PAVLENKO, L., pilot

Title carries responsibilities. Grazhd.av. 19 no.9:18-19 S '62. (MIRA 16:1)
(Aeronautics, Commercial--Safety measures)

Pavlenko, L. I.

3711. The determination of small quantities of chromium in soils and plants by spectral analysis. Ya. I. Belyayev and L. I. Pavlenko. *Trudy Biogeokhim. Lab., Inst. Geokhim. i Analyt. Khim., Akad. Nauk SSSR*, 1958, (10), 80-83; *Ref. Zhur., Khim.*, 1958, (17), Abstr. No. 57,835.—In the determination of Cr in soils, quartz spectrograph Qu-24 was used, with a three-lens condenser in a d.c. arc. The electrodes were spectrally pure carbon, the sample cavity was 4 mm, and the width of the spectrograph slit was 0·015 mm. The sample of soil (20 mg) is ignited for 3·5 min. at 8 amp. The spectra of sample and standards are photographed on one plate (spectral plates, type III). The calibration curve is a straight line within the limits 0·035 to 0·085 per cent. of Cr; the analytical line is Cr 2677·159 A; the error of the analysis is ± 10 per cent. In the analysis of plants, the sample (20 to 30 g) is dried at 150° C, ashed, and ignited at + 500° C. The sample is ignited in the cavity in the angular electrode for 2·5 min. with an 8-amp. d.c. arc. The analytical line is Cr 4254·34 A. The error is ± 15 per cent.

C. D. Koptin

PAVLENKO, L.I.

USSR/ Analytical Chemistry - Analysis of Inorganic Substances G-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12070

Author : Vaynshteyn E.Ye., Pavlenko L.I.
Title : Effect of Overall Composition of Rocks on the Results of Quantitative Determination of Molybdenum in Granitoids

Orig Pub : Zh. analit. khimii, 1956, 11, No 4, 410-418

Abstract : It was ascertained that calibration curves for determination of Mo in granitoids and in diorite are parallel, but show a regular displacement in relation to each other. By means of tagged atoms an investigation was made of the processes of evaporation and excitation of elements in the source, and separate studies of them have been carried out. It was ascertained that in the rocks under study displacement of calibration graph for Mo determination, in relation to its position for granite, is proportional, at first approximation, to the content of Ca and Mg in the rock. In order to take into account the effect of overall

Card 1/2

Pavlenko, L.I.

Distr: 4E3j

Effect of total composition of ores on the results of spectrochemical determination of molybdenum in granitoids. E. E. Vainshtein and L. I. Pavlenko. *J. Anal. Chem. U.S.S.R.* 11, 429-37(1956)(English translation).—See *C.A.* 51, 13645a. E. M. R.

4

Distribution of Sn in granitoid rocks. V. Barsukov and L. I. Pavlenko. *Doklady Akad. Nauk S.S.S.R.* 109, 959–62 (1956).—The problem of the relation between the Sn contents of primary magmatic rocks and that of Sn ore deposits derived from them is discussed for the special conditions of the Kalba Range, and the Gornyi Altai Mts. The Sn detns. were made by quant. spark emission spectral-analytical methods (the lines 3175.02 A. and 2139.9 A. were used), the first for the rock samples, the latter for minerals. The granitoids of the Kalba Range include 3 types of coarse-grained biotite granites, medium-granular leucocratic granites, and fine-grained aplitic granites, with highly variable Sn contents. In the coarse-grained granites it may be up to 22 to 31 g. Sn/ton. Particularly low in Sn are the contact regions (down to 5 g. Sn/ton), and in hybrid rocks (0 g. Sn/ton). Also the aplitic granites, and the rocks of the Gornyi Altai are low (5 g. Sn/ton); but Pb, Zn, Cu are enriched in the granites of the Rudnyi Altai Range (with granodiorites). For a comparison, the Sn-bearing granites of Transbaikalia contain 15–23 g. Sn/ton, but in biotite-hornblende granites only less than 1 g./ton. The biotites of the granites are always the highest in Sn contents, and these may reach in the biotites of the Kalba Range granites 350 g. Sn/ton, and even more, while the biotites of the granodiorites and non-ore granites contain less than 30 g. Sn/ton. The ideas of Ottemann (*C.A.* 35, 3190[3]) are entirely confirmed that there is a regular interrelation between the contens. of an element in primary abyssic rocks, and the enrichment of this same element in ore veins derived from the magma. The content in Sn of the biotite in primary granites "reflects" the Sn enrichment in veins of Sn ores derived from this eruptive hearth. W. E.

