NAUGARD, I.

Brigade forms of labor organization and the increase of production standards in sausage shops. Mias. ind. SSSR 32 no.1: 38-42 '61. (MIRA 14:7)

1. Kiyevskiy myasokombinat.
(Sausages) (Industrial management)

NAUGOL'NAYA, T. N.

Resin from the roots of Ferula gumosa. G. V. Pigulevskii and T. N. Naugol'naya. *Trudy Botan. Inst. im. V. L. Komarova, Akad. Nauk S.S.S.R.* 5, No. 5, 80-4(1955).—The resin from the roots of *F. gumosa* (collected in the Soviet Middle Asia) contains an acid $C_{14}H_{18}O_4$ (I), m. 92-3°, $[\alpha]^{18}D$ −35.2°, ethyl ester m. 81-2°, $[\alpha]^{18}D$ −37.7°, probably a deriv. of coumarin. On hydrogenation I absorbs 4 moles H yielding an acid $C_{14}H_{22}O_4$, $[\alpha]^{18.5}D$ −44.0°. On dehydrogenation with Se I gives a compd. m. 229.5-30.5°, apparently umbelliferone. R. Dowbenko

NAUGOL'NAYA, T. N.

Resin from the roots of Ferula gummosa. O. V. Pigulevskii and T. N. Naugol'naya. *Proc. Acad. Sci. U.S.S.R., Sect. Chem.* 103, 417-10(1955)(English translation).—See *C.A.* 49, 1992a. B. M. R.

2

PIGULEVSKIY, G.V.; NAUGOL'NAYA, T.N.

Investigation of root resin in Ferula gumosa Boiss. Dokl.AN SSSR 108 no.5:853-855 Je '56. (MIRA 9:10)
1. Botanicheskiy institut Akademii nauk SSSR. Predstavleno akademikom A.L. Kursanovym.
(Gums and resins) (Ferula)

KIR'YALOV, N.P.; LITVINOV, M.A.; MOKHNACH, V.O.; NAUGOL'NAYA, T.N.

Galbanic acid and its derivatives as new antibiotics of plant origin. Bot. zhur. 44 no.1:101-104 Ja '59. (MIRA 12:1)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.
(Umbelliferone) (Antibiotics)

KIR'YALOV, N.P.; NAUGOL'NAYA, T.N.

Chemical composition of essential oils of marsh tea (Ledum palustre L.) from the Sayans. Trudy Bot. inst. Ser. 5 no.9:169-174 '61. (MIRA 15:1)

(Sayan Mountains--Marsh tea) (Essences and essential oils)

KIR'YALOV, N.P.; NAUGOL'NAYA, T.N.

New triterpenic acid ("meristotropic") from Glycyrhiza triphylla Fisch. et Mey). Zhur.ob.khim. 33 no.2:694-697 F '63. (MIRA 16:2)

1. Botanicheskiy institut AN SSSR.
(Triterpenes) (Acids, Organic) (Licorice)

KIR'YALOV, N.P.; MAUGOL'MAYA, T.M.

New triterpenic acid ("macedonic") from Glycyrrhiza macedonica Boiss. et Orph. Zhur.ob.khim. 33 no.2:697-700 F '63. (MIRA 16:2)

1. Botanicheskiy institut AN SSSR.
(Triterpenes) (Acids, Organic) (Licorice)

KIR'YALOV, N.P.; NAUGOL'NAYA, T.M.

Triterpenic acid ("echinatic") from roots of Glycyrrhiza echinata L. Zhur.ob.khim. 33 no.2:700-703 F '63. (MIRA 16:2)

1. Botanicheskiy institut AN SSSR.
(Triterpenes) (Acids, Organic) (Licorice)

KIR'YALOV, N.P.; NAUGOL'NAYA, T.N.

New triterpene hydroxyketo acid, the uralenoic acid, from licorice (Glycyrrhiza uralensis Fisch.). Zhur. ob. khim. 34 no.8:2814 Ag '64. (MIRA 17:9)

1. Botanicheskiy institut AN SSSR.

KOVALENKO, N.F.; NAUGOL'NIKOV, B.I. [deceased]; MOROZOV, V.P.

Interrelation between the extension factors and equilibrium lengths of valence bonds in diatomic molecules. Izv.vys.ucheb. zav.; fiz. no.5:171-174 '61. (MIRA 14:10)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut imeni F.E.Dzerzhinskogo.
(Molecular dynamics)

NAUGOL'NIKOV, V.B.

Determination of the excess density and the depth of the occurrence of crystalline basement rocks based on gravity measurements. Razved. geofiz no.2:75-80 '64. (MIRA 18:5)

NAUGO'NIKOV, V.S.

Calculating the gravitational effect from three-dimensional bodies of arbitrary shape. Geofiz. razv. [illegible] 39-103 '62. [illegible] 17:2

STUPAK, N.K.; NAUGOL'NIKOV, V.B.

Working out methods for the interpretation of magnetic and gravity anomalies in the Voronezh Crystalline Shield. Izv. DGI 42:99-105 '64. (MIRA 18:11)

ACC NR: AT7003290 (A,N) SOURCE CODE: UR/3152/66/000/014/0058/0065

AUTHOR: Stupak, N. K.; Naugol'nikov, V. B.

ORG: None

TITLE: Replacing the variometric survey with the highly accurate gravimetric survey

SOURCE: Razvedochnaya geofizika, no. 14, 1966, 56-65

TOPIC TAGS: geologic survey, surveying instrument, gravimetric survey, gravimeter, gravimetry, mathematic model

ABSTRACT: Recent increases in the accuracy of gravimetric measurements will make it possible to replace variometers with more productive gravimeters. The relations between deposition depths of anomalous masses and separation distances between observation points at which anomalous horizontal gradients can be produced with gravimeters and which will be comparable with the measurements of gravitational variometers, are analyzed. Three expressions establishing the relationship between the locations of geological objects, the necessary observation interval, and the precision of gravimetric measurements necessary to reveal anomalous horizontal gradients, are presented. The method for determining anomalous horizontal gradients was tested on theoretical models and on materials from special, highly accurate,

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gravimetric surveys. One purpose of the survey was to determine the connection between the horizontal gradients, calculated from the results of gravimetric measurements, and those observed with the variometer. The correspondence between calculated and observed results was completely satisfactory. Orig. art. has: 8 formulas and 3 figures.

SUB CODE: 08/SUBM DATE: None

Card 2/2

NAUGOL'NOV, A.

Modifying hammer mills for grinding corncobs. Muk.-elev. prom. 27 no.4:25-26 Ap '61. (MIRA 14:7)

1. Proizvodstvenno-tekhnicheskiy otdel Rostovskogo upravleniya khleboproduktov.

(Grain-milling machinery)
(Corn (Maize))

RUDOY, B.; TIKHOMIROVA, V.; BORODIN, G., inzh.; NAUGOL'NOV, A., inzh.

Adding ground corncobs to mixed feeds. Muk.-elev. prom. 27 no.7: 12 Jl '61. (MIRA 14:7)

1. Novocherkasskiy zooveterinarnyy institut (for Rudoy, Tikhomirova).
2. Rostovskoye upravleniye zagotovok (for Borodin, Naugol'nov).
(Corn as feed)

NAUGOL'NOVA, S. V.

NAUGOL'NOVA, S. B. -- "On the State of the Functional Capacity of the Kidneys in Various Stages of Cardiovascular Insufficiency." Khar'kov Medical Inst. Khar'kov, 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 6, 1956.

