pictures were taken per second. Calibration in the air takes 1 - 2 sec. The interval between calibration and measurement is determined

Card 2/5

88228

Use of the Spectrovisor for Studying the  
Spectral Brightness of Landscape Objects

S/006/60/CCC/012/002/002  
B012/B065

solely by the time needed for turning the instrument through 180° round its horizontal axis. In order to explain the effect of vibrations and other factors on the accuracy of aerial surveying, the same objects were "spectrometrized" with a photoelectric field spectrometer designed by the same laboratory in 1959. The results obtained according to this method were in good agreement with the data yielded by the spectrovisor. All results obtained agree with published data (Refs., footnote p. 24) on the spectral reflectivity of soil and vegetation. There are 5 figures, 1 table, and 3 Soviet references.

Card 3/5

88228

S/006/60/000/012/002/002  
B012/3063

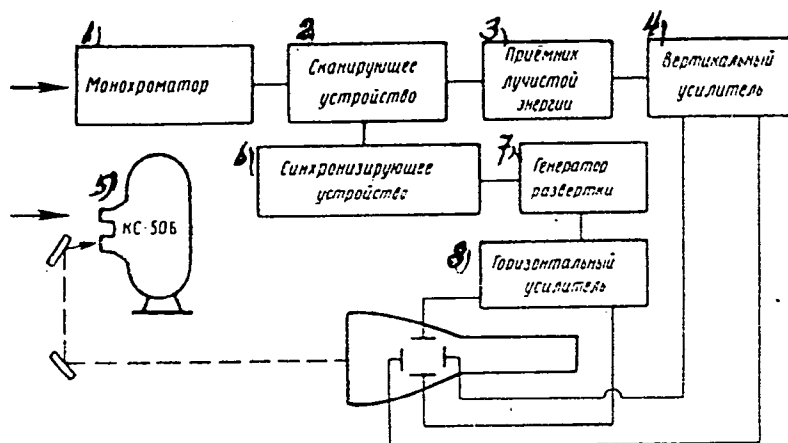


Рис. 1

Card 4/5

88228

S/006/60/000/012/002/002  
B012/B063

Legend to Fig. 1: 1) monochromator; 2) scanning equipment; 3) receiver of radiant energy; 4) vertical amplifier; 5) motion picture camera; 6) synchronizer; 7) sweep generator; 8) horizontal amplifier.

X

Card 5/5

SEMENCHENKO, I.V.; SNYTKIN, A.V.

Examining the spectral brightness of the sea from the airplane.  
Okeanologiya 1 no.5:856-859 '61. (MIRA 15:3)

1. Laboratoriya aerometodov AN SSSR.  
(Sea water--Optical properties) (Aeronautics in marine research)

I 8620-66

ACC NR: AP5027032

SOURCE CODE: UR/0120/65/000/005/0194/0197

AUTHOR: Miryasov, N. Z.; Pinchuk, A. A.; Snytkin, B. V.; Shpin'kov, N. I.

B-  
34

ORG: Physics Faculty, MGU (Fizicheskiy fakul'tet MGU)

TITLE: A device for ferromagnetic film production by high vacuum evaporation

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 194-197

TOPIC TAGS: high vacuum, ferromagnetic film, vacuum pump, vacuum chamber

ABSTRACT: Vacuum evaporation chambers, intended for the production of ferromagnetic films, must be placed at considerable distances from vacuum pumps because such pumps are usually made of ferromagnetic materials which influence in an unpredictable way the magnitude and configuration of the magnetic fields used during condensation. However, long vacuum tubing significantly reduces the resulting vacuum. Consequently, the authors designed a unit capable of rotating the sample under vacuum, since it was shown earlier (D. O. Smit, J. Appl. Phys., 1961, 32, 705) that a rapidly moving support makes possible the production of films of complex composition and definite magnetic properties. In addition, because of consecutive pumping, a double vacuum chamber, and heat resistant gaskets with low vapor pressure, the device is capable of reaching  $1.0 \cdot 10^{-7}$  Torr. The pumping is carried out by diffusion pumps using VM-1 oil without nitrogen traps. Uniform vertical (horizontal) magnetic fields are created by Helmholtz coils 70 cm (170 cm) in diameter. The maximum field is 450 Oe ( $\sim 100$  Oe). Orig. art. has: 3 figures.

Card 1/2

UDC: 539.234:538.221

L 8620-66

ACC NR: AP5027032

SUB CODE: IE,EM / SUBM DATE: 15Jul64 / ORIG REF: 003 / OTH REF: 002

Card 2/2 jrn

SNYTKIN, D.M.

Hydraulic perforator. Biul.nauch.-tekh.inform.VIMS no.1:76-78  
'60. (MIRA 15:5)

1. Severo-Kavkazskoye geologicheskoye upravleniye.  
(Boring machinery--Hydraulic driving)



SNYTKIN, G.

Tools for soil compaction. Zemledelie 26 no.3:78-79 Mr '64.  
(MIRA 17:4)

1. Starshiy agronom-semenovod oporno-pokazatel'nogo  
khozyaystva "Rashkovets" Sovetskogo rayona Kurskoy oblasti.

SN YTKIN, G. N.

USSR/Metals - Cast Iron, Casting

Feb 52

"Effect of the Shape of Chaplets on Their Weldability," G.N. Snytkin, Engr, Staro-Kramitovskiy Mashinostroitel'nyy Zavod imeni Ordzhonikidze

"Litey Proizvod" No 2, p 29

Discusses various shapes of chaplets used in sand-cast hollow cast-iron pistons. Suggests, as most expedient shape, 2 cones with their vertexes connected to each other by cylindrical portion. Chaplets of this shape provide adequate support for cores and show good weldability with metal of castings.

207T95

SNYTKIN, V.

We have finished with the stamping of punches. Mashinostroitel'  
no. 7:40 of '60. (MIRA 13:7)  
(Punches)

SNYTKIN, V.

Reconditioning of screw-thread. Mashinostroitel' no.12:41-42 D  
'60. (MIRA 13:12)

(Bolts and nuts)

SNYTKIN, V.

"LUS" insulation winding machine. Mashinostroitel' no.6:5  
Je '61. (MIRA 14:6)  
(Leningrad—Electric industries)

SNYTKIN, V.

