"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

AUTHOR: Prokof'yev, V.K., Professor (Leningrad) 26-58-6-15/56

TITLE: Contemporary Problems in Spectroscopy (Sovremennyye problemy spektroskopii)

PERIODICAL: Priroda, 1958, Nr 6, p 71-74 (USSR)

ABSTRACT: The article deals with the XIth Conference on Spectroscopy which was convened in Moscow in December 1957 by the Committee on Spectroscopy of the USSR Academy of Sciences. Over 600 delegates participated, among them 12 scientists from foreign countries. Member-Correspondent of the AS USSR, S.E. Frish, reviewed the development of Soviet spectroscopy in the 40 years of Communist rule. The Conference heard numerous reports covering the following scientific groups: The properties of atoms and high temperature plasma, the properties of molecules (gaseous and liquid state of substance), and spectroscopic properties of semiconductors and crystals. Reports were delivered by the following Soviet scientists: I.V. Dvornikova, I.M. Nagibina, [illegible] Vaynshteyn, G.G. Dolgov, M.G. Veselov, G.F. Drukarev, I. [illegible] Bersuker, A.P. Yutsis, N.P. Penkin, G.P. Startsev, N.G. Morozova, Yu.P. Dontsov, L.A. Korostyleva, N.I. Kaliteyevskiy, S.E. Frish, V.A. Fabrikant, N.N. Sobolev, M.Z. Khokhlov, L.V. Leskov, V.I. Nalimov, N.G. Yaroslavskiy, G.M.

Card 1/2

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Contemporary Problems in Spectroscopy 26-58-6-15/56

Veselov, M.A. Konver, Kh.Ye. Sterin, P.A. Bazhulin, S.Ya. Bobovich, B.S. Neporent, B.I. Stepanov, B.Ya. Sveshnikov, N.A. Prilezhayeva, V.M. Chulanovskiy, V.I. Malyshev, S.A. Ukholin M.V. Vol'kenshteyn, A.M. Prima, Ye.L. Faynberg, I.I. Sobel'man, P.P. Feofilov, V.A. Arkhangel'skaya, Ya.I. Frenkel', Ye.F. Gross, S.I. Pekar, A.F. Prikhot'ko, I.V. Abarenkov, V.M. Buymistrov, A.A. Shatalov, V. K. Prokof'yev and Ya. S. Bobovich.

Card 2/2

1. Spectroscopy-Conference

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PROKOF'YEV, V.K.

51-4-2-3/28

AUTHORS: Nikonova, Ye. I. and Prokof'yev, V. K.

TITLE: Investigation of the Radial Distribution of Metallic Atoms in a Direct-Current Arc Flame. (Issledovaniye radial'nogo raspredeleniya atomov metallov v plameni dugi postoyannogo toka.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.2, pp.144-151 (USSR).

ABSTRACT: Intensity of thermally excited spectral lines is determined by the concentration of neutral atoms and the discharge temperature. The temperature distribution in a direct-current arc is well known (Ref.3-6). The distribution of normal (non-excited) atoms has been really studied only by Eberhagen (Ref.8). The aim of the present work was to determine the distribution of neutral atoms of sodium under discharge conditions as close as possible to those used in spectral analysis employing the d.c. carbon arc. The distribution of sodium atoms was obtained by measuring anomalous dispersion in an arc working at atmospheric pressure. The apparatus used was described earlier (Ref.1). The optical arrangement is given in Fig.1. Anomalous

Card 1/5

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51-14-2-3/28

Investigation of the Radial Distribution of Metallic Atoms in a Direct-Current Arc Flame.

dispersion was photographed using an auto-collimating spectrograph with a plane diffraction grating (600 lines/mm). The grating (8 in Fig.1) had a surface area of 80 x 60 mm. The linear dispersion of the spectrograph was 8.2 Å/mm. The electric arc (16 in Fig.1) was placed in one of the beams of a Rozhdestvenskiy interferometer. Light from a krypton lamp (1 in Fig.1) was focused on the gap between the arc electrodes. For measurements on various parts of the arc flame the latter was moved at right angles to the light beam. Measurements of the anomalous dispersion "hooks" were made near the strongest resonance lines of sodium at 5890 and 5896 Å, for which Kvater (Ref.9) found the absolute oscillator strengths to be $f_1 + f_2 = 1.23$, $f_1 \cdot f_2 = 2$.

The arc was supplied with 127 V and 3.5-4.0 A. The carbon electrodes were separated by 4 - 5 mm and placed one above the other. The lower electrode was the anode. It had special construction suggested by G.P. Startsev and shown in Fig.2. The anode was hollowed out and contained a mixture of NaCl, with KCl and C. The

Card 2/5

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51-4-2-3/28

Investigation of the Radial Distribution of Metallic Atoms in a Direct-Current Arc Flame.

latter two substances were added in order to stabilize the arc. The diameter of the flame halfway between the electrodes was 7 - 8 mm. The width of the beam from the krypton lamp was 0.8 - 1.0 mm. The authors also studied the sodium atom distribution in an arc between electrodes with "wicks". A mixture of NaCl and C was used as the "wick" at the lower electrode (anode). In an arc burning between the "wicks" a smaller amount of sodium entered the inter-electrode gap and the flame was 8 - 10 mm wide midway between the electrodes. The arc reached a stable state after 3 - 4 minutes from striking. The method of calculation of the atomic distribution from measured "hooks" is described in detail. Fig.3 is an example of construction of the distribution curve. The radial distribution of sodium atoms in an arc burning between "wicks" is given in Table 1 and Fig.4, while Table 2 and Fig.5 give the same distribution for an arc with the anode shown in Fig.2. In Figs. 4 and 5 the abscissa represents the radius of the arc flame with its origin in the centre

Card 3/5

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51-4-2-3/28

Investigation of the Radial Distribution of Metallic Atoms in a Direct-Current Arc Flame.

of the flame, and the ordinate gives the relative values of sodium atom concentrations. Tables 1 and 2, and Figs.4 and 5 show that when the anode of the arc has the construction shown in Fig.2 a more uniform distribution of sodium atoms (Fig.5) is obtained than in the arc burning between "wicks" (Fig.4). In both cases the normal atom concentration falls at the flame edge. Fig.4 shows also that in the arc between "wicks" the concentration of atoms falls also near the centre of the flame. The latter case (Fig.4) is similar to the "hollow" flame reported by Eberhagen (Ref.8). No "hollow" flame effect was observed in the arc with the anode shown in Fig.2. The maximum value of the sodium atom concentration in 1 cm^3 of the arc plasma is approximately the same (about 10^{15} cm^{-3}) in both types of the arc used. Actually the amount of sodium placed in the arc burning between "wicks" is much higher than in the arc with the special anode (Fig.2). The equality of the sodium atom concentrations in the two types of arcs may be due to much stronger heating and

Card 4/5

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51-4-2-3/23

Investigation of the Radial Distribution of Metallic Atoms in a Direct-Current Arc Flame.

evaporation of the substance studied, as well as due to the flame being somewhat smaller, in the arc employing the special-construction anode of Fig.2. The authors recommend this anode (Fig.2) in analysis of small amounts of substances. The authors conclude that, with the exception of the flame edge and the narrow central zone, the normal metallic atoms are uniformly distributed (within 25%) across the arc flame. There are 5 figures, 2 tables and 10 references, of which 5 are Soviet, 3 Dutch and 2 German.

ASSOCIATION: State Optical Institute imeni S.I. Vavilov. (Gos. opticheskiy institut im. S.I. Vavilova.)

SUBMITTED: April 29, 1957.

1. Sodium atoms-Distribution
2. Interferometers-Applications
3. Spectrographs-Applications
4. Sodium-Spectrographic analysis
5. Electric arcs-Applications
6. Atoms-Spectrographic analysis

Card 5/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

SOV/48-22-6-24/28

AUTHOR: Prokof'yev, V. K.

TITLE: The Latest Spectroscopic Apparatus in the USSR (Noveyshiye spektral'nyye pribory SSSR)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 737-741 (USSR)

ABSTRACT: The author says in his introduction that the apparatus designed up to 1954 were described in the course of a lecture delivered at the IX. Conference on Spectroscopy at Tartu (Estonian SSR) (Ref 1). The latest models which had been projected and recommended during the past 3 years were mentioned on that occasion. In the chapter dealing with Apparatus for Spectral Analysis and Spectral Research the following of the newst Soviet spectroscopical apparatus were mentioned: Stiloskop (SL'-12) with photometrical wedge with 3-100% transmissivity, by means of which it is possible to equalize the intensity of lines of analytical couples and thus to improve the accuracy of results. An excitation generator with an alternating current arc of 2 and 4 A and a low-voltage radiotransmitter serve as a basis. Quartzspectrograph TSP -28), which is an improved model of the spectrograph ISP -22. Hermetical Stand , ShT-9 and

