CHIOGOLYA, G.; BERAL, Kh.; VASIL'YEV, P.; POPOVICH, N.; KOSMIN, Anna; MADZHARU, M.; YAKOB, A.; LAKATOSH, L.; DIAKU, D.; PATRASHKU, S.

Determination of bismuth in Rumanian drugs by means of EDTA titration. Apt.delo 8 no.6:67-69 N-D '59. (MIRA 13:4)

1. Iz Instituta po kontrolyu kachestva medikamentov Ministerstva zdravookhraneniya Rumynskoy Narodnoy Respubliki, Bukharest.
(BISMUTH--ANALYSIS)

DIAMANT,J.; DUFEK,J.; HOSKOVEC,J.; KRISTOF,M.; PEKAREK,V.; ROTH,B.; VELEK,M.; Technicka spoluprace: Kubickova ,d.s. M.

Electroencephalographic study of hypnosis. Cesk. psychiat. 55 no.5:285-295 O '59.

1. Psychiatricka klinika a neurologicka klinika KU v Praze, Ustredni zdravotni ustav MV; psychiatricka lecebna v Praze 5.
(ELECTROENCEPHALOGRAPHY)
(HYPNOSIS physiol.)

DIAMANT, P.I.

Calculation of the spiral housings for centrifugal fans and pumps. Nauch.dokl.vys.shkoly; energ. no.2:283-292 '59.
(MIRA 13:1)
(Centrifugal pumps) (Centrifugal fans)

DIANKOV, A.

Prospects for production of furfurole in Bulgaria. p. 33.

TEZHKA PROMISHLENOST. (Ministerstvo na tezhkata promishlenost) Sofiia, Bulgaria. Vol. 8, no. 6, June 1959.

Monthly List of East European Accessions EEAI) LC, Vol. 9, No. 2, Feb. 1960. UNCL

DIANOCZKI, I.

Tobbtermeles - Vol. 9, no. 5, May 1955.

Economy of materials in the Red Star Tractor Plant. p. 8.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955
Uncl.

DIANOCZKI, I.

DIANOCZKI, I. Good organizational work is needed by the enterprises. p. 24.

Vol. 10, no. 7, July 1956
TOBBTERMELES
Budapest, Hungary

So: East European Accession, Vol. 6, No. 5, May 1957

ACCESSION NR: AT4042675 S/0000/63/000/000/0162/0165

AUTHOR: Dianov, A. G.; Kuznetsov, A. G.

TITLE: The possiblility of substituting helium for nitrogen in spaceship cabins

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 162-165

TOPIC TAGS: helium oxygen atmosphere, man, closed environment, helium oxygen effect, central nervous system, respiratory system, cardiovascular system, gas exchange, thermal exchange, speech, hearing

ABSTRACT: Experiments have been performed to test the effects on human subjects of a prolonged stay in a helium-oxygen atmosphere. Two subjects were kept in a sealed cabin for 10 and 25 days, respectively, after which time studies were made on the functions of the central nervous system, the respiratory system, and the cardiovascular system and on gas exchange, thermal exchange, speech, and hearing. The experiments indicated that a helium atmosphere affects the thermal regime of man. Temperatures of 18 to 24°C, which are comfortable in normal atmos-

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ACCESSION NR: AT4042675

pheres, produced in a helium atmosphere a sensation of chilliness and a lowering of the skin temperature. The comfortable temperature ranges in a helium-oxygen atmosphere were 24.5--27.5°C during the day and 26--29°C at night, when the subjects were sleeping. Investigation of the functions of the central nervous system, conducted in the comfortable temperature range for helium atmospheres, indicated a gradually growing inhibitory process in the cortex of the brain, which manifested itself by the appearance of low-frequency oscillations on the encephalogram and by an increase in the duration of the latent period of conditioned motor reflexes. Analysis of the experimental data indicated that these changes were due to prolonged hypodynamia and not to substitution of helium for nitrogen in the atmosphere. General well-being and work capacity of the subjects were not affected by the helium-oxygen atmosphere. The helium atmosphere also had no effect on external respiration, the cardiovascular system, gas exchange, or energy consumption. Minute changes observed at the end of the experiment were due to hypodynamia rather than to the changed atmosphere. On the other hand, it was found that a helium-oxygen affects human speech, raising the frequency of speech sounds by 0.7 of an octave. Clarity of speech is lessened somewhat but not to the point of unintelligibility. The auditory functiбn of the subjects in a helium-oxygen atmosphere apparently was not affected. These experiments

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ACCESSION NR: AT4042675

establish clearly that it is possible for man to live in an oxygen-helium atmosphere for 25 days.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 3/3

KUZNETSOV, A. B.; AGADZHANYAN, N. A.; DIANOV, A. G.; ZHAROV, S. G.

"Effect on the body of prolonged exposure to conditions of artificial atmosphere."

report presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

ACCESSION NR: AP4041573 S/0293/64/002/003/0498/0503

AUTHOR: Dianov, A. G.

TITLE: Possibility of replacing atmospheric nitrogen with helium in spaceship cabins and the effectiveness of employing a helium-oxygen mixture for space helmet ventilation

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 3, 1964, 498-503

TOPIC TAGS: manned space flight, respiration, cabin ventilation, helmet ventilation, helium oxygen atmosphere, life support, helium, oxygen, nitrogen

ABSTRACT: An investigation was conducted to guage the physiological effects on man of prolonged exposure to a helium-oxygen atmosphere in a hermetic chamber. Exposure was for 22—30 days. Nitrogen was removed from the cabin atmosphere by first introducing pure oxygen followed by helium. The average composition of the experimental atmosphere was 22.5% oxygen, 76% helium, and 1.5% nitrogen. Carbon dioxide concentration did not exceed .7%. The rate of ventilation was 160—180 liters/minute. The temperature comfort zone of the test

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ACCESSION NR: AP4041573

subjects was 24.5—27.5C during the day and 26—29C at night. Humidity was 30—60%. For control purposes, each test subject was also studied under normal conditions. Caloric intake of test subjects was 3600 kcal per day. It was observed that the skin temperature of subjects in the helium-oxygen atmosphere was 2 degrees cooler than in normal air. Bioelectric measurements revealed no alterations in higher nervous activity. Similarly, the cardiovascular system, respiration, and basal metabolism were essentially normal under these conditions. Any physiological abnormalities observed were directly attributed to prolonged adynamia and isolation. The only noticeable effect that the helium-oxygen environment had on subjects involved lowered clarity of speech and changes in voice pitch, which at high frequencies were seven-tenths of an octave higher. The author feels that employing a helium-oxygen mixture for space cabin ventilation is justifiable from the standpoint of the improved heat exchange which the test subjects exhibited. This greater thermal efficiency is due to the higher thermal conductivity of helium in comparison with nitrogen. For this reason, the ventilation rate could be significantly lowered, which is important in terms of space vehicle energy conservation. Also, since

ACCESSION NR: AP4041573

the helium-oxygen atmosphere has greater thermal conductivity, it follows that man could tolerate a higher ambient temperature. This was reflected in short (24-hr) tests in which subjects comfortably withstood temperatures of 27—30C. In general, the results of this investigation strongly support the feasibility of employing a helium-oxygen atmosphere during prolonged manned space probes.

ASSOCIATION: none

SUBMITTED: 09Jan64 ENCL: 00

SUB CODE: PH, SV NO REF SOV: 005 OTHER: 009

Card 3/3

ACC NR: AT6036550 SOURCE CODE: UR/0000/66/000/000/0152/0153

AUTHOR: Dianov, A. G.

ORG: none

TITLE: The effect on the animal organism of replacing atmospheric nitrogen and helium under conditions of insufficient oxygen and increased carbon dioxide concentration [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 152-153

TOPIC TAGS: hypoxia, hypercapnia, helium oxygen atmosphere, rat, biologic respiration

ABSTRACT: To study the effect of replacement of atmospheric nitrogen with helium on hypoxia and hypercapnia, recordings were made of body temperature, respiration rate, and cardiac contraction frequency in rats of uniform weight placed in a helium-oxygen atmosphere without regeneration. Decreased pO_2 and increased pCO_2 resulting from the vital activity of the organisms in the chamber was the direct cause of death of the animals.

Substitution of helium at a temperature of 22° C for the nitrogen in the chamber atmosphere increased the life expectancy of the animals under these conditions by 42%. At higher chamber temperatures, this difference

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ACC NR: AT6036550

gradually decreases: at 36°C there was no difference in the life expectancies of animals breathing air and those breathing the helium--oxygen atmosphere. The increased life expectancy is due to the greater thermal conductivity and enhanced cooling of the animal in the helium--oxygen atmosphere. Decreased body temperature and decreased oxygen requirement were more pronounced in a helium--oxygen mixture than in air at temperatures from 22° to 31°C. At 36°C, the cooling effect of the helium--oxygen atmosphere was suspended.

Changes in respiratory and cardiac activity seen when nitrogen is replaced by helium under conditions of hypoxia and hypercapnia are principally due to the physical properties -- the high thermal conductivity and low density -- of helium. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

DIANOV, A.N.; YEDRENKIN, S.S.; CHARYGIN, M.M.

Reservoir rock properties and oil potential of the carbonate sediments of the Bashkirian stage of the Mogutovo and Tverdilovo areas of the Samarkin dislocation. Geol. i geofiz. no.5:56-57 '64. (MIRA 17:9)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina.

9.2180

80801
SOV/124-59-9-9830

Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 36 (USSR)

AUTHOR: Dianov, D.B.

