"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

21(0)

AUTHORS: Fogel', Ya. M., Kozlov, V. F., Kalmykov, A. A., Muratov, V. I.

SOV/56-36-4-55/70

TITLE: Direct Proof of the Applicability of the Adiabatic Criterion of Massey for Processes With Double Charge Exchange (Pryamoye dokazatel'stvo primenimosti adiabaticheskogo kriteriya Messi k protsessam dvoynoy perezaryadki)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 4, pp 1312-1314 (USSR)

ABSTRACT: As shown in a previous paper (Ref 1), the investigation of the rate dependence of the cross sections of the double re-charge of the ions H^+ and F^- leads to the result that the curves $\sigma_{1-1}(v)$ have two maxima for these ions. This fact is dealt with according to Massey's adiabatic criterion; thus, a maximum of such an inelastic process with a resonance defect ΔE must be observable if $a|\Delta E|/hv_{max} \approx 1$. The occurrence of two maxima in the curves $\sigma_{1-1}(v)$ for the processes $H^+ \rightarrow H^-$ and $F^- \rightarrow F^-$ can be explained either by the formation of slow excited doubly-charged ions (at $H^+ \rightarrow H^-$) or by the existence of impurity ions in excited metastable states in the primary

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beam (at $F^+ \rightarrow F^-$). The two maxima indicate that besides the process $F^+ \rightarrow F^-$ also the process $F^{+*} \rightarrow F^-$ develops, viz. with a different resonance defect but with the same a-value. For the purpose of clarifying these conditions the authors investigated the processes $B^+ \rightarrow B^-$ in Xe, Kr, and H_2 and $O^+ \rightarrow O^-$ in Xe. In the former case the curve $\sigma_{1-1}(v)$ had 3 maxima, in the latter it had two. Results:

Process	Excitation energy [ev] (calculated)	ion term	term energy [ev]
$B^+ - Kr$	5.6 ± 1.6	$2s2p\ ^3P^0$	4.6
$B^+ - Kr$	11.7 ± 1.6	$2p^2\ ^3P$	12.1
$B^+ - Xe$	5.0 ± 0.9	$2s2p\ ^3P^0$	4.6
$B^+ - Xe$	11.3 ± 1.0	$2p^2\ ^3P$	12.1

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Process	Excitation energy [ev] (calculated)	ion term	term energy [ev]
$B^+ - H_2$	4.4 ± 0.3	$2s2p\ ^3P^0$	4.6
$B^+ - H_2$	11.0 ± 2.0	$2p^2\ ^3P$	12.1
$O^+ - Xe$	24.2 ± 0.5	$2s2p^4\ ^2S$	24.4

The results obtained are discussed in detail. For $Li^+ \rightarrow Kr$, $Li^+ \rightarrow H_2$, and $Li^+ \rightarrow Ar$ the curves $\sigma_{1-1}(v)$ are given in form of diagrams. The additional maxima are where they must be according to Massey's criterion. Herefrom follows the identity of the a-values for processes of double re-charge of uncharged and charged ions. The results obtained by the investigation of the process $Li^+ \rightarrow Li^-$ provide direct proof of the applicability of Massey's criterion to such ions and also prove the correctness of the explanation of the nature of additional maxima of the curves $\sigma_{1-1}(v)$ in the processes investigated.

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Direct Proof of the Applicability of the Adiabatic Criterion of Massey for Processes With Double Charge Exchange

SOV/56-36-4-55/70

There are 1 figure, 1 table, and 3 references, 2 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-technical Institute of the Academy of Sciences, Ukrainskaya SSR). Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: December 20, 1958

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

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39818
S/057/62/032/008/007/015
B104/B102

B4.6714

AUTHORS: Fedorchenko, V. D., Rumkevich, B. N., Muratov, V. I., and Chernyy, B. M. (Deceased)

TITLE: Low-frequency plasma oscillations in a magnetic field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 8, 1962, 958 - 966

TEXT: The experiments were made in a longitudinal magnetic field of 200 - 300 oersteds (Fig. 1). The diameter of the electron beam was 2 cm, its length 65 cm, the energy 2 kev, the pressure $5\cdot10^{-7}$ - $5\cdot10^{-5}$ mm Hg. The relation $\omega \sim \sqrt{n/M}$ exists between the circular frequency ω the oscillations occurring in the collector circuit (100 kc/sec) of the particle density n and the ion mass M. The oscillations mainly occur at 10^{-6} mm Hg. The oscillation stability is increased by reducing the pressure to 10^{-7} mm Hg, and at $2\cdot10^{-5}$ mm Hg these oscillations vanish. They are due to a high-frequency noise caused by the electron beam. If the noise is suppressed at the end of the electron beam the oscillation in the collector circuit vanishes. The same oscillations are produced by a weak

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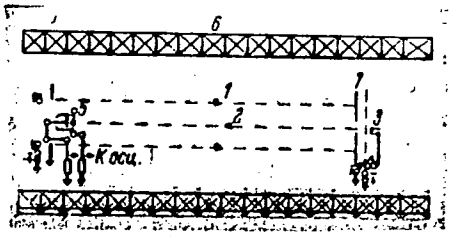
Low-frequency plasma oscillations...

external high-frequency signal of 28 - 29 Mc/sec. The plasma produced by the electron beam ionizing the gas in the chamber is very important in causing the low-frequency oscillations. They may be excited by the irregular action of the fields, produced by the noise in the beam - plasma system. Attempts to verify this supposition are discussed. There are 7 figures.

SUBMITTED: June 17, 1961

Fig. 1



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ACCESSION NR: AT4036040 S/2781/63/000/003/0036/0044

AUTHORS: Fedorchenko, V. D.; Muratov, V. I.; Rutkevich, B. N.

TITLE: High frequency plasma oscillations in a magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3, Kiev, Izd-vo AN UkrSSR, 1963, 36-44

TOPIC TAGS: plasma magnetic field interaction, plasma electron oscillation, plasma ion oscillation, plasma oscillation, plasma research

ABSTRACT: The authors investigate oscillations in electron beams in a longitudinal magnetic field at stronger magnetic fields than in their earlier study (2.38×10^5 A/m as against $1.59--2.38 \times 10^4$ A/m;

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ACCESSION NR: AT4036040

see ZhTF v. 32, 958, 1962). The strong magnetic field suppresses the low frequency oscillations and increases the amplitude of the high-frequency oscillations. The spectrum of the high-frequency oscillations was plotted with the aid of a moving electric probe, the output of which was fed to a noise meter. The oscillations had a maximum in the frequency range 25--50 megacycles, the position and height of which depended on the beam energy (for a fixed current), on the magnetic field, and on the pressure in the chamber. It has also been found that an optimal pressure exists at which the amplitude of the oscillations is the largest, and that the optimum value of the pressure depends on the beam energy. The oscillation frequency depends also on the beam energy and the maximum of the spectrum shifts towards higher frequencies with increasing energy. An increase in the amplitude of the ion oscillations leads to the suppression of the electron oscillations, whereas ion oscillations become more intense with increasing amplitude of the electron oscillations. Plots of the following are included: characteristic spectrum

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of electron oscillations, spectra of high-frequency oscillations at different pressures, spectra at different electron-beam energy, spectra at high-frequency oscillations at different magnetic fields, amplitude of high-frequency signal as a function of the probe position, role of secondary emission from the collector, amplification of external high-frequency signal applied to the modulating electrode, amplification of external signal at different pressures, amplification of external signal at different magnetic fields, dependence of the amplitude of the high-frequency ion oscillations on the frequency of the external electric field enclosing the ion beam, and dependence of the amplitude of the high-frequency electron oscillations on the frequency of the external alternating electric field for air and for krypton. "The authors are most grateful to K. D. Sinel'nikov, Ya. B. Faynberg, and B. G. Safronov for useful discussions." Orig. art. has: 12 figures.

ASSOCIATION: None

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SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 01

SUB CODE: ME NR REF SOV: 001 OTHER: 000

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ACCESSION NR: AT4036040

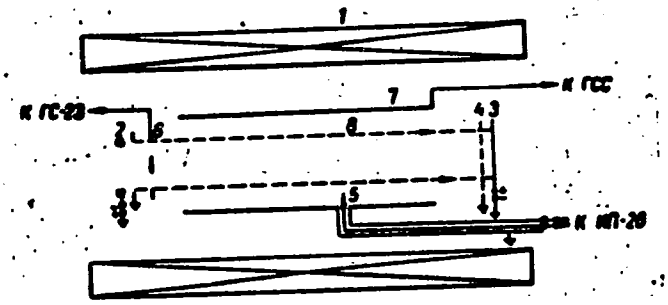

Diagram of experimental set-up

1 - solenoid, 2 -electron gun, 3 - collector, 4 - grid, 5 - moving probe, 6 - modulating electrode, 7 - capacitor plates enclosing the beam, 8 - hollow electron beam

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

ACCESSION NR: AT4036041 S/2781/63/000/003/0044/0054

AUTHORS: Fedorchenko, V. D.; Muratov, V. I.; Rutkevich, B. N.

