

*Larionov No. 1*

*6*  
*457c*

*10 18*  
Apparatus for hot coating of steel articles. S. V. Kutovsk.  
M. I. Larionov, and V. M. Feday. U.S.S.R. 163,670.  
May 23, 1967. For hot coating, e.g., galvanizing, a chain  
conveyor is used for transporting the articles through tanks

for chain pretreatment, followed by coating. A vibrator  
is used to improve the quality of the coating. M. Hensch

*007*

LARIONOV, N.I.  
LARIONOV, N.I.

Automatizing the machining of bearing rings. Avt.i trakt.prom.  
no.8:46 Ag '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut transporta avtomobil'noy  
promyshlennosti.

(Bearing industry)

28(1)

SOV/118-59-4-4/25

**AUTHORS:** Lysyakov, A.G., Engineer; Preobrazhenskiy, M.A.,  
Candidate of Technical Sciences; and Larionov, N.I.,  
Engineer

**TITLE:** Bridge-Type Stacking Cranes

**PERIODICAL:** Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959,  
Nr 4, pp 14-17 (USSR)

**ABSTRACT:** The design office of the Nauchno-issledovatel'skiy  
institut tekhnologii avtomobil'noy promyshlennosti  
(Scientific Research Institute of Technology of the  
Automobile Industry) has developed, under the super-  
vision and with the participation of the Vsesoyuznyy  
nauchno-issledovatel'skiy institut pod "Šmного-trans-  
portnogo mashinostroyeniya (All-Union Scientific Re-  
search Institute of Lifting and Transportation Machine  
Building), a bridge-type stacking crane for the semi-  
finished product warehouse of the Moskovskiy zavod  
malolitrazhnykh avtomobiley (the Moscow Small  
Car Plant). Technical characteristics are:

Card 1/2

ARKHIPOV, N.A.; LARIONOV, N.I.

Automatic machine for the manufacture of AKF-2 shell molds.  
Avt.prom. 27 no.6:46 Je '61. (MIRA 14:6)

1. Nauchno-issledovatel'skiy tekhnologicheskii institut  
avtomobil'noy promyshlennosti.  
(Automobile industry--Equipment and supplies)

LARENCO, N. I.

*Chem. & Technol. Inst.*

"Investigation of Adiabatic Compressibility of Mixtures With Associated Components."  
Sub 25 Dec 51, Moscow Oblast Pedagogical Inst.

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

SO: Sum. No. 480, 2 May 55.

LARIONOV, N. I.

Measuring velocity of ultrasound in certain water-alcohol mixtures. N. I. Larionov. *Uchenye Zapiski Kazansk. Univers. Ser. 19*, 32-33 (1953); *Russk. Zhur., Fiz.* 1955, No. 14854. -- The diffraction of light on ultrasonic waves was used to measure the velocity of sound in aq. mixts. of MeOH, EtOH, and PrOH in the range of 0. 85. 100% for frequencies of 3 and 9 Mc. In all mixtures  $v \propto \sqrt{1/\beta}$  and the velocity of sound decreased linearly with increase in temp. With low concns. the velocity of sound has a wide concn. max. in all the water-alc. mixts. studied. With 100% alc. there was also a wide temp. max. for the velocity of sound. In the intermediate range, with 20% alc., in a fairly wide range (30-70°), the velocity of sound does not depend on the temp. Adiabatic compressibility of mixts. in the concn. range of 20 to 100% alc. increased approx. linearly with an increase in temp. The relation of compressibility of mixts. to concn. at temps. not over 60° passed through the min. It was noted that the relation of compressibility to concn. in the form  $\beta = a - bg^2$ , which was assumed earlier by Proctorov (cf. *C.A.* 36, 40094) did not agree with the expts. In this formula  $\beta$  is the compressibility of the solvent,  $g$  is concn. in % by wt., and  $a$  and  $b$  are const. The question of applying the well-known rule of Raoult to water-alc. mixts. was discussed. This rule is expressed by the formula  $v/\sqrt{13\rho} = R$ , where  $v$  is the velocity of sound,  $M$  is the mol. wt.,  $\rho$  is the d., and  $R$  is the const. that does not depend on temp. In contrast to pure, unarsced. liquids, in water-alc. mixts.  $R$  depends on the temp. and depends linearly on the mean mol. wt. of the mixts. It was suggested that the Raoult const. be used for calcg. the adiabatic compressibility of water-alc. mixts. according to the formula  $\beta = M/R_1^2$ , where  $R_1$  is the Raoult const., which is detd. from the expression  $R_1 = R_0 + 0.13M$  ( $R_0$  is the const. called at  $t = 20^\circ$ , and  $\Delta t$  is the increase in temp.).  
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LARIONOV, N. I.

USSR.

Rate of propagation of ultrasonic waves in mixtures with associated components. N. I. Larionov (Pedagog. Inst. Moscow District). *Zhur. Fiz. Khim.* 57, 1032-12 (1983); cf. Freyer, et al., C.A. 24, 2021; Prozdorov and Nozdrev, C.A. 33, 9072. — The velocity ( $v$ ) of ultrasonic waves (u.s.w.) in various binary liquid mixts. was measured at several temps.  $t$  in an app. (illustrated) in which the wave length of standing u.s.w. of known frequency was deduced from the diffraction pattern produced in a transverse beam of light. The expt.  $v$  of u.s.w. in mixts. of water with varying amts. of MeOH, EtOH, PrOH, BuOH, iso-BuOH, and iso-C<sub>4</sub>H<sub>9</sub>OH are tabulated and graphed as joint functions of temp. and compn. The equation  $v_t = v_{20}(1 - \alpha(t - 20))$ , where  $\alpha$  is the temp. coeff. of  $v$ , is in accord with exptl. data. The value of  $\alpha$  is tabulated as a function of compn. for each mixt. The values of  $v_{20}$  in m./sec. and  $\alpha \times 10^2$  in (degrees)<sup>-1</sup> in that order for the alics. listed, resp., are 1127, 278; 1150, 282; 1202, 284; 1235, 269; 1210, 278; 1250, 260. In all cases of dil. aq. solns.  $v$  increased with  $t$  to a max., then slowly decreased. In the mixts. MeOH-H<sub>2</sub>O at 70°, EtOH-H<sub>2</sub>O at 80°, and PrOH-H<sub>2</sub>O at 75°  $v$  decreased smoothly with increase of alc. concn. and did not pass through a max. J. W. Lovberg, Jr.

5/2/84

Paul [signature]

L. A. RYKOVA, B. I. U S S R .

Adiabatic compressibility of mixtures with associated components. N. I. Lashov (Pedagog. Inst. Moscow District). *Zh. Fiz. Khim.* 37 (1963); G. Marlin, C.A. 46, 1293c. — The adiabatic compressibility ( $\beta$ ) in the temp. interval 10–90° of binary mixts. of water with MeOH, EtOH, PrOH, BuOH, iso-BuOH, and isoamyl alcohol (I) whose alc. concns. were 0–100% were calcd. by means of the phenolformaldehyde tar at pressures up to 3200 kg./sq. cm. and temps. 18–98°. The degree of assocn. can be detd. from the intensity of band 1.68  $\mu$  corresponding to OH groups assocd. by a H bond, and band 1.41  $\mu$  corresponding to "free" OH groups. A Hilger double spectrophotometer with a PbS cell was used for the exper. The sample was placed under hydraulic pressure in CCl<sub>4</sub>; however, since CCl<sub>4</sub> crystallizes at room temp. at 1000 kg./sq. cm., a mixt. of 50% CCl<sub>4</sub> and 50% CCl<sub>2</sub> was used at higher pressures. The change of the optical density is  $\Delta D = D_0 \alpha T$  and  $\Delta D = D_0 \beta \Delta p$ , where  $\alpha$  is the thermal expansion and  $\beta$  the compressibility coeff.;  $D = k_0 l$ , where  $k_0$  is the absorption per bond of the vol. concn. of bonds, and  $l$  the thickness of the sample for the temps. 20–70° and pressures 1–2000 kg./sq. cm.  $k_0$  is const. The values of  $k_0 \times 10^{-3}$  are 2.75, 2.85, 2.8 and 3.0 sq. cm./mol., resp., for PrOH, neryl alc., l-trypt. alc., and phenol. The concn.-dependent const.,  $k_1$ , varies with temp. and pressure; this indicates a change in the no. of H-bridges. Increased pressure has the same effect as decreased temp., decreasing the no. of free OH groups. A change in temp. of 1° corresponds to 90–130 kg./sq. cm. change. The slope of  $(\Delta p/\Delta T)_{k_0}$  is the same as that of  $(\Delta p/\Delta T)_{k_1}$ , where  $T_c$  is the crystn. temp.; this indicates that crystn. occurs at equal conditions of mol. interaction.

S. Paksver

4031

(over) 22



LARIONOV, N. I.

Temperature dependence of adiabatic compressibility of mixtures of associated components. V. E. Nedyk and N. I. Larionov (Dokl. Akad. Nauk. SSSR, 1953, 82, 991-994). Adiabatic compressibilities  $\beta_a$  of mixtures of water and MeOH, EtOH, Pr<sup>n</sup>OH, Bu<sup>n</sup>OH, Ba<sup>n</sup>OH, and CH<sub>3</sub>CO<sup>n</sup>-OH are determined by ultrasonic velocity measurements at 10° intervals between 20° and 60° and  $\nu = 3 \times 10^4$  and  $9 \times 10^4$  cycles per sec. For the first three alcohols, mixtures containing 0-100% of alcohol are studied changing the composition by 10% at a time. In remaining cases the investigation is limited to one-liquid-phase regions. For mixtures containing < 10% of alcohol  $\beta_a$  passes through a min. (as in pure water) and the min. is displaced towards lower temp. at higher alcohol concn. It is found that mol. velocity  $U$  increases linearly with temp. and that it can be calculated from the relation  $U = \alpha t + \beta$ , where  $M$  is the average mol. wt. of the mixture and  $\alpha$  and  $\beta$  parameters remaining constant within wide composition ranges. A table of empirically determined  $\alpha$  and  $\beta$  parameters is included. S. K. LACHOWIEZ.

