L 2292-66

ACCESSION NR: AP5014569

and in a broadening of their resonance line. Quantitative estimates based on the results, made under certain simplified assumptions, suggest that this effect is perfectly feasible. For example, at 4.2K, for germanium with electron and hole density 10^{12} cm^{-3}, the line width of the holes should increase by a factor 2.3 in a field of 4.7 V/cm. The experiment proposed does not require noticeable complication of the ordinary cyclotron resonance observation techniques, and necessitates only that it be simultaneously realizable at two frequencies at a fixed value of the magnetic field. Orig. art. has: 2 figures and 4 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina (Moscow State Pedagogical Institute)

SUBMITTED: 13Jul64 ENCL: 00 SUB CODE: SS, NP

NR REF SOV: 000 OTHER: 006

Card 2/2 DP

L 31159-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD/AT
ACC NR: AP6006810 SOURCE CODE: UR/0181/66/008/002/0332/0341

AUTHOR: Blagosklonskaya, L. Ye.; Gershenzon, Ye. M.; Gurvich, Yu. A.; Ptitsyna, N. G.; Serebryakova, N. A.

ORG: Moscow State Pedagogical Institute im. V. I. Lenin (Moskovskiy gosudarstvennyy pedagogicheskiy institut)

TITLE: Cyclotron resonance of hot electrons in silicon and germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 332-341

TOPIC TAGS: cyclotron resonance, electron, silicon semiconductor, germanium semiconductor, impurity scattering

ABSTRACT: The cyclotron resonance of hot electrons in silicon and germanium was measured at 4.2 and 1.4°K in the three-centimeter range. Single crystal specimens of p-type silicon and germanium were used with a resistivity of 5000-18000 and approximately 70 Ω·cm respectively and a donor-acceptor impurity concentration of less than $5 \cdot 10^{13}$ cm^{-3}. The free carriers in the specimens were excited by light from an incandescent lamp modulated with a frequency of 500 cps. The cyclotron resonance was recorded as a function of magnetic field strength. The level of the

Card 1/2

L 31159-66
ACC NR: AP6006810

incident resonator power was varied within a range of 60 db. The maximum power corresponded to a field on the specimen of the order of 20 v/cm. Curves are given showing the half width of the resonance line as a function of the incident power. Line width measurements give identical results for all specimens in strong electric fields. The resonance lines show different widths for various specimens in weak fields due to impurity scattering. At 4.2°K in fields greater than 10 v/cm in germanium and 6 v/cm in silicon, a region of spontaneous emission of acoustic phonons is observed. At 1.4°K, this region is observed in both semicondctors starting from fields of 2 v/cm. In stronger fields $\tau\varepsilon^{-1}$, while in weaker fields $\tau\varepsilon^{-1/2}$. In this field intensity interval as well as in the region of spontaneous emission, the resonance curves for hot electrons are described by a single parameter which is of the order of the relaxation time at $\omega=\omega_0$. The authors thank Yu. P. Ladyzhinskiy for assistance with the calculations, and M. I. Ginzburg and G. I. Kononov for furnishing the germanium and silicon single crystals. Orig. art. has: 3 figures, 24 formulas.

SUB CODE: 20/ SUBM DATE: 08Jun65/ ORIG REF: 006/ OTH REF: 008

Card 2/2

ACC NR: AM5005925 BOOK EXPLOITATION UR

Etkin, Valentin Semenovich; Gershenzon, Yevgeniy Mikhaylovich

Parametric superhigh frequency systems based on semiconductor diodes (Parametricheskiye sistemy SVCh na poluprovodnikovykh diodakh). Moscow, Izd-vo "Sovetskoye radio," 1964. 351 p. illus., biblio. 15,600 copies printed.

TOPIC TAGS: parametric amplifier, semiconductor diode, circuit theory, superhigh frequency, low noise amplifier, band pass amplifier, parametric converter, frequency stability, radio engineering

PURPOSE AND COVERAGE: This book is intended for radio engineers, radio physicists, and senior university students concerned with the development and application of superhigh frequency parametric amplifiers and systems based on semiconductor diodes. It includes principles of theory and calculation, methods of experimental study and development and discussions on the application of such amplifiers and systems in radio engineering. The text includes material published in the periodical literature, as well as unpublished original data gathered by the authors in recent years. The authors are greatly indebted to I.K. Morozov, L.B. Litvak-Gorskaya, L.A. Plokhova, Ye.S. Karmanova, Ye.A. Bespalova, S.P. Babenko, T.S. Dombrovskaya, and L.A. Smirnova for their great help in preparing the book for publication. They are also greatly indebted to A.N. Vystavkin and V.L. Aronov, the reviewers of the book.

TABLE OF CONTENTS [abridged]:

Card 1/6 UDC: 621.375.931; 621.375.1.029.64

ACC NR: AM5005925

Card 2/6

ACC NR: AM5005925

Card 3/6

ACC NR: AM5005925

Card 4/6

ACC NR: AM5005925

Card 5/6

ACC NR: AM5005925

SUB CODE: 09/ SUBM DATE: 11Aug64/ ORIG REF: 155/ OTH REF: 312

Card 6/6

S/789/61/000/036/010/013
E032/E414

AUTHORS: Gershenzon, Yu.M., Shupyatskiy, A.B.

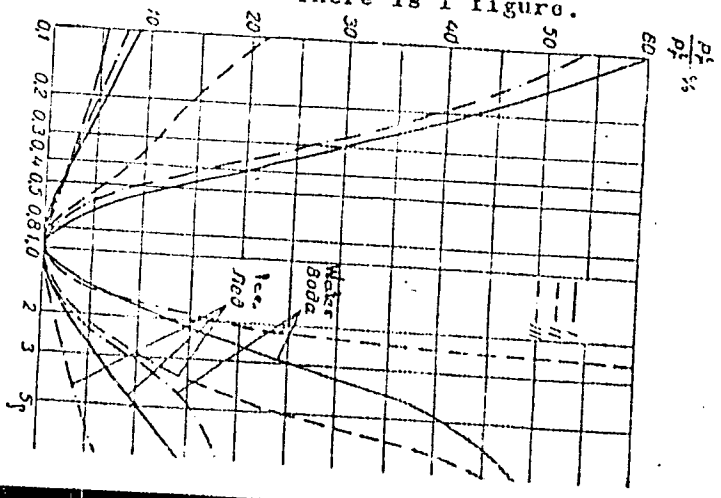
TITLE: Scattering of elliptically polarized radiowaves by nonspherical atmospheric particles

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy. no.36. Moscow, 1961. Voprosy fiziki radiolokatsii oblakov, 102-108

TEXT: This theoretical paper is concerned with the scattering of elliptically polarized radar waves which are generated and received by a radar station with a single antenna. The scattering particles are approximated by ellipsoids of revolution whose linear dimensions are much smaller than the wavelength. Moreover, the scattering is assumed to be incoherent. Expressions are derived for the reflected field components parallel and perpendicular to the incident field. The reflected power is found to depend on the orientation of the scattering ellipsoids. Fig.1 shows the results of numerical calculations of the ratio of the reflected power for circular and linear polarizations which are based on these theoretical results. These plots can be used to determine

the form factor of the particles and to distinguish between intensive rain and hail. The general conclusion is that the use of elliptically polarized waves will lead to information about the form, orientation and the phase structure of the particles responsible for the reflected signal. There is 1 figure.

Fig.1.



Card 2/2

L 12867-63 EPA/EPR/FCS(f)/EWP(j)/EPF(c)/EWT(m)/BDS/ES(s)-2 AEDC/AFFTC/
RPL/SSD/APGC Paa-4/Pa-4/Pc-4/Pr-4/Pt-4 RM/BW/WW/JW

ACCESSION NR: AP3002633 S/0171/63/016/003/0201/0203 89

AUTHOR: Azatyan, V. V.; Gershenzon, Yu. M.; Nalbandyan, A. V.; Ts'ui-Men-Yuan

TITLE: Discovery of free hydrogen & oxygen atoms in vacuum-flaming of mixtures of carbon monoxide & oxygen in the presence of small additions of ethylene

SOURCE: AN ArmSSR. Izv. Khimicheskiye nauki, v. 16, no. 3, 1963, 201-203

TOPIC TAGS: free O atom, free H atom, ethylene, self-combustion

ABSTRACT: To verify the mechanism of CO combustion in the presence of ethylene, the concentration of free O and H atoms was determined by electron paramagnetic resonance measurement. Ethylene accelerates CO combustion and lowers the limit of self combustion; the ethylene concentration at which O content is maximum is also the concentration at which the lower self-combustion limit is minimum - about 0.2%. O and H concentrations increase with ethylene increase (to about 2.5 and 0.4%, respectively), then decrease. Increase in temperature increases O content faster than H concentration. Orig. art. has: 1 figure and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

Card 1/2

S/252/63/036/002/003/003
D218/D308

AUTHOR: Gershenzon, Yu.M.

TITLE: Determination of the concentration of activity centers along a reaction tube by the EPR method

PERIODICAL: Akademiya nauk Armyanskoy SSR. Doklady, v. 36, no. 2, 1963, 89-93

TEXT: The possibility of using EPR for the determination of the distribution of intermediate paramagnetic particles is discussed. It is shown that the experimental determination of the dependence of the EPR signal on the mutual disposition of the reaction tube and the resonator may be used to determine the radial average of the concentration. The theoretical analysis is applied to the case of a cylindrical resonator (H_{011} wave) used in the EPR-2M instrument developed at the Institut khimicheskoy fiziki AN SSR (Institute of Chemical Physics, AS USSR). It is also shown that the problem may be reduced to the solution of a difference equation of the form $(1/2\pi)^2 d^3I/dZ = 1/2(Z_{z+1} - Z_z)$ and the solution of this

Card 1/2

equation is sought in the form $Z_z = kl^{-az}$. This may be used to determine the required concentration.

ASSOCIATION: Institut khimicheskoy fiziki, Akademiya nauk SSR (Institute of Chemical Physics, AS USSR)

PRESENTED: by A.B. Nalbandyan, Member Correspondent of the AS Arm.SSR)

AZATYAN, V.V.; GERSHENZON, Yu.M.; NALBANDYAN, A.B.; STUY-MEN-YUAN'

Detection of free hydrogen and oxygen atoms in a rarefied flame of carbon monoxide and oxygen mixtures in the presence of small amounts of ethylene additions. Izv. AN Arm.SSR. Khim.nauki. 16 no.3:201-203 '63. (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR.

GERSHENZON, Yu.M.

Determination of the concentration of active centers along a reaction tube by the electron magentic resonance method. Dokl. AN Arm. SSR 36 no.2:89-93 '64. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR. Predstavlen chlenom-korrespondentom AN Armyanskoy SSR A.B.Nalbandyanom.