TITLE: Investigation of high-frequency oscillations of a plasma by a probing beam

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 44-54

TOPIC TAGS: plasma oscillations, plasma electron oscillation, electron beam, plasma interaction, plasma magnetic field interaction, space charge

ABSTRACT: This is a continuation of earlier work by the authors (High-frequency Oscillations in a Magnetic Field -- Third Khar'kov

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Conference, 1962; Low-frequency Oscillations of a Plasma in a Magnetic field -- ZhTF v. 32, 958, 1962) and are aimed at measurements of the phase velocity by the method of a probing beam which passes through the main plasma beam and enters an analyzer with a retarding potential. The plasma tested constituted a hollow electron beam 50 cm long and 2 cm in diameter, with an energy that ranged from 200 to 300 volts at 25--50 milliamperes. The working pressure was 1.3×10^{-3}--1.3×10^{-4} n/m^2. The probing beam (1 mm dia, (10--15 μA, and 0--400V) traveled on the beam axis in the injection direction. The potential was measured with the aid of an incandescent probe inserted inside the hollow beam through a break in its annular section. The experiments with the probing electron beam indicate the existence in the plasma of considerable oscillations which modify both the main beam and the plasma. The plasma electrons become accelerated by the high-frequency field of the wave produced in the beam-plasma system, and this causes electrons to escape

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through the ends of the system. The escape of the electrons should be accompanied by an increase in potential in the space occupied by the plasma. However, the situation is complicated by the existence of transverse ion oscillations which cause the ions to move away to the cylindrical surface of the chamber. It is concluded that the plasma oscillations cause formation of an uncompensated charge, the polarity of which depends on which of the processes predominates, the drift of the ions due to the low-frequency transverse oscillations or the drift of the electrons due to their interaction with the longitudinal high-frequency wave. In strong magnetic fields the ion oscillations are suppressed and the longitudinal high-frequency oscillations become predominant. It is therefore to be expected that in a trap in which electrons are injected in sufficiently strong magnetic fields (on the order of (1--2) x 10^5 A/m), the plasma will have a positive potential. "The authors are grateful to K. D. Sinel'nikov, Ya. B. Faynberg, and B. G. Safronov for a discussion of the results." Orig. art. has: 11 figures and 10

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formulas.

ASSOCIATION: None

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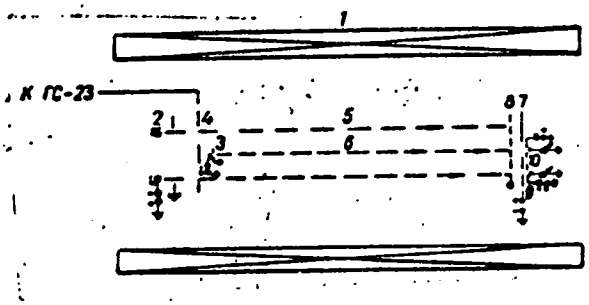

Diagram of experimental set-up

1 - solenoid, 2 - gun for main beam, 3 - gun for sounding beam, 4 - modulating electrode, 5 - main beam, 6 - sounding beam, 7 - collector of main beam, 8 - grid, 9 - analyzer of main beam, 10 - analyzer of sounding beam

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

FEDORCHENKO, V.D.; MURATOV, V.I.; RUTKEVICH, B.N.

High-frequency oscillations of a plasma in a magnetic field. Zhur. tekh.fiz. 34 no. 3:458-462 Mr '64.

Use of a probing beam in studying high-frequency plasma oscillations in a magnetic field. Ibid.:463-468 (MIRA 17:5)

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L 10667-66 EWT(1)/ETC/EPF(n)-2/EWG(m) IJP(c) GG/AT

ACC NR: AP5028316 SOURCE CODE: UR/0057/65/035/011/2021/2027

AUTHOR: Fedorchenko, V.D.; Muratov, V.I.; Ruthevich, B.N. 44,55 44,55 44,55

ORG: none

TITLE: Interaction between high frequency oscillations in a plasma and ionic sound

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35 no. 11, 1965, 2021-2027

TOPIC TAGS: discharge plasma, plasma electromagnetic wave, plasmon, plasma oscillation, nonlinear effect, magnetic field

ABSTRACT: The authors have investigated the interaction in a plasma of ionic sound with modes having frequencies near the electron Larmor or electron Langmuir frequencies. The plasmas were produced at pressures of the order of 10^{-4} mm Hg in a 9 cm diameter 100 cm long metal tube in a 400 to 1000 Oe longitudinal magnetic field by oscillating discharge between an electron gun producing a 50 cm long 2 cm diameter hollow beam of 160 eV electrons and a collector held near the floating potential. The cathode current was 200-250mA. Under these conditions there were spontaneously produced low frequency oscillations with frequencies of the order of 10 kHz. Investigations with the aid of a movable probe of the frequency and intensity distribution of these oscillations as functions of the magnetic field strength, length of the plasma column, and nature of the gas, and observation of longitudinal ejection of ions from the column, indicated that these oscillations were due to standing waves

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ACC NR: AP5028316 18

of ionic sound. The plasmas were excited at frequencies near the electron Larmor or the electron Langmuir frequencies with the aid of an antenna located at one end of the discharge tube. Standing waves were formed in both frequency regions. The electromagnetic oscillations excited at frequencies somewhat below the Larmor frequency were found to be slow extraordinary waves, having a phase velocity less than that of light. The plasma oscillations excited near the Langmuir frequency were also slow. When the intensity of the high frequency oscillations was sufficiently increased, low and high frequency satellite lines appeared in their spectra/frequencies equal to the sum and difference of the excitation frequency and the frequency of ionic sound. The relative intensities of these satellites were different in different portions of the pass bands, and under some conditions one or the other satellite was very intense. When the low frequency satellite was very intense, the intensity of the ionic sound increased when the high frequency excitation was applied; when the high frequency satellite was very intense, the intensity of the ionic sound decreased when the high frequency excitation was applied. This is to be understood in terms of the interaction of elementary plasma excitations (plasmons), the satellites being formed by absorption or emission of a low frequency (ionic sound) plasmon by a high frequency plasmon. The randomization of phases with the consequent formation of wave packets necessary for the validity of the analysis in terms of plasmon interactions may result from interaction with different kinds of fluctuations. The authors thank K.D.Sinel'nikov, V.T.Tolok, Ya.B.Faynberg, and B.G.Safronov for discussing the results. Orig. art. has: 4 formulas and 12 figures.

SUB CODE: 20 / SUBM DATE: 09Mar66/ ORIG REF: 006 OTH REF: 004

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

ACC NR: AP6036029 SOURCE CODE: UR/0057/66/036/011/1964/1970

AUTHOR: Fedorchenko,V.D.; Muratov,V.I.; Rutkevich,B.N.

ORG: none

TITLE: The interaction of ionic cyclotron waves with high frequency oscillations of a plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 11, 1966, 1964-1970

TOPIC TAGS: nonlinear plasma, turbulent plasma, plasma oscillation, plasma electromagnetic wave, nonlinear effect, plasmon, krypton, air, helium, electron beam

ABSTRACT: The work described in this paper is a continuation of earlier work of the authors (ZhTF, 32, 958, 1962; 34,458,1964; 35,2021,1965; Yadernyy sintez, 4,300,1964) on the nonlinear interaction of waves in plasmas. Plasmas were excited in krypton, air, or helium at pressures of the order of 10^{-4} mm Hg within a 9 cm diameter 100 cm long metal tube in a longitudinal magnetic field of from 0.4 to 1.0 kOe by a 2 cm diameter 50 cm long 200-250 mA beam of 160 eV electrons which was received by a floating collector. Under these conditions oscillations with a frequency of about 12 kHz developed in the plasma. These oscillations were investigated with the aid of adjustable electric probes, a magnetic probe, and an electron beam traversing the chamber parallel to and 2 cm from its axis, and it was concluded that they represent helical ionic cyclotron waves with the propagation vector almost perpendicular to the magnetic field. High frequency power from an external oscillator with a frequency

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near the electron Langmuir frequency of about 0.5 kMHz or near the ion Larmor frequency of about 1.4 kMHz was injected at one end of the discharge chamber and the high frequency signal from the plasma was observed with the aid of an electric probe. When the high frequency power was turned on the amplitude of the ionic cyclotron oscillations increased and there appeared oscillations at frequencies equal to the sum and the difference of the frequencies of the high frequency oscillations and the ionic cyclotron oscillations. The low frequency satellite was stronger than the high frequency one. In a brief review of the present and the earlier work it is noted that in all the investigated cases of interaction between low and high frequency oscillations in plasmas there appeared oscillations at the combination frequencies and that, in accord with the concept of plasmon breakup and combination, the low frequency oscillations were strengthened or weakened by the presence of the high frequency oscillations according as the low or high frequency satellite was the stronger. The behavior of the combination frequency oscillations is sensitive to turbulence of the plasma and it is suggested that study of the combination frequency oscillations may prove to be useful in the investigation of plasma turbulence. Orig. art. has: 3 formulas and 7 figures.