LARIONOV, N. I.

PHASE I BOOK EXHIBITION NOV/31/50

24(1)

Всероссийская конференция профессоров и преподавателей педагогического института

Презентации ультразвуки к исследованию веществ; труды конференции, Вып. 7 (Application of Ultrasonics for Analysis of Substances; Transactions of the All-Union Conference of Professors and Teachers of Pedagogical Institutes, Nr 7) Moscow, Izd. MOPi, 1958. 283 p. 1,500 copies printed.

Техн. Ed.: S. F. Zhitov; Eds.: V. F. Mozdrev, Professor, and M. B. Rudryaytsev.

PURPOSE: This book is intended for physicists, technicians, acoustical engineers and other persons concerned with ultrasonics.

СОДЕРЖАНИЕ: The book contains twenty eight articles which treat ultrasonic phenomena in five general categories: 1) historical data on the development of ultrasonic sound in suspensions of varying past forty years; 2) the speed of sound in suspensions and the relationship between sound velocity and the compressibility of electrolytes; 3) ultrasonic investigations of physical and chemical properties of materials and the determination of physical and chemical constants, e. g. density of aqueous solutions, adiabatic compressibility, molarity of solutions (with given temperatures), viscosity, surface tension, saturation pressure and also ultrasonic investigation of carbon content and petrographic state of coal; industrial applications of ultrasonics, e. g. emulsification of dyes, cleaning of textile fibers and enhancing the susceptibility of some synthetic fibers to dyes, etc. and 5) apparatus which produces ultrasonic waves. No personalities are mentioned.

References accompany each article. The problem of the compressibility of solutions of electrolytes

Ларионов, Н. И., М. А. Данилова and G. V. Горьачко, Investigation of the Physical and Chemical Properties of Aqueous Solutions of Dimethyl Formide in the Temperature Interval From 20 to 90 C with the Ultrasonic and Other Methods 75

Отпашенников, М. П. Investigation of the Speed of Ultrasonic Sound in Methylalene and Hypoculite in the Range of Phase Transitions of the First Order 91

Горьачко, Г. В. The Dependency of the Absorption of Ultrasonic Sound Upon its Intensity 101

Горьачко, Г. В. The Use of Ultrasound to Create Periodic Structures 105

Брыжнев, М. Л., and G. P. Д'яков. Some New Magnetostrictive Materials 111

Смолихина, А. В. Ultrasonic Method of Determining the Saturation Pressure of Plastic Liquids 121

Оришин, А. П. Ultrasonic Method of Investigating the Crystallization Process of Paraffinic Petroleum Products 127

Матвеев, А. С., and Ye. G. Митронов. Speed of Propagation of Transverse Ultrasonic waves in coal 135

Кираллов, О. Д. Emulsification of Plotation Reagents by Ultrasonic Waves 143

Горьачко, Г. В. Investigation of the Effect of Sound and Ultrasound on the Physical and Hygienic Properties of Fibers During Purification Process 149

Горьачко, Г. В., М. А. Данилова and M. I. Катанни. Application of Ultrasound During Dyeing of Polymyristonitrile Fiber of the "Miron" Type 161

LARIONOV, N. I.

GORYACHKO, G. V., DMITRIYEVA, NA. and LARIONOV, N. I.

"Acceleration of the Dyeing of Synthetic Fibers."

report presented at the 6th Sci. Conference on the Application of Ultrasound in the investigation of Matter, 3-7 Feb 1958, organized by Min. of Education RSFSR and Moscow Oblast Pedagogic Inst. in N. K. Krupskaya.

GORYACHKO, G.V.; LARIONOV, N.I.; GLAZKOVSKIY, Yu.V.

Ultrasonic cleaning of spinnerets. Khim.volok. no.1:51-52  
'60. (MIRA 13:6)

1. Kalininskiy pedinstitut (for Goryachko, Larionov). 2. Kalininskiy  
filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusst-  
vennogo volokna (for Glazkovskiy).  
(Rayon spinning)  
(Ultrasonic waves--Industrial applications)

5.4120  
24.1800

65964

SOV/58-59-4-9090

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, p 245 (USSR)

AUTHORS: Larionov, N.I., Dmitriyeva, N.A., Goryachko, G.V.

TITLE: Study of the Physical and Chemical Properties of Aqueous Solutions of Dimethylformamide by the Ultrasonic and Other Methods in the 20° to 90°C Range

PERIODICAL: V sb.: Primeneniye ul'traakust. k issled. veshchestva, Nr 7, Moscow, 1958, pp 75 - 90

ABSTRACT: The authors submit the results of measuring the velocity of propagation and the molar velocity of ultrasonic waves, as well as the density, adiabatic compressibility, viscosity, surface tension, and refractive index in aqueous solutions of dimethylformamide (D) at concentrations ranging from 0% to 100% (at 10% intervals) and at various temperatures. The data are presented in the form of tables and curves. At 20°C the ultrasonic velocity passes through a maximum at a concentration of 50 wt %, the density up to a concentration of 60 wt.% is close to that of pure water, the adiabatic compressibility of D solutions passes through a minimum at a concentration of 50 wt.%, the viscosity shows

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65964

SOV/58-59-4-9990

Study of the Physical and Chemical Properties of Aqueous Solutions of Dimethylformamide by the Ultrasonic and Other Methods in the 20° to 90°C Range

a well-defined maximum at a concentration of 60 wt.%, the refractive index rises monotonously with the concentration, and the surface tension drops monotonously. The molar velocity of sound in aqueous solutions of D increases with an increase in the temperature and concentration. (Kalininskiy ped. in-t).

A.A. Senkevich

Card 2/2

SOV/58-59-5-11512

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 228 (USSR)

AUTHORS: Goryachko, G.V., Dmitriyeva, N.A., Larionov, N.I. 15

TITLE: Use of Ultrasonic Waves to Dye Polyacrylonitrile "Nitron" Fiber

PERIODICAL: V sb.: Primeneniye ul'traakust. k issled. veshchestva. Nr 7, Moscow, 1958, pp 161 - 167

ABSTRACT: The authors report on the results of using ultrasonic waves (US) to dye polyacrylonitrile "nitron" fiber. It was established that the dry fiber is rapidly and permanently dyed with the aid of the dispersed dyes for acetate silk by a method involving the combined use of US and accelerants. The preliminary dispersing of the dye by means of US tells favorably on the dyeing rate and the utilization of the dye; in this connection it is more advantageous to use lower frequencies. Using US in conjunction with an accelerant (aniline) cuts the dyeing time in half as compared with the case of using the accelerant alone. The emulsions prepared under the influence of US yield better results. (Kalininskiy ped. in-t, USSR).

Card 1/1

A.A. Senkevich

GELLER, B.E.; GORYACHKO, G.V.; DMITRIYEVA, N.A.; LARIONOV, N.I.

Destruction of polyacrylonitrile by the action of an ultrasonic field. Vysokom.soed. 1 no.11:1610-1616 N '59. (MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna i Kalininskiy pedagogicheskiy institut.  
(Acrylonitrile) (Ultrasonic waves)

LARIONOV, N.I.

PHASE I BOOK EXPLOITATION SOV/5644

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov

Primeneniye 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



Utilization of Ultrasonics (Cont.)

SOV/5644

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Nozdrev, V. F. Physical Principles of the Engineering and Technical Use of Low-Amplitude Molecular Acoustics	3
<u>Larionov, N. I.</u> , G. V. Goryachko, N. A. Dmitriyeva, and B. E. Geller [Kalininsk. pedinstitut im. M. I. Kalinina, Kalininsk. filial VNIIV-Kalinin Pedagogical Institute imeni M. I. Kalinin, Kalinin Branch of the All-Union Scientific Research Institute for High Polymers]. Investigation of Degradation Processes in High Polymers Under the Action of an Ultrasonic Field	23
Kogan, I. N., L. I. Menes, and N. I. Parlashkevich [N. -i. in- t plastmass - Scientific Research Institute for Plastics]. Continuous Measurement of Viscosity With the Aid of an Ultrasonic Viscometer	33
Card 2/10	

158530

26254  
S/194/61/000/001/021/038  
D216/D304

AUTHORS: Larionov, N.I., Goryachko, G.V., Dmitriyeva, N.A.  
and Geller, B.E.

TITLE: Analysis of the high polymer degradation process  
under the influence of an ultrasonic field

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 1, 1961, 15, abstract 1 E131 (V Sb. Primeneniye  
ul'traakust. k issled. veshchestva, no. 10, M.,  
1960, 23-32)

TEXT: The results are given of experimental analysis of the pro-  
cess of degradation of polyacrylonitrile (ПАМ (PAN)) and of other  
forms of polymers (e.g. acetyl cellulose АЦ - (АТs) in the solution  
of dimethylformamide ДМФ (DMF)) under the action of a powerful  
ultrasonic field as a function of frequency and power for concentra-  
tions up to 5 g/l. It is shown that under the action of a field  
intensity up to 20 W/cm<sup>2</sup> and frequency 500 Kc/s, the molecules of

Card 1/2

26254  
S/194/61/000/001/021/038  
D216/D304

Analysis of the high polymer...