Inst. Geochem. + Analyt. Chem. im. V. I. Vernadskii, AS USSR

PAVLENKO, L.I., VAYNSHTEYN, L. L., BALYAYEV, Y. I.

"The use of radio-active isotopes in spectral analysis," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

ACC NR: AP6036063 (A, N) SOURCE CODE: UR/0432/66/000/005/0034/0035

AUTHOR: Kazyrbayev, R. A. (Candidate of technical sciences); Pavlenko, K. V.

ORG: none

TITLE: High speed digital phase shifter

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 5, 1966, 34-35

TOPIC TAGS: phase shifter, transistorized circuit, digital system

ABSTRACT: A digital phase shifter developed by the Leningrad Electrotechnical Institute is described. The device makes possible the direct transformation digital control information into a corresponding discrete phase shift in the reference sequence of pulses without intermediate analog operations. Its advantage over an analog device consists of high speed, absence of contact elements, high stability, low enertia and much higher reliability. The schematic diagram of the device which utilized 20 transistors is presented showing all circuit components and their values. The phase shifter operates with reliability when the input pulses have a repetition rate of 5 Mc, an amplitude of 7 volts and pulse duration of 75 nanoseconds. The output pulses have an amplitude of 8 volts and a duration of 100 nanoseconds with a rise time of 40 nanoseconds. The switching time is less than 100 nanoseconds. Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: none

UDC: 621.372.852.22

Card 1/1

GERASIMOVSKIY, V.I.; PAVLENKO, L.I.; NESMEYANOVA, L.I.

Geochemistry of molybdenum in nepheline syenites. Geokhimiia no.1:9-15 Ja '65. (MIRA 18:4)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR, Moskva.

PAVLENKO, L.I.; POPOVA, V.S.

Spectral determination of tin, lead, and boron in silicate rocks and minerals. Zav. lab. 30 no.6:699-702 '64 (MIRA 17:8)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR.

LOKSHIN, V.A., kand.tekhn.nauk; PAVLENKO, L.I., inzh.; TARAVKOV, S.S., inzh.

Testing of a small economizer for boilers fired with anthracite fines under a system of upward gas flow. Teploenergetika 9 no.5:10-15 My '62. (MIRA 15:4)

1. Vsesoyuznyy teplotekhnicheskiy institut i Rostovenergo.
(Boilers--Testing)

PAVLENKO, L.I.; DAVYDOVA, Z.M.

Quantitative spectral determination of small amounts of germanium, indium, and thallium in silicate rocks. Zhur.anal.khim. 17 no.2: 199-201 Mr-Ap '62. (MIRA 15:4)

1. V.I.Vernadskv Institute of Geochemistry and Analytical Chemistry, U.S.S.R., Academy of Sciences, Moscow.
(Germanium--Analysis) (Indium--Analysis) (Thallium--Analysis)

LOKSHIN, V.A., kand.tekhn.nauk; PAVLENKO, L.I., inzh.; TALDYKIN, K.M., inzh.

Thermal characteristics of radiation-convectional steam superheaters. Energomashinostroenie 7 no.5:7-9 My '61. (MIRA 14:8)

(Superheaters)

BOROVIK-ROMANOVA, T.F.; BELYAYEV, Yu.I.; KUTSENKO, Yu.I.; PAVLENKO, L.I.; SAVINOVA, Ye.N.; FARAFONOV, M.M.; VAYNSHTEYN, E.Ye., prof., doktor khim. nauk, otv. red.; DRAGUNOV, E.S., red. izd-va; ASTAF'YEVA, G.A., tekhn. red.

[Spectral determination of rare and dispersed elements in minerals rocks, soils, plants, and natural waters] Spektral'noe opredelenie redkikh i rasseiannykh elementov; v mineralakh i porodakh, pochvakh, rasteniiakh i prirodnykh vodakh. [By] T.F. Borovik-Romanova i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 239 p. (MIRA 15:3)

1. Akademiya nauk SSSR. Institut geokhimii.
(Spectrum analysis)

LOKSHIN, V.A., kand.tekhn.nauk; PAVLENKO, L.I., inzh.; TALDYKIN, K.N., inzh.; TARAVKOV, S.S., inzh.

