"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

SOV/46 4-4-12/20

AUTHORS: Isayev, A.A., Mikhaylov, I.G. and Khimunin, A.S.

TITLE: On a Modification of an Ultrasonic Interferometer (Ob odnom vidoizmenenii skhemy ul'trazvukovogo interferometra)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol 4, Nr 4, pp 363-364 (USSR)

ABSTRACT: When a quartz plate is used both as a generator and as a stabilizing element in a Cady--Pearson interferometer the ultrasonic frequency is strongly affected by the reciprocal action of ultrasound on the quartz plate. Moreover the Cady--Pearson interferometer cannot be used in liquids because of strong attenuation. The authors describe a simple interferometer which can be used in liquids and which is free of these troubles. The circuit of the interferometer generator is shown in Fig 1. Quartz Q_1 is the radiator while quartz Q_2 is the stabilizing element. Negative feedback is obtained via the inter-electrode capacitance of the triode used (see Fig 1). The equivalent circuit of the grid part of the generator is shown in Fig 2: C_0 is the capacitance of both quartz plates; L_2, C_2 and R_2 are the equivalent parameters of the stabilizing quartz Q_2; L_1 is the equivalent inductance corresponding to the vibrating mass of the quartz Q_1; L_s corresponds to the vibrating mass of the medium; C_1 represents

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SOV/46-4-4-12/20

On a Modification of an Ultrasonic Interferometer

the elasticity of the radiating quartz, r_k and r_s are the loss and radiation resistance respectively. The generator described has high stability at all positions of the interferometer reflector, this stability is not less than that of the standard heterodyne wave meter. The interferometer is also very sensitive: at 1 Mc/s it is possible to measure the sound velocity in castor oil at distances of [illegible]-20 cm between the radiating quartz and the reflector. A d.c. amplifier with a pointer instrument was used as an indicator. The whole apparatus contains only one valve of the "button" type which is a double triode. There are 2 figures.

ASSOCIATION: Leningradskiy gosudarstvenyy universitet (Leningrad State University

SUBMITTED: April [illegible] 1958

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

AUTHORS: Mikhaylov, I.G., Syrnikov, Yu.P. 54-10-2-1/16

TITLE: The Compressibility of Electrolyte Solutions and the Influence Exerted by Ions on the Structure of Water (Szhimayemost' rastvorov elektrolitov i vliyaniye ionov na strukturu vody)

PERIODICAL: Vestnik Leningradskogo Universiteta, Seriya fizfki i khimii, 1958, Vol.10, Nr 2, pp. 5-14 (USSR)

ABSTRACT: Abundant experimental material concerning the velocity of sound and the compressibility of electrolyte solutions is at present available. Much is, however, still unclear and there is a considerable difference in opinions concerning the interpretation of these data. It is known that all anomalies of water are connected with its structure. A mere study of quality cannot, however, help to clear up existing contradictory data, and therefore a thorough qualitative analysis is necessary. In the present paper the authors succeeded to find comparatively simple correlations which, basing on one point of view, provide a sufficient explanation for experiments with solutions as well as experiments relating to changes caused in water under pressure. When studying the compressibility of electrolyte solutions 2 effects must be

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taken into account: a) The influence exercised by ions on the structure of water, and b) the presence of an ion lattice in the solution. When investigating the influence exercised by ions upon the structure of water it is advisable to distinguish between 2 effects: a) Hydration, and b) the influence exercised by ions on the so-called "free water". The influence exercised by the ion lattice upon the temperature of the maximum of sound velocity in the solution was phenomenologically taken into account by B.B.Kudryavtsev (Ref 9). When setting up the formula for the temperature of the minimum of the compressibility of the solution the presence of the ion lattice was taken into account according to a similar method. From the correlations obtained it follows that the influence exercised by ions on the structure of the "free water" tends to shift this minimum into the range of higher temperatures, i.e. the ions act upon water in the same manner as pressure. This shifting of the minimum into the domain of higher temperatures is, above all, due to the structural part of compressibility. The presence of an ion lattice tends to shift the minimum into the domain of lower temperatures. As the analysis of the total formula for the temperature of the compressibility

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The Compressibility of Electrolyte Solutions and the Influence Exerted by Ions on the Structure of Water 54-10-2-1/16

minimum of the solutions shows, a decisive part is played in the case of low concentrations by the first-, and in the case of medium and high concentrations by the second effect. Herefrom it may be seen that the aforementioned contradictions can be explained by the ideas developed in this paper. There are 5 figures, and 11 references, 7 of which are Soviet.

SUBMITTED: December 25, 1957

AVAILABLE: Library of Congress

1. Electrolytes--Properties--Theory 2. Electrolytes--Effects of ions

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; SYRNIKOV, Yu.P.

Compressibility of electrolyte solutions and the influence of ions on the structure of water [with summary in English]. Vest. LGU 13 no.10:5-14 '58. (MIRA 11:6)

(Liquids, Kinetic theory of)
(Electrolytes)
(Water)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; FEDOROVA, N.M.

Propagation of ultrasonic waves in polymer solutions [with summary in English]. Vest. LGU 13 no.16:78-88 '58. (MIRA 11:11)
(Ultrasonic waves) (Polymers)

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67472

(24,1800 SOV/146-2-4-16/19

AUTHOR: Mikhaylov, I.G., Shutilov, V.A.

TITLE: New Calorimeter Method for Measuring the Absolute Intensity of Ultra-Sound.

PERIODICAL: Isvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1959, Nr 4, pp 130-136 (USSR)

ABSTRACT: A description is given of the development and testing of a small-scale instrument (Figures 1,2) for measuring the absolute intensity of ultra-sound with high accuracy (6-7%). The device consists of a horn-shaped glass-vessel with thin double walls (Dewar vessel) with an interior volume of approximately 100 cm^3, containing a calorimetric working liquid (degasified olive oil) with a high ultra-sound damping coefficient. The working principle consists in measuring the heat expansion of the calorimetric liquid

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SOV/146-2-4-16/19

New Calorimeter Method for Measuring the Absolute Intensity of Ultra-Sound

and not the temperature increase as done by other less accurate methods [Reference 1,2,3,4]. As an example, the results of intensity measurements with distilled water at 580 ultra-sound cycles, different distances from the radiator, and a sound velocity of 3824 m/second are shown in a graph (Figure 4). The instrument has the following disadvantages: 1) a rather complicated design, and 2) a relatively long cooling time of the calorimetric liquid. This disadvantage can be eliminated by using thermo-electric cooling which would not only speed up the intensity measurements but also raise the temperature of the working liquid to that of the ambient medium at the beginning of the measurements. The authors thank G.N. Matveyev for the skillful construction of instrument models. This

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SOV/146-2-4-16/19

New Calorimeter Method for Measuring the Absolute Intensity of Ultra-Sound

article was recommended by the Kafedra molekulyarnoy fiziki (The Chair of Molecular Physics). There are 1 diagram, 1 photograph, 1 table, 3 graphs, and 7 references, 3 of which are Soviet, 1 German, and 3 English.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova (The Leningrad State University imeni A.A. Zhdanov)

SUBMITTED: February 10, 1959

Card 3/3

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

SOV/46-5-1-12/24

AUTHORS: Mikhaylov, I.G. and Shutilov, V.A.

TITLE: Diffraction of Light on Harmonics of an Ultrasonic Wave Distorted in the Process of Propagation in a Liquid (Difraktsiya sveta na garmonikakh ul'trazvukovoy volny, iskazhennoy v protsesse rasprostraneniya v zhidkosti)

PERIODICAL: Akusticheskiy Zhurnal, 1959, Vol 5, Nr 1, pp 77-79 + 1 plate (USSR)

ABSTRACT: This paper was presented at the IV-th All-Union Conference on Acoustics held in Moscow in May 1958. Distortion of ultrasonic waves of finite amplitude on propagation in a liquid is equivalent to appearance of second and higher harmonics, which can be observed by means of the usual optical diffraction apparatus. The apparatus used by the authors is shown in Fig 1. A quartz plate Q was excited by means of a valve (tube) oscillator at 583 kc/s. The quartz radiator was placed in a bath filled with tap water and fitted with glass windows. The optical system consisted of a monochromatic source S, a slit Sh, lenses K, O_1, O_2 and total-internal-reflection prisms $П_1$ and $П_2$. To separate out a particular harmonic an acoustical filter Ф was used which was transparent to that harmonic and opaque to other harmonics and to the fundamental frequency. The filters were in the form of plane-parallel

