

S/076/60/034/010/006/022
B015/B064

AUTHORS: Rabinovich, I. B., Lobashov, A. A., and Kucheryavy, V. I.

TITLE: The Negative ¹⁹Isotopic Effect in the Viscosity of the Deuterium Compounds

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 10, pp. 2202-2204

TEXT: An exchange of hydrogen by deuterium leads, in the case of non-associated liquids, to a change of the molecular weight and the energy of the intermolecular interaction. An increase of the two last-mentioned values leads to an increase of the viscosity of the liquid. Rabinovich et al, showed that in the range of medium temperatures, an increase in the molecular weight in the substitution of hydrogen by deuterium is accompanied by a reduction of the intermolecular dispersion energy (Refs 2-4), i.e., that an increase, but also a decrease in viscosity may occur due to the isotopic exchange in dependence on the fact whether the increase in molecular weight, or the change of energy of the inter-

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The Negative Isotopic Effect in the Viscosity
of the Deuterium Compounds

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molecular interaction has a greater effect upon the viscosity. The investigations hitherto conducted (Ref. 5) always led to an increase in viscosity in the isotopic exchange. The present paper shows that isotopic exchange may also bring about a decrease in viscosity. In chloroform and tetrabromo methane the hydrogen was exchanged for deuterium and an increase in viscosity was found, i.e., in contrast to the cases hitherto investigated a negative isotopic effect was observed. The decrease in viscosity amounted to approximately 1% in both substances, which is five times the error of measurement, and may thus be regarded as a reliable result. Thus, it was clearly proven by experiment that an increase in molecular weight due to the exchange of a light isotope for a heavy one may affect an increase, but also a decrease in viscosity. Finally, the author thanks A. I. Brodskiy, Corresponding Member of the AS USSR and Professor A. Z. Golik for discussing the results. There are 2 tables and 8 references: 7 Soviet and 1 US.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo
(Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: December 6, 1958

Card 2/2

LOBASHOV, K.A.; ALANOVA, T.G.; SOKOLOV, V.P.; KAZAMATKIN, Ye.P.;
LITVINOV, N.R.; MEYMAN, S.B.; GORBYLEVA, N.V.

New methods for the deactivation of waste slurries from organic
synthesis industries. Zhur. VKHO 6 no.2:173-180 '61. (MIRA 14:3)

(Sewage disposal) (Chemistry, Organic—Synthesis)

SOKOLOV, V.P.; LOBASHOV, K.A.

Determination of 1,2-dichloroethane in waste waters. Zav. lab.
28 no.3:285-287 1968. (MIRA 15:4)
(Ethane) (Sewage--Analysis)

LOBASHOV, K.A.

Sorption purification of the atmospheric air by removing organic impurities. Khim. prom. 40 no.12:902-906 D '64. (MIRA 18:2)

LOBASHOV, K.A.

Equipment for sorption purification of atmospheric air from
organic impurities. Khim. prom. 41 no.1:54-57 Ja '65.
(MIRA 18:3)

ACC NR: AP6023129

SOURCE CODE: UR/0004/04/000/012/0902/0906

AUTHOR: Lobashov, K. A.

ORG: none

TITLE: Sorptive purification of atmospheric air from organic contaminants

SOURCE: Khimicheskaya promyshlennost', no. 12, 1964, 902-906

TOPIC TAGS: chemical explosion, safety engineering, alkeno, alkano, sorption

ABSTRACT: The reason for frequent explosions in air separation units is contamination of atmospheric air in industrial areas by organic compounds (by acetylene and other alkenes, alkanes, etc.), and also contamination of air by products entering the atmosphere upon compression in piston machines (lubricating oil, oil cracking products, etc.). A method of protecting separatory units has been developed which is based on reversible sorption of all harmful contaminants of air at low temperature in the gaseous stage, tested on the air separatory apparatus KGN-30 and VAT-100. The industrial tests have shown that this method assures reliable quantitative purification of air of contaminants, is of high efficiency, and of simple equipment design. The dynamic activity of the sorbent (a) is a function of temperature (T) and pressure (P), concentration

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ACC NR: AP6023129

of sorbed substance in the air (b), and the bulk air velocity (W),

$$a = f(1/T, P, b, W, n_1, n_2)$$

where n_1 = relative dynamic activity of sorbent; /

n_2 = geometrical characteristics of absorber. From derivation of equations it follows that the optimal temperature for sorption is the lowest (from -100 to -170°C), at which air and all contaminating components are in the gaseous phase. We have established the existence of two stages of oxidation differing in velocity. At the stage occurring at highest velocity absorbed acetylene reacts with oxygen on the surface of the sorbent. As the absorbed oxygen is consumed, the process is attenuated. Under the action of heat released in this stage, desorption of acetylene takes place, which enters into reaction with gaseous-phase oxygen at the interface. The lower rate of the process at this stage is governed by the rate of oxygen diffusion from the gaseous phase through a gas film rich in nitrogen and reaction products (CO₂, H₂O). This accounts for the attenuation of the oxidation rate at this stage. Thus, oxidative processes can develop in the absorber only under conditions of local heating of the sorbent to a high temperature and the absence of heat losses. N. I. Gol'perin participated in the work. Orig. art. has: 8 figures, 5 formulas, and 1 table. [JPRS]

SUB CODE: 13.07 / SUBM DATE: none / ORIG REF: 018 / OTH REF: 003

Card 2/2

GUBANOV, M.; YENENKO, B.; BASHKOV, M.; LOBASOV, M.

Coal and technological progress; our interviews. Sov.shakht.
11 no.2:21-23 F '62. (MIRA 15:1)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta
Gidrougol' (for Gubanov).
2. Direktor Instituta avtomatiki
Luganskoy oblasti (for Yenenko).
3. Direktor Luganskogo
filiala instituta Giprougleavtomatizatsiya (for Bashkov).
4. Direktor Luganskogo filiala Dongiprouglemasha. (for
Lobasov).

(Lugansk Province--Coal mines and mining)

L 4550-66 ENT(d)/T/ENP(1) IJP(c) BB/GG

ACC NR: AP5026719

SOURCE CODE: UR/0141/65/008/005/1030/1035

AUTHOR: Breydo, M. D.; Lobashov, N. I.

ORG: Scientific Research Physicotechnical Institute at Gorky University
(Nauchno-issledovatel'skiy fiziko-tehnicheskiy institut pri Gor'kovskom universi-
tete)

TITLE: Digital computer experiments on the classification of visual images by
the generalized pattern method

SOURCE: IVUZ. Radiofizika, v. 8, no. 5, 1965, 1030-1035

TOPIC TAGS: algorithm, computer coding, computer programming, character recogni-
tion 16c, 44

44.5 ABSTRACT: The article describes the results of an investigation of a recognition
algorithm discussed in another paper (M. D. Breydo, Izv. vyssh. uch. zav.--Radio-
fizika v. 8, 1036, 1965), based on the compactness hypothesis (E. M. Braverman,
Avtomatika i telemekhanika v. 23, 349, 1962). The experimental material used are
handwritten Arabic numbers and letters of the cyrillic alphabet. Each letter is
projected on a grid with 10 x 6 = 60 cells and is suitably coded. The major task
of the computer was to establish a generalized pattern for a given letter after

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being fed a certain number (18) of different images of this letter. This generalized pattern was to serve as a means of determining whether some other image represents this letter or not. An accuracy of up to 91.9% is claimed for the recognition of some characters, although the computer was not successful in distinguishing between letters with very similar outlines. The coding and programming are briefly discussed. Orig. art. has: 3 figures and 2 tables. -- [02]

SUB CODE: DP/ SUBM DATE: 01Feb65/ ORIG REF: 004/ ATD PRESS: 4136

Card 2/2

LOBASOV, M.I., inzh.; PASECHNIK, I.Ye., inzh.

Mechanical OM shale dust spreader. Ugol' Ukr. 3 no.4:37-38
Ap '59. (MIRA 12:7)
|
(Coal mines and mining--Equipment and supplies)
(Mine dusts)

LOBASHEV, V.M.; NAZARENKO, V.A.; RUSINOV, L.I.

Polarization β - γ -correlation in β -decay of Co^{60} . Zhur. eksp. i
teor. fiz. 37 no.6:1810-1811 D '59. (MIRA 14:10)

1. Leningradskiy fiziko-tekhnicheskii institut AN SSSR.
(Cobalt--Decay) (Beta rays)

LOBASHOV, V.M.; NAZARENKO, V.A.