Temperature conditions in the operation of air preheaters with a high degree of air heating. Elek.sta. 32 no.4:24-28 Ap '61. (MIRA 14:7)

(Air preheaters)

PAVLENKO, L.I.

Brief communication on the chemical composition of wild and cultivated ginseing seeds. Mat. k izuch. zhen'shenia i lim. no.4:229-230 '60.
(MIRA 13:9)

1. Institut geokhimii i analticheskoy khimii im. V.I. Vernadskogo AN SSSR.

(GINSENG) (SEEDS—CHEMICAL COMPOSITION)

PAVLENKO, L.I.; NAUMOV, V.N.

From experience in the automatization of auxiliary services. Prom.energ. 15 no.5:37-38 My '60. (MIRA 13:7)

(Automatic control) (Pumping stations)

124(7) SOV/48-23-9-46/57
AUTHOR: Pavlenko, L. I.
TITLE: Spectro-chemical Methods of Quantitatively Determining Molybdenum and Tungsten in Eruptive Rocks

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, p 1152 (USSR)

ABSTRACT: Owing to the lack of sensitive, quick, and sufficiently exact methods of determining W and Mo in rocks within the range of concentration of 10^{-3} . 10^{-6}% little is known about the occurrence of these elements in the various rocks. Here a method is described by means of which tungsten was determined by direct spectral analysis, in the course of which silver chloride was added for the purpose of increasing accuracy. The error in this case amounted to 2.10^{-4}%, and the mean random error to ± 10%. In many cases it is necessary to enrich the investigated rock chemically for spectral analysis. Such an enrichment process is described. Radioactive isotopes were used for the determination of the most favorable analysis conditions and of the concentration of the elements under investigation. The spectroscopic investigation with respect to Mo was carried out in a quartz spectrograph of the type

Card 1/2

Spectro-chemical Methods of Quantitatively Determining SOV/[illegible]
Molybdenum and Tungsten in Eruptive Rocks

Qu-24, and that with respect to W in a spectrograph of the type ISP-51. The construction of the calibration curve according to three standards and the setting of the standards, in which MoO_3 and WO_3 respectively was added to the base material, is then briefly described, and the analysis limit of the here described method is assumed to amount to 2.10^{-6}% (Mo) and 5.10^{-5}%(W). The mean arithmetic error does not exceed 15%. There are 3 Soviet references.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences, USSR)

Card 2/2

PAVLENKO, L.I.

SOV/96-59-10-9/22

AUTHORS: Eznatsov, N.V. (Dr.Tech.Sci.); Luzhnov, G.I. (Engineer); Varichev, V.A. (Engineer); Pavlenko, L.I. (Engineer); and Kirsanov, B.O. (Engineer)

TITLE: Experience of the Adjustment of Shot-blast Installations for Removing Ash Deposits from Boiler Heating Surfaces

PERIODICAL: Teploenergetika, 1959, Nr 10, pp 49-54 (USSR)

ABSTRACT: Previous articles in Teploenergetika Nr 12, 1957, and Nr 1, 1958, described the use of shot-blasting to clean boilers type PP-230-2 at the Osak Heat and Electric Power Station when burning fuel oil of high ash, and high sulphur content. Subsequently the design of the equipment was improved and it was tried out at a number of power stations burning anthracite dust, including the Nevretayevskaya (power station) on the Rostov Power system. When anthracite dust is burned, heating surfaces quickly become contaminated and cleaning is particularly important. In the Nevretay station shot-blasting equipment was installed on boilers of 110 tons per hour operating at steam conditions of 122 ats, and 435 deg C. The boilers are briefly described: the proportion of unburned material in their carry-over is of the order of 8-12%. Until the shot-blasting installation was put in, the boilers could