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plates made of heavy flint glass, of thicknesses equal to a whole number of half-waves of the second, third, fourth etc., harmonics. To avoid passage of ultrasonic waves around the filter, a conical rubber diaphragm was used. Fig 2 shows a series of photographs obtained with the ultrasonic source radiating 16.6 W/cm^2 (sound intensity was measured by means of a calorimetric device described earlier by the authors, Ref 5). Fig 2a is a diffraction pattern of the whole ultrasonic wave (fundamental and all harmonics) obtained without a filter. This diffraction pattern is strongly asymmetric because of the strong distortion of the wave. Figs 2б, 2в and 2г represent diffraction patterns of the second, third and fourth harmonics obtained with filters at a distance of 20 cm from the acoustic source. Fig 3 shows a similar series of diffraction patterns; photographs a, б, в, г, д represent the unfiltered wave (strongly asymmetric) and the second, third, fourth and fifth harmonics respectively. The asymmetry of Fig 3а is due to distortion of the second harmonic at large distances (50 cm from the source) and due to superposition of the second and fourth

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Diffraction of Light on Harmonics of an Ultrasonic Wave Distorted in the Process of Propagation in a Liquid

harmonics, both of which were passed by the filter used. Similar diffraction patterns may be obtained using one glass plate as a reflection filter. This plate is then placed at certain definite angles with respect to the ultrasonic beam. Diffraction patterns obtained with reflection filters are less clear, as shown by Fig 4. There are 4 figures and 5 Soviet references.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: June 11, 1958

Card 3/3

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

10(4), 21(4) SOV/46-5-3-23/32

AUTHORS: Mikhaylov, I.G. and Shutilov, V.A.

TITLE: On a Simple Method of Detection of Cavitation in Liquids (O prostom sposobe obnaruzheniya kavitatsii v zhidkostyakh)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 376-378 (USSR)

ABSTRACT: The authors describe a method of measuring the acoustic intensity level at which cavitation in a liquid begins (known as the cavitation threshold). The method is based on the fact that when cavitation begins a liquid expands suddenly due to evolution of gas bubbles. If the liquid is outgassed, the sudden "cavitational expansion" is still observed; it is now due to appearance of cavitational voids. The instrument used is shown in Fig 1. A liquid was placed in a cylindrical copper cell (1) through an aperture (2). Windows (3) of the cell were acoustically transparent. The cavitational expansion was noted in a glass capillary (5) protected by a metal sleeve (6). The cell was immersed in a liquid through which an ultrasonic beam was directed along the cell axis. The ultrasonic intensities were measured calorimetrically (Ref 3). The results obtained for acetone, toluene, dioxane, dichloroethane, benzine, cyclohexane, ether, carbon tetrachloride, chloroform, benzene, distilled water, outgassed distilled water and various oils are listed in Table 1.

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SOV/46-5-3-23/32

On a Simple Method of Detection of Cavitation in Liquids

The cavitation thresholds at temperatures from 13.5 to 20.0°C occurred at intensity levels from 0.4 (acetone) to 10.3 (outgassed olive oil) W/cm^2. Since the beginning of the cavitational process is indefinite, the values quoted should be regarded only as fairly accurate (measured to within 15-20%) relative values of the cavitation threshold. Alternatively, these values may be thought of as the absolute thresholds of cavitation of a liquid in contact with a solid wall, such as the surface of a radiator. There are 2 figures, 1 table and 3 references, 2 of which are Soviet and 1 English.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: July 22, 1958

Card 2/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I G.

PHASE I BOOK EXPLOITATION SOV/5-44

Vsesoyuznaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov

Primenenie ul'traakustiki k issledovaniyu veshchestva. vyp. 10. (Utilization of Ultrasonics for the Investigation of Materials. no. 10) Moscow, Izd-vo MOPI, 1960. 321 p. 1000 copies printed.

Eds V. F. Nozdrev, Professor, and B. B. Kudryavtsev, Professor

PURPOSE This book is intended for physicists and engineers interested in ultrasonic engineering.

COVERAGE The collection of articles reviews present-day research in the application of ultrasound in medicine, chemistry, physics, metallurgy, ceramics, petroleum and mining engineering, defectoscopy, and other fields. No personalities are mentioned. References accompany individual articles.

Card ~~1/10~~

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

Zolotova, A. I. [In-t pishchevoy tekhnologii AMN SSR - Institute of Foods Technology AMS USSR]. Study of the Effect of Ultrasonic Waves on Some Food Products of Plant Origin 207

Mikhaylov, I. G., L. I. Savina, and G. N. Feofanov [Leningr. gos. in-t - Leningrad State University]. The Problem of Ultrasonic-Wave Absorption in Ethyl Acetate 215

Glinskiy, A. A. [MOPI im. Krupskoy - Moscow Oblast Polytechnical Institute imeni Krupskaya]. The Width of First-Order Spectra Arising During the Diffraction of Light in Damping Ultrasonic Waves of Low Intensity 235

Adkhamov, A. A. [Tadzhiksk. gos. in-t - Tadzhik State University]. The Dispersion of Sound in Liquids 243

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; SYRNIKOV, Yu.P.

Effect of ions on the structure of water. Zhur. strukt. khim. 1 no.1:12-27 My-Je '60. (MIRA 13:8)

1. Leningradskiy gosudarstvenny universitet imeni A.A.Zhdanova i Leningradskaya lesotekhnicheskaya Akademiya imeni S.M. Kirova.
(Water) (Ions)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

S/046/60/006/01/31/033
B008/B011

AUTHOR: Mikhaylov, I. G.

TITLE: Work Done in the Field of Ultrasonics in the Chinese People's Republic

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 1, pp. 139-141

TEXT: The author who spent three and a half months in the Chinese People's Republic early in 1959, and held lectures on molecular acoustics at Nanking University, reports on the state of work done in the field of ultrasonics and its application in the Chinese People's Republic. Nanking University is the main center where specialists are trained in the field of acoustics. There are as much as 12 teachers at the chair of acoustics which is headed by Professor Vey Zhun-t'ye. The following subjects are taught: building acoustics, lingual acoustics, and ultrasonics. Classes of molecular and hydroacoustics are to be introduced. Students are widely admitted to research work conducted by the members of the chair mentioned. The teachers, assistants Du Kun-khua and Kun Syu-fyn, as well as the post-graduate girl student Dzhan Su-i, are specializing in the field of molecular acoustics. Scientific research work on ultrasonics

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is carried out, furthermore, in a great number of institutes. There is a large laboratory of ultrasonics at the Institute of Radioelectricity of the Academy of Sciences of the Chinese People's Republic, headed by Professor In Tsun-fu. Research work is conducted in a number of institutes and enterprises in connection with the practical application of ultrasonics: at the Polytechnic Institute in Shanghai, at the chemical factory at Pukou, at the Shanghai Institute of Materials, at the Shanghai Central Laboratory of Metallurgy. In many enterprises, ultrasonics has already found a practical use. Ultrasonic material testing is being widely applied. Ultrasonic flaw detectors are manufactured by the "Tsyan-nan'" Shipyard in Shanghai, by the Peking Factory of Electrical Instruments, by the Vusi Factory of Ultrasonic Equipment, and other factories. All of them manufacture flaw detectors of about the same type resembling the one worked out by the Leningradskiy elektrotekhnicheskiy institut (Leningrad Institute of Electrical Engineering). In some enterprises, such as the Nanking Factory of Radio Tubes, ultrasonics is used for cleaning minute parts.

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Work Done in the Field of Ultrasonics in the Chinese People's Republic

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B008/B011

At the Nanking Radio Factory "Panda", the Shanghai Factory of Electrical Instruments, and the Vusi Factory of Ultrasonic Equipment, ultrasonics is applied to the processing of hard and brittle materials. Ultrasonic instruments are made by the Vusi Factory of Ultrasonic Equipment, the Shanghai Institute of Electrical Instruments, the Institute of Materials, the Shanghai Institute of Thermotechnical Instruments, and the Peking Factory of Electrical Instruments. The Vusi Factory produces systems for ultrasonic therapy. The laboratory of the "Tsuan-nan'" Shipyard has worked out an apparatus which has been successfully used at the 6th People's Hospital in Shanghai for early cancer diagnosis. During his stay in the Chinese People's Republic, the author got acquainted with a total of 15 scientific research institutes, universities, and factories. The first All-Chinese Conference on problems of the use of ultrasonics was held at

Card 3/4

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Work Done in the Field of Ultrasonics in the Chinese People's Republic

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Uohana in 1959, and was attended by over 100 scientists and engineers.

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05140

S/046/60/006/003/015/01[illegible]
B013/B063

6.8000 (3201, 1099, 1162)

AUTHORS: Mikhaylov, I. G., S[illegible], V. A.