Creators of Angara giants. Mashinostroitel' no.11:4-5 N '61.  
(MIRA 14:11)  
(Leningrad--Hydroelectric power stations--Equipment and supplies)

SHVARUK, A.; SHARAPOV, I.; SNYTKIN, V.; FILISTEYEV, Ye.

Our thoughts and our labor we dedicate to you, the party! Sov.  
profsoiuzy 17 no.11:10-11 Je '61. (MIRA 14:5)

1. Predsedatel' uchastkovogo komiteta profsoyuza shakhty No.37  
Karagandinskogo ugol'nogo basseyna (for Shvaruk). 2. Starshiy inzh.  
Sverdlovskogo sovmarkhoza (for Filisteyev).  
(Socialist competition)

SMYTKIN, V.

In the voluntary design bureau managed by I.L. Ustimenko.  
Mashinostroitel' no.9:4-5 S '62. (MIRA 15:9)  
(Leningrad--Electric equipment industry)



SNYTKIN, V.

Secondary use of medical instruments. Mashinostroitel' no.7:25  
Jl '63. (MIRA 16:9)

(Medical instruments and apparatus)  
(Machine-shop practice)

SNYTKIN, V.F.

Cold rolling. Mashinostroitel' no.12:29 D '63.  
(MIRA 17:1)

SNYTRIN, V.

Gram after gram, ton after ton. Mashinostroitel' no.4:6 Ap'64  
(MIRA 17:7)

SNYTKIN, V.V.

Recently designed portable gas ignition devices. Gaz. prom.  
8 no.9:17-19 S '63. (MIRA 17:8)

SNYTKO, A.I

USSR/Cultivated Plants - Technical, Oil, and Sugar Plants.

M-4

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10926

Author : Snytko, A.I.

Inst : Biological Institute of the Western Siberian Branch  
Academy of Sciences USSR.

Title : Extra-Root Fertilization With Microelements and Its  
Influence on the Sugar Content of Beets.

Orig Pub : Sakharnaya svekla, 1956, No 7, 28.

Abstract : In 1955 the Biological Institute of the Western Siberian  
Branch of the Academy of Sciences USSR conducted produc-  
tion experiments on the study of the influence of extra-  
root fertilization with microelements on the sugar con-  
tent of sugar beet. To accomplish this, for 25 days befo-  
re the harvest the plants were fertilized in the evening  
with an 0.05% solution of microelements, calculating

Card 1/2

SNYTKO, A.I.

Irrigation of sugar beet fields in the central Kulunda. Trudy Biol.  
inst. Sib. otd. AN SSSR no.4:101-109 '59. (MIRA 13:10)  
(Kulunda Steppe--Sugar beets)  
(Kulunda Steppe--Irrigation farming)

SNYTKO, A.I.

Comparative irrigation of fodder root crops in the central Kulunda.  
Trudy Biol. inst. Sib. otd. AN SSSR no.4:148-152 '59. (MIRA 13:10)  
(Kulunda Steppe--Root crops)

SNYTKO, A.I.

Developmental characteristics of sugar beet in irrigated areas  
of Central Kulunda. Dokl. Akad. sel'khoz. 24 no. 6:15-18 '59.  
(MIRA 12:9)

1. Sibirskoye otdeleniye Akademii nauk SSSR. Predstavlena akademi-  
kom I.F. Buzanovym.  
(Kulunda Steppe--Sugar beets)



SNYTKO, A.I.

Monospermous sugar beet in Novosibirsk Province. Trudy TSS'83  
no.4:153-157 '60. (MIRA 1964)  
(Novosibirsk Province--Sugar beets)

ACC NR: AP6034597

SOURCE CODE: UR/0115/66/000/010/0065/0068

(A)  
AUTHOR: Snytko, A. Ya.

ORG: none

TITLE: Calibrating ultrasonic emitters by using an acoustic radiometer

SOURCE: Izmeritel'naya tekhnika, no. 10, 1966, 65-68

TOPIC TAGS: ultrasonic emitter, instrument calibration, radiometer

ABSTRACT: Since the International Organization for Standardization has recommended general parameters for ultrasonic emitters used in medical therapy, the present article deals only with methods of gaging emitter capacity. The most common method is by acoustic radiometer, based on the fact that ultrasound in the range of 0.5 to 10 Mc is emitted in the form of ray pencils and can be measured in watts by a radiometer with a reflector. This reflector may be faced with foliated phosphorous bronze 0.1 mm thick, the effects of which are discussed in terms of radiation pressure, speed of sound, average acoustic capacity, and angle of incidence. The author employed a compensation radiometer developed at VNIIFTRI. The radiometer was placed in a bath of distilled water lined with soft rubber; all its components are described and illustrated, including the emitter being calibrated, the photomonitor and its components, the dynamic regulator which positions the reflector automatically, and the electronic

UDC: 534.232.089.6:61

Card 1/2

ACC NR: AP6034597

integrator, whose function is described. The relation of acoustic capacity to compensation current is discussed at length, followed by a summary of causes of error in this method of calibration. Systematic error does not exceed 5% in grading ultrasonic capacity from 1 to 10 W; incidental error does not exceed 4%. The procedure and findings in testing accuracy of the system are discussed employing an emitter with a quartz plate of about 5 cm<sup>2</sup> and frequency of 0.88 Mc, and then compared with those obtained by the impedance method. An IMU-2 ultrasound capacity gage was used, the type employed in calibrating medical emitters. Orig. art. has: 6 formulas and 4 figures.

SUB CODE: 14/ SUBM DATE: 10Jan66/ ORIG REF: 004/ OTH REF: 007

Cord 2/2

L 3979-66 EWT(d)/EWT(1)/EEC(k)-2

ACCESSION NR: AP5022358

UR/0115/65/000/007/0040/0042  
534.232.001.5

48  
46  
B

AUTHOR: Reznikov, A. Ye.<sup>55</sup>; Snytko, A. Ya.<sup>55</sup>

TITLE: Measuring the coefficient of axial concentration of an ultrasonic radiator

SOURCE: Izmeritel'naya tekhnika, no. 7, 1965, 40-42

TOPIC TAGS: ultrasonic radiation, electronic measurement, antenna radiation pattern