Studying the decay of Pr^{144} by the $\beta\beta$ -correlation method.
Zhur. eksp. i teor. fiz. 41 no.5:1433-1437 N '61. (MIRA 14:12)

1. Leningradskiy fiziko-tekhnicheskii institut AN SSSR.
(Praseodymium—Decay)
(Quantum theory)

34635

S/056/62/042/002/008,
B:Gz/B:38

26.2541

AUTHORS: Lobashov, V. M., Nazarenko, V. A.

TITLE: Investigation of the dependence of $\beta\gamma$ correlation on the electron velocity in the β decay of Cc^{60} and Au^{198}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, '962, 358 - 363

TEXT: The dependence of the $\beta\gamma$ correlation coefficient of circularly polarized gamma quanta on the electron v/c value was measured with Cc^{60} and

Au^{198} gamma quanta. The purpose was to find out whether it is dependent on v/c (Page et al. (Phys. Rev. 112, 893, 1958) have found that it is not), whether it is $\sim v/c$ as found by P. Ye. Spivak et al. (ZhETF 37, 1168, 1959), or $\sim -v/3c$ (e.g. Phys. Rev. 106, 1364, 1957; 109, 2211, 1958) or if it deviates from v/c by an energy-dependent amount (A. I. Alikhanov, G. P. Yeliseyev, V. A. Lyubimov (ZhETF, 39, 587, 1960) found a 20% deviation in the 145 keV range). An arrangement (Fig. 1) with carefully shielded photomultipliers was used; the pulses from these multipliers were fed into a fast-slow coincidence circuit with a time resolution of $6 \cdot 10^{-9}$ sec. As the Card 1/3 ✓

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Investigation of the dependence...

count rate of the β -channel was $(4.5) \cdot 10^5$ pulses/sec, this circuit operated with the pulse-selection method using a 5-channel pulse-height analyzer.

The Co^{60} source was prepared by electrolytic precipitation onto a $1.5 \mu\text{m}^2$ Al base with $10 \mu\text{g}/\text{cm}^2$ copper on top. Activity was $250 \mu\text{curies}$. The coefficient was calculated from $\Delta = 2(I_1 - I_2)/(I_1 + I_2)$, $I_{1,2} = R_{\text{count}}/R_{\text{cp}}$.

the R are count rates, Q_{β} is the correction for the influence of magnetic field on the β -channel and is less than 0.03%. Due to multiple-scattering effects, it was found that for $E < 50\text{keV}$ the function Δ_{exp}/E is somewhat steeper than the straight line $-2/5E$. For Au^{198} ($\sim 100 \mu\text{g}/\text{cm}^2$ on Al, $100 - 500 \mu\text{A}$) the values measured fit the straight line $(0.47 \pm 0.03)\nu^{-1}$ which confirms the data obtained by R. M. Steffen and agrees with the

assumption that the Au^{198} β -decay is a Coulomb transition. V. V. Andriyukovich, V. B. Belyakov, G. D. Chuklina and L. F. Sayenko are thank for assistance. There are 5 figures and 18 references: 5 Soviet and 13 non-Soviet. The four most recent references to English-language publications read as follows: R. M. Steffen Phys. Rev. 118, 165, 1960; H. Appel et al. Phys. Rev., 109, 1211, 1958; R. M. Steffen, Phys. Rev. 111, 260, 1958; M. Gard 4/3

Investigation of the dependence...

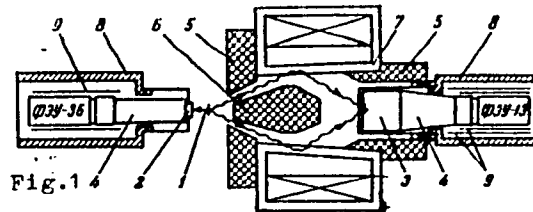
S/056/62/042/002/008/05;
B102/B138

Morita. Nucl. Phys. 14, 106, 1959.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk
SSSR (Leningrad Physicotechnical Institute of the Academy of
Sciences, USSR)

SUBMITTED: July 21, 1961

Legend to Fig. 1: (1) Source, (2) stilbene crystal, (3) NaI(Tl) crystal,
(4) light pipe, (5) lead collimator, (6) lead shield, (7) dispersing magnet,
(8) jacket of Armco iron, (9) Permalloy jacket.



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S/056/62/042/002/010/055
B102/B138

AUTHORS: Lobashov, V. M., Nazarenko, V. A.
TITLE: $\beta\gamma$ -correlation in Mn^{56} and F^{20} β -decays
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42
no. 2, 1962, 370-374

TEXT: From the well-known $Mn^{56} \rightarrow Fe^{56}$ decay the β -transition with limiting spectrum energy of 2.86 Mev was studied in detail. This transition takes place to the first excited level of Fe^{56} which goes over to the ground state with emission of an 845-keV gamma quantum. ($3^+ \xrightarrow{\beta} 2^+ \xrightarrow{\gamma} 0^+$; $\log ft = 7.2$). The angular correlation of this (allowed) transition was measured with an apparatus similar to that described by Steffen (see below). The source was obtained by irradiating $Mn^{55}F_2$, on an Al backing, with $\sim 10^{13}$ neutrons/cm²sec⁻¹. The β -electrons were detected with a stilbene crystal and an $\Phi\Phi\Phi$ -36 (FEU-36) photomultiplier, the gamma quanta with an NaI(Tl) crystal and an $\Phi\Phi\Phi$ -13 (FEU-13) multiplier. Both multipliers had Armco and Permalloy housings. The NaI(Tl) crystal was lead-shielded,
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$\beta\gamma$ -correlation in Mn⁵⁶ and ...

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against scattered gamma rays. The multipliers were connected in a fast-slow coincidence circuit with a time resolution of $6 \cdot 10^{-9}$ sec, the random coincidence background was 3-6%. An anisotropy of the angular $\gamma\beta$ correlation was observed, $W(\theta) = 1 + A_2 \cos^2 \theta$, the anisotropy factor was

$A_2 = +(0.022 \pm 0.003)$; θ is the angle between β -electron and gamma quantum momenta. Inner bremsstrahlung and multiple scattering are neglected, the correction for asymmetry due to $\gamma\gamma$ -coincidences was $\sim 0.2\%$. The correlation between β -electron emission and circular polarization of the gamma quantum was determined for the same β -decay component. The correlation factor for the Gamow-Teller transition was found to be $\sim -v/3c$ for this sequence of spin levels, the numerical value was $-(0.80 \pm 0.06)v/3c$. The angular anisotropy and the anomalous magnitude of the polarization correlation can be explained from estimates of the second forbidden matrix elements. Measurements were also made of the polarization $\gamma\beta$ correlation in the

F^{20} β -decay. For the F^{20} ground state, spin and parity were found to be 2^+ .

the correlation factor was calculated as $-0.12^{+0.21}_{-0.10}$, its measured value was 0.14 ± 0.07 . Professor D. M. Kaminker is thanked for interest. V. V.

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$\beta\gamma$ -correlation in Mn⁵⁶ and ...

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Andryukevich, G. D. Chuklin and V. B. Belyakov, N. V. Timofeyev and V. I. L'vova for help. There are 1 table and 15 references: 2 Soviet and 13 non-Soviet. The four most recent references to English-language publications read as follows: R. M. Steffen. Phys. Rev. Lett., 3, 277, 1959. J. H. Hamilton, B. G. Petterson. Bull. Am. Phys. Soc., 5, 9, 1959. M. Morita. Nucl. Phys., 14, 106, 1959. P. Dagley, M. A. Grace, J. M. Gregory, J. S. Hill. Proc. Roy. Soc., 250, 550, 1959.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences, USSR) ✓

SUBMITTED: August 8, 1961 (initially), February 5, 1962 (after revision)

Card 3/3

LOBASHOV, V.M.; NAZARENKO, V.A.; SAYENKO, L.F.

Determining the spin of Eu^{152m} . Zhur. eksp. i teor. fiz.
43 no.5:1579-1581 N '62. (MIRA 15:12)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR.
(Nuclear spin)
(Europium)

..., D. M.; LOBASHOV, V. M.; NAZARENKO, V. A.; SAYENKO, L. F.; KHARKEVICH, G. I.;
..., A. I.