TITLE: Distortion of the Shape of an Ultrasonic Wave of Finite Amplitude in Various Liquids

PERIODICAL: Akusticheskiy zhurnal 1960 Vol. 6 No. [illegible] pp. [illegible]

TEXT: The present paper deals with the use of the optical method for the determination of distortions of an ultrasonic wave when measuring non-linear parameters of liquids. The authors give formulas for calculating the deformation rate of the front of a propagating wave of finite amplitude and for determining the coefficients of the non-linear equation of state for liquids and also the results of measurement obtained for various liquids. Using formula (2')

$$\varepsilon = (\delta_2 - \delta_1/\delta_2 + \delta_1)[F \cdot L(n_0 - 1)/2D \quad \text{and} \quad (5)$$

$$\varepsilon = (B/A + 2)/2$$

which serve for the calculation of ε and B/A on the basis of photometric data these quantities were measured for several liquids at an ultrasonic frequency of 570 kilocycles within the intensity range of [illegible] w/cm²

Card 1/2

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Distortion of the Shape of an Ultra[illegible] Wave of Finite Amplitude in Various Liq[illegible] B013/B063

at room temperature. The coefficient [illegible] depends on the [illegible] properties of the medium; A and B are unknown coefficients; [illegible] and [illegible] are the distances between zero order and the maxima of the spectral intensity envelope on the photogram. Liquids of the types "pure" and "pure pr[illegible] analysis" were used. The measurements were made with an optical device described in Ref. 7. The errors in measurement calculated for [illegible] were [illegible] 8%. For the measurement of [illegible] the authors photographed diffraction patterns at different voltages on the quartz and from different distances D. The mean values were calculated from [illegible] to 20 patterns. The results of this work are collected in a table. Fig. [illegible] shows the front of a light wave passing through a distorted and an undistorted ultrasonic wave in a transparent liquid. Fig. 2 shows a diffraction pattern for [illegible] blurred by a heat flow in the liquid and Fig. 3 shows a clear pattern. There are [illegible] figures, [illegible] table, and 8 references, [illegible] Soviet and [illegible] US.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: May 14, 1960

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; FEN ZHAU

Speed of sound in and compressilbilty of aqueous solutions of LiOH, NaOH, and KOH. Vest LGU 15 no.16:22-35 '60. (MIRA 13:8)
(Alkali metal hydroxides) (Sound waves)

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LIFSHITS, Lazar' Izrailevich; MIKHAYLOV, I.G., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Hydrodynamic vibrator with a contilever support used for obtaining emulsions] Gidrodinamicheskii vibrator s konsol'nym krepleniem i ego primenenie dlia polucheniia emul'sii. Leningrad, 1961. 19 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Elektricheskie metody obrabotki materialov, no.3) (MIRA 15:5)

(Vibrators) (Emulsions)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

S/887/61/000/000/013/069
E194/E155

AUTHORS: Mikhaylov, I.G., and Shutilov, V.A.

TITLE: An instrument for measuring ultrasonic intensity. (A.c. no.119000, cl. 42g, 1_{01} (no.397325 of April 14, 1958))

SOURCE: Sbornik izobreteniy; ul'trazvuk i yego primeneniye. Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform., 1961, 22

TEXT: The instrument for measuring ultrasonic intensity operates on the principle of heating a sound-absorbing liquid by ultrasonics. A special feature of the instrument is that in order to improve the accuracy of measurement and to extend the range of intensities measured, the liquid whose rate of heating is observed is in a capillary between two fixed scale divisions. The instrument accordingly contains a vacuum-heat-insulated glass vessel containing sound-absorbing liquid and having double walls (Fig.16), between which the pressure is 10^{-6} mm Hg. The vessel is horn-shaped to improve the absorption of the ultrasonic beam, which is received through a round glass plate. Replaceable capillary

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tubes of different internal diameter are introduced into the vessel through a glass neck. The rate of heating of the liquid in the capillary is read on a scale. A heating spiral is located within the vessel to calibrate the instrument in terms of ultrasonic power absorption. The accuracy of measurement and extension of range are achieved by using capillaries of various sections.
There is 1 figure.

[Abstractor's note: Complete translation.]

Fig.16. Instrument for measuring ultrasonic intensities.
a - glass vessel; б - plate; в - glass neck.
г - capillary tubes; д - scale; е - heater.

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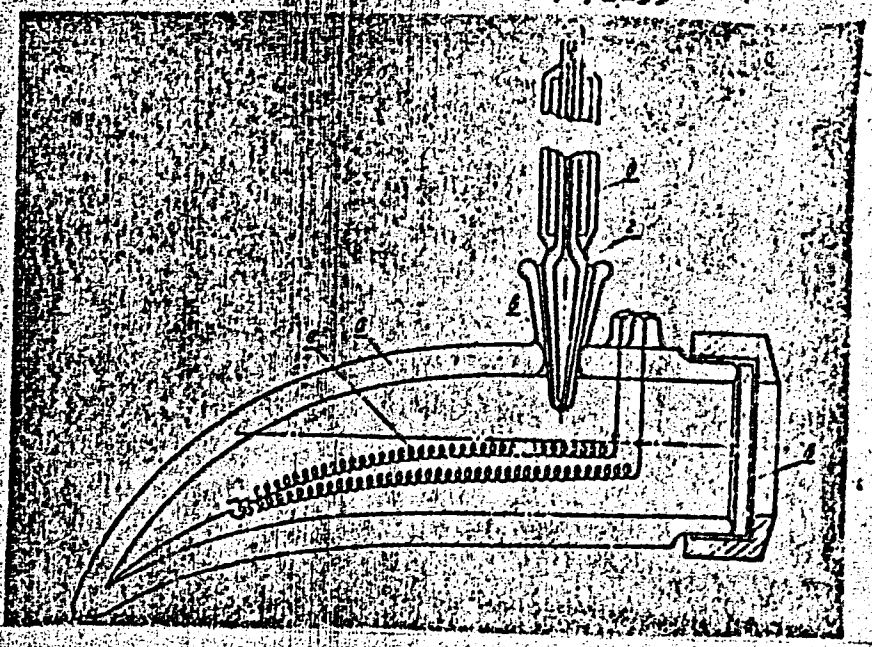
An instrument for measuring ...

S/887/61/000/000/013/069
E194/E155

Fig. 16



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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

S/058/62/000/004/085/160
A061/A101

AUTHORS: Mikhaylov, I. G., Kalugin, B. A.

TITLE: New ultrasonic method of measuring the elastic properties of solids at high temperatures

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 40, abstract 4G331 (V sb. "Prom. primeneniye ul'trazvuka. Kuybyshevsk. aviats. in-t", Kuybyshev, 1961, 141-149)

TEXT: A method is presented for determining the temperature dependence of the elastic constants of the materials of a nonuniformly heated cylindrical specimen with faces cooled down to room temperature. The character of temperature distribution along the specimen concerned is experimentally determined, and the mean velocity of longitudinal and transverse waves is measured in each case by the travel velocity of ultrasonic pulses. The dependence required is found by graphic integration. Diagrams are presented for the temperature dependence of Young's modulus, of Poisson's coefficient, and of the shear modulus for steel CT -50 (ST-50) up to 1,000°C and alloy Д-16 (D16) up to 500°C. Results are in fairly good agreement with data available in the literature.
[Abstracter's note: Complete translation] S. Sekoyan

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

S/263/62/000/010/006/013
1028/1250

AUTHOR Isayev, A. A., Mikhaylov, I. G. and Khimunin, A. S.

TITLE: A new scheme for an ultrasonic interferometer

PERIODICAL Referativnyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika, no. 10, 1962, 27, abstract 32.10.199. In collection "Prom. primeneniye ul'trazvuka. Kuybyshevsk aviats in-t". Kuybyshev, 1961, 167-173

TEXT: A description is given of an ultrasonic interferometer developed in the ultrasonic laboratory of LGU permitting the measurement of the velocity of propagation of the ultrasound in liquids with high accuracy by using a radio tube in a circuit including a maximum indicator and a pulse counter. The operating frequency of the interferometer is 1 Mcycle/sec. As indicators are used a МЭС-54 (MES-54) type pulse counter and a ПМ-70 (PM-70) type milliammeter with a measuring limit of 0.15 ma. The radiating X-cut quartz of a diameter of 20 mm operates on the liquid through a metallic plate of a thickness of $2\lambda/2$, where λ = the wavelength of the ultrasonic vibrations in the plate substance (brass, $2\lambda/2$ = 4.41 mm). The error in the measurement of the velocity of propagation of ultrasonic vibrations in liquids is 0.01-0.02%. A two-year period of operation has shown the high reliability of the instrument and the ease of its manipulation. There are 3 figures.