USSR/Human and Animal Physiology (Normal and Pathological). T-4
Blood Pressure. Hypertension.

Abs Jour : Ref Zhur - Biol., No 16, 1958, 74815

Author : Kal'f- Kalif, M.Ya., Naugol'nova, S.B.

Inst : Ukrainian Scientific-Research Institute of Clinical Medicine.

Title : Some Data on the Problem of So-Called Congestive Hypertension.

Orig Pub : Materialy po obmenu nauchn. inform. Ukr. n.-i. in-t klinich. meditsiny, 1957, vyp. 1, 82-85.

Abstract : No abstract.

Card 1/1

NAUGOL'NOVA, S.V., kand.med.nauk

Effect of reactivity of the organism on the course of endocarditis. Trudy Khar. med.inst. no.52:118-123 '59. (MIRA 14:11)
(ENDOCARDITIS)

NAUGOL'NOVA, V.N.

Conference of the [illegible] of paleontologists of the Paleontological Society of the [illegible] Ja-F '65. (MIRA 18:[illegible])

NAUGOL'NYKH, E.Z.

Determination of sodium in serum and urine by colorimetry. Lab.delo 8 [i.e.9] no.1:15-18 Ja '63. (MIRA 16:5)

1. Biokhimicheskaya laboratoriya (zav.-kand.med.nauk K.A. Sogrina) Sverdlovskogo nauchno-issledovatel'skogo instituta okhrany materinstva i mladenchestva (direktor R.A.Malysheva).
(SODIUM IN THE BODY) (COLORIMETRY)
(BLOOD--ANALYSIS AND CHEMISTRY) (URINE--ANALYSIS AND PATHOLOGY)

NAUGOL'NYKH, E.Z.; SMOLINA, T.N.: BABINTSEVA, N.P.

Dynamics of bilirubin in the blood during hemolytic disease in newborn infants and its clinical significance. Vop. okhr. materin. dets. 8 no.1:31-33 '63 (MIRA 17:2)

1. Iz biokhimicheskoy laboratorii (rukovoditel' - kand. med. nauk K.A. Sogrina) i pediatricheskogo otdela (rukovoditel' dotsent R.Ye. Leyenson) Sverdlovskogo nauchno-issledovatel'skogo instituta okhrany materinstva i mladenchestva (dir. - kand. med. nauk R.A.Malysheva).

NAUGOL'NYKH, E.Z. [Nauhol'nykh, E.Z.]

Determination of urinary total 17-ketosteroids. Ukr. biokhim. zhur. 36 no.2:294-301 '64. (MIRA 17:11)

1. Biochemical Laboratory of Sverdlovsk Research Institute for Infant and Maternity Welfare.

NAUGOL'NYKH, I.V.

Temperature field of a calorimetric system with a hollow sphere at the center. Nov. nauch.-issl. rab. po metr. VNIIM no.1:1-3 '63. (MIRA 17:9)

NAUGOL'NYKH, I.V.; OLEYNIK, B.N.

Temperature conditions of a calorimeter. Nov. nauch.-issl. rab. po metr. VNIIM no.1:3-7 '63. (MIRA 17:9)

NAGOL'NYKH, K. A.

46-4-10/17

AUTHORS: Kanevskiy, I. [illegible] Nagol'nykh, K.A.

TITLE: Colloquium on Radiation Pressure (Kollokvium po radiatsionnomu davleniyu)

PERIODICAL: Akusticheskiy zhurnal, [illegible], Vol. [illegible], No 4, [illegible] (USSR)

ABSTRACT: This [illegible] of the Colloquium held [illegible] last [illegible] the 20-21 [illegible], [illegible] organized by [illegible].

[illegible]: Library of Congress.

Card 1/1 1. Radiation pressure-Conference-Report

NAUGOLNYKH, K. A.

"Propagation of Spherical Waves of Finite Amplitude in a Viscous and Heat Condductive Medium."

paper presented at the 4th All-Union Conference on Acoustics, Moscow, 27 May - 2 Jun 5 .

NAUGOL'NYKH, K.A.

46-4-2-16/20

AUTHORS: Naugol'nykh, K.A. and Romanenko, Ye.V.

TITLE: On the Problem of Propagation of Finite-amplitude Waves in a Liquid (K voprosu o rasprostranenii voln konechnoy amplitudy v zhidkosti)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol IV, Nr 2, pp 200-202 (USSR)

ABSTRACT: Several recent papers (Refs 1-5, reported increase in the absorption coefficient of sound in a liquid with increase of the acoustic intensity. The present paper gives an approximate calculation of absorption of a divergent wave and compares these calculations with experiment. The calculations were made for the region Re $>$ 1, where Re = $p/2\pi\nu b$, where p = pressure amplitude, ν = frequency and b is a function of viscosity. Experiments showed that the wave-form at a certain distance from the generator may be represented by Fig 1. It is assumed that in propagation of the wave in the region where the measurements were made the segment AC and the slope of the wave-front were practically unaltered and only the amplitude BD decreased. Measurements were made on tap water using a pulse method at 1 Mc/s with pulse repetition frequency of 50 c/s and pulse duration 20-40 μsec. Peak intensities radiated were 300 W/cm^2. A barium titanate generator and a small

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46-4-2-16/20

On the Problem of Propagation of Finite-Amplitude Waves in a Liquid

piezo-electric receiver were used. Measurements were made at a distance of 10-40 cm from the receiver at pressure amplitudes (at a distance of 10 cm from the generator) of 0.5-30 atm. When the intensity at the generator was of the order of tens W/cm^2 the signal which was practically sinusoidal at the generator (Fig 3a) assumed a saw-toothed shape at a certain distance (e.g. 80 cm) from the latter. Figs 2 and 4 show theoretically calculated dependences of $\ln(p'/p_0)$ on $\ln(r/r_0)$, where p' = pressure amplitude at a point r and p_0 and r_0 are the corresponding quantities at a reference point (e.g. the generator), and of $\gamma = -(1/p')(dp'/dr)$ on p'. Experimental points in Figs 2 and 4 are shown by circles, and it is clear that satisfactory agreement between experiment and theory was obtained. The authors point out that at the All-Union Acoustical Conference in 1957 V.A. Burov and V.A. Krasil'nikov read a paper which reported similar agreement between theoretical and experimental results on absorption of plane saw-toothed waves. The authors thank N.N. Andreyev and N.A. Roy for advice, and A.S. Gol'nev and Yu. M. Moskovenko for their help in carrying out the experiments. There are 4 figures and 6 references, 4 of which are American and 2 Soviet.