"Relative Measurements of the Longitudinal Polarization of Electrons in Beta
Decay of P^{32} and Zn^{114} , Ho^{156} and Re^{186} ."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

FTI (Physico Technical Inst)

L 16097-65 EWT(m) DIAAP/ESD(c)/ESD(gs)/ESD(t)/SSD/AFWL/ASD(a)-5/RAEM(a)
ACCESSION NR: AP5000311 S/0056/64/047/005/1668/1670

AUTHORS: Kaminker, D. M.; Lobashov, V. M.; Nazarenko, V. A.;
Sayenko, L. F.; Kharkevich, G. I.; Yegorov, A. I.

TITLE: Relative measurement of the longitudinal polarization of
electrons in Beta decay 19

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,
no. 5, 1964, 1668-1670

TOPIC TAGS: beta decay, electron polarization, electron energy,
circular polarization, bremsstrahlung, nuclear structure

ABSTRACT: To check on the hypothesis advanced to explain some
anomalies in the longitudinal polarization of electrons, namely
that the internal structure of the nucleus gives rise to higher-
order corrections, the authors attempted to ascertain the dependence
of these anomalies on the electron energy. To this end, relative

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ACCESSION NR: AP5000311

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measurements of the longitudinal polarization of electrons were measured in β decay of P^{32} , In^{114} , Pr^{142} , Ho^{166} , and Re^{188} at energy $E\beta \approx 1250$ keV. The experiments consisted of measuring the circular polarization of the bremsstrahlung produced by deceleration of the β electrons in a lead target, using the setup shown in Fig. 1 of the enclosure. The circular polarization of the bremsstrahlung γ quanta of the β electrons of In^{114} , Pr^{142} , Ho^{166} , and Re^{188} was compared with the circular polarization of the bremsstrahlung γ quanta of P^{32} β electrons. The electron energy was determined with the aid of a magnetic lens spectrometer. The values obtained for the longitudinal polarization relative to that of P^{32} were 0.960 ± 0.0015 , 0.934 ± 0.015 , 0.942 ± 0.015 , and 1.005 ± 0.016 for In^{114} , Pr^{142} , Ho^{166} , and Re^{188} respectively. The observed increase in the deviation of the longitudinal polarization of the electrons from $-v/c$ with decreasing total energy of the electrons (in almost linear fashion) does not contradict the hypothesis of the influence of internal structure of the nucleus. The observed deviations in the

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longitudinal polarization do not correlate with available data on the form of the β spectra of the corresponding transitions. "The authors thank V. A. Knyaz'kov, V. B. Belyakov, V. P. Lapin, and G. D. Chuklin for help in preparing the apparatus and measurements, and also A. N. Timokhin for participating in preparation of the P^{32} and In^{114} sources." Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 23May64

ENCL: 01

SUB CODE: NP

NR REF SOV: 004

OTHER: 002

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L 16096-65
ACCESSION NR: AP5000311

ENCLOSURE: 01

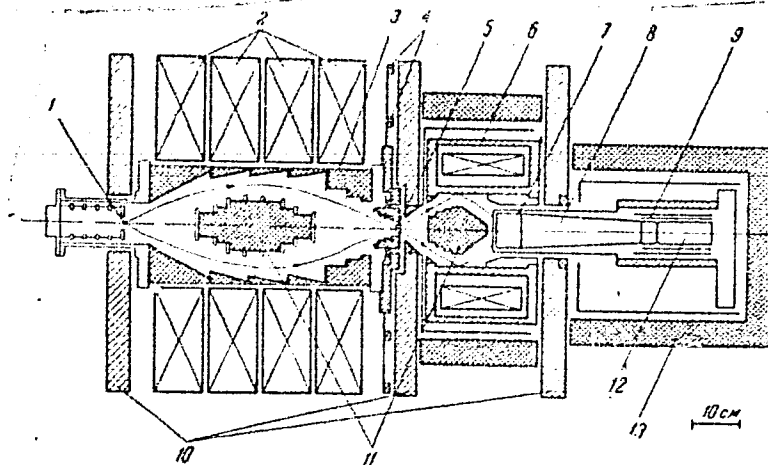


Fig. 1. Schematic diagram of installation. 1 - Source, 2 - magnetic-spectrometer coil, 3 - vacuum chamber, 4 - compensation coils, 5 - lead target, 6 - gamma polarimeter, 7 - NaI(Tl) crystal, 8 - light pipe, 9 - permalloy screens, 10 - Armco screens, 11 - lead screens, 12 - photomultiplier, 13 - lead shield
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LOBASHOV, V.M.; NAZARENKO, V.A.; KHARKEVICH, G.I.

The $\beta\delta$ -polarization correlation in the β -decay of Pr^{144} and
Eu^{152m}. Izd. fiz. 2 no.5:777-782 N '65. (MIRA 18:12)

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

LOBASHOV, V.M.

Feasibility of studying weak nucleon-nucleon interaction.
IAd. fiz. 2 no.5:957-959 N '65.

(MIRA 18:12)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR.

LOBASOV, M. P. inzhener.

Cutter-loader for separate digging of coal and rock. Mast. ugl. 3
no. 1:12-13 Ja '54. (MLRA 7:1)

(Coal-mining machinery)

LOBASOV, M. inzhener; MINKO-RATEVICH, Yu. inzhener

Improved construction of the "Gorniak" cutter-loader. Mast. ugl.
3 no.12:11-13 D '54. (MLRA 8:6)

(Coal mining machinery)

LOBASOV, M.P.

LOBASOV, M.P., gornyy inzhener; MINKO-RAYEVICH, Yu.S., inzhener.

Problems of automatization of mine ventilation doors. Ugol' 29
no.3:7-9 Mr '54. (MLRA 7:3)

1. Donetskij filial Giprouglemasha. (Mine ventilation)

LOBASOV, M., inzhener.

Suspended transfer conveyor belt. Mast. ugl. 5 no.2:23-24
F 156. (Conveying machinery) (MIRA 9:6)

LOBASOV, M., inzhener; MINKO-BAYEVICH, Yu., inzhener.

Conveyer belt for curvilinear workings. Mast. ugl. 5 no. 12:18-19 D
'56. (MLRA 10:2)
(Conveying machinery)

LOBASOV, M., inzhener.; MINKO-RAYEVICH, Yu., inzhener.

Traveling saw in the longwall. Mast. ugl. 6 no.1:21 Ja '57.
(MIRA 10:4)

(Donets Basin--Saws)

LOBASOV, M., inzhener; MINKO-RAYYEVICH, Yu., inzhener.

Drifting with wide passages. Mast.ugl.6 no.2:10-12 F '57.
(MIRA 10:4)

(Coal mining machinery)

LOBASOV, M.

LOBASOV, M., inzh.; MINKO-RAYYEVICH, Yu., inzh.

Enameled chutes. Mast, ugl. 6 no.12:17-18 D '57.
(Coal mining machinery)

(MIRA 11:1)

LOBASOV, M.

Coal plqw, Nauka i zhyttia 12 no.1:14 Ja '63.

(MIRA 16:3)

1. Direktor Luganskogo filiala instituta "Dondiprovuglemash".
(Donets Basin—Coal mining machinery)

LOBASOV, M.P., inzh.; VENGER, F.I., inzh.

New rock-dust distributing machines. Bezop.truda v prom. 4 no.12:
23-24 D '60. (MIRA 14:1)

1. Luganskiy filial Dongiprougleshaha.
(Coal mining machinery)

LOBASOV, M.P.

Increase in every possible way the output of large-size coal.
Ugol' Ukr. no.6:5-7 Je '60. (MIRA 13:7)

1. Nachal'nik Luganskoy gruppy Dongiprougleshasha.
(Lugansk Province--Coal mines and mining)

LOBASOV, M.P.

The USB1 high-speed shaving unit. *Biul.tekh.-ekon.inform.* no.9:
18-20 '61. (MIRA 14:9)

(Coal-mining machinery)

LOBASOV, M.P., inzh.

Laboratory studies of vitreous enamel coatings of mine chutes.
Vop. rud. transp. no.5:124-130 '61. (MIRA 16:7)

1. Dongiprouglesh.
(Enamels and enameling) (Mine haulage)

RECHENUNG, Geringe Zahl der ...
KICHERN ...
KATRICH ...

[H. ...]
...
WIRA ...

ROZENBLAT, Grigoriy Borisovich; PODPRUZHNIKOV, Vasiliy Ivanovich;
KICHKIN, Viktor Vasil'yevich; LOBASOV, Mikhail Petrovich;
KATRICH, Aleksandr Nikolayevich; ZAVOZIN, L.F., ved. red.