ACCESSION NR: AP4012972 S/0020/64/154/004/0883/0885

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Measuring the concentrations of atomic oxygen and hydrogen in a rarefied hydrogen flame by the method of electron paramagnetic

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 883-885

TOPIC TAGS: elementary reaction, successive reaction, stoichiometry, stoichiometric mixture, resonator, atom concentration, atomic oxygen, atomic hydrogen, rarefied flame, magnetic moment

ABSTRACT: This project relates to the finding of atomic oxygen and the measurements of the concentration of O and H atoms in a rarefied hydrogen flame by the spectra of the electron paramagnetic resonance. The jet-type reactor used in the experiment was placed inside the resonator which made it possible to determine the O and H atom concentrations in the combustion area. The project began with a study

Card 1/2

ACCESSION NR: AP4012972

of a rarefied flame of a mixture containing 5% H_2 and 95% O_2. Large quantities of atomic oxygen (up to 6 x 10^{15} particles) were recorded in the flame of that mixture. The concentration of atomic hydrogen in this case lies within the sensitivity range of the instrument (1-2 x 10^{14} particles). The area of preferential formation of atomic hydrogen is found in mixtures containing 15% and less hydrogen. The area of preferential formation of atomic hydrogen lies in the mixtures containing over 70% molecular hydrogen. It should be pointed out that in the determination of the absolute concentration of hydrogen and oxygen atoms, the difference in their magnetic moments was not taken into account, and the resulting concentrations of atomic oxygen were therefore 4.5 times as large. Orig. art. has 2 figures and 1 formula.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

Card 2/3

ACCESSION NR: AP4016511 S/0020/64/154/005/1142/1144

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Discovering a free hydroxyl in a rarefied hydrogen flame by the electron paramagnetic resonance method

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1142-1144

TOPIC TAGS: hydrogen flame, rarefied flame, microwave spectrum, hydroxyl, free hydroxyl, dipole, dipole transition, hydroxyl absorption, resonator, linear velocity, OH spectrum, OH absorption, atomic oxygen, molecular oxygen

ABSTRACT: Studies made by Dousmanis, Radford and other researchers revealed that the microwave spectrum of OH absorption is dependent on electric dipole transitions, the intensity of which is considerably greater than that of the ordinary electron paramagnetic resonance lines brought about by the magnetic dipole transitions. It

Card 1/3

ACCESSION NR: AP4016511

follows that when the pressure in the flame of H_2 with O_2 is low, it is possible to detect the signals of paramagnetic absorption of a free hydroxyl; the discovery of OH is possible only when the particles are placed in the loop of an ultra-high frequency electric field. The reactor made for investigation purposes (from quartz) was designed in such a way that the absorbing cell filled the entire resonator and this made it possible to observe the spectrum determined by the electric and magnetic dipole transitions. It was found that the OH sign gradually rises with the increasing H_2 content and reaches a maximum when the latter amounts to 60%, while the H sign shows a sharper increase and reaches its maximum value at 70% H_2. No signal of atomic oxygen was observed in our experiment as it was completely suppressed by the signal of molecular oxygen, the amplitude of which at a low temperature of the absorbing cells is considerably greater than the O signal. However, the O concentrations previously observed in H_2-poor mixtures have been considerably greater (60-80 times) than the concentrations of atomic hydrogen.

Card 2/3

ACCESSION NR: AP4016511

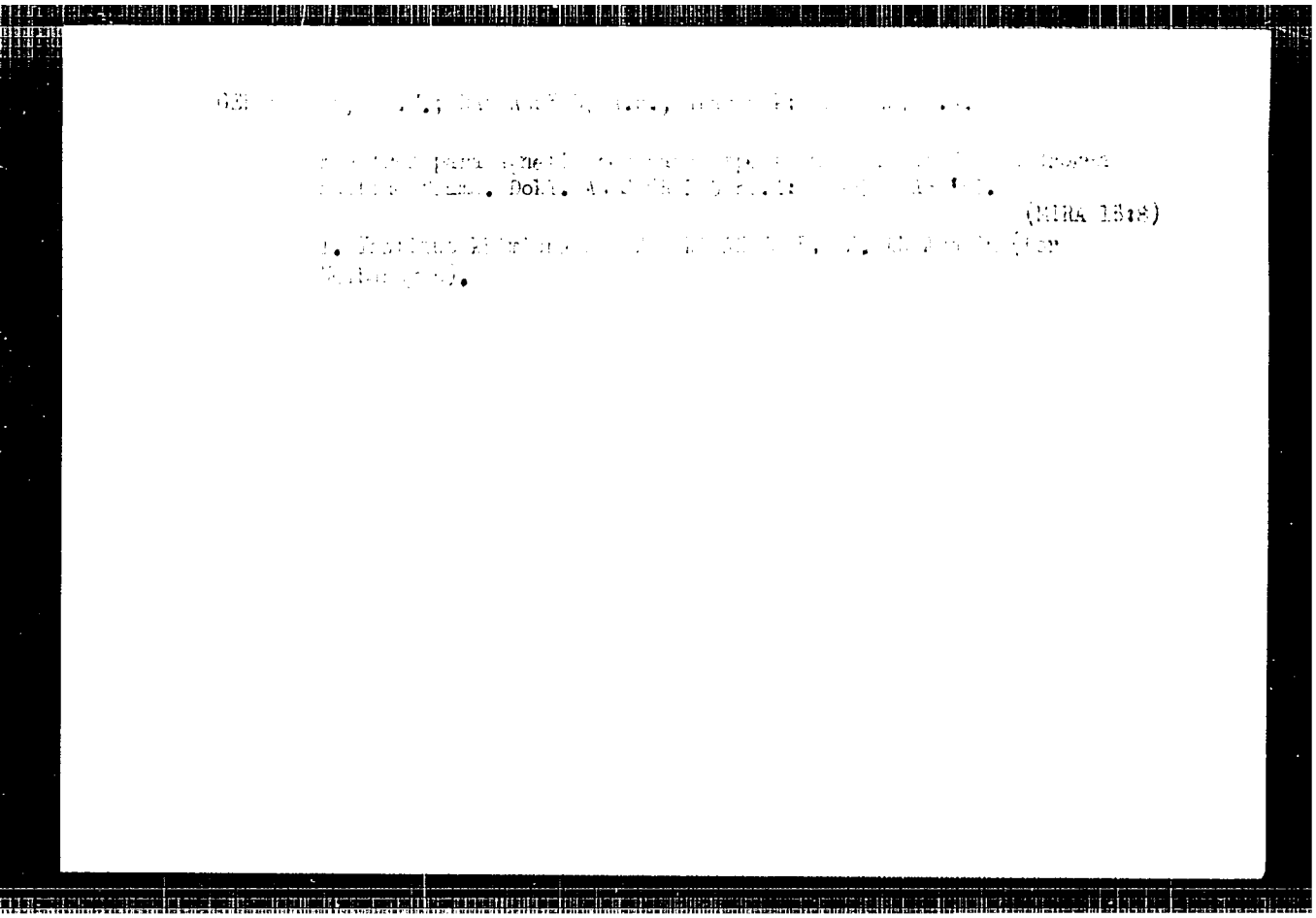
Orig. art. has: 2 figures and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 050ct63 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 004

Card 3/3



ACC NR: AP6019532 SOURCE CODE: UR/0020/66/168/004/0851/0853

AUTHOR: Gershenzon, Yu. M.; Glebova, O. N.; Azatyan, V. V.; Balakhnin, V. P.; Nalbandyan, A. B. (Academician AN ArmSSR)

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: Detection of the OH radical by the EPR method in the rarefied flame of carbon monoxide in the presence of small amounts of hydrogen

SOURCE: AN SSSR. Doklady, v. 168, no. 4, 1966, 851-853

TOPIC TAGS: carbon monoxide combustion, carbon monoxide flame, hydrogen donor, hydroxyl radical, EPR method

ABSTRACT: The basic processes of the propagation and branching of combustion of CO in the presence of a small amount of H_2 are the following:

$$CO + OH \rightarrow CO_2 + H; \quad (I)$$
$$H + O_2 \rightarrow OH + O; \quad (II)$$
$$O + H_2 \rightarrow OH + H. \quad (III)$$

 UDC: 543.422

For small amounts of H_2, reaction (III) is rate determining. Earlier, the EPR method was applied to detect noticeable concentrations of oxygen and hydrogen atoms in the rarified CO flame in the presence of hydrogen donors such as H_2, CH_4, C_2H_4, H_2O, etc. For direct detection and determination of all three active species, i.e., hydrogen and oxygen atoms and the OH radical, the absorption cell was specially made to fit completely into the space in the resonator and was placed in close proximity to the reaction furnace. Measurement of the absolute concentrations of OH radicals was made with respect to molecular oxygen according to the formula:

$$N_{OH} = N_{O_2} \frac{Q_{OH}}{Q_{O_2}} \frac{f_+}{l_+},$$

where N is the concentration; Q is the numerical coefficient varying with the absorption bands, e.g., ranging from 40 to 200 for oxygen; and f_+ and l_+ are the space factors for the magnetic and the electric fields, respectively. The results of the measurements are given in the form of two graphs which indicate the dependence of the concentrations of active centers on the time of contact and the amount of added H_2.

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514920003-7"

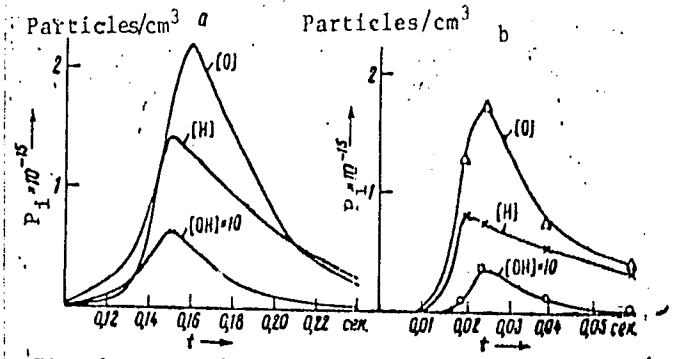


Fig. 1. Dependence of concentration of active centers on the contact time (T = 923 K, P = 3 mm Hg; H_2 = 6%)

a - Calculated; b - experimental.

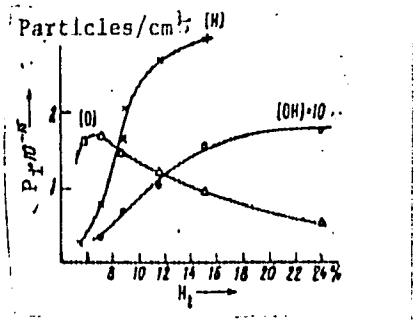


Figure 2. Dependence of the maximum concentration of active centers on the addition of hydrogen (T = 923 K, P = 3 mm Hg, W = 30 to 40 cm^3/min.