[Abstracter's note: Complete translation.]

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

KALUGIN, B.A. (Leningrad); MIKHAYLOV, I.G. (Leningrad)

New ultrasonic method of measuring the elastic properties of solids at high temperatures. Akust.zhur. 7 no.2:195-200 '61. (MIRA 14:7)
(Ultrasonic testing) (Elastic solids)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; FEN Zhau

Velocity of sound and compressibility of aqueous solutions of certain substances at small concentrations. Vest. LGU 16 no.4:51-56 '61. (MIRA 14:3)

(Sound--Speed) (Compressibility)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.

STRUCTURE AND PHYSICAL PROPERTIES OF MATTER IN A LIQUID STATE
reports read at the 4th Conference convened in KIYEV from 1 to 5 June 1959, published by the Publishing House of KIYEV University, KIYEV, USSR, 1962

A.Z. GOLIK and [illegible] CHOL-AN, Molecular Structure, Compressibility, Surface Tension and Viscosity of Some Polysiloxanes 57

N.V. GERASIMOV, Problem of Viscosity of Compressed Gases and Liquids 65

O.YA. SAMOYLOV, Connection Between the Coordination Number and the Thermal Motion of Aqueous Solution Particles of Electrolytes 71

I.G. MIKHAYLOV and [illegible] BY SIZOV, Thermal Dependency of the Adiabatic Compressibility of the Aqueous Solutions of Salts at Low Concentrations 74

M.[illegible] BELYY and [illegible], The Effect of Solvents and Temperature on the Luminescent Capacity of Tin Salt Solutions 79

YU.YA. GOTLIB, [illegible] SALIKHOV and V.A. [illegible], Theory of Ultrasound Absorption in Polymer Solutions 85

G.[illegible] MARTYNKEVICH, Connection Between the Structural Units of Gases and Structural Units of Liquids 92

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I. G.

"The new data on the sound velocities in aqueous solutions"

report submitted for the 4th Intl. Congress of Acoustics, Copenhagen, Denmark, 21-28 Aug 1962.

Leningrad University, Leningrad, U.S.S.R.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

43996

24.1900
11.3900

S/054/62/000/004/002/017
B101/B186

AUTHORS: Gitis, M. B., Mikhaylov, I. G., Khimunin, A. S.

TITLE: Apparatus for measuring the sonic velocity in liquid metals and melts

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 4, 1962, 52-55

TEXT: An apparatus working on the principle of electroacoustic feedback, able to measure ultrasonic velocity with the transducers in fixed positions is described here. Instead of the ultrasonic propagation velocity, the pulse repetition frequency is measured, i.e. the ultra-sound which has passed the test medium, is amplified, shaped, and again starts up the master pulse generator. The ultrasonic velocity is determined by $c=d/(1/f + \tau_{\Sigma})$, where d is the distance between the vibrators, f the pulse repetition frequency, τ_{Σ} the total electric and acoustic delay. To allow operation over a wide range of temperature the measuring cell has two delay rods. To eliminate the effect of the temperature gradient occurring in the delay rods,

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

the ultrasonic propagation velocity is measured not only passing through the system but also in the reflection from the rod-fusion interfaces. $c = 2dff_1f_2/(2f_1f_2 - ff_1 - ff_2)$, where f_1 and f_2 is the pulse repetition frequency in the two rods. The distance c is calibrated by a liquid of known sound conductivity. The pulse generator delivers negative pulses of 3 μsec duration, 150 v amplitude, starting up a shock generator. Measurements are made with the precisely fixed frequency of 5 Mc/sec. The delay rods consist of fine-grained 1X18H9T (1Kh18N9T) steel. A check of the ultrasonic velocity in mercury between -39.2 and +70°C showed good agreement with the data found by O. J. Kleppa (Ultrasonic velocities of sound in some liquid metals. Adiabatic and isothermal compressibilities of liquid metals at their melting points. Journ. Chem. Phys., 18, 1331, 1950) and E. B. Freyer, J. C. Hubbard, D. W. Andrews (Sonic studies of the physical properties of liquids. Journ. Amer. Chem. Soc., 51, 759, 1929). There are 1 figure and 1 table.

SUBMITTED: May 22, 1962

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 16180-63 EWT(1)/BDS AFFTC/ASD

ACCESSION NR: AR3005184 S/0058/63/000/006/B056/B056

SOURCE: RZh. Fizika, Abs. 6 Zh353

54

AUTHORS: Gitis, M. B.; Mikhaylov, I. G.; Khimunin, A. S.

[redacted]

TITLE: Installations for the measurement of the velocity of sound in liquid metals and melts

CITED SOURCE: Vestn. Leningradskogo un-ta, no. 22, 1962, 52-55.

TOPIC TAGS: ultrasonics, sound velocity, liquid metal, melt, measurement

TRANSLATION: The method of electroacoustic feedback is used in the described installation. An ultrasound pulse that has passed through the investigated medium is amplified, shaped, and again triggers the master oscillator. The method makes it possible to carry out the measurements at a fixed position of the converters. The measurement of the time of propagation of the ultrasound in the medium is replaced by the measurement of the repetition frequency of the pulses. To operate over a wide range of frequencies, the measuring cuvette of the apparatus has two delay rods of 1Kh18N9T stainless steel. Measurement of the time of propagation

Card 1/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 16180-63

ACCESSION NR: AR3005184

0

of the ultrasound pulse has been carried out not only in the rod--melt system, but also separately in each of the rods, so as to exclude the influence of the delay rods. The measurement procedure was verified on mercury in the temperature range from -39.2 to + 70°C. To determine the acoustical path in the investigated liquid, the installation was calibrated beforehand using a liquid with known sound velocity. The liquid employed was butyl iodide, in which the sound velocity was measured with an ultrasonic interferometer at 20° C. The converters were excited with radio pulses of 3 millisecond duration with a carrier frequency of 5 Mcs. The pulse repetition frequency was measured with a heterodyne wavemeter. The relative error in the measurement of the sound velocity is 0.2--0.3%. The measurement accuracy can be increased by using electronic pulse counters. A. Kon'kov.

DATE ACQ: 15Jul63 SUB CODE: PH, SD ENCL: 00

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MERKULOV, Lev Grigor'yevich, kand. tekhn. nauk; MIKHAYLOV, I.G., red.; FREGER, D.P., red.izd-va; GVIRTS, V.L., tekhn. red.

[New achievements in ultrasonic flow detection] Novye dostizheniia ul'trazvukovoi defektoskopii. Leningrad, 1963. 20 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Seriia: Elektricheskie metody obrabotki materialov, no.3) (MIRA 16:6)

(Ultrasonic testing)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; FEDOROVA, N.M.

Use of ultrasound in studying the structural variations in concentrated polymer solutions. Akust. zhur. 9 no.1:50-53 '63. (MIRA 16:5)

1. Leningradskiy gosudarstvennyy universitet.
(Ultrasonic waves) (Polymers)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

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

AUTHORS: Mikhaylov, I. G., Fedorova, N. M.

TITLE: Study of structure variations of concentrated solutions of polymers by means of ultrasound

PERIODICAL: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 50-53

TEXT: In previous papers (Akust. zh., 1957, 3, 3, 293-242; Vestn. LGU. Ser. fiziki i khimii, 1958, 16, 3, 78) the authors showed that ultrasound may be used to change the structure of crosslinked systems as well as to measure these variations. The influence of temperature on the structure of concentrated polymer solutions was investigated by studying the temperature dependence of $\Delta(\alpha/\nu^2) = \alpha/\nu^2 - \alpha_0/\nu^2$ in solutions of polyisobutylene in gasoline between 0 and 60°C. α is the absorption coefficient of the solution, α_0 that of the solvent. It is shown that the absorption coefficient of ultrasonic waves is a characteristic most sensitive to structure variations. The intense variations of the absorption coefficient in the temperature interval can be explained only

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by variations of the structure. It is assumed that structure variations occurring due to intense ultrasonic irradiation or due to temperature variations are related to variations of the number of Van-der-Waals sites in the polymer lattice. It is shown that the structure variations are not produced by cavitations. There are 3 figures.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: May 11, 1962

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

GITIS, M.B.; MIKHAYLOV, I.G.; KHIMUNIN, A.S.