Card 1/6

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ShT-10) for the electrodes with a spark silencer, suction device for gases, and screening of radio statics. The latest models of Alternating Current Arc Generators with low-voltage spark device (DG -2) and of a Generator for Controled High-Voltage Sparks (IG -3). Diffraction Spectrograph (DFS 8) for photographing spectra on a 13x18 cm plate in the range of 2000-10000 Å with the linear reverse dispersion of 6 Å mm^{-1}, flat grid (120x60 cm) and vertical optical autocollimation system (with spherical mirror, f = 2600 mm). Spectroprojector (SPP -1) for spectrograms up to 13x24 cm and from 10 to 20-fold enlargement with additional microscope. Photoelectric Stilometer (FES 1) consisting of a three-prism glass spectrograph, a hermetical electrode stand, alternating current arc generator with low-voltage radio transmitter and adjustable electron-controled ignition (GEU -1) as well as with a recording device. A Photoelectric Spectrometer for Direct Reading (DFS 10) with concave diffraction grid (r = 2 m) for a wider application within the range of 2300-5400 Å with linear backward dispersion 4 A mm^{-1}. The diffraction grid (70x50 mm)

Card 2/6

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is produced according to the Pashen-Runge system. On the Rowland (Rouland) circle 36 slits with antimony-cesium photoelements STsV-9 and with dark current 10^{-15} A are provided. An alternating current arc generator is provided with the low-voltage spark device and electron-controled ignition (GEU -1). A recording device records up to 12 spectral lines. In the chapter: Devices for the Volume Range of the Spectrum the new Double-Prism Monochromator (SP -41) is mentioned, which is fitted with a device for photoelectric recording and an LiF-crystal optical system; it is provided with a spectral prism. A photomultiplier (FEU -18) with a photocathode and fluorescent surface serves as a receiving apparatus. A second new model is mentioned, namely the Large Vacuum Diffraction Spectrograph (DFS 5) for photo-work in the spectral range of 500-2000 A with a concave diffraction grid (R = 3 m, 100 x 60 mm) adjusted according to the Pashen-Runge system. In the chapter: High-Power Spectral Devices two new apparatus with photoelectric recording for weakly luminescent spectra (luminescence, combined dispersion etc.) are mentioned: One of them has a three-prism glass spectrograph (ISP -51). Instead of a photographic camera this device possesses an output collimator (FEP -1) with

Card 3/6

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

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a focus of 300 mm (1:5). Behind the output slit of the collimator there is a photomultiplier (FEU -17) which has an antimony-cesium cathode. Besides, an automatic recording device (EPP-09) is connected with this apparatus. Among the devices mentioned there is further the New Recording Diffraction Spectrometer (-DFS-12) with double monochromatization and an optic system constructed according to the Ebert-Fasti principle, plane grid (600 mm^{-1}, 150 x 140 mm); focal distance of mirror objectives = 800 mm; with double monochromatization linear dispersion is = 5,2 Å mm^{-1} and in the case of simple monochromatization it is = 10,4 Å mm^{-1}. The photomultiplier (FEU -17) with amplifier is used as a receiver in this case; hereto belongs also the automatic recorder (EPP -09). In the case of particularly weak illumination (e.g. nocturnal sky, aurora borealis, etc.) a number of special spectrographs with a plane diffraction grid (SP 48, 49 and 50) has been designed. A description is given (Ref 6). For the spectra of a luminescence of short duration (spark discharges) two new Photoelectric Rapid-Action Spectrographs have been developed (SP -61) for the visible range of 4000-6500 Å or for the infrared

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domain of 6500-11000 Å (0.002 seconds); they have linear backward dispersion 26 Å mm^{-1} and a focal distance of 300 mm. From the multiplier and amplifier signals are transmitted to the electron oscillograph after which they are photographed on a rapidly moving film. The Photoelectric 4-Channel Rapid Action Spectrograph SP-64) has a plane diffraction grid (150x140 mm) in accordance with the autocollimation scheme; objective f = 600 mm; ranges: 3800-6500 and 6500-11000 Å; linear backward dispersion: 13,5 and 27 Å mm^{-1}. The signals are transmitted from the multiplier and amplifier to the cathode-pulse oscillograph (OK-17 M) with double-beam electron tube. In the chapter: Apparatus for Absorption Spectral Analysis the following newly constructed devices are mentioned: A Spectrophotometer (SFD-1) with flat replica of the diffraction grid (600 mm^{-1}, 100x90 mm) which is used for spectrophotometrical work in the ultraviolet, visible, and near infrared spectral domains (220-1100 mμ) was developed from the spectrophotometer SF-4. The Spectrometer for the Infrared Spectral Range IKS-14) possesses an automatically operating recording device. The Spectrophotometer for the Infrared Spectral Range (IKS-14) (which is shown by an illustration), has a double-radiation system. The optical part is

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The Latest Spectroscopic Apparatus in the USSR SOV/48-22-6-24/28

the same as in IKS - 12. A silican carbide rod serves as a light source, and as receiver a metal bolometer is used. The apparatus is, moreover, provided with an electron tube amplifier and an automatic spectrum recorder as well as with an automatic slit adjusting device. The above list relates to the period of from 1955 to 1957. There are 4 figures and 6 references, 6 of which are Soviet.

1. Spectroscopy--USSR 2. Spectrographic analysis--Equipment

Card 6/6

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

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24(8) PHASE I BOOK EXPLOITATION SOV/2117

Soveshchaniye po eksperimental'noy tekhnike i metodam vysokotemperaturnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniy pri vysokikh temperaturakh; trudy soveshchaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series: Akademiya nauk SSSR. Institut metallurgii. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.L. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) constitution diagram studies 3) physical properties of liquid metals and slags 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverage, see Table of Contents.

Samarin, A.M., and D.Ya. Svet. Photoelectric Pyrometry of Liquid Metal 636

Investigations were made of the spectral radiating power of the surface of metal baths of various chemical compositions using various methods. Results were in agreement. The regularities established determined the connection between color temperature and actual temperature of clean and oxidized metal-bath surfaces. On the basis of a large number of investigations it was established that the value of the coefficient of transition from color temperature to actual temperature has practically no relationship to the presence of alloying elements and is unvarying in the presence of carbon between the limits of 0.01 and 3.5 percent. A comparison of various methods of radiation pyrometry showed that the optical spectral-ratio method is the most effective for continuous temperature control and thermography of liquid metal.

Svet, D.Ya. A Simplified System of Spectral Ratio Optical Pyrometry 645

Andreyev, I.A., and M.Z. Rozenberg. Application of the Optical Pyrometer for Measuring the Temperature of Liquid Steel 655

Mikhaleyskiy, V.D., B.S. Neporent, V.K. Prokof'yev, and I.A. Tel'tevskiy. Equipment for Determining High Temperatures of Gases by the Optical Method 665

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

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5(4)

AUTHORS: Moroshkina, T. M., Prokof'yev, V. K. SOV/54-59-2-21/24

TITLE: Spectral Determination of Microquantities of Ti, Nb and Ta in Natural Materials (Spektral'noye opredeleniye mikrosoderzhaniy Ti, Nb i Ta v prirodnykh materialakh)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 143-148 (USSR)

ABSTRACT: The separation and determination of the elements mentioned in the title by chemical methods is very difficult, especially when they are present in microquantities. In this connection, the emission spectroscopy has gained great importance for the determination of these elements. In fact, these spectra are also very complicated, but it was possible to separate spectral lines of the elements Ti, Nb, Ta which are not superposed by the spectra of the accompanying elements, and which do not overlap one another. These lines which can be used as analytical lines are: Ti - 4305.92 Å, Nb - 2927.81 Å, Ta - 2933.55 Å, Nb - 2950.88 Å, Ta - 2951.9 Å. The lines of U (λ = 4297.11) or Cr (λ = 4297.73 Å) were used as comparative lines for Ti. The Nb- and Ta-lines served as intrinsic standards.

Card 1/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

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Besides, Fe with the line $\lambda = 2929.01$ Å was used for the comparative determinations of the latter. The characteristics (intensity and excitation energies) of the mentioned lines are represented in table 1. The investigations were carried out on a large self-collimating plant of the Hilger firm. The photographed spectra were recorded by a photometer MF 2. The method used was the integrating method. The emission lines were excited by an a.c. arc. A special tub, which is shown in figure 1, was used for the insertion of the samples between the carbon electrodes. To determine the time of exposition, the evaporation curves of the elements to be investigated in dependence on time were plotted (Fig 2). An exposition time of 2 minutes was chosen for Ti. The results of measurement for the Ti-determination from 20 different investigations of the ore Nr 5 are compiled in table 3, those of the ores Nrs 5 and 63 in table 2. The mean deviation of the 20 different investigations was not more than 12%. A comparison of the values in table 2 with data of chemical analysis showed a good agreement. The investigations for the determination of Ti were carried out in an interval of 5.10^{-4} - 0.5% The simultaneous determination

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of Nb and Ta (for data see tables 4 and 5) was possible for 0.01% to 1%. For smaller quantities, the determination was only possible if they were present in the materials in a ratio of 1 : 1 to 1 : 2. If this ratio was not attained, it was only possible to determine the element of the higher quantity. A comparative investigation with iron as intrinsic standard showed good agreement. A. I. Kirilenko and L. A. Cheburina took part in the experimental work. The values of the excitation potential of Nb were taken from the tables by Humphreys and Meggers (Ref 1), those for chromium from the table by Kiss (Ref 2). There are 2 figures, 5 tables, and 4 references, 2 of which are Soviet.