[The USB-2m high-speed plow] Bystrokhodnaia strugovaia ustanovka USB-2m. Moskva, Nedra, 1965. 136 p. (MIRA 18:8)

LOBASOV, N.D., kand. tekhn. nauk

Method of building profile earth structures. Mats. i izobr. predl.
stroit. no. 7:31-32 '58.

(Inss)

(MIRA 11:12)

LOBASOV, P. D.

LOBASOV, P. D. - Kand. tekhn. nauk Leningradskoye otdeleniye Vsesoyuznogo nauch-no-issledovatel'skogo instituta Ministerstva stroitel'stva predpriyatiy mashinostroyeniya.

Stroitel'stvo na namytykh gruntakh. Page 82

SO: Collection of Annotations of Scientific Research Work on Construction, completed in 1950.
Moscow, 1951

LOBASOV, P. D.

"The washing-off of small fractions during the dredging operation of the soil,"
Construction, 1952.

LORASOV, P. D.

"Experience in the Use of Dense Structural Clays for Erection of Earthen Structures"

Sb. Tr. Vses. N.-i. in-ta gidrotekhn. i San. -tekhn. rabot, No 4, 5-27, 1953

The author suggests the possibility of using dense structural clays for building earthen structures by pouring clods and various blocks of clays into construction forms to be used as building blocks. (RZhGeol, No 3, 1954)

SO: W-31187, 8 Mar 55

LOBASOV, P.D., kandidat tekhnicheskikh nauk.

Using compact structural clays for erecting earth dams of various
cross sections. Sbor. trud. VNIIGS no.4:5-27 '54. (MLRA 9:2)
(Dams) (Earth pressure)

LOBASOV, P.D., kandidat tekhnicheskikh nauk.

Physical and mechanical properties of alluvial soils. Sbor.trud.
VNIIGS no.4 80-103 '54. (MLRA 9:2)
(Soil mechanics)

SAVINOV, Oleg Aleksandrovich; LOBASOV, P.D., kandidat tekhnicheskikh nauk,
redaktor; KAPLAN, M.Ya., ~~redaktor~~ PUL'KINA, Ye.A., tekhnicheskiy
redaktor.

[Foundation for machinery; principles of planning] Fundamenty pod
mashiny; osnovy proektirovaniia. Leningrad, Gos.isd-vo lit-ry po
stroit. i arkhitekture, 1955. 291 p. (MIRA 8:5)
(Foundations) (Machinery)

LEVASHOV, P. D., RAIZENBERG, V. A., CHERNOZHUKOV, N. N., et al., et al.,
Leningrad Section of the Institute of Hydroelectric Design,
USSR

"The Building of Earth Structures by Dumping of Clayey Soils into Water," a paper submitted at the 4th International Conference of the International Society of Soil Mechanics and Foundation Engineering, London, 12-24 Aug 57.

L. BASOV, P. D.

SOV/98-59-7-21/22

Rosinor, J.F., Chairman
Conference on Scientific Research in the Field of
Hydromechanics
Gidrotkhnicheskoye stroitel'stvo, 1959, Nr 7, PP
62-65 (USSR)

10(4)
AUTHOR:
TITLE:
PERIODICAL:
ABSTRACT:

The article is a chronicle of the above-named conference, which was held in Moscow from April 15-17, 1959, on the initiative of the coordinatory commission for the organization in the Council for Hydromechanics of the Academy of Sciences of the USSR. The All-Union MSES Hydromechanization Trust, the Mining Institute of the Academy of Sciences of the USSR and the Moscow oblast board of the technological Department of the construction industry also participated in the organization of 400 representatives of 149 organizations, including the Offices of State Construction of institutes of the Academy of Sciences of the USSR and the union republics, the Academies of Agricultural Science and the GIKH of the union republics, and official scientific and research institutes. The conference was opened by Academician A.M. Teplov, and at the plenary session papers were read by the following: Prof. A.P. Yudin, Doctor of Technical Sciences; M.G. State of Scientific Research Work in the Field of Hydromechanization; Engineer V.A. Kiselev, Doctor of Scientific Organizations; the Chief Engineer and Researcher in the Field of Equipment for Hydromechanization; Engineer S.B. Poga, Chief of the Department of Earth Works; Prof. G.A. Murak, Doctor of Technical Sciences; The Present State of and the Outlook for the Development of the Hydromechanization of Opencast Coalmines; Engineer E.M. Shumilov, Chief of the Department of Hydromechanization in the Metallic Mineral Industry. The remainder of the conference was divided into 3 sessions: on technology of equipment and transport. At the session following with technology papers were read by the following: Prof. E.Y. Rylov, Doctor of Technical Sciences; V.I. Kuznetsov, Chief of the Planning of Alluvial Dams; V.I. Kuznetsov, Candidate of Technical Sciences (Insti- tute of Mechanics of the Academy of Sciences of the USSR); Peculiar Features of the Dilution and Compression of Sand Foundations; V.P. Kobzarev, Candidate of Technical Sciences (VNIIC); Economic Alluvial Construction; V.A. Kalachyov, Candidate of Technical Sciences (S.S. Vedeneyev) and Candidate of Technical Sciences of the USSR); The Mechanics of the Accretion of Sand Foundations of the Construction of Earth Dams; V.P. Kolbasnikov, Chief of Research on Alluvial Construction by Means of Cohesive Foundations; M.P. Puzhinov, Candidate of Technical Sciences; The Hydraulic Construction of Earthworks by Means of Loose Foundations; R.A. Yudin (V.V. Kuryshov, M.I.S.I.); The Alluvial Construction of the Sary-Iazyk dam on the Murgab River by Means of Fine-Grained Sand; L.A. Rudnev, Candidate of Technical Sciences (A.S. Kozlov); The Transition into the Morphological Equilibrium of Sand Foundations; Engineer A.I. Shumilov (S.I.O.I.S.F.) and Chief Engineer (V.I. Rylov) for the Determination of the Degree of Inclination of Earth Foundations; Method of Calculating the Thawing Rate of Frozen Foundations on the Upper Slope of Sand Dams when Constructed in Winter; D.I. Melnik, Candidate of Technical Sciences (VNIIC); and Engineer E.M. Shumilov (GIKH of the Moldavian SSR); Problems of Planning Rivers without the Use of Dams.

Card 1/6

Card 2/6

Card 3/6

ZORIN, Aleksandr Stepanovich; LOBASOV, P.D., kand.tekhn.nauk, nauchnyy
red.. Prinsipal uchastiy KATS, K.V.. KAPLAN, M.Ya., red.izd-va;
PUL'KINA, Ye.A., tekhn.red.

[Designing tailings disposal departments of dressing plants; a
handbook] Proektirovanie khvostovogo khoziaistva obogatitel'nykh
fabrik; spravochnoe posobie. Moskva, Gos.izd-vo lit-ry po stroit.,
arkhit. i stroit.materialam, 1960. 115 p. (MIRA 13:3)
(Hydraulic engineering)

LOBASHOV, V.M.; NAZARENKO, V.A.; RUSINOV, L.I. [deceased]

β -polarization correlation in β -decay of Sc⁴⁶. Zhur. (MIRA 14:6)
eksp. i teor. fiz. 40 no.1:10-12 Ja '61.

1. Leningradskiy fiziko-tekhnicheskij institut AN SSSR.
(Scandium--Decay) (Beta rays)

L. P. ...

PHASE I BOOK EXPLOITATION SOV/5698

Akademiya nauk SSSR. Energeticheskiy institut.

Fizicheskaya gazodinamika i teploobmen (Physical Gas Dynamics and Heat Exchange) Moscow, 1961. 112 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Energeticheskiy institut im. G. M. Krzhizhanovskogo.

Resp. Ed.: A. S. Predvoditelev, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: S. L. Orpik; Tech. Ed.: S. P. Golub'.

PURPOSE : This book is intended for engineers and scientific workers interested in supersonic flow of gases, aerodynamic heat phenomena, and the dissociation of gases.

COVERAGE: This collection consists of 15 papers written at the Laboratoriya fiziki gorennya Energeticheskogo instituta Akademii

Card 1/5

Physical Gas Dynamics and (Cont.)

SOV/5698

nauk SSSR (Laboratory of Combustion Physics of the Power Institute of the Academy of Science USSR) on investigations on the physics of gas dynamics and phenomena of heat exchange in supersonic flows. In the field of physical gas dynamics motions of the medium with possible transformations of the substance, not excluding such processes as the thermal ionization of molecules and atoms, are discussed. No personalities are mentioned. References follow most of the articles.