TITLE: On the Performance of a Plane Piezo-Vibrator Under the Conditions of Unidirectional Radiation

PERIODICAL: Izv. Leningr. elektrotekhn. in-ta, 1957, Nr 31, pp 46 - 59

ABSTRACT: The author expounds the results of calculating a plane piezo-vibrator made of an X-cut of quartz. The calculation method is similar to that, which usually is applied to calculating the passage of plane waves through plane parallel plates. The formulae obtained for the radiation intensity are analyzed for some special cases: 1) the media on both sides of the vibrator are equal and have finite wave impedance; 2) the vibrator comes on one side into contact through a $\lambda/4$-layer of an arbitrary matter, with a medium; 3) the vibrator comes on one side into immediate contact with a medium, the wave impedance of which is equal to zero. The latter case, most important for practice, is analyzed in detail. The author shows that the optimum thickness of the vibrator, i.e.,

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SOV/124-59-9-9830

On the Performance of a Plane Piezo-Vibrator Under the Conditions of Unidirectional Radiation

the thickness, with which maximum power output is yielded, will not be equal to $\lambda/2$, if the ratio of the wave resistance of the load to that of quartz is greater than $\sqrt{2}$. The greater the wave impedance of the load, the nearer the optimum thickness of the vibrator to $\lambda/4$. The author gives the frequency dependence of the vibrator intensity for various values of the load wave impedance. In proportion to increasing the load wave impedance, the frequency characteristics become more gently sloping. When the wave impedance of quartz and load are equal, the vibrator loses its resonance properties. The author studies in detail the part of an intermediate lubrication layer in the vibrator radiation into a solid medium.

Yu.P. Lysanov

Card 2/2

ACHKINADZE, Shamil' Dautovich; DIANOV, D.B., kand.tekhn.nauk, red.; GVIRTS, V.L., tekhn.red.

[Industrial application of ultrasonic waves in the machinery and instrument industry] Promyshlennoe primenenie ul'trazvuka v mashinostroenii i priborostroenii; obzor. Leningrad, Leningr.dom nauchno-tekhn.propagandy. No.1. 1958. 59 p. No.2. 1958. 115 p. (MIRA 12:11)
(Ultrasonic waves--Industrial applications)

46-4-1-17/23

AUTHOR: Dianov, D. B.

TITLE: Seminar on Physics and Application of Ultrasound, Dedicated to the Memory of S.Ya. Sokolov, a Corresponding Member of the Academy of Sciences of the USSR. (Seminar po fizike i primeneniyu ul'trazvuka, posvyashchennyy pamyati chlena-korrespondenta AN SSSR S.Ya. Sokolova.)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol.IV, Nr.1, p.104. (USSR)

ABSTRACT: A Seminar on Physics and Applications of Ultrasound, dedicated to the memory of S. Ya. Sokolov, was held on 23-26th October, 1957, in Leningrad Electro-Technical Institute imeni V.I. Ul'yanov (Lenin). More than 100 scientists and engineers from Leningrad, Moscow and other towns took part in this seminar. Sokolov's scientific work on ultrasound was described by G.V. Odintsov and E.S. Sokolova; and L.L. Myasnikov and S.N. Rzhevkin described their personal contacts with Sokolov. A large group of papers dealt with "ultraacoustoscopy", the subject which was developed by Sokolov. L.G. Merkulov, N.A. Yevdokimov and

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46- 4-1-17/23

Seminar on Physics and Application of Ultrasound, Dedicated to the Memory of S.Ya. Sokolov

A.S. Golubev, in their paper on "Ultrasonic Methods of Studies of Solids" described Sokolov's and his co-workers' work on ultrasonic testing for defects. A.K. Gurvich spoke on "Further Development of Ultrasonic Apparatus for Quality Control of Welded Joints"; B.N. Masharskiy reported on defect tracing by change of frequency and use of standard defects; transmission of ultrasound across a boundary between two solids was described by B.D. Dianov; V.V. Bogorodskiy and I.V. Zashchuk reported the results of ultrasonic measurement of properties of ice and concrete respectively. The subject of making acoustic field visible was dealt with in papers by V.G. Prokhorov - "On Transformation of an Ultrasonic into a Visible Image" (electron-acoustic convertors), P.V. Ponomarev (use of piezo-electric mosaics), and Ye.D. Pigulevskiy (convex images in liquids). Ultrasonic absorption in liquids was dealt with by B.B. Kudryavtsev in "Use of Ultrasonic Measurements in Physico-Chemical Studies". V.F. Nozdrev reported measurements of critical constants using ultrasonics, and S.A. Balyan spoke on propagation

Card 2/3

Seminar on Physics and Application of Ultrasound, Dedicated to the Memory of S.Ya. Sokolov.

of ultrasound in reacting liquids. Measurement of ultrasound velocity and absorption were dealt with in papers by V.F. Nozdrev, V.F. Yakovlev, N.I. Koshkin ("Development of Professor S.Ya. Sokolov's Ideas on Pulse Technique in the M.O.P.I Laboratory"), I.G. Mikhaylov ("Application of a Piezoelectric Quartz Wedge to Measurement of Absorption in Liquids"), V.A. Solov'yev ("Application of a Composite Piezoelectric Vibrator in the Study of Polymers"), and G.N. Feofanov ("Measurement of Velocity of Propagation of Ultrasonic Waves in Liquids using the Method of Pulse Interferometry"). Two papers on the effect of ultrasonics on crystallization were read: I.I. Teumin on "The Effect of Elastic Vibrations on Crystallization and on Technical Properties of Metals and Alloys", and Kh.S. Bagdasarov on "The Effect of Ultrasonic Vibrations on Crystallization Processes.".

Card 3/3 1. Physics—Conference 2. Ultrasound—Applications 3. Ultra-acoustoscopy

SOV/46-5-1-5/24

AUTHOR: Dianov, D.B.

TITLE: Passing of Ultrasonic Waves Through Plane-Parallel Layers (Ob izluchenii ul'trazvukovykh voln cherez ploskoparallel'nyye sloi)

PERIODICAL: Akusticheskiy Zhurnal, 1959, Vol 5, Nr 1, pp 31-37 (USSR)

ABSTRACT: Ultrasonic waves are often emitted or received via an intermediate system consisting of one or more plane-parallel layers. For example, in studies of solids by means of ultrasonic waves, one or more intermediate layers are placed between a vibrator or a receiver and the solid in order to improve the efficiency of energy transfer. Such intermediate layers and their effect on emitted radiation are discussed in the present paper. The author shows that, if one quarter-wave layer is used between a piezovibrator and a medium, the emission intensity at a particular frequency may be increased, provided the layer has lower acoustic impedance than the impedance of the medium. Larger increases of intensities at chosen frequencies can be achieved by the use of two or more layers. For this purpose an odd number of intermediate layers is usually employed for irradiation of solids, while an even number of

Card 1/2

Passing of Ultrasonic Waves Through Plane-Parallel Layers

such layers is more convenient in irradiation of liquids. The author verified the theoretical equations obtained by comparison with experimental results. For example, Fig 3 curve 1 shows the frequency characteristic of a vibrator emitting directly into water, while curve 2 shows the same vibrator emitting via an intermediate double layer consiting of water and a glass plate. The crosses in Fig 5 are experimental values and they show good agreement of the theoretical continuous curve with experiment. There are 5 figures and 10 references, 5 of which are Soviet, 3 English and 2 translations of English into Russian.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova (Lenina). (Leningrad Electrotechnical Institute imeni V.I. Ul'yanov [Lenin]).

SUBMITTED: January 16, 1958

DIANOV, D.D.

Scientific-technological conference on physical methods for the nondestructive testing of materials. Akust. zhur. 7 no.3: 394-396 '61. (MIRA 14:9)

(Nondestructive testing)

DIANOV, D.B.; MERKULOV, L.G.; NIKITENKO, V.I.

Precipitation of zinc oxide aerosols in an acoustic field. Akust. zhur. 8 no.1:60-66 '62. (MIRA 15:4)

1. Leningradskiy elektrotekhnicheskiy institut imeni V.I.Lenina (Ul'yanova).
(Aerosols) (Zinc oxide) (Ultrasonic coagulation)

ACCESSION NR: AP4025729 S/0046/64/010/001/0048/0053

AUTHORS: Dianov, D. B.; Zharkov, K. V.

TITLE: Excitation of normal waves in plates by the method of an obliquely incident sound beam

SOURCE: Akusticheskiy zhurnal, v. 10, no. 1, 1964, 48-53

TOPIC TAGS: excitation, normal wave, sound beam, wave field, piston radiator, defect detection, wave propagation, plane wave, Fourier transform, Bessel function

ABSTRACT: The authors compute the wave field formed in a plate by impinging on it a sound beam created by a piston radiator. They obtain asymptotic formulas determining the direction of the normal waves and the dependence of their amplitude on the angle of inclination of the radiator. The computational results are experimentally verified. This problem is of interest in defect detection. Orig. art. has: 3 figures and 16 formulas.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im V. I. Ul'yanova

Card 1/2

ACCESSION NR: AP4025729

(Lenina) Leningrad (Leningrad Electro-Technical Institute)

SUBMITTED: 08Apr63 DATE ACQ: 10Apr64 ENCL: 00

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

Card 2/2

L 7786-66

ACC NR: AP5028048 SOURCE CODE: UR/0046/65/011/004/0442/0452

AUTHOR: Dianov, D.B.; Prokhorov, V.G.

ORG: Leningrad Electrotechnical Institute im. V.I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Focusing ultrasonic reflectors

SOURCE: Akusticheskiy zhurnal, v. 11, no. 4, 1965, 442-452

TOPIC TAGS: acoustic radiation, acoustic equipment, ultrasonic radiation, ultrasonic equipment, acoustic reflection

ABSTRACT: This article analyzes and compares the effectiveness of seven various types of ultrasonic reflectors and presents the necessary engineering calculations of such devices. In addition to known types, the article examines two devices proposed by the present authors, one of which incorporates reflectors in the form of a truncated rotation paraboloid and a plane radiator, and the other a device with two reflectors in the form of truncated parabolic cylinders and a plane radiator. Analytic expressions are presented for the functions of amplitude distribution at the wave front, amplification factors, focusing factors at the acoustic pressure, and the oscillation rate. On the basis of the expression obtained, the authors perform calculations of the factors of focusing concentrators with different values of their parameters. The optimal values of the parameters are determined. A comparison of the concentrators examined shows that they differ little among themselves in their basic characteristics, and

 UDC: 534.24

L 7786-66

ACC NR: AP5028048

that their focusing factors can achieve high magnitudes. Orig. art. has: 14 figures and 50 formulas.