Card 1/4

operate for 1 to 1½ months, during which the resistance of the convection duct increased by more than 100 mm water and the outgoing flue gas temperature rose by 25-30 deg. Typical curves showing the increase in resistance and flue gas temperature during a month's operation are given in Fig 1. The shot-blasting installation was generally similar to that previously described, but various changes were made and are described in some detail. Outline drawings of the modified shot-blasting installation are given in Fig 2. To reduce losses of shot to atmosphere, the shot traps were reconstructed, to the form illustrated in Fig 3. It was found necessary to fit pieces of wire mesh on the conical shutters at the bottom of the shot traps so that a certain amount of air could leak round the shutter and equalize the pressure above it. The results of pressure measurements using the modified shutter are plotted in Fig 5. Minor modifications were made to the ash bunkers to prevent loss of shot to them. The shot bunkers were made of conical section instead of square, and the shot feeders were modified, a new type of

Card 2/4

shutter being used. A few other modifications were also made. To clean convective heating surfaces efficiently it is necessary to pass 200-300 kg of shot per square metre of duct section. The area of the convective ducts of the boilers in question was 20.7 m². and shot was delivered at a total rate of 4,760 kg/hr, which corresponds to 230 kg/m²/hr. If the equipment is used regularly an operating time of one hour twice a shift is satisfactory. Tests were made to see whether shot-blasting could be used to clean up badly contaminated surfaces. The results are plotted in Fig 7 and it will be seen that although there was no reduction after 16 hrs the resistance to flow of the flue gas temperature. Subsequent examination showed that some of the shot was resting on top of the existing deposits, which were not removed. Therefore, for shot-blasting to be effective the heating surfaces must be cleaned in the first place and the equipment must be used regularly. Data on the resistance to flow and flue gas temperatures during six weeks' operation with regular use of the shot-blasting equipment are plotted in Fig 8.

Card 3/4

The resistance to flow was maintained constant throughout this period and variations in flue gas temperature resulted only from variations in feed-water temperatures. After 45 days operation with shot-blasting the economiser and water heater remained clean and ash deposits were found only in places not reached by the shot. The loss of shot was about 0.05% of the total quantity passed and this could be further reduced by minor design changes. The equipment is reliable and the [illegible] parts may be used for the [illegible]

Card 4/4

VAYNSHTEYN, E.Ye.; PAVLENKO, L.I.

Investigating the effect of the bulk composition of rocks on the results of the quantitative spectral determination of Mo in granitoids. Fiz.sbor. no.4:120-123 '58. (MIRA 12:5)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR.
(Molybdenum--Spectra) (Rocks--Analysis)

AUTHORS: Vinogradov, A. P., Vaynshteyn, E. Ye., SOV/7-58-5-1/15
Pavlenko, L. I.

TITLE: Tungsten and Molybdenum in Pyrogenous Rocks (On the Geochemistry of Tungsten)(Vol'fram i molibden v izverzhennykh gornykh porodakh (k geokhimii vol'frama))

PERIODICAL: Geokhimiya, 1958, Nr 5, pp 399 - 408 (USSR)

ABSTRACT: The authors briefly discuss the geochemistry of molybdenum and tungsten. The method of analysis is then described: Molybdenum and tungsten are precipitated by means of methyl-violet and are determined in 2 parts by the spectrographs Qu-24 and ISP-51A respectively. The calibration curve and the results obtained from the analysis carried out for purposes of control were set forth. The objects of investigation were ultra-basic rocks of the Ural-Mountains and of the Siberian Plateau, basic rocks from basalts and diabases of Kamchatka, of the Caucasus and Baykal region different kinds of gabbros, intermediary rocks such as granodiorites and diorites of the Caucasus, acid rocks such as granites of the Caucasus area, of Kazakhstan and of the Baykal region. The results of the spectroscopic analysis are classified in tables for the individual