Apparatus for measuring the velocity of sound in liquid metals and melts. Vest.LGU 17 no.22:52-55 '62. (MIRA 15:12)
(Sound—Speed)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MARE[illegible]

Use [illegible] ultrasound in studying [illegible] n processes in dyes.
Vest. LGU 13 no.10:52-65 '6[illegible]. (MIRA 16:3)
(Ultrasonic waves--Industrial applications) (Crystallization)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

LASHKOV, Anatoliy Stepanovich; MIKHAYLOV, I.G., red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn. red.

[Ultrasonic investigation of the cavitation of hydraulic machinery] Ul'trazvukovoi metod issledovaniia kavitatsii gidravlicheskikh mashin; stenogramma lektsii. Leningrad, 1963. 32 p. (MIRA 16:10)
(Hydraulic machinery--Testing) (Cavitation)
(Ultrasonic waves--Industrial applications)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; SAVINA, L.I.; SOLOV'YEV, V.A.; SYROVA, M.N.

Absorption of ultrasonic waves in thiokols. Akust. zhur. 9 no.4: 460-465 '63. (MIRA 17:3)

1. Leningradskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 51054-65 EWT(1)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EED(b)-3 Pc-4/Pr-4/Pu-4 IJP(c) WW/RM

ACCESSION NR: AM5001446 BOOK EXPLOITATION S/ 56 55 B1

Mikhaylov, Igor' Georgiyevich; Solov'yev, Viktor Aleksandrovich; Syrnikov, Yuriy Pavlovich

21

Principles of molecular acoustics (Osnovy molekulyarnoy akustiki), Moscow, Izd-vo "Nauka", 1964, 514 p. illus., biblio., index. 4,500 copies printed.

TOPIC TAGS: acoustics, sound wave, thermodynamics, relaxation process, polymer, sound absorption, acoustic property

TABLE OF CONTENTS (abridged):

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Ch. II. Speed of sound and structure of a substance. Gases -- 55
Ch. III. Speed of sound and structure of substances. Liquids and solids -- 69
Ch. IV. Speed of sound in mixtures and solutions -- 121
Part 2. Use of acoustic methods to study non-equilibrium properties of a substance

Card 1/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 51054-65
ACCESSION NR: AM5001446

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SUBMITTED: 22Jul64 SUB CODE: GP

NO REF SOV: 215 OTHER: 487

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 25360-65 EWT(1)/EWT(m)/EWP(k)/T RWH

ACCESSION NR: AP4046735 S/0054/64/000/003/0065/0083

AUTHOR: Manucharov, Yu. S.; Mikhaylov, I. G.; Shutilov, V. A.

17
B

TITLE: Effect of concentration and temperature on the sound velocity and on the compressibility of electrolytic solutions at various hydrostatic pressures

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 3, 1964, 65-83

TOPIC TAGS: ultra sound velocity, electrolyte, temperature effect, concentration effect, compressibility, two structural water model

ABSTRACT: It has been pointed out by the author in a previous paper (Akusticheskiy Zhurn. 10, #2 (1964)) that the investigation of the dependence of compressibility of aqueous solutions on concentration alone is not sufficient for establishing the mechanism of the effect of ions on the structure of water. In the present work, measurements were made of the velocity of ultrasound in water solution of the salts NaCl, KCl, CsCl, KI, KBr, $NaNO_3$, Na_2SO_4, $Pb(NO_3)_2$, and $CaCl_2$ in the range of pressure between 0 and 300 atm. of temperature from 20 to 80 C,

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 25360-65
ACCESSION NR: AP4046735

and of concentration from a fraction of 1 to 1.5-2 mole/kg. The sound velocity was measured by the optical diffraction method described in Vestnik LGU # 16 16(1956). The results are presented both in diagrams and tables. All measured values change linearly with pressure. The results support the two-structure model of water. Orig. art. has: 5 figures and 11 tables

ASSOCIATION: None

SUBMITTED: 10Oct63 ENCL: 00 SUB CODE: GC, GP

NR REF SOV: 006 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

ACCESSION NR: AP4025734 S/0046/64/010/001/0098/0103

AUTHORS: Mikhaylov, I. G.; Shutilov, V. A.

TITLE: Absolute measurements of ultrasonic fields in solid bodies

SOURCE: Akusticheskiy zhurnal, v. 10, no. 1, 1964, 98-103

TOPIC TAGS: absolute ultrasonic field measurement, ultrasonic field, magneto-electric measurement, ultrasonic field parameter, reflecting boundary, nuclear acoustical resonance, paramagnetic acoustical resonance

ABSTRACT: The authors investigate the possibility of a magneto-electrical method of absolute measurement of the parameters of ultrasonic fields in solid bodies. The ultrasound receiver is a strip of metallic layer applied to the reflecting boundary of the sample. With oscillations of the strip in the magnetic field, emf induction is developed at its ends proportional to the amplitude of the oscillating strip in the incident ultrasonic wave. The authors estimate the sensitivity of the method. They study the effect of inhomogeneity in the amplitudes of perturbations of the face of a cylindrical sample, and they discuss the merits of the method and its possible uses. Orig. art. has: 4 figures and 9

Card 1/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

ACCESSION NR: AP4025734

formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 16May63 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: PH NO REF SOV: 006 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; ROZINA, M.V.; SHUTILOV, V.A.

Sound velocity and the compressibility of solutions of salts of inorganic acids in formamide. Akust. zhur. 10 no.2:213-217 '64. (MIRA 17:6)

1. Leningradskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.G.; SHUTILOV, V.A.

Nonlinear acoustic properties of aqueous [illegible]. Akust.zhur. 10 no.4:450-455 [illegible].

1. Leningradskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

VASIL'EV, Vladimir Vissarionovich; MIKHAYLOV, [illegible], ed.

Use of ultrasound in analytical chemistry; a report presented at the meeting of the Section of Ultrasound of the Leningrad House of Scientific and Technical Propaganda held January 13, 1964]Primenenie ul'trazvuka v analiticheskoi khimii; doklad na zasedanii sektsii ul'trazvuka Leningradskogo Doma nauchno-tekhnicheskoi propagandy [illegible] g. Leningrad, 1965. 23 p. (MIRA [illegible])

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

7808-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/EWP(b)/EED(b)-3/ETC(m) IJP(c) JD/WW

ACC NR: AP5028046 SOURCE CODE: UR/0046/65/011/004/0434/0437

AUTHOR: Gitis, M.B.; Mikhaylov, I.G.
44,55 44,55

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)
44,55

TITLE: The speed of sound and the compressibility of some liquid metals

SOURCE: Akusticheskiy zhurnal, v. 11, no. 4, 1965, 434-437

TOPIC TAGS: silver, lead, tin, antimony, bismuth, liquid metal, acoustic speed, electric conductivity, metal property
21,44,55

ABSTRACT: The article reports on the measurement of the speed of sound in the following liquid metals: silver, copper, lead, tin, bismuth, and antimony in a broad temperature range. In liquid silver and copper, in the temperature range up to 1400C, the speed of sound depends linearly on the temperature. In lead, tin, bismuth, and antimony the temperature-dependence of the speed of sound and compressibility is more complicated. In lead, for example, starting with a temperature of 900C and above, the temperature coefficient increases smoothly. In antimony, on the other hand, the speed of sound attains a distinct maximum at 850C. There is a correlation between the character of the temperature-dependence of the speed of sound and the electric conductivity of the metals investigated. Orig. art. has: 4 figures.

SUB CODE: MM,GP / SUBM DATE: 30Mar65 / ORIG REF: 008 / OTH REF: 004

Card 1/1 UDC: 534.22:546.3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

KOL'TSOVA, I. [illegible], MIKHAYLOV, I. [illegible].

Ultrasonic wave scattering in suspensions. Vest. [illegible] no.16:41-45 '65. (MIRA 18:[illegible])

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 31522-66 EWT(1)/EWT(m)/ETC(f)/T/EWP(t)/ETI IJP(c) RDW/JD/WW/JG

ACC NR: AP6007993 SOURCE CODE: UR/0046/66/012/001/0017/0021

AUTHOR: Gitis, M. B.; Mikhaylov, I. G.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: The relationship between the velocity of sound and electrical conductivity in liquid metals

SOURCE: Akusticheskiy zhurnal, v. 12, no. 1, 1966, 17-21

TOPIC TAGS: liquid metal, ultrasonic velocity, electric conductivity, metal property

ABSTRACT: Elsewhere, the authors (Skorost' zvuka i szhimayemosti' nekotorykh zhidkikh metallov. Akustich. zh., 1965, 11, 4, 434—437) described experiments on the measurement of the velocity of propagation of ultrasound in liquid Ag, Cu, Pb, Sn, and Sb. In the present article, the authors present data on the investigation of ultrasonic velocities in several other molten metals, i.e., Tl, In, Ga, Zn, Cd, and Te. A correlation of the electrical and the acoustical data of the liquid metals is observed in the temperature range from the melting point to 950C. An explanation of this phenomenon is presented, based on the Mott theory. Orig. art. has: 4 figures, 1 table, and 3 formulas.