SUB CODE: GP, IE / SUBM DATE: 09Jul65 / ORIG REF: 008 / OTH REF: 003

nw

Card 2/2

L 31521-66 EWT(1)/FCC IJP(c) WW/GW

ACC NR: AP6007994 SOURCE CODE: UR/0046/66/012/001/0031/0038

AUTHOR: Denisov, A. S.; Dianov, D. B.; Podol'skiy, A. A.; Turubarov, V. I.

52
B

ORG: Leningrad Institute of Aviation Instrument Building (Leningradskiy institut aviatsionnogo priborostroyeniya); Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Drift of an aerosol particle in an acoustic wave distorted by the presence of the second harmonic

SOURCE: Akusticheskiy zhurnal, v. 12, no. 1, 1966, 31-38

TOPIC TAGS: acoustic wave, aerosol, harmonic function, acoustics

ABSTRACT: The authors investigate the fundamental characteristics of drift due to the asymmetric form of an acoustic wave which may substantially affect the process of acoustic coagulation of aerosols. Approximate formulas are obtained for the determination of particle drift velocity in an acoustic wave distorted by the presence of the second harmonic, reflecting the relationships of drift velocity to such parameters as frequency, particle radius, and the slip angle of the second harmonic. It is demonstrated that there is a maximum of particle drift velocity as a function of particle frequency; with increasing frequency the maxima shift to the region of smaller radii and decrease in magnitude. It is found that for different dimensions of the particles the drift assumes a zero value at certain angles of phase shift. For a

Card 1/2 UDC: 534.29:541.182.21.3

L 31521-66

ACC NR: AP6007994

traveling wave of finite amplitude, the drift of aerosol particles is directed against the wave propagation, and, at moderate sound intensities, may reach several cm/sec. The theoretical results obtained are compared with the precise results obtained by solving the initial equation on a simulating electronic computer. Orig. art. has: 6 figures and 16 formulas.

SUB CODE: 20 / SUBM DATE: 28Nov64 / ORIG REF: 003 / OTH REF: 003

Card 2/2 mc

ACC NR: AP7003496 SOURCE CODE: UR/0069/66/028/004/0498/0503

24

AUTHOR: Dianov, D. B.; Podol'skiy, A. A.; Turubarov, V. I.

ORG: Leningrad Institute of Electrical Engineering im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut); Leningrad Institute of Aviation Instrument Making (Leningradskiy institut aviatsionnogo priborostroyeniya)

TITLE: Aerosol particle drift in a sound wave of finite amplitude

SOURCE: Kolloidnyy zhurnal, v. 28, no. 4, 1966, 498-503

TOPIC TAGS: aerosol, standing wave, traveling wave

ABSTRACT: Among a number of works which have appeared in the last few years on the theory of aerosol particle drift in a sound field is a monograph by Ye. P. MEDNIKOV, showing that under certain conditions a predominant role is played by drifts caused by periodic change in the viscosity of the medium in the case of a traveling wave and by asymmetry of vibrations in the case of a standing wave. The purpose of the present article is to consider these questions in greater detail, using the method of transformation of coordinates.

UDC: 541.182.026.2/.3

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0926 0024

The following approximate equation of motion is given for an aerosol particle in a finite-amplitude sound wave:

$$m\frac{du_p}{dt} + 6\pi\eta r u_p = 6\pi\eta r\left[\xi_0\omega\cos\omega\left(t-\frac{x_p}{c}\right)-\right.$$

$$\left.-\frac{\xi_0^2\omega^2}{2c}+\frac{\xi_0^2\omega^2}{2c}\cos 2\omega\left(t-\frac{x_p}{c}\right)-x_p\frac{\xi_0^2\omega^3(\gamma+1)}{4c^2}\sin 2\omega\left(t-\frac{x_p}{c}\right)\right], \quad (5)$$

The authors then derive the following formula for the case of a traveling wave:

$$\bar{u} = -\frac{\xi_0^2\omega^2q^2}{2c}+\frac{\gamma-1}{4c}\xi_0^2\omega^2q^2 = -\frac{3-\gamma}{4c}\xi_0^2q^2\omega^2,$$

and the following formula for the case of a standing wave:

$$\bar{u} = \frac{\mu q\xi_m^2\omega^2}{4c\sin^2 kl}\sin 2k(l-x)-\frac{(\gamma-1)\mu q\xi_m^2\omega^2}{8c\sin^2 kl}\sin 2k(l-x)$$

$$= \frac{(3-\gamma)\mu q\xi_m^2\omega^2}{8c\sin^2 kl}\sin 2k(l-x). \quad (17)$$

Expressions (10) and (17) are used to calculate the dependence of drift velocity on particle radius.

The authors conclude that the drift of an aerosol particle in a finite-amplitude sound wave consists of two additive drifts caused respectively by

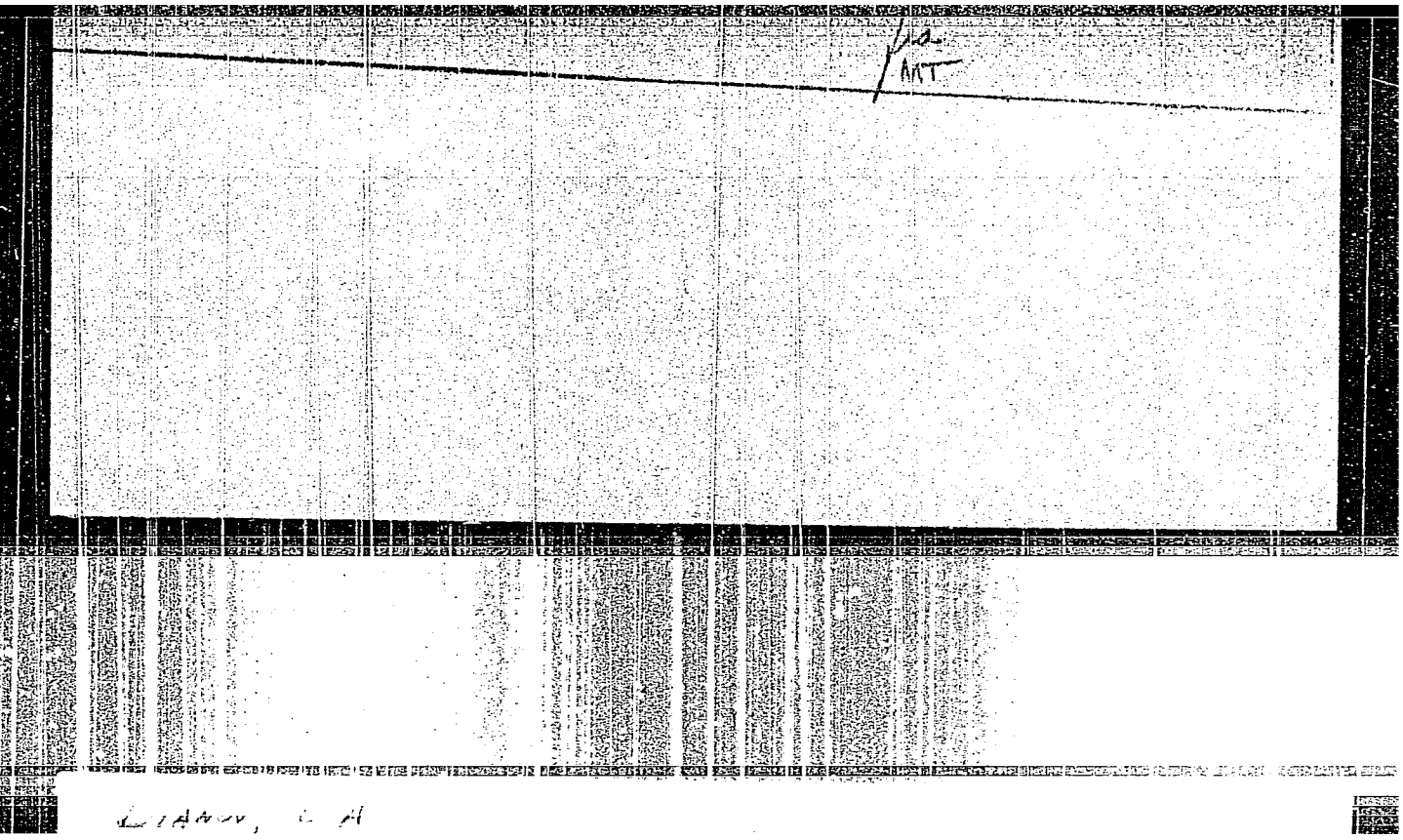
ACC NR: AP7003496

anharmonicity of the vibrations in Eulerian coordinates and by periodic change in the viscosity of the medium. The results obtained by the authors agree with results based on the formulas of S. S. DUKHIN, whose method involves solving an exact equation of particle motion. The authors assert that this indicates the correctness of using an approximate equation of motion, based on the use of coefficients of particle streamline and entrainment.

Orig. art. has: 2 figures and 17 formulas. [JPRS: 38,970]

SUB CODE: 20 / SUBM DATE: 02Apr65 / ORIG REF: 007 / OTH REF: 002

Card 3/3



DIANOV, E.A.

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3

Ammonium bromide. V. I. Kamzenko and E. A. Dianov. U.S.S.R. 106,540, July 25, 1957. NH_4Br is obtained by the action of $(NH_4)_2CO_3$ on $CaBr_2$. To this end a soln. of $CaBr_2$ obtained as outlined in U.S.S.R. 100,162 with a concn. of not over 17-20% is treated at 65-70° with solid $(NH_4)_2CO_3$ until the reaction for Ca is neg. The reaction mixt. is then filtered, and the filtrate is vaporized to crystallize out NH_4Br and at the same time decomp. oxybromide compds. The Br liberated in the decompn. of its O compd. is combined with NH_3 added to the vaporized liquid as NH_4OH. A modification of this procedure is to treat a soln. of $CaBr_2$ with CO_2 in the presence of NH_3.

M. Hosch

MT

KISEL'GOF, M. L., and KISELEV, P. I. (Cand.Tech.Sci.) LAZAREV, Yu. G., DIANOV, IM., MURAVKIN, B. N. (ENgr.) and MAKSIMOV, V. M. (Cand.Tech.Sci.)