ABSTRACT: The coefficient of axial concentration  $\Omega$  of a directional radiator is defined as the number which shows how much less power  $W_{\alpha}$  must be radiated by a directional transducer in a free field in comparison with the power  $W_{\alpha 0}$  radiated by a non-directional transducer to produce the same pressure at the same point in the field on the axis of radiation. A method is proposed for measuring  $\Omega$  by moving the radiator in space in such a way that the output voltage from a receiver with a square-law detector and a high time constant is identical in a certain region of space. This is equivalent to generation of a quasi-diffuse field by the radiator in this region of space. The unit for measuring the coefficient of axial concentration is a spherical duralumin chamber 1.5 meters in diameter filled with water containing

Card 1/3

L 3979-66

ACCESSION NR: AP5022358

a large number of conical reflectors. The receiver and radiator are suspended from a single crossbar which is moved in a complex pattern by an eccentric drive and elastic braces. This type of motion may be considered as approximately random. A block diagram of the experimental setup is shown in fig. 1 of the Enclosure. High-frequency voltage (10-100 kc) is fed either to the cylindrical radiator to be studied 2, or to spherical reference radiator 3. These radiators are isolated from the spherical receiving transducer 5 by soundproof baffle plate 4 which is fastened to the crossbar with the radiators. Voltage from the receiver is fed to band filter 6 for suppressing undesirable low frequency components caused by turbulence. The high frequency voltage from the filter output is fed through side-band attenuator 7 to high frequency amplifier 8 with detector 9. The detector output is coupled by d-c amplifier 10 to square-pulse shaper 11. The output from the shaper is connected by d-c amplifier 12 to RC integrating circuit 13. D-c microvoltmeter 14 is connected at the output of the integrating circuit. The experimental results are graphed and tabulated. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: EC, GP

NO REF SOV: 001

OTHER: 001

Card 2/3

L 3979-66

ACCESSION NR: AP5022358

ENCLOSURE: 01

2

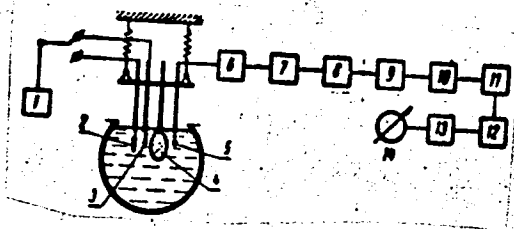


Fig. 1.

Add clue work: Sonar 24  
1 55

PC

Card 3/3

L 23556-66 EWT(d)/EWT(1)/EEC(k)-2/EPF(n)-2/T/EWP(k)/ETC(m)-6 IJP(c) WW

ACC NR: AP6002924 (N)

SOURCE CODE: UR/0286/65/000/024/0084/0084

AUTHOR: Snytko, A. Ya.

55  
B

ORG: none

TITLE: Method for measuring the acoustical power of ultrasonic oscillations. 2/ 2/ 9M  
Class 42, No. 177110 /announced by All-Union Scientific Research Institute of  
Physical and Radio Engineering Measurements (Vsesoyuznyy nauchno-issledovatel'skiy  
institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 84

TOPIC TAGS: acoustic radiation, acoustic equipment, ultrasonic radiation

ABSTRACT: This Author Certificate presents a method for measuring the acoustical power of ultrasonic oscillations of radiators, based on measuring the force of the radiation pressure. To increase the accuracy and to simplify the measurements, the position of the radiator is determined relative to the radiation meter, at which the force of the radiation pressure is zero. The radiator is then moved a fixed distance, and the radiation power is determined according to the compensation current.

SUB CODE: 20/ SUBM DATE: 05Aug64  
Card 1/1 v

UDC: 534.612

TARASEVICH, N.V., otv. red.; OSOKIN, L.S., red.; SNYTKO, M.K., red.

[Geography of Tambov Province; textbook] Geografiiia Tambovskoi oblasti; uchebnoe posobie. Tambov, Tambovskoe knizhnoe izd-vo, 1961. 126 p. (MIRA 15:8)

1. Tambov. Pedagogicheskiy institut.  
(Tambov Province--Geography)



SNYTKO, M.K., kand. geogr. nauk, red.; KORNEYEV, S.G., red.; POPOV,  
~~V.N.~~, tekhn. red.

[Tourist routes through Tambov Province]Turistskie marshruty  
po Tambovskoi oblasti. Tambov, Tambovskoe knizhnoe izd-vo,  
1961. 142 p. (MIRA 16:3)  
(Tambov Province--Guidebooks)

ZINENKO, Petr Fedorovich; SNYTKO, Mikhail Kirillovich

[Tambov Province; an account of its economic geography] Tambovskaja oblast'; ocherki ekonomicheskoi geografii. Tambov, Tambovskoe knizhnoe izd-vo, 1960. 172 p. (MIRA 14:10)  
(Tambov Province—Economic geography)

СЕРГЕЕВ, С.Ye.; ШИПКО, В.К.; ПАВЛУШЕНКО, П.А., канд. экон.  
наук, доц.

[Tambov; an economic geography essay] Tambov; ekonomiko-  
geograficheski ocherk. Moskva, Geogr. ob-vo Sotruza SSSR  
pri AN SSSR, 1961. 121 p. (MIRA 17:9)

SNYTKO, V.A.

Trace element migration in soils and vegetation in the southern  
taiga of central Siberia. Dokl. Inst. geog. Sib. i Dal'. Vost.  
no.6348-53 '64. (MIRA 18:10)

KOCHETKOV, N.K.; KHORRAM, A.Ya.; SMYATKOVA, V.L.

Triterpene saponins. Report No.13: Halolysis of glycosides of the triterpene series and the synthesis of oleanolic acid glycosides. Izv. AN SSSR Ser. khim. no.11:2028-2036 N '64 (MIRA 18:1)

1. Institut khimii prirodnykh soedineniy AN SSSR.

ANTUF'YEV, Yu.P.; EL'-SHESHENI, M.M.; SOAD, Kh.R.; SALCH, Z.A.; SOROKIN, P.V.