ASSOCIATION. Akusticheskiy institut AN SSSR Moskva (Institute of Acoustics, Academy of Sciences of the USSR, Moscow)

SUBMITTED: December 10, 1957

Card 2/2 1. Waves—Propagation 2. Liquids—Applications

AUTHOR: Naugol'nykh, K.A. 46-4-2-1/20

TITLE: On Absorption of Sound Waves of Finite Amplitude. Review (O pogloshchenii zvukovykh voln konechnoy amplitudy. Obzor)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol IV, Nr 2, pp 115-124 (USSR)

ABSTRACT: The wave-form of finite amplitude is distorted during propagation due to differences in the velocities of motion of the points on its profile. The points on the wave profile which correspond to higher pressures, move faster than the points corresponding to lower pressures. As a result of this process a wave which was initially sinusoidal is distorted in such a way as to form sharp fronts which correspond to gradients of velocity and temperature. On the other hand, viscosity and thermal conductivity of the medium decrease these gradients. In this way the degree of distortion of the wave-form depends on viscosity, thermal conductivity and on non-linear effects. Distortion of the wave-form increases absorption of the wave compared with absorption of a wave of infinitely small amplitude. This is exhibited in two ways: (1) dissipation of the wave energy increases with increase of

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velocity and temperature gradients, and (2) absorption of the fundamental harmonic increases because amplitudes of the higher frequency components increase at the expense of the fundamental harmonic. In media with low viscosity and thermal conductivity absorption increases to a greater extent than in media which absorb more strongly. This increase of absorption of finite-amplitude waves was discussed theoretically in Refs 2-4. The present paper reviews the work on the subject and discusses the limits of applicability of theoretical calculations. Such calculations show for example that at 100 kc/s the coefficient of absorption in water increases by a factor of two on increase of pressure amplitude to 0.01 atm. The author also compares calculated values with experimental results of Refs 2, 6, 7, 10, 18 (Figs 3-5). The experimentally observed increase of absorption of finite-amplitude waves is found to agree satisfactorily with theoretical calculations. There are 6 figures and 20 references, 11 of which are Soviet and 9 American.

Card 2/2

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute, Academy of Sciences of the USSR, Moscow)

SUBMITTED: December 23, 1957

1. Sound --Absorption 2. Sound - Distortion 3. Sound - Propagation

10(2) SOV/20-123-6-13/50

AUTHOR: Naugol'nykh, K.A.

TITLE: On the Problem of Flows Caused by Sound (K voprosu o potokakh, vyzvannykh zvukom)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1003-1005 (USSR)

ABSTRACT: The propagation of a sound wave in an absorbing medium may be accompanied by a constant flow ("sound wind") which in some cases may be of practical interest. The sound wave is usually found by solving the equations of hydrodynamics in second approximation. The solution of the equations of linear acoustics is used as a first approximation. The results found in this paper can, however, be applied only to low Reynolds (Reynol'ds) numbers $Re = v_0 \lambda \rho_0 / b$. v_0 denotes the amplitude of the velocity of vibration, λ - the wave length, ρ_0 - the equilibrium density. It holds that $b = (4/3)\eta + \zeta$ where η and ζ denote the coefficients of the shear viscosity and volume viscosity. The author investigates the acoustic flow for $Re \gtrsim 1$ which is caused by a wave of saw-like shape. The radiator is assumed to be placed at the distance l from one end of a tube of

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radius r_1. Within the distance l, the sinusoidal wave assumes a saw-like shape. The author investigates the flow in the central part of the tube, neglecting the influence of its tubes. The Navier (Nav'ya)-Stokes (Stoks) equation is used in the form

$$\langle \nabla \times \nabla \times \nabla \times \vec{v} \rangle = - \langle \eta^{-1} \nabla \times \nabla \rho \vec{v}\vec{v} \rangle .$$

The brakes $\langle\rangle$ denote the averaging over the time, $\nabla \rho \vec{v}\vec{v}$ - a vector, the ith component of which is equal to $(\partial/\partial x_k) \rho v_i v_k$. The approximate solution of the above given equation is sought as

$$\vec{v} = \frac{b \omega U(r)}{\rho_0 c_0 \varepsilon} \sum_{n=1}^{\infty} \frac{\sin n(\omega t - kz)}{\operatorname{sh} n(\alpha_0 + \alpha z)} e_z + v_2(r,z)$$

where U(r) denotes radial amplitude distribution, α_0 = a parameter with the wave intensity at z=0. For U = const the first term of the right-hand side of the above given equation is the solution of the equation of hydrodynamics with an exactness of the second order-members inclusively. This equation describes the propagation of a plane saw-like wave in an infinite space.

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The second term in the above-given equation is the time-independent part of the velocity, it is small in the second order of magnitude. The calculations are given step by step. The found distribution of the velocity is shown in a figure.

For Re $\gtrsim 1$ the velocity of the flow increases if the absorption coefficient and the intensity of the wave increase and it decreases if the shear viscosity increases. The dependence upon these quantities is, however, more complicated than in the case Re $\ll 1$. The author thanks N. N. Andreyev for his constant interest in this paper, and Z. A. Gol'dberg and A. L. Polyakova for discussing results. There are 10 references, 5 of which are Soviet.

ASSOCIATION: Akusticheskiy institut Akademii nauk SSSR (Acoustical Institute of the Academy of Sciences, USSR)

PRESENTED: August 12, 1958, by N. N. Andreyev, Academician

SUBMITTED: July 24, 1958

Card 3/3

NAUGOL'NYKH, K. A., Candidate Phys-Math Sci (diss) -- "Some problems in the theory of propagation of sound waves of finite amplitude". Moscow, 1959, published by the Acad Sci USSR. 10 pp (Acad Sci USSR, Acoustics Inst), 175 copies (KL, No 22, 1959, 108)

Excerpts from the Progress and Information Circular, reports to be submitted for the Third Intl. Congress on Acoustics, IUPAP, Stuttgart, GER, 1-8 Sep 1959.

NAUGO LIN yhh, KAV

USSR(cont'd)

[illegible], S. S., and [illegible], S. A., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "The relationship between viscosity and velocity of sound in a liquid"

[illegible], V. I., and [illegible], S. S., State University of Moscow - "Study of sound dispersion in solid bodies, plates, and shells by means of an optical process in a dark field"

[illegible], S. B., Acoustics Institute, USSR Academy of Sciences, Moscow - (1) "The Sommerfeld integrals and curve tracks in composite areas"; (2) "Development of curve phenomena representations"

[illegible], L. G., Leningrad Electrical Engineering Institute im. V. I. Ulyanov-Lenin - "Absorption of ultra-short waves with frequencies of up to 1000 MHz in crystals"

[illegible], E. N., and [illegible], S. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "The propagation of spherical and cylindrical waves of finite amplitude"

[illegible], V. P., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "Physical bases for the technical application of molecular acoustics of small amplitudes"

[illegible], V. P., [illegible], L. G., and [illegible], B. A. - "Study of supersonic wave absorption in the esters of acetic acid at high frequencies"

[illegible], V. P., [illegible], B. E., and [illegible], M. G. - "Studies of supersonic wave absorption in liquids at high temperatures and pressures"

[illegible], V. P., [illegible], S. I., and [illegible], M. A. - "Study of the system of liquid-proof bodies by means of ultra-acoustical methods"

[illegible], V. P., [illegible], V. P., [illegible], Yu. G., and [illegible], A. A. - "Dispersion of ultrasonic sound in this gases"

[illegible], A. L., Acoustics Institute, USSR Academy of Sciences, Moscow - "Absorption of ultimate amplitude sound waves in relaxing media"

[illegible]-[illegible], A. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "Statistical properties of broad-casting signals"

[illegible], S. A., and [illegible], D. P., Acoustics Institute, USSR Academy of Sciences, Moscow - *

[illegible], L. D., Acoustics Institute, USSR Academy of Sciences, Moscow - "Studies of the physical processes in industrial applications of supersonic sound"

[illegible], I. E., Sechenov Institute of Evolutionary Physiology, USSR Academy of Sciences, Leningrad - "Presenting masking of short tone signals"

[illegible], I. I., and [illegible], Yu. M., Laboratory for Combating Noise, Institute for Labor Protection, Leningrad - "The Soviet system of standards for industrial noise and the Soviet Union's experiences with the system"

Hungary

[illegible], B., Budapest - "Contribution to the theory of sound radiation"

[illegible], J., Budapest - "Ultrasound intensity measurement by compensated calorimeter"

Poland

[illegible], P., [illegible], A., and [illegible], S., Chair of Physics, Higher School of Agriculture, Olsztyn - "Concerning a new acoustic method of determining intermolecular forces in liquids and liquid mixtures"

Germany (Democratic Republic)

JACOB, E. P., Institute for Theoretical Physics, University of Dresden - "The significance of sound velocity measurements for the physics of ternary solutions"

* "Generation of sound by spark discharge in water"

1-8 Sep 59

Excerpts from the Progress and Information Circular, reports to be submitted for the Third Intl. Congress on Acoustics, IUPAP, Stuttgart, GER, 1-8 Sep 1959.