"Questions of Fuel Preparation."

A Scientific-Technical Conference on Auxiliary Equipment for Power Station Boiler-Houses. Moscow, 17 - 20 Dec 1957.

Teploenergetika, 1958, . No. 4, pp. 90-91 (USSR)

BURGVITS, G.A., inzh.; DIANOV, I.M., inzh.; KUSHNIKOV, B.D., inzh.; LAZAREV, Yu.G., inzh.; KEMDYS', P.N., kand.tekhn.nauk

Use of high-speed shaft mills for coal crushing. Energomashinostroenie 7 no.10:19-22 O '61. (MIRA 14:10)
(Coal, Pulverized) (Boilers--Firing)

KAZARNOVSKIY, Ye.M., kand. tekhn. nauk; BURGVITS, G.A., inzh.; DIANOV, I.M., inzh.; VOROTYNTSEV P.P.

Results of the study of the performance of hammer mills with air blast separators in coal crushing operation. Energomashinostroenie 10 no.11:39-43 N '64 (MIRA 18:2)

DIANOV, I.F.

KLIMOV, A.N.

25(5) PHASE I BOOK EXPLOITATION SOV/1392

Leningrad. Inzhenerno-ekonomicheskiy institut

Organizatsiya i planirovaniye ravnomernoy raboty mashinostroitel'nykh predpriyatiy; Mezhvuzovskoye soveshchaniye. Doklady (Organization and Planning of Uniform Work in Machine-building Enterprises; Conference of Vuzes. Reports) Moscow, Mashgiz, 1958. 399 p. (Series: Its: Trudy, vyp.22) 4,000 copies printed.

Eds.: S.A. Volkov, and K.G. Tatevosov.; Tech. Ed.: L.V. Sokolova; Managing Ed. for Literature on Machine-building Technology (Mashgiz): Ye.F. Naumov, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical personnel in machine-building establishments, and for scientific workers and students of institutes and departments of engineering and economics.

COVERAGE: This collection of articles contains reports by workers from vuzes, scientific research institutes, and industrial establishments presented at the conference of vuzes on the subject: "Organization and Planning of Uniform Operations in Machine-building Establishments." These reports discuss general problems encountered in organization, analysis, and theory of uniform production, as well as problems in schedule planning, technical preparation, and production specialization.

Card 1/8

Dianov, I. F., Candidate of Economic Sciences (Novocherkasskiy Politekhnicheskiy institut imeni Ordzhonikidze [Novocherkassk Polytechnical Institute imeni Ordzhonikidze]). Specialization and Cooperation as the Most Important Prerequisites of Rhythmic Operations in Locomotive-manufacturing Plants 278

DIANOV, I.P., kandidat tekhnicheskikh nauk.;SUSLOV, B.V., inzhener.

For development of specialization and cooperation in the locomotive building industry of the U.S.S.R. Vest. elektroprom 28 no.1: 45-49 Ja '57. (MLRA 10:4)

1. Novocherkasskiy politekhnicheskiy institut (for Dianov).
2. Novocherkasskiy elektrovozostroitel'nyy zavod (for Suslov).
(Locomotives)

DIANOV, I.P.

Production basis for building locomotives in the U.S.S.R. and problems of developing specialization and cooperation in the production of electric locomotives. Izv. vys. ucheb. zav.; elektromekh. 1 no.5:98-105 '58. (MIRA 11:8)
(Electric locomotives)

DIANOV, I.P., kand.ekon.nauk

Specialization and cooperation are the most inportant factors for rhythmical work flow in locomotive plants. Trudy LEEI no.22: 278-289 '58. (MIRA 11:12)

1. Novocherkasskiy Politekhnicheskiy institut imeni Ordzhonikidze. (Locomotives--Construction)

DIANOV-KLOKOV, V. I.

"On the oxygen absorption spectrum in the near infrared."

report presented at the Atmospheric Radiation Symp, Leninbrad, 5-12 Aug 64.

DIANOV-KLOKOV, V.I.

Oxygen absorption spectrum obtained at pressures of 2 ÷ 35 atm. in the region 12600-3600 A. Opt. i spektr. 16 no.3:409-416 Mr '64. (MIRA 17:4)

DIANOV, Mikhail Ivanovich, Geroy Sotsialisticheskogo Truda; VISHNYAKOVA, Ye.A., red.; YELAGIN, A.S., tekhn. red.

[We'll fulfill the tasks of the seven-year plan ahead of time] Zadanie semiletki vypolnim dosrochno. Moskva, Izd-vo "Sovetskaia Rossiia," 1960. 27 p. (MIRA 14:5)

1. Predsedatel' kolkhoza "Rossiya" Spasskogo rayona Ryazanskoy oblasti (for Dianov)
(Ryazan Province--Collective farms)

AUTHORS: Dianov, M. P., Trifonov, N. A. 79-28-4-5/60

TITLE: Physical - Chemical Analysis of the Ethylene Diamine - Allyl Isothiocyanate System (Fiziko-khimicheskiy analiz sistemy etilen diamin - allilovoye gorchichnoye maslo)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4, pp. 872-875 (USSR)

ABSTRACT: The ethyl diamine-allyl isothiocyanate system was investigated by the authors as to viscosity, density, index of refraction, boiling point, on which occasion also the composition of vapour was determined. The components of the system investigated were carefully purified. Viscosity was measured at 40° by means of two closed viscosimeters by Ostval'd with capillaries of different diameters. The especially viscous compounds (50-80% molar of the isothiocyanite) were measured in the viscosimeter with greater diameter. Density was measured by means of a pycnometer of 1.2173 milliliters volume. The index of refraction was determined by means of the refractometer by Abbe at 35°. The results are given on

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table 1. Boiling point and compound of vapour were determined by means of an apparatus designed by the author according to the principle of an apparatus with ebullioscope by V. A. Kireyev (Ref. 5). Pressure was maintained by means of a monostat with electro-magnetic control of a precision up to ± 0.3 mm mercury column. Boiling temperature (Ref. 6) was determined at 100 and 200 mm mercury column, composition of vapour at 100 mm. The results are given on table 2. On the basis of the obtained results the system ethylene diamine - allyl isothiocyanate must be placed to the rational systems. A comparison of the curves of the properties investigated shows that its individual points among others also on the boiling isobar correspond to one and the same compound, - 66,7 mol. % of isothiocyanite. It is supposed that the azeotropic mixture in this system like in all rational systems represents an individual chemical compound. Only one single chemical compound - ethylene - di(allyl thiocarbamide) $C_2H_8N_2 \cdot 2C_3H_5CNS$ forms in the system. Under normal conditions it is in undissociated state.

There are 3 figures, 2 tables and 6 references, all of which are Soviet.

Physical - Chemical Analysis of the Ethylene Diamine - Allyl Isothiocyanate System 79-28-4-5/60

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

SUBMITTED: February 25, 1957

Card 3/3

5(3,4)

AUTHORS: Dianov, M. P., Trifonov, N. A. SOV/2o-123-6-21/5o

TITLE: A Physical-Chemical Analysis of Binary Liquid Systems on the Basis of Boiling Point Measurements (Fiziko-khimicheskiy analiz dvoynykh zhidkikh sistem po izmereniyam temperatur kipeniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1o33 - 1o36 (USSR)

ABSTRACT: The classification and theoretical utilization of the experimental data concerning the boiling temperatures of binary systems in publications do not suffice to establish the applicability of measurements of these temperatures in the physical-chemical analysis. For this reason, the authors additionally investigated the following systems: dioxane-ethylene-glycol and nitro benzene-isobutyl alcohol. Their boiling isobars are of the same type and show a negative deviation from the standard curve. This is due to the dissociation of associated molecules of the components at their dissolution. For the determination of the boiling temperature and the vapor composition a modified ebullioscope (according to Refs 6,7) was used. The boiling isobars of the

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rational systems may possess 3 types of singular points: a) an upper point, b) a middle one and c) a lower one. In the 6 rational systems investigated by the authors the types a) and b) were determined. The most characteristic ones were: piperidine-mustard oil (Fig 1) and ethylene-diamine-mustard oil. An isobar of the b-type is shown by the systems: water-acetic anhydride and diphenyl-amine-maleic anhydride. The condensation curve of the water-acetic anhydride system (Fig 2) consists of 2 parts with different ascent. These parts intersect (as well as the evaporation curve) in the singular point. This suggests the existence of a compound not dissociated (acetic acid) in the vapor. Although no boiling isobars of the c-type could be found experimentally, their theoretically possible existence is supported by the model-method (Ref 9). In addition to the singular points at the same time the occurrence of azeotropes on the isobars is possible which are formed by the compound and by one of the components. This occurs in the systems: diethyl-amino-phenyl mustard oil and ethylaniline-phenyl mustard oil (Fig 3). By rounding off the singular points of the rational systems and by a gentle combination of the

parts of boiling isobars, corresponding curve types of the irrational systems can be constructed (Ref 10). The authors investigated 5 of such systems by means of the ebullioscope: stannous chloride-ethylacetate, PCl_3 - C_6H_5CHO, chloral water (Fig 4), chloral ethanol, ethylene-diamine-water. The results of the measurements of the boiling temperature are in accordance with those of other physical properties and complete them considerably. Thus, the ebullioscopic determination can be regarded as an efficient method in the physical-chemical analysis of liquid systems. There are 4 figures and 16 references, 9 of which are Soviet.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina (Kazan' State University imeni V. I. Ul'yanov-Lenin)

PRESENTED: June 12, 1958, by B. A. Arbuzov, Academician

SUBMITTED: June 5, 1958

5 (4)

AUTHORS: Teytel'baum, B. Ya., Dianov, M. P. SOV/20-128-1-28/58

TITLE: Spectrophotometric Investigation of Picrates of Aromatic Hydrocarbons in Solution

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 106-109 (USSR)