Figure 2 indicates that the oxygen concentration passes through a maximum, contrary to the monotonically increasing concentration of H and OH. This is explained by the assumption that in the case of small amounts of added H_2, reaction (III) is the rate determining step, and in the case of high H_2 concentration, reaction (II) is the rate

ACC NR: AM5005925

Card 2/6

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Card 3/6

ACC NR: AM5005925

Card 4/6

ACC NR: AM0005963

Card 5/6

ACC NR: AM5005925

SUB CODE: 09/ SUBM DATE: 11Aug64/ ORIG REF: 155/ OTH REF: 312

Card 6/6

S/789/61/000/036/010/013
E032/E414

AUTHORS: Gershenzon, Yu.M., Shupyatskiy, A.B.

TITLE: Scattering of elliptically polarized radiowaves by nonspherical atmospheric particles

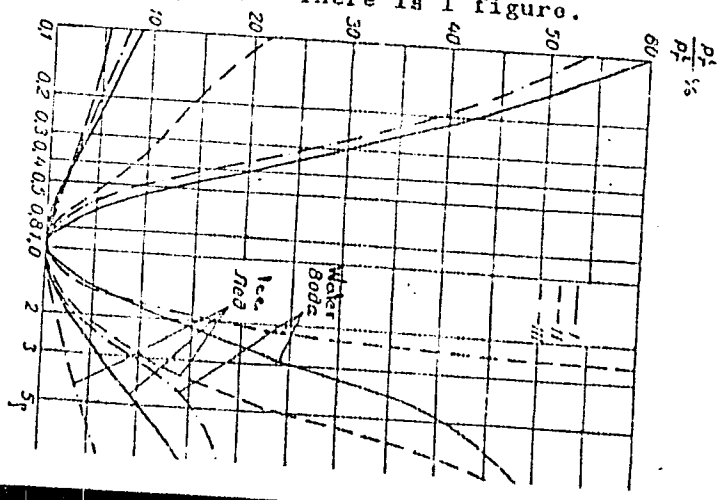
SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy. no.36. Moscow, 1961. Voprosy fiziki radiolokatsii oblakov, 102-108

TEXT: This theoretical paper is concerned with the scattering of elliptically polarized radar waves which are generated and received by a radar station with a single antenna. The scattering particles are approximated by ellipsoids of revolution whose linear dimensions are much smaller than the wavelength. Moreover, the scattering is assumed to be incoherent. Expressions are derived for the reflected field components parallel and perpendicular to the incident field. The reflected power is found to depend on the orientation of the scattering ellipsoids. Fig.1 shows the results of numerical calculations of the ratio of the reflected power for circular and linear polarizations which are based on these theoretical results. These plots can be used to determine

Card 1/2

the form factor of the particles and to distinguish between intensive rain and hail. The general conclusion is that the use of elliptically polarized waves will lead to information about the form, orientation and the phase structure of the particles responsible for the reflected signal. There is 1 figure.

Fig.1.



Card 2/2

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RPL/SSD/APGC Paa-4/Ps-4/Pc-4/Pr-4/Pt-4 RM/BW/WW/JW

ACCESSION NR: AP3002633 S/0171/63/016/003/0201/0203 89

AUTHOR: Azatyan, V. V.; Gershenzon, Yu. M.; Nalbandyan, A. V.; Ts'ui-Nen-Yuan

TITLE: Discovery of free hydrogen & oxygen atoms in vacuum-flaming of mixtures of carbon monoxide & oxygen in the presence of small additions of ethylene

SOURCE: AN ArmSSR. Izv. Khimicheskiye nauki, v. 16, no. 3, 1963, 201-203

TOPIC TAGS: free O atom, free H atom, ethylene, self-combustion

ABSTRACT: To verify the mechanism of CO combustion in the presence of ethylene, the concentration of free O and H atoms was determined by electron paramagnetic resonance measurement. Ethylene accelerates CO combustion and lowers the limit of self combustion; the ethylene concentration at which O content is maximum is also the concentration at which the lower self-combustion limit is minimum - about 0.2%. O and H concentrations increase with ethylene increase (to about 2.5 and 0.4%, respectively), then decrease. Increase in temperature increases O content faster than H concentration. Orig. art. has: 1 figure and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

Card 1/2

S/252/63/036/002/003/003
D216/D308

AUTHOR: Gershenzon, Yu.M.

TITLE: Determination of the concentration of activity centers along a reaction tube by the EPR method

PERIODICAL: Akademiya nauk Armyanskoy SSR. Doklady, v. 36, no. 2, 1963, 89-93

TEXT: The possibility of using EPR for the determination of the distribution of intermediate paramagnetic particles is discussed. It is shown that the experimental determination of the dependence of the EPR signal on the mutual disposition of the reaction tube and the resonator may be used to determine the radial average of the concentration. The theoretical analysis is applied to the case of a cylindrical resonator (H_{011} wave) used in the EPR-2M instrument developed at the Institut khimicheskoy fiziki AN SSR (Institute of Chemical Physics, AS USSR). It is also shown that the problem may be reduced to the solution of a difference equation of the form $(1/2\pi)^2 d^3I/dZ = 1/2(Z_{z+1} - Z_z)$ and the solution of this

Card 1/2

equation is sought in the form $Z_z = kl^{-az}$. This may be used to determine the required concentration.

ASSOCIATION: Institut khimicheskoy fiziki, Akademiya nauk SSR (Institute of Chemical Physics, AS USSR)

PRESENTED: by A.B. Nalbandyan, Member Correspondent of the AS Arm.SSR)

AZATYAN, V.V.; GERSHENZON, Yu.M.; NALBANDYAN, A.B.; STUY-MEN-YUAN'

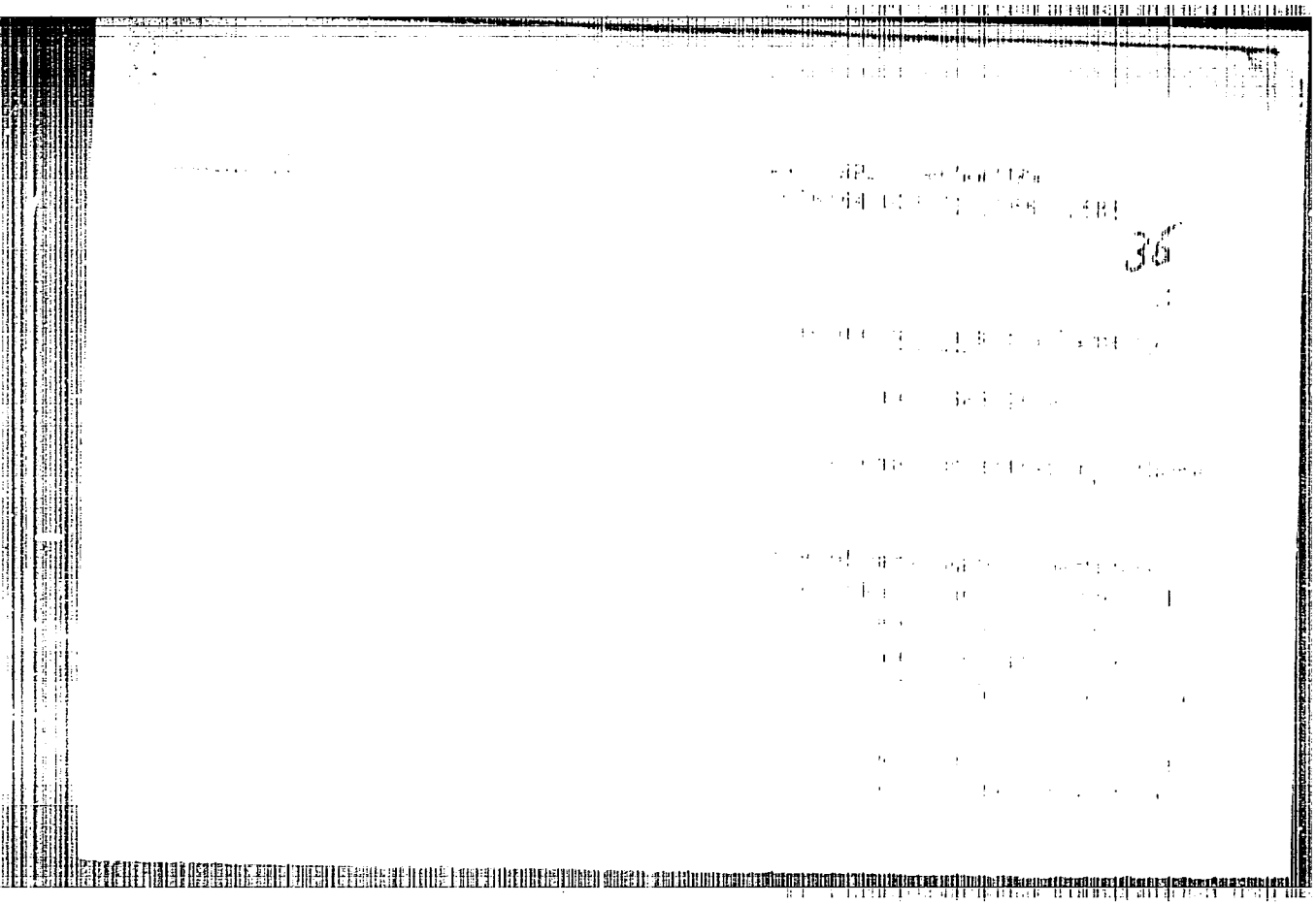
Detection of free hydrogen and oxygen atoms in a rarefied flame of carbon monoxide and oxygen mixtures in the presence of small amounts of ethylene additions. Izv. AN Arm.SSR. Khim.nauki. 16 no.3:201-203 '63. (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR.

GERSHENZON, Yu.M.

Determination of the concentration of active centers along a reaction tube by the electron magentic resonance method. Dokl. AN Arm. SSR 36 no.2:89-93 '64. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno chlenom-korrespondentom AN Armyanskoy SSR A.B.Nalbandyanom.