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Bazhenova, T. V. Variations of the Gas Flow Velocity Behind a Shock in a Shock Tube		31
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Physical Gas Dynamics and (Cont.)

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- Morozov, M. G., V. M. Yeroshenko, and Yu. N. Petrov. Flow in Stagnation Areas on the Surface of Bodies in a Supersonic Flow of Air 60
- Yeroshenko, V. M. Heat Exchange on a Porous Plate in a Supersonic Flow With a Supply of Gases of Various Physical Properties [Passing] Through the Porous Body 66
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- Petrov, Yu. N. Heat Insulated Plate in a Longitudinal Supersonic Flow With the Presence of a Boundary Layer of Gas 81
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Physical Gas Dynamics and (Cont.)

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With Local Supply of Refrigerant in a Longitudinal Supersonic Flow

89

Motulevich, V. P., V. M. Yeroshenko, and Yu. N. Petrov. Effect of Electrostatic Fields on Convective Heat Transfer

94

Motulevich, V. P., and G. P. Malyshev. Effect of Dissociation on Heat Exchange and Friction in a Plate in a Flow of Air

104

AVAILABLE: Library of Congress

Card 5/5

AC/rn/jw
11-6-61

DEYNEGA, Yu.F. [Deineha, Yu.F.]; LOBASTOVA, A.V.

Effect of temperature on the dielectric properties of plastic lubricants. Dop. AN URSR no.9:1212-1215 '62. (MIRA 13:4)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

LOBASTOV, A.V., inzh.

Asbestos waste as an aggregate for heat-insulating air-entrained
concrete. Stroi. mat. 9 no.4:34-36 Ap '63. (MIRA 16:5)
(Asbestos) (Air-entrained concrete)

BOGATYREV, V.I., inzh.; LOBASTOV, N.P., inzh.

Loading lumber in cars with "caps." Rech. transp. 17 no.3:35-37
Mr '58. (MIRA 11:4)

(Loading and unloading)
(Lumber--Transportation)

LOBASTOV, U.S.

- BAZHENOVA, T. V. - "Evaluation of time of relaxation of carbon dioxide dissociation according to shock tube experiments", and "Determination of the dissociated CO₂ flow condition after the normal shock on the rarefaction wave arising while flowing around a protuberant angle"
- GOLDENEERG, S. A. - "Ignition in the flow"
- KHITRIN, Lev Nikolayevich - "Diffusion effect on ignition characteristics of gas mixtures ignited by a heated surface"
- KNORRE, V. G. and KOZLOV, G. I. - "One-impulse shock tube investigation of the kinetic thermal decomposition of methane"
- KOZLOV, G. I. - "Calculation of normal rate of flame propagation of methane and some other hydrocarbons"
- LOBASTOV, U. S., and BAZHENOVA, T. V. - "Research on absorption of radio waves by air following the shock wave"
- NABOKO, I. M. - "The problem of ignition in supersonic gas flow decelerated at an obstacle"
- SALAMANDRA, G. D., and SEVASTYANOVA, I. K. - "Amplification of the shock waves during transition through the flame front", and "Formation of weak shock waves before the flame front and their role in organizing the process of explosive mixture burning in tubes"

Reports to be submitted for the 9th Intl. Symposium on Combustion, Ithaca, New York
27 Aug - 1 Sep 1962.

All affiliated with Inst. of Energetics im. G. M. Krzhizhanovskiy, Moscow.

LOBASTOV, V.A.; LOBASTOV, F.A.

Making planetables on a semirigid base. [Tredy] WIMI no. 47:
383-387 '62 (MIRA 1747)

LOBASTOV, Vasilii Dmitrievich

Central telegraph stations. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio,
1938 293 p. (50-54208)

TK538.L6

LOBASTOV, V.D., inzhener; SOLOKOVICH, D.Ya., otvetstvennyy redaktor.

[Catalog of telegraphic equipment] Katalog telegrafnoi apparatury.
Moskva, Red.-isd. otdel BTI, 1948. 102 p. (MIRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo promyshlennosti sredstv
svyazi. Byuro tekhnicheskoy informatsii.
(Telegraph--Apparatus and supplies) (Telegraph, Wireless)

LOBASTOV, Vasilii Dmitrievich.

The design and construction of telegraph equipment. Moskva, Gos. energ. izd-vo,
1949. 199 p. (52-36969).

TK5501.L6

LOBASTOV, Yu. (g. Sverdlovsk)

Wobulator. Radio no.8:49 Ag '61.
(Oscillators, Electric)

(MIRA 14:10)

PARFENOV, V.V.; LOBASTOV, Yu.P.

Magnetization processes of ferromagnetic materials in the region of strong magnetic fields. Part 3: Investigating, on single crystals, the law of magnetization approaching saturation. Fiz. met. i metalloved. 16 no.3:334-342 S '63. (MIRA 16:11)

1. Ural'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo.

L 23678-66 EWT(1)/EWT(m)/EWP(t)/EWP(k) IJP(c) JD/HW

ACC NR: AR6005237

SOURCE CODE: UR/0058/65/000/009/E133/E134

AUTHOR: Lobastov, Yu. P.

TITLE: Investigation of the ^{2/}differential susceptibility of pseudomonocrystals of silicon iron in the region of high magnetic fields B

SOURCE: Ref. zh. Fizika, Abs. 9E110⁴

REF SOURCE: Sb. Fiz. magnitn. yavleniy. Sverdlovsk, 1964, 137-145

TOPIC TAGS: silicon steel, magnetic susceptibility, single crystal, crystal defect, crystal dislocation, temperature dependence

TRANSLATION: Using samples of an alloy Fe-3%Si with (110) type structure, cut from sheet at angles, 0°, 44°, 56°, and 90° in the rolling direction, the author studied the manner in which saturation is approached. It is established that in the field range 1500--5000 oe, the course of the susceptibility curve χ is described quite well by the formula $\chi = b/H^2 + c/\sqrt{H}$. The values of the coefficient b depend on the direction, and the coefficient c is the same in all directions. The presence of the term $\sim H^{-2}$ is due to the magnetic stray fields caused by the volume inhomogeneities of the sample, and also by the dislocations. The coefficient c increases with increasing temperature T , thus indicating that the term $CH^{-1/2}$ is caused by the paraprocess and its dependence on the field is very clearly manifest in the region 77--390K. The coefficient b decreases weakly with increasing T , this being in qualitative agreement with Neel's theory. It has a maximum value for fine-grained materials. The dependence of b on the number of defects per centimeter of sample length is given. N.

Smol'kov. SUB CODE: 20

Card 1/1

L 15728-63

EPA(b)/EWT(1)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/IJP(C)/SSD

Pd-4/Pab-4/P1-4/Po-4

ACCESSION NR: AR3002667

8/0124/63/000/005/B025/B025

SOURCE: Rzh. Mekhanika, Abs. 5B123

AUTHOR: Bazhenova, T.V.; Lobastov, Yu. S. 76

TITLE: Experimental determination of the nature and concentration of easily ionized impurities according to absorption of radio waves behind a shock wave,

CITED SOURCE: Sb. Vopr. magnitn. gidrodinamiki i dinamiki plazmy. v. 2. Riga, AN LatvSSR, 1962, 371-378

TOPIC TAGS: absorption, radio wave, ionized impurity, shock wave, argon, ionization

TRANSLATION: Experiments are conducted to measure the absorption of radiowaves in argon behind the front of a shock wave which is produced in a shock tube. A comparatively low temperature range was studied, from 2000 - 4000° K, when the appearance of free electrons is linked to the presence of impurities which ionize easily. The speed of the shock wave, along which the temperature of the gas T is calculated, was measured. The attenuation of the radiowave, which interacts

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ACCESSION NR: AR3002667

the tube at 7 cm was measured. The frequency of the radiowave was 10^4 megacycles (3 cm wave length). The absorption coefficient for the radiowaves was related to the number of free electrons in 1 cm^3 of gas n_e . With respect to the absorption, (in each experiment) the electron concentration, n_e was determined,

from which there was constructed the dependence of $\ln n_e^2$ on $1/T$. The inclination of the straight line determines the ionization potential of the ionized impurities. Then, after the explanation of the nature of the impurity gas, using the Saha formula, the initial concentration of the impurities is calculated. Experiments conducted with argon under initial pressures of the order of 10 mm of mercury and shock wave velocities of 3 to 5 km/sec. The absorption of radiowaves was measured only in the reflected shock wave, where the temperature was 2000-4000° K (the argon is very weakly ionized). The potential of the detected impurity is indicated to be equal to 5.1 ev, which corresponds to sodium. The concentration of sodium pairs in argon proved to be of the order of $10^{-5}\%$.
Yu.R.