SOV/46-5-1-13/24

AUTHOR: Naugol'nykh, K.A.

TITLE: Propagation of Spherical Acoustic Waves of Finite Amplitude in a Viscous Heat-Conducting Medium (Rasprostraneniye sfericheskikh zvukovykh voln konechnoy amplitudy v vyazkoy teploprovodyashchey srede)

PERIODICAL: Akusticheskiy Zhurnal, 1959, Vol 5, Nr 1, pp 80-84 (USSR)

ABSTRACT: The form of a finite-amplitude wave alters as the latter is propagated. This is because non-linear effects increase the steepness of the wave profile. If the medium is viscous and heat-conducting the latter two properties tend to smooth out the profile and to decrease the velocity and temperature gradients. The effect of viscosity and heat conduction is, therefore, the opposite of the non-linearity of the medium. The form of a finite amplitude wave in a viscous and heat-conducting medium will be determined by the ratio of non-linear and dissipative (viscosity and heat conduction) effects. The author discusses propagation

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SOV/46-5-1-13/24

Propagation of Spherical Acoustic Waves of Finite Amplitude in a Viscous Heat-Conducting Medium

of spherical waves of finite amplitude produced by a harmonically pulsating sphere, whose radius is large compared with the radiated wavelength. The problem is dealt with using the Krylov-Bogolyubov method. Conditions when non-linear effects become important are found. The paper is entirely theoretical. Acknowledgments are made to N.N. Andreyev and Z.A. Gol'dberg for their advice. There are 8 references, 6 of which are Soviet and 2 English.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute, Academy of Sciences of the U.S.S.R., Moscow)

SUBMITTED: April 7, 1958

Card 2/2

SOV/46-5-2-10/34

AUTHORS: Naugol'nykh, K.A. and Romanenko, Ye.V.

TITLE: On the Dependence of the Gain Coefficient of a Focusing System on the Sound Intensity (O zavisimosti koeffitsiyenta usileniya fokusiruyushchey sistemy ot intensivnosti zvuka)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 2, pp 191-195 (USSR)

ABSTRACT: Non-linear propagation effects, which appear as variation of the acoustic wave-form with the distance away from the source, affect the gain coefficient of focusing systems. The wave, initially sinusoidal, becomes saw-teeth shaped. As a result of this acoustic waves are absorbed more strongly and the gain coefficient becomes smaller. The present paper deals theoretically with non-linear effects in vertical and cylindrical concentrators and describes experiments to check the theory. Three focusing radiators were used (nos 1, 2 and 3). Each represented a portion of a sphere (radii 10, 4 and 1.3 cm respectively) and was made of ceramic barium titanate. The working frequencies of the radiators 1, 2 and 3 were 2.2, 0.5 and 1.4 Mc/s respectively. They emitted

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On the Dependence of the Gain Coefficient of a Focusing System on the Sound Intensity

pulses of 0.1 msec duration and 50 c/s repetition frequency. The gain coefficients of these radiators at low emission intensities were measured separately: they were 40, 15 and 32 respectively. The peak pressures at the radiator surfaces were 2.6, 2.5 and 7.0 atm for the radiators nos. 1, 2 and 3 respectively. Miniature piezoelectric wide-band receivers were used to study conditions near and at the foci of these radiators. It was found that the initially sinusoidal waves emitted by the radiator no.1 were already strongly distorted (Fig.3) at distances of 8 cm from the radiator. Such distortions were not observed in waves emitted by the radiators nos.2 and 3. It was also found that non-linear effects had affected only the focusing properties of the radiator no.1, while they were not important in the radiators nos.2 and 3 (although the peak pressures at the no.3 radiator focus reached 200 atm and cavitation occurred with 0.1 msec pulses from this radiator). All these results are in good agreement with the authors' theory and confirm the usefulness of a non-linearity parameter

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On the Dependence of the Gain Coefficient of a Focusing System on the Sound Intensity

suggested by them:

$$a = -\frac{1}{\pi} + \frac{2\alpha}{\lambda c_0} F v_0 \left(n(F / r_f) \right) \geq 0$$

where $\alpha = (\gamma + 1)/2$, $\gamma = 7.15$ for water, λ is the acoustic wavelength, c_0 is the velocity of sound in a quiescent medium, F is the radius of the spherical concentrator, v_0 is the velocity amplitude at the radiator (concentrator) surface, $r_f = \lambda / \pi \sin^2 \alpha_m$, α_m is the angle of aperture of the spherical focusing system (Fig.1). Acknowledgments are made to N.N. Andreyev who directed this work, to L.D. Rozenberg, V.A. Krasil'nikov and N.A. Roy for their advice, and to Yu.M. Moskovenko and A.S. Gol'nev for their help in carrying out the experiments.

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On the Dependence of the Gain Coefficient of a Focusing System on the Sound Intensity

There are 5 figures and 11 references, of which 8 are Soviet and 3 English.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute, Ac. Sc. USSR, Moscow)

SUBMITTED: July 16, 1958

Card 4/4

S/046/60/006/003/007/012
B019/B063

AUTHORS: Naugol'nykh, K. A., Rozenberg, L. D.

TITLE: Optimum Operating Conditions of a High-power Concentrator

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 3, pp. 352-355

TEXT: A previous paper (Ref. 1) described the operation of a spherical, focusing system with high intensities of the sound to be focused. This study was performed for the case in which non-linear distortions of the wave shape existed. The present paper deals with some results of the preceding paper, which are important for practical purposes and concern especially the determination of the operating conditions of high-power concentrators and the attainment of a maximum amplitude of the wave velocity in the focus. Formula (1) is given for the amplitude of the vibration velocity in the focus. The range of application of this formula is discussed, and an analysis shows that there is an unclear relationship between the maximum amplitude in the focus and the power of the emitter. It follows from the further investigation that the amplitude of sound particle velocity in the focus is slightly dependent on the

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Optimum Operating Conditions of a High-power Concentrator

S/046/60/006/003/007/012
B019/B063

vibration velocity of the surface of the emitter. After examining the efficiency of the concentrator, the authors study the problem as to which maximum the amplitude of sound particle velocity exists in the focus with a given efficiency. Formula (12) is derived for the maximum amplitude of sound particle velocity in the focus, and the results obtained are finally illustrated by a calculation. Fig. 3 shows the maximum amplitude of sound particle velocity in the focus as a function of efficiency. It is noted that an increase in efficiency from 3.4% to 100% entails a 50% decrease in the maximum amplitude of sound particle velocity in the focus. There are 3 figures and 2 Soviet references.

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ASSOCIATION: Akusticheskiy institut AN SSSR Moskva (Institute of Acoustics of the AS USSR, Moscow)

SUBMITTED: January 13, 1960

Card 2/2

S/046/60/006/004/021/022
B019/B056

AUTHOR: Naugol'nykh, K. A.