ABSTRACT: In the present paper the authors attempted to solve the problem as to whether aromatic hydrocarbons may be determined on the basis of light absorption of their picrates. As a solvent 1,2-dichloro ethane was used which solves picric acid and hydrocarbons as well as picrates. In a relatively wide spectral range the absorption curves were plotted and for a series of solutions the molar extinction coefficients ε were computed (Fig 1). Absorption spectra of the solutions investigated may be divided into 3 ranges: In the shortwave range (222-300 mμ) absorption bands characteristic of naphthalene hydrocarbons occur. In the medium range there is the absorption maximum of picric acid (340 mμ). For differently concentrated solutions and solutions with heterogeneous hydrocarbons the extinction curves are equal. The long-wave range is characterized by the absorption of picrates. Besides naphthalene and its methyl-substituted derivatives, also individual non-condensated aromatic

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hydrocarbons were investigated. With all solutions investigated absorption edges are almost parallel (Table 1) in the visible part of the spectrum. The investigation was carried out on the spectrophotometer SF-4 at room temperature. The following investigation results were found: By formation of picrates of aromatic hydrocarbons, the absorption edge of picric acid is shifted towards the longwave range. The amount of shifting depends on the nature of the hydrocarbon and on the concentration of the solution. With an increase in the number of alkyl groups in the hydrocarbon molecule, the absorption edge is shifted correspondingly. The shifting of the absorption edges is hardly influenced by a complication in the structure of alkyl groups, or by a variation of their position in the ring. This shifting may also serve at a certain optical density - just as the absorption quantity on a certain wave length - for the determination of aromatic hydrocarbons by the spectrophotometric and colorimetric method. The authors thank L. A. Mukhamedova and Ye. A. Robinzon for providing the preparations. There are 2 figures, 1 table, and 7 references, 5 of which are Soviet.

Spectrophotometric Investigation of Picrates of Aromatic Hydrocarbons in Solution

SOV/20-128-1-28/58

ASSOCIATION: Khimicheskiy institut Kazanskogo filiala Akademii nauk SSSR (Institute of Chemistry of the Kazan' Branch of the Academy of Sciences, USSR)

PRESENTED: April 27, 1959, by B. A. Arbuzov, Academician

SUBMITTED: April 20, 1959

Card 3/3

5.5300

77763
SOV/75-15-1-25/29

AUTHORS: Dianov, M. P., Teytel'baum, B. Ya.

TITLE: Brief Communications. A Photometric Picrate Method of Determination of Naphthalene in Mixtures With Phenol

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1, pp 119-120 (USSR)

ABSTRACT: This simple and accurate method is based on the difference of the bathochromic shifts of naphthalene and phenol picrates. Quartz optics are not necessary (FEK-M spectrophotometer was used). 0.1 Dichloroethane solutions of picric acid and naphthalene are used. Picrates of phenol absorb at about 412-425 mμ, and those of naphthalenes at 455 mμ and up. The concentrations are determined from calibration curves. The accuracy of this method is up to 1%. There is 1 figure; 1 table; and 3 Soviet references.

ASSOCIATION: Chemical Institute of the Kazan' Branch of the Academy

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Brief Communications. A Photometric Picrate Method of Determination of Naphthalene in Mixtures With Phenol

77763
SOV/75-15-1-25/29

of Sciences, USSR, Kazan' (Khimicheskiy institut Kazanskogo fillala AN SSSR, Kazan')

SUBMITTED: March 9, 1959

Card 2/2

DIANOV, M. P., CAND CHEM SCI, "PHYSICO-CHEMICAL ANALYSIS OF BINARY LIQUID SYSTEMS FOR MEASURING BOILING TEMPERATURES." KAZAN', 1959. (KAZAN' ORDER OF LABOR RED BANNER STATE UNIV IMENI V. I. UL'YANOV-LENIN. CHAIR OF PHYSICAL CHEMISTRY). (KL-DV, 11-61, 210).

TEYTEL'BAUM, B.Ya.; DIANOV, M.P.

Light absorption of picric acid solutions in the presence of aromatic hydrocarbons of the kerosine fractions of the Tatar A.S.S.R. Izv. Kazan.fil. AN SSSR. Ser.khim.nauk no.6:116-122 '61. (MIRA 16:5)
(Tatar A.S.S.R.--Petroleum) (Hydrocarbons)
(Picric acid--Spectra)

15.8500 1372, 2209 21134
11.2314 S/190/61/003/004/009/014
B101/B207

AUTHORS: Teytel'baum, B. Ya., Dianov, M. P.

TITLE: The method of recording the thermomechanical curves of polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 4, 1961, 594-601

TEXT: This paper reports on the design of an apparatus for the continuous recording of thermomechanical curves (TMC) and on some experiments conducted. Fig. 1 shows a schematical drawing of the apparatus. О is the sample contained in a vessel of 4 mm inner diameter and 2 mm height. It is part of the heater Б (aluminum). Б is cooled with liquid air before the beginning of the experiment by means of the Dewar vessel Д, subsequently heated at constant temperature rise. The linear increasing voltage of ДЛН, the thermocouple ТУ and the electronic relay P_2 serve for this purpose. P_2 switches in the heating current as soon as the emf of ТУ has reached the voltage of ДЛН. The sample is loaded with the weight Г of the stamp П, the weight of which is equalized by the scale beam К and counterweight. The contact needle И is fixed at the end of К. The vessel with the samples is

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The method ...

fixed at the cross beam Т by means of rods. The micrometer screw М forms part of Т and is moved by means of a СД-2 (SD-2) synchronous engine. (Insulators are between К and И, as well as between Т and М). И separates from М when the sample is deformed (falling of the stamp П). Subsequently, the relay P_1 switches in the engine (a) of the record chart of the ЭПП-09 (EPP-09) recorder and SD-2, which are synchronous until contact is re-established between И and М. The maximum recording rate of deformation depends on the rpm. of the Warren engine. The temperature of the sample is measured with the thermocouple ТИ, which is connected to the input (b) of EPP-09. The cold junctions ХС are kept at 20°C by means of the thermostat. The potentiometer ПС permits the recording of both positive and negative temperatures. At (c), N_2 is blown through. A special device was designed to bring various diagrams to the same scale by means of projecting the record chart located on an inclined glass plate onto a horizontal table. Fig. 3 shows the TMC of polyvinyl chloride at different stress. At 100, 125, and 150°C, the diagrams of Fig. 4 were obtained herefrom. Linear function between deformation and stress could be observed only in highly elastic state (up to 100°C). At higher temperatures, a deviation from linearity was observed owing to plastic deformation. Fig. 5 shows the dependence of the vitrifica-

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The method ...

tion temperature T_v and the softening point T_s on the stress. The real T_s was determined by recording T_s at various small stress by extrapolation with respect to zero stress. Similar investigations were also carried out on polymethyl methacrylate and the copolymer from the allyl dichloro vinyl ester of phenyl phosphinic acid and 3% methyl methacrylate provided by N. I. Rizpolozhenskiy and A. A. Muslinkin. The optimum stress was found to depend on the kind of the polymer to be investigated. At high stress, T_v can be accurately determined, while the determination of T_s requires a small load. Furthermore, the course of TCC was found to be highly dependent on the preparation of the sample. Fig. 8 shows this for polymethyl methacrylate. V. A. Kargin and V. L. Tsetlin are mentioned. There are 9 figures and 8 Soviet-bloc references.

ASSOCIATION: Khimicheskiy institut Kazanskogo filiala AN SSSR (Chemical Institute of Kazan' Branch, AS USSR)

SUBMITTED: July 14, 1960

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B101/B207

The method ...

Fig. 1. Circuit diagram of the automatic apparatus for recording TMC.

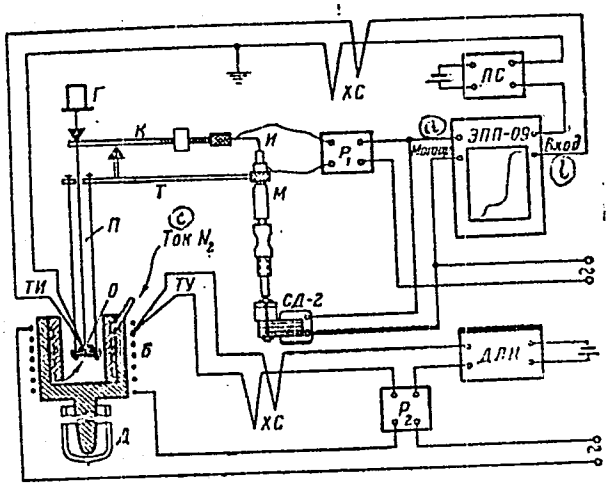

Fig. 1

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The method ...

Figs. 3 and 4

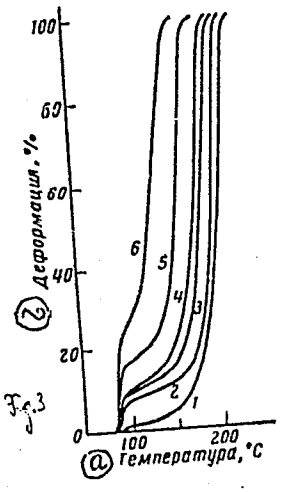

Fig.3

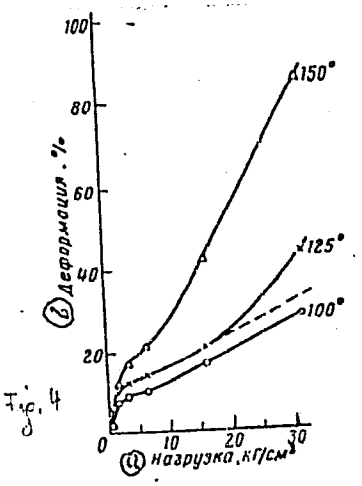

Fig. 4

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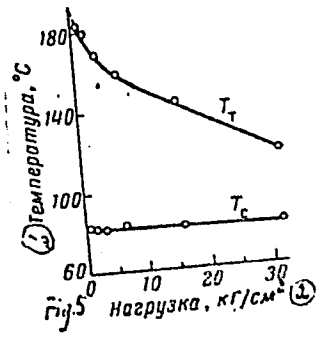
The method ...