Card 1/3

Tungsten and Molybdenum in Pyrogenous Rocks On the [illegible] (Geochemistry of Tungsten)

types of rocks, a diagram illustrates the varying percentage of tungsten and molybdenum with an increasing percentage of silic acid. Hence it is concluded that: 1) The percentage of tungsten in pyrogenous rocks rises from ultrabasic ($7,7 \cdot 10^{-5}$%) to acidic rocks ($2,4 \cdot 10^{-4}$%) parallel with the percentage of molybdenum (from ($2,3 \cdot 10^{-5}$% to $1,6 \cdot 10^{-4}$%) in other words it develops according to the percentage of silicic acid. The percentage of tungsten is 1,5 to 2 times higher than that of molybdenum. Only basic rocks form an exception; still, it must be found out whether this is a general rule. 2) The mean percentage of tungsten is estimated at $2 \cdot 10^{-4}$% and that of molybdenum at $1,5 \cdot 10^{-4}$% in the crust of the earth; the mean proportion of molybdenum and tungsten is close to 0,7 in the crust of the earth. A minor test was also carried out with sedimentary rocks. A mixed sample was produced and investigated, which was taken of 7614 samples of clay of different ages which came from the Russian Plateau ($7,4 \cdot 10^{-5}$% Mo and $1,8 \cdot 10^{-4}$% W); as well as of mixed samples of 6107 samples of sand ($4 \cdot 10^{-5}$% Mo and $1,6 \cdot 10^{-4}$% W). The samples were taken by A.E.Ronov. There are 2 figures.

Card 2/3

Tungsten and Molybdenum in Pyrogenous Rocks (On the Geochemistry of Tungsten.) SOV/7-58-5-1/15

8 tables, and 22 references, 9 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im.V.I Vernadskogo AN SSSR, Moskva (Moscow Institute of Geochemistry and Analytic Chemistry imeni V.I.Vernadskiy, AS USSR)

SUBMITTED: June 6, 1958

Card 3/3

AUTHOR: Pavlenko, L. I., Engineer SOV/91-59-2-8/22

TITLE: A Simple Way of Ventilating Thermofication Shafts
(Prostoy sposob ventilyatsii teplofikatsionnykh kolodtsev)

PERIODICAL: Energetik, 1959, Nr 2, p 14 (USSR)

ABSTRACT: Repair, maintenance and inspection work within the shafts of a heating network used to be very difficult because of high temperatures and called for the use of portable electric ventilators. The author describes a simple way of natural ventilation: the shaft is provided with two manholes instead of one. Both manholes would be opened, and a $2\frac{1}{2}$ m high, 670 mm diameter, steel-sheet chimney would be put upon one manhole to provide the draft. In 15-20 minutes the shaft would be cooled to 20-25°C. There is one diagram.

Card 1/1

PAVLENKO, L. I

AID P - 2906

Subject : USSR/Electricity

Card 1/2 Pub. 26 - 3/32

Authors : Burtsev, V. Ya. and Pavlenko, L. I., Engs., and B. P. Rukovanov, Kand. Tech. Sci.

Title : Combustion of pulverized Donets anthracite culm in furnaces with inclined-horizontal sole

Periodical : Elek. sta. 7, 9-13, Jl 1955

Abstract : The article reports on experiments in operating furnaces with a simplified system of liquid slag removal. Data on boilers, waterwalls, economizers and other equipment used for this experiment are given. The operation of furnaces is explained in detail. Some recommendations, i.e. the use of refractory bricks for the sole, uninterrupted liquid removal of slag, etc. are made. Five diagrams, 1 table.

PAVLENKO, L. I.

3502. COMBUSTION OF ANTHRACITE DUFF IN FURNACES OF TP-230-2 BOILERS. Burtsev, V.Ya., Pavlenko, L.I., and Rukovanov, V. B.P. (Elekt. Sta. (Elektr. Sta., Moscow), Dec. 1956, vol. 27, 14-18). A record of experimental modifications made in the latest Soviet pulverized fuel-fired boilers to improve the steadiness and economy of combustion. Results are tabulated. The main successful modifications were rearrangement of the burners and the provision of more heat at the bottom of the furnace. (L).

3

Fuels

PAVLENKO, L.I., inzhener; KUKOVANOV, B.P., kandidat tekhnicheskikh nauk.

Problems in the operation of thermal power plants. Elek.sta.27 no.1: 49-51 Ja '56. (MLRA 9:6)
(Boilers) (Steam turbines)

AUTHOR: Pavlenko, L. I. (Eng.) (Rostovenergo) 255

TITLE: Some results of burning anthracite duff in the furnace of a boiler type TP-230-2. (Nekotorye itogi szhiganiya ASh v topke kotla TP-230-2).