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AUTHORS: Nikonova, Ye. I. and Prokof'yev, V.K. SOV/51-6-2-27/39

TITLE: On the Distribution of Neutral Atoms in the Plasma of a Direct-Current Arc (K voprosu o raspredelenii neytral'nykh atomov v plazme dugi postoyannogo toka)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 2, pp 253-254 (USSR)

ABSTRACT: The authors reported earlier (Ref 1) their studies of the radial distribution of neutral sodium atoms across the mean cross-section of the plasma of a direct-current arc. The present paper reports an extension of previous work to studies of the distribution of neutral sodium atoms at various distances from the cathode. The experimental technique employed does not differ from that described earlier (Ref 1). Carbon rods of 7 mm diameter were used as electrodes. The anode had a small channel (1 mm diameter) into which a mixture of NaCl and carbon powder was placed. The proportions of NaCl and carbon were in the ratio of 1:1.5. The voltage across the arc was 120 V and currents were 3.5-4.0 A. These conditions were the same as those used earlier (Ref 1) in order to make the results of the two investigations easily comparable. The sodium atom distribution was deduced from records of anomalous

Card 1/3

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dispersion in a light beam of 1 mm diameter which passed through the central axis of the discharge. Anomalous distribution hooks were recorded at distances of 1, 2, ..., 8 mm from the cathode. Since the discharge diameter is practically constant (9-10 mm) the sodium atom concentration was calculated by carrying out integration given by $\int_0^x N dl$. The inter-electrode distance was 9 mm. The results, which are means of five series of measurements are shown in Fig a. This figure gives the distribution of sodium atoms along the discharge axis, as a fraction of the maximum value of the sodium atom concentration (10^{15}). This maximum occurs at 1 mm from the cathode. The results obtained confirm those of Alekseyev (Ref 3), who also found an increase of neutral atom concentration near the cathode. Fig 6 shows the distribution of neutral sodium atoms across the discharge at 2 mm from the cathode. The maximum concentration was $1.4 \times 10^{15} cm^{-3}$ at a distance of 1.5 mm from the discharge axis. When the whole discharge is represented by one mean cross-section the maximum concentration of sodium atoms is $0.5 \times 10^{15} cm^{-3}$. The distribution across such a mean cross-section is given by Fig 6, taken from the authors' earlier work (Ref 1). Comparison of Figs 6 and 8

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On the Distribution of Neutral Atoms in the Plasma of a Direct-Current Arc SOV/51-6-2-27/39

shows that the concentration of sodium atoms falls towards the discharge axis in the mean cross-section representation, while the real distribution near the cathode is more uniform across the discharge. This greater uniformity in the distribution across the discharge is due to the higher total concentration of sodium atoms. V.P. Sigov took part in the experimental work. There are 3 figures and 3 references, 2 of which are Soviet and 1 German.

SUBMITTED: July 25, 1958

Card 3/3

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24(3), 24(7), 24(8) SOV/51-7-1-3/27

AUTHORS: Prokof'yev, V.K., Gurevich, D.B., Belousova, I.M. and Snigirev, Yu.A.

TITLE: On the Problem of the Time Required for Establishment of Thermodynamic Equilibrium in the Plasma of an Arc Discharge (K voprosu o vremeni ustanovleniya termodinamicheskogo ravnovesiya v plazme dugovogo razryada)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 1, pp 14-20 (USSR)

ABSTRACT: The authors measured the time required for establishment of thermodynamic equilibrium in a 5-15 A, 45 V d.c. arc burning between carbon electrodes in air at atmospheric pressure. This time was taken to be equal to the time necessary to establish equilibrium in the arc after application of a short (10-25 μsec) pulse of 80-200 A across the arc gap. The pulses (Fig 2) were produced by discharging a 5 μF, 300 V capacitor or using a circuit consisting of six sections, each with a C = 0.25 μF and L = 10 μH (the pulse generator circuit is shown in Fig 1). Establishment of thermodynamic equilibrium conditions after a pulse was taken to be that moment at which the temperatures T_{exc}, T_{vibr} and T_{rot} became equal; T_{exc} was the temperature deduced from the relative intensities of the atomic lines Fe I 5269.5 and 4325.76 Å, T_{vibr} was the temperature deduced from the ratio of the intensities of unresolved 0—1 and 1—2 CN

Card 1/2

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band edges at 4216.0 and 4197.2 Å, T_{rot} was the temperature deduced from the distribution of intensities in an unresolved 0—1 CN rotational band with an edge at 4216.0 Å. Measurements with a four-channel photoelectric spectrometer SP-64 yielded the values $T_{exc} \cong T_{vibr} \cong T_{rot} \cong 4200°K$ before a pulse was applied; 20-25 μsec after a pulse the three temperatures became equal again at about 6000°K (Figs 3, 4). The authors conclude that this interval of 20-25 μsec is the time required for establishment of thermodynamic equilibrium conditions in the arc described above. There are 4 figures, 6 tables and 11 references, 4 of which are Soviet, 3 English, 3 Dutch and 1 French.

SUBMITTED: July 25, 1958

Card 2/2

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MOROSHKIN, T.M.; PROKOF'YEV, V.K.

Advantages of the preliminary sintering of samples into oxides in the quantitative spectral analysis of natural specimens. Zast. Lab 14 no.22:130-135 '59. (MIRA 12:11)

(Titanium--Spectra) (Beryllium--Spectra)
(Chemistry, Analytical--Quantitative)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.K.; NAGIBINA, I.M.; PETROVA, G.P.

Determination of the absolute values of oscillator forces from the spectral line widths. Opt. i spektr. 8 no.3:376-381 Mr '60. (MIRA 14:5)

(Tin--Spectra)
(Spectrum analysis)

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37196

3.1540
3.2100

S/560/61/000/011/002/012
E032/E514

AUTHORS: Bruns, A.V. and Prokof'yev, V.K.

TITLE: Measurement of the far ultraviolet helium emission on the sun

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no.11. Moscow, 1961. Rezul'taty nauchnykh issledovaniy, provedennykh vo vremya poletov vtorogo i tret'yego kosmicheskikh korabley-sputnikov, 15-22

TEXT: Resonance lines of neutral and ionized helium in the far ultraviolet (HeI λ584.7 and HeII λ303.8) are of particular interest in solar physics. In the visible part of the spectrum of the solar chromosphere there are emission lines both of neutral and of ionized helium which suggests that the above two lines may also be present. The origin of strong helium emission in the chromosphere has not been fully explained and, moreover, terrestrial measurements have shown that powerful solar flares and eruptions are often accompanied by strong neutral and ionized helium emission. Therefore, measurements of the above two resonance lines of helium are of great importance to the

Card 1/2

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understanding of physical processes responsible for solar activity. The present authors therefore carried out such measurements from the third Soviet spaceship on December 1-2, 1960. The photoelectric diffraction spectrometer described on p.23* of the present issue of this journal was employed. The spaceship was not oriented and, therefore, the measurements were carried out only while the sun was in the field of view (110-120°). The records obtained correspond to 3.5 hours of flight along the illuminated part of the orbit. A graph showing the counting rate of the device as a function of time is reproduced, together with the background counting rate. Analysis of these results is used to estimate the flux of radiation at λ = 303.8 Å and this is found to be 0.5 erg cm^{-2} sec^{-1}. This result is stated to be accurate to within a factor of 2-3. This figure is in good agreement with the result reported by A. B. Severnyy (Ref.1: Izv.Krym. astrofiz.obs., 23, 311, 1960) and R.G.Athay (Ref.2: Astrophys.J., 128,447,1958). It is closer to the flux given by H.E.Hinteregger et al.(Ref.6: Space Research, v.1, Amsterdam, 1960, p.615) than that reported by T.Violett and W.A.Rense (Ref.3: Astrophys.J.,130, 954,1959). There are 3 figures and 1 table.

SUBMITTED: June 10, 1961

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3,2100
3.1250

37197
S/560/61/000/011/003/012
E032/E514

AUTHORS: Bruns, A.V. and Prokof'yev, V.K.

TITLE: A spectrometer for the measurement of solar emission in the far ultraviolet

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no.11. Moscow, 1961. Rezul'taty nauchnykh issledovaniy, provedennykh vo vremya poletov vtorogo i tret'yego kosmicheskikh korabley-sputnikov, 23-29

TEXT: This spectrometer was employed in the experiments reported in the* preceding paper in this issue. It is illustrated schematically in Fig.1 and was specifically designed for measurements on the line HeII λ303.8. However, with slight modifications it can also be used to study other lines, for example, HeII λ584, Lα etc. In Fig.1, A is the entrance slit of the spectrometer, P is a replica grating (concave), E is the zero-order focus, B is the focus for the λ303.8 Å line (2 x 20 mm^2 slit) and Д is a shaft which is pivoted at O_1 and carries a quartz prism П at one end and a scanning slit Б (0.1 x 0.15 mm^2) at the other end. The photocathode of the photomultiplier БЭУ (VEU) is located behind

Card 1/4

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the exit slit B. The beam Д is rocked by a motor which rotates the cam K. The limiting positions of the beam are indicated by Д and Д'. In the former position the quartz prism П intercepts zero-order radiation and throws it on to the exit slit B (with small dispersion) so that radiation in the spectral region 2000-1700 Å passes through this slit and strikes the photocathode of the photomultiplier. This method is used to measure the calibrating signal. When the beam leaves its limiting position, the rod Г leaves the "dimple" on the double cardioid so that zero-order radiation can now freely pass into the trap Л. Further rotation of the cam displaces the beam into the other limiting position Д' and during this time the scanning slit Б moves across the output slit B and scans an interval of about 30 Å in the neighbourhood of the λ303.8 line. The position of the latter line relative to B is determined in a preliminary experiment by photographing the spectrum of a helium discharge tube. In the position Д' the beam closes a key, thereby switching off the voltage applied to the detecting system and producing a control zero-level signal. Further rotation of the cam gives rise to

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A spectrometer for the ...