DATE ACQ: 14Jun63

SUB CODE: PH

ENCL: 00

Card 2/2

ACCESSION NR: AR3006262

S/0124/63/000/007/B111/B111

SOURCE: RZh. Mekhanika, Abs. 7B668

AUTHOR: Bazhenova, T. V., Lobastov, Yu. S.

TITLE: Measurement of the degree of gas ionization in an impact tube and the determination of the nature and concentration of easily-ionized admixtures

CITED SOURCE: Tr. Odessk. un-ta. Ser. fiz. n., v. 152, no. 8, 1962, 95-97

TOPIC TAGS: gas ionization, impact tube, gas admixture

TRANSLATION: The authors give a description of a setup for measuring the degree of gas ionization in an impact tube (70 X 70 X 140 mm) according to radio absorption. The measuring apparatus consists of a 3-cm wave generator, a detector, and an electronic oscillograph with a wide-band d.c. amplifier in a slave sweep regime. The authors give a method for calibrating the receiving apparatus. From the measured coefficient of radio wave transmission, gas temperature and pressure determined from the speed of the shock wave, determinations were made of the electron concentration n_e and the ionization potential ϕ . From n_e and ϕ determinations were made of the nature and concentration of easily-ionized admixtures in the gas. The above apparatus makes it possible to determine the degree of gas

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ACCESSION NR: AR3006262

ionization at relatively low temperatures (2000-4000°K) and pressures, when $n_e < 10^{13} \text{cm}^{-3}$, and the number of collisions is on the order of 10^{10} . A. V. Pustogarov.

DATE ACQ: 08Aug63

SUB CODE: PH

ENCL:00

Card 2/2

10738663

EFH/EPA(b)/EWT(1)/EDS/EEG(b)-2--AFFTC/ASD--Pa-J/Ed-1

ACCESSION NR: AP3003842

8/0020/63/151/003/0519/0521

AUTHOR: Bazhenova, T. V.; Lobastov, Yu. S.

TITLE: Measurement of time required to attain equilibrium concentration of electrons behind a shock wave in air

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 519-521

TOPIC TAGS: shock wave in air, electron concentration, NO ions, radio-wave absorption measurement

ABSTRACT: The time required for attainment of the electron equilibrium concentration behind a shock wave in air was determined by measuring the absorption of 3-cm radio waves by a method developed earlier by the author. In the experiments waveguide horns with a cross section of 10 x 70 mm were installed perpendicularly to the shock-wave motion, 5 m from the diaphragm of the shock tube (cross section, 70 mm x 70 mm). The signal from a piezoelectric pressure pickup mounted in the same cross section as the horns was used to actuate the simultaneous start of oscillographic absorption and pressure recording. Control tests with argon at 0.1 atm and 2500-3000K showed that electrons formed by ionization of vapors of alkali metals in the shock tube or the gas do not absorb radio waves under the

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L 10736-62

ACCESSION NR: AP3003842

2

conditions studied. Calculated equilibrium electron concentrations and the maximum electron concentrations measured in air were plotted versus Mach numbers (see Fig. 1 of Enclosure). . . The results showed that at low M (M = 7-9, T = 2000-3000K) radio-wave absorption corresponds to the near-equilibrium concentration, but at higher M (9-11) it is somewhat lower. The time required for attainment of electron equilibrium concentration is shorter than that for NO equilibrium concentration. The time required for attainment of maximum and equilibrium concentrations differs only slightly. The experimentally determined maximum concentrations agree with values calculated on the basis of the mechanism $N + O + M = NO^+ + e + M$, with a recombination constant of $2 \cdot 10^{-6} \text{ cm}^3/\text{sec}$, while time calculated on the basis of the mechanism $NO + M = NO^+ + e + M$ gave values greater by several orders of magnitude than those obtained experimentally. The article was presented by Academician V. N. Kondrat'yev, 2 November 1962. Orig. art. has: 2 figures.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo (Power Engineering Institute)

SUBMITTED: 10Mar62

DATE ACQ: 15Aug63

ENCL: 01

SUB CODE: 00

NO REF SOV: 006

OTHER: 002

Card 2/2

L 12/18-65 EWT(1)/EPF(c)/T/EEC(t)/EPA(w)-2/EWA(m)-2 Pr-h/Pab-10/Pb-4 SSD/
IJP(c)/AS(mp)-2/AEDC(a)/ASD(p)-3/ASE(a)-5/BSL/AFWL/AFETR/AMD/ASD(f)-2/AEDC(b)/
ESD(t)/SSD(b) WW/MLK
ACCESSION NR: AT4048002 S/0000/64/000/000/0017/0021

AUTHOR: Bazhenova, T. V.; Lobastov, Yu. S.

TITLE: On the mechanism of thermal ionization²¹ of air

SOURCE: AN SSSR. Energeticheskiy institut, Fizicheskaya gazodi-
namika i svoystva gazov pri vy*sokikh temperaturakh (Physical gas
dynamics and properties of gases at high temperatures). Moscow,
Izd-vo Nauka, 1964, 17-21

TOPIC TAGS: thermal ionization, radio wave attenuation, shock
tube, shock wave, equilibrium electron concentration, air ioniza-
tion, radio wave absorption, attenuation coefficient

ABSTRACT: The mechanism of thermal ionization of air behind shock
waves within a range of Mach 9-12 is considered on the basis of
available experimental data on the absorption of radio waves by the
ionized gaseous medium. These data show that the time dependence
of the absorption of radio waves is given by a curve with a maxi-
mum which corresponds to the maximum electron concentration in the
nonequilibrium region. An analysis of the time necessary to attain

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L 12418-65

ACCESSION NR: AT4048002

maxima of the absorption and attenuation coefficients is presented on the basis of existing hypotheses on the mechanism of thermal ionization of air. A comparison of the equilibrium and maximum values of electron concentrations behind a shock wave in air at a pressure of $P = 10^{-3}$ atm is given in tabular form, and shows that at $M > 9$ the maximum concentrations approach equilibrium. It is concluded that double collisions are the leading process of air ionization according to the reaction $N + O \rightleftharpoons NO^+ + O$. Orig. art. has: 1 figure, 1 table, and 11 formulas.

ASSOCIATION: None

SUBMITTED: 06Mar64

ATD PRESS: 3/21

ENCL: 00

SUB CODE: ME, EC

NO REF SOV: 005

OTHER: 004

Card 2/2

L 13055-65 EWP(1)/EWP(m)/FCS(k)/EWA(h) Pd-1/P1-d SSD(b)/AFWL/RSD/ASD(f)-2/
AFETR/AEDC(a)/ASD(p)-3/SSD MLK

ACCESSION NR: AT4048003

S/0000/64/000/000/0022/0028

AUTHOR: Lobastov, Yu. S.

TITLE: Improved radio-wave method of probing gas heated by a shock
wave | e

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodin-
amika i svoystva gazov pri vy'sokikh temperaturakh (Physical gas
dynamics and properties of gases at high temperatures). Moscow,
Izd-vo Nauka, 1964, 22-28

TOPIC TAGS: shock wave, shock front, shock tube, plasma effect,
electron collision frequency, collision concentration

ABSTRACT: A refined microwave method of probing ionized gas in a
shock tube is described, by means of which information on electron
concentration and electron-atom collisions in the shock region may be
calculated. A fine beam was radiated by a transmitting antenna, passed
through the measuring chamber, and received by a second antenna, then
detected and displayed by an oscilloscope. Low-loss conical dielectric

3
Card 1/3

L 13055-65

ACCESSION NR: AT4048003

antennas were used in the experiments together with focussing dielectric lenses which minimized reflections within the plasma. In this manner signal attenuation through the ionized gas was reduced 1.5—2 times in comparison with a lensless system. To minimize loss through the shock tube walls, the latter were made multiples of $\lambda/2$ in thickness. Taking the above factors into consideration, an experimental microwave setup with a shock tube was constructed (see Fig. 1 of the Enclosure). The first measuring chamber K_1 was provided with piezoceramic pressure transducer D for triggering synchronization unit BS, which in turn triggered the sweeps on oscilloscopes OS, and OS₂. Gas pressure and r-f attenuation in the shock tube were recorded by OS₂, a type IO-4 oscilloscope. The configuration of the measuring chamber and antennas is shown in Fig. 2. Optimum beam forming was found when polystyrene lenses were used. A sheet of absorbing material prevented the penetration of side radiation into the measuring chamber. Since the aperture diameter was twice the wavelength, all the diffraction maxima, except the first one, were of low intensity. By means of absorbing material placed in the shock chamber it was possible to evaluate the effective dimensions of the transmitted beam; at 10 mm

Card 215

L 13055-65

ACCESSION NR: AT4048003

from the center, beam intensity was found to drop by a factor of 10. The resolving time was thus estimated to be 6 μ sec for a Mach 9.5 condition. Equations are developed, using data from the described apparatus, with which it is possible to determine electron concentration and effective collision frequency of electrons with neutral particles in the shock region. Orig. art. has: 4 figures and 13 formulas.