PERIODICAL: "Teploenergetika" (Thermal Power), Vol.4, No.4, April, 1957, pp. 28-33 (U.S.S.R.)

ABSTRACT: Experience of starting up, adjusting and operating boilers type TP-230-2 formerly delivered by the 'Krasnyy Kotel'shchik' Works, which had practically identical furnace chambers for all fuels, showed that they worked unstably and with poor efficiency on anthracite duff. However, they worked reliably and economically on coals with higher volatile contents. A number of minor changes made to the furnace did not compensate for the differences in the processes of burning coals rich and poor in volatiles. In order to intensify the process of flaming and combustion of anthracite duff dust in these furnaces the author proposed measures to improve the aerodynamic structure of the burner flame and to increase the temperature level. The fulfilment of these measures ensured stable operation of the boiler and its efficiency became higher than the designed figure. First, the burners were rearranged and instead of being in a single row they were arranged in a triangle. Steps were

Some results of burning anthracite duff in the furnace of a boiler type TP-230-2. (Cont.)

also taken to increase the temperature level in the zone of flaming by providing additional lining with fire-bricks. For four months the boiler operated with a dry slag removal system and worked well from the very start. The transfer from fuel oil to dust took place without any complications and the fuel oil could be cut off an hour after taking up load. The efficiency of the boiler in the first week of operation including the period of complex approval was 89% and the loss due to mechanically unburned fuel was about 2%. During the first 500 hours there was little slag formation on the super-heaters. Later on as slag formed in the furnace large quantities of liquid slag were produced which was hard to remove since the slag pit had no water bath. Therefore, in January, 1956 liquid slag removal was introduced with closed type water shutters. After reconstructions of the lower part of the furnace the boiler with liquid slag removal worked quite reliably for nine months with good technical results. The boiler operates stably over the load range of 150 to 230 tons/hour. The flames burn from the very throat of the burner without any signs of pulsation or separation of unburned dust. The furnace conditions are described and results are quoted from which it follows that at rated load the gross efficiency

Some results of burning anthracite duff in the furnace of a boiler type TP-230-2. (Cont.) 255

of the boiler is 2.4% higher than the designed value. Tests showed that variations in the fineness of milling within the limits of 5 to 10% on an R-88 sieve had no appreciable influence on the quantity of fuel remaining in the fly ash. Reduction of excess air from 1.17 to 1.2 to 1.05 to 1.1 increases the loss of heat because of unburned fuel by 1 to 2%. Much attention is devoted to a description of slag formation and ash removal which was much improved by the introduction of the slag tapping system. After 6 740 hours of working the combustion belt is in good condition. Some of the fire brick lining was replaced after 4 000 hours. General conditions are satisfactory. 5 figures, no literature references.

[redacted]

PAVLENKO, L.I., inzh.; SUSHKOV, N.A., inzh.

Improvement of pulverized coal separators. Elek. sta. 32 no.2: 8-11 F '61. (MIRA 16:7)
(Electric power plants--Equipment and supplies)
(Coal, Pulverized) (Separators (Machines))

PAVLENKO, L.I.

Chemico-spectroscopic quantitative determination of small amounts of molybdenum and tungsten in igneous rocks. Zhur.anal.khim. 15 no.4:463-466 Jl-Ag '60. (MIRA 13:9)

1. V.I.Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Molybdenum--Analysis) (Tungsten--Analysis)

LOKSHIN, V.A., kand.tekhn.nauk; MOISEYEV, G.I., inzh.; PAVLENKO, L.I., inzh.; TALDYKIN, K.M., inzh.; VAHICHEV, V.A., inzh.

Thermal conditions during the operation of high-pressure radiation wall-type superheaters. Elek.sta. 30 no.1:21-26 Ja '59. (MIRA 12:3)

(Superheaters)

PAVLENKO, L.I., inzh.

Simple method for ventilating heat-supply pits. Energetik 7 no.2:14 F '59. (MIRA 12:1)
(Heat engineering)

24(7) PHASE I BOOK EXPLOITATION SOV/1700

L'vov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) [L'vov] Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizichnyy zbirnyk, vyp. 4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Miliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Card 9/31

STUDENIKOVA, Z.V.; PAVLENKO, L.I.