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scanning of the spectrum in the reverse order. Finally, the prism Π enters the zero-order region and the calibrating signal is recorded. The cycle is then repeated again. The complete duration of the cycle is 170 sec. The basic circuit of the measuring system and the block diagram of the entire device are reproduced and described. There are 4 figures.

SUBMITTED: June 10, 1961

Card 3/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.K.

BOBROV, M. S., Astronomical Council, Academy of Sciences USSR [1960]- "Optics and geometry in the matter of Saturn's rings"

PROKOF'YEV, Vladimir K., Crimean Astrophysical Laboratory imeni G. A. Steyn [1962]- "On the presence of oxygen in the atmosphere of Venus"

SALOMONOVICH, A. Ye., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR, and KUZ'MIN, Arkadiy D., Radio Astronomy Laboratory, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR - "Observations of the radioemission of Venus and Jupiter on the wave of 8 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., and KISLYAKOV, A. G. - "Radioemission of Venus on the wave of 4 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., BIBINOVA, V. P., and SHAVLOVSKIY, I. V. - "Observations of the radioemission of Venus and Jupiter on the wave of 3.3 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Radioemission of Venus on the wave of 9.6 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Results of the observations of radioemission of Venus in 1961"

SHARONOV, Vsevolod V., Director, Astronomical Observatory, Leningrad State University [1961 position]- "Probable state of the surface and atmosphere of the planet Mars according to photometric and colorimetric data"

VSEKHSVYATSKIY, Sergey K., Head of the Chair of Astronomy, Kiev State University [1961 position]- "Nature of Saturn's rings and signs of the existence of a ring around Jupiter"

YEZERSKIY, V. I., and BARABASHEV, N. P., Director, Kharkov Astronomical Observatory, Kharkov State University [1960 position]- "Optical properties of the atmosphere and surface of Mars according to photometric and spectrophotometric observations carried out at the Kharkov University Observatory"

port to be submitted for the 11th Intl. Astrophysics Symposium, Belgian st. of Astrophysics, Cointe-Sclessin, Belgium, 9-11 Jul 1962.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, Vlad K. and MOROZ, V. I.

"Soviet spectroscopic investigations of Venus"

report to be submitted for the 13th Intl. Astronautical Congress, IAF, Varna, Bulgaria, 23-29 Sep 1962.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

BRUNS, A. V. and PROKOF'YEV, V. K.

"Spaceship Satellite Investigation of the Helium Line Emission on the Sun"

report presented at the 13 Intl. Astronautical Federation Congress (IAF)
Varna, Bulgaria, 23-29 Sep 1962

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

FRISH, S.E., otv. red.; BOBOVICH, Ya.S., kand. fiz.-matem. nauk, red.; VOL'KENSHTEYN, M.V., doktor fiz.-matem. nauk, red.: GALANIN, M.D., doktor fiz.-matem. nauk, red.; DRUKAREV, G.F., doktor fiz.-matem. nauk, red.; YEL'YASHEVICH, M.A., akademik, red.; KALITEYEVSKIY, N.I., doktor fiz.-matem. nauk, red.; KUSAKOV, M.M., doktor khim. nauk, red.; LIPIS, L.V., doktor tekhn.nauk, red.; PEKAR, S.I., doktor fiz.-matem. nauk, red.; PROKOF'YEV, V.K., doktor fiz.-matem. nauk, red.; SOKOLOV, N.D., doktor fiz.-matem. nauk, red.; FEOFILOV, P.P., doktor fiz.-matem. nauk, red.; CHULANOVSKIY, V.M., doktor fiz.-matem. nauk, red.; SHPOL'SKIY, E.V., doktor fiz.-matem. nauk, red.; YAROSLAVSKIY, N.G., kand. fiz.-matem. nauk, red.; LEKSINA, I.Ye., red. izd-va; PENKINA, N.V., red. izd-va; NOVICHKOVA, N.D., tekhn. red.; KASHINA, P.S., tekhn. red.

[Physical problems in spectroscopy]Fizicheskie problemy spektroskopii; materialy. Moskva, Izd-vo Akad. nauk SSSR. Vol.1. 1962. 474 p. (MIRA 16:2)

1. Soveshchaniye po spektroskopii. 13th, Leningrad, 1960. 2. Chlen-korrespondent Akademii nauk SSSR (for Frish). 3. Akademiya nauk Belurusskoy SSR (for Yel'yashevich).
(Spectrum analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ZAYDEL', A.N.; PROKOF'YEV, V.K.; RAYSKIY, S.M.; SHREYDER, Ye.Ya.; GUROV, K.P., red.; KUZNETSOVA, Ye.B., red.; BRUDNO, K.F., tekhn. red.

[Tables of spectral lines]Tablitsy spektral'nykh linii. Izd.2., ispr. i dop. Moskva, Fizmatgiz, 1962. 607 p. (MIRA 16:1)
(Spectrum analysis--Tables, etc.)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

NAGIBINA, Irina Mikhaylovna; PROKOF'YEV, Vladimir Konstantinovich, prof., doktor fiziko-matem. nauk; FRISH, S.E., retsenzent; VASIL'YEVA, V.P., red. izd-va; BARDINA, A.A., tekhn. red.

[Spectroscopic instruments and techniques] Spektral'nye pribory i tekhnika spektroskopii; rukovodstvo po prakticheskim zaniatiiam. Pod red. V.K.Prokof'yeva. Moskva, Mashgiz, 1963. 270 p. (MIRA 16:5)

1. Chlen-korrespondent Akademii nauk SSSR (for Frish).
(Spectrum analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.K.; PETROVA, N.N.

Presence of oxygen in the atmosphere of Venus. Izv. Krym. astrofiz. obser., 29:3-14 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOFYEV, V. K.

"Spectral analysis of the sun."

report presented at 12th Gen Assembly, Intl Astronomical Union, Hamburg, 25 Aug-3 Sep 64.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 19720-65 EWT(1)/EWG(v)/EEC(t) Pe-5/Pae-2 SSD/SSD(c)/AFWL/AFETR/ESD(t)/ESD(si)
ACCESSION NR: AR5000586 GW S/0269/64/000/009/0065/0065

SOURCE: Ref. zh. Astronomiya. Otd. vy*p., Abs. 9.51.442

AUTHOR: Prokof'yev, V.K.

B

TITLE: Presence of oxygen in the Venusian atmosphere

CITED SOURCE: Izv. Kry*msk. astrofiz. observ., v. 31, 1964, 276-280

TOPIC TAGS: Venus, Venusian atmosphere, planetary atmosphere, Venusian spectrum, solar spectrum

TRANSLATION: In May-July of 1962, work was repeated on the search of O_2 absorption bands in the Venusian spectrum (see RZhAstr, 1964, 6.51.454) at the time of the approach of Venus toward the earth. An analysis was made of 3 spectra obtained on 5, 6 and 27 July 1962; the profiles of 10 lines of the α band were measured. For comparison, solar spectra were obtained and used to determine the averaged profile of the telluric lines of the α-band. Its comparison with the averaged profile of these same lines in the Venusian spectrum and

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lengths), which corresponds to the expected Doppler

Card 1/2

L 19720-65
ACCESSION NR: AR5000586

band was caused by the presence of insignificant quantities of oxygen in the upper layers of the Venusian atmosphere. V. Bronshten.

SUB CODE: AA ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.K.; NIKONOVA, Ye.I. GRUZDEV, P.F.; FRISH, M.S.

Oscillator strengths for the FeI spectrum. Izv. Krym. astrofiz. obser. 31:281-324 '64. (MIRA 17:9)

1. Gosudarstvennyy opticheskiy institut (for Nikonova, Gruzdev, Frish).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

KATCHENKOV, Semen Nikhaylovich; PROKOF'YEV, V.K., prof., retsenzent; KLER, M.M., dots., retsenzent; KHOKHLOV, V.V., nauchn. red.; FEDOTOVA, M.I., ved. red.; BELYAKOV, M.F., dots., red.

[Spectrum analysis of rocks] Spektral'nyi analiz gornykh porod. Izd.2., perer. i dop. Leningrad, Nedra, 1964. 271 p. (MIRA 18:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 40979-65 EWT(1)/EWG(v)/EEC-4/EEC(t) Pe-5/Pq-4 GW
ACCESSION NR: AR5009013 S/0269/65/000/002/0037/0038

SOURCE: Ref. zh. Astronomiya. Otd. vyp., Abs. 2.51.317

AUTHOR: Tibilov, A. S.; Prokof'yev, V. K.