TITLE: A Scientific Appointment to the Polish People's Republic

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 4, pp. 512 - 513

TEXT: In accordance with the planned joint work to be performed by the Akusticheskiy institut Akademii nauk SSSR (Institute of Acoustics of the Academy of Sciences USSR), and the Institut osnovnykh problem tekhniki (IOPT) Pol'skoy Akademii nauk (Institute of Fundamental Problems of Engineering of the Polish Academy of Sciences), the Head of the Institute, Doctor of Physical and Mathematical Sciences, L. A. Chernov, and Candidate of Physical and Mathematical Sciences K. A. Naugol'nykh were appointed to important posts in the Polish People's Republic, where they have taken over advisory functions in carrying out work on "Physical Bases of the Coagulation of Aerosols by Ultrasonics". One of the most important problems, the creation of efficient sound emitters, are being carried out at the Laboratory Lesnyak of the IOPT. Work concerning coagulation is being carried out at the Institut okhrany truda (Warsaw) (Institute of Labor

Card 1/2

A Scientific Appointment to the Polish People's Republic

S/046/60/006/004/021/022
B019/B056

Protection) under the supervision of Professor Mancherskiy-Ravinskiy. The large dynamic sirene designed there was industrially produced at Shepetnits. At present the results obtained by means of this sirene are being analyzed. At the Meditsinskaya Akademiya (Rakitnits) similar work is being carried out by Doctor Matula under the supervision of Professor Kveka of the Poznanskiy universitet (Poznán University). The clarification of the coagulation mechanism is considered to be the main problem. The tasks of the two working groups are discussed, which are both under the supervision of Professor Kalisskiy (theory) and Professor Zemba (nonlinear vibration systems). Doctor Filipchinskiy developed an ultrasonic testing device, which is called betonoscope. Doctor Ver developed the ultrasonic measuring methods and Doctor Payevskiy developed new ultrasonic transformers.

Card 2/2

NAUGOL'NYKH, K. A.

Scientific trip to the Polish People's Republic. Akust. zhur. 6 no.4:512-513 '60. (MIRA 13:12)
(Poland—Ultrasonic coagulation)

GOLDING, Z. A. and [illegible]

"On the radiation [illegible]

report submitted [illegible]
Copenhagen, Denmark, [illegible]

IOFFE, A.I. (Moskva); NAUGOL'NYKH, K.A. (Moskva); ROY, N.A. (Moskva)

Initial stage of an electric discharge in water. PMTF no.4: 108-113 Jl-Ag '64. (MIRA 17:10)

S/030/60/000/011/016/026
B021/B056

AUTHOR: Naugol'nykh, K. A., Candidate of Physical and Mathematical Sciences

TITLE: Joint Research Work of Soviet and Polish Acousticians

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 11, p. 110

TEXT: According to the plan of cooperation between the Akusticheskiy institut Akademii nauk SSSR (Acoustics Institute of the Academy of Sciences USSR) and the Institut osnovnykh problem tekhniki Pol'skoy Akademii nauk (Institute of Fundamental Problems of Technology of the Polish Academy of Sciences) at Warsaw, the development of research work in the field of the physical fundaments of the coagulation of aerosols by means of ultrasound was discussed. The coagulation of aerosols is of great practical importance, as it makes it possible to utilize the valuable products of chemical plants escaping with smoke, and to purify the exhaust gases. As an essential task in this field, the creation of an efficient and economical source of ultrasound is described. The conditions of the industrial use of acoustic coagulation are being investigated at the Institut okhrany truda

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Joint Research Work of Soviet and Polish Acousticians

S/030/60/000/011/016/026
B021/B056

(Institute for the Protection of Work) at Warsaw. The physical mechanism of coagulation is investigated at the Meditsinskaya akademiya (Medical Academy) at Rakitnicy. Much attention is paid to the use of ultrasound for control- and measuring purposes. A second group of questions of acoustics is the subject of research work at Poznan' University. Here the propagation of sound in substances and gas mixtures is investigated

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40074
S/188/62/000/004/007/010
B108/B102

AUTHORS: Naugol'nykh, K. A., Soluyan, S. I., Khokhlov, R. V.

TITLE: Cylindrical waves of finite amplitude in a dissipative medium

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 4, 1962, 65 - 71

TEXT: The propagation of cylindrical waves in a viscous, heat conducting medium is examined through approximation techniques. Starting from the usual equations of motion, continuity, and state the solutions are got by two different methods: that of Krylov and Bogolyubov (Asimptoticheskiye metody v teorii nelineynykh kolebaniy (Asymptotic methods in the theory of nonlinear oscillations), GITTL, M., 1955) for slight distortion of the wave (small Reynolds number) and that proposed by Soluyan and Khokhlov ("Vestn. Mosk. un-ta", ser. fiz., astronomii, no. 3, 52 - 61, 1961) for large Reynolds numbers. Calculations are restricted to second order terms. The formation and "resorption" of shock wave fronts is examined. A divergent wave with a sinusoidal profile will, after a definite distance, turn into a sawtooth wave which then collapses and again forms a sinusoidal

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wave. This distance is determined by the specific heat of the medium and the velocity of sound therein as well as by the frequency and the radius of the cylindrical emitter. A convergent wave will always turn into a sawtooth wave, whether the Reynolds number be large or small. There are 3 figures.

ASSOCIATION: Kafedra teorii kolebaniy (Department for the Theory of Oscillations)

SUBMITTED: December 18, 1961

S/046/62/008/001/017/018
B125/B102

AUTHOR: Naugol'nykh, K. A.

TITLE: Widening of a cylinder in a liquid

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 1, 1962, 136 - 138

TEXT: The self-simulating problem of the motion of a stationary liquid at $t < 0$ caused by the widening of an infinite cylinder according to equation $R = Ut$ (R = radius of the cylinder, t = time, U = const = rate of widening) is studied. The complete system consisting of the equation of state $p = A(\varrho/\varrho_0)^\gamma - B$ (where A, B, γ are constants), of Euler's equation $\frac{\partial v}{\partial t} + v\frac{\partial v}{\partial r} + \frac{1}{\varrho}\frac{\partial p}{\partial r} = 0$, and of the equation of continuity $\frac{\partial \varrho}{\partial t} + \frac{\partial}{\partial r}\varrho v + \varrho\frac{v}{r} = 0$, may be reduced to the system of ordinary differential equations

$$\frac{dw}{dV} = \frac{2w}{V}\cdot\frac{w-(1-V)^2+(\gamma-1)V(1-V)/2}{2w-(1-V)^2}, \quad (6)$$

$$\frac{d\ln\lambda}{dV} = -\frac{w-(1-V)^2}{V[2w-(1-V)^2]}, \quad (7)$$

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with $\sigma = (w\lambda^2)^{\frac{1}{\gamma-1}} \left(\frac{\rho_0 D^2}{A_\gamma}\right)^{\frac{1}{\gamma-1}}$ (8) owing to the self-simulating properties

by the substitutions $v = (r/t)V(\lambda)$, $\rho = \rho_0 o(\lambda)$, $\lambda = r/r_1 = r/Dt$, $w = \gamma Po^{\gamma-1}/(\sigma^\gamma - B/A)$. The above-mentioned equation of state was formulated according to R. Koul. Podvodnyye vzryvy ("Detonations under water") M., IL, 1950. The boundary condition V = 1 means that the particle velocities are equal on the cylinder surface and in the adjacent medium layer. All interesting quantities of the shock wave can be expressed by the density σ in the front of this wave. The energy dissipated during the explosion is ascertained from the law of conservation of energy on the shock wave. Some results of the numerical integration of Eqs. (6), (7), (8) for water for several values of J_1 at A = 3001, B = 3000, γ = 7 are shown. V. K. Manezhin is thanked for assistance in the numerical computations. A monograph by L. D. Landau, Ye. M. Lifshits. Mekhanika sploshnykh sred. (Mechanics of continuous media) M., 1954, is mentioned. There are 3 figures and 5 references: 3 Soviet and 2 non-Soviet.