PAN are degraded while those of acetylcellulose remain unchanged. This fact is explained by the strength of chemical bonds within the polymer structure between the polymer molecule and the side-groups. The kinetics of the degradation process of PAN have been studied. It is shown that the depolymerization process follows the 1st order reaction and that long chain molecules are degraded first. The results are shown in the form of graphs. 22 references.

Card 2/2

BARANOV, A.I.; GELLER, B.E.; LARIONOV, N.I.

Studying the properties of concentrated polymer solutions by the  
ultrasonic testing method. Prim. ul'traakust. k issl. veshch.  
no.14:217-225 '61. (MIRA 14:12)

(Polymers--Testing)  
(Ultrasonic waves--Industrial applications)

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S/058/62/000/002/019/053

A058/A101

1.1800

AUTHORS: Tsepelev, A. I., Larionov, N. I., Mikhaylov, F. G.

TITLE: Ultrasonic effect in the process of galvanic plating

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 43, abstract 2G321  
(V sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 14,  
Moscow, 1961, 227-230)

TEXT: Nickel-plating in an ultrasonic field enables one to increase the current density 2-3 times over and to carry out nickel-plating at reduced temperatures (20 - 30°C); at the same time, the quality of the nickel platings is improved. The isotherms of current density as a function of ultrasonic power were found. It was found that the highest yield of chromium per current takes place when ultrasonic intensity = 1 watt/cm<sup>2</sup>. ✓

[Abstracter's note: Complete translation]

Card 1/1

1,1700

S/194/62/000/004/069/105  
D295/D308

AUTHORS: Tsepelev, A. I., Larionov, N. I. and Mikhaylov, F. G.

TITLE: The influence of ultrasound on the galvanic-coating process

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 4, 1962, abstract 4-5-40g (V sb. Primeneniye ul'traakust. k issled. veshchestva. no. 14, M., 1961, 227-230) ✓

TEXT: It is established that ultrasound of 22 kc/s enables one to increase the current density by 2 - 3 times and to carry out the nickel-plating process at a lowered temperature. The optimum ultrasonic intensity for the largest output of chromium for a given current is determined. The magnetostrictor is so placed that ultrasound propagates parallel to the surface of the object. The process of degreasing of the object before coating was intensified by ultrasound. 2 references. [Abstracter's note: Complete translation.]

Card 1/1

S/275/63/000/001/030/035  
D413/D308

**AUTHORS:** Larionov, N. I. and Goryachko, G. V.

**TITLE:** The degradation of acetyl-cellulose under the action of an ultrasonic field

**PERIODICAL:** Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 1, 1963, 17, abstract 1V 123 (In collection: Primeniye ul'traakust. k issled. veshchestva, no. 15, M., 1961, 249-254)

**TEXT:** The authors have investigated the degradation of acetyl cellulose, dissolved in dimethylformamide (DMF), under the action of 300 kc/s ultrasonic vibration at an intensity of up to 20 w/cm<sup>2</sup>. The range of concentrations 1 - 5 g/liter acetyl cellulose in DMF was used in this work, since in more concentrated solutions the results may be affected by factors related to the interaction of macromolecules. It was shown that under the action of an intense ultrasonic field the viscosity of solutions of acetyl cellulose in DMF decreases with time. A minimum viscosity is maintained for a

Card 1/2

S/275/63/000/001/030/035  
D413/D308

The degradation of ...

lengthy period. This demonstrates that the fall in viscosity is due not to disaggregation of the solution but to degradation of the macromolecules of acetyl cellulose. The process of degradation of solutions of acetyl cellulose in DMF proceeds more slowly than the degradation of solutions of polyacrylonitrile in DMFm which indicates the effect of the strength of the chemical bonds in the polymer molecule. The action of an intense ultrasonic field, while causing degradation of the polymer, does not lead to a change in the ultrasonic wave velocity in the solutions. 8 references. [Abstracter's note: Complete translation.]

Card 2/2



I 42205-66 EWT(m)/EWP(j)/T/EWP(k) LFP(c) UM/CO

ACC NR. AT6013182

SOURCE CODE: UR/0000/61/000/000/0017/02

AUTHORS: Baranov, A. I.; Geller, B. E.; Larionov, N. I.

ORG: none

TITLE: Study of the properties of concentrated polymer solutions using an ultrasound method

SOURCE: Moscow. Oblastnoy pedagogicheskiy institut. Primeneniye ul'traakustiki k issledovaniyu veshchestva, no. 14, 1961, 217-225

TOPIC TAGS: ultrasound, ultrasonic velocity, fluid density measurement, solution concentration, adiabatic compression, ultrasonic wave propagation

ABSTRACT: The relationship between the density, temperature, and concentration of concentrated solutions of perchlorovinyl, polyacrylonitrile, and acetylcellulose was investigated using ultrasonic methods. The work is presented as a part of a complex effort by N. I. Larionov, G. V. Goryachko, N. A. Dmitriyeva, B. E. Geller (Sb. Primeneniye ul'traakustiki k issledovaniyu veshchestva, vyp. X, str. 23, M., 1960), designed to study physical and chemical properties of polymers. Dimethylformamide was selected as the solvent. Changes in density, in the propagation velocity of ultrasound, and in adiabatic compressibility of the solutions were measured. The velocity of ultrasound was measured optically, with an accuracy of 1%. It was established that the propagation velocity is practically independent of the

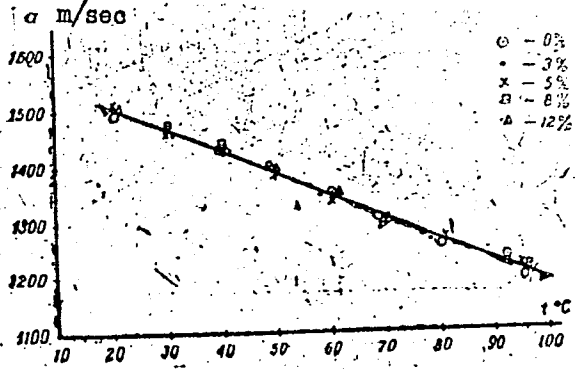
Card 1/2

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ACC NR: AT6013182

concentration of polymers (up to 20%) as shown in Fig. 1.

Fig. 1. Velocity of ultrasound as a function of temperature in acetylcellulose solutions.



Within concentration limits from 0—20% and temperature limits from 20—100C the velocity of ultrasound is a linear function of solution density. The free volume is greater in concentrated solutions than in the pure solvent. Orig. art. has: 10 figures, 3 tables, and 2 equations.

SUB CODE: 07, 11, 20/ SUBM DATE: 22Apr61/ ORIG REF: 003/ OTH REF: 001

Cord 2/2 af



1. SKYUYEV, P.V., LARIONOV, N. V., Eng. SAPRYGIN, I. S.
2. USSR (600)
4. Metals - Heat Treatment
7. Reducing stresses in parts by annealing. No 9 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

LARIONOV, O. G.

Utilization of ion-exchange resins for purifying quartz suspensions. K. V. Chumakov and O. G. Larionov (Inst. Phys. Chem., Acad. Sci. U.S.S.R., Moscow). Kolloid Zhur. 19, 399 (1967). -- Quartz suspensions contg. metal particles from the mill are purified by treating them with a mixt. of HCl + HNO<sub>3</sub> and filtering the resulting liquid through a cation-exchange resin in its H state.

J. J. Bikerman

*J. J. Bikerman*

15  
40 20  
J. J. Bikerman

YELOVICH, S.Yu.; LARIONOV, O.G.

Chromatographic removal of thiophene from benzene. Zhur.prikl.  
khim. 34 no.9:2067-2073 S '61. (MIRA 14:9)

(Benzene) (Thiophene)

YELOVICH, S.Yu. [deceased]; LARIONOV, O.G.

Theory of adsorption from solutions of nonelectrolytes on solid adsorbents. Report No.1: Equation of the isotherm of adsorption from solutions and the analysis of its simplest form. Izv. AN SSSR Otd.khim.nauk no.2:209-216 F '62. (MIRA15:2)

1. Institut fizicheskoy khimii AN SSSR.  
(Adsorption)

YELOVICH, S.Yu. [deceased]; LARIONOV, O.G.

Theory of adsorption from solutions of nonelectrolytes on solid adsorbents. Report No.2. Experimental verification of the equation of the isotherm of adsorption from solutions. Izv. AN SSSR Otd.khim.nauk no.2:216-222 F '62. (MIRA 15:2)

1. Institut fizicheskoy khimii AN SSSR.  
(Adsorption)



YELOVIN, S.Yu.; LARIONOV, O.G.

Adsorption from solutions of nonelectrolytes using solid  
adsorbents. Izv.AN SSSR.Otd.khim.nauk no.3:529-531 Mr  
'62. (MIRA 15:3)

1. Institut fizicheskoy khimii AN SSSR.  
(Adsorption) (Solution (Chemistry))

YELOVIN, S.Yu.; LARIONOV, O.G.

Application of mass-action law to adsorption equilibrium.  
Izv.AN SSSR.Otd.khim.nauk no.3:531-533 Mr '62. (MIRA 15:3)

1. Institut fizicheskoy khimii AN SSSR.  
(Activity coefficients) (Phase rule and equilibrium)  
(Adsorption)

LARIONOV, O.G.