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ACCESSION NR: AP4012972 S/0020/64/154/004/0883/0885

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Measuring the concentrations of atomic oxygen and hydrogen in a rarefied hydrogen flame by the method of electron paramagnetic

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 883-885

TOPIC TAGS: elementary reaction, successive reaction, stoichiometry, stoichiometric mixture, resonator, atom concentration, atomic oxygen, atomic hydrogen, rarefied flame, magnetic moment

ABSTRACT: This project relates to the finding of atomic oxygen and the measurements of the concentration of O and H atoms in a rarefied hydrogen flame by the spectra of the electron paramagnetic resonance. The jet-type reactor used in the experiment was placed inside the resonator which made it possible to determine the O and H atom concentrations in the combustion area. The project began with a study

Card 1/2

ACCESSION NR: AP4012972

of a rarefied flame of a mixture containing 5% H_2 and 95% O_2. Large quantities of atomic oxygen (up to 6×10^{15} particles) were recorded in the flame of that mixture. The concentration of atomic hydrogen in this case lies within the sensitivity range of the instrument ($1-2 \times 10^{14}$ particles). The area of preferential formation of atomic hydrogen is found in mixtures containing 15% and less hydrogen. The area of preferential formation of atomic hydrogen lies in the mixtures containing over 70% molecular hydrogen. It should be pointed out that in the determination of the absolute concentration of hydrogen and oxygen atoms, the difference in their magnetic moments was not taken into account, and the resulting concentrations of atomic oxygen were therefore 4.5 times as large. Orig. art. has 2 figures and 1 formula.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

Card 2/3

ACCESSION NR: AP4016511 S/0020/64/154/005/1142/1144

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Discovering a free hydroxyl in a rarefied hydrogen flame by the electron paramagnetic resonance method

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1142-1144

TOPIC TAGS: hydrogen flame, rarefied flame, microwave spectrum, hydroxyl, free hydroxyl, dipole, dipole transition, hydroxyl absorption, resonator, linear velocity, OH spectrum, OH absorption, atomic oxygen, molecular oxygen

ABSTRACT: Studies made by Dousmanis, Radford and other researchers revealed that the microwave spectrum of OH absorption is dependent on electric dipole transitions, the intensity of which is considerably greater than that of the ordinary electron paramagnetic resonance lines brought about by the magnetic dipole transitions. It

Card 1/3

ACCESSION NR: AP4016511

follows that when the pressure in the flame of H_2 with O_2 is low, it is possible to detect the signals of paramagnetic absorption of a free hydroxyl; the discovery of OH is possible only when the particles are placed in the loop of an ultra-high frequency electric field. The reactor made for investigation purposes (from quartz) was designed in such a way that the absorbing cell filled the entire resonator and this made it possible to observe the spectrum determined by the electric and magnetic dipole transitions. It was found that the OH sign gradually rises with the increasing H_2 content and reaches a maximum when the latter amounts to 60%, while the H sign shows a sharper increase and reaches its maximum value at 70% H_2. No signal of atomic oxygen was observed in our experiment as it was completely suppressed by the signal of molecular oxygen, the amplitude of which at a low temperature of the absorbing cells is considerably greater than the O signal. However, the O concentrations previously observed in H_2-poor mixtures have been considerably greater (60-80 times) than the concentrations of atomic hydrogen.

Card 2/3

ACCESSION NR: AP4016511

Orig. art. has: 2 figures and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 050ct63	DATE ACQ: 12Mar64	ENCL: 00
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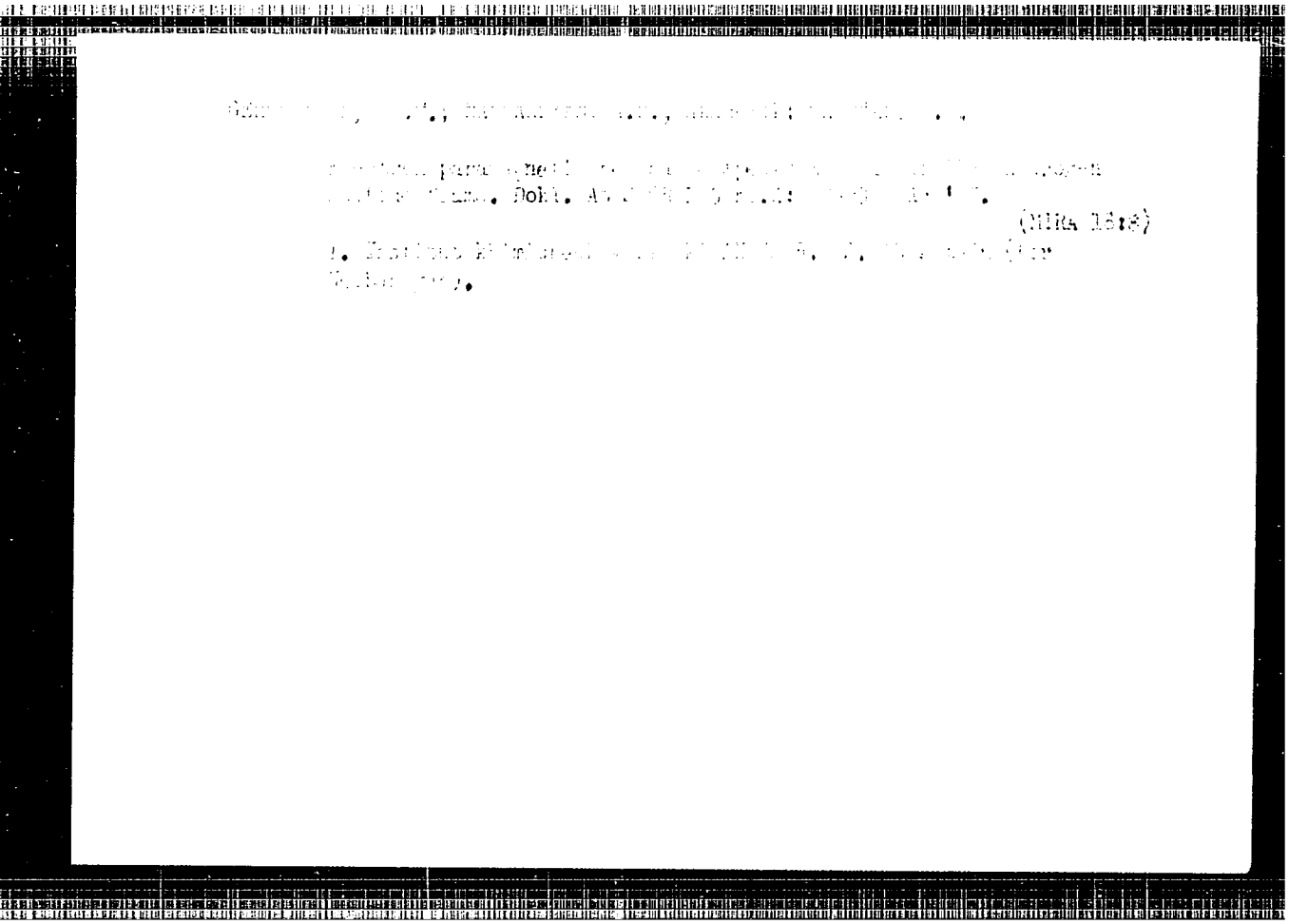
Card 3/3



ACC NR: AP6019532 SOURCE CODE: UR/0020/66/168/004/0851/0853

AUTHOR: Gershenzon, Yu. M.; Glebova, O. N.; Azatyan, V. V.; Balakhnin, V. P.; Nalbandyan, A. B. (Academician AN ArmSSR)

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: Detection of the OH radical by the EPR method in the rarefied flame of carbon monoxide in the presence of small amounts of hydrogen

SOURCE: AN SSSR. Doklady, v. 168, no. 4, 1966, 851-853

TOPIC TAGS: carbon monoxide combustion, carbon monoxide flame, hydrogen donor, hydroxyl radical, EPR method

ABSTRACT: The basic processes of the propagation and branching of combustion of CO in the presence of a small amount of H_2 are the following:

$$CO + OH \rightarrow CO_2 + H; \quad (I)$$
$$H + O_2 \rightarrow OH + O; \quad (II)$$
$$O + H_2 \rightarrow OH + H. \quad (III)$$

Card 1/4 UDC: 543.422

For small amounts of H_2, reaction (III) is rate determining. Earlier, the EPR method was applied to detect noticeable concentrations of oxygen and hydrogen atoms in the rarified CO flame in the presence of hydrogen donors such as H_2, CH_4, C_2H_4, H_2O, etc. For direct detection and determination of all three active species, i.e., hydrogen and oxygen atoms and the OH radical, the absorption cell was specially made to fit completely into the space in the resonator and was placed in close proximity to the reaction furnace. Measurement of the absolute concentrations of OH radicals was made with respect to molecular oxygen according to the formula:

$$N_{OH} = N_{O_2} \frac{Q_{OH}}{Q_{O_2}} \frac{f_+}{l_+},$$

where N is the concentration; Q is the numerical coefficient varying with the absorption bands, e.g., ranging from 40 to 200 for oxygen; and f_+ and l_+ are the space factors for the magnetic and the electric fields, respectively. The results of the measurements are given in the form of two graphs which indicate the dependence of the concentrations of active centers on the time of contact and the amount of added H_2.

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514920003-7"

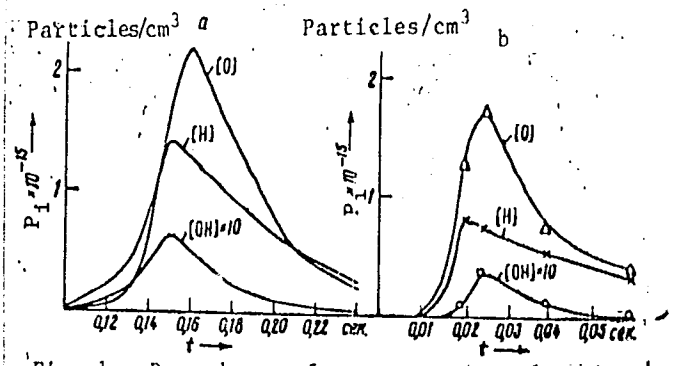


Fig. 1. Dependence of concentration of active centers on the contact time (T = 923 K, P = 3 mm Hg; H_2 = 6%)

a - Calculated; b - experimental.

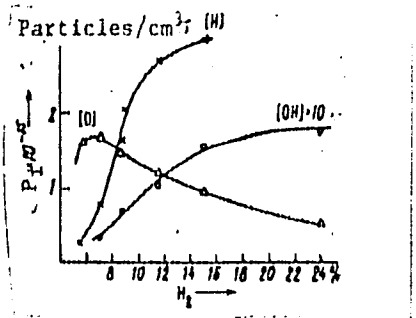


Figure 2. Dependence of the maximum concentration of active centers on the addition of hydrogen (T = 923 K, P = 3 mm Hg, W = 30 to 40 cm^3/min.

Figure 2 indicates that the oxygen concentration passes through a maximum, contrary to the monotonically increasing concentration of H and OH. This is explained by the assumption that in the case of small amounts of added H_2, reaction (III) is the rate determining step, and in the case of high H_2 concentration, reaction (II) is the rate

L 34042-66

ACC NR: AP6019532

determining step. The OH concentration is the smallest because the rate constant of reaction (I) is the largest. Orig. art. has: 2 figures. [BN]

SUB CODE: 21, 07 SUBM DATE: 30Aug65/ ORIG REF: 009/ OTH REF: 008/
ATD PRESS: 5014

Card 4/4

ACC NR: AP6034758 (A,N) SOURCE CODE: UR/0020/66/170/005/1117/1120

AUTHOR: Balakhnin, V. P.; Kondrat'yev, V. N. (Academician); Nalbandyan, A. B. (Academician AN ArmSSR); Gershenzon, Yu. M.