Study of the reaction  $\text{Li}^6(d, \alpha)\text{He}^4$  at deuteron energies ranging  
from 1 to 2.5 Mev. Izv. AN SSSR. Ser. fiz. 27 no.11:1451-  
1455 N '63. (MIRA 16:11)

AID P - 1362

Subject : USSR/Mining  
Card 1/1 Pub. 78 - 25/30  
Author : Soakov, M. A.  
Title : Socialistic competition of oil producers of  
Bashkir and Azerbaydzhan  
Periodical : Neft. khoz., v.32, #12, 84-86, D 1954  
Abstract : A general outline of the new technique applied  
in competitive well drilling in two oil fields.  
Output of the well was increased by 20% and cost  
of production reduced by 14% because of adoption  
of new methods, particularly the flooding of oil-  
containing strata for forced oil flow.  
Institution: None  
Submitted : No date

Distr: ~~4E2c/4E2b~~ 621.34

5341. SOME ASPECTS OF POWER SUPPLY AT THE ROMAN

ROLLING MILL. A. Soara, V. Aldea and L. Andronescu.

Energetica (Bucarest), Vol. 5, No. 11, 545-56 (1957).

In Roumanian.

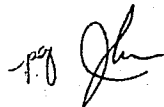
PR

1  
1

After a brief description of the milling process the power supplies, which are based on mercury-arc rectifiers for the main drives and motor-generator sets for the 7 rolling-mill motors are described. The automatic regulating system for the 24 m diameter rotary hearth furnaces is also discussed.

5  
2

A.1





37314

S/169/62/000/004/100/103  
D290/D302

3.9110

AUTHORS: Constantinescu, Liviu, Soare, Andrei, and Soare, Alexandra

TITLE: Measurements of geomagnetic activity for the period 1954-1959 at the Surlar' geophysical observatory

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 4, 1962, 39, abstract 4G230 (Probl. geofiz., 1961, 1, 259-273)

TEXT: The magnetic K-index was used to determine the diurnal and annual variations of geomagnetic activity at the Surlar' geophysical observatory. The K-index curves for Surlar' (using scales of 350 and 500 $\gamma$ ) were compared with the curves for Svider (scale 500 $\gamma$ ) and Odessa (550  $\gamma$ ). The following results were obtained: 1) A maximum in the diurnal variation occurs between 9-12 h, universal time; 2) There are seasonal maxima at the equinoxes (sometimes they are shifted a little from the equinox); 3) The 350  $\gamma$  scale was more suitable than the 500  $\gamma$  scale for measurements at Surlar'; this is confirmed by comparing K(Surlar') with  $K_p$  for 1959. [Abstractor's note: Complete translation].

Card 1/1

CONSTANTINESCU, Liviu; SOARE, Andrei

Characteristics of bay geomagnetic perturbations registered at the Surlari Geophysical Observatory in the cycle of 1947-1957 solar activity. Probleme geofiz 2:147-162 '63.

CRISTESCU, Traian; ROMANESCU, Dragomir; SOARE, Andrei; STEFANESCU, Aurelian

On the results obtained by the mining magnetometric prospecting  
in Rumania. Probleme geofiz 2:225-241 '63.

SOARE, A., ing.

Computing method of optimum temperatures for the conveyance  
of asphalt crude oil. Petrol si gaze 14 no.9:443-447 S'63.

SCARE, D., ing.: STOIERU, B., ing.

Grounding at zero in low-tension networks. Energetica Rum 8  
no.4:153-158 Ap '60.

MANGLESCU, G.; SOARE, E.

Unity of the nature of the curves of relative permeability with regard to the fluid phases of various humidity in a porous medium, and possibility of expressing them in an analytic form. Studii cerc geol 6 no.3:619-632 '61.

1. Comunicare prezentata de I. Gavat, membru corespondent al Academiei R.P.R. si membru al Comitetului de redactie, Studii si Cercetari de geologie!"

RUMANIA/Plant Physiology - Growth and Development

I.

Abs Jour : Ref Zhur - Biol., No 10, 1953, 32039

Author : Jeanrenaud, Elena., Soare, Florica

Inst : Jassy University

Title : Determination of the Physiological Action on Plants of Some Derivatives of Phenoxyacetic, Guaiacoxyacetic and Naphthoxyacetic Acids.

Orig Pub : An. stiint. Univ. Jasi, 1956, Sec. 2, 2, No 2, 39-59

Abstract : The action of new derivatives of phenoxyacetic, guaiacoxyacetic and naphthoxyacetic acids: 2 - benzylphenoxyacetic, 2-benzyl-4-chlorphenoxyacetic, chlorguaiacoxyacetic, I-methyl ( $\beta$  -naphthoxyacetic),  $\lambda$ ,  $\chi$  - methylene - bis ( $\beta$  -naphthoxyacetic) acids on the growth of seedlings of corn and melon was studied by means of the Ganar method. The replacement of the methyl radical by benzyl radical

Card 1/2

COARE, F.; BATAIU, O.; JEMONAUD, F.

Determination of the action of some chemical substances upon the growth of the roots of maize and beans. p. 15.

ANALALE STIINTIFICE. SECTIUNEA II: STIINTE NATURALE. Iasi. Rumania.  
Vol. 5, no. 1, 1959.

Monthly List of East European Accessions (EMAI) LC, Vol. 9, no. 1,  
January 19 0.

Incl.



507/118,1 EXCERPTA MEDICA Sec 4 Vol.11/9 Microbiology Sep 53

2340. THE CAUSES WHICH MAY ALTER THE INTRADERMAL REACTION WITH ALLERGEN OF H. PERTUSSIS - Asupra cauzelor care pot modifica reacția intradermică cu alergen de B. pertussis la cobaii sensibilizați cu germeni vii de B. pertussis - Bonciu C., Soare I., Barber C. and Petrovici M. - MICROBIOL. PARAZITOL. EPIDEMIOL. 1957, 2/3 (234-237)

Infestation of guinea-pigs with Klossiela causes a blocking of the reticular tissues with an abundant iron depot in the tissues of the spleen and the adrenal glands. This partly explains the absence of a skin reaction to the allergen of H. pertussis in guinea-pigs sensitized with living germs. Advanced pulmonary lesions, as well as avitaminosis E and A may contribute to this effect.

Sechter - Iasi (IV, 17)

EXCERPTA MEDICA Sec 4 Vol 12/5 Med. Micro. May 59

1305. A NEW SEMISYNTHETIC MEDIUM FOR THE ISOLATION OF H.  
PERTUSSIS - Un nouveau milieu semi-synthétique pour l'isolement de  
l'hémophilus pertussis - Soare I., Simu C. and Marx A. - ARCH.  
ROUM PATH. EXP. MICROBIOL. 1957. 16/1 (127-130) Tables 1

A description is given of the preparation of fibrin hydrolysate and the composition  
of a semisynthetic medium based on this hydrolysate and on fresh, defibrinated  
horse's (or sheep's) blood. This medium gives better results than Bordet-Gengou's  
medium, permitting a more abundant growth. The colonies present a special mor-  
phology, but the properties of the strains are those of phase I.