Equilibrium condition during adsorption from aqueous  
solutions. Izv. AN SSSR. Ser. khim. no.11:2051-2052  
'65. (MIRA 18:11)

1. Institut fizicheskoy khimii AN SSSR.

ALEKSANDROV, G.G.; LARIONOV, O.G.; CHMUTOV, K.V.

Device for studying the kinetics of adsorption from liquid mixtures on crystalline zeolites. Zhur. fiz. khim. 39 no.4: 1034-1035 Ap '65. (MIRA 19:1)

1. Institut fizicheskoy khimii AN SSSR. Submitted Aug. 22, 1964.

LARIONOV, O.G.; TONKONOG, L.G.; CHMUTOV, K.V.

Calculating the true adsorption of mixture components from  
nonelectrolyte solutions. Zhur. fiz. khim. 39 no.9:2226-  
2231 S '65. (MIRA 18:10)

1. Institut fizicheskoy khimii AN SSSR.

~~LARIONOV~~  
LARIONOV, O. V.

AUTHORS: Murin, A. N., Nefedov, V. D., Sinotova, Ye. N., 78-1-33/43  
Larionov, O. V.

TITLE: The Separation of the Nuclear Isomers of Tellurium,  
Mercury and Tin (Razdeleniye yadernykh izomerov tellura,  
rtuti i olova)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1,  
pp. 181-183 (USSR)

ABSTRACT: After giving a review of the separation methods of the  
nuclear isomers of tellurium (references 1,2) and after  
their discussion the authors chose dimethyl-dinitrate of  
tellurium as the initial compound for the separation of the  
nuclear isomers of  $T^{127}$ . It must be expected that the transi-  
tion to an intermediate level will occur by means of an in-  
ternal conversion and for this reason will be accompanied  
by a disturbance of the chemical binding of tellurium in the  
initial compound. Therefore a considerable portion of the  
nuclei of  $Te^{127}$  will be present as most simple anorganic  
forms in the ground state in the preparation dimethyl-  
dinitrate of tellurium.  $Te^{127}$  in its ground state was isolated

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The Separation of the Nuclear Isomers of Tellurium,  
Mercury and Tin

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by means of the adsorption of these anorganic forms by ferric hydroxide. The extraction with isopropylether from 9 n HCl was intended for the removal of the an isotropic carriers, that is to say, iron. From the decay curve of the lowest isolated isomer (figure 1) follows, that only one tellurium isotope was existent, which had a half life of 9'3 hours. This testified to the presence of only the lowest isomer in the preparation. The yield of Te<sup>127</sup> was determined to 80%, if it was accumulated in crystals, and to 94%, if it was accumulated in a solution. The latter value is in good correspondence with the known fact, that the isomeric transition in Te<sup>127</sup> is converted to practically 100%. This implies, that the initial molecule is destroyed by every process of isomeric transition, which is accompanied by an internal conversion. The yield is somewhat lower, if accumulation takes place in crystals. The isolated radioactive Te<sup>127</sup> predominantly takes its four-valent form and only 6 % of it take the six-valent one. This method possesses several advantages in comparison to the ones known hitherto (reference 1). If mercury is irradiated with neutrons according

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to the reactions  $(n, \gamma)$  and  $(n, 2n)$ , radioactive isotopes are formed:  $Hg^{197}$ ,  $Hg^{199}$ ,  $Hg^{203}$  and  $Hg^{205}$ . Because at least six days elapsed until the separation was performed it can be assumed, that in the synthesized initial preparation - mercury diethyl only  $Hg^{203}$ ,  $Hg^{197m}$  and  $Hg^{197}$  were present. From the investigations of the Laboratory for Radiochemistry of the University Leningrad (reference 3-6) it results, that the complete aliphatic mercury derivatives may undergo an irreversible destruction of the chemical bondings on isomeric transitions. The isolation of  $Hg^{197}$  in the ground level was performed by means of adsorption on manganese dioxide. The separation from the carrier can be achieved by methods, which are based on the volatility of mercury and its derivatives. The separation of the nuclear isomers as such can be determined from a comparison of the curves of decreasing activity of the mercury preparations (figure 2). When tin is irradiated by thermal neutrons, radioactive nuclei are formed:  $Sn^{113}$  (yields  $In^{113m}$ ,  $Sn^{117m}$  and  $Sn^{119m}$  by decay). From the three latter ones stable isotopes are produced by an isomeric transmutation:  $Sn^{117}$  and  $Sn^{119}$ ,  $Sn^{121}$ ,  $Sn^{123}$  and  $Sn^{125}$  were isolated in the ground

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Mercury and Tin

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state from a benzene solution of stannic tetraphenyl by way of extraction. Because of the fact, that the isomers Sn<sup>125</sup> and Sn<sup>125</sup> have no genetic inter-relation, Sn<sup>121</sup> and In<sup>113m</sup> will pass over into the water layer during the extraction. For this reason the activity measurement was started after the lapse of from 10-12 half life periods of In<sup>113m</sup> (T = 105 minutes). The decay curve of Sn<sup>121</sup> is represented by figure 3. The accumulation of Sn<sup>121</sup> with time was examined (figure 4) for the purpose of proving the genetic relation between Sn<sup>121</sup> in ground state and Sn<sup>121m</sup>. The method described here may be considered the most universal. It makes furthermore possible to isolate the nuclei in a low isomeric state without carriers. There are 4 figures, and 6 references, 4 of which are Slavic.

SUBMITTED: June 18, 1957

AVAILABLE: Library of Congress

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24 (5)

**AUTHORS:**

Baranovskiy, V. I., Larionov, O. V., SOV/54-59-2-4/24  
Nikitin, M. K., Tkachenko, A. A.

**TITLE:**

On the Problem of Natural Neutron Activity of Arsenic and Antimony (K voprosu o yestestvennoy neytronnoy aktivnosti mysh'yaka i sur'my)

**PERIODICAL:**

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 25-26 (USSR)

**ABSTRACT:**

In the papers by A. Dorabialska and M. Serwinski (Refs 1-3), it had been asserted that ordinary arsenic and antimony are sources of quick neutrons. By means of these neutrons, the authors had succeeded in activating Cu, Br, J and other elements. They set up a conversion scheme which, however, disagrees with the experimental mass determinations of the elements occurring in this scheme; even the inverse reactions had been observed in experiments. In order to prove that no neutrons are radiated from the said elements under natural conditions, the same experiments as described in the papers (Refs 1-3) were repeated in this paper. The exposition of the materials to be activated was carried out both by direct contact of As and Sb of high purity with activated materials,

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Arsenic and Antimony

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and with the use of moderators. All investigations proceeded with a negative result. Under experimental conditions as they were used in this investigation, a neutron decay of the As- and Sb-nuclei could have been detected only at a half-life period of  $T_{\frac{1}{2}} \in 10^{16}$  a. For the self-activation of

the said nuclei, the background of the neutron capturing cross section should have been increased which has not been detected either.  $\beta$ -particles from a  $\beta$ -decay with energies  $\geq 0.05$  Mev were missing. In all results obtained, the authors could not find a foundation for the assertion of a possible independent neutron decay in the As- and Sb-nuclei. Finally, the authors thank V. D. Nefedov for the discussions. There are 6 references, 1 of which is Soviet.

SUBMITTED: June 14, 1958

Card 2/2

BARANOVSKIY, V.I.; LARIONOV, O.V.; NIKITIN, M.K.; TKACHENKO, A.A.

Natural neutron activity of arsenic and antimony. Vest.LGU 14  
no.10:25-26 '59. (MIRA 12:6)  
(Arsenic--Isotopes) (Antimony--Isotopes)  
(Neutrons)

83502

S/048/60/024/007/001/011  
B019/B060

24,6600  
AUTHORS: Bashilov, A. A. (Deceased), Larionov, O. V., Nikitin,  
M. K., Smirnov, V. B.

TITLE: Eu<sup>145</sup> Production in Ta Spallation Reactions /19

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 7, pp. 788-790

TEXT: This is the reproduction of a lecture delivered at the 10th  
All-Union Conference on Nuclear Spectroscopy held in Moscow from January  
19 to 27, 1960. The authors studied the Eu<sup>145</sup> production in Ta spallation  
reactions produced by 660-Mev protons. The synchrocyclotron used belonged  
to the OIYAI (Joint Institute of Nuclear Research). The Eu isotopes pro-  
duced in the reactions were examined with gamma rays. Six hours after the  
Ta target irradiation, the rare earths were chemically separated and the  
fractions of the individual rare earth elements were further separated.  
The Eu fraction was purified chromatographically and was then added to a  
diluted HNO<sub>3</sub> solution containing La<sup>3+</sup> for the prevention of absorption.

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Eu<sup>145</sup> Production in Ta Spallation ReactionsS/048/60/024/007/001/011  
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Gamma emission was investigated with a NaI scintillation spectrometer. Apart from the gamma lines of Eu<sup>146</sup>, Eu<sup>147</sup>, and Eu<sup>149</sup>, the authors identified 0.89, 1.66, 1.86, and 2.0 Mev lines, whose intensity drop corresponded to a half-life  $T = 5.5$  days (Fig. 2). Thorough examinations made on the daughter products gave evidence that the observed Eu activity with a half-life of 5.5 days must be ascribed to the Eu<sup>145</sup> isotope. The data obtained here agree with those of Hoff and others (Ref. 4). The authors thank I. B. Stankevich for having conducted the chemical operations, and V. B. Savichev for his assistance in the measurements. There are 4 figures and 4 references: 3 Soviet and 1 US. ✓

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut  
Leningradskogo gos. universiteta im. A. A. Zhdanova  
(Scientific Research Institute of Physics of the  
Leningrad State University imeni A. A. Zhdanov)

Card 2/2

85585

S/048/60/024/007/018/032/XX  
B019/B056

24.6720  
AUTHORS:

Grigor'yev, Ye. P., Larionov, O. V., Nikitin, M. K.,  
Sakharov, S. L., and Sergeev, V. O.