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: Quantitative study of the hydrogen combustion mechanism in the vicinity of the lower limit of ignition

SOURCE: AN SSSR. Doklady, v. 170, no. 5, 1966, 1117-1120

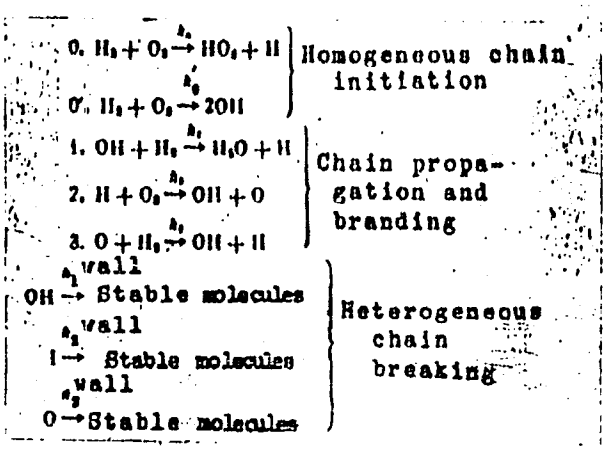
TOPIC TAGS: hydrogen, ~~hydrogen~~ combustion, reaction kinetics, reaction mechanism, ignition

ABSTRACT: A calculation has been made of the rate constants of certain elementary reactions in the mechanism of hydrogen combustion at 900—1052K using absolute concentrations of active centers measured by EPR spectroscopy as a function of flow velocity. The amount of water formed was determined by freezing in a calibrated trap. The concentration of molecular oxygen was determined by direct EPR spectroscopic measurement at the exit of the reaction zone. The following rate constants were calculated at several temperatures in the range 900—1052K:

Card 1/4

ACC NR: AP6034758

k_1, k_2, k_3, and k_2^{wall} for the reactions,



The optimum values of these and some other constants were selected by varying them and comparing the results of an electronic-computer solution of the appropriate system of equations with the experimentally measured maximum active-center concentrations and degrees of combustion.

Card 2/4

ACC NR: AP6034758

It was shown that the maximum active-center concentration (in the region of greatest intensity of the combustion zone) are not affected by longitudinal diffusion. A similar result was obtained on varying the initiation rate constant. From the value of the induction period in best agreement with the experimental value of contact time, reaction (0') was selected as the most optimum process and its constant was

$$k_0' = 10^{12.4} e^{-39000/RT} \text{ cm}^3 \cdot \text{mol}^{-1} \cdot \text{sec}^{-1}$$

Variation of values of the rate constants of reactions which are the reverse of chain branching and chain propagation (1, 2, and 3) showed that the best agreement of calculation and experiment is obtained when all three reverse reactions are taken into account, although

$$H + O_2 \leftarrow OH + O$$

has the greatest effect on maximum concentrations. The maximum concentrations of H, O, OH and the concentrations of O_2 and H_2O obtained by solving the system of equations were compared with experimental values.

Card 3/4

ACC NR: AP6034758

The best agreement was obtained for the following values of rate constants:

$$k_1 = 2 \cdot 10^{-10} \cdot e^{-8000/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$
$$k_2 = 1{,}7 \cdot 10^{-10} \cdot e^{-16000/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$
$$k_3 = 0{,}0 \cdot 10^{-10} \cdot e^{-11700/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$

It was shown that variation of the values of the rate constant of reaction (1 wall) has no effect on the results of the solution; therefore, its rate constant cannot be determined by this method. The optimum values of probabilities of heterogeneous destruction of H and O atoms were

$$\varepsilon_H = (2{,}4 \pm 0{,}8) \cdot 10^{-3} \cdot e^{-500/RT},$$
$$\varepsilon_O = (8{,}0 \pm 4{,}8) \cdot 10^{-3} \cdot e^{-600/RT},$$

[WA-68]

SUB CODE: 21, 07/ SUBM DATE: 05Apr66/ ORIG REF: 011/
OTH REF: 006

Card 4/4

ACC NR: AP6034758 (A,N) SOURCE CODE: UR/0020/66/170/005/1117/1120

AUTHOR: Balakhnin, V. P.; Kondrat'yev, V. N. (Academician); Nalbandyan, A. B. (Academician AN ArmSSR); Gershenzon, Yu. M.

ORG: Institute of Chemical Physics, Academy of Sciences, SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: Quantitative study of the hydrogen combustion mechanism in the vicinity of the lower limit of ignition

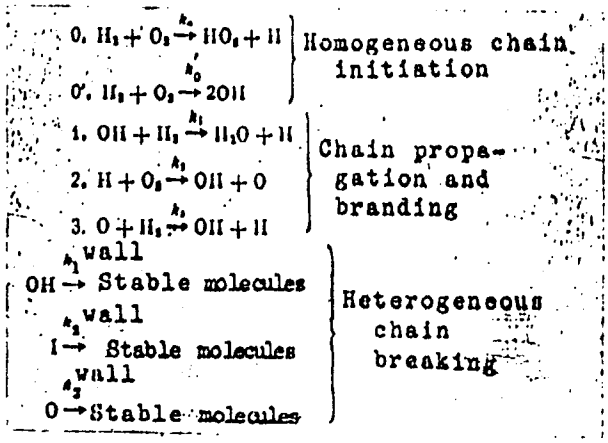
SOURCE: AN SSSR. Doklady, v. 170, no. 5, 1966, 1117-1120

TOPIC TAGS: hydrogen, ~~hydrogen~~ combustion, reaction kinetics, reaction mechanism, ignition

ABSTRACT: A calculation has been made of the rate constants of certain elementary reactions in the mechanism of hydrogen combustion at 900—1052K using absolute concentrations of active centers measured by EPR spectroscopy as a function of flow velocity. The amount of water formed was determined by freezing in a calibrated trap. The concentration of molecular oxygen was determined by direct EPR spectroscopic measurement at the exit of the reaction zone. The following rate constants were calculated at several temperatures in the range 900—1052K:

Card 1/4

k_1, k_2, k_3, and k_2^{wall} for the reactions,



The optimum values of these and some other constants were selected by varying them and comparing the results of an electronic-computer solution of the appropriate system of equations with the experimentally measured maximum active-center concentrations and degrees of combustion.

APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514920003-7"

It was shown that the maximum active-center concentration (in the region of greatest intensity of the combustion zone) are not affected by longitudinal diffusion. A similar result was obtained on varying the initiation rate constant. From the value of the induction period in best agreement with the experimental value of contact time, reaction (0') was selected as the most optimum process and its constant was

$$k_0' = 10^{12.4} e^{-39000/RT} \text{ cm}^3 \cdot \text{mol}^{-1} \cdot \text{sec}^{-1}$$

Variation of values of the rate constants of reactions which are the reverse of chain branching and chain propagation (1, 2, and 3) showed that the best agreement of calculation and experiment is obtained when all three reverse reactions are taken into account, although

$$H \quad O_2 \leftarrow OH + O$$

has the greatest effect on maximum concentrations. The maximum concentrations of H, O, OH and the concentrations of O_2 and H_2O obtained by solving the system of equations were compared with experimental values.

ACC NR: AP6034758

The best agreement was obtained for the following values of rate constants:

$$k_1 = 2 \cdot 10^{-10} \cdot e^{-8600/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$
$$k_2 = 1{,}7 \cdot 10^{-10} \cdot e^{-16600/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$
$$k_3 = 0{,}9 \cdot 10^{-10} \cdot e^{-11700/RT}\ cm^3\ mol^{-1}\ sec^{-1}$$

It was shown that variation of the values of the rate constant of reaction (1 wall) has no effect on the results of the solution; therefore, its rate constant cannot be determined by this method. The optimum values of probabilities of heterogeneous destruction of H and O atoms were

$$\varepsilon_H = (2{,}4 \pm 0{,}8) \cdot 10^{-3} \cdot e^{-5000/RT},$$
$$\varepsilon_O = (8{,}0 \pm 4{,}8) \cdot 10^{-2} \cdot e^{-6000/RT}.$$

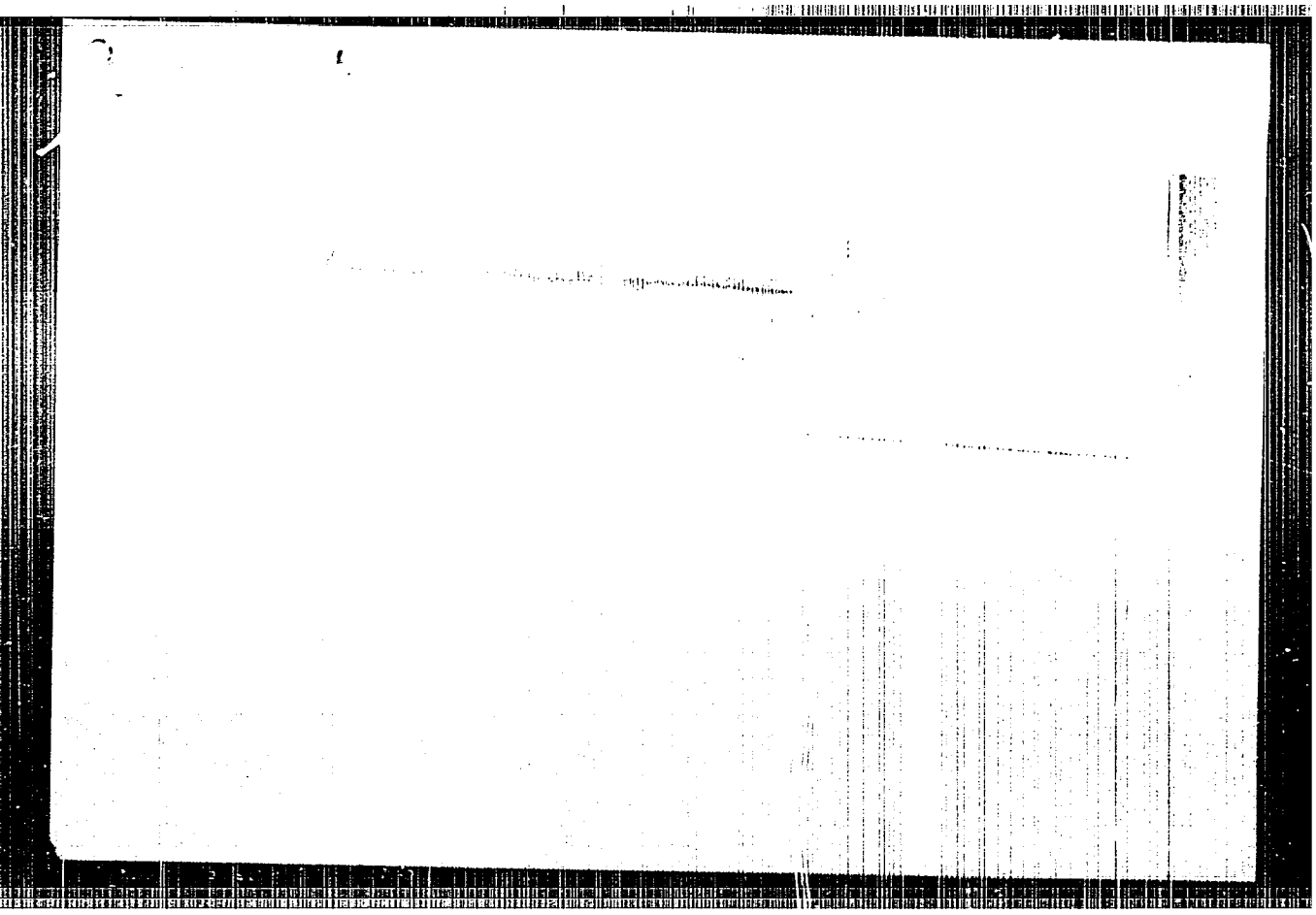
[WA-68]

SUB CODE: 21, 07/ SUBM DATE: 05Apr66/ ORIG REF: 011/
OTH REF: 006

Card 4/4

GERCHENOVICH, A.R.