Card 2/2 Acoustics Inst, AS USSR

S/046/63/009/001/005/026
B104/B186

AUTHORS: Gol'dberg, Z. A., Naugol'nykh, K. A.

TITLE: Rayleigh sound pressure

PERIODICAL: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 28-31

TEXT: The results of Rayleigh (Phil. Mag., 1905, 10, 364-374) obtained for the sound pressure on a fixed rigid wall for the case of a medium vibrating between two fixed plane rigid boundaries are generalised for a forced vibration of the medium produced by harmonical motion of one of the two boundaries. In linear approximation of the sound field the radiation pressure of a standing wave on the fixed boundary is

$$\bar{p} = \frac{\gamma+1}{8}\rho_0 v_0^2\left(1+\frac{\sin 2kl}{2kl}\right), \qquad (9),$$

where $v_0 = A\omega/\sin(kl)$ is the particle velocity, ξ is the mean shift of the particles from their equilibrium position, A is a constant, k is the

Card 1/2

Rayleigh sound pressure

S/046/63/009/001/005/026
B104/B186

wave number, ω the angular frequency. If $kl \ll 1$ or $kl \to n\pi$ (resonance), v_0 and with it $\bar{p}'$ increases unlimitedly. In the case of spherical standing waves produced between two concentric spheres by vibration of the inner sphere the pressure at the unmoved outer sphere is

$$\bar{p}'(R_2) = \rho_0 \frac{A^2 k^2}{4} \frac{\sin^2 kR_2}{R_2^2} + c_1. \qquad (16).$$

This formula is specialized for a quiet inner sphere and a vibrating outer sphere, for a zero radius of the inner sphere and for a standing wave between non-vibrating spheres.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Institute of Acoustics AS USSR, Moscow)

SUBMITTED: June 25, 1962

Card 2/2

S/046/63/009/001/010/026
B104/B186

AUTHORS: Naugol'nykh, K. A., Soluyan, S. I., Khokhlov, R. V.

TITLE: Spherical waves of finite amplitude in a viscous heat-conducting liquid

PERIODICAL: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 54-60

TEXT: In the studies of N. M. McLachlan and A. L. Meyers (Proc. Phys. Soc., 1935, 47, 644-656) and K. A. Naugol'nykh (Akust. zh., 1959, 5, 1, 80-84) non-linear distortion of the shape of spherical waves during propagation is described by a gradual growth of the high-frequency components of the waves which have initially been monochromatic. At great distances from the emitter these solutions do not hold. Starting with the equation of motion

$$\rho\left(\frac{\partial v}{\partial t}+v\frac{\partial v}{\partial r}\right)=\rho-\frac{\partial p}{\partial r}+b\left[\frac{1}{r}\frac{\partial^2(rv)}{\partial r^2}-\frac{2}{r^2}v\right], \quad (1),$$

with the equation of continuity

$$\frac{\partial \rho}{\partial t}+v\frac{\partial \rho}{\partial r}+\rho\frac{\partial v}{\partial r}+2\frac{\rho v}{r}=0 \quad (2)$$

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and with the equation of state

$$p = p_0 + c^2(\rho - \rho_0) + \frac{\gamma - 1}{2}\frac{\rho_0}{c_0^2}(\rho - \rho_0)^2. \qquad (3),$$

the propagation of convergent and divergent spherical waves in a non-linear viscous and heat-conducting medium is studied. Here v, ρ, p, r and c are symbols commonly used in gasdynamics, $b = \frac{4}{3}\eta + \zeta + \varkappa(1/c_v - 1/c_p)$, η and ζ are the coefficients of shear and volume viscosity, $\varkappa$ is the heat conduction coefficient, $\gamma = c_p/c_v$. The equations are solved by means of an approximation method assuming $1/k_r$ to be a small parameter. k is the wave number, r the radius of the sphere. By means of the approximate solutions, the formation and the resorption of the wave fronts are studied and it is shown that the problem studied is equivalent to the problem of propagation of plane waves in a medium in which viscosity varies exponentially. There are 3 figures.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute AS USSR, Moscow)

SUBMITTED: December 11, 1961

ACCESSION NR: AP3000820 S/0046/63/009/002/0192/0197

AUTHORS: Naugol'nykh, K. A. (Moscow); Soluyan, S. I. (Moscow); Khokhlov, R. V. (Moscow)

TITLE: Nonlinear interaction of sound waves in an absorbing medium

SOURCE: Akusticheskiy zhurnal, v. 9, no. 2, 1963, 192-197

TOPIC TAGS: nonlinear interaction, sound wave, absorbing medium, high frequency wave, spectral maximum, amplitude modulated wave, hydrodynamic medium, Reynolds number, spherical wave, cylindrical wave

ABSTRACT: The authors study nonlinear interaction of sound waves in a viscous, heat-conducting medium. They investigate the case where waves of various frequencies, arising as a result of interaction, weakly decaying, may exceed in intensity the original high-frequency waves, which leads to displacement of the spectral maximum of the process in the region of low frequencies. They show that with propagation of an amplitude-modulated wave in a nonlinear hydrodynamic medium, detection of a signal is realized. They study the problem for both small

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ACCESSION NR: AP3000820

and large Reynolds numbers. The results are generalized to spherical and cylindrical waves. Orig. art. has: 20 formulas and 4 figures.

ASSOCIATION: none

SUBMITTED: 29Jun62 DATE ACQ: 03Jun63 ENCL: 00

SUB CODE: PH, AI NO REF SOV: 005 OTHER: 001

Card 2/2

NAUGOLNYKH, K. A.

"Waves of Finite Amplitude."

report presented at the 67th Mtg, Acoustical Soc of America, New York, 6-9 May 64.

Moscow Inst of Radio Engineering & Mining/Electrical Engineering, Moscow.

ACCESSION NR: AP4044725 S/0207/64/000/004/0108/0113

AUTHORS: Ioffe, A. I. (Moscow); Naugol'ny*kh, K. A. (Moscow); Roy, N. A. (Moscow)

TITLE: On the initial stage of an electric discharge in water

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1964, 108-113

TOPIC TAGS: electric discharge, ionized gas, heat transfer, dissociated gas, discharge column, gas pressure, plasma conductivity

ABSTRACT: The process of an electric discharge column spreading in water was discussed analytically for small spreading rates and zero magnetic forces. A theoretical model is constructed on the basis of small dR/dt (R- column radius) assumption which leads to linear acoustic approximations that satisfy Laplace's equation $\Delta\varphi = 0$ and the linearized Euler momentum equation. This in turn leads to an expression for the pressure around the discharge column given by

$$p - p_0 = -\rho_0 \frac{\partial\varphi}{\partial t} - \frac{\rho_0}{2}\left(\frac{\partial\varphi}{\partial r}\right)^2$$

. Dissociative heat transfer in a thin layer around the discharge column is considered to be the primary source of energy loss, and for a planar geometry and constant mass flow rate the temperature distribution

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ACCESSION NR: AP4044725

is described by the equation $\frac{dT}{dx} = -\frac{R'p}{2\kappa T_1} 5.5 [(1+\alpha) - T_1]$. Analysis shows this transition layer to be of the order of 10^{-5} cm. The temperature within the column is determined using conduction-diffusion equation with Saha's equilibrium ionization expression for temperature estimates not exceeding 15000C. A mean adiabatic coefficient γ is determined for water in the 9000-16000C temperature range and 500 to 2000 atm range ($\gamma = 1.21$), and from an energy balance equation an expression is derived for column expansion rate u given by

$$u^4 \left(\ln \frac{2c}{u} - \frac{1}{2}\right) = \frac{N_0(\gamma - 1)}{2\pi\gamma p}$$

. Radius versus time and discharge potential versus time curves are calculated using experimentally determined column radii. This is done by means of photographing the discharge. "The authors thank S. I. Braginskiy for helpful discussions." Orig. art. has: 16 formulas and 6 figures.