TITLE:

The Determination of the Halflife of  $Dy^{159}$ ,  $Ho^{160*}$ ,  $Tu^{166}$   
and  $Lu^{173}$  ✓

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 7, pp. 841-844

TEXT: This paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which took place from January 19 to January 27, 1960 at Moscow. The isotopes investigated were obtained by the irradiation of Ta-targets with 660-Mev protons in the synchrocyclotron of the Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research) and a subsequent chemical and chromatographical separation. For determining the halflife an end-window counter was used, which was protected by a Pb-shield.

As a control isotope,  $Dy^{159}$  was selected. The authors determined a half-life  $T = 139 \pm 10$  days, which agrees with the data obtained by other

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85586

24.6720  
AUTHORS:

S/048/60/024/007/019/032/XX  
B019/B056

Grigor'yev, Ye. P., Larionov, O. V., Nikitin, M. K.,  
Sakharov, S. L., and Sergyev, V. O.

TITLE:

The  $\gamma$ -Spectra of the Isotopes of the Tantalum Fraction

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 7, pp. 845-846

X

TEXT: This paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which took place from January 19 to January 27, 1960 at Moscow. In the synchrocyclotron of the OIYaI, a Ta-target was irradiated with 660-Mev protons, following which, tantalum was separated and the radioactive Ta-isotopes were investigated by means of an automatic scintillation- $\gamma$ -spectrometer. According to the halflife of the  $\gamma$ -lines, the Ta-isotopes may be subdivided into two groups. There are some isotopes with a halflife T of roughly 8 hours, and others with T = 53 hours. The energy and the relative intensities of the  $\gamma$ -lines of those Ta-isotopes whose T is about 8 - 11 hours, are given in Table 1;

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The  $\gamma$ -Spectra of the Isotopes of the Tantalum Fraction S/048/60/024/007/019/032/XX  
B019/B056

E [keV]	55	115±5	210±10	270	350	500	1150	1700
I <sub>γ</sub>	100	10	7	2	2	0.3	0.7	0.3

By comparison with data obtained by other authors, the authors draw the conclusion that in their Ta-fraction the isotopes Ta<sup>176</sup> (8 hours) and Ta<sup>175</sup> (11 hours) are present. In Table 2, the energies and the relative intensities of the hard  $\gamma$ -lines of the Ta-isotope of a halflife of 8 hours are given:

E <sub>γ</sub> [Mev]	1.7	2.2 - 2.3	2.7	2.8
I <sub>γ</sub>	3	1	0.3	1

These hard lines may possibly belong to a Ta<sup>176</sup>-decay. From the data obtained here, the authors conclude that the mass difference between Ta<sup>176</sup> and Hf<sup>176</sup> is more than 3 Mev. There are 2 figures, 2 tables, and 7 references: 1 Soviet and 6 US.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gos. universiteta im. A. A. Zhdanova (Scientific Research Institute of Physics of Leningrad State University imeni A. A. Zhdanov)

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24066

S/054/61/000/002/004/005  
B101/B207

5.2300

1087

AUTHOR: Larionov, O. V., Nikitin, M. K.

TITLE: The problem of separating rare-earths elements from tantalum

PERIODICAL: Leningradskiy Universitet. Vestnik. Seriya fiziki i khimii, no. 2, 1961, 73 - 76

TEXT: The aim of the present study was the chromatographic partition of rare-earths elements (REE) from tantalum without using a carrier, in order to obtain tantalum completely free from REE isotopes. The usual precipitation of REE as fluorides is incomplete. Furthermore, other elements, such as Hf, are coprecipitated. Thus, the separation and study of the radioactive isotopes of Hf are rendered difficult. On the assumption that REE exist in a Hf medium as cations, tantalum (as well as Hf and Zr) as anions ( $TaF_7^{2-}$ ,  $TaF_8^{3-}$ ) the adsorption of REE cations on cation exchangers was studied. The distribution of microquantities of  $Eu^{152}$

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B101/B207

The problem of separating ...

among the Hf solution, the resins KY-2 (KU-2), and Dowex-50 was investigated: Eu<sup>152</sup> was completely adsorbed at concentrations of  $10^{-7}$  -  $10^{-8}$  g/ml of 5-7 mg resin, while Ta<sup>182</sup> was not adsorbed. Further experiments were carried out at room temperature with a chromatographic column of 2 mm diameter, filled with commercial KU-2 in the form of H<sup>+</sup> (grain size, ~ 50  $\mu$ ; layer height, 3-4 mm), on plexiglass wadding. The solution was pressed through the exchanger by a mercury column. Eu<sup>152</sup> was completely separated from the inactive Ta (concentration up to 0.35 g/ml) at a rate of one drop every 10-12 sec (1 drop ~ 1/20 ml). At a higher flow rate (one drop every 2-4 sec), up to 10% of Eu was not adsorbed by the exchanger. The presence of HNO<sub>3</sub> deteriorated the results. The elution curves of Fig. 2 show that concentrated HNO<sub>3</sub>+saturated H<sub>3</sub>BO<sub>3</sub> solution is the most effective eluent. The method described was successfully applied to the quantitative separation of REE isotopes from tantalum which was irradiated with

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The problem of separating ...

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B101/B207

among the Hf solution, the resins KY-2 (KU-2), and Dowex-50 was investigated: Eu<sup>152</sup> was completely adsorbed at concentrations of  $10^{-7}$  -  $10^{-8}$  g/ml of 5-7 mg resin, while Ta<sup>182</sup> was not adsorbed. Further experiments were carried out at room temperature with a chromatographic column of 2 mm diameter, filled with commercial KU-2 in the form of H<sup>+</sup> (grain size, ~ 50  $\mu$ ; layer height, 3-4 mm), on plexiglass wadding. The solution was pressed through the exchanger by a mercury column. Eu<sup>152</sup> was completely separated from the inactive Ta (concentration up to 0.35 g/ml) at a rate of one drop every 10-12 sec (1 drop ~ 1/20 ml). At a higher flow rate (one drop every 2-4 sec), up to 10% of Eu was not adsorbed by the exchanger. The presence of HNO<sub>3</sub> deteriorated the results. The elution curves of Fig. 2 show that concentrated HNO<sub>3</sub>+saturated H<sub>3</sub>BO<sub>3</sub> solution is the most effective eluent. The method described was successfully applied to the quantitative separation of REE isotopes from tantalum which was irradiated with

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B101/B207

The problem of separating ...

660-Mev protons. This mode of separation is more complete than that performed by the fluoride method. There are 2 figures and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The 3 references to English-language publications read as follows: H. J. Hettel, V. Fassel, Anal. Chem., 27, 1311, 1955; Nervik a. Seaborg, Phys. Rev., 27, 1092, 1954; H. Gest, W. H. Burgus, T. H. Davies, Radiochemical studies. The fission products. Book 1, paper 13, 1951

SUBMITTED: May, 1959

Fig. 2: Curves of REE elution. Legend: 1)  $\text{HNO}_3$ ; 2)  $\text{HCl}$ ; 3)  $\text{HNO}_3 + \text{H}_3\text{BO}_3$ ; a) pulses per min., b) number of drops. X

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23883  
S/186/61/003/001/016/020  
A051/A129

21,3200  
AUTHORS: Murin, A.N., Nefedov, V.D., Larionov, O.V.

TITLE: The separation of nuclear isomers of tellurium

PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 90-96

TEXT: The authors have developed a new method for the separation of nuclear isomers of tellurium and the separation of lower isomer compound states without a carrier, as well as a method for the separation of radio-chemically pure  $Te^{127}$  from irradiated tellurium dimethyldinitrate with neutrons ( and  $\gamma$ -quanta). They show that the extraction of  $Te^{127}$  from the irradiated sample reaches a yield close to 100%, which corresponds to the break of the chemical bond in each converted isomer transition. The greater part (about 91%) of the extracted  $Te^{127}$  is in the lower tetra-valent state and only about 9% is in the hexa-valent state. The initial compound used for the separation of the main isomer state of tellurium was tellurium dimethyldi-

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The separation of nuclear isomers of tellurium

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A051/A129

nitrate  $(\text{CH}_3)_2\text{Te}(\text{NO}_3)_2$ . The latter was formed from tellurium dimethyldiiodine:  $\text{Te} + 2(\text{CH}_3)_2\text{I}_2 \rightarrow (\text{CH}_3)_2\text{TeI}_2$ . The authors investigated various ways of isolating Te in the basic state: 1) extraction of the basic salts of Mn on the residue formed when an alcohol solution of  $\text{Mn}(\text{CH}_3\text{COO})_2$  is added to the acetone solution  $(\text{CH}_3)_2\text{Te}(\text{NO}_3)_2$  was found to be inconvenient, since the residue retained most of the initial quantity of the compound; 2) extraction on the residue of  $\text{H}_2\text{WO}_4$  gave a small yield; 3) extraction on  $\text{MnO}_2$  was impossible due to oxidation of the initial compound and dissolution of  $\text{MnO}_2$ ; 4) extraction on the metal hydroxides (Fe, Bi) gave the highest yield of  $^{127}\text{Te}$  in the basic state. The authors adopted the Te isolation method on iron hydroxide. The curve of Fig 3 shows that there is only one isotope with a half-life of 9.3 hours, which proves the presence of  $^{127}\text{Te}$  in the sample in the basic state. The degree of impurities was studied using metastable  $^{127m}\text{Te}$ , whereby the decay of the  $^{127}\text{Te}$  samples was investigated (Fig 2). Further, the radiochemical purity of samples produced according to the authors' methods was compared to that produced according to the methods of Siborg, Livinhood and Kennedy. The average yield was found to be  $79.5 \pm 2.2\%$ .