SUB CODE: 20 SUBM DATE: 30Jul65 ORIG. REF: 007

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.I., polkovnik med.sluzhby

Treatment of hypertension at the general somatic Pushcha-Voditsa Sanatorium. Sbor.nauch.trud.Kiev.okruzh.voen.gosp. no.4:184-188 '62. (MIRA 16:5)

(KIEV PROVINCE—HYPERTENSION)
(KIEV PROVINCE—HEALTH RESORTS, WATERING PLACES, ETC.)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.I.

Results of a changeover to a shorter workday and new wage arrangements for workers of prospecting organizations. Razved.i okh.nedr 28 no.1:51-54 Ja '62. (MIRA 15:3)

1. Ministerstvo geologii i okhrany nedr SSSR.
(Wages and labor productivity) (Hours of labor)
(Wages--Prospecting)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.K.

Effect of curarelike drugs on the glossomaxillary reflex. Farm. i toks. 26 no.5:597-602 S-O '63. (MIRA 17:8)

1. Kafedra farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.

Marine and river terraces of the northwestern Caucasus in connection with recent tectonic movements. Biul.MOIP.Otd.geol. 36 no.6:124-125 N-D '61. (MIRA 15:7)
(Caucasus, Northern—Terraces (Geology))

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

FEDOROV, P.V.; GEPTNER, A.R.; MURATOV, V.M.

Time of the appearance of Mediterranean elements in the fauna of the Black Sea. Dokl.AN SSSR 138 no.1:181-183 My-Je '61.
(MIRA 14:4)

1. Geologicheskiy institut AN SSSR i Institut geografii AN SSSR. Predstavleno akademikom N.M.Strakhovym.
(Black Sea region--Paleontology, Stratigraphic)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.; LI KHUA-CHZHAN [Li Hua-chang]

Recent finds of Chauda and ancient Euxinic deposits in the western Caucasus. Dokl. AN SSSR 140 no.3:677-678 S '61. (MIRA 14:9)

1. Institut geografii AN SSSR i Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom I.P.Gerasimovym.
(Krasnodar Territory--Geology, Stratigraphic)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.

Indirect traces of the last glaciation in the relief of the mountainous part of the northwestern Caucasus. Izv.AN SSSR.Ser. geog. no.3:79-82 My-Je '62. (MIRA 15:5)

1. Institut geografii AN SSSR.
(Caucasus, Northern--Landforms)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MINTS, A.A.; MURATOV, V.M.; FRIDLYAND, V.M.

Hungarian geographers in the search of new ways for practical application of the results of scientific research. Izv. AN SSSR. Ser. geog. no.5:120-123 S-O '65. (MIRA 18:10)

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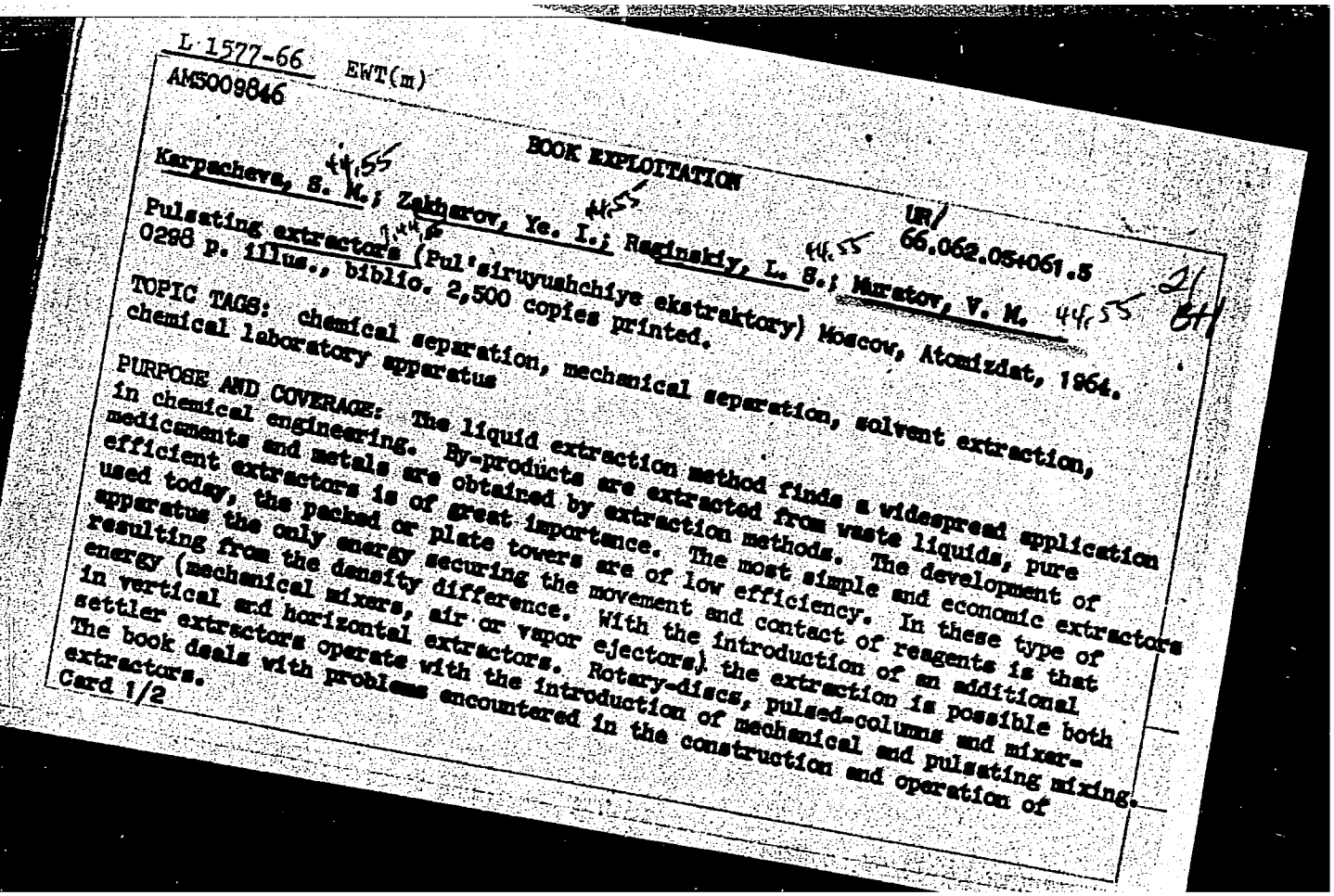

L 1577-66 EWT(m)
AM5009846

BOOK EXPLOITATION

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66.062.054061.5

Karpacheva, S. M.; Zakharov, Ye. I.; Reginskiy, L. S.; Muratov, V. M.

Pulsating extractors (Pul'siruyushchiye ekstraktory) Moscow, Atomizdat, 1964.
0298 p. illus., biblio. 2,500 copies printed.

TOPIC TAGS: chemical separation, mechanical separation, solvent extraction, chemical laboratory apparatus

PURPOSE AND COVERAGE: The liquid extraction method finds a widespread application in chemical engineering. By-products are extracted from waste liquids, pure medicaments and metals are obtained by extraction methods. The development of efficient extractors is of great importance. The most simple and economic extractors used today, the packed or plate towers are of low efficiency. In these type of apparatus the only energy securing the movement and contact of reagents is that resulting from the density difference. With the introduction of an additional energy (mechanical mixers, air or vapor ejectors) the extraction is possible both in vertical and horizontal extractors. Rotary-discs, pulsed-columns and mixer-settler extractors operate with the introduction of mechanical and pulsating mixing. The book deals with problems encountered in the construction and operation of extractors.

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TABLE OF CONTENTS (abridged):

SUB CODE: GC SUBMITTED: 03Sep64

NR REF SOV: 171 OTHER: 300

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

KARPACHEVA, S.M., doktor khim. nauk, prof.; ZAKHAROV, Ye.I.; RAGINSKIY, L.S.; MURATOV, V.M.; MATVEYEVA, A.V., red.

[Pulsating extractors] Pul'siruiushchie ekstraktory. Moskva, Atomizdat, 1964. 298 p. (MIRA 17:12)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.

[Formation and deposit of ozokerite] Obrazovanie ozokerita i formirovanie ego zaleshei. Leningrad, Gostoptekhizdat, 1954. 116 p. (MLRA 7:12D)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V. N.

MURATOV, V. N.; YASHCHURZHINSKAYA, A.B., vedushchiy redaktor; SOKOLOVA, [redacted] ye.V., tekhnicheskiy redaktor.

Formation of ozocerite and its deposits. Trudy VNIGRI no.79: 3-116 '54. (MLRA 8:3)
(Ozocerite)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.N.

On the genesis of ozokerite. Geol.sbor. no.3:255-265 '55.
(Ozokerite) (MLRA 8:6)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

VASSOYEVICH, N.B.; MURATOV, V.M.