Chambon - Saigon (IV)

BARBER, C.; SOARE, I.; WEINBACH, R.

Note on a hemosensitizing antigen isolated from Bordetella pertussis.  
Rev. sci. med. 6 no.1/2:7-12 '61.

(BORDETELLA PERTUSSIS immunology)

BARBER, Cella; SOARE, Irina

Separation of a polymer containing  $\gamma$ -aminobutyric acid from  
Bordetella pertussis. Arch. Roum. path. exp. microbiol. 20 no.3:  
511-515 S '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" Service de Biochimie  
Generale. (AMINO ACIDS) (BORDETELLA PERTUSSIS)

SOARE, Irina; BARBER, Cella; DUMITRESCO, M.

Contribution to the problem of improvement in the diagnosis of  
whooping cough. Arch. roum. path. exp. microbiol. 23 no.3:  
597-602 S'63

1. Travail de l'Institut "Dr. I. Cantacuzino"; Services de  
Pertussis et de Biochimie generale, Bucarest.

ORIGIN: ITALY; FOR REF: CODICE: PONTRESICO, M.

1. The soluble fraction of *Bordetella pertussis* isolated with calcium desoxycholate. Arch. Roum. path. exp. microbiol. 23 no.4:839-844. D 164.

2. Travail de l'Institut "Dr. I. Cantacuzino", Services de *B. pertussis* et de Biochimie Generale. Submitted April 3, 1962.

ERLITZ, Ivan, ing.; ABAITANCEI, Dan, ing.; SOARE, Iosif, ing.

The effectiveness of measures destined to improve the quality of tractor engines in service. Metalurgia constr mas 14 no.6:515-520 Je '62.

1. Institutul politehnic, Brasov.

CIUCA, M.; POPOVICI, Marcella; NESTORESCO, N.; GEORGESCO, Colette; ANDREESCO, Viorica; SOARE, Luiza

Persistence of the polylysogeny of lysogenic strains of *E. coli* M (1920-1921) and of *S. typhi* 0901 in various environmental conditions.

1. Travail de l'Institut "Dr. I. Cantacuzino".  
(*ESCHERICHIA COLI*)      (*SALMONELLA TYPHOSA*)  
(*SALMONELLA PHAGES*)      (*COLIPHAGES*)



POPOVICI, Marcella; NESTORESCO, N.; ALEXENCO, Ecaterina; SOARE, Luiza;  
GHIONI, Elena; ALESSANDRESCO, D.; TEODORU, G.

Influence of the cyclic use of antibiotics on the characteristics of  
staphylococci in a maternity hospital. Arch. Roum. path. exp. microbiol.  
20 no.3:393-398 S '61.

1. Institut Dr. I. Cantacuzino Service des Enterobacteriacees (for  
Popovici, Nestoresco, Alexenco, Soare, Ghioni. 2. Maternite Polizu  
(for Alessandresco, Teodoru).  
(STAPHYLOCOCCUS pharmacology) (ANTIBIOTICS pharmacology)

ALEXENCO, Ecaterina; GEORGASCO, Colette; SOARE, Luiza

Research on the value of 2 methods of determination of antibiotic sensitivity. Arch. Roum. path. exp. microbiol. 20 no.3:537-540 S '61.

1. Travail de l'Institut "Dr. I.Catacuzino" Service des  
Enterobacteriacees.  
(BACTERIA pharmacology) (ANTIBIOTICS pharmacology)

CIUCA, M., academiian; POPOVICI, Daniela; NEGORESCU, N.,  
ANDREESCU, Florina; GEOPRESCU, Colette; SCARE, Iusea;  
DRAGOS, Tatiua; NESULEA, Nina

Research on some genetic aspects of the biological evolution  
of "lytic" and "lysogenic" enteric bacteriophages. Stud.  
oscel. inframicrobiol. 17, no. 5 511-550, 1973.

Dr. Membru corespondent al Academiei R.F.R. (for Andreescu).  
(COLIPHAGES; SALMONELLA PHAGES; GENETICS)

BOGOMI, Marcela; SZECHL, Lucia; SOARE, Luiza; NEGUT, Aurora;  
LILIANE, E.; STANCIU, Victoria

Role of germs of the Citrobacter group in the etiology of  
alimentary toxoinfections. Arch. Roum. path. exp. microbiol.  
23 no.4:1005-1010 D '64.

1. Travail de l'Institut "Dr. I. Cantacuzino". Submitted  
June 26, 1964.

TURAI, I., prof.; SOARE, M., dr.; CALALB, A., dr.; STEFANESCU, V., dr.;  
ROSEALA, E., dr.

Costal phlebography as a method of exploration in portal hypertension.  
Med. intern., Bucur 13 no.1:143-147 Ja '61.

(HYPERTENSION, PORTAL diagnosis)  
(ANGIOGRAPHY)

SCARE, V.

Study of the state of stresses in thin curved plates in the form of surfaces with two directing parabolas and a directing plan in the theory of membranes. p. 513. Academia Republicii Populare Romine. Institutul de Mecanica Aplicata. STUDII SI CERCETARI DE MECANICA APLICATA. Bucaresti. Vol. 4, no. 3/4, July/Dec. 1955.

So. East European Accessions List Vol. 5, No. 9 September, 1956

SOARE, M.

Die Anwendung der Differenzen-Gleichungen beim Stadium der Schalen

SO: Zt Angew Phys, October 1956, Unclassified.

17. 11. 1957

18. 11. 1957. The law issued from the revision of State Standard 946-50; distribution of  
of the new and functions of construction with circular section. p. 27

Vol. 7, no. 3, Apr. 1956  
TECHNICAL  
TECHNOLOGY  
Bucharest, Rumania

Re: East European accession, Vol. 6, No. 2, Feb. 1957



SOARE, N.

"Some aspects of the numerical calculation in designing curved thin plates."  
II

p. 570 (Industria Constructiilor Si A Materialelor De Constructii)  
No. 10, 1957  
Bucharest, Rumania

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

SOARE, M.