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The separation of nuclear isomers of tellurium

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when accumulated in crystals. The high yields noted by the authors are thought to be the result of the sharply expressed irreversibility of the occurring chemical changes during isomer transition when using  $(\text{CH}_3)_2\text{Te}(\text{NO}_2)_2$ . The data of Table 2 show that with an accumulation of Te in the crystals the yield of the basic state is somewhat less since in this case there is a greater stability of the basic state of  $\text{Te}^{127}$  in the form of the initial tellurium dimethyldinitrate compound. The difference in the chemical behavior of the tetra and hexa-valent states of Te helps to solve the problem of Te distribution between these valency states. The study of this question was carried out by the isotopes carrier method corresponding to various chemical compounds ( $\text{TeO}_2$  and  $\text{H}_2\text{TeO}_4$ ). The separation of the 6- and 4-valent Te was based on the reduction of the latter to the elemental state by sulfur dioxide in a 3 n solution of HCl (Ref 12). The average yields are equal to  $8.5 \pm 1.2\%$  and  $91.5 \pm 1.2\%$ , respectively. The fact that most of  $\text{Te}^{127}$  is in the lower valency state is explained by secondary processes which occur after the above-mentioned phenomena. The activation of Te in the main state was conducted on a betatron and the separation of Te in the main state was carried out according to the reaction  $(\gamma, n)$  (Fig 4). There are 4 figures, 4 tables and 14 references: 6 Soviet-bloc, 8 non-Soviet-bloc.

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S/186/61/003/005/020/022  
E111/E485

AUTHORS: Nefedov, V.D., Larionov, O.V.

TITLE: A constant carrierless  $Tl^{206}$  source

PERIODICAL: Radiokhimiya, v.3, no.5, 1961, 639

TEXT: The authors describe a method of production of preparations of  $Tl^{206}$  without carrier. This method can also be used for detecting the presence of  $Bi^{210}$  in bismuth preparations. It is known that if  $Bi^{210}$  obtained by neutron irradiation of bismuth is introduced into an organometallic compound  $[(C_6H_5)_3Bi$  or  $(C_6H_5)_3BiCl_2]$ , this preparation can serve as a carrierless  $Tl^{206}$  source. The metallic bismuth was neutron irradiated for a long time and then kept for half a year. After this it was dissolved and repeatedly cleaned from polonium. As most convenient starting compound,  $(C_6H_5)_3BiCl_2$  was chosen being more stable than  $(C_6H_5)_3Bi$ . In this case,  $Tl^{206}$  was extracted from the benzene solution  $(C_6H_5)_3Bi^*Cl_2$  by 5% hydrochloric acid. In the case of  $(C_6H_5)_3Bi^*Tl^{206}$  was extracted from the ethereal solution of the bismuth organic compound by water. It was found that the yield of  $Tl^{206}$  was higher if it was directly separated on  $MnO_2$  from the benzene solution by addition of a few drops of

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✓

A constant carrierless  $Tl^{206}$  source

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E111/E485

$KMnO_4$  in acetone and hydrogen peroxide. This proved that part of the resulting  $Tl^{206}$  is in the form of organo-metallic compounds. To identify  $Tl^{206}$  from the half-life period it was isolated from the enriched fraction with an isotope carrier in the form of  $Tl(OH)_3$  or by adsorption on  $MnO_2$ . The half-life period  $T$  was found from the equation

$$T = -t \frac{0.301}{\log A_{2t} - \log A_t}$$

where  $t$  is a definite time interval at which activity determinations were made,  $A_t$  is the number of disintegrations in time  $t$  and  $A_{2t}$  that in time  $2t$ .  $T$  values (minutes) obtained were 4.5, 4.8, 4.9. There are 1 figure and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The three references to English language publications read as follows:

Ref.1: H.M. Neumann, J.J. Howland, I. Perlman, Phys. Rev., 77, 720 (1950); Ref.2: H.B. Levy, I. Perlman, Phys. Rev., 85, 758 (1952); Ref.3: H.B. Levy, I. Perlman, Phys. Rev., 94, 152 (1954).

Card 2/2

89250

S/048/61/025/001/016/031  
B029/B060

24.6720

AUTHORS: Berlovich, E. Ye., Larionov, O. V., Tunimanova, E. N.,  
Khay, D. M.

TITLE: Study of the decay schemes of Gd<sup>146</sup>, Gd<sup>147</sup>, and Gd<sup>149</sup> by a  
beta - gamma coincidence spectrometer

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,  
no. 1, 1961, 90-97

TEXT: A study has been made of the cascade properties of transitions in  
gadolinium isotopes by the method of coincidences with a view to defining  
the details of the decay schemes of these isotopes. N. M. Anton'yeva,  
A. A. Bashilov et al. (Refs. 2,3,4), in their papers submitted to the 8th  
All-Union Conference on Nuclear Spectroscopy of 1958, had offered a  
thorough study of the spectra of conversion electrons of Gd<sup>146</sup>, Gd<sup>147</sup>, and  
Gd<sup>149</sup>. B. S. Dzhelepov, V. A. Sergiyenko et al. (Refs. 5,6) studied the  
coincidences between the conversion electrons of these isotopes in 1959.  
Fig. 2 shows the block diagram of the coincidence spectrometer,

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S/048/61/025/001/016/031  
B029/B060

Study of the decay schemes of...

consisting of two branches, used here. The two branches represent a sector-type magnet spectrometer with improved focusing and a scintillation spectrometer with a NaI crystal. The recorders were two time photo-multipliers of the type ФЭУ-14 (FEU-14) after G. S. Vil'dgrube. Measurement results:  $Gd^{146}$ : Fig. 3 shows the curve of the coincidences of electrons of the K line of transition (114.8 + 115.5)keV with the gamma rays of the gadolinium fraction. The measurements took place 100 days after the separation of the fraction from the target irradiated with 660-MeV protons. Fig. 4 shows the analogous curve for the K line of the 155-keV transition. Two incompletely resolved coincidence peaks are observed; peak 1 characterizes the coincidences  $K_{114.8} - \gamma_{115.5}$  and  $115.5 - \gamma_{114.8}$ ; peak 2 refers to  $K(114.8 + 115.5) - \gamma_{155}$ . The results found, while confirming the cascade property of all of the three transitions, do not, however, add any new information to the results given by B. S. Dzhelepov and V. A. Sergiyenko (Ref. 5). Still, they may be regarded as a good confirmation of the hitherto assumed decay scheme of  $Gd^{146}$ . Fig. 5 shows the peaks of the coincidences of the 229-keV electrons with the gamma rays (scintillation branch), and Fig. 6 shows the

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peaks of the coincidences of the 396 keV-K-line electrons with the same gamma rays. The K229 electrons coincide with the 396-keV gamma rays. The peak of coincidences is, however, widened by an admixture of 370-keV gamma quanta. In the spectrum of coincidences there are still further, although not sharp, maxima, which correspond to the  $560 \pm 20$ , and  $760 \pm 25$ -keV energies, as well as a poorly marked coincidence peak in the 900-keV range. Weak maxima are also observed with 396-keV electrons, namely, in the  $480 \pm 30$  and  $560 \pm 30$ -keV energy range. Figs. 7 and 8 show the coincidence curves of conversion K electrons of the 149.8 and 346-keV transitions with the gamma rays recorded in the scintillation branch. K 149.8 electrons provide coincidences with the 346 and  $530 \pm 20$ -keV gamma quanta. K 346 electrons provide coincidences with 150 and 298-keV gamma quanta. According to the results obtained, the 298-keV transition in the nucleus of  ${}^{63}\text{Eu}^{149}$  is surely to be found in the 346- and 149.8-keV gamma cascade. This transition lies above the isomeric level and proceeds from the 795-keV level. Spin and parity  $9/2^-$  or  $11/2^-$  must be ascribed to this level. The intensities of 346 and 298-keV transitions are almost equally high. The excitation of the 497-keV level by electron capture is,

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Study of the decay schemes of...

in fact, more probable than the excitation of the 795-kev level. The other results found regarding the coincidences are in good agreement with the decay scheme of  $Gd^{149}$  suggested by N. M. Anton'yeva et al. (Ref. 3). The article under consideration is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy, which took place in Moscow from January 19 to 27, 1960. There are 11 figures, 1 table, and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc. X

ASSOCIATION: Fiziko-tehnicheskiiy institut im. A. F. Ioffe Akademii nauk SSSR (Institute of Physics and Technology imeni A. F. Ioffe, Academy of Sciences USSR)

Legend to Fig. 2: 1) magnetic spectrometer (a) source container, (6) deflection chamber, (6) counter chamber, (2) source; 2) limiters; 3) variable delay line; 4) fast-coincidence block, ( $Y_i$ ) amplifier; 5) differential pulse height analyzer; 6) triple coincidence circuit; 7) counter.