SUB CODE: 11, 20 / SUBM DATE: 06Aug65 / ORIG REF: 008 / OTH REF: 003

Card 1/1 UDC: 534.22

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

L 34373-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(1) IJP(c) JD/EM

ACC NR: AP6008001 SOURCE CODE: UR/0046/66/012/001/0114/0116

AUTHOR: Kalugin, B. A.; Mikhaylov, I. G.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: The ultrasonic method of measuring the moduli of elasticity of metals at temperatures up to 3000K

SOURCE: Akusticheskiy zhurnal, v. 12, no. 1, 1966, 114-116

TOPIC TAGS: modulus of elasticity, shear modulus, measuring apparatus, molybdenum, metal physical property

ABSTRACT: The authors had earlier described a method for the measurement of moduli of elasticity of solids at high temperatures based on the measurement of the propagation velocities of longitudinal and transverse ultrasonic waves in an unevenly heated specimen (Novyy ul'trazvukovoy impul'snyy metod issledovaniya uprugikh svoystv tverdykh tel pri vysokikh temperaturakh. Akust. zh., 1961, 7, 2, 195 200). That method was used to measure the elasticity moduli of some metals up to a temperature of about 1300K. The authors describe a method which enabled them to shift into a region of higher temperatures

Card 1/4 UDC: 539.32:534.6

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L 34373-66

ACC NR: AP6008001

by employing the heating of a metal specimen directly by means of a commercially pure current flowing through it. The line diagram of the device used is shown (Fig. 1). Special control experiments showed that inside of a 10 min period of treatment, a practically stable temperature distribution is established along the length of the specimen. As an example, the authors provide a table (Table 1) for the values of the modulus of normal elasticity E, the shear modulus G, and Poisson coefficient δ for molybdenum at different temperatures. The last column in the table gives the modulus of elasticity available in the literature (M. G. Lozinskiy. Struktura i svoystva metallov i splavov pri vysokikh temperaturakh. M., Mashgiz, 1963). Orig. art. has: 1 figure and 1 table.

SUB CODE: 11,20 / SUBM DATE: 10Apr65 / ORIG REF: 002

Card 2/4

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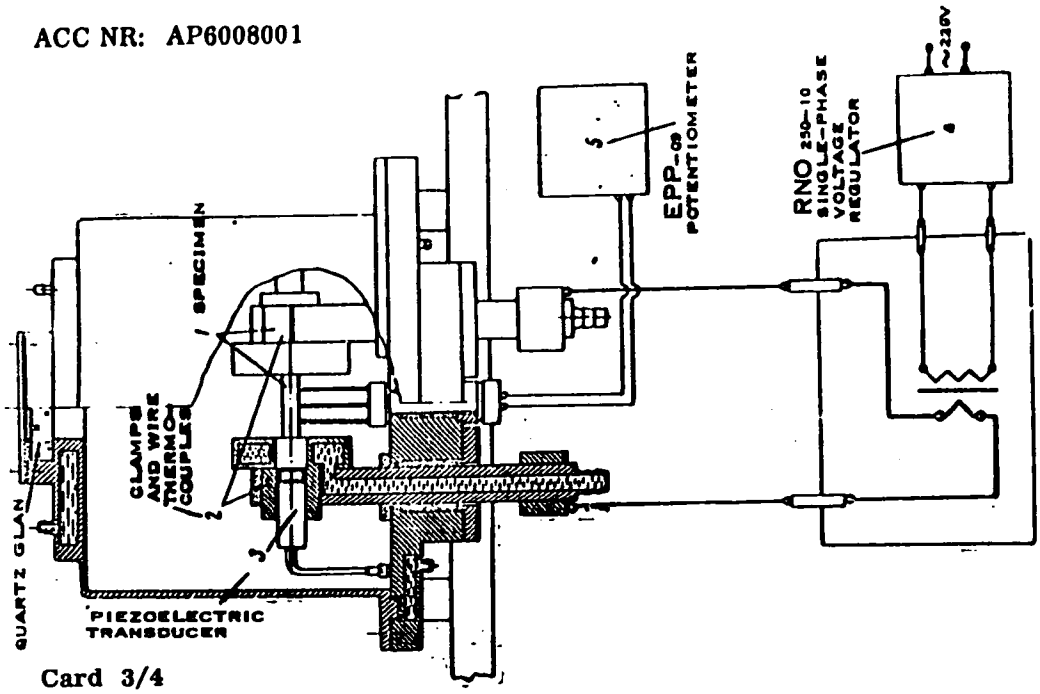

Fig. 1. Device for measuring the moduli of elasticity of metals.

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TABLE 1. Coefficients for molybdenum.

T°K	E, кгс/мм²	G, кгс/мм²	ν	E, кгс/мм² [2]
300	33 200	12 700	0.31	33 250
500	32 000	12 200	0.31	32 080
700	30 800	11 700	0.315	31 650
900	30 100	11 400	0.315	30 500
1100	28 550	10 820	0.318	29 000
1300	27 700	10 500	0.32	28 100
1500	26 500	10 000	0.32	27 000
1700	25 800	9750	0.325	—
1900	25 000	9400	0.327	—
2100	22 900	8600	0.33	—
2300	22 000	8250	0.33	—
2500	20 000	7500	0.335	—
2700	17 550	6550	0.34	—

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

ACC NR: AP6016823 SOURCE CODE: UR/0046/66/012/002/0145/0159

AUTHOR: Gitis, M. B.; Mikhaylov, I. G.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: Propagation of sound in liquid metals (review)

SOURCE: Akusticheskiy zhurnal, v. 12, no. 2, 1966, 145-159

TOPIC TAGS: sound propagation, molten metal, ultrasound absorption, acoustic measurement, acoustic speed, temperature dependence, compressible fluid, viscous fluid

ABSTRACT: This is a review article dealing with methods of measuring the velocity and absorption of ultrasound in liquid metals, with the experimental results already obtained by these methods, and with the data that can be extracted from these results in order to obtain information on other physical properties of liquid metals over a wide range of temperatures. A summary table listing the speed of sound and its temperature coefficient for a large number of metals is presented. On the basis of the results a distinction can be made between normal metals, in which the radical realignment of structure terminates at the melting point, and metals in which the short-range order structure experiences changes in the liquid state. These include tin, bismuth, and gallium. It is concluded that in molten metals, in spite of the relative simplicity of the structure, the speed of sound behaves in a complicated manner with increasing temperature. The compressibility of the molten metal is a quantity sensitive to the structure. Inasmuch as liquid metals consist of spherical symmetrical

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simple particles, a study of the compressibility and the speed of sound leads to information on the interatomic forces between them. The maximum speed of sound and consequently the minimum of compressibility can be due both to the formation of a second close-packed structure in the liquid metals, and to a temperature variation of the number of carriers. Measurement of the sound absorption in molten metals is the only source of data on the volume viscosity, but the determination of this quantity calls for comprehensive study of both acoustic and thermal characteristics of the same samples of molten metal. Measurement of sound absorption in a broad temperature interval may yield valuable information on the influence of different structural rearrangements on the kinetic coefficients of the liquid metal. Orig. art. has: 11 formulas and 2 tables.

SUB CODE: 20/ SUBM DATE: 19Nov65/ ORIG REF: 028/ OTH REF: 026

Card 2/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

SOV/68-59-8-13/32

AUTHOR: Mikhaylov, I.I.

TITLE: Mechanisation of Quenching, Screening and Charging into Wagons of Coke on the Nikitovskiy Section of the Gorlovka Coking Works (Mekhanizatsiya tusheniya, sortirovki i pogruzki koksa na Nikitovskom uchastke Gorlovskogo koksokhimicheskogo zavoda)

PERIODICAL: Koks i khimiya, 1959, Nr 8, pp 30-31 (USSR)

ABSTRACT: On the above section of the works hand quenching was in operation. The modernisation of this section is briefly outlined. There is 1 figure.