TITLE: Curve of growth for the atmospheric absorption bands of molecular hydrogen

CITED SOURCE: Izv. Krymsk. astrofiz. observ., v. 32, 1964, 3-10

TOPIC TAGS: atmospheric absorption band, molecular hydrogen, solar spectrum, sun, telluric band

TRANSLATION: The equivalent widths of 48 lines of the band A(λ7600) and 23 lines of the band B(λ6900) belonging to O_2 were measured and the curve of growth for these bands determined. The ratio of the total absorption coefficients for these bands was C_A/C_B = 13.5. The absolute value of the total absorption coefficient [illegible] for the line $P_P(1)$ (λ7621) of the A band. It was found [illegible] and the constants de-

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termined from each [illegible]
156) for the telluric bands in the solar spectrum. [illegible]

Card 1/2

L 40979-65

ACCESSION NR: AR5009013

A. Kolesov.

ENCL: 00

SUB CODE: AA

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Card 2/2

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 58301-65 EWT(1)/EWT(m)/EWP(w)/EPF(n)-2/EWG(m)/EWA(d)/EPA(w)-2/T/EWP(t)/EWP(b)
Pz-6/Pab-10 IJP(c) JD/AT
ACCESSION NR: AP5010037 UR/0368/65/002/002/0097/0104

AUTHORS: Bodretsova, A. I.; L'vov, B. V.; Pavlovskaya, Ye. N; Prokof'yev, V. K.

TITLE: Some spectroscopic characteristics of sealed lamps with hollow cathodes made of different metals

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 2, 1965, 97-104

TOPIC TAGS: spectroscopic characteristic, sealed lamp, emission spectroscopy, hollow cathode

ABSTRACT: The authors investigate the dependence of the intensity of resonance lines in sealed lamps with hollow cathodes made of vari- [illegible] Cd, Co, Cr, Cu, Fe, Mg, Mo, Ni, Pb, Sb, Sn, [illegible] filling the lamp

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of the widths of these

A picture of the hollow-cathode lamp used is shown

Card 1/4

L 58301-65

ACCESSION NR: AP5010037

Enclosure. The intensity of the resonance lines was measured photoelectrically using a diffraction monochromator with dispersion 6 A/mm (in the visible and ultraviolet regions) and the universal UM-2 monochromator (in the visible region of the spectrum). The pressure of maintain the glow stable near the hollow cathode ding on the cathode

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Card 2/4

L 58301-65
ACCESSION NR: AP5010037

to internal noise of the tube, and that in any case the noise does not exceed 0.1 per cent. Original article has: 7 figures, 1 formula, and 2 tables

ASSOCIATION: None

SUBMITTED: 27Jul64 ENCL: 01 SUB CODE: OP

NR REF SOV: 006 OTHER: 005

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Card 3/4

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 61557-65 EWT(1)/EWG(v) Pe-5/Pae-2 GW

ACCESSION NR: AT5018690 UR/2955/65/000/002/0019/0032

AUTHOR: Prokof'yev, V. K.

TITLE: Oxygen and water vapor in the atmospheres of Venus and Mars

SOURCE: AN SSSR. Kosmos, no. 2, 1965, 19-32

TOPIC TAGS: planetary astronomy, spectrography, planetary atmosphere, Mars, Venusian atmosphere, Martian atmosphere, Venus

ABSTRACT: Investigations of the composition of the atmospheres of Venus and Mars, based on the study of airglow spectra and the spectra of the absorption of individual regions of solar radiation are reviewed. Using the 125-cm reflector of the Crimean Astrophysical Observatory, N. A. Kozyrev obtained the spectrum of the "ashen" airglow of the dark side of Venus. Analysis of the spectrum lead Kozyrev to the conclusion that the "ashen" light results mainly from the radiation of nitrogen molecules, similar to that of terrestrial auroras. Laboratory tests by Yakovleva and Gromova showed that such nitrogen may be obtained by irradiating the nitrogen with short-wave ultraviolet light of 1300—1600 Å wavelength. Fogel', Polyakova, investigated the glow of various gases by bombarding their

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and Ch'iu Yu-mei have investigated the [illegible] particles with protons and hydrogen atoms. In these cases, the nitrogen showed the

Card 1/3

L 63557-65

ACCESSION NR: AT5018690

same kind of glow as is seen in auroras. Carbon dioxide, however, so abundant in the Venusian atmosphere, exhibited a greater number of lines, the length of which fairly well agrees with the length of the lines recorded by Kozyrev. Thus, solar corpuscular streams may cause the "ashen" airglow in the Venusian atmosphere. Since some other process may account for the phenomenon, further investigations are necessary, and the organization of a "Venus service" is proposed; the study of spectra thus obtained may corroborate the presence of nitrogen in that atmosphere. To detect the bands in the spectra of Venus and Mars is difficult; they only appear in weak lines of absorption spectra. In 1961 and 1962 spectra of Venus have been obtained in the Crimean Astrophysical Observatory by using the tower solar telescope and a spectrograph with a dispersion of 1 Å/mm in the region of the telluric α-band of oxygen (λ = 6300 Å). The spectrograph's aperture corresponded to the 0.08 Å-wide bands in the spectrum. Analysis of these spectrograms did not make it possible to evaluate the oxygen content of the Venusian atmosphere. However, spectra obtained in 1964 when Venus approached inferior conjunction showed, in addition to the lines of the absorption of the basic oxygen molecule O_2^{16}, the lines of the absorp- [illegible] allowing some evaluation

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have been detected in the [illegible] Venus and Mars, only the [illegible]

Card 2/3

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ACCESSION NR: AT5018690

ence of water vapor in the atmosphere of Venus and Mars, only the research of Western scientists, particularly of the Frenchman Dolfus, is discussed, and no Soviet scientific contribution to this problem is mentioned in the article. Orig. art. has: 3 figures. [JJ]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: AA

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4050

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Card 3/3

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 41088-66 EWT(1)

ACC NR: AP6026982 SOURCE CODE: UR/0051/66/021/002/0255/0257

48
B

AUTHOR: Gruzdev, P. F.; Prokof'yev, V. K.

ORG: none

TITLE: Oscillator strengths of resonance multiples in atomic and ionic spectra of isoelectronic sequences of the first, second, and third periods

SOURCE: Optika i spektroskopiya, v. 21, no. 2, 1966, 255-257

TOPIC TAGS: oscillator strength, resonance multiple, atomic spectrum, quantum defect, ~~term energy~~ APPROXIMATION

ABSTRACT: Oscillator strengths of resonance multiplets in atomic and ionic spectra of isoelectronic series of the first, second, and third periods of the Mendeleyev table of elements have been computed. Computations were performed in the Coulomb's approximation using Bates and Damgaard's approximation for the s → p transitions and Burgess and Seaton's approximation for the p → s transitions. The dependence of quantum defects on the term energy showed that the interaction of configurations is slight or even absent. The oscillator strength of multiplets decreases in s → p transitions, but in p → s transitions the oscillator strength changes only slightly. Orig. art. has: 1 table. [EG]

SUB CODE: 20,12/ SUBM DATE: 11Feb66/ ORIG REF: 002/ OTH REF: 006/ ATD PRESS: 5055

UDC: 539.184

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ACC NR: AR6033100 SOURCE CODE: UR/0269/66/000/007/0066/0066

AUTHOR: Prokof'yev, V. K.

TITLE: Presence of oxygen in the atmosphere of Venus

SOURCE: Ref. zh. Astronomiya, Abs. 7.51.481

REF SOURCE: Izv. Krymsk. astrofiz. observ., v. 34, 1965, 243-251

TOPIC TAGS: spectrum, oxygen, telluric oxygen, planetary atmosphere, venusian atmosphere, venusian spectrum, venusian oxygen

ABSTRACT: During March—May 1964 Venusian spectra were obtained in the telluric oxygen B-band (λ 6900) at a dispersion of 2 and 1.8 Å. The presence of weak absorption lines belonging to oxygen in the Venusian atmosphere has been detected on the shortwave side in the vicinity of the lines λλ 6892,369 and 6893,309. The intensity of these lines does not exceed that of the isotopic-molecule lines $O^{16}O^{18}$ located in the same place in the earth's atmosphere. Bibliography contains 8 titles. [Translation of abstract]

SUB CODE: 03/

Card 1/1 UDC: 523.41

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.M.

Geometrical problems applicable to the planning of field oil and gas collecting networks. Izv.vys.ucheb.zav.; neft' i gaz 2 no.11:115-118 '59. (MIRA 13:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.
(Petroleum--Pipelines) (Gas, Natural--Pipelines)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.M., dotsent, kand.fiz.-matem.nauk

Connecting points by segments having the maximum sum of lengths. Trudy MNI no.20:336-353 '57. (MIRA 13:5)
(Pipelines)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.M.

ANASHKIN, I.A., kapitan 1 ranga; BARABOLYA, P.D., polkovnik yuridicheskoy sluzhby; VOLKOV, A.S., inzh.-kapitan 1 ranga; VOROB'YEV, A.P., kapitan 1 ranga; VASIL'YEV, I.V., kapitan 1 ranga zapasa; V'YUNENKO, N.P., kand.voyenno-morskikh nauk, kapitan 1 ranga; GENKIN, A.L., dotsent, kand.tekhn.nauk, inzhener-kontr-admiral; YEREMENKO, B.Ya., kapitan 1 ranga; ZVEREV, B.I., kand.istor.nauk, mayor; KAZANKOV, A.A., kapitan 1 ranga; KOZIN, K.K., kapitan 1 ranga zapasa; KOLYADA, N.I., kapitan 1 ranga zapasa; KULINICH, D.D., inzh.-kapitan 1 ranga; LOBACH-ZHUCHENKO, M.B., dotsent, inzhener-kapitan 2 ranga zapasa; MASHAROV, A.I., polkovnik zapasa; MYASISHCHEV, V.I., inzhener kontr-admiral; PETROV, L.G., kapitan 1 ranga v otstavke; PROKOF'YEV, V.M., kapitan 1 ranga; POZNAKHIRKO, A.S., kapitan 1 ranga zapasa;

(Continued on next card)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ANASHKIN, I.A.---(continued) Card 2.
PYASKOVSKIY, G.M., polkovnik; SINITSYN, N.I., polkovnik. Prinimali uchastiye: ANDREYEV, V.V., kapitan 1 ranga; IVANOV, V.P., inzhener-kapitan 2 ranga; CHERNOUS'KO, L.D., inzhener-kapitan 1 ranga; SHIKANOV, Ye.P., inzhener-kapitan 2 ranga. FADEYEV, V.G., vitse-admiral zapasa, glavnyy red.; GERNGROSS, V.M., kapitan 1 ranga zapasa, red.; STAROV, N.N., kapitan 1 ranga v otstavke, red.; SOKOLOVA, G.F., tekhn.red.