Classification and terminology "caustobiolites." Trudy VNIGRI no.83:149-170 '55. (MLRA 8:10)
(Caustobiolites)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.N.

Geochemical study of petroleums and bitumens in Cambrian sediments of Yakutia. Avtoref. nauch. trud. VNIGRI no.17:61-64 '56. (MIRA 11:6)

(Yakutia--Petroleum geology)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.

Sh.F.Mekhtiev's genetic classification of caustobiolites.
Vest.LGU 14 no.18:128-133 '59. (MIRA 12:8)
(Caustobiolites)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.N.

Genetic classification of organic minerals. Vest.LGU 16 no.18: 42-55 '61. (MIRA 14:10)
(Minerals--Classification)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.N.

[Short outline of caustobiolith geology] Kratkii ocherk geologii kaustobiolitov; uchebnoe posobie dlia studentov geologo-s"emochnoi i geokhimicheskoi spetsial'nostei. Leningrad, Izd-vo Leningradskogo univ., 1962. 112 p. (MIRA 16:6)

(Geology, Economic) (Caustobioliths)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.N.; FRANK-KAMENETSKIY, V.A.

Refinement of the concept of hardness as a structural state of a substance and its consistency. Zhur.strukt.khim. 3 no.1:106-107 Ja-F '62. (MIRA 15:3)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(Hardness)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

BLAGOVOLIN, N.S.; MURATOV, V.M.; TIMOFEYEV, D.A.

Several problems of slope formation under the conditions of various morphostructures. Izv. AN SSSR. Ser. geog. no.3:16-25 My-Je '63. (MIRA 16:8)

1. Institut geografii AN SSSR.
(Slopes (Physical geography))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.M.

Conference on the problems of tectonics. Izv. AN SSSR. Ser. geog. no.3:142-143 My-Je '63. (MIRA 16:8)
(Geology, Structural—Congresses)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

BALSHOV, I.F.; MURATOV, V.P.; MILOV, Ye.V.

Information throughput of the image converter. Usp.nauch.fot. 9:79-83 '64. (MIRA 18:11)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

24(7)

SOV/54-59-3-5/21

AUTHORS: Vanyukov, M. P., Yermakov, B. A., Mak, A. A., Muratov, V. R.

TITLE: Recording of the Variation With Time of the Contours of Spectral Lines in the Radiation of a Spark Discharge

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 3, pp 25-32 (USSR)

ABSTRACT: In the present paper a three-channel photoelectric apparatus for the recording of the variations with time pulses of the discharge spectra is developed for a wide intensity interval. The scheme of the apparatus is represented in figure 1. The spectral decomposition of the periodic discharges was made by means of a monochromator according to Eberth and Fast with a plane diffraction grating for interferences of first order. The grating was constructed by F. M. Gerasimov in the GOI Laboratory. During the recording the grating slowly rotated. It was connected with an electron selfrecording potentiometer of the type EPP-0.9 over a synchronous transmitter. The angular velocity of the grating could be adjusted gradually from 60 to 12, 2.5, 0.5, and 0.1 Å/min. The radio apparatus consisted of three uniform channels permitting a simultaneous recording of the spectrum at three different instants, i.e. the amplitude of

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the pulse obtained at the outlet of the electron trigger is proportional to the value average with respect to time Δt of the signal to be investigated for a given period of delay t_3. The pulses obtained are thus modulated according to the spectral radiation distribution of the pulse source for time t_3. These pulses arrive at a collecting scheme, subsequently at a direct-current amplifier, and finally at the selfrecording potentiometer. The three channels record in the time intervals 0.05 - 0.45 μsec, 0.4 - 20 μsec, and 0.5 - 50 μsec. For the determination of the best working conditions the time of adjustment of the collecting element was varied. By means of this device line contours and also the shift of the maxima toward 0.1 Å may be observed. The limit of the time resolving power with time is 5.10^{-8} sec. In the figures 2-7 the contours of the spectral lines of nitrogen and helium in spark discharge tubes are represented. Herefrom it may be seen that the lines widen mainly in the first stage of discharge (Fig 7) which indicates a Stark line widening. The maximum concentration of the charged particles is observed at the beginning of discharge.

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Recording of the Variation With Time of the Contours of Spectral Lines in the Radiation of a Spark Discharge

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It was found from the helium line II 4686 Å that it is $\sim 10^{18}$ cm^3. Also the arc discharge spectra of helium could be recorded. The observed asymmetry of the lines could be explained by the direction of the line shift. There are 7 figures and 7 references, 3 of which are Soviet.

SUBMITTED: April 14, 1959

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

SOV/109-4-8-10/35

AUTHORS: Vanyukov, M.P., Mak, A.A. and Muratov, V.R.

TITLE: Time Spectra of the Radiation of Spark Discharges in Inert Gases

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1284 - 1285 (USSR)

ABSTRACT: Some data relating to the time spectra of the light pulses in the spectrum bandwidth, ranging from 2 500 - 12 000 Å, were recorded by means of the equipment devised by the authors (Ref 1). A detailed description of the equipment was given in Ref 2. The time resolution of the device was 5×10^{-8} sec. The spark discharges investigated were produced between spherical electrodes in tubes filled with argon, krypton or xenon; the pressure of the gas was 3.5 atm. and the inter-electrode distance was 10 mm. The voltages applied to the tube were from 5 - 12 kV, the storage capacitance was 0.01 to 0.05 μF and the circuit inductance was 0.1 to 12 μH. It was found that the radiation of the discharge consists of a continuous background and a number of broadened lines, many of which can be identified with the lines of single- and

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

SOV/51-6-1-3/30

AUTHORS: Vanyukov, M.P., Mak, A.A., and Muratov, V.K.

TITLE: Time Spectra of Emission by Spark Discharges in Inert Gases (Vremennyye spektry izlucheniya iskrovogo razryada v inertnykh gazakh)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 1, pp 17-23 (USSR)

ABSTRACT: The present paper describes time spectra of the intensity of emission by spherical pulse-discharge lamps filled with argon, xenon and krypton at 3.5 atm. The author studied the emission in the 2500-5500 Å region obtainable using various combinations of capacitance and inductance in the discharging circuit. The time spectra were obtained with photoelectric apparatus, whose resolving power was about 5×10^{-8} sec, developed earlier and described in Ref 2. An Ebert--Fasti monochromator, with a mirror objective of 320 mm diameter and a diffraction grating with 600 lines/mm, was used. The relative spectral sensitivity of the apparatus was measured using a standard incandescent lamp (Ref 3). The absolute (energy) scale for the intensity of emission was obtained at 4140 Å by using an incandescent lamp whose spectral energy density was known for that wavelength. The spectral slit-widths used were from 2 to 20 Å. The instantaneous values of the emission intensity of pulse-discharge lamps were measured

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Time Spectra of Emission by Spark Discharges in Inert Gases

at various times t, counted from the beginning of the discharge. The first record was always obtained (with the exception of curve 1 in Fig 5) at the moment of the maximum intensity of emission. The results of measurements are given in Figs 1-9 in the form of two or three energy spectra obtained at various times. The results for argon are given in Figs 1 and 2, for krypton - in Figs 3-5, and for xenon - in Figs 6-9. The results of these figures show that increase of inductance in the discharge circuit reduces the intensity of continuous radiation and consequently the line emission becomes clearer. It was found that in the process of a spark discharge a continuous spectrum and lines of doubly ionized atoms appear first. Later the intensity of the doubly ionized lines decreases and instead the lines due to singly ionized atoms appear in the spectrum. The latter lines decay more slowly than the continuous background. The spectral distribution

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of the continuous background differs greatly from that expected of a black body and was found to be only slightly dependent on the wavelength. This effect may be due to non-uniformity of the temperature distribution in various parts of the discharge channel and possibly also due to differences in the absorption coefficient of the discharge plasma in various spectral regions. There are 9 figures and 2 Soviet references.

SUBMITTED: March 4, 1958

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

VANYUKOV, M.P.; YERMAKOV, B.A.; MAK, A.A.; MURATOV, V.R.

Record of the time variations of spectral line contours in the emission from a spark discharge. Vest.LGU 14 no.16:25-32 '59. (MIRA 12:10)

(Spectrum analysis)

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S/051/60/008/04/002/032
E201/E691

9(3)150

AUTHORS: Vanyukov, M.P., Mak, A.A. and Muratov, V.R.