ASSOCIATION: none
SUBMITTED: 06Mar64

ENCL: 02

SUB CODE: EC, ME

NO REF SOV: 008

OTHER: 003

ATD PRESS: 3128

Card 3/3

L 20823-65 EWP(m)/EWA(h)/EWT(1)/FCS(k)/ Pd-1/P1-4/ AEDC(a)/ASD(a)-5/AFWL/
SSD(b)/BSD/SSD/ASD(f)-3/AS(mp)-2/ASD(p)-3/AFETR/ESD(gs)/ESD(t) MLK

ACCESSION NR: AT4048004

S/0000/64/000/000/0029/0033

AUTHOR: Bazhenova, T.V., Lobastov, Yu. S.

TITLE: Electron concentration and the number of collisions of electrons with air molecules behind a shock wave |

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika i svoystva gazov pri vy*sokikh temperaturakh (Physical gas dynamics and properties of gases at high temperatures). Moscow, Izd-vo Nauka, 1964, 29-33

TOPIC TAGS: gas dynamics, plasma flow, snock wave, plasma electron concentration, electron density, damping coefficient

ABSTRACT: This is a continuation of previous work by one of the authors on plasma shock-waves. Relationships between collision frequency, temperature and pressure for the hard-sphere model are given on the basis of the classical cross section which is one quarter of the quantum mechanical one. Thus, experiments in which the collision rate, γ , and the free electron concentration n_e can be determined independently, such as by the measurement of absorption at two frequencies, are important. Expressions are given for the damping coefficients at the low electron densities behind shock-fronts and the possibility of determining γ and n_e by this method is calculated for 3.4 and 1.8 cm

Card 1/2

L 20823-65

ACCESSION NR: AT4048004

radiowaves with Mach 6-11 shocks and an initial pressure of 10^{-3} atmospheres. This is not possible for an incident shock since v^2 is two orders of magnitude smaller than w_1 and w_2 , but information about v and n_e can be obtained from a reflected shock where the pressure is high and v is commensurable with w_1 and w_2 . Series expansions for the damping coefficients and developed and from this, an expression for n_e in terms of w_1 , w_2 and v is derived and solved by successive approximation. The absorption coefficient was measured in a 7 x 7 cm shock tube for a reflected wave at a distance of 5 m from the diaphragm. Two series of experiments at various Mach values were carried out and data for $M = 6.6$ and 7.35 were calculated. Expressions are given for the errors which justify the zero-order equations. Orig. art. has: 2 tables and 12 equations.

ASSOCIATION: Energeticheskly institut AN SSSR (Power Engineering Institute, AN SSSR)

SUBMITTED: 06Mar64

ENCL: 00

SUB CODE: ME, NP

NO REF SOV: 005

OTHER: 002

Card 2/2

L 00819-67 EWP(m)/EWT(1) WW/GD

ACC NR: AT6022653

SOURCE CODE: UR/0000/66/000/000/0119/0130

AUTHOR: Lobastov, Yu. S.

ORG: none

68
BT1

TITLE: Experimental determination of the electron concentrations and effective frequencies of collision of electrons with neutral particles in air, N₂, O₂, CO, argon, and CO₂ behind shock waves

SOURCE: AN SSSR. Energeticheskiy institut. Issledovaniya po fizicheskoy gazodina-
mike (Studies of physical gas dynamics). Moscow, Izd-vo Nauka, 1966, 119-130

TOPIC TAGS: collision cross section, reflected shock wave, gas ionization, electron collision

ABSTRACT: The electron concentrations and effective collision frequencies for collision between electrons and neutral particles were measured behind reflected shock waves by measuring the absorption of radio waves at two frequencies simultaneously (37,500 and 18,750 Mc). It was found that in air and nitrogen at temperatures of 2800-4800°K and pressures of 0.3-6.20 tech atm, equilibrium ionization is achieved in 70 to 170 μsec. Comparison of the absorption curves with Töpler scans of the process of shock wave reflection from the end of the shock tube provided an explanation for the appreciable increase of conduction after the latter had reached its equilibrium value: it is due to an additional heating of the gas by a shock wave reflected off the contact

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ACC NR: AT6022653

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surface. Measured values of the effective cross sections of collision between electrons and neutral particles in air, nitrogen, and CO were close to those reported in the literature. However, in nitrogen at temperatures above 4000°K, the cross section has a tendency to increase more abruptly. In molecular oxygen and CO₂, the cross sections were found to be much smaller than the values reported in the literature. Orig. art. has: 13 figures and 11 formulas.

SUB CODE: 20/ SUBM DATE: None/ ORIG REF: 012/ OTH REF: 003

hs

Card 2/2

ACC NR: AT6022654

SOURCE CODE: UR/000/66/000/000/0131/0138

AUTHOR: Bazhenova, T. V. ; Lobastov, Yu. S.

ORG: none

TITLE: Secondary phenomena of reflections of shock waves in argon

SOURCE: AN SSSR. Energeticheskiy institut. Issledovaniya po fizicheskoy gazodinamike (Studies of physical gas dynamics). Moscow, Izd-vo Nauka, 1966, 131-138

TOPIC TAGS: plasma, shock wave, argon, shock tube, shock wave interaction, shock wave propagation

ABSTRACT: The authors analyze some results of investigations of the ionization processes in argon behind reflected shock waves and describe the secondary effects, namely the nonstationary propagation of the reflected shock wave and the phenomena occurring during the interaction of the reflected shock wave in argon with the contact surface in the shock tube. Experiments were made in a shock tube of a 72 x 72-mm cross section at a distance of 4.7 and 6 m from a diaphragm. In order to follow the

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processes accompanying the reflection of a shock wave, time pattern of the Tepler reflection is shown and explained in figures in the original article. The influence of nonequilibrium ionization on the reflected shock-wave propagation in argon is examined in detail. The interaction of the reflected shock wave in argon with a contact surface is discussed. The authors conclude that nonstationary propagation of a reflected shock wave is observed in argon when the degree of ionization of argon behind the reflected shock wave varies. Secondary effects of the interaction of the reflected wave in argon with the contact surface have been discovered. Ionization in cold hydrogen and helium near the reflection point of the shock wave and an increase in the degree of ionization at the end of the shock wave, related to the arrival of a second reflected wave, have been observed. Orig. art. has: 5 figures and 4 tables.

[GC]

SUB CODE: 20/ SUBM DATE: 31Feb66/ ORIG REF: 006/ OTH REF: 003/

Card 2/2

LOBASTOVA, A.D. (Borisoglebsk)

Using materials of international geophysical investigations in work
outside of class. *Fiz. v shkole* 20 no.5:99-102 S-O '60.

(MIRA 13:11)

(Geophysics--Study and teaching)

5(3)

SOV/69-21-2-8/22

AUTHORS: Deynega, Yu.F., Dumanskiy, A.V., Lobastova, A.V.