[Marine dictionary] Morskoi slovar'. Moskva, Voen.izd-vo M-va obor. SSSR. Vol.2. O - IA. 1959. 440 p. (MIRA 12:12)
(Naval art and science--Dictionaries)
(Merchant marine--Dictionaries)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V. M.

"How to Connect Points by Lines With the Shortest Total Length"

Problems of Petroleum Production and Petroleum Engineering, Moscow, Neftyanoy institut, Gostoptekhizdat, 1957, 393pp. (Trudy vyp. 20)
This book is a collection of articles written by professors and faculty members of the Petroleum Inst. im I. M. Gubkin.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

SOV/44-58-4-3172

Translation from: Referativnyy zhurnal, Matematika, 1958, Nr 4, p 117 (USSR)

AUTHOR: Prokof'yev, V.M.

TITLE: Certain Properties of the Shortest Line Joining Any Number of Given Points of the Plane (Nekotoryye svoystva kratchayshey linii, soyedinyayushchey lyuboye chislo dannykh tochek ploskosti)

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1957, Nr 101, pp 63-84

ABSTRACT: A detailed study is made of the properties of the shortest line (minimal net). The problem is a far-reaching generalization of Torricelli's problem for three points. A series of definitions is introduced (dead end, elbow, nodes of a linear net). Examples are adduced of construction of a minimal net for a quadrangle with nodes at the vertices of the angles of less

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Certain Properties of the Shortest Line (Cont.)

than 120°, for a regular pentagon and for a hexagon of definite form.

S.I. Zetel'

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn.nauk, prof.

New trends in the investigation of hydraulic transmissions abroad. (MIRA 16:5)
Vest.mashinostr. 43 no.5:77-82 My '63.
(Oil-hydraulic machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PANOVKO, YA. G. (PROF) PROKOF'YEV DOCENT, V. N.

USSR (600)

Automobiles - Transmission Devices

Forced fluctuation of automobile systems having a hydrodynamic coupling. Prof. Ya. g. Panovko, Docent V.N. Prokof'yev. (Trudy) NAMI No. 48, 1947.

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

2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

FROKOF'YEV, V. N.

FROKOF'YEV, V. N. -- "SYNTHESIS OF KINEMATIC DIAGRAMS OF HYDROMECHANICAL GEARING." Sub 7 Apr 52, MOSCOW ORDER OF LABOR RED BANNER HIGHER TECHNICAL SCHOOL IMENI BAUMAN (DISSERTATION FOR THE DEGREE OF DOCTOR IN TECHNICAL SCIENCES)

SO; VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhnicheskikh nauk.

Synthesis of fluid torque converter-transmissions. [Trudy] MVTU no.18:95-182 '53. (MLRA 7:12)
(Oil hydraulic machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N.

CHILIKIN, Mikhail Grigor'yevich; KORYTIN, Aleksandr Mikhaylovich; PROKOF'YEV, Vladimir Nikolayevich; SAPAROVA, A.L., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor.

[Electric and hydraulic power drive] Silovoi elektrogidroprivod. Moskva, Gos. energ.izd-vo, 1955. 213 p.(MLRA 8:10)
(Machine tools--Electric driving)
(Machine tools--Hydraulic driving)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., professor, doktor tekhnicheskikh nauk; BLAGONRAVOV, A.I., kandidat tekhnicheskikh nauk, retsenzent; VOROSHILOV, P.K., inzhener, retsenzent; PANCHENKO, V.I., kandidat tekhnicheskikh nauk, redaktor; MODEL', B.I., tekhnicheskiy redaktor

[Principles of the theory of hydraulic transmission] Osnovy teorii gidromekhanicheskikh peredach. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 423 p. (MLRA 10:5)
(Hydraulic transmission)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, Vladimir Nikolayevich, prof., doktor tekhn.nauk; RAYSKIY, S.N., kand.tekhn.nauk, red.; KONOVALOVA, Ye.K., tekhn.red.

[Hydraulic transmissions of wheeled and crawler motor vehicles] Gidravlicheskie peredachi kolesnykh i gusenichnykh mashin. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 299 p. (MIRA 13:9)
(Motor vehicles--Transmission devices)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn.nauk

Hydraulic transmissions. Mashinostroitel' no.11:6-8 N '61. (MIRA 14:11)

(Oil hydraulic machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOFYEV, B. N. (Prof, Dr. Tech Sci)

"Main principles of calculating hydro-mechanical transmission characteristics"

Report to be submitted for the Intl. Fluid Power Conference, Olympia, London 30 Apr - 4 May 1962

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROTOPOPOV, V. N., d-r na tekhn. nauki

Hydraulic transmission. Tekhnika Bulg 11 no.2:70-73 '62.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

KOMISARIK, S.F., kand. tekhn. nauk; IVANOVSKIY, N.A., kand. tekhn. nauk; PROKOF'YEV, V.N., doktor tekhn. nauk, retsenzent; FAL'KO, O.S., inzh., red.; GORDEYEVA, L.P., tekhn. red.

[Hydrostatic transmissions] Gidravlicheskie ob"emnye transmissii. Moskva, Mashgiz, 1963. 152 p. (MIRA 16:5)
(Oil hydraulic machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOFIYEV, V.N., doktor tekhn. nauk, prof.; SINEV, A.V., inzh.

Geometry of a reversible axial-piston cardanless hydraulic machine. Izv. vys. ucheb. zav.; mashinostr. no.11:14[illegible]-145 '63. (MIRA 17:10)

1. Moskovskoye vysshaye tekhnicheskoye uchilishche imeni Baumana.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn.nauk, prof. (Moskva)

Accelerating capability of a drive with a mechanical differential system. Elektrichestvo no.11:5-10 N '64.

(MIRA 18:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn. nauk, prof.; SINEV, A.V., inzh.

Kinematic connections in cardanless axial-flow piston transmissions. Vest. mashinostr. 44 no.11:14-18 N '64 (MIRA 18:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

BERG, A.I., glav. red.; TRAPEZNIKOV, V.A., glav. red.; TSYPKIN, Ya.Z., doktor tekhn. nauk, prof., red.; VORONOV A.A., prof., red.; AGEYKIN, D.I., doktor tekhn.nauk red.;GAVRILOV, M.A., red.; VENIKOV, V.A., doktor tekhn. nauk, prof., red.; SOTSKOV, B.S., red.; CHELYUSTKIN, A.B., doktor tekhn. nauk, red.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof., red.; IL'IN, V.A., doktor tekhn. nauk, prof., red.; KITOV, A.I., doktor tekhn. nauk, red.; KRINITSKIY, N.A., kand. fiz.-mat. nauk, red.; KOGAN, B.Ya., doktor tekhn. nauk, red.; USHAKOV, V.B., doktor tekhn. nauk, red.; LERNER, A.Ya., doktor tekhn. nauk, prof., red.; FEL'DBAUM, A.A., doktor tekhn. nauk, prof., red.; SHREYDER, Yu.A., kand. fiz.-mat. nauk, red.; KHARKEVICH, A.A., akademik, red. [deceased]; TIMOFEYEV, P.V., red.; MASLOV, A.A., dots., red.; TRUTKO, A.F., inzh., red.; LEVIN, G.A., prof., red.; LOZINSKIY, M.G., doktor tekhn. nauk, red.; NETUSHIL, A.V., doktor tekhn. nauk, prof., red.; POPKOV, V.I., red.; ROZENBERG, L.D., doktor tekhn. nauk, prof., red.; LIFSHITS, A.L., kand. tekhn. nauk, red.; AVEN, O.I., kand. tekhn. nauk, red.; BLANN, O.M.[Blunn, O.M.], red.; BROYDA, V., inzh.,prof.,red.; BREKKL', L [Brockl,L.] inzh., knad. nauk, red.; VAYKHARDT, Kh. [Weichardt, H.], inzh., red.; BOCHAROVA,M.D., kand. tekhn. nauk, st. nauchn. red.