First observations of the state of the cardiovascular system in patients of rest homes in Khumsan. Sbor.trud.Uz.gos. nauch.-issl.inst.kur.i fiziotor. 17:181-184 '62. (MIRA 17:7)



APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514920003-7"

~~GERSHENOVICH, G.B.~~

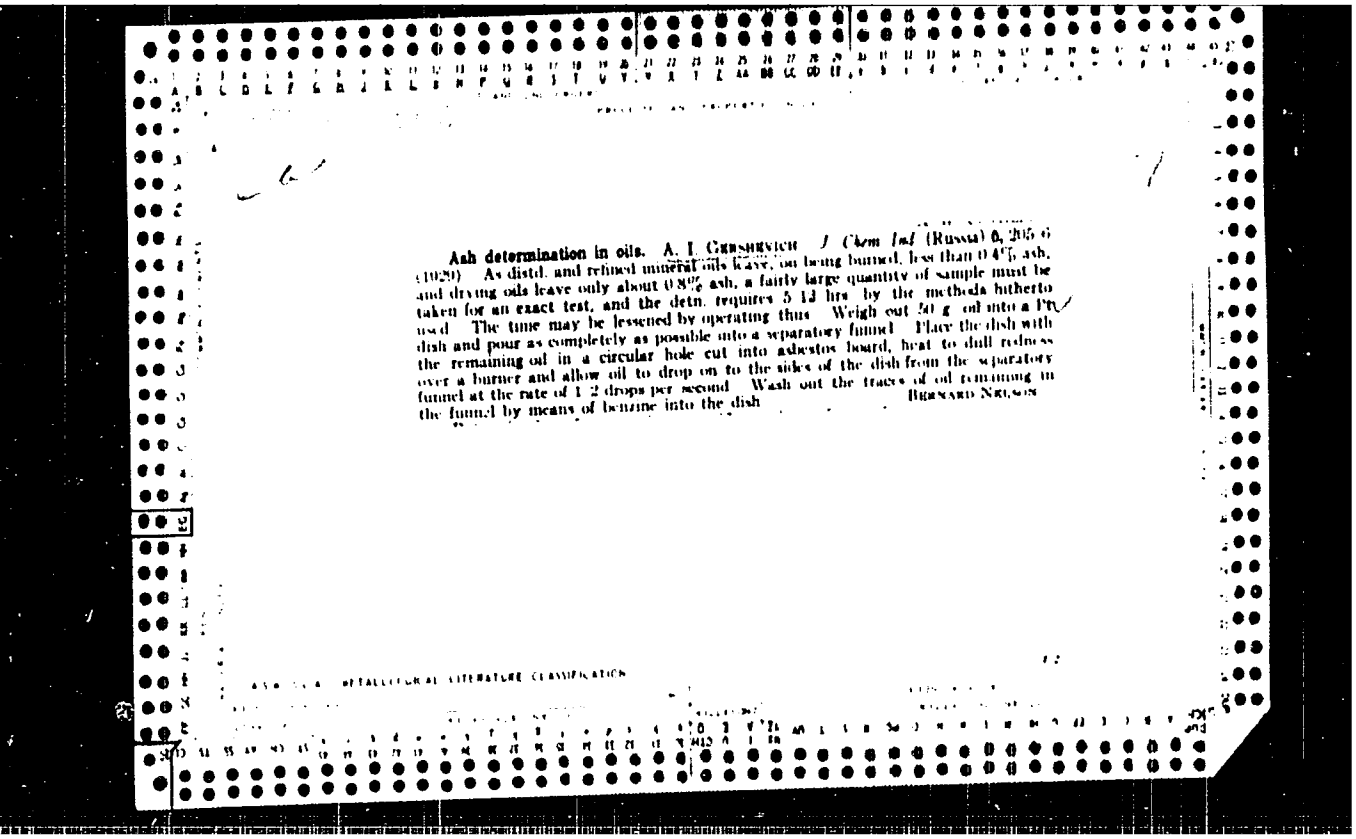
GERSHENOVICH, G.B.

Issledovanie avtomaticheskogo regulirovaniia temperatury aviatsionnykh motorov. Moskva, BNT, 1946

Tit e tr.: Investigation of automatic temperature control of aircraft engines.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955



Ash determination in oils. A. I. Gurevich. *J. Chem. Ind.* (Russia) 6, 205-6 (1929). As distd. and refined mineral oils leave, on being burned, less than 0.4% ash, and drying oils leave only about 0.8% ash, a fairly large quantity of sample must be taken for an exact test, and the detn. requires 5-13 hrs. by the methods hitherto used. The time may be lessened by operating thus. Weigh out 50 g. oil into a Pt dish and pour as completely as possible into a separatory funnel. Place the dish with the remaining oil in a circular hole cut into asbestos board, heat to dull redness over a burner and allow oil to drop on to the sides of the dish from the separatory funnel at the rate of 1-2 drops per second. Wash out the traces of oil remaining in the funnel by means of benzine into the dish. Bigeard Nielsen

CA

4

Repairing defects on zinc plated apparatus. A. I. Gershevich. *Kotlostroenie i Tsvetnye Met.* 6, No. 2, 39-41 (1940).—The method consists of electrodepositing Zn on the defective area. A special apparatus was developed. The hollow anode is made of an alloy of Zn with 0.2% Al. It has a flat, or curved bottom in order to fit respective surfaces. The channel through the anode is 4-5 mm. wide; through this passes the electrolyte. The channel terminates in a capillary tip 1.0-1.5 mm. in diam. The immersed section of the anode is wrapped in several layers of cloth to ensure even distribution of the electrolyte over the surface area to be mended. The distance between the anode and the cathode (which is the piece to be mended) is 1-3 mm. Therefore the elec. resistance of the electrolyte is also very low, and the c. d. can be increased to 25-100 amp./sq. dm. This permits depositing a layer of Zn 6-24 μ thick in one min. The electrolyte contains satd. $ZnSO_4.7H_2O$ soln., H_3BO_3 15 g./l.; H_2SO_4 0.1-0.2 g./l.; pH 3.5-2.5; temp. 40-60°. The electrolyte from a large reservoir slowly runs through the anode. It wets the cloth wrappings at a rate of 2-3 drops sec. The deposited Zn is light gray 40 to 60 μ thick and adheres well to the basis metal.

C. S. Shapiro

CA

Copper plating from cyanide-free baths. A. I. Levi-shevich and I. B. Gamburg. *Korroziya i Bor'ba s Nei* 6, No. 2, 40(1940). For the pyrophosphate bath contg. $Na_6Cu(P_2O_7)_2 \cdot 10H_2O$ 200 and $Na_4P_2O_7 \cdot 10H_2O$ 13.5 g./l. the optimum conditions are: c. d. 5-6 amp./sq. dm. 10-20 sec. and no stirring; then 0.5-1.0 amp./sq. dm. with stirring. pH should be at 9.3. Deposits obtained adhere well and are but slightly porous. The objection to this electrolyte is that anodes become passive, causing the pH to drop and the plate to adhere poorly. Addn. of Na_2HPO_4 lessens these defects. A bath composed of $Na_6Cu(P_2O_7)_2 \cdot 10H_2O$ 180, $Na_4P_2O_7 \cdot 10H_2O$ 13.5 and $Na_2HPO_4 \cdot 12H_2O$ 30 to 50 g./l. gives good anode corrosion and maintains a nearly const. pH. Measurement of the throwing power of this bath with the bent cathode gave values as high as those for the Cu cyanide baths. During these expts. a method for detg. Cu in the presence of P_2O_7 was developed. To 10 cc. of the electrolyte were added . cc. of 2 N H_2SO_4 and 3 g. KI. The whole was titrated with 0.1 N $Na_2S_2O_3$ + starch soln. At the end point the bath is cream color. The pH of this bath was measured with a glass electrode of special high-conductivity glass.

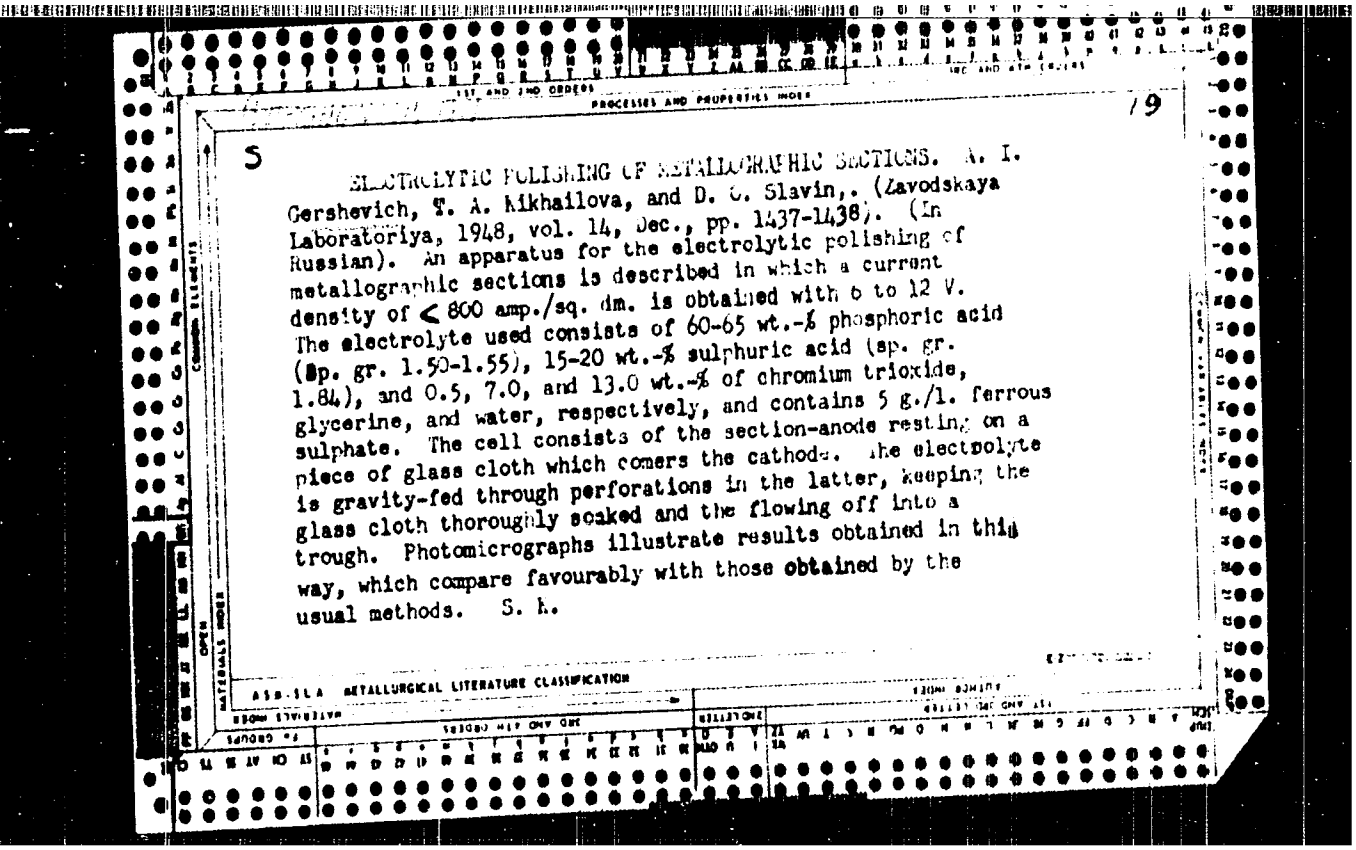
C. S. Shapiro

GERSHEVICH, A.I.