TITLE: An Investigation of Spark Discharges in Helium

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 4, pp 439-445 (USSR)

ABSTRACT: The authors studied the time dependence of the arc and spark line contours emitted by a spark discharge in helium. The discharge was produced by 2.5-10 kV pulses from a 0.05 μF capacitor (the inductance, L, of the discharge circuit was 0.18 or 3.6 or 25 μH). The sparks passed through a discharge tube filled with helium of industrial purity at a pressure of 2.5-12 atm. Emission was recorded in the wavelength region 2500-5500 Å. A Geisler discharge tube was used to produce a calibration spectrum. It was found that in the initial stages of the discharges a strong continuous background was emitted, superimposed on which there were two intense spark (He II) lines at 4686 and 3203 Å (Figs 1 and 2). Arc lines of helium (He I at 3188, 3889, 4470, 4471 and 5016 Å, cf. Figs 3-5) appear later, about 0.3-0.5 μsec from the beginning of the discharge. Both the spark and the arc lines emitted by these discharges were strongly broadened and displaced due to the Stark effect. The asymmetry of the arc lines was due to their

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"statistical wings" emitted by ions. The electron concentrations, N, in the spark discharge channel were derived from the half-widths and shifts of the He I lines at 3889 and 5016 Å (Table 2) and were compared (Table 3) with the values obtained by Mak (Ref 8), who studied the contour of the spark line at 4686 Å. The various values of N agreed better with each other when corrections suggested by Vaynshteyn and Sobel'man (Refs 15) were taken into account. However, even when these corrections were included the values of N ($\sim 10^{-17}$ cm^{-3}) differed by 200-300%. There are 5 figures, 3 tables and 15 references, 7 of which are Soviet, 3 English, 3 German, 1 Swedish and 1 translation.

SUBMITTED: July 24, 1959

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

85051

9.4140

S/051/60/009/006/015/018
E201/E191

AUTHORS: Balashov, I.F., Vanyukov, M.P., Muratov, V.R., and Hilov, Ye.V.

TITLE: Image-Converter Recording of Spark-Discharge Spectra Resolved in Time and Along the Channel Cross-Section

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.6, pp 790-791

TEXT: The authors describe a method of recording rapidly changing spark-discharge spectra using small portions of the discharge channel. The apparatus is shown schematically in Fig.1. Light proceeds via a monochromator M and is projected by a lens O_4 on the photocathode of an image converter ЭОП (EOP) fitted with an electronic shutter. The shutter is connected to a generator of square pulses 3. The generator is synchronized with the discharge by means of a photomultiplier 1 and a synchronization circuit 2. In this way one obtains a spectrum on the image-converter screen at a time governed by the delay between opening of the electronic shutter and the beginning of the discharge. Exposures can be varied from 0.1 to 10 μsec and

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85051

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E201/E191

Image-Converter Recording of Spark-Discharge Spectra Resolved in Time and Along the Channel Cross-Section

spectra can be recorded 0.07 to 25 μsec from the beginning of a discharge. The image-converter screen is photographed with a camera, denoted by ⊕ in Fig.1. The method was applied to a 10 kV discharge across a 4 mm gap in air: N I, N II, and H_α lines were recorded 1, 5, 10 and 21 μsec from the beginning of the discharge (Fig.2).
There are 2 figures and 5 references: 3 Soviet and 2 English

SUBMITTED: June 22, 1960

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

20728
S/051/61/010/004/006/007
E032/E314

9.4140 (also 1138, 1141)

AUTHORS: Balashov, I.F., Vanyukov, M.P., Muratov, V.R. and Nilov, Ye.V.

TITLE: The Recording of Time-resolved Spectral Line Profiles by Means of an Image Converter

PERIODICAL: Optika i spektroskopiya, 1961, Vol. 10, No. 4, pp. 540 - 541

TEXT: The present authors point out in* Ref. 1 that the image-converter method can be used to record time-resolved spectra of various parts of a spark discharge. The present note reports results obtained with this method in the recording of time-resolved spectral line profiles. The method has the advantage that a single flash is sufficient to record the profile. The apparatus employed is said to have been described in* Ref. 1. It incorporated the ИСП-51 (ISP-51) spectrograph with an 800 mm focal length camera. The image-converter was switched on by 1 μs pulses at different times after the onset of the discharge. The image of the spectral line was photographed from the image-

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* Optika i spektroskopiya, 1960, Vol. 9, No. 6, pp 790-791

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The Recording of ....

converter screen with a 1:1 magnification, using a photographic objective with a focal ratio of 1:1.5. Fig. 2 shows the distribution of the intensity at the centre of the H_α line across the channel of a spark discharge in hydrogen. Fig. 3 shows the H_α profile emitted by the central zone of the channel. Preliminary calculations show that by using the highest-sensitivity image-converters (Butslov et al - Ref. 6) and with an intensity corresponding to the saturation region (Vanyukov and Mak - Ref. 7) the profile of the spectral line can be recorded with a spectral resolution of 0.1 Å with an exposure of 1 nsec.
There are 3 figures and 7 references: 6 Soviet and 1 non-Soviet.

SUBMITTED: October 14, 1960

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

The Recording of ....

Fig. 2:

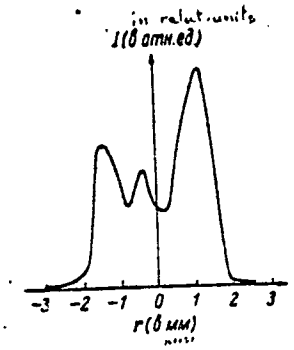
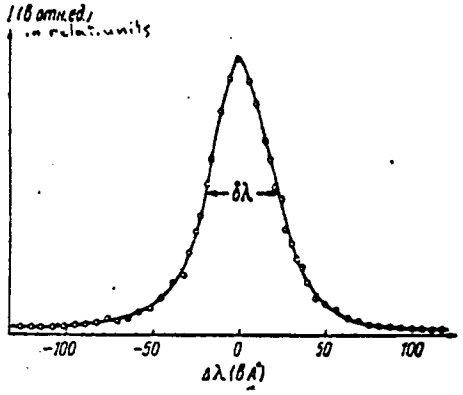


Fig. 3:



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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

VANYUKOV, M.P.; MURATOV, V.R.; MUKHITDINOVA, I.A.

Time resolved emission spectra from a spark discharge in nitrogen and air in the 5000 - 10,000 Å wavelength range. Opt. i spektr.10 no.4:561-563 Ap '61. (MIRA 14:3)

(Electric discharges through gases)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

VANYUKOV, M.P.; MURATOV, V.R.; MUKHITDINOVA, I.A.

Time radiation spectra of spark discharges in inert gases in the region between 5,000 and 10,000 Å. Opt. i spektr. 11 no.3:312-318 S '61. (MIRA 14:9)
(Electric discharges through gases)
(Radiation)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.R.

Telecentric optical system for illuminating the entrance slit of a spectral instrument. Opt. i spektr. 11 no.6:779-780 D '61. (MIRA 14:11)

(Optical instruments)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

S/120/62/000/002/028/047
E140/E163

AUTHORS: Muratov, V.R., and Nilov, Ye.V.

TITLE: Investigation of the resolution of the image converter ПИМ-3 (PIM-3) with various operating conditions

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 124-126

TEXT: An experimental study was made of the resolution obtainable with high-speed image converters with electronic shutters, using unipolar and bipolar (symmetrical) control pulses. The tests were carried out at repetition rates of 250 c.p.s., with 0.5, 2 and 6.5 μs control pulses, having 0.1 μs rise and fall times. Diodes were used to clip the pulse crests to eliminate droop due to low coupling time constants. Maximum resolutions of 100 lines per mm are obtained. The contrast drops rapidly, however, with the number of lines per mm, and more rapidly with shutter pulses applied than in their absence. There are 5 figures. SUBMITTED: August 24, 1961

ASSOCIATION: Gosudarstvennyy opticheskiy institut (State Optics Institute).

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

S/120/63/000/001/026/072
E192/E382

AUTHORS: Volosov, V.D., Muratov, V.R. and Nilov, Ye.V.

TITLE: Resolving power of electron-optical converters

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 115 - 116

TEXT: The picture quality of electron-optical converters (which find application in the observation of various electrical processes, accompanied by radiation or absorption of light) is characterized by contrast transfer coefficients of the test pictures with periodically changing brightness. The range of values of these coefficients for the test objects of various frequencies is known as the "frequency-contrast characteristic" of the device. The possibility of using this characteristic for describing the quality of electron-optical converters and estimating their resolving power is investigated. The experimental system for measuring the frequency-contrast characteristic of a converter is shown in Fig. 1. The image of the test picture 4 is projected by the objective 14 onto the photocathode of the converter 15, which is to be investigated. Either a micro-objective of 8X

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Resolving power ....