ASSOCIATION: none

SUBMITTED: 09Jan64 ENCL: 00

SUB CODE: ME,GP NO REF SOV: 005 OTHER: 005

Card 2/2

L 12063-66 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(h)/EWA(c) WW

ACC NR: AP5021480 SOURCE CODE: UR/0046/65/011/003/0351/0358

44 55

AUTHOR: Naugol'nykh, K. A.

49

ORG: Institute of Radio Electronics and Mining Electromechanics, Moscow (Institut radioelektroniki i gornoy elektromekhaniki)

TITLE: Compression wave radiated by an expanding sphere

SOURCE: Akusticheskiy zhurnal, v. 11, no. 3, 1965, 351-358

TOPIC TAGS: compression shock wave, acoustic wave, nonlinear effect

ABSTRACT: In view of the fact that earlier solutions of the problem of the compression waves radiated by a sphere expanding with constant velocity (G. I. Taylor, Proc. Roy. Soc. v. A186, 273, 1946) were solved in the acoustic approximation, which does not lead to the shock waves which follow from the exact solution of the problem, the author obtains for the same problem an approximate analytic solution in which the nonlinear effects that give rise to the shock wave are taken into account. By introducing a co-moving system of coordinates and by taking into account the fact that the nonlinear effects of interest are most pronounced on the leading front of the wave, a solution is obtained which shows that a weak discontinuity exists on the leading front of the wave

Card 1/2 UDC: 534.222.2

L 12063-66

ACC NR: AP5021480

for arbitrarily small expansion rates of the sphere. The approximate solution is compared with the exact solution obtained by Taylor by numerical integration of self-similar equations. Orig. art. has: 3 figures and 37 formulas.

SUB CODE: 20/ SUBM DATE: 12Apr64/ NR REF SOV: 002/ OTH REF: 002

Card 2/2

L 37150-66 EWT(1)/EWT(m)/EWP(t)/ETI/EWP(k) LJP(c) JD/HW

ACC NR: AP6018054 SOURCE CODE: UR/0020/66/168/003/0556/0559

AUTHOR: Naugol'nykh, K. A.; Roy, N. A.

ORG: Acoustics Institute, Academy of Sciences, SSSR (Akusticheskiy institut Akademii nauk SSSR)

TITLE: On the connection between the hydrodynamic and electric characteristics of a discharge in a liquid

SOURCE: AN SSSR. Doklady, v. 168, no. 3, 1966, 556-559

TOPIC TAGS: electric discharge, hydrodynamic theory, discharge channel, acoustic property, electric property

ABSTRACT: An approximate energy balance per unit length of the channel is written out for moderate-current discharges, when magnetic forces can be neglected, in the form

$$p_{\text{к}} \frac{ds}{dt} + \frac{1}{\gamma - 1} \frac{d}{dt} p_{\text{к}} s = N(t),$$

The channel pressure p_k entering into this equation can be expressed in terms of the channel radius R by solving the hydrodynamic problem involving the expansion of the cylinder in the liquid in the acoustic approximation. The net result is a system of equations describing the expansion of the channel from a known dependence of the energy release on the time per unit channel length (normalized to unity). By numerically solving this equation and by regarding the discharge channel as an aggregate of point

Card 1/2 UDC: 537.528

L 37150-66

ACC NR: AP6018054

sources, an expression is obtained for the energy of the compression pulse. The results of the calculations are compared with experimental data obtained by measuring the discharge current, the electrode-gap voltage, the channel radius, and the pressure in the compression pulse. The theoretical results differed noticeably from the experimental ones in the case of large channel expansion rates. This difference is attributed to nonlinear effects, which are not taken into account in the equation, and possible deviations of the channel form from the assumed one in the case of large expansion rates. The authors thank N. G. Kozhelupova for help with the calculations. This report was presented by Academician N. N. Andreyev 4 September 1965. Orig. art. has: 4 figures, 9 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 23Jul65/ ORIG REF: 003

Card 2/2 af

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001136120017-9"

NAUGOL'NYKH, V. N.

PA 53T55

USSR/Medicine - Plants
Medicine - Poisons

Aug 1947

"Resistance of Leaves of Diclinous Plants to Poisons," V. N. Naugol'nykh, Molotov State U imeni A. M. Gor'kiy, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4

Describes results obtained from experiments conducted on male and female Melandrium album to determine effect of poisons on isolated tissues and growth organs. Submitted by Academician A. A. Rikhter, 25 Feb 1947.

53T55

PROCESSES AND PROPERTIES INDEX

11 D

CA

Breathing and reversibility of fermentative processes in plants hardened before sowing V. S. Sapozhnikov, G. V. Volko, and I. V. Ulitskova (Sci. Res. Inst. State Univ. Moscow 4, No. 1, 202-7(1940)). In Russian) The properties of the wheats *Triticum* (832) and *Triticum* (111) hardened before sowing were investigated by the Henkel method: repeated soaking and drying 3 times under conditions of optimal and insufficient moisture of soil. Hardened plants are distinguished by a higher intensity of respiration and by the decrease of org. substance at optimal moisture. During drought the intensification of both respiration and consumption of org. substance is lower in hardened than in control plants. At optimal moisture content, the synthesis and hydrolysis processes in *Triticum* (832) hardened before sowing were more intense than in the control plants. During drought, hydrolysis was weaker and the ratio of synthesis to hydrolysis was higher in the leaves of hardened plants. Owing to the lowering of the process of respiration and hydrolytic decompn. under conditions of drought, the plants hardened before sowing yielded a higher crop. 18 references. Cf. Henkel, C. 1. 35, 4800. W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

C A

The resistance of the leaves of diecious plants to toxic substances. V. N. Naugol'nykh (Gorki Univ., Molotov) *Doklady Akad. Nauk S.S.S.R.* 57, 403-6(1947). *Chem. Zentr.* 1948, I, 684. Sections of leaf epidermis of *Melandrium album* and *Rumex thyrsiflorus* were stained with neutral red (1:1000) and then exposed for 10-25 min. to a soln. of lactic acid (acid of d. 1.22 dild. 1:1000). The sections were then plasmolyzed with 0.5 *M* KNO_3 and the nos. of living and dead cells were counted. Other series of tests were made on the leaves of *Melandrium album* alone using the following toxic substances: lactic acid (acid of d. 1.22 dild. 1:100), 0.2% $HgCl_2$, and 1% HCHO. In all cases leaves of the pistillate plants were damaged less than those of the staminate plants. M. G. Moore

PROCESSES AND PROPERTIES INDEX

CA

11d

Effect of methylene blue on sex formation in cucumber. V. N. Naugol'nykh. *Doklady Akad. Nauk S.S.S.R.* 90, 995-8(1953).—A summary (22 references) of literature of sex distribution in plants is presented, along with known effects of methylene blue on plant physiology. Cucumber seeds were wetted in distd. water, 0.015% methylene blue soln., or 0.03% methylene blue soln. After 24-hr. soaking the seeds were grown on moist filter paper at 30°, then after germination the plants were grown in standard hydroponic systems. Methylene blue had a mild repressive effect on germination, but the resulting plants were sturdier than the controls. While the controls gave approx. equal sex distribution, the methylene blue-treated seeds gave rise to predominantly female or male flowers: 0.015% soln. gave male/female ratios ranging from 1.73 to 3.88; the 0.03% soln. gave the ratio ranging from 0.58 to 0.80. Thus the concn. variation gave entirely opposite results. This effect takes place only by treatment during the seed-swelling period. Explanation of this effect is lacking. G. M. Kondapoff

A50-1LA METALLURGICAL LITERATURE CLASSIFICATION

NAUGOL'NYEH, V.N.