Fig. 3. TMC of polyvinyl chloride. Legend: 1) 0.64 kg/cm^2, 2) 1.6 kg/cm^2; 3) 3.2 kg/cm^2; 4) 6.4 kg/cm^2; 5) 16 kg/cm^2; 6) 32 kg/cm^2; a) temperature, b) deformation.

Fig. 4. Deformation of polyvinyl chloride as a function of stress. Legend: a) stress; b) deformation.

Fig. 5. vitrification temperature (T_c in the diagram) and softening point ($T_т$ in the diagram) as a function of stress. Legend: a) stress, b) temperature.



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B101/B207

The method ...

Fig. 8. TMC of polyvinyl methacrylate (molecular weight 325,000).
Legend: 1) compact sample; 2) stamped powder obtained by grinding; 3) ditto, pressed to tablets; 4) powder obtained from precipitate, pressed to tablets; a) temperature; b) deformation.

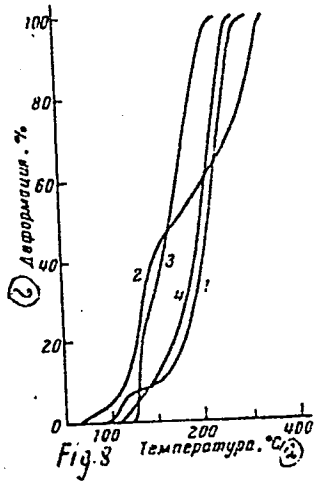

Fig. 8

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B101/B110

11.2211

AUTHORS: Teytel'baum, B. Ya., Yagfarova, T. A., Dianov, M. P., and Gubanov, E. F.

TITLE: Study of thermal transformations of some rubbers by means of thermomechanical curves

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 5, 1961, 1132-1135

TEXT: The authors attempted the continuous recording of thermomechanical curves for rubbers by an improved method (B. Ya. Teytel'baum, Peredovoy nauchno-tekhnich. i proizv. opyt, Tsentr. inst. tekhn.-ek. inf., ser. 32, 1961, no.4/2). Recording was performed automatically under constant load and with uniform temperature increase in nitrogen atmosphere. An ЭПП-09 (EPP-09) electronic potentiometer was used as recorder. The recording chart was advanced according to the deformation. Rubber specimens (4 mm diameter, 2 mm height) were tested at -120 to +450°C. The rate of heating was 2 deg/min, the load 3.2 kg/cm^2. Deformation is indicated in relative percents. The following was found: (1) For all natural rubbers (smoked sheets), a "step" was observed on the curve corresponding to the melting

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Study of thermal transformations...

of the crystalline phase at ~ 0°C. If the sample is controlled by thermostat at the optimum crystallization temperature (-25°C), the step already appears for slight deformation. This confirms its relationship with the crystalline phase. Such an affect was not observed in any synthetic rubber. (2) Butadiene rubbers СКБ(SKB), СКВ(SKV), СКБМ(SKBM) and piperylene rubber СКП(SKP) synthesized by alkaline catalysts showed characteristic vitrification temperatures. The thermomechanical curves ascended immediately after exceeding the vitrification temperature. Thus, plastic deformation immediately occurs in these rubbers besides elastic deformation. (3) Butadiene rubber of the type СКДЛ(SKLD) synthesized by a lithium catalyst and having low plasticity behaved differently. Fig. 3 shows thermomechanical curves for SKLD rubbers of high and low plasticity. Cross linking was found to occur by heating to 250°C. If SKLD rubbers of high plasticity were heated to 250°C, they showed the same thermomechanical curve as rubbers of low plasticity. Other butadiene rubbers such as SKB, СКД(SKD) (synthesized by a complex catalyst) behaved similarly. In natural rubbers, isoprene rubbers СКИ(SKI) and piperylene rubber SKP, no cross linking was attained by heating to 250°C. Therefore, butadiene rubbers may be easily distinguished from other rubbers by heating them to 250°C and

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Study of thermal transformations...

recording the thermomechanical curve. Cross linking occurs at 250°C in butadiene rubbers, while destruction takes place in pentadiene rubbers. The authors thank M. G. Beregovskaya for the supply of the specimens, and for a discussion. A paper by A. A. Tager et al. (Khim. prom. no. 4, 209 (1955)) is mentioned. There are 4 figures and 7 Soviet references.

ASSOCIATION: Khimicheskiy institut im. A. Ye. Arbuzova (Chemical Institute imeni A. Ye. Arbuzov); Institut organicheskoy khimii Kazanskogo filiala Akademii nauk SSSR (Institute of Organic Chemistry of the Kazan' Branch, Academy of Sciences USSR)

PRESENTED: May 19, 1961 by B. A. Arbuzov, Academician

SUBMITTED: April 13, 1961

Card 3/4

S/138/62/000/008/002/007
A051/A101

15,9200

AUTHORS: Teytel'baum, B. Ya., Dianov, M. P., Beregovskaya, M. G., Yagfarova, T. A.

TITLE: Thermomechanical curves of several rubbers

PERIODICAL: Kauchuk i rezina, no. 8, 1962, 3 - 6

TEXT: The thermomechanical curves of several rubbers under various loads, within a temperature interval from -120 to +450°C, were recorded, using an automatic recorder. The method of continuous weight application was used. The resultant curves reflected the characteristic qualities of the investigated rubbers, leading to the derivation of certain quantitative units: T_g - vitrification temperature, T_f - fluidity temperature; and a relative evaluation of the degree of deformation of the material at any given temperature. The curves were plotted over temperature - deformation coordinates by a recorder designed at the Kazan' branch of the Academy of Sciences of the USSR. The thermomechanical curves produced are shown in figures. The СКД (SKD) curve is thought to be influenced by the presence of a crystalline phase. The figures obtained for this rubber under a

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A051/A101

Thermomechanical curves of several rubbers

32 kgf/cm^2 load were: T_g = -115°C, h_g (curve elevation) = 4.5%, T_f = -22°C, T_k (temperature of penetration) = -7°C. Under a 3.2 kgf/cm^2 load T_f = -16°C, T_k = =-1°C. There is 1 table, and one set of graphs.

Card 2/2

L 9895-63 EPF(c)/EWP(j)/BDS/EWT(m)--ASD--Pr-4/Pc-4--RM/MAY/WW
ACCESSION NR: AP3000415 S/0076/63/037/005/1057/1062

AUTHOR: Dianov, M. P.; Chernova, A. V. 66 65

TITLE: Ultraviolet absorption spectra of some alkyl and alkaryl naphthalenes

SOURCE: AN SSSR. Zhurnal fizicheskoy khimii, v. 37, no. 5, 1963, 1057-1062

TOPIC TAGS: ultraviolet spectra, alkyl naphthalene, alkaryl naphthalene, 2,3,6-trimethylnaphthalene, tetramethylnaphthalene

ABSTRACT: The UV spectra of 2,3,6-trimethylnaphthalene are in agreement with the corresponding data in the literature on this compound isolated from Romashkin and Bavlinsk petroleum, but not with the spectra of the compound isolated from Trinidad petroleum. The spectra of 1,2,3,6- and 2,3,6,8-tetramethylnaphthalenes, while similar, are not identical, thus showing a certain difference in conjugation in these molecules. The spectra of 2,3,6-trimethyl-8-alkyl (i.e. ethyl, n-propyl, n-butyl) naphthalenes have been investigated. Their peaks have been shown to coincide and to possess close absorption values. Spectrophotometric investigation of compounds which in the naphthalene ring contain in addition to methyl substituents also the phenyl

Card 1/2

L 9895-63
ACCESSION NR: AP3000415

radical showed them to be non-coplanar. Orig. art. has: 3 figures and 4 tables.

ASSOCIATION: Khimicheskiy institut im. A. Ye. Arbuzova, AN SSSR (Chemical Institute, AN SSSR)

SUBMITTED: 04Apr63 DATE ACQ: 19Jun63 ENCL: 00

SUB CODE: 00 NR REF SOV: 006 OTHER: 014

Card 2/2

DIANOV, M.P.; CHERNOVA, A.V.

Ultraviolet absorption spectra of some alkyl and alkylaryl napthalenes. Zhur. fiz. khim. 37 no.5:1057-1062 My '63. (MIRA 17:1)

1. Khimicheskiy institut imeni A.Ye Arbuzova AN SSSR.

L 27185-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL BW/WW/HM

ACCESSION NR: AP5005598 S/0190/65/007/002/0299/0304

AUTHOR: Teytel'baum, B. Ya.; Gubanov, E. F.; Adamovich, E. P.; Dianov, M. P.; Makarova, N. N.

TITLE: Determination of the molecular weight of linear polymers by the thermomechanical method

41
38
B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 2, 1965, 299-304

TOPIC TAGS: thermomechanical method, rubber, molecular weight

ABSTRACT: A new rapid and accurate method has been proposed for determining the molecular weight of amorphous linear polymers, based on thermomechanical curves. The method is based on the correlation of the temperature (T_k) of the completion of penetration of an indenter into the specimen with the intrinsic viscosity (η) of solutions of the specimen, and, hence, its molecular weight (M). Once a T_k versus M calibration curve has been plotted, the molecular weight determination is reduced to the plotting of a thermomechanical curve to find T_k and reading M from the calibration curve. In contrast to existing methods, the new method does not require the determination of the glass-transition flow and temperatures. It is applicable to polymeric homologs which do not exhibit high elastic properties. The correlation

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L 27185-65

ACCESSION NR: AP5005598

between T_k and M or n was shown experimentally for natural, isoprene, chloroprene (KR-A—type Nairit) and SKN-40 nitrile rubbers, polyisobutylene, and liquid thiocol. The thermomechanical measurement conditions which will ensure a reliable correlation were determined. Orig. art. has: 7 figures. [SM]

ASSOCIATION: Institut organicheskoy khimii AN SSSR, Kazan (Institute of Organic Chemistry, AN SSSR); Khimicheskiy institut im. A. Ye. Arbuzova AN SSSR (Chemical Institute, AN SSSR)