PROCESSES AND PROPERTIES INDEX

*Testing the Stability of "Korolak" in Electroplating Baths. A. I. Gershevich (Korroziya i Bor'ba s Nei, 1940, 6, (5-6), 64-67; Khim. Referat. Zhur., 1941, 4, (7-8), 135; C. Abs., 1944, 38, 2919). In Russian. "Korolak" is a chlorovinyl resin dissolved in chlorobenzene to which a stabilizer (triethanolamine) and various plasticizers (tritolyl phosphate, sovol, etc.) are added. The stability of various kinds of "Korolak" as a protective film (stop-off) for nickel and chromium plates was studied. Tests extending over 30 days indicated that "Korolak" had good protective properties and did not adversely affect the nickel electrolyte or the nickel plate. The protective properties of "Korolak" did not decrease for at least 10-12 months in the chromium plating baths.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



79

S

ELECTROLYTIC POLISHING OF METALLOGRAPHIC SECTIONS. A. I. Gershevich, T. A. Mikhailova, and D. G. Slavin,. (Zavodskaya Laboratoriya, 1948, vol. 14, Dec., pp. 1437-1438). (In Russian). An apparatus for the electrolytic polishing of metallographic sections is described in which a current density of < 800 amp./sq. dm. is obtained with 6 to 12 V. The electrolyte used consists of 60-65 wt.-% phosphoric acid (sp. gr. 1.50-1.55), 15-20 wt.-% sulphuric acid (sp. gr. 1.84), and 0.5, 7.0, and 13.0 wt.-% of chromium trioxide, glycerine, and water, respectively, and contains 5 g./l. ferrous sulphate. The cell consists of the section-anode resting on a piece of glass cloth which covers the cathode. The electrolyte is gravity-fed through perforations in the latter, keeping the glass cloth thoroughly soaked and the flowing off into a trough. Photomicrographs illustrate results obtained in this way, which compare favourably with those obtained by the usual methods. S. L.

Pencil colorimeter for pH determinations. A. I. Gershevich. *Zavodskaya Lab.* 15, 1382(1949).—A line drawn by an "indicator pencil" across a filter paper strip dipped into the test soln. assumes the proper color for the given pH and is compared visually with the color chart. For viscous or colored solns. a fresh strip of dry paper is applied to the test specimen and the diffusing soln. is used for the actual detn. G. M. Kosolapoff

A.I. Gershevich. Laboratory bath for electrochemical de/re[illegible]. P. 1960

Scient. Res. Inst. of
the Chemical Industry.

So: Factory Laboratory, No. 12, 1960

GERSHEVICH, E.G.; KASHKIN, A.A.; KREYNIN, Ye.V.; REVVA, M.K.

Basic results of the work of the south Abinskiy underground gasification station in 1961. Nauch. trudy VNII Podzemgaza no.8:87-91 '62. (MIRA 16:6)

1. Laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley i Yuzhno-Abinskaya stantsiya "Podzemgaz".
(Abinskiy region—Coal gasification, Underground—Accounting)

KREYNIN, Ye.V.; ZABROVSKIY, A.S.; GERSHEVICH, L.G.

Analysis of the technological regimes of starting the exploitation of inclined gas-evacuation boreholes at the south Abinskiy underground gasification station. Nauch. trudy VNIIPodzemgaza no.8:91-95 '62. (MIRA 16:6)

1. Laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley i Yuzhno-Abinskaya stantsiya "Podzemgaz".
(Abinskiy region—Coal gasification, Underground)

SHEVCHENKO, N.F., otv. red.; BABAYEVA, Ye.K., red.; BELOUSOV, Ye.K., red.; VINNIK, S.A., prof., red.; GERSHEVICH, S.A., red.; IOSSET, G.Ya., prof., red.; KATYUKHIN, K.Ya., red.; KISELEVA, A.S., red.; MENSHCHIKOVA, L.I., red.; PALGENIYEV, M.K., dots., red.; OBUKHOV, P.F., red.; RUTENBURG, D.M., red.; FAYN, M.A., dots., red.; OVECHKINA, L.S., red.

[Public health in Amur Province; collection of articles] Zdravookhranenie Amurskoi oblasti; sbornik statei. Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1962. 236 p. (MIRA 17:7)

1. Amur (Province) Otdel zdravookhraneniya. 2. Zaveduyushchiy Gospital'noy khirurgicheskoy klinikoy Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Iosset). 3. Blagoveshchenskiy meditsinskiy institut, Amurskaya oblast' (for Obukhov). 4. Zaveduyushchiy Klinikoy obshchey khirurgii Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Palgeniyev). 5. Zaveduyushchiy kafedroy otorinolaringologii Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Vinnik). 6. Zaveduyushchiy Kafedroy sudebnoy meditsiny Blagoveshchenskogo meditsinskogo instituta, Amurskaya oblast' (for Fayn).

86-8-14/22

AUTHORS: Gershevich, Yu. F., Eng. Lt.-Col., and Kon'kov, N. G., Eng. Lt.-Col.

TITLE: Aircraft Technician G. S. Kashkalov (Tekhnik samoleta G. S. Kashkalov)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 8, pp. 66-71 (USSR)

ABSTRACT: The article describes how Lieutenant Technician Grigoriy Semenovich Kashkalov became the best aircraft technician in a Soviet Air Force unit, and how he has performed his duties and shown initiative tending to improve the aircraft maintenance work in the unit. He was trained in an Air Force Primary School (voyennaya aviatsionnaya shkola pervonachal'nogo obucheniya) and, while serving in the unit, he passed the mechanic's examinations and graduated from an Air Force Technical School (voyennoye aviatsionnoye tekhnicheskoye uchilishche). He is responsible for the maintenance of a MiG jet fighter; thanks to his conscientiousness, meticulousness, organizational skill, personal example and exactingness, he managed to decrease the complacent routinism; as a result, the airplane he has cared for has flown without any failure for many years. For instance,

Card 1/3

Aircraft Technician G. S. Kashkalov (Cont.)

caliber in the units, a higher standard of maintenance work would be achieved.

AVAILABLE: Library of Congress.

Card 3/3

SOV/86-58-8-29/37

AUTHOR: Gershevich, Yu.F., Engr Col, and Afanas'yev, G.B., Engr Capt

TITLE: For Greater Scientific Activity Among Engineers of Combat Units (Aktivizirovat' nauchnuyu rabotu inzhenerov stroyevykh chastey)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 8, pp 80-81 (USSR)

ABSTRACT: The authors are of the opinion that a closer cooperation between the engineers of combat units and related specialists in academies and higher educational institutues is needed to effect a more efficient exploitation of combat materiel. They also note that a special periodical for the engineers would be of great importance.

Card 1/1

VOYTKEVICH, A.A.; BUKHONOVA, A.I.; BERLOVA, Z.D.; GERSHEVITSKAYA, R.T.; SHEBEKO, O.D.

Effect of adrenaline on regenerative processes in normal and castrated animals. Biul. eksp. biol. med. 47 no.2:124-128 F '59. (MIRA 12:4)

1. Iz kafedry gistologii i embriologii (zav. - prof. A.A. Voytkevich) Voronezhskogo meditsinskogo instituta (dir. - prof. N.I. Odnoralov). Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.

(REGENERATION,
eff. of epinephrine in normal & castrated animals (Rus))
(CASTRATION, eff.
on gegen. reactions to epinephrine (Rus))
(EPINEPHRINE, effects,
on regen. in normal & castrated animals (Rus))

GERSHFEL'D, S.I.

All-Union conference on technical reorganization of limestone quarries. Sakh. prom. 31 no.2:77 F '57. (MLRA 10:4)
(Limestone)

GERSHGAL, D., inzh. laureat Stalinskoy premii.

Ultrasonic waves at work. Mest.prom.i khud.promys. 1 no.2/3: 41-42 N-D '60. (MIRA 14:4)
(Ultrasonic waves--Industrial applications)
(Industrial equipment)

GERSHGAL, D.

25716. GERSHGAL, D. i DARABAN-SUSHCHOV, V. Samodel'nyy Vibropreobrazovatel' Radio, 1949, No. 8, s. 55-59.

SO: Letopis' Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

GERSHGAL, D.A.; DARAGAN-SUSHCHOV, V.I.; BERG, A. I., akademik, redaktor; BRODSKIY, A.A., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Home-made vibrator] Samodel'nyi vibropreobrazovatel'. Moskva, Gos.energ.izd-vo, 1951. 38 p.(Massovaia radio biblioteka, no.110)
(Radio--Transformers) (MLRA 8:10)

USSR/ Electronics - Vibrator transformers

Card 1/1 Pub. 89 - 26/32

Authors : Gershgal, D., and Novik, G.

Title : Diagrams of-vibrator-transformer units

Periodical : Radio 2, 51 - 52, Feb 1955

Abstract : A description is presented of the V-2, V-5 and V-12 vibrator transformer units used for rectifying power supply, and diagrams are presented depicting various types of vibrators.

Institution: .....

Submitted: .....

GERSHGAL, D.; NOVIK, G., laureat Stalinskoy premii.

Design of a transformer and spark extinguishing circuit of a vibration converter. Radio no.12:45-47 D '55. (MLRA 9:4)
(Electric current converters)

GERSHGAL, David Abramovich; KANEVSKAYA, M.D., redaktor; KARYAKINA, M.S., tekhnicheskiy redaktor

[Design and construction of vibratory converters] Raschet i konstruirovanie vibropreobrozovatelei. Moskva, Izd-vo DOSAAF, 1956. 129 p. (MLRA 9:12)
(Electric current converters)

GERSHGAL, D.; DAROGAN-SUSHCHOV, V.