Tungsten and molybdenum concentrations in alkaline rocks of the eastern Tuva and the Northern Caucasus. Geokhimiia no.7: 594-600 '60. (MIRA 13:11)

1. V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Tuva Autonomous Province--Rocks, Igneous)
(Mineral'nyye vody region--Rocks, Igneous)
(Tungsten) (Molybdenum)

ALEKSEYEV, G.P.; ANDON'YEV, V.S.; ARNOL'D, A.V.; BASKIN, S.M.; BASHMAKOV, N.A.; BEREZIN, V.D.; BERMAN, V.A.; BIYANOV, T.F.; GORBACHEV, V.N.; GRECHKO, I.A.; GRINBUKH, G.S.; GROMOV, M.F.; GUSEV, A.I.; DEMENT'YEV, N.S.; DMITRIYEV, V.P.; DUL'KIN, V.Ya.; ZVANSKIY, M.I.; ZENKEVICH, D.K.; IVANOV, B.V.; INYAKIN, A.Ya.; ISAYENKO, P.I.; KIPRIYANOV, I.A.; KITAYSHOV, I.S.; KOZHEVNIKOV, N.N.; KORMYAGIN, B.V.; KROKHIN, S.A.; KUDOYAROV, L.I.; KUDRYAVTSEV, G.N.; LARIN, S.G.; LEBEDEV , V.P.; LEVCHENKOV, P.N.; LEMZIKOV, A.K.; LIPGART, B.K.; LOPAREV, A.T.; MALYGIN, G.F.; MILOVIDOVA, S.A.; MIRONOV, P.I.; MIKHAYLOV, B.V., kand. tekhn. nauk; MUSTAFIN, Kh.Sh., kand. tekhn. nauk; NAZIMOV, A.D.; NEFEDOV, D.Ye.; NIKIFOROV, I.V.; NIKULIN, I.A.; OKOROCHKOV, V.P.; PAVLENKO, I.M.; PODROBINNIK, G.M.; POLYAKOV, G.Ya.; PUTILIN, V.S.; RUDNIK, A.G.; RUMYANTSEV, Yu.S.; SAZONOV, N.N.; SAZONOV, N.F.; SAULIDI, I.P.; SDOBNIKOV, D.V.; SEMENOV, N.A.; SKRIPCHINSKIY, I.I.; SOKOLOV, N.F.; STEPANOV, P.P.; TARAKANOV, V.S.; TREGUBOV, A.I.; TRIGER, N.L.; TROITSKIY, A.D.; FOKIN, F.F.; TSAREV, B.F.; TSETSULIN, N.A.; CHUBOV, V.Ye., kand. tekhn. nauk; ENGEL', F.F.; YUROVSKIY, Ya.G.; YAKUBOVSKIY, B.Ya., prof.; YASTREBOV, M.P.; KAMZIN, I.V., prof., glav. red.; MALYSHEV, N.A., zam. glav. red.; MEL'NIKOV, A.M., zam. glav. red.; RAZIN, N.V., zam. glav. red. 1 red. toma; VARPAKHOVICH, A.F., red.; PETROV, G.D., red.; SARKISOV, M.A., prof., red.; SARUKHANOV, G.L., red.; SEVAST'YANOV, V.I., red.; SMIRNOV, K.I., red.; GOTMAN, T.P., red.; BUL'DYAYEV, N.A., tekhn. red.

(Continued on next card)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239520012-6"

ALEKSEYEV, G.P.---(continued). Card 2.