SUBMITTED: 23Apr64 ENCL: 00 SUB CODE: OC, NP

NO REF SOV: 006 OTHER: 002 ATD PRESS: 3191

Card 2/2

L 44386-66 ARG/EWT(d)/FBD/EWP(c)/EWP(h) DE/WW
ACC NR: AN6012193 (A,N) SOURCE CODE: UR/9008/65/000/299/0003/0003

AUTHOR: Dianov, P. (Major general of artillery)

ORG: none

TITLE: Air-to-surface rockets on the attack

SOURCE: Krasnaya zvezda, 21 Dec 65, p. 3, col. 5-7

TOPIC TAGS: air to surface rockets, antiaircraft defense, guided missiles, antiaircraft defense training, military tactics

ABSTRACT: The three main groups of air-to-surface rockets and the principal models of them in the USA and in Great Britain are analyzed, and means of counter-attack are discussed. Destruction of the missile carrier prior to the launching of the missile is considered one of the most effective methods, but this is not possible if the rocket is launched before the carrier penetrates the active antiaircraft defense zone. Once it has done so, it may be attacked as an ordinary aircraft provided some peculiarities are considered. The shorter time that the rocket spends in the zone of

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ACC NR: AN6012193

counterattack requires greater accuracy of computation. Soviet soldiers now manage to use a maximum of only two rockets to destroy a self-propelled rocket, and frequently only one is needed. Fighter interceptors are guided to the rocket missiles in the same manner as they are guided to standard air targets. Automatic guidance permits effective opposition to rocket missels, even for interceptors with a flight speed inferior to that of the rocket. An interceptor guided accurately to an anticipated point in the rocket' s flight path, can aim to fire on the rocket. In conclusion, the author stresses that the air-to-surface rockets found on almost all military aircraft today, are as vulnerable to antiaircraft defense tactics as are their carriers. Considerable importance is given to the development of air-to-surface rockets abroad and Soviet antiaircraft defense troops should take this into consideration in their daily military training. [GC]

SUB CODE: 05, 15, 19/ SUBM DATE: none/

Card 2/2

DIANOV, P. A.

DIANOV, P. A. -- "Perch in Zaysan Lake (Systematics, Biology, and Commercial Aspects)." Acad Sci Kazakh SSR. Inst of Zoology, Alma-Ata, 1955. (Dissertation for the Degree of Candidate of Biological Sciences.)

SO: Knizhnaya Letopis', No 5, Moscow, Feb 1956

DIANOV, P.A., kand.biol.nauk

Diet of perch in Lake Zaisan. Trudy AZVI 10:524-534 '57.
(MIRA 12:8)

1. Iz kafedry zoologii (zav.kafedroy - kand.biol.nauk B.N. Smirnovskiy) Alma-Atinskogo zoovetinstituta.
(Lake Zaisan--Perch) (Fishes--Food)

DIANOV, P.A., assistent

Propagation of perch in Lake Zaysan (Perca fluviatsilis L.).
Trudy AZVI 9:364-379 '56. (MIRA 15:4)

1. Iz kafedry zoologii (zav. kafedroy - kand.biologicheskikh nauk dotsent B.N.Smirnovskiy) Alma-Atinskogo zooveterinarnogo instituta.
(Zaysan, Lake--Perch)

L 64477-65

ACCESSION NR: AP5020378 UR/0354/65/000/008/0050/0052
634.0.414

AUTHOR: Dianov, P. I. (Interregional engineer of tree pathology)

TITLE: Experience in combating the sea buckthorn fly in Altay

SOURCE: Lesnoye khozyaystvo, no. 8, 1965, 50-52

TOPIC TAGS: insect control, pesticide, insecticide/ RAG 2 aerosol generator

ABSTRACT: An aerosol of 2 kg of 15% DDT or 4 kg of 8% DDT in diesel fuel applied per hectare was found to be an effective insecticide for the sea-buckthorn fly which is prevalent in the Altay area, especially on the islands and shores of the upper Ob' and Katun' rivers. As the berries of sea-buckthorn serve as the main supply of raw material for the Biysk vitamin plant, an increase of 100 to 300 tons per season in yield of berries, following the use of the insecticide, was of great importance. The insecticidal solution was sprayed twice during the summer from 3 manual aerosol generators RAG-2 set on a light, fast moving launch. Experiments have shown that 90 to 100% of the insects within 200 m from the nozzle of the generator are killed and, at a distance of 250-400 m, 50% are killed. The aerosol also kills jumping plant lice, sea-buckthorn moths, green buckthorn aphids,

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ACCESSION NR: AP5020378

and bees. The latter should be protected prior to spraying. Further work is required to develop optimal conditions for total liquidation of the sea-buckthorn fly. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Altayskoye upravleniye lesnogo khozyaystva i okhrany lesa (Altay Administration for Forestry and Forest Protection)

SUBMITTED: 00 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 2/2

DIANOV, S.; PETROV, N.

Provide potato storage with a dependable temperature regulation. Sov. torg. 36 no.9:27-30 S '63. (MIRA 16:10)

1. Upravlyayushchiy Sverdlovskim filialom Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy torgovli i obshchestvennogo pitaniya (for Dianov). 2. Glavnyy inzh. proyektov Sverdlovskogo filiala Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy torgovli i obshchestvennogo pitaniya (for Petrov).

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SOV/137-59-10-22494

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 10, p 181 (USSR)

AUTHORS: Lopatko, N.F., Dianov, S.V.

TITLE: Ultrasonic Flaw Detection of Weld Joints in Austenite Steel

PERIODICAL: V sb.: Metody kontrolya kachestva svarn. shvov i konstruktsiy, Leningrad, 1958, pp 109 - 117

ABSTRACT: The author revealed the possibility of ultrasonic flaw detection in thick weld joints as applied to high and low pressure welded rotors of gas turbines. The "UZD-12" flaw detector designed by the Leningrad Institute of Electrical Engineering was used for tests. The rotor consists of "EI-405" steel disks welded onto each other with "TsT-7" and "TsT-15" electrodes. The seam depth is 90 mm, the width is 45 - 50 mm. After welding the rotor was subjected to stabilization at 850°C, for 10 hours, with subsequent slow cooling. It was not possible to apply ultrasonic oscillations from the side of the base metal by a straight rod in radial direction; they were applied under an angle directly to the seam metal. The author determines the dependence of damping of ultrasonic oscillations in austenite seams on the frequency of oscillations. The coefficient of

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Ultrasonic Flaw Detection of Weld Joints in Austenite Steel SOV/137-59-10-22494

damping of austenite seams is considerably higher than that of pure Fe with relatively coarser grains. It was stated that if $\lambda/D \sim 1$, where λ is the ultrasonic wavelength and D is the grain diameter, the frequency has only a slight effect on damping; this proves the existence of diffusion dispersion. Prismatic double tongs are suggested for operation at lower frequencies. Experiments confirmed that the coarse crystalline structure of built-up metal in stabilized state was able to reflect ultrasonic waves, which were received as defects on the flaw detector screen. The investigations were conducted with the use of ultrasonic oscillations of 2.5 Mc frequency; the radial sound depth was not over 10 - 15 mm. A special flaw detector with a depth gage was designed to detect the depth of the defect location and equipped with a set of double prismatic tongs of a new design, operating at low frequency (0.8 Mc).

I.A.

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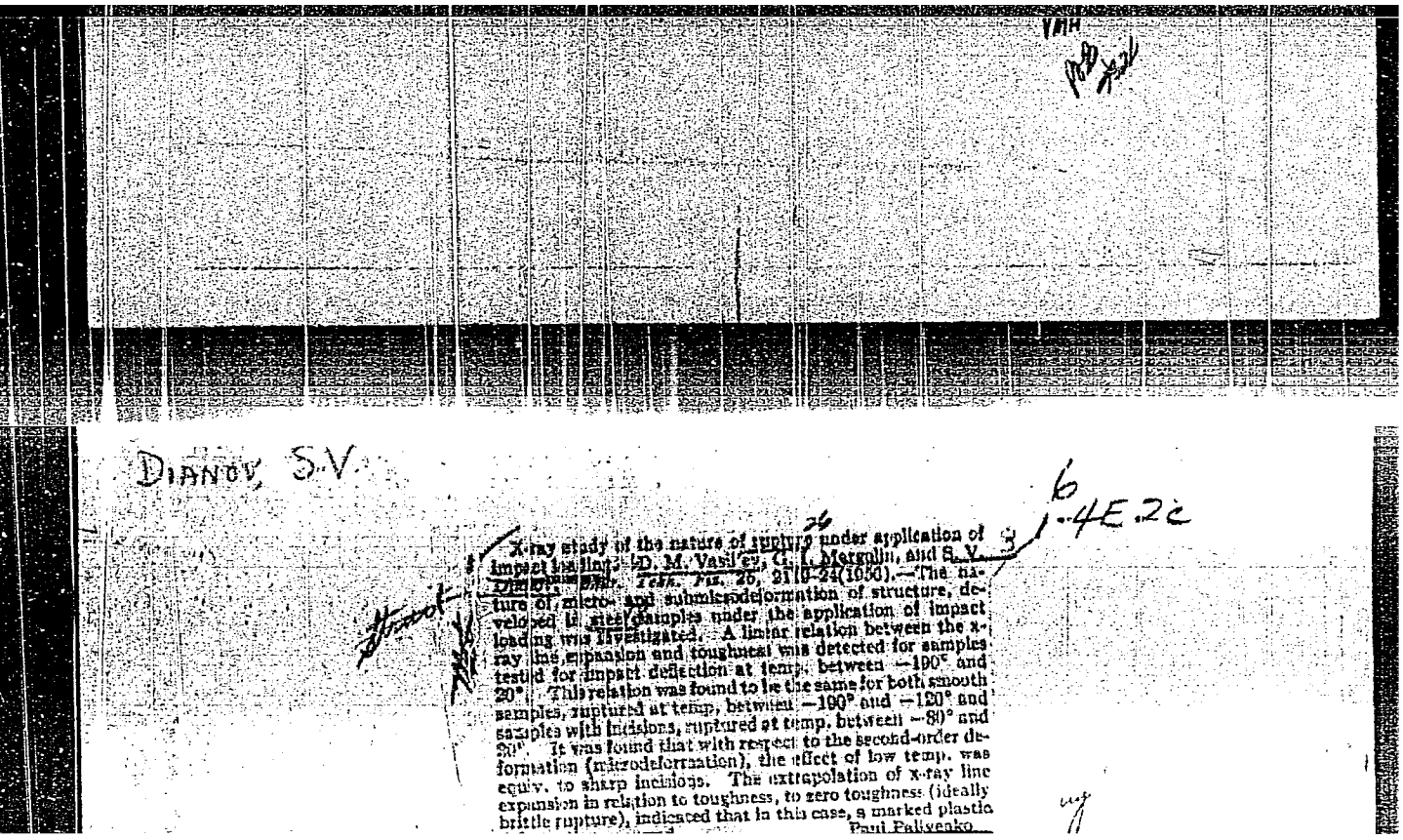

DIANOV, S.V.