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E192/E382

magnification or a photo-objective, type "Tessar", of f = 7.5 cm is used. An arbitrary square of the test picture can be projected. The picture 4 is illuminated by a filamentary lamp 1, whose filament is projected onto the objective 14 by the condenser 3. The image contrast is reduced by illuminating the surface of the photocathode by the lamp 10. The condenser 8 serves the same purpose as the condenser 3; beams of light from lamps 1 and 10 can be combined by means of the flat glass plate 6. Attenuation of the beams is achieved by introducing neutral filters 2 and 9 of different densities. The chromatic aberration of the objective 14 is compensated by interference and color filters 13 and 11. The diaphragms 5, 7, 12 and 16 are used to reduce the amount of scattered light. The image 15 received on the screen of the converter is transmitted by the micro-objective 17 onto the film 18. The experiments showed that the optical devices of the system, in particular the objective 14, did not reduce the contrast of the image of the test picture in the plane of the photocathode. Several types of electron-optical converters were measured. It was found that the contrast transfer

Card 2/4

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coefficient of the converters did not depend on the contrast of the test picture. The contrast of the image on the screen of the converter was almost independent of the illumination of the photocathode; reduction of the illumination by three times resulted in an increase in the contrast by only 10%. In the case of visual observation or photographic recording of the image of the converter, the resolution limit for 100% contrast of the test picture was obtained when the image contrast was reduced by 10%. The magnitude of the limit contrast was proportional to the relative fluctuation of the light flux produced by the screen of the converter. There are 3 figures.

ASSOCIATION: Gosudarstvennyy opticheskiy institut
(State Optical Institute)

SUBMITTED: March 6, 1962

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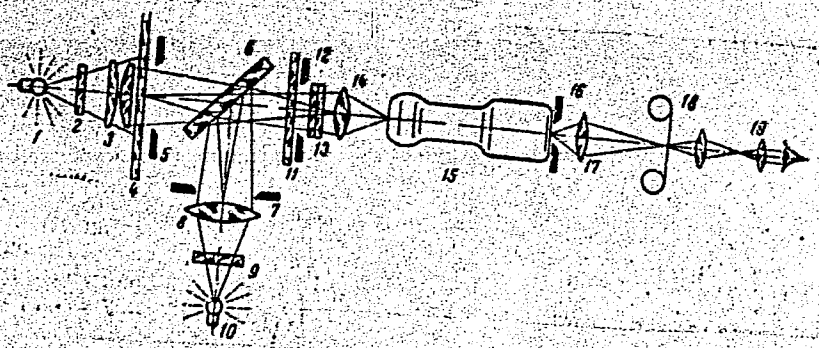
Resolving power ....

S/120/63/000/001/026/072
E192/E382

Fig. 1:



Card 4/4

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

L 11063-66 EWT(d)/EWT(1)/T/EWP(1)/EWA(h) IJP(c)

ACC NR: AT6001389 SOURCE CODE: UR/3180/64/009/000/0079/0083

AUTHOR: Balashov, I. F.; Kuratov, V. R.; Milov, Ye. V.

55
B+1

ORG: none

TITLE: Information transmitting capacity of an image converter 25

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 79-83

TOPIC TAGS: image converter, image intensifier, information theory

ABSTRACT: Image converters permit the recording of rapidly occurring phenomena with a time resolution of 10^{-8} sec and higher. The authors selected the basic parameters of a recording apparatus which included an image converter, using the basic tenets of information theory; to this end, the system was treated as an information channel. The calculation of the optical part of the recording apparatus consisted of quantitatively evaluating the information which should be obtained in a given recording event and comparing this amount with the information actually passed through the information channel. The following formula is derived for the transmitting capacity of an image converter:

$$C = 4N^2 \log_2 \frac{e^{-\alpha \cdot N \cdot \sigma}}{2\pi \cdot N \cdot \sigma}.$$

Card 1/2

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L 11063-66

ACC NR: AT6001389

where N is the number of lines per unit length. It is concluded that in order to make the maximum use of the transmitting capacity of the image converter, it is necessary to code the image being transmitted. This coding should consist of an artificial redistribution of the brightness by means of some coding system which may include elements of fiber optics. The use of the frequency-contrast characteristics of the converter permits not only the calculation of its transmitting capacity but also the determination of the specific characteristics of the code to be used. Orig. art. has: 2 figures, 11 formulas.

SUB CODE: 14,09 SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 000

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, V.R.; NILOV, Ye.V.

Quality of the image observed on the screen of the electron optical image intensifier. Usp.nauch.fot. 10:156-162 '64.

(MIRA 17:10)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

L 15880-66 EWT(1)

ACC NR: AP6002806 SOURCE CODE: UR/0237/60/000/011/0023/0026

AUTHOR: Muratov, V. R.

ORG: none

TITLE: Sectional pulsed lamps designated for the study of spark discharges

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 11, 1960, 23-26

TOPIC TAGS: light source, spark gap, electric discharge

ABSTRACT: Sectional pulsed lamps are now being used as pulsed light sources as well as devices for the study of gaseous spark discharges. The present article describes three designs of pulsed lamps operating at high pressures by means of single or repeated flares: a) A small pulsed lamp operates in the 1 - 150 atm interval at voltages up to 12 kv and its interior volume is 40 cm³. b) A pulsed lamp with two windows, designated for the study of the transparency of the spark channel and shadow photography, works at 15 - 20 atm.

Card 1/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

L 15880-66 2

ACC NR: AP6002806

c) A large pulsed lamp with an interior volume of 1000 cm³, works at pressures of up to 150 atm. Detailed cross sectional drawings are given together with appropriate detailed descriptions. Author is deeply indebted to M. P. Vanyukov for his constant interest, and to B. A. Korndorf for valuable advice in the design of lamp a). Orig. art. has: 7 figures.

SUB CODE: 14 / SUBM DATE 28Jun60 / ORIG REF: 003 / OTH REF: 002

20/

Card 2/2 9e

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

L 23876-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACC NR: AP6009915 (A) SOURCE CODE: UR/0413/66/000/004/0113/0113

AUTHOR: Mashin, G. K.; Muratov, V. S.

ORG: none

TITLE: A machine for cutting trees and felling them in a given direction. Class 45, No. 179115 [announced by Central Design and Planning Scientific Research Institute of Mechanization and Power Engineering in the Timber Industry (Tsentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut mekhanizatsii i energetiki lesnoy promyshlennosti)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 113

TOPIC TAGS: forestry, transportation equipment, woodworking machinery

ABSTRACT: This Author's Certificate introduces a machine for cutting trees and felling them in a given direction. The unit contains a self-propelled base with a protective framework on which is mounted a bilateral roller mechanism. The base also holds a cutting device with a drive. The machine is designed for removing the butt of the tree from the working area after the crosscut operation has been completed. A frame is mounted on the base which rotates around the transverse axis of the machine. On both sides of the forward end of this frame are gashers in the form of supports located in a plane parallel to the operating plane of the roller mechanism. The cut-

Card 1/2 UDC: 634.0.36 : 629.114.2

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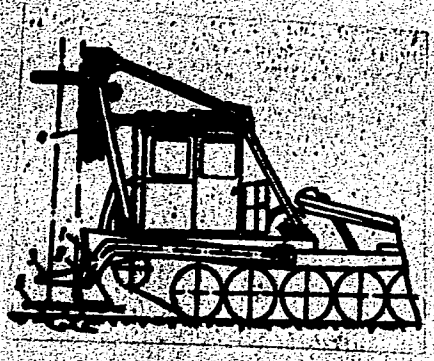
L 23876-66

ACC NR: AP6009915

ting device is made in the form of a movable carriage with catches and is mounted on guides in the protective framework.



1--rotating frame; 2--forward beam; 3--gather; 4--roller mechanism; 5--cutting device.

SUB CODE: 02,13/ SUBM DATE: 26Feb65/ ORIG REF: 000/ OTH REF: 000

Card 2/2 dda

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

L 38156-66 EWT(d)/EWP(w)/EWP(v)/T-2/EWP(k)/EWP(h)/EWP(l) IJP(c) EM/WW

ACC NR: AP6025644 SOURCE CODE: UR/0413/66/000/013/0095/0095

INVENTOR: Bengus, G. Yu.; Litvak, V. I.; Muratov, V. V.; Yaremenko, V. A.; Grishchenko, V. T.

ORG: none

TITLE: Automatic device for airplane-flap fatigue tests. Class 42, No. 183448

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 95

TOPIC TAGS: aircraft actuating equipment, aircraft maintenance, aircraft maintenance equipment, aircraft test

ABSTRACT: An Author Certificate has been issued for an automatic device for conducting fatigue tests of airplane flaps, which consists of a frame and strap system for producing loads, a hydraulic system with loading cylinders which act on the frame and strap system through strain dynamometers, and hydraulic aircraft-flap drives. To reproduce stresses corresponding to the flap-deflection angle and the flight regime, and for the maximum approximation of the experimental and operational power-loading conditions, the device has a movable rocker of truss design, on which the loading cylinders are mounted, and an axis of rotation which corresponds to the flap's axis of rotation. It is equipped with a hydraulic servo system, in which a stress dynamometer is used as a sensing element, and a feed-back transducer; a device consisting of a steel console gauge with glued-on strain gauges and a shaped cam, the