[Automation of production processes and industrial electronics] Avtomatizatsiia proizvodstva i promyshlennaia elektronika; entsiklopediia sovremennoi tekhniki. Moskva, Sovetskaia entsiklopediia. Vol.4. 1965. 543 p. (MIRA 18:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ACC NR: AP6031375 (A) SOURCE CODE: UR/0145/66/000/007/0070/0074

AUTHOR: Prokof'yev, V. N. (Doctor of technical sciences, Professor); Luzanova, I. A. (Engineer)

ORG: MVTU im. N. E. Bauman

TITLE: Determining the criterion of elasticity for a hydraulic drive

SOURCE: IVUZ. Mashinostroyeniye, no. 7, 1966, 70-74

TOPIC TAGS: elasticity, hydraulic equipment, pipeline, hydraulic engineering

ABSTRACT: The authors determine deformation of the fluid in a pipeline and radial deformation of its walls with regard to elastic forces and resistance to the [illegible] of inertia. A circular elastic pipeline is considered which contains an incompressible cylinder of radius r (figure 2), assuming that pressure in the pipeline varies according to a harmonic law with frequency f. Hooke law is used to derive an expression for the reduced modulus of elasticity of a given section of the pipeline. Recommendations are given for determining the criterion of elasticity in the case of rotating

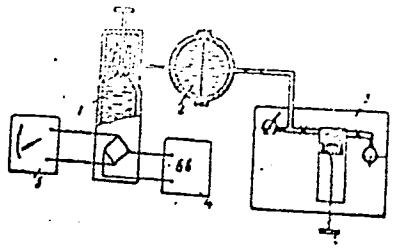

Figure 1

Card 1/3

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ACC NR: AP6031375

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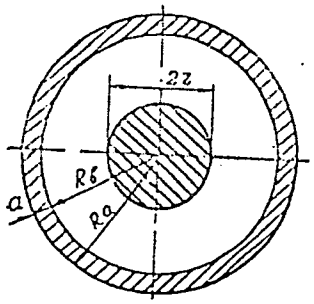

Figure 2

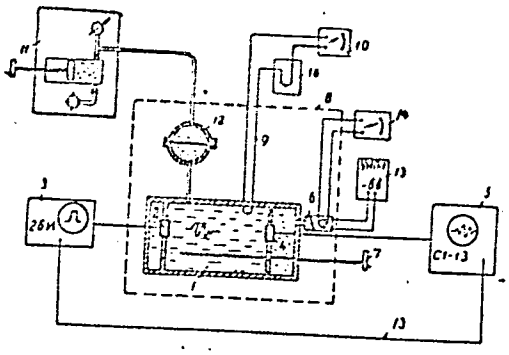

Figure 3

hydraulic transmissions with piston and ram cylinders and or choke-controlled hydraulic transmissions. Experimental installations are described for determining the rate of propagation of ultrasonic waves and oil density (see figures 1 and 3). Square pulses with a duration of about 3.5 μsec and a prf of approximately 200 cps are sent from pulse generator 3 (see figure 3) to piezoelectric emitter 2. The resultant os-

Card 2/3

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ACC NR: AP6031175

cillations are received by crystal 4 which sends a signal to oscillograph 5. The square pulses are simultaneously sent through shielded wire 13 to the sync scanning terminals of the oscillograph. The receiver crystal may be moved to change the path of the wave train in the fluid. Thermostat 8 holds a constant temperature which is measured by thermocouple 9 and millivoltmeter 10. Manual screw press 11 is used for transmitting pressure to the chamber 1 through diaphragm 12. The pressure is monitored on microammeter 14 connected to strain-gauge bridge 6 with power supply 13. The high-pressure pycnometer shown in figure 1 is used for determining fluid density. The volume of cylinder 1 is graduated as a function of temperature and pressure. The density is calculated by dividing the difference between the weight of the pycnometer with fluid and the weight of the dry pycnometer by the corresponding volume. Pressure is transmitted to the cylinder from manual press 3 through diaphragm 2. The pressure is measured by strain gauges fed by power supply 4. Readings are taken on microammeter 5. Orig. art. has: 5 figures, 1 table, 9 formulas.

SUB CODE: 13SUBM DATE: 09Mar66/ ORIG REF: 004/ OTH REF: 004

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ACC NR: AP6034621 SOURCE CODE: UR/0380/66/000/006/0066/0072

AUTHOR: Gel'man, A. S. (Moscow); Prokof'yev, V. N. (Moscow); Furman, F. A. (Moscow)

ORG: none

TITLE: Wave processes in hydraulic couplings of hydraulic transmissions

SOURCE: Mashinovedeniye, no. 6, 1966, 66-72

TOPIC TAGS: vibration propagation, sound propagation, vibration transmission, fluid flow, flow analysis, HYDRAULIC ENGINEERING

ABSTRACT: The propagation of a sound wave in a hydraulic pressure line consisting of a system of two pipes and two vessels filled with an elastic fluid is investigated, and the influence of the vessels on the propagation mechanism of the sound wave is determined. From a fluid's differential equations of motion and continuity, considering its initial and sectional boundary conditions, and applying Fourier and graphic computation methods, an equation is derived which permits the pressure and the flow velocity at any point in the system to be determined. As demonstrated by a numerical example, a sudden inflow-pressure change effects in the next vessel a harmonic pressure change of an amplitude equal to the pressure jump and of a lag equal to the pressure wave's propagation time to the vessel. The pressure fluctuation frequency is influenced by the presence of the second vessel, and the natural fluctua-

Card 1/2

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ACC NR: AP6034621

tion period of the first vessel, considering it as a resonator, decreases by the effect of the second vessel proportionally to a given factor. Orig. art. has: 4 figures and 12 formulas. [WA-98]

SUB CODE: 13, 20/ SUBM DATE: 19May65/ ORIG REF: 004/ OTH REF: 002/

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

L 10379-67 EWP(k)/EWT(d)/EWP(h)/EWP(l)/EWP(v) FDN
ACC NR: AP7003061 SOURCE CODE: UR/0103/66/000/008/0041/0051

AUTHOR: Prokof'yev, V. N. (Moscow)

ORG: none

17

TITLE: Influence of dynamic input on the frequency characteristic of a hydraulic drive

17

SOURCE: Avtomatika i telemekhanika, no. 8, 1966, 41-51

TOPIC TAGS: hydraulic equipment, hydraulic device

14

ABSTRACT: An analysis of a hydraulic drive in a process of control is presented. The existence of a dynamic input (an input caused by change in the control parameter with time) whose action is equivalent to the usage of a correcting signal proportional to a derivative of the command signal is established. It is established that the variation in input required for existing hydraulic drive elements leads to the appearance of 4 sets of supplementary signals, conjugate in pairs. The relationships between the frequencies of the supplementary signals are explained. Orig. art. has: 7 figures and 18 formulas. [JPRS: 38,836]

SUB CODE: 13 / SUBM DATE: 30Jul65 / ORIG REF: 013 / OTH REF: 002

Card 1/1 JB

UDC: 62-829

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

POGARSKIY, N.A.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof., retsenzent.

[Universal transmissions of pneumatic tired motor vehicles] Universal'nye transmissii pnevmokolesnykh mashin. Moskva, Mashinostroenie, 1965. 219 p. (MIRA 18:9)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn. nauk, prof.

Effect of a cardan joint on the kinematics of pistons of axial-flow piston-type hydraulic engines. Izv. vys. ucheb. zav.; mashinostr. no.2:119-130 '65. (MIRA 18:5)

1. Moskovskoye vysshaya tekhnicheskoye uchilishche imeni Baumana.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N., doktor tekhn. nauk, prof.; BODRASHOVA, G.F., inzh.; SINEV, A.V., inzh.

Kinematics of cardanless axial-flow piston-type hydraulic machines. Izv. vys. ucheb. zav.; mashinostr. no.4:84-90 '65. (MIRA 18:5)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, V.N.

Fundamentals of the functional interchangeability of hydraulic transmissions. Vsesoiuz. i tekh. izm. v mashinostr. i nauch.-tekh. stor. no.4:217-250 '64 (MIRA 18:1)

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BERG,A.I.,glav.red.; TRAPEZNIKOV,V.A.,glav.red.; TSYPKIN, Ya.Z., doktor tekhn.nauk,prof.,red.; VORONOV,A.A., doktor tekhn.nauk,prof.,red.; SOTSKOV,B.S., doktor tekhn.nauk,red.; AGEYKIN,D.I., doktor tekhn. nauk, red.; GAVRILOV,M.A., red.; VENIKOV,V.A., doktor tekhn.nauk, prof.,red.; CHELYUSTKIN,A.B., doktor tekhn. nauk,red.; PROKOF'YEV, V.N., doktor tekhn.nauk,prof.,red.; IL'IN,V.A., doktor tekhn.nauk, prof.,red.; KITOV,A.I.,doktor tekhn.nauk,red.; KRINITSKIY, N.A., kand. fiz.-matem.nauk,red.; KOGAN,B.Ya., doktor tekhn.nauk, red.; USHAKOV,V.B., doktor tekhn.nauk,red.; LERNER,Yu.A., doktor tekhn. nauk,prof., red.; FEL'DBAUM, A.A.,prof., doktor tekhn.nauk,red.; SHREYDER,Yu.A., kand. fiz.-mat. nauk,dots.,red.; KHARKEVICH,A.A., akad., red.;TIMOFEYEV,P.V., red.; MASLOV,A.A.,dots.,red.; LEVIN, G.A., prof.,red.; LOZINSKIY,M.G., doktor tekhn.nauk,red.; NETUSHIL, A.V., doktor tekhn.nauk,prof.,red.; POPKOV,V.I.,red.; ROZENBERG, L.D.,doktor tekhn.nauk,prof.,red.; LIVSHITS,A.L.,kand.tekhn.nauk,red.