ASSOCIATION: Gorlovskiy koksokhimicheskiy zavod (Gorlovka Coking Works)

Card 1/1

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

USSR / Soil Science. Biology of Soils. J-3

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77397

Author : Vasil'yev, N. D.; Ponomarev, Yu. I.; ~~Mikhaylov, I. I.~~
Inst : Povolzhskiy Forest Technical Institute
Title : Observations of the Daily Dynamics of the Biological Activity of Soils in Conditions of Dry Pine Forest and Mixed Fir

Orig Pub : Sb. stud. rabot Povolzhsk. lesotekhn. in-t, 1956, vyp. 3, 92-94

Abstract : The biological activity of turf-podzolic soils was characterized by a daily dynamic of CO_2 separation by the soil. Determinations were according to the V. I. Shatnov method (Report VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin], 1952, issue 6). Experiments were conducted in the autumn of 1953 in mossy pine forest, pine forest-red bilberry bush, mixed fir, on a glade with

Card 1/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOVA, L.L.; PROTOPOPOVA, V.V., red.; SHAROVA, Ye.A., red.; KOGAN, V.V., tekhn.red.

[Flax mill and its source of supply] L'nozavod i ego syr'evaia baza. Moskva, Gos.nauchno-tekhn.izd-vo M-va legkoi promyshl., 1956. 15 p. (MIRA 12:6)

1. Russia (1923- U.S.S.R.) Ministerstvo legkoy promyshlennosti. Tekhnicheskoye upravleniye. Byuro tekhnicheskoy informatsii. (Flax)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

NIKANOROV, A.S.; MIKHAYLOV, I.I.

Formation textures of macrocrystalline mica-bearing muscovites in pegmatites. Zap. Vses. min. ob-va 93 no.3:273-280 '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (VSEGEI), Leningrad.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I. I.

"The Distance-Measurement Apparatus of the Calculation-Impulse System" from the book Remote Control of Power Systems, published by the AS USSR, 1954.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I. I.

"Electronic Impulse Capacity Indicator with Self-Oscillating System" (Elektronnyy impul'snyy summator moshchnosti s avtokolebatel'noy sistemoy) from the book Telemechanization in the National Economy, pp. 327-332, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow 29 Nov to 4 Dec 54 by Inst. of Automatics and Telemechanics)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I. I.

"The Status of Telemetering Technology" pp 19-27

Abst: A short survey by domestic manufacturing industries of telemetering devices and methods used in telemetry.

SOURCE: Materialy Nauchno-Tekhnicheskoy Konferentsii po Obmenu Opytom Ekspluatatsii Ustroysty Telemekhaniki i Svyazi Nauchn-Tekhn. O-va Energet. Prom-sti. (Material From the Scientific and Technical Conference on Exchange of Experience in the Operation of Telemechanics and Communications Devices of the Scientific and Technical Society of the Power Engineering Industry), Rostov, 1957.

Sum 1854

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

PHASE I BOOK EXPLOITATION SOV/[illegible]

Konferentsiya po voprosam teorii i primeneniya diskretnykh avtomaticheskikh sistem, Moscow, 1958

Teoriya i primeneniye diskretnykh avtomaticheskikh sistem; trudy konferentsii (Theory and Application of Discrete Automatic Systems; Transactions of the Conference) Moscow, AN SSSR, 1960. 474 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Natsional'nyy komitet SSSR po avtomaticheskomu upravleniyu. Institut avtomatiki i telemekhaniki.

Editorial Board: M.A. Gavrilov, Doctor of Technical Sciences, Yu.V. Dolgolenko, Doctor of Technical Sciences, V.A. Kotel'nikov, Candidate of Technical Sciences, A.Ya. Lerner, Doctor of Technical Sciences, I.S. Morosanov (Scientific Secretary), G.S. Pospelov, Doctor of Technical Sciences, A.A. Fel'dbaum, Doctor of Technical Sciences, A.V. Khramoy, Candidate of Technical Sciences, and Ya.Z. Tsypkin, Doctor of Technical Sciences; Resp. Ed.: Ya.Z. Tsypkin, Doctor of Technical Sciences, Ed. of Publishing House: M.L. Podgoyetskiy, Tech. Ed.: S.G. Markovich.

PURPOSE: These transactions are intended for the members of the conference and other specialists in automatic control.

COVERAGE: The Conference on the Problems of Theory and Application of Discrete Automatic Systems took place in Moscow from September 22 to 26, 1958. It was the first conference devoted to discussions of the present status of the theory and techniques of discrete automatic systems and to planning for future development. The papers discussed at the conference have been divided into four groups. In the first group optimization switching circuits are discussed as well as methods of relay control systems, in particular plant lag control systems in which are realized optimal processes as to quick response. The second group of papers is devoted to the analysis and synthesis of pulse systems with variable parameters, of pulse systems with several pulse components, to the study of [illegible] phenomena in nonlinear pulse systems and [illegible] pulse systems. Problems of [illegible] pulse regulators have also been [illegible] digital systems. Problems of [illegible] computers for the automation of various fields of engineering [illegible] engineering, mining, radio communication, metallurgy, etc., are discussed. Problems of analog-digital conversion and vice versa as well as problems of developing specialized [illegible] converters have been [illegible] The fourth group of papers includes theoretical [illegible] of the simplest types of self-adjusting systems optimizing control systems which are [illegible] relay, pulse and [illegible] papers [illegible] various methods of investigating [illegible] optimizing systems, results of studying [illegible] the process of automatic scanning, and examples of [illegible] systems. Some of the more interesting communications and observations made during the discussion of the various conference papers have [illegible] been included in the Transactions. Personalities and references [illegible] most of the papers.

Gitis, E.I. (Moscow). Suggestions for the Classification of Analog-to-Digital Converters 323
There is 1 Soviet reference.

Mikhaylov, I.I. (Gorlovka, Stalinskaya Oblast'). Transmitter of the Angle of Rotation of a Multiturn Axis 326
The author describes the transmitter according to the author's certificate issued in his name. There is 1 Soviet reference.

Kaznacheyev, Yu.I., N.A. Kolesnikova, and Yu.N. Prozorovskiy (Moscow). High-Speed Electric Vacuum Devices Converting Continuous Data Into Discrete and Vice Versa for Use in Wideband Systems of Communication Transfer with Pulse-Code Modulation 329
The authors describe coding, decoding, and regenerating cathode-ray devices used in pulse-code modulation systems. There are 4 references: 2 Soviet and 3 English.

Yermilov, B.L. (Leningrad). Some Types of Digital Function Generators 339
The author investigates the structure of a square-law function generator and of a pulse device for extracting square roots. There are 6 references: 2 Soviet and 4 English.

MIKHAYLOV, I.I.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

NIKANOROV, A.S.; MIKHAYLOV, I.I.

Temperatures of the formation of pegmatoid structures in mica-bearing and ceramic pegmatites. Geokhimiia no.11:1146-1151 N '64. (MIRA 18:8)

1. All-Union Scientific Research Institute of Geology, Leningrad.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, Ivan Ivanovich, inzh.; KATKOV, F.A., doktor tekhn. nauk, retsenzent

[Telemetering equipment with digital recording] Apparatura teleizmereniia s tsifrovym otschetom. Kiev, Tekhnika, 1964. 121 p. (MIRA 17:11)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

KANYUKA, N.S., kand. tekhn. nauk; KUCHER, M.G., inzh.; KRYUKOV, I.M.; ZEL'TSER, R.Ya.; RODICHKINA, M.P.; MIKHAYLOV, I.K.; GAYDAY, V.K., red.

[Overall mechanization of the assembly of industrial structures; methodological manual on the selection of efficient sets of assembling machinery] Kompleksnaia mekhanizatsiia montazha promyshlennykh sooruzhenii; metodicheskoe posobie po vyboru ratsional'nykh komplektov montazhnykh mashin. Kiev, Budivel'nyk, 1965. 192 p. (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut stroitel'nogo proizvodstva.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

BYLOV, V.N.; SHTAN'KO, I.I.; YUDINTSEVA, Ye.V.; MIKHAYLOV, I.L.; TSITSIN, N.V., akademik, otv. red.; OGOLEVETS, G.S., red. izd-va; VOLKOVA, V.V., tekhn. red.

[Roses; brief results of introduction at the Main Botanical Garden of the Akademy of Sciences of the U.S.S.R.] Rozy; kratkie itogi introduktsii v Glavnom botanicheskom sadu Akademii nauk SSSR. Moskva, Izd-vo Akad. nauk SSSR, 1962. 223 p. (MIRA 15:8)

1. Moscow. Glavnyy botanicheskiy sad.
(Moscow—Roses—Varieties)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.M., inzhener; YEDIGAROV, S.S., inzhener; VEBER, P.F., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Manual on work and wages in electric power stations, networks, and plants of the Ministry of Electric Power Stations of the U.S.S.R.] Spravochnik po trudu i zarabotnoi plate na elektrostantsiiakh, v setiiakh i na zavodakh Ministerstva elektrostantsii SSSR. Moskva, Gos. energ. izd-vo, 1946. 267 p. (MLRA 9:10)

1. Russia (1923- U.S.S.R.) Ministerstvo elektrostantsii. Otdel truda i zarabotnoy platy. 2. Otdel truda i zarabotnoy platy Ministerstva elektrostantsiy. (for Mikhaylov, Yedigarov)
(Electric power plants) (Wages)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.M.