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L 38156-66

ACC NR: AP6025644

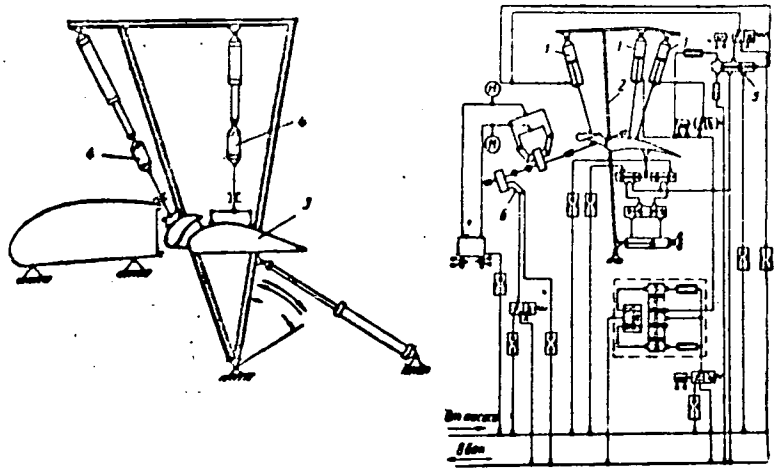

Fig. 1. Automatic device for fatigue tests of airplane flaps

1 - Loading cylinders;
2 - rocker; 3 - flap;
4 - strain dynamometers;
5 - slide valve;
6 - hydraulic motor.

shaft of which is connected to the flap drive shaft, is used as a master unit. For automatically synchronizing the loading of the flap's deflector, with a predetermined increase in the stress on the flap itself, a hydraulically controlled slide valve under a given spring compression force is connected into the hydraulic system of the device. Orig. art. has: 1 figure.

[KT]

SUB CODE: 01,13/ SUBM DATE: 24May65/ ATD PRESS: 5145

Card 2/2 mcp

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, E. A.

27285: MURATOV, E. A. O vospriimchivosti vostochno-pamirskogo yaka k gemosporidioznym zabolevaniyam krupnogo rogatogo skota. Soobshch. Tadzh. filiala akad. nauk SSSR, vyp. 16, 1949, s. 21-32.

SO: Letopis' zhurnal'nykh statey, Vol. 26, 1949.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

1. MURATOV, Ye. A.
2. USSR (600)
4. Parasites - Yak
7. Ox warble fly on the Eastern Pamir yak. Soob. TFAN SSSR, no. 22, 1950.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.

Helminthic fauna in ruminantia of the Gorno-Badakhshan Autonomous Province. Dokl. AN Tadzh.SSR no.5:41-44 '52.

(MLRA 9:10)

1. Institut zoologii i parazitologii AN Tadzhikskoy SSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.F. Berezkinym.

(Gorno-Badakhshan Autonomous Province--Worms, Intestinal and parasitic)
(Parasites--Ruminantia)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye. A.

6834. Muratov, Ye. A. Bor'ba s yalovost'yu krupnogo rogatogo skota. Stalinabad, Tadzhikgosizdat, 1954. 8 s. 20 sm. 1.000 ekz. 10 k. -- (55-2805) P 636.2.082.454

SO: Knizhnaya Letopis' No. 6, 1955

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, YE. A.

6859. Muratov, Ye. A. Obezvrezhivaniye pomeshcheniy dlya zhivotnykh. Stalinabad, tadshikgosizdat, 1954. 44s. s ill. 19sm. 2.00 ekz. 50 k. (55-2173)p. 619:614.48

SO: Knizhnaya Letopis' No. 6, 1955

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

LOTOTSKIY, B.V.; MURATOV, Ye.A.; STAVISKIY, Ya.D.

Seasonal variability in the virulant nature of pathogenic micro-organisms transferred by argasidae and ixodidae. Izv.otd.est. nauk AN Tadzh.SSR no.8:157-166 '54. (MIRA 9:9)

1.Institut zoologii i parazitologii imeni akademika Ye.N.Pavlovskogo AN Tadzhikskoy SSR i Stalinabadskiy gosudarstvennyy meditsinskiy institut imeni Abuali-Ibn-Sino.
(MICRO-ORGANISMS, PATHOGENIC) (ARGASIDAE) (TICKS)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.

Results of two years of work immunizing cattle against hemosporidiasis. Trudy AN Tadzh.SSR 33:127-136 '55. (MLRA 9:8)
(Hemosporidiasis) (Cattle--Diseases and pests)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

LOTOTSKIY, B.V.; MURATOV, Ye.A.; SOSNINA, Ye.F.; DAVYDOV, G.S.

Problem of improving natural pastures of Tajikistan. Izv.Otd. est.nauk AN Tadzh.SSR no.14:115-122 '56. (MLRA 9:10)

1. Institut zoologii i parazitologii imeni akademika Ye.N. Pavlovskogo AN Tadzhikskoy SSR.
(Tajikistan--Pastures and meadows)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

USSR / Diseases of Farm Animals. Diseases Caused by Helminths. R-2

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7333

Author : Ye. A. Muratov
Inst : Not Given
Title : The Importance of Mountain Pastures in the Fight Against Parasitic Invasions of Karakul Sheep.

Orig Pub: Izv, Otd. yestyestv. nauk. AN Tadzh SSR, 1956, No 17, 71-87 (Rez: Tadzh)

Abstract: Studying the dynamics of the helminthes of sheep, the author determined that the invasion is most pronounced in the spring, while it decreases during the summer and fall. The process of auto-dehelminthisis by sheep in mountain pastures is more intensive than in winter pastures in summer. This is due to three factors: food, mountain-

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.; VYSOTSKIY, G.G.

Trichinosis of wild animals in Tajikistan. Dokl. AN Tadzh. SSR no.19:47-50 '56. (MLRA 10:4)

1. Institut zoologii i parazitologii im. akad. Ye. N. Pavlovskogo AN Tadzhikskoy SSR i Myasokontrol'naya stantsiya Dyushambinskogo rayona g. Stalinabada.
(Tajikistan--Trichina and trichinosis)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.; KHEYSIN, Ye.M.

Some data on the development of Piroplasma bigeminum in Boophilus calcaratus ticks. Dokl.AN Tadzh.SSR 1 no.4:47-50 '58. (MIRA 13:4)

1. Institut zoologii i parazitologii AN Tadzhikskoy SSR i institut tsitologii AN SSSR. Predstavleno chlenom-korrespondentom AN Tadzhikskov SSR M.N.Narzikulovym.

'Piroplasmosis' (Parasites--Ticks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

PAVLOVSKIY, Ye.N., akademik; LUPPOVA, Ye.P.; MURATOV, Ye.A.; NARZIKULOV, M.M.

Boris Veniaminovich Lototskii, 1900-1958; obituary. Izv.Otd. est.nauk AN Tadzh.SSR no.3:91-93 '58. (MIRA 13:4)
(Lototskii, Boris Veniaminovich, 1900-1958)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, E. A. and KHEYSIN, E. M.

"Certain Data on the Structure, Life Cycle and Systematic State of Prioplasmidae (piroplasmidae-babesiidae)."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Institute of Cytology of the USSR Academy of Sciences, Leningrad, and Institute of Zoology and Parasitology of the Tadjik Academy of Sciences, Stalinabad

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.; KHEYSIN, Ye.M.

Discovery of Crithidia hyalommae O'Farrel in the ticks Hyalomma detritum and H.anatolicum in Tajikistan. Dokl.AN Tadzh.SSR 2 no.1:33-37 '59. (MIRA 13:4)

1. Institut zoologii i parazitologii AN Tadzhikskoy SSR i Institut tsitologii AN SSSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N.Narzikulovym.
(Tajikistan--Flagellata) (Parasites--Ticks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

KHEYSIN, Ye.M.; MURATOV, Ye.A.

Detection of clavate stages in the development of Piroplasma bigeminum in the tick Boophilus calcaratus. Dokl.AN Tadzh. SSR 2 no.2:55-58 '59. (MIRA 13:4)

1. Institut tsitologii AN SSSR i Institut zoologii i parazitologii AN Tadzhikskoy SSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N.Narzikulovym.
(Piroplasma) (Parasites--Ticks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.; KHEYSIN, Ye.M.

Development of Piroplasma bigeminum in the tick Boophilus calcaratus. Zool.zhur. 38 no.7:970-986 Jl '59. (MIRA 12:10)

1. Institute of Zoology and Parasitology, Academy of Sciences of the Tadjik SSR (Stalinabad) and Institute of Cytology, Academy of Sciences of the U.S.S.R. (Leningrad).
(Piroplasmosis) (Ticks as carriers of disease)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

MURATOV, Ye.A.; TSVILENEVA, V.A.

Cases of finding erythrocytes of cattle in the body cavity of engorged ticks. Dokl.AN Tadzh.SSR 3 no.4:35-38 '60. (MIRA 14:4)

1. Institut zoologii i parazitologii im. akad. Ye.N.Pavlovskogo, AN Tadzhikskoy SSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N.Narzikulovym.
(Erythrocytes) (Ticks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

Muratov, Ye. F.