Card 4/9

IARIONOV, P., inzh. (Krasnoyarsk)

Stove for the northern regions. Pozh.delo 5 no.11:11 N '59.  
(MIRA 13:4)

(Stoves)

LARIONOV, P.D.

Materials on the nutrition and reproduction of the East Siberian hawk (*Accipiter nisus nisosimilis* Tickell) and the Yakut falcon (*Falco peregrinus kleinschmidti* Dem.). Uch. zap. IAK. un. no.1: 120-132 '57. (MIRA 11:3)

(Yakutia--Hawks)



LARIONOV, P.D.

Materials on winter bird fauna in the environs of Yakutsk  
[With summary in English]. Zool. zhur. 38 no.2:253-260 F '59.  
(MIRA 12:3)

1:Chair of Zoology, Yakutsk State University.  
(Yakutsk region--Birds)

LARIONOV, P.D.

Conditions of hibernation of vipers at the northern limit of  
their range in the Lena Valley. Zool. zhur. 40 no. 2:289-290  
F '61. (MIRA 14:2)

1. Department of Zoology, State University of Yakutsk.  
(Kytul-Zhura region—Serpents) (Hibernation)

MIKHAYLOV, N.V.; BUKOV, G.A.; GORBACHEVA, V.O.; MAKAROVA, T.P.; v rabote  
prinimali uchastiye: LARIONOV, P.E.; SOROKINA, V.I.; ZOTOV, Ya.E.

Studying the formation mechanism of synthetic fibers from molten  
materials. Khim.volok. no.1:33-36 '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

(Textile fibers, Synthetic)

LARIONOV, P.I., inzh.

Foreign machines for cleaning trenches. Stroiki dor.mashinost.  
4 no.10:34-36 0 '59. (MIRA 13:2)  
(Road machinery)

LARIONOV, P.I., inzh.

Domestic and foreign asphalt heaters. Stroi. i dor. mash. 8  
no.11:25-28 N '63. (MIRA 17:1)

LARIONOV, P.I., inzh.

Foreign road markers. Stroi. i dor. mashinostr. 5 no.5:34-37 My  
'60. (MIRA 14:4)

(Road markings)

NOZIK, Z.S.; LARIONOV, P.I.

Attachment for milling cutters. Mashinostroitel' no.3:23 Mr '61.

(MIRA 14:3)

(Milling machines—Attachments)

LARIONOV, P.I., inzh.

Organization of the maintenance and repair of highways in Hungary.  
Avt.dor. 25 no.7:27-28 Jl '62. (MIRA 15:8)  
(Hungary--Roads--Maintenance and repair)



MIKHAYLOV, N.V.; SHEYN, T.I.; GORBACHEVA, V.O.; TOPCHIBASHEVA, V.N.;  
v rabote prinimali uchastiye tekhniki-laboranty; IARIONOV, P.M.;  
VLASOVA, L.P.; MURASHKINA, S.I.

Investigating the molecular structure of synthetic fibers.  
Part 14: Physicochemical and physicomechanical properties of  
the polycapramide - polyundecanamide polyamide group. Vysokom.  
soed. 1 no.2:185-190 F '59. (MIRA 12:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

(Textile fibers, Synthetic) (Amides)

LARIONOV, P.M.

Quality control in manufacturing instruments. Izv. tekhn.  
no. 3:60 Mr '61. (MIRA 14:2)  
(Instrument manufacture—Quality control)

SHCHEGLOVA, O. P., kand. fiz.-matem. nauk; LUT, B. F.; MECHITOV, I. I.,  
kand. tekhn. nauk (Tbilisi); IVERONOVA, I. M., kand. geograf.  
nauk (Moskva); IOGANSON, V. Ye. (Moskva); LARIONOV, P. M.  
(Uzhgorod)

Mud torrents. Prioroda 52 no.1:90-96 '63. (MIRA 16:1)

1. Tashkentskiy gosudarstvennyy universitet im. V. I. Lenina  
for Shcheglova). 2. Baykal'skaya limnologicheskaya stantsiya,  
poselok Listvenichnoye, Irkutskaya obl. (for Lut).

(Runoff) (Erosion)

LARIONOV, S.F., inzh.; POZDNYAK, A.A., inzh.

Concerning I.I.Khazovskii's article "Change-over to centralized structure of the departments in electric power plants." Elek. sta. 33 no.7:90-91 J1 '62. (MIRA 15:8)  
(Electric power plants) (Khazovskii, I.I.)

LARIONOV, S. N.

USSR/General and Specialized Zoology. Insects. Injurious P  
Insects and Ticks. General Problems

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 49536

Author : Larionov S. N.

Inst :

Title : Lethrus Beetles as Pests of Agricultural Crops in  
Southern Kazakhstan.

Orig Pub : Zashchita rast. ot vredit. i bolezney, 1957,  
No 4, 52

Abstract : Lethrus bituberculatus and L. scoparius were  
found in quantities of 0.1-8 individuals per  
 $1m^2$  in regions of the former Golodnaya Steppe  
on virgin lands, waste lands, soddy shoulders of  
roads and irrigators, old uncultivated alfalfa  
fields and vineyards. They damaged tomatoes,  
cabbage, carrots, corn, cotton and grape vine.  
Methods of control were tilling and stirring up

Card : 1/2

Larionov, S. P.

137-1957-12-23701

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 123 (USSR)

AUTHOR: Larionov, S. P.

TITLE: An Investigation of the Process of Upsetting Cylindrical Specimens With an Opening (Issledovaniye protsessa osazhivaniya tsilindricheskikh obraztsov s otverstiyem)

PERIODICAL: Sb. stud. nauchn. rabot. Belorussk. politekhn. in-t, 1957, Nr 3, pp 5-8

ABSTRACT: The possibility of welding-up defects in metals was studied on specimens with openings (O). The changes in the shape of the O were investigated under monoaxial compression conducive to the complete disappearance of O. Complete welding-up would not occur, since almost always minute cracks remained at the point of the weld. Therefore, bars of non-plastic alloys of insufficiently dense structure should be extruded from the container through a die in order to transform the cast structure into a deformation structure under conditions most favorable for the elimination of density discontinuities.

Card 1/1 1. Metals-Defects-Salvage methods

V. O.

S/078/61/006/001/005/019  
B017/B054

AUTHORS: Batyayev, I. M., Larionov, S. V., Shul'man, V. M.  
TITLE: Stability of Complex Compounds of Lanthanum, Cerium,  
Praseodymium, and Neodymium With Aspartic Acid  
PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1,  
pp. 153 - 156

TEXT: Complex compounds of lanthanum, cerium, praseodymium, and neodymium were more precisely defined by potentiometric titrations of 0.01 molar solutions of aspartic acid with 0.1 N KOH in the presence and absence of rare earth ions. The pH value was measured at 25°C by an JПП-5 (LP-5) potentiometer and a glass electrode. Two series of titrations were conducted with a component ratio of  $C_{H_2A} : C_M^{3+} = 1 : 1$  and  $2 : 1$

( $H_2A$  = aspartic acid). The potentiometric titration curves are shown in Figs. 1 and 2. The stability of complex compounds of lanthanum, cerium, praseodymium, and neodymium with aspartic acid increases in the following

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Stability of Complex Compounds of Lanthanum,  
Cerium, Praseodymium, and Neodymium With  
Aspartic Acid

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B017/B054



order:  $\text{La} < \text{Ce} < \text{Pr} < \text{Nd}$ . The authors conclude from their results that the interaction between  $\text{La}^{3+}$ ,  $\text{Ce}^{3+}$ ,  $\text{Pr}^{3+}$ ,  $\text{Nd}^{3+}$  and aspartic acid is not restricted to the formation of  $\text{MA}^+$  and  $\text{MA}_2^-$  complexes. There are 3 figures, 1 table, and 9 references: 2 Soviet, 2 US, 2 British, 2 Danish, and 1 Swiss.

SUBMITTED: September 2, 1959

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S/200/62/000/012/003/005  
D204/D307

AUTHORS: Batyayev, I.M. and Larionov, S.V.

TITLE: Stability of the complexes of lanthanum, praseodymium and neodymium with glyocol

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no. 12, 1962, 69-73

TEXT: The present paper is concerned with the study of the stability of complexes of La, Pr, and Nd with glyocol, and of Nd with  $\alpha$ -alanine and serine, since such work may be of importance in the study of the complexing of lanthanons with polypeptides. The stability constants were determined by potentiometric titrations, at  $25 \pm 0.05^\circ\text{C}$ , of the above amino acids with 0.1 N KOH, in the presence and absence of the ions of La, Pr, Nd. The acid:metal ratio was 1:1 or 3:1. For a titration, 100 ml of 0.001 M amino acid were placed in the cell, followed by 0.3 to 1.7 ml of neutral  $\text{MCl}_3$  (M = lanthanon) to an ionic strength of 0.1. The latter value did not rise by more than 5% during experiment. Logarithms of the 1st stability constants are given in Table I.

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Stability of the complexes ...

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D204/D307

Stability constants ( $\chi_1$ ) were found to be respectively 4.18, 4.66 and 4.74 for La, Pr and Nd complexes with glyocol. A value of 4.3 was also found for  $\log \chi_2$  for the glyocol complex of Nd. For complexes of Nd with  $\alpha$ -alanine and serine,  $\log \chi_1$  was respectively 5.04 and 4.52. Comparison of these results with earlier work (Zh. neorg. khim., VI, 153 (1961); Izv. Sib. otd. AN SSSR, no. 2, 113 (1962)) showed that the stability of the complexes of La, Pr and Nd with aspartic acid is higher than the stability of the complexes of the same elements with glutamic acid or glyocol. There are 2 figures and 3 tables.