Displacement of crests of anticlinal structures in the Adyr zone in southern Fergana. Geol.nefti i gaza 4 no.7:30-34 Je '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut.
(Fergana--Folds (Geology))

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.M.

Relationship between the producing layers 2 and 3 in the southern zone of Fergana. Trudy VNIGNI no.35:97-101 '61. (MIRA 16:7)
(Fergana--Petroleum geology)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.M.; KHODZHIMATOV, A.Kh.

Prospecting methods for oil-bearing structures in Fergana.
Neftegaz. geol. o geofiz. no.8:14-15 '63. (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut, Moskva, i "Andizhanneftegaz".

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.M.

Mechanism and time of the formation of the anticline folds of Fergana. Neftegaz.geol.i geofiz. no.8:29-33 '64.
(MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

VARLAMOV, A.S.; MIKHAYLOV, I.N.; NIKITIN, A.A.; PUCHKOV, Ye.P.; TARKHOV, A.G.

Some features of the method of processing the results of geophysical research in direct prospecting for diamonds in the Yakut A.S.S.R. Izv. vys. ucheb. zav.; geol. i razv. 3 no.12:88-97 D '60. (MIRA 14:5)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.
(Yakutia—Diamonds)
(Prospecting—Geophysical methods)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.

Supply assistant foremen with measuring devices. Tekst. prom. 17 no.5:62 My '57. (MLRA 10:6)

1. Inzhener-normirovshchik fabriki imeni Balashova.
(Speed indicators) (Textile industry)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N., inzh.

Working practices of outstanding brigades of the "Hale[illegible] factory. Tekst.prom. 20 no.2:62-63 F '60.

(MIRA [illegible])

(Ivanovo--Textile factories)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

ARDASHEV, Gavriil Romanovich; BAZAROV, I.V.; MIKHAYLOV, I.N.; MORSHIN, A.V.; POLOTSKIY, I.V.; RUDENKO, A.I.; SITNIKOV, A.P.; SPERANSOV, N.N.; KRYUKOV, V.L., red.; DEYNEVA, V.M., tekhn.red.

[Maintenance of tractors and agricultural machinery] Tekhnicheskoe obsluzhivanie traktorov i sel'skokhozyaistvennykh mashin. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p. (MIRA 14:4)

(Tractors--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, Igor' Nikolayevich; MORSHIN, Aleksandr Vasil'yevich;
ZAGORSKIY, G., red.; POKHLEBKINA, M., tekhn. red.

[Proper storage of machinery]Kak pravil'no khranit' mashiny.
Moskva, Mosk. rabochii, 1962. 35 p. (MIRA 15:9)
(Agricultural machinery—Storage)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

ARDASHEV, G.R.; MIKHAYLOV, I.N., ZAMORSKIY, V.V., DOVGICH, I.A.; SEVERNEV, I.M.; DOMAN'KOV, V.M.; Prinimali uchastiye: FEDOSOV, I.M.; KRIVENKO, P.M.; KUDRYAVTSEV, P.R.; BARABANOV, V.Ye., BRIL', E.P., red.; PARSHIN, V.G., tekhn. red.

[Technical maintenance of the KD-35, KDP-35, and T38 tractors] Tekhnicheskii ukhod za traktorami KD-35, KDP-35 i T38. Moskva, Biuro tekhn.informatsii GOSNITI, 1962. 153 p. (MIRA 16:10)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva. 2. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka (for Ardashev, Mikhaylov, Fedosov, Krivenko, Kudryavtsev, Barabanov). 3. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Zamorskiy Dovgich). 4. Belorusskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Severnev, Doman'kov).
(Tractors--Maintenance and repair)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

RUBLEV, A.M.; MIKHAYLOV, I.N., instruktor

Straightening contact system poles placed in foundation holes. Transp. stroi. 8 no. 6:27 Je '58. (MIRA 11:7)

1. Zamestitel' nachal'nika Novosibirskoy normativno-issledovatel'skoy stantsii(for Rublev).
(Electric lines--Poles)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.

Try daily to improve machinery. Transp.stroi. 10 no.2:9-11 F '60. (MIRA 13:5)

1. Instruktor peredovykh metodov truda Novosibirskoy normativno-issledovatel'skoy stantsii Orgtransstroya.
(Novosibirsk--Technological innovations)

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L 24695-65 EWT(1)/EWA(h) Peb GW

ACCESSION NR: AT4049518 S/2702/64/000/016/0083/0091

28
B+1

AUTHOR: Berezkin, V.M.; Mikhaylov, I.N.

TITLE: The correlation between the density of the rocks and the speed of propagation of elastic waves in the central and eastern regions of the Russian plateau.

SOURCE: USSR. Glavnoye upravleniye geologii i okhrany* nedr. Geofizicheskaya razvedka, no. 16, 1964, 83-91

TOPIC TAGS: Russian plateau, elastic wave, anhydrite, lithological composition, dolomite, limestone, sandstone, aleurolite, argillite, marl, crystalline foundations, rock density, wave propagation

ABSTRACT: The authors investigated the relationship between the density of rocks and the speed of propagation of elastic waves as the parameters lying at the base of the leading geophysical methods. An important study aid in this connection was Ozerskaya's catalog listing the physical properties of the rocks in the central and eastern regions of the Russian plateau. Special tables have been compiled to show the linear correlations between the rock density and propagation speed of elastic waves in the ground on the basis of numerous samples without regard to the particular place of their occurrence (405 clay samples, 1337

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limestone, 244 sandstone, 576 dolomite, 470 anhydrite and 145 aleurite samples). The study of these samples and the processing of the resulting data led to the following conclusions: in the case of hydrochemical sediments, the small correlation factor is not indicative of an inadequate relationship between the propagation speed of elastic waves and the rock density. In some cases, the small correlation factor is to some extent determined by the insignificant number of test samples and their different ages. Orig. art. has: 3 formulas and 5 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 007 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; ZHEREBTSOV, L.D.

Clinicomorphological study of angina in dysentery (from "Sovremennaya meditsina," no.5, 1955) [Abstracted by I.N.Mikhaylov, L.D.Zherebtsov]. Arkh.pat. 19 no.6:76 '57. (MLRA 10:10)

(THROAT--DISEASES) (DYSENTERY)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; THEREBTSOV, L.D.

Congenital abnormalities of the extremities and their origin (from "Suvremenna meditsina," no.[illegible], [illegible]. A stracted by I.N.Mikhaylov, L.D.Therebtsov]. Arkh.pat. 19 n.6:76 '57. (MIRA 10:10)
(EXTREMITIES (ANATOMY)--ABNORMALITIES AND DEFORMITIES)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; ZHEREBTSOV, L.D.

Sulfur adn carbohydrate metabolism (from "Sovremenna meditsina," no.7, 1956). [Abstracted by I.N.Mikhay.lov, L.D.Zherebtsov]. Arkh.pat. 19 no.6:76 '57. (MIRA 10:10)

(SULFUR) (CARBOHYDRATES METABOLISM)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; ZHEREBTSOV, L.D.

Cardiovascular affections in childhood (from "Suvremenna meditsina," no.8, 1955) [Abstracted by I.N.Mikhaylov, L.D.Zherebtsov]. Ark. pat. 19 no.6:77 '57. (MIRA 10:1)

(CHILDREN--DISEASES)
(CARDIOVASCULAR SYSTEM--DISEASES)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; ZHEREBTSOV, L.D.

Melanoses in children (from "Suvremenna meditsina," no.9, 1955)
[Abstracted by I.N.Mikhaylov, L.D.Zherebts v. Arkhipat. 19 no. 7
'57. (MLRA 1[illegible]

(CHILDREN--DISEASES) (TUMORS)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010014-7

MIKHAYLOV, I.N.; ZHEREBTSOV, L.D.

Dynamic study and importance of some changes in the blood picture in rheumatic fever (for "Suvremenna meditsina," no.3, 1955) [Abstracted by I.N.Mikhaylov, L.D.Zherebtsov], Arkh.pat. 19 no.6.77 '57. (MLRA 10:10)

(RHEUMATIC FEVER) (BLOOD)

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