86-58-3-13/37

AUTHOR: Khalyavin, A.M., Lt Col, and Muratov, Ye.F., Maj

TITLE: Bombing Under Unfavorable Weather Conditions (Bombometaniye v slozhnykh meteorologicheskikh usloviyakh)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 3, pp 30-34 (USSR)

ABSTRACT: This article describes the use of a radar bombsight when a bombing mission is carried out under unfavorable weather conditions without ground visibility. The importance of well-coordinated work between the aircraft navigator and the navigator-operator is stressed. The authors describe in detail the measuring of wind with the aid of the radar bombsight, the approach of the initial point of the bomb run, and the procedure of the turn on the bomb-run course. The actions of the navigator-operator on the bomb run are only mentioned briefly. Four diagrams.

AVAILABLE: Library of Congress

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EPF(n)-2/EWP(j)/EWP(k)/EWT(d)/EWT(l)/EWT(m)/EWP(h)/ETC(f)/EWG(m)/T/EWP(l)/EWP(e)/
ACC NR: AP6007826 SOURCE CODE: UR/0120/66/000/001/0139/0143
EWP(v) IJP(c) AT/RM/WH/DJ

AUTHOR: Kozhukhov, I. V.; Muratov, Yu. V.; Rashevskiy, V. P.; Ryl'tsev, P. I.; Sarantsev, V. P.; Smirnov, Ye. V.

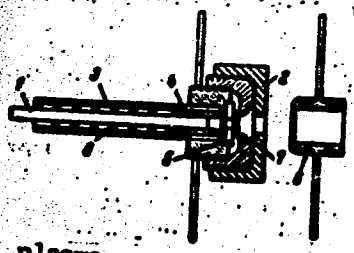
ORG: Joint Nuclear Research Institute (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Use of a plasma gun for producing high electron-current peaks

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 139-143

TOPIC TAGS: plasma gun, pulse shape

ABSTRACT: A new plasma-gun electron source (see figure) consists of three electrodes: discharge electrode 1, diaphragm 5, and extraction electrode 6 mounted on two stainless-steel disks. Plexiglas bushing 4 (active material) is fed by spring 8 toward the gap as the bushing end is burned up. The discharge electrode is insulated by porcelain bushing 3. The tungsten diaphragm has a 1-mm port. Insulated cathode 2 is intended for improving the extraction conditions and focusing; its insulation is designed to withstand a working voltage of 30 kv. The



plasma-gun electron source

Card 1/2

UDC: 621.384.623

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stainless-steel cylindrical extraction electrode is grounded. When a +17-kv "trigatron" pulse is applied to the discharge electrode, a spark to the diaphragm evaporates some of the plexiglass and forms a plasma in chamber 7. An electric field extracts electrons from the plasma. An electron current of 200 amp was produced in 0.15—0.2-msec peaks when a constant d-c voltage was used for extraction. With a pulse extraction voltage (provided by a capacitor), an electron-current peak of 1 ka 10^{-6} sec has become possible. "In conclusion, the authors wish to thank P. F. Chernyayev for his great contribution to the construction of the experimental outfit." Orig. art. has: 7 figures. [03]

SUB CODE: 09 / SUBM DATE: 21Jul64 / ORIG REF: 002/ ATD PRESS: 4223

Card 2/2

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15-57-7-9604

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 125 (USSR)

AUTHOR: Muratov, Z.

TITLE: Petroleum Wealth of Tatar ASSR in the Service of Our Country (Neftyanyye bogatstva Tatarii na sluzhbu Rodine)

PERIODICAL: Kommunist, 1956, Nr 3, pp 75-86

ABSTRACT: Bibliographic entry

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MURATOV, Z.M., dotsent, kandidat biologicheskikh nauk.

Data on the embryology of the genus Ferula. Biul.SAGU no.28: 197-215 '49. (MLRA 9:5)

(Ferula)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135620002-1

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91754

Author : Muratov, Z.M.

Inst : Central Asiatic University.

Title : The Early Stages of Fiber Development in Cotton.

Orig Pub : Tr. Sredneaz, un-ta, 1957, vyp. 116, 95-100

Abstract : No abstract.

Card 1/1

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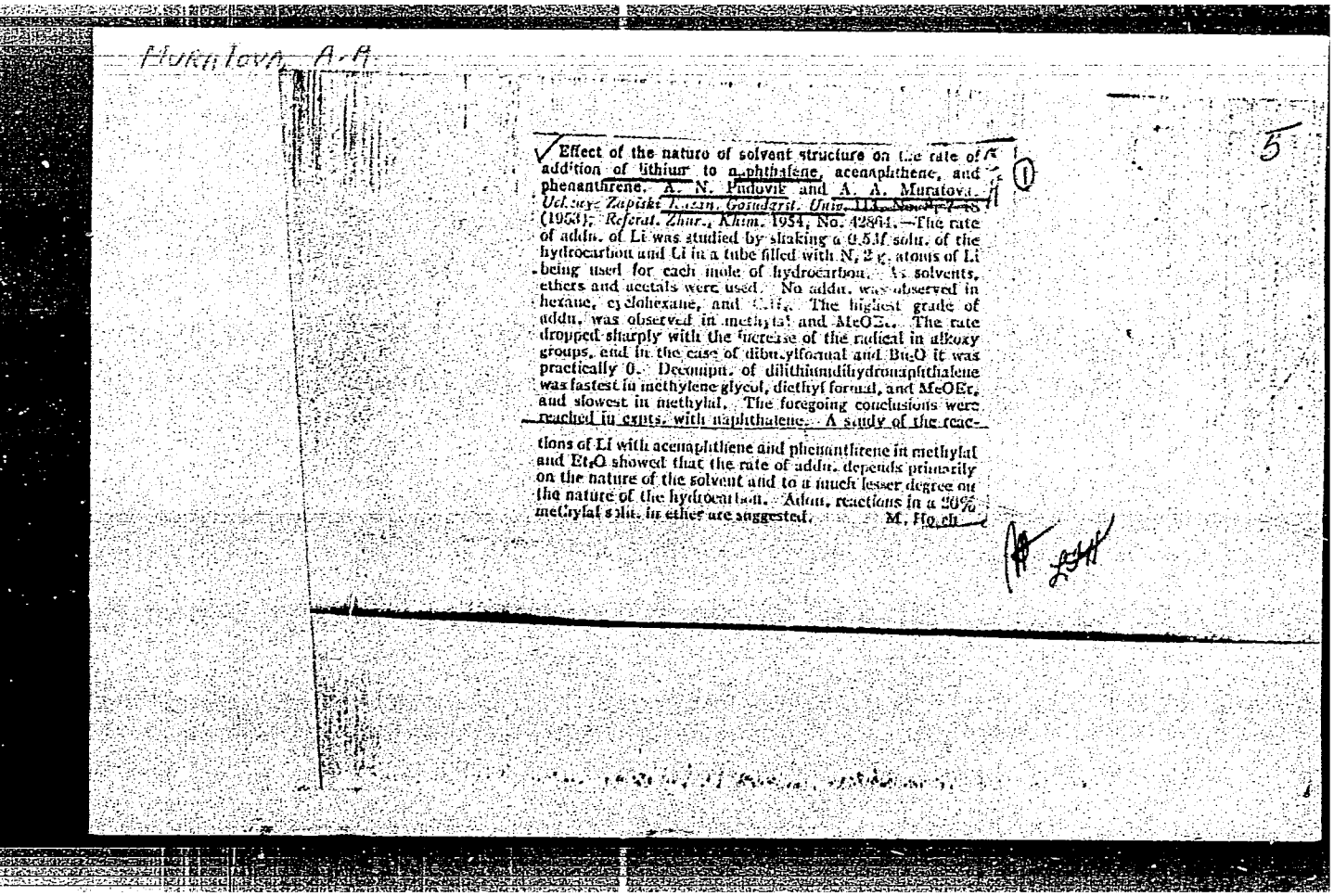

Hunlova A.A.

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Effect of the nature of solvent structure on the rate of addition of lithium to naphthalene, acenaphthene, and phenanthrene. A. N. Pudovik and A. A. Muratova. *Uchenye Zapiski Kazan. Gosudarst. Univ.* 113, No. 7, 47-8 (1953); *Referat. Zhur., Khim.* 1954, No. 42861.—The rate of addn. of Li was studied by shaking a 0.5 *M* soln. of the hydrocarbon and Li in a tube filled with N, 2 g. atoms of Li being used for each mole of hydrocarbon. As solvents, ethers and acetals were used. No addn. was observed in hexane, cyclohexane, and [illegible]. The highest grade of addn. was observed in methylal and MeOEt. The rate dropped sharply with the increase of the radical in alkoxy groups, and in the case of dibutylformal and Bu_2O it was practically 0. Decompn. of dilithiumdihydronaphthalene was fastest in methylene glycol, diethyl formal, and MeOEt, and slowest in methylal. The foregoing conclusions were reached in expts. with naphthalene. A study of the reactions of Li with acenaphthene and phenanthrene in methylal and Et_2O showed that the rate of addn. depends primarily on the nature of the solvent and to a much lesser degree on the nature of the hydrocarbon. Addn. reactions in a 20% methylal soln. in ether are suggested. M. Hoch

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