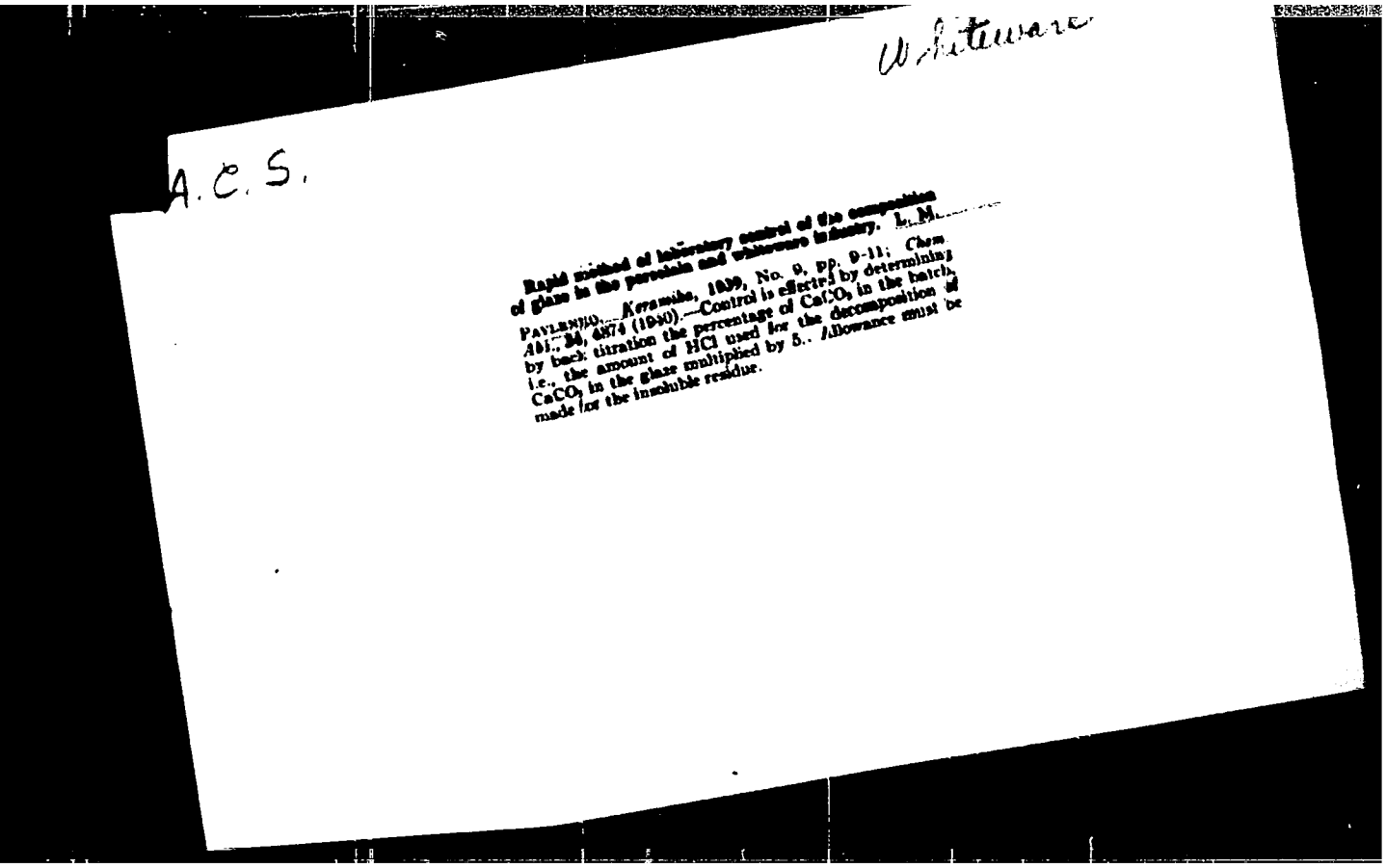
[Volga Hydroelectric Power Station; a technical report on the design and construction of the Volga Hydroelectric Power Station (Lenin), 1950-1958] Volzhskaia gidroelektrostantsiia; tekhnicheskii otchet o proektirovanii i stroitel'stve Volzhskoi GES imeni V.I.Lenina, 1950-1958 gg. V dvukh tomakh. Moskva, Gosenergoizdat. Vol.2.[Organization and execution of construction and assembly work] Organizatsiia i proizvodstvo stroitel'no-montazhnykh rabot. Red. toma: N.V.Razin, A.V.Arngol'd, N.L. Triger. 1962. 591 p. (MIRA 16:2)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Razin).
(Volga Hydroelectric Power Station (Lenin)--Design and construction)

SALO, D.P.; TOPORINA, O.M.; KAMNAUKH, O.M.; KRYVENCHUK, P.Yo. [Kryvonchuk, P.I.]
PAVLENKO, L.S.

Alkylolamines and their possible use in pharmacy. Report No.1. Farmatsev zhur. 16 no.5:16-20 '61. (MIRA 17:10)