TECHNOLOGY

Periodical: STUDII SI CERCETARI DE ENERGETICA Vol. 8, no. 3, 1958

SOARE, M. On the extent of compression power necessary to the spark-  
ignition engines. p. 361.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 3,  
March 1959, Unclass.

SEARU, M.

Calculation of thin-curved rotating plates admitting continuity. p. 328.

REVISTA CONSTRUCȚIILOR ȘI A MATERIALELOR DE CONSTRUCȚII. (Asociația Științifică a Inginerilor și Technicienilor din România și Ministerul Construcțiilor și al Materialelor de Construcții) București, România. Vol. 10, no. 6, June 1958.

Monthly List of East European Accessions (EEAI) EC, Vol. 8, no. 6, June 1959

Incl.

80421

RUM/8-59-1-18/24

24.4100

AUTHOR: Soare, M.

TITLE: On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling  $\lambda_0$

PERIODICAL: Studii si Cercetări de Mecanică Aplicată, 1959, Nr 1, pp 257 - 264 (RUM)

ABSTRACT: This article deals with the determination of the necessary section of a construction element (a bar) subjected to buckling. There are three methods which deal with this problem: a) The coefficient method of a k-shape; b) the method of inertia radii; and c) the method of  $\zeta$  coefficients. The first method supplies the most interesting results. The author explains this method by using the following notations: P = compression power applied on the ends of a bar; A = surface of the transversal section of the bar;  $A_{nec}$  = necessary gross section; I = inertia moment of the section; i = minimum inertia radius of the section; l = length of bar;  $k = A^2/I$ , shape coefficient of the section;  $\lambda = l/i$  slenderness coefficient of the bar;  $\lambda_e$  = slenderness coefficient of the elastic limit;  $\varphi$  = buckling coefficient;  $\sigma_{ac}$  = admissible resistance to compression;  $\sigma_{af}$  = admissible resistance to buckling;  $\sigma_{afe}$  = admissible resistance to buckling, at the elastic limit. Taking these notations into

Card 1/8

4

80:25.

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

consideration,  $\lambda$  can finally be expressed:  $\lambda = \frac{l\sqrt{k}}{\sqrt{A}}$  (1).

The admissible resistances to buckling and compression are connected by the relations:  $\sigma_{af} = \varphi \cdot \sigma_{ac}$ . The extension of the bar will be economical if:

$\frac{P}{A} = \sigma_{af}$ , (2).

Since  $F(\lambda, \sigma_{af}) = 0$  (3).

the following equation can be established:

$F\left(\frac{l\sqrt{k}}{\sqrt{A}}, \frac{P}{A}\right) = 0$  (4).

which determines the necessary section  $A_{nec}$ . This general formula (Nr 4) cannot be used for practical purposes so that the author presents the most important special cases, e.g. 1)  $\sigma_{af}$  is expressed in function of  $\lambda$ ; Considering a development in a limited series:

$\sigma_{af} = f(\lambda) = \frac{B_{-m}}{\lambda^m} + \frac{B_{1-m}}{\lambda^{m-1}} + \dots + \frac{B_{-2}}{\lambda^2} + \frac{B_{-1}}{\lambda} + B_0 + B_1\lambda + B_2\lambda^2 + \dots + B_n\lambda^n$ , (5).

Card 2/8

80421.

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

in which  $B_{-m}, B_0, B_n$  are known, the author establishes a general equation:

$$\frac{B_{-m}}{k^{\frac{m}{2}}} \cdot x^{m+n} + \frac{B_{1-m}}{1^{m-1} \cdot k^{\frac{m-1}{2}}} \cdot x^{m+n-1} + \dots + \frac{B_{-2}}{k^2} x^{n+2} + \frac{B_{-1}}{\sqrt{k}} x^{n+1} + B_0 x^n + B_1 \sqrt{k} x^{n-1} + (B_2 k - P) x^{n-2} + B_3 k^{\frac{3}{2}} x^{n-3} + \dots + B_{n-1} x^{n-1} \cdot k^{\frac{n-1}{2}} x + B_n k^{\frac{n}{2}} = 0, \quad (7)$$

in which at least one root is positive. As soon as this root is known, the necessary section results from  $A = x^2$  (Nr 6). Particular cases:  $m = 0$  and  $n = 1$ . In this case the relation (5) has a linear shape:  $\sigma_{af} = -B_0 + B_1 \lambda$  or  $\sigma_{af} = a - b \lambda$  ( $a, b > 0$ ) (8),

thus it is of Tetmajer type, and  $A_{nec}$  is expressed by:

$$A_{nec} = \frac{b^2 k + 2Pa + b \sqrt{k} \cdot \sqrt{b^2 k + 4Pa}}{2a^2} \quad (10).$$

Card 3/8

80421

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

If  $m = 0$  and  $n = 2$ , the relation (5) has a parabolic shape and the necessary section can be expressed by:

$$A_{nec} = \frac{B_0^2 k + 2B_0(P - B_2 k) - B_1 \sqrt{k} \sqrt{B_1^2 k + 4B_0(P - B_2 k)}}{2B_0^2} \quad (13).$$

If  $B_1 = 0$ , the precedent relations can be reduced to:

$$\sigma_{af} = B_0 + B_2 \lambda^2, \quad (14) \text{ and}$$

$$A_{nec} = \frac{P}{B_0} - \frac{B_2}{B_0} k l^2, \quad (15)$$

prescribed by the old German standard for metal bridges (BE 1934). Starting with the formula recommended by Kochetkov [Ref 3], similar formulae can be obtained for wooden constructions:

$$\sigma_{af} = \sigma_{ac} - \frac{\sigma_{ac} - \sigma_{afe}}{\lambda_e^2} \lambda^2 \quad (14),$$

Card 4/8 and

80421

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

$$A_{nec} = \frac{P}{\sigma_{ac}} \frac{\sigma_{ac} - \sigma_{afe}}{\sigma_{ac} \lambda_e^2} k l^2, \quad (15)$$