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Inorganic Chemistry of the Siberian Branch of AS USSR, Novosibirsk)

SUBMITTED: January 20, 1962

Card 2/2

BATYAYEV, I.M.; LARIONOV, S.V.

Stability of complex compounds of lanthanum, cerium,  
praseodymium and neodymium with glutamic acid. *Izv. Sib. otd.*  
AN SSSR no.2:113-115 '62. (MIRA 16:10)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR,  
Novosibirsk.

LARIONOV, S.V.; SHUL'MAN, V.M.; PODOL'SKAYA, L.A.

Complex formation of nickel with o-thiosalicylic acid. Zhur.  
neorg. khim. 9 no.10:2333-2338 O '64.

(MIRA 17:12)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya Aka-  
demii nauk SSR.

SHUL'MAN, V.M.; LARIONOV, S.V.; KRAMAREVA, T.V.; YEFREMOVA, T.D.

Oxido-reduction potentials of the system thiourea - formamidine disulfide in some mixed solvents. Izv. AN SSSR. Ser. khim. no.7:1257-1258 '65.  
(MIRA 18:7)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.

LARIONOV, V., inzh.

New marine evaporator systems. Mor. flot 22 no.10:43-44 0 '62.  
(MIRA 15:10)

(Feed water purification—Equipment and supplies)

LARIONOV, V., inzh.

International survey of chemistry. Mor. flot. 25 no. 12:  
35-36 D '65. (MIRA 18:12)

LARIONOV, V., inzh.

Ships on an air cushion. Voen. znan. 38 no.9:26 S '62.

(Ground-effect machines) (Motorboats)

(MIRA 15:9)



LARIONOV, V., inzh.

Fenders for ships and landing structures. Rech. transp. 24 no.11:  
51-52 '65. (MIRA 19:1)

L 16905-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) IJP(c)/ASD(f)-2/SSD/ASD(m)-3/AFTC(p)  
ACCESSION NR: AP4049180 MJW/JD/WB S/0314/64/000/005/0028/0029

AUTHOR: Pul'tsin, N. M. (Candidate of technical sciences); Larionov, V. A. (Engineer)

TITLE: Investigation of titanium-alloy strength in an aggressive medium

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 5, 1964, 28-29

TOPIC TAGS: titanium, titanium alloy, alloy property, VT14 alloy, AT8 alloy, corrosion, stress corrosion, sulfuric acid

ABSTRACT: Tests have been conducted to determine the strength of the VT14 and AT8 titanium alloys in an aggressive medium and to investigate the effect of the surface layer formed as a result of gas absorption during annealing at 880C for 0.5 to 2 hr. Alloys were stressed to 92.5, 95, or 97.5% of their tensile strength, in 20% sulfuric acid. AT8 alloy was found to be more resistant to the combined effect of stress and corrosion. Under a stress of 95% of the tensile strength, VT14 alloy failed in 30 min and AT8 alloy failed

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ACCESSION NR: AP4049180

in 3 hr 15 min. Under a stress of 92.5% of the tensile strength, neither alloy failed after 24 hr. The surface layer formed under the effect of heat treatment increases the strength of both alloys in the aggressive medium. In tests under a stress of 95% of the tensile strength, a layer 0.105 mm thick increased the life of VT14 alloy to 1 hr 15 min, and a layer 0.11 mm thick increased the life of AT8 alloy to 22 hr. The greater strength of the AT8 alloy can be explained by its higher aluminum content. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3150

Card 2/2

LARIONOV, V.A.

Material and technical security in assembling and in special work.  
Nov. tekhn. i pered. op. v stroi. 20 no. 7:31-32 J1 '58. (MIRA 11:8)

1. Glavnyy inzh. Glavsnaba Ministroya RSFSR.  
(Building--Contracts and specifications)

LARIONOV, V.A.

Abmadya mak' SSSR. Laboratoriya aeromagnitov  
PAGE 1 BOOK REPRODUCTION 087/9522  
507/7-8-4

Stydy, tom 6; Materialy VII Vsesoyuznogo nauchno-metodicheskogo simpoziuma po teorii i praktike 25 noyabrya - 1 dekabrya 1956 g. (Materials of the 7th All-Union Interdepartmental Conference on Aerial Surveying, 25 November-1 December 1956) Moscow, Gosgeolizdat, 1959. 300 p. 5,000 copies printed.

Ed. of Publishing House: V. G. Filobov; Tech. Ed.: O. A. Gureva; Editorial Commission: N. G. Kall', Corresponding Member, Academy of Sciences USSR; A. A. Logachev, V. P. Mironov (resp. Ed.), and N. E. Bobolov.

PURPOSE: This publication is intended for photogrammetrists, geologists, surveyors, and other scientific and technical personnel concerned with aerial photography.

CONTENTS: This issue of the Transactions of the Laboratory of Aerial Survey Methods contains the second part of materials presented at the 7th All-Union Interdepartmental Conference on Aerial Surveying which took place in Leningrad, November 25 through December 1, 1956. Articles treat problems dealing with the execution and application of aerial survey methods in geological, geomorphological, and geophysical investigations. Special attention is directed to aerial survey methods in geological and geomorphological mapping and geophysical work under different conditions. The techniques of joint airborne magnetic prospecting and aerial photography are described. Reference accompany individual articles.

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Protas'yeva, I. V. [Institut matematicheskogo issled V. A. Obrucheva - Institute of Pure and Applied Mathematics named V. A. Obrucheva - Institute of Geodesy and Photogrammetry, Academy of Sciences USSR]. Application of Aerial-Survey Methods to the Study of Relief Forms in the Arava of Permanently Frozen Formations 190

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Prokhorov, M. V., and A. A. Iegorovskiy [Central'nyy nauchno-issledovatel'skiy geomezurovaniy institut - Central Scientific Research Institute for Geodesy, Surveying, and Precious Metals Prospecting]. Application of Aerial-Survey Methods to Prospecting and Exploring Alluvial Mineral Deposits 216

Logachev, A. A. [Leningradskiy gornyy institut - Leningrad Institute of Mining, Aerogeological Methods and Their Application to Geological Surveying, Prospecting Schemes]. Ways of Increasing the Efficiency of Such Methods 229

Larionov, V. A., and G. P. Kuznetsov [All-Union Trust for Aerial Geological Surveying]. Results of Applying Aeromagnetic Survey Data to Geological Mapping of the USSR 236

Mironov, V. G. [Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki - All-Union Scientific Research Institute of Geophysical Prospecting Methods]. The State of Aerial Magnetic (Magnetostratigic) Prospecting in the USSR and USSR 236

Smirnov, G. S. [Ministerstvo geologii i khimii nefte i gazov - Ministry of Geology and Minerals Conservation of the USSR]. Fundamental Principles of the Theory and Methodology of Aerial Radiometric Surveying and Prospecting 236

LARIONOV, V.A.

Vertical magnetic logging method. Geol. i geofiz. no.1:107-114  
'60. (MIRA 13:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.  
(Magnetic prospecting)

LARIONOV, V.A.

Calculation of the magnetic field in the vertical plane for certain simple bodies. Trudy Inst.geol. i geofiz. Sib.otd. AN SSSR no.1:95-114 '60. (MIRA 15:2)  
(Siberia, Western—Magnetic prospecting)

LARIONOV, V. A.

Cand Geol-Min Sci - (diss) "Study of the spatial distribution of magnetic field in surveys and explorations for iron-ore deposits." Novosibirsk, 1961. 19 pp; (Academy of Sciences USSR, Siberian Division, of the Joint Academic Council for Geology-Mineralogy, Geophysics, and Geography); 150 copies; price not given; list of author's works on pp 18-19 (10 entries); (KL, 5-61 sup, 180)



LARIONOV, V.A.

Field determination of residual and induced magnetization ratio.  
Geol. i' geofiz. no.4:107-109 '61. (MIRA 14:5)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,  
Novosibirsk.

(Magnetism, Terrestrial)

LARIONOV, V.A.

Use of specific points in anomalous profiles  $Z_a$  for interpreting vertical measurements of the magnetic field. Geol. i geofiz. no. 7: 96-98 '61. (MIRA 14:9)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Magnetism, Terrestrial)

LARIONOV, V.A.

Charts of theoretical curves for the interpretation of magnetic  
field measurements at different heights. Trudy Inst. geol. i  
geofiz. Sib. otd. AN SSSR no.11:99-108 '61. (MIRA 15:2)  
(Magnetic prospecting)

S/169/62/000/007/062/149  
D228/D307

AUTHOR: Larionov, V. A.

TITLE: Problem of dividing magnetic anomalies into ore and barren ones when seeking and exploring iron ore deposits of the Gornoshorskikh type (Discourse theses)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 30, abstract 7A196 (V sb. Sostoyaniye i perspektivy razvitiya geofiz. metodov poiskov i razvedki polezn. iskopayemykh, M., Gostoptekhizdat, 1961, 526-527)

TEXT: It was established that the ore complexes of Gornaya Shoriya possess simultaneously heightened magnetic and density properties, the magnetic ores being characterized by the maximum values of the parameters indicated. The execution of vertical plane surveying acquires great significance for determining the positions of the disturbing bodies, with the aim of establishing their ore content. For this case the author developed methods for determining the depth and shape of anomalous masses. / Abstracter's note: Complete translation. /  
Card 1/1