TITLE: The Dielectric Investigation of the Formation Process of Soap-Hydrocarbon Solutions (Dielektricheskoye issledovaniye protsessa obrazovaniya rastvorov mylo-uglevodored)

PERIODICAL: Kolloidnyy zhurnal, 1959, Nr 2, pp 170-173 (USSR)

ABSTRACT: This article concerns an investigation of micelle formation in hydrocarbon solutions of soap, carried out by measuring the dielectric constant. The systems used for this purpose were sodium phenylstearate-o-xylene and sodium phenyl stearate - o-xylene - oleic acid. The measurements were carried out at temperatures from 20-130°C, and within a frequency range from 400 to 10,000 hertz. The experiments have shown that in both systems, at a fixed temperature and concentration, the dielectric constant passes through a maximum, which represents higher values at higher temperatures in the second system in dependence on the doses of added oleic acid. The fact as a whole points to the connection between changes in lyophilic disperse systems

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The Dielectric Investigation of the Formation Process of Soap-Hydrocarbon Solutions

and critical phenomena. Within the critical area the system, when cooled, transforms into a two-phase colloid system, but when heated, into a single-phase system. At a considerable increase in the doses of oleic acid (from 3 milliliters) no changes take place in the system, apparently due to the formation of a true solution within the above-indicated temperature interval. There are 2 graphs, 1 diagram and 10 references, 8 of which are Soviet and 2 English.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev (Institute of General and Inorganic Chemistry of the AS UkrSSR, Kiyev)

SUBMITTED: July 16, 1958

Card 2/2

DEYNEGA, Yu.F. [Deineha, IU.F.]; LOBASTOVA, A.V.

Dielectric polarization of plastic lubricants. Dop. AN
URSR no.1:73-75 '62. (MIRA 15:2)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
Predstavleno akademikom AN USSR A.V.Dumanskim [Dumans'kyi, A.V.].
(Lubrication and lubricants)
(Polarization(Electricity)

h1601

S/021/62/000/009/008/008
D234/D308

11.9400

AUTHORS:

Deyneha, Yu.F., and Lobastova, A.V.

TITLE:

Investigation of the effect of temperature on dielectric properties of plastic lubricants

PERIODICAL:

Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 9, 1962, 1212 - 1215

TEXT: The measurements were carried out in a rotational viscometer. The temperature was maintained with an accuracy of 0.1°C. The investigation concerned constalin, solidol and U 1AT1M -201 (Ts1AT1M-201) which are obtained by thickening light petroleum oils by Na soaps of castor oil acids, by hydrated Ca soaps of cotton oil and by technical lithium stearate respectively. Graphs of the dependence of ϵ and $\tan \delta$ on frequency and temperature are given for the sodium lubricant. With increasing temperature the region of sharp decrease of ϵ is displaced towards higher frequencies, which is explained by loss of orientation of small particles of the soap due to thermal motion. The maximum of the $\tan \delta$ curves is displaced in the same direction, and its height increases. The relaxation times of surface

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Investigation of the effect ...

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D234/D308

polarization at 0° and 20°C calculated with the aid of these graphs are 1×10^{-7} and 3×10^{-7} sec. The change of thermodynamic functions due to surface polarization (calculated with the aid of the theory of absolute reaction rates adapted to the dielectric relaxation) is $\Delta F = 7.8$ kcal, $\Delta S = 1.5$ cal/degree and $\Delta H = 8.2$ kcal (where H is the heat capacity), per mole. It is stated that the increase of ϵ of the other two lubricants with temperature is less pronounced and their $\tan \delta$ increases considerably at low frequencies. There are 2 figures.

ASSOCIATION: In-t zahal'noyi ta neorhanichnoyi khimiyi AN URSSR
(Institute of General and Inorganic Chemistry, AS Ukr
SSR)

PRESENTED: by Academician A.V. Dumans'kyy, AS UkrSSR

SUBMITTED: December 26, 1961

X

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S/069/62/024/006/002/009
B101/B180

AUTHORS: Deynega, Yu. F., Vinogradov, G. V., Lobastova, A. V.

TITLE: Temperature and frequency dependences of the dielectric parameters of non-aqueous plastic disperse systems

PERIODICAL: Kolloidny zhurnal, v. 24, no. 6, 1962, 659-666

TEXT: The ϵ and $\tan\delta$ were measured on sodium castorate ("Konstalin"), calcium soap ("Solidol"), and lithium stearate (201 greases) at various temperatures and frequencies f . Fixed oriented structures were obtained by suddenly stopping the viscosimeter rotor. In the case of "Konstalin", ϵ and $\tan\delta$ were independent of f below 50 kc/sec, but ϵ falls when $f > 50$ kc/sec and also as the deformation rate rises. $\tan\delta$ reaches a maximum at $\log f \sim 6$. The effect of f on $\tan\delta$ diminishes and ϵ drops, with increasing particle orientation. Rising temperature shifts ϵ_{\min} and $\tan\delta_{\max}$ to higher frequencies. ϵ rises between 20 to 80°C and drops a little at 98°C. The temperature coefficient of $\tan\delta$ is positive at low and negative at high frequencies. The frequency dependence of ϵ is not strong for
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Temperature and frequency dependences ...

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"Solidol", and increases only by 10% when temperature is raised from 20 to 60°C. For grease 201, ϵ was independent of frequency between 20 and 80°C. The dielectric constant of "Solidol" fell with increasing particle orientation, but there was no orientation effect with grease 201. Conclusions: The effect of orientation on the dielectric properties can be studied with solidified oriented structures of a disperse phase containing anisodiametric particles. In the case of non-aqueous systems containing a hydrophilic disperse phase, ϵ and $\tan\delta$ are strongly dependent on f in the radiofrequency range. This is attributed to electrical polarization due to interfacial ion transfer, i. e., along the particle surfaces of the disperse phase. The relaxation time, which was found to be of the order of 10^{-7} sec, is the most important quantitative characteristic of surface polarization. Non-aqueous systems in which electrokinetic effects are produced by an interfacial double layer, display surface polarization and varying dielectric characteristics. The intensity of surface polarization and its effect on ϵ and $\tan\delta$ are dependent on the orientation of particles in the disperse phase. Polarization diminishes as the angle between the

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preferred direction of the principal axes of the disperse particles and that of the electric field increases. Within the low-frequency range $\tan \delta$ increases with rising temperature as a result of higher bulk conductivity. There are 4 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Kiyev
(Institute of General and Inorganic Chemistry of the
AS UkrSSR, Kiyev)

SUBMITTED: September 28, 1962

Card 3/3

DEYNEGA, Yu.F. [Deinoha, Yu.F.]; LOBASTOVA, A.V.

Effect of oxidation on electrokinetic phenomena in plastic lubricants. Dop. AN URSSR no.9:1186-1189 '65. (MIRA 12:9)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

LOBASYUK, T. A.

VERKHATSKIY, N.P., professor; LOBASYUK, T.A.

Combined treatment of acute and subacute inflammation processes
in the female genitalia. Akush. i gin. 33 no.1:69-73 Ja-F '57
(MLRA 10:4)

1. Iz kafedry akusherstva i ginekologii (zav.-prof. N.P. Verkhatskiy) Odesskogo meditsinskogo instituta (dir.-prof. I. Ya. Deyneka)
(GYNECOLOGICAL DISEASES, ther.) (Rus)

Excerpta Medica 1/5 sec 17 May 55 Pub. Health, Social Medicine & etc.

1998. LOBATO M. * Aspectos da luta antituberculosa na União Soviética.
~~Aspectos~~ of tuberculosis control in the Soviet Union
CLIN. TISIOL. 1954, 9/36 (139-150)

The author, who made a trip to the Soviet Union in 1953, gives an enthusiastic account on the achievements of the Soviet medical organizations in their fight against tb. The campaign is directed by the Central Institute of Tuberculosis, situated near Moscow, and each region or republic also has a scientific institute (23 in all) where the pathogenesis, treatment and prophylaxis of tb are being studied. Some interesting facts are reported. 90% of all neonates are vaccinated with BCG, and this is repeated in the pre-school period, during the school years and again in adolescence. Slight cases of tb, without loss of working capacity, receive antibiotics, physiotherapy etc., during their free hours, either in their own homes or in special night or day sanatoria. Special emphasis is placed on the rôle of the CNS in the evolution of human and experimental tb. In guinea-pigs certain 'modifications' in the brain can be observed 30 min. after inoculation with tubercle bacilli (the exact site of inoculation is not mentioned). In grave cases significant and irreversible brain changes frequently occur. The importance of therapeutic measures against nervous disorders in human tb is stressed.
Eichbaum - São Paulo (XVII, 15)

VIL'CHINSKIY, Yu.; GUBKIN, Ye.; LOBATORIN, O.; CHIKOV, B.

Examining the precision of sighting when pointing on different marks.
Trudy MIIGAIK no.41:39-46 '60. (MIRA 13:11)

1. Kafedra geodesii Moskovskogo instituta.inshenerov geodzii,
aerofotos"yemki i kartografi.
(Triangulation)