X-ray study of the nature of rupture under application of impact loading. D. M. Vasil'ev, G. L. Merzlin, and S. V. Dianov. *Zhur. Tekh. Fiz.* 26, 2110-24(1956).—The nature of micro- and submicrodeformation of structure, developed in steel samples under the application of impact loading was investigated. A linear relation between the x-ray line expansion and toughness was detected for samples tested for impact deflection at temp. between −190° and 20°. This relation was found to be the same for both smooth samples, ruptured at temp. between −190° and −120° and samples with incisions, ruptured at temp. between −80° and 20°. It was found that with respect to the second-order deformation (microdeformation), the effect of low temp. was equiv. to sharp incisions. The extrapolation of x-ray line expansion in relation to toughness, to zero toughness (ideally brittle rupture), indicated that in this case, a marked plastic

Paul Palivenko

DIANOV, S. V

PHASE I BOOK EXPLOITATION SOV/6158

Seminar "Sovremennyye voprosy fizicheskogo metallovedeniya," Leningrad, 1961.

Sovremennyye voprosy fizicheskogo metallovedeniya; materialy seminara, provedennogo v Leningradskom Dome nauchno-tekhnicheskoy propagandy 9 - 11 maya 1961 g. (Present Problems in Physical Metallurgy; Materials of the Seminar Held in Leningrad House of Scientific and Technical Propaganda, 9 - 11 May 1961). Leningrad, 1962, 60 p. (Series: Leningradskiy Dom nauchno-tekhnicheskoy propagandy. Sektsiya metallovedeniya i termoobrabotki. Seriya: Metallovedeniye i termicheskaya obrabotka) 4500 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, and NTO Mashprom Leningradskoye oblastnoye pravleniye. Leningradskiy Dom nauchno-tekhnicheskoy propagandy. Sektsiya metallovedeniya i termoobrabotki. Ed.: N. F. Vyaznikov, Engineer, Candidate of Technical Sciences; Ed. of Publishing House: D. P. Freger; Tech. Ed.: V. A. Bol'shakov.

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PURPOSE: This booklet is intended for scientists and engineers interested in physical metallurgy.

COVERAGE: This booklet contains five of the fourteen reports presented at the seminar on "Present Problems of Physical Metallurgy," held in the Leningrad House of Scientific and Technical Propaganda on May 9-11th, 1961. The program of the seminar was worked out by the Organizational Committee under the supervision of Academician N. N. Davidenkov. The reports review a number of new trends in the development of physical metallurgy. No personalities are mentioned. Each report is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

SUBJECT: Metals and Metallurgy

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DV/wb/jw
2/7/63

GOSTISHCHEV, V.S.; TREN, B.M.; ZEYTMAN, G.I.; DIANOV, V.F.

Nomogram of the exposure of steel to gamma rays. Zav. lab. 30 no.10:1281-1282 '64. (MIRA 18:4)

1. Bazovaya izotopnaya laboratoriya Severo-Kavkazskogo soveta narodnogo khozyaystva i Taganrogskiy zavod "Krasnyy kotel'shchik".

ACC NR: AP6036349 (N) SOURCE CODE: UR/0381/66/000/004/0028/0030

AUTHOR: Dianov, V. F.

ORG: Factory "Krasnyy kotel'shchik", Taganrog (Zavod "Krasnyy kotel'shchik")

TITLE: Ultrasonic defectoscopy of butt welds

SOURCE: Defektoskopiya, no. 4, 1966, 28-30

TOPIC TAGS: weld defect, ultrasonic flaw detection, ultrasonic inspection, defectoscope/ UDM-1M defectoscope, DUK-11 defectoscope

ABSTRACT: A method for measuring the coordinates and the size of a defect by using ultrasonic defectoscopes UDM-1M and DUK-11 is described. A slide rule has been developed at the factory for simple and adequately accurate coordinate determination using straight, reflected, or doubly reflected ultrasonic waves. After a brief description of the slide rule, it is suggested that weld quality control of welds less than 20 mm thick be based on reflected rays, while control of thicker than 20-mm welds be based on straight and reflected ultrasonic rays. Some experimental data on defect detection and location by using straight and reflected rays are introduced to show that the accuracy of detection and coordinate determination can be improved by using a detector with a 50° angle of ray incidence. Orig. art. has: 2 figures and 1 table.

SUB CODE: 13/ SUBM DATE: 06Nov65/ ORIG REF: 002

Card 1/1 UDC: 620.179.16

BERSHADSKIY, A.Ye.; DIANOV, V.G.

Automation of a gasoline plant. Trudy MINKHiGP no.52:40-51 '64.
(MIRA 18:6)

DIANOV, V.G.; BERSHADSKIY, A.Ye.

Dynamic properties of thermocouples. Trudy MINKHiGP no.52:93-98 '64. (MIRA 18:6)

PANTAYEV, Nikolay Fedorovich; DIANOV, Vladimir Gavrilovich; BIRYUKOV, V.V.

[Principles of the theory of automatic control and automatic controllers] Osnovy teorii avtomaticheskogo regulirovaniia i avtoreguliatory. Moskva, Nedra, 1965. 344 p. (MIRA 18:9)

1. Spetsial'noye konstruktorskoye byuro avtomatizatsii neftepererabotki i neftekhimii (for Biryukov).

PANTAYEV, Nikolay Fedorovich; DIANOV, Vladimir Gavrilovich; GOR'KOVA, A.A., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Automation in the petroleum industry; elements of the theory and automatic controllers] Avtomaticheskoe regulirovanie v neftianoi promyshlennosti; elementy teorii i avtoreguliatory. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 287 p. (MIRA 13:2)
(Petroleum industry) (Automatic control)

PANASENKO, A.G., kand.sel'skokhozyaystvennykh nauk; YESYUTIN, G.P., nauchnyy sotrudnik; DIANOV, V.S., zootekhnik

Controlled breeding of heifers of the Aulie-Ata breed on the "Pakhta-Aral Collective Farm." Trudy AZVI 10:58-65 '57. (MIRA 12:8)

1. Iz kafedry krupnogo rogatogo skota (zav.kafedroy - doktor prof. T.F.Tavildarova) Alma-Atinskogo zooveterinstituta, (for Panasenko, Dianov). 2. Yuzhno-Kazakhstanskaya opytnaya stantsiya zhivotnovodstva (for Yesyutin).
(Il'ich District (Kazakhstan)--Cattle breeding)

See also abstr. Ref. Zhur-Biol., No.16, 1958 74011

AS CALVES OF THE AULIETA BREED WERE RAISED USING HIGHER FEEDING NORMS, THE TIME OF THEIR FITNESS FOR UTILIZATIN FROM ECONOMIC AND BREEDING POINTS OF VIEW WERE ACCELERATED, THEIR LIVE WEIGHTS, MILK PRODUCTIVITY AND THE MILK'S FAT CONTENT WERE INCREASED.

1.1600

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S/137/62/000/001/057/237
A060/A101

AUTHORS: Amosov, M. M., Dianov, V. V.

TITLE: Study of the processes of pressing and high-temperature sintering of electrolytic powders of tantalum and niobium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 38-39, abstract 1G292 ("Poroshk. metallurgiya", 1961, no. 3, 14 - 19, English summary)

TEXT: The authors describe the effect of pressure of pressing upon the ρ and the porosity of pressed and sintered briquets of Ta and Nb. It is noted that for Ta at 1,000 - 1,600°C there occurs a vigorous separation of impurities (CO and salts of alkali metals) and an increase of open porosity. For Nb briquets this is not observed, and the open porosity increases only at 2,000 - 2,200°C on account of the elimination of the lower oxides of Nb (the same anomaly of change in porosity is observed also in Ta). The results of the variation in the chemical composition of Ta and Nb moldings after vacuum sintering at 1,000 - 2,700°C (content of Fe, Ni, C, O, the lower oxides, N, H) are cited.

R. Andriyevskiy

[Abstracter's note: Complete translation]

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L 61071-65 EPF(n)-2/EWP(k)/EWP(z)/EWT(m)/EWP(b)/T/EWA(d)/EWP(e)/EWP(w)/EWP(t)
PP-4/Pu-4 IJP(c) JD/JG
ACCESSION NR: AP5018269 UR/0226/65/000/007/0019/0024

AUTHOR: Amosov, V. M.; Bobkova, N. N.; Dianov, V. V.

TITLE: The dependence of the technological properties of tantalum and niobium on the physicochemical characteristics of the initial powders

SOURCE: Poroshkovaya metallurgiya, no. 7, 1965, 19-24

TOPIC TAGS: powder metallurgy, tantalum powder, niobium powder, tantalum powder size, tantalum powder purity, niobium powder purity, niobium powder size, metal powder pressing

ABSTRACT: A study is made of the purity and plasticity of Ta and Nb as a function of the grain size and chemical composition of the initial powders. The authors utilized as raw materials the electrolytic powders of varying grain size and purity which were preliminarily fluxed following a previously published procedure (V. M. Amosov, Tsvetnyye metally, no. 6, 65, 1961; Izv. VUZov, "Tsvetnaya metallurgiya," no. 4, 122, 1962). The results cover 1) the degree of pressing during compacting of sintered moldings as a function of the average particle size of the starting powder; 2) the tensile strength of sintered moldings as a function of the particle size; 3) the degree of pressing

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