Using this solution for "OL 38" and "OL X 52", and approximating the curves of the admitted resistance, the author has established the following sections in two previous works [Refs 4 and 5]: for "OL 38" in the plastic field ( $20 \leq \lambda < 105$ ):

$$A_{nec} = \frac{P}{1.4} + 0.4 k l^2,$$

for "OL X 52" in the plastic field ( $20 < \lambda < 85$ ):

$$A_{nec} = \frac{P}{2.1} + 0.6 k l^2.$$

P is expressed in tons, l in meter and  $A_{nec}$  in sq cm. If  $m = 2$  and  $n = 0$ , the necessary section is:

$$A_{nec} = \frac{l}{\pi} \sqrt{\frac{c_f P k}{E}}, \quad (16)$$

Introducing the values  $c_f = 2.4$  and  $E = 2.1 \times 10^4$  kg/sq cm,  $A_{nec}$  becomes:  $A_{nec} = 1.08 l \sqrt{Pk}$ , established in [Ref 4], valid for the elastic zone ( $\lambda_e < \lambda < 250$ ). If  $m = 0$  and  $n = 4$ , the necessary section is:

Card 5/8



80421

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

$$A_{nec} = \frac{P}{2a} \left( 1 + \sqrt{1 + 4 ab \frac{e^4 k^2}{p^2}} \right), \quad (18).$$

2)  $\lambda$  is expressed in function of  $\sigma_{af}$ : Considering a development of a limited series

$$\lambda = f(\sigma_{af}) = \frac{B_{-m}}{\sigma^m} + \frac{B_{1-m}}{\sigma^{m-1}} + \dots + \frac{B_{-2}}{\sigma^2} + \frac{B_{-1}}{\sigma} + B_0 + B_1 \sigma + B_2 \sigma^2 + \dots + B_n \sigma^n, \quad (19),$$

and introducing the simplification:

$$A = \frac{P}{y^2} = \frac{P}{\sigma_{af}}, \quad (20),$$

the author obtains:

$$B_n y^{2m+2n} + B_{n-1} y^{2m+2n-2} + \dots + B_1 y^{2m+2} + B_0 y^{2m} + B_{-1} y^{2m-2} + \dots + B_{1-m} y^2 - \frac{e \sqrt{k}}{\sqrt{P}} y + B_{-m} = 0, \quad (21).$$

Card 6/8

The general formula (Nr 21) allows no discussion of the roots, but can

80421.

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

be used since 1 root is positive. 3)  $\lambda^2$  is expressed in function of  $\sigma_{af}$ : Considering the variation law (Nr 22),  $A_{ne}$  results by solving the equation:

$$\frac{B_m}{p^m} A^{m+n} + \frac{B_{1-m}}{p^{m-1}} A^{m+n-1} + \dots + \frac{B_{-1}}{p} A^{n+1} + B_0 A^n + (B_1 p - \ell^2 k) A^{n-1} + B_2 p^2 A^{n-2} \dots + B_{n-1} p^{n-1} A + B_n p^n = 0, \quad (23).$$

Particular cases: If  $m = 0$  and  $n = 1$ , the relation (14) transcribed with other coefficients, can be used. If  $m = 2$  and  $n = 0$ , Euler's formula is being found. If  $m = 1$  and  $n = 0$ ,  $\sigma_{af}$  is expressed by:

$$\sigma_{af} = \frac{\sigma_0}{1 + a \lambda^2} \quad (a > 0), \quad (24'),$$

a formula of the Navier-Schwarz-Rankine type, recommended by the American specifications for construction steels, in the elastic field ( $\lambda > 120$ ), [Ref 2]. If  $m = 0$  and  $n = 2$ , the necessary section is expressed by:

Card 7/8

2042i

RUM/8-59-1-18/24

On the Possibility of Establishing Some Formulae for Determining the Extent of Buckling

$$A_{nec} = \frac{\rho^2_k - B_1 P \pm \sqrt{(\rho^2_k - B_1 P)^2 - 4B_0 B_2 P^2}}{2B_0} \quad (29),$$

(if  $B_0 B_2 < 0$ , the positive sign, +, is set before the radical). Other cases of the  $\lambda$ ,  $\sigma_{af}$  relation determining the necessary section can be determined by following the general principle presented in the beginning of this article. +

There are 5 references, 4 of which are Rumanian and 1 English.

SUBMITTED: July 18, 1958

Card 8/8

R/008/60/000/001/005/009  
A125/A026

10 9100

AUTHOR:

Soare, Mircea

TITLE:

Application of the Multipoint Method to the Computation of Thin Shells

PERIODICAL: Studii și Cercetări de Mecanică Aplicată, 1960, No. 1, pp. 239-259

TEXT: The purpose of this paper is to apply an improved digital computation method - the "Plurilocal" method - to the investigation of the state of forces in thin shells. The principle of this method has been established by Collatz and it has been used for the calculation of plane shells by Collatz and Zuremehl (Ref. 10). The multipoint method is a considerable improvement of the classical method of finite differences. It is based on the association between the development of the unknown function in a Taylor series and the differential equation to be integrated. Reference is made to the usual method. In case the multipoint method is employed, the function  $w$  is developed in a Taylor series, retaining the terms up to a derivative of the 6th order. Starting with the relations (6a) and (6b), the author deduces the equation of finite differences (11). Generally, the multipoint method can easily be applied to the differential equations of a form expressed by (12). The problem is more complex in case of

VC

R/008/60/000/001/005/009  
A125/A026

Application of the Multipoint Method to the Computation of Thin Shells

partial derivatives. The multipoint method is now applied to a Poisson-type equation (14), which is found at the study of the elliptic paraboloid. Starting again from a development of the function F in a Taylor series and considering equal intervals in every direction, as well as  $\Delta x = \Delta y = \Delta$ , the author deduces the expressions of  $\psi_1$  (15a) and  $\psi_2$  (15b), and then the equations of the finite differences (16) and (17), deriving from the expressions (15a) and (15b). According to (14), the bi-laplacean operator can be expressed by a free term, and he finally deduces the equation of the finite difference (18). Figure 1 compiles the coefficients of F for the equations of finite differences (16), (17) and (18). The amount of points interfering in the multipoint method is the same as in the parabola method. The equation system (18) can also be solved by the relaxation method. Replacing F in (14) by w, and p by p/S, the membrane equation  $\frac{\partial^2 w}{\partial x^2} + \frac{\partial^2 w}{\partial y^2} = -\frac{p}{S}$  is obtained, in which w is the sag referred to

VC

the initially horizontal surface of the membrane, p the intensity of the uniform load, and S the extension force, on the membrane contour. An approximate solu-