[Automation of production and industrial electronics] Avtomatizatsiia proizvodstva i promyshlennaia elektronika; entsiklopediia sovremennoi tekhniki. Moskva, Sovetskaia Entsiklopediia. Vol.3. Pogreshnost' resheniia - Teleizmeritel'naia sistema chastotnaia. 1964. 487 p. (MIRA 17:10)

1. Chlen-korrespondent AN SSSR (for Sotskov, Gavrilov, Timofeyev, Popkov).

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PROKOF'YEV, V.N. (Moskva)

Consideration of the interaction of a flow with limiting walls in the study of transient processes. Izv. AN SSSR. Otd. tekh. nauk. Energ. i transp. no.3:377-380 My-Je '63. (MIRA 16:8)

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BUDRASHOVA, G.F., inzh.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof.

Axial-flow reciprocating pump with a reduced rate of emitted noise. Vest. mashinostr. 43 no.6:22-25 Je '63.
(MIRA 16:7)

(Reciprocating pumps)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

GREBENSHCHIKOV, L.S.; PROKOF'YEV, V.P.

Dust-removing ventilation system in the Berezovskiy Mine.
Sbor. trud. VNIITSVETMET no.4:222-228 '59. (MIRA 16:8)

(Berezovskiy region (East Kazakhstan Province)—Mine ventilation)

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ANIKINA, T.I., dots.; BOGUSLAVSKAYA, T.B., ass.; BOMASH, Yu.M., dots.; GEYMAN, D.V., ass.; GRENADEROV, Yu.V., ass.; DOBROVA, N.B., ass.; KLEPIKOV, V.A., ass.; ZUBRILOVA, A.V., ass.; KULIK, V.P., mlad. nauchn. sotr.; NIKOLAYEV, F.D., dots. [deceased]; SYCHENIKOV, I.A., dots.; TRAVIN, A.A., ispoln. obyazannosti prof.; RYBALKIN, P.Ye., ass.; KOVANOV,V.V., prof.,red.; PROKOF'YEV, V.P., red.; ZAGOREL'SKIY, Ya.I., tekhn. red.

[Special methodology for practical work in topographic anatomy and operative surgery] Chastnaia metodika prakticheskikh zaniatii po topograficheskoi anatomii i operativnoi khirurgii. Izd.2., perer. i dop. Pod red. V.V.Kovanova. Moskva, 1963. 224 p. (MIRA 16:12)

1. Moscow. Pervyy meditsinskiy institut. 2. Kollektiv prepodavateley kafedry operativnoy khirurgii i topograficheskoy anatomii 1-go Moskovskogo instituta imeni I.M.Sechenova (for all except Prokof'yev, Zagorel'skiy). 3. Zaveduyushchiy kafedroy operativnoy khirurgii i topograficheskoy anatomii 1-go Moskovskogo instituta imeni I.M.Sechenova , chlena-korrespondent AMN SSSR (for Kovanov).

(ANATOMY, SURGICAL AND TOPOGRAPHICAL)
(SURGERY, OPERATIVE)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

PROKOF'YEV, Vasiliy Platonovich; SUPONITSKIY, M.Ya., dots., kand. med. nauk, retsenzent; STREMLINA, S.M., retsenzent; MEDOKS, T.S., retsenzent; VUL'FOVICH, V.O., spets. red.; RAUBE, P.V., inzh., spets. red.; FUKS, V.K., red.

[Industrial sanitation in food industry enterprises] Proizvodstvennaia sanitariia na predpriiatiiakh pishchevoi promyshlennosti. Moskva, Pishchevaia promyshlennost', 1964. 295 p. (MIRA 18:3)

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SHEVCHENKO, Mariya Grigor'yevna; SHARINA, Yelizaveta Georgiyevna; PROKOF'YEV, V.P., red.

[Problems of nutritional hygiene during the use of pesticides in agriculture] Voprosy gigieny pi aniia pri ispol'zovanii pestitsidov v sel'skom khoziaistve. Moskva, Meditsina, 1965. 122 p. (MIRA 18:7)

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ZORYA, N. M., kand. tekhn. nauk; PROKOF'YEV, V. P., inzh.

Relation between the length of a longwall and the manifestation of rock pressure in a rock formation. Ugol' Ukr. 7 no.4: 3-5 Ap '63. (MIRA 16:4)

1. Donetskiy politekhnicheskiy institut.

(Coal mines and mining)
(Rock pressure)

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PROKOF'YEV, V. P., starshiy nauchnyy sotrudnik; PUSTOVALOV, A. I.

Using pressure-suction ventilation techniques in nonferrous metal mines. Bezop. truda v prom. 6 no.9:10-11 S '62. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov (for Prokof'yev). 2. Glavnyy inzh. rudnika im. XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza (for Pustovalov).

(Mine ventilation)

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ZORYA, N.M., kand.tekhn.nauk; PROKOF'YEV, V.P., inzh.

Study of the manifestation of rock pressure with a change in the depth of mining. Izv.vys.ucheb.zav.;gor.zhur. 6 no.11:54-58 '63. (MIRA 17:4)

1. Donetskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut. Rekomendovana kafedroy marksheyderskogo dela.

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GREBENYUK, V.G., gornyy inzh.; DENISENKO, A.G., gornyy inzh.; PUSTOVALOV, A.I., gornyy inzh.; PROKOF'YEV, V.P.

Using automatic ventilation doors. Gor.zhur. no.5:74-75 My '62. (MIRA 16:1)

1. Maslyanskiy rudnik, g. Zyryanovsk (for Grebenyuk, Denisenko, Pustovalov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov, Ust'-Kamenogorsk (for Prokof'yev).
(Mine ventilation) (Automatic control)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001343210013-3

ZHIZLOV, N.I., kand.tekhn.nauk, nauchnyy rabotnik; ZBORSHCHIK, M.P., inzh.; nauchnyy rabotnik; ZEMLYANSKIY, L.V., inzh., nauchnyy rabotnik; KOREPANOV, K.A., kand.tekhn.nauk, nauchnyy rabotnik; MALOV, V.P., kand.tekhn.nauk, nauchnyy rabotnik; MEDVEDEV, B.I., kand.tekhn. nauk, nauchnyy rabotnik; NOVITSKIY, A.M., kand.tekhn.nauk, nauchnyy rabotnik; PROKOF'YEV, V.P., nauchnyy rabotnik; SAPITSKIY, K.F., kand.tekhn.nauk, nauchnyy rabotnik; YAKUSHEVSKIY, A.Yu., kand.tekh.nauk, nauchnyy rabotnik; LIPKOVICH, S.M., dotsent, red.; SHUSHKOVSKAYA, Ye.L., red.izd.; BERESLAVSKAYA, L.Sh., tekhn.red.; ALADOVA, Ye.I., tekhn.red.

[Working gently sloping seams at great depths] Razrabotka pologopadaiushchikh plastov na bol'shikh glubinakh. Pod obshchei red. S.M.Lipkovicha. Moskva, Ugletekhizdat, 1958. 209 p. (MIRA 12:2)

1. Stalino. Donetskiy industrial'nyy institut. 2. Donetskiy industrial'nyy institut (for all except Lipkovich, Shushkovskaya, Bereslavskaya, Aladova)
(Coal mines and mining)

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DRACHEV, Sergey Mikhaylovich; PROKOF'YEV, V.P., redaktor; ZAKHAROVA, A.I., tekhnicheskiy redaktor

[Reservoirs and canals as sources of water supply for manufacturing and demestic pruposes] Vodokhranilishcha i kanaly kak istochniki khozyaistvenno-pit'evogo vodosnabzheniia. Moskva, Gos. izd-vo med. lit-ry, 1956. 254 p. (MLRA 9:11)
(WATER SUPPLY)

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PROKOF'YEV, V.P., insh.

Norms for designing and inspecting ventilation systems of nonferrous metal mines. Bezop.truda v prom. 4 no.8:19-21 Ag '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy institut tsvetnykh metallov.
(Mine ventilation)

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BULYGIN, I.P.; VLASOVA, P.T.; PROKOF'YEV, V.P.

Causes of the discrepancy in the results of testing for long-period strength by machines of heavy stationary type and lighter desk type. Zav.lab. 27 no.1:86-89 '61. (MIRA 14:3)
(Testing machines)

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PROKOF'YEV, V.P., inzh.

Relation between the order of working a series of layers and the stability of the development workings. Izv. vys. ucheb. zav.; gor. zhur. 5 no.3:27-32 '62. (MIRA 15:7)

1. Donetskiy politekhnicheskiy institut. Rekomendovana kafedroy razrabotki mestorozhdeniy poleznykh iskopayemykh Donetskogo politekhnicheskogo instituta.
(Mining engineering)

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PROZOROVSKIY, Aleksandr Sergeyevich, dots.; PROKOF'YEV, V.P., red.; ZAGOREL'SKIY, Ya.I., tekhn. red.

[Suppositories; a textbook for laboratory work]Suppozitorii; posobie dlia laboratornykh zaniatii. Moskva, 1-i Mosk. meditsinskii in-t, 1962. 20 p. (MIRA 15:9)

1. Zaveduyushchiy kafedroy tekhnologii galenovykh preparatov Pervogo Moskovskogo meditsinskogo instituta im. I.M.Sechenova (for Prozorovskiy).

(SUPPOSITORIES)

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