Power sources for low-powered radio apparatus. V. pom. radioliub. no.1:25-39 '56. (MLRA 10:8)
(Radio--Equipment and supplies) (Electric batteries)

GERSHGAL, D.A.

"Sonic and ultrasonic waves and their use in light industries" by V.M.Fridman. Reviewed by D.A.Gershgal. Leg.prom.17 no.9:51 S '57. (MIRA 10:12)

(Ultrasonic waves--Industrial applications)
(Fridman, V.M.)

GERSHGAL, D.A., inzh.

New condenser type detonating machine. Bezop. truda v prom. 2 no.8:31-33 Ag '58. (MIRA 12:7)

1.TSentral'naya nauchno-issledovatel'skaya laboratoriya Gosgortekhnadzora RSFSR.

(Detonators)

GERSHGAL, David Abramovich; YEFREMOV, Leonid Alekseyevich; LYUBIMOV, N.G., otv.red.; KONDRAT'YEVA, M.A., tekhn.red.; IL'INSKAYA, G.M., tekhn.red.

[Detonating devices and metering equipment for electric blasting] Vzryvnye mashinki i izmeritel'nye pribory dlia elektrovzryvaniia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 44 p. (MIRA 13:12)
(Detonators) (Blasting)

GERSHGAL, DAVID ABRAMOVICH and [illegible]

Vzryvnyye mashinki i izmeritel'nyye pribory dlya elektrovzryvaniya /1/ Moskva, Gosgortekhizdat, 1960. 84p. illus., diagrams, tables. 22 CM.

Bibliographical footnotes.

PHASE I BOOK EXPLOITATION SOV/5884

Gershgal, David Abramovich, and Viktor Mironovich Fridman

Ul'trazvukovaya apparatura (Ultrasonic Instrumentation) Moscow, Gosenergoizdat, 1961. 246 p. 12,000 copies printed.

Eds.: G. K. Novik and S. N. Sinitsin; Tech. Ed.: G. Ye. Larionov.

PURPOSE: The book is intended for engineering and technical personnel in branches of industry using ultrasonic instrumentation.

COVERAGE: The principles of operation and basic technical data on ultrasonic industrial equipment for operations in liquid, gaseous, and solid media are described. Instruments and devices for measuring the basic parameters of ultrasonic phenomena at various frequencies are described, and computation methods for ultrasonic projectors, receivers, and audio and ultrasonic elastic-vibration generators are discussed. The authors thank L. D. Rozenberg, Professor, S. S. Anisimov, Engineer, and B. G. Novitskiy, Engineer, for their assistance. There are 13 references: 12 Soviet and 1 English.

Card 1/4

INVENTOR: Gershgal, D. A.; Daragan-S[illegible]nchov, V. I.; S[illegible]cherbanenko, T. B.

ORG: None

TITLE: An ultrasonic echo ranging level indicator. Class 42, No. 181327

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 87

TOPIC TAGS: liquid level indicator, ultrasonic equipment, electronic measurement

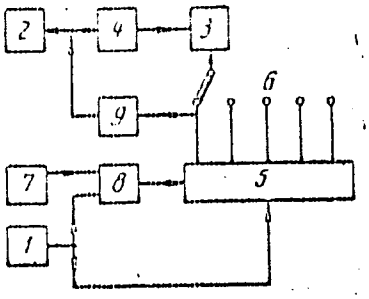
ABSTRACT: This Author's Certificate introduces: 1. An ultrasonic echo ranging liquid level indicator containing reference and measurement units with pickups, a probe pulse generator, and a level readout unit connected to the measurement unit. The device is designed for improved accuracy and for matching the operating times of the reference unit, measurement pickup and readout unit. Connected between the reference and measurement units is a reference pulse distributor with outputs corresponding in number to predetermined points for beginning level measurement. This distributor may be made in the form of a controlled delay line. 2. A modification of this indicator in which the outputs of the reference unit and probe pulse generator are connected to a coincidence circuit with an output which excites the measurement pickup when one of the reference pulses is generated. This output is connected through the reference pulse distributor to the probe pulse shaper. 3. A

Card 1/2 UDC: 681.128.82

ACC NR: [illegible]

modification of this indicator for measuring liquid levels at various temperatures and densities without additional adjustment. The reference pulse distributor in the instrument is made in the form of a counter with decoder. 4. A modification of this indicator in which the reference pulse distributor is made in the form of a shift register.

1--reference unit; 2--measurement pickup; 3--readout unit; 4--measurement unit; 5--reference pulse distributor; 7--probe pulse generator; 8--coincidence circuit; 9--probe pulse shaper



SUB CODE: 09/ SUBM DATE: 27Aug64

Card 2/2

GERSHGAL, N Ya

SOV/136-58-11-16/22

AUTHORS: ~~Gershgal, N.Ya.~~,
Zaremba, S.A.,
Lisovetskaya, E.G.

TITLE: Use of Foam Sprinkling to Improve Flotation Results (Primeneniye orosheniya peny dlya uluchsheniya rezul'tatov flotatsii)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 11, pp 82-84 (USSR)

ABSTRACT: The possibility of improving flotation of ores and coal by sprinkling the foam by the method developed by the Moskovskiy gornyy institut (Moscow Mining Institute) has been tested recently at several works. The article describes results at the Pyshminskaya obogatitel'naya fabrika (Pyshma Beneficiation Works) where sulphide ores are treated by collective flotation of sulphides followed by selection to give a copper concentrate and a pyrite-cobalt concentrate. The spraying was effected with [illegible] mm at spaced holes. Tests were run for six days, two hours without sprinkling, two with sprinkling at one rate and two with sprinkling at another rate. It was found (Fig.1) that the copper [illegible] rate of the concentrate rise with

Card 1/2

SOV/130-[illegible]-11-15/21

Use of Foam Sprinkling to Improve Flotation Results

[illegible] sprinkling water flow and does their content of the +74 micron fraction (fig.2). The optimal water flow was 44 litres/minute; the others above that the optimal must be determined for each particular case and carefully maintained and recommend the method for wide adoption in the flotation of non-ferrous metal ores. There are 2 figures and 1 table.

ASSOCIATION: Moskovskiy gornyy institut (Moscow Mining Institute)

Card 2/2

GERCHGORIN, B. N.

Vosstanovienie i razvitie gorodskogo elektrotransporta. [Restoration and development of city electric transport]. Kiev, 1946. 19 p.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

GERSHGORIN, B.N

The system of awarding prizes to urban electric transport employees.
Zhil.-kom. khoz. 7 no.6:14-15 '57. (MIRA 10:10)
(Electric railroads--Employees)

BASOV, S.Ye., inzhener; GERSHGORIN, M.A., inzhener.

Precast reinforced concrete wells. Avt.dor. 20 no.6:11-12 Je '57.
(MIRA 10:10)

(Bridge construction) (Precast concrete construction)

BASOV, S.Ye., inzh.; GERSHGORIN, M.A., inzh.

Precast concrete sink pits. Prom.stroi. 37 no.3:42-44 Mr '59.
(MIRA 12:4)

(Ore dressing--Equipment and supplies) (Precast concrete construction)

GERSHGORIN, S. A.

Uber die Abgrenzung der Eigenwerte einer Matrix. IAN, ser. fiz. - matem. (1931), 749-754.
O konformnom otobrazhenii odnosvyaznoy oblasti na krug. Matem. SB., 40 (1933), 48-58.
Pribor dlya interrirovaniya differentsial'nogo uravneniya Laplasa. Zh. Prikl. Fiz., 2 (1925), 161-167.
K opisaniyu pribora dlya interrirovaniya differentsial'nogo uravneniya Laplasa. Zh. Prikl. Fiz., 3 (1926), 271-274.
O mekhanizmakh dlya postroyeniya funktsiy kompleksnogo peremennogo. L., Zh, Fiz. - matem. o-va, 1 (1926), 102-113.
O priblizhënnom integrirovanii differentsial'nykh uravneniy Laplasa i Puassona. L., Izv. politekhn. IN-TA, 30 (1927), 75-95.
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Ob elektricheskikh setyakh dlya priblizhënnogo resheniya differentsial'nogo uravneniya Laplasa. Zh. Prikl. Fiz., 6:3-4 (1929), 3-30.
Fehlerabschätzung für das Differenzverfahren zur Lösung partielen Differentialgleichungen. J. Angew. Math. Mech., 10 (1930), 373-382.
Ueber die Abgrenzung der Eigenwerte einer Matrikh. IAN, ser. Fiz.-matem. (1931), 749-754.
O konformnom otobrazhenii odnosvyaznoy oblasti na krug. Matem. SB., 40 (1933), 48-58.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.
Markushevich, A.I.
Rashevskiy, R.K.
Moscow-Leningrad, 1948

GERSHGORIN, S. A.

USSR/Physics - Ultraviolet Radiation 21 Dec 49
Chemistry - Chemical Analysis

"Observations by Ultraviolet Rays and Their Application to Adsorptional Chemical Analysis," Ye. M. Brumberg, S. A. Gershgorin

"Dok Ak Nauk SSSR" Vol LXIX, No 6, pp 801-804

Variant of the Russian botanist M. S. Tsvet's "chromatography" method (M. S. Tsvet, "Chromatographic Adsorptional Analysis" (Khromatograficheskiy Adsorbtsionnyy Analiz) 1946). Description of photographic and visual methods involving filter-paper technique. Submitted 29 Oct 49 by Acad S. I. Vavilov.

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SOV/133-59-10-37/39

AUTHORS: Sobolev, V. M., Gershgorin, S. Ye.

TITLE: Important Reserve for the Increase of Labor Productivity in Open-Hearth Production. (A discussion)

PERIODICAL: Stal', 1959, Nr 10, pp 953-955 (USSR)

ABSTRACT: The authors recommend introducing reserve furnaces to make shut-down repair procedures more efficient, so that emergency repairs can be carried out more thoroughly and over longer periods of time without essential losses of metal. By way of statistical calculation they prove that the investment in the building of these exchangeable furnaces would pay for itself after 4 to 17 years. Such furnaces are widely used in England to reduce the number of repairs. There are 2 tables; and 1 Soviet reference.

Card 1/1

BELOUSOV, V.M.; GOROKHOVATSKIY, Ya.B.; RUBANIK, M.Ya.; GERSHINGORINA, A.V.

Study of the kinetics of the catalytic oxidation of propylene to acrolein by means of the flow circulation method. Dokl.AN SSSR 137 no.6:1396-1398 Ap '61. (MIRA 14:4)

1. Institut fizicheskoy khimii iemni L.V.Pisarzhevskogo AN USSR. Predstavleno akademikom A.A.Balandinym.
(Propene) (Acrolein)