Card 2/4

R/008/60/000/001/005/009  
A125/A026

Application of the Multipoint Method to the Computation of Thin Shells

tion can be obtained if the membrane is replaced by a network of chords uniformly extended and having square-shaped meshes. Against this network there is considered a second network, directed in accordance with the bisectors, as well as knot  $(m, n)$  of the networks (Fig. 2). The force in every chord is  $S$  for a load  $p$ . Superposing these two networks, the equilibrium equation is finally expressed by (20). The relation can also be extended for a variable  $p$ . For the solution of the problem it is necessary to establish similar equations for the other knots and determine the value of the sags which satisfy these equations. For the evaluation of the internal forces it is necessary to know not only the function  $F$ , but also its derivatives of the second order in the points of the network. The second derivative in ratio  $x$  is expressed by the relation (24a) and the second derivative in ratio  $y$  by the relation (24b). A simplification of these two relations can be obtained by taking into consideration the equation of finite differences (18), obtaining the relation (25). For the mixed derivative, the author obtains the relation (26). The calculation of the state of forces in a thin translation shell can be performed with these relations. The state of force in an elliptic paraboloid can be determined after establishing

✓c

Card 3/4

R/008/60/000/001/005/009  
A125/A026

ve

Application of the Multipoint Method to the Computation of Thin Shells

the successive derivatives (28a) and (28b) and the projections of the real forces on the  $x_1Oy_1$  plane (29a), (29b) and (29c). The real forces are finally deduced by the relations (31). The author finally presents a calculation example by determining the state of forces in a thin shell of reinforced concrete (Fig. 3). There are 6 figures, 1 table and 9 references: 4 Rumanian, 3 German and 2 English.

SUBMITTED: January 12, 1959 (initially)  
September 11, 1959 (complete)

Card 4/4

24.4250 also 2807

24265

R/008/61/000/002/003/002

D235/D304

AUTHOR: Soare, Mircea

TITLE: A general method of solving rectangular plates

PERIODICAL: Studii și cercetări de mecanică aplicată, no. 2, 1961,  
277 - 291

TEXT: For solving rectangular plates, the author extends the method of trigonometrical series with variable coefficients, by using the general fundamental functions. By this method every condition of supporting the plate along the sides is satisfied, while the calculation method is perfectly systematized. The method was first applied by V.Z. Vlasov (Ref. 13: Obshchaya teoriya oblochek i yeye prilozheniye v tekhnike (A General Shell Theory and its Application in Engineering), Gostekhizdat, Moscow, 1949), to the study of thin prismatic plates, while V. Ilie (Ref. 4: Deformații și solicitări într-o placă oblică (Distortions and Stresses in an Oblique plate) Inst. Politehnic Cluj, Lucrări științifice, 2, 1959)

Card 1/8



24265

R/008/51/000/002/003/008

D235/D304

A general method of solving ...

studied a similar problem for a particular case. The general problem of plane elastic plates may be reduced to integrating an equation with partial derivatives:

$$\Delta \Delta w = \frac{\partial^4 w}{\partial x^4} + 2 \frac{\partial^4 w}{\partial x^2 \partial y^2} + \frac{\partial^4 w}{\partial y^4} = \frac{p(x, y)}{K}, \quad (1.1) \quad (1.1)$$

in which  $w$  represents the sag of the median surface,  $K = \frac{E\delta^3}{12(1-\mu^2)}$  is the rigidity module at the plate's bending,  $E$  is the elasticity module of the material,  $\delta$  the thickness of the plate, and  $\mu$  the Poisson coefficient. The system of the coordinate axes is selected as shown in Fig. 1. The general solution method is accomplished by using a solution of (1.1) under the shape of

$$w = \sum_n w_n = \sum_n W_n(y) \cdot \omega_n(x) \quad (n = 0, 1, 2, \dots), \quad (2.1) \quad (2.1)$$

in which  $\omega_n(x)$  represents a series of fundamental functions. The

Card 2/8

21265

R/002/61/002/002/002/002  
D235/D304

A general method of solving ...

expression of each of these functions consists of four arbitrary constants which may be determined in such a way that all boundary conditions should be satisfied on the sides parallel with the Oy axis. These functions represent the solution of the differential equation

$$\frac{d^4 w}{dx^4} - \frac{q}{D} w = 0 \quad (\alpha = \text{constant}). \quad (2.2)$$

Considering the given load, developed in series of fundamental functions with variable coefficients and applying the principle of the superposition of elements, by using for simplicity only a term of the n-th order, only the still unknown function  $W_n(y)$  should be determined in such a way that it should satisfy the conditions on the  $y = \pm \frac{b}{2}$  sides. Applying a method recommended by L.V. Kantorovici and V.I. Krilov (Ref. 5: Metode de aproximatie al analizei superioare (Approximation Methods of Higher Analysis), Inst. Studi

Card 3/8

24265

R/008/61/000/002/003/008

D235/D304

A general method of solving ...

Romino-Sovietica al Acad. R.P.R., Bucuresti, 1956, 450), the author deduces for the determination of  $W_r(y)$  the following differential equation:

$$W'''' - 2\beta_n \frac{\alpha_n^2}{a^2} W'' + \frac{\alpha_n^4}{a^4} W = \frac{p_n(y)}{K} \tag{2.11} \tag{2.11}$$

The general solution of the differential equation (2.2) is given and is considered to be a development in series of the fundamental functions. In case of a perfectly fixed plate on the contour line, loaded with a uniformly distributed load, the load is expressed by:

$$p(x, y) \equiv p = \sum_n p_n \cdot \omega_n(x).$$

in which the  $p_n$  coefficient results from

21265

R/008/61/000/002/003/008  
D235/D304

A general method of solving ...

$$p_n = \frac{p \int_{-\frac{a}{2}}^{+\frac{a}{2}} \omega_n(x) dx}{\int_{-\frac{a}{2}}^{+\frac{a}{2}} \omega_n^2(x) dx} = \frac{4.14 \frac{\alpha_n}{2}}{\alpha_n} p.$$

with

$$p_1 = 0,83087 p,$$

$$p_n \approx \frac{Sp}{(2n+1)\pi} \quad (n = 3, 5, 7, \dots)$$

A particular solution  $w^{(0)}$  may be found by an analogy with a twice fixed girder:

$$w^{(0)} = \frac{pa^4}{384K} \left( 1 - 8 \frac{x^2}{a^2} + 16 \frac{x^4}{a^4} \right), \quad (4.1a) \quad (4.1a)$$

Card 5/8