Physiology of dioecious plants [with summary in English]. Bot.zhur. 43 no.11:1562-1571 N '58. (MIRA 11:11)

1. Permskiy gosudarstvennyy universitet.
(Plants, Sex in)

NAUMESCU, V.

Contributions to the physiology of unisexed plants. p. 71

ANALELE ROMINO-SOVIETICE. SERIA BIOLOGIE (Academia Republicii Populare Romine. Institutul de Studii Romino-Sovietice
Bucuresti, Rumania
Vol. 13, no. 2, April/June 1959

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

GLUMOV, G.A.; NAUGOL'NYKH, V.N.; PONOMAREV, A.N.

Perm Section of the All-Union Botanical Society. Bot. zhur. 44 no.3:427-428 Mr '59. (MIRA 12:7)

1.Permskiy sel'skokhozyaystvennyy institut i Permskiy gosudarstvennyy universitet.

(Perm--Botanical societies)

DVORKIN, Z.P.; KAUGOL'NYY, I.K.

Southern-Soviet gas condensate field in the Armavir oil and gas region. Gaz. prom. 8 no.12:1-4 '63 (MIRA 18:2)

BAUGRAD, I.

Brigade systems of labor organization and increased production norms. Mias.ind. SSSR 31 no.6:32-35 '60. (MIRA 13:13)

1. Kiyevskiy myasokombinat.
(Wages and labor productivity)

NAUHUCHENKO, S.F.

Make fuller use of the potentials for a further improvement of railroad operations. Zhel.dor.transp. 44 no.6:13-19 Je '62. (MIRA 15:8)

1. Zamestitel' ministra putey soobshcheniya SSSR.
(Railroads--Management)

NAUIOKAYTIS, S. I., CAND TECH SCI, "EFFECT OF ROUGHNESS OF PLATE SURFACES IN SPOT-WELDING OF CARBON STEEL." KAUNAS, 1961. (STATE COMMITTEE OF HIGHER AND SEC SPEC ED OF THE COUNCIL OF MINISTERS LISSR. KAUNAS POLYTECH INST). (KL-DV, 11-61, 221).

L 26601-65 EWT(m)/EWP(v)/T/EWP(t)/EWP(k) Pf-4 JD/HM
ACCESSION NR: AT5004070 S/3131/63/000/002/0127/0134

AUTHOR: Kumpikas, L. (Kumpikas, L.P.); Naujokaitis, S. (Nauiokaytis, S.I.)

TITLE: Effect of sheet surface roughness on electrical contact resistance and on electric parameters of spot welds

SOURCE: Nauchnyye trudy vysshikh uchebnykh zavedeniy Litovskoy SSR: Elektrotekhnika i mekhanika, no. 2, 1963, 127-134

TOPIC TAGS: resistance calculating formula, welding current change, weld thickness

ABSTRACT: For the last 25 years the claim of A.M. Sidorenko, that contact resistance increases with an increase in surface roughness, prevailed. However, now it has been proved theoretically and experimentally that roughness decreases 3 to 4 times by changing it from grade 9 to 1 (according to GOST-2789-59). A.S. Gel'man introduced a formula which permits calculation of the total resistance of welded parts but only in the cases where good welding penetration took place. The surface roughness has only a slight effect on the welding current. Orig. art. has: 5 diagrams and 1 table.

Card 1/2

L 26604-65
ACCESSION NR: AT5004070

ASSOCIATION: Kauno Politechnikos instituto, Masinu gamybostechnologijos Katedra (Machine Building Department of the Kaunas Polytechnic Institute)

SUBMITTED: 01Apr62 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 001

Card 2/2

NAUK, P.I., inzh.

Designing single-end hoisting equipment. Ugol' Ukr. 7 no.10:33 O '63. (MIRA 17:4)

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(Electricity in mines)

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Contribution of science to agriculture; session on chemicalization held by the All-Union Lenin Academy of Agricultural Sciences. Agrobiologiia no.4:625-630 Jl-Ag '64. (MIRA 17:12)

BEZNOSOV, V.I.; NAUKIN, A.F., inzh.-ekonomist; TARMAKHANOV, Ye.Ye., kand. ist. nauk; CHECHETKIN, P.V.; NAGORNOVA, A.Ya., red.; BATOTSYRENOVA, D.B., tekhn. red.

[The giant of the Buryat A.S.S.R.; historic and economic essay on the Order of Lenin Locomotive and Car Plant in Ulan-Ude] Gigant Buriatii; istoriko-ekonomicheskii ocherk Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda. By V.Beznosov i dr. Ulan-Ude, Buriatskoe knizhnoe izd-vo, 1960. 152 p. (MIRA 15:2)

1. Master kotel'nogo tsekha Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Chechetkin). 2. Planovoy otdel Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Naukin). 3. Nachal'nik otdela truda i zarabotnoy platy Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Beznosov).

(Ulan-Ude--Railroads--Rolling stock)

FINKEL'SHTEYN, A.V.; LUK'YANCHUK, S.V.; NAUKINA, M.A.; KUZ'MINA, Z.M.

Solvatochromism of some substituted nitrobenzenes and Hammett's constants. Zhur. fiz. khim. 38 no.12:2964-2965 D '64. (MIRA 18:2)

1. Sibirskiy tekhnologicheskiy institut.

NAUKOV, A.N.; GRCMYKO, Ye.P.

Second conference on the problem of phytoncides. Izv. AN SSSR. Ser. biol. no.5:121-123 S-O '56. (MLRA 9:12)
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PA 190T75

USSR/Medicine (Veterinary) - Infectious Diseases Sep 51

"Therapy of Equine Epizootic Lymphangitis With Sulfanthrol and Monosept," A. I. Naulaynen, Leningrad Vet Inst

"Veterinariya" Vol XXVIII, No 9, p 61

Treated successfully sick horses in which Cryptococcus farciminosus Rivolta was detected by intravenous injections of Monosept (nitro-ortho-cresol containing 55% of mercury) and Sulfanthrol (sodium salt of sulfamido-benzoic acid).

190T75

LC

NAULAYNEN, A. I.

USSR / Pharmacology, Toxicology. Chemotherapeutic Agents. U-7

Abs Jour : Ref. Zh.-Biol., No 2, 1958, No 8126

Author : Naulaynen, A.I.

Inst :

Title : Intensification of the Effects of Penicillin by Cobalt.

Orig Pub : Experim. i Klinich Issledovaniya (Resp. N.-i. in-T M-Va Zdravokhr. RSFSR), 1954, 10, 98-103.

Abstract : Combined penicillin and cobalt chloride therapy gave better results in the treatment of animals infected with staphylocicci and patients with spontaneous treponemiasis than did penicillin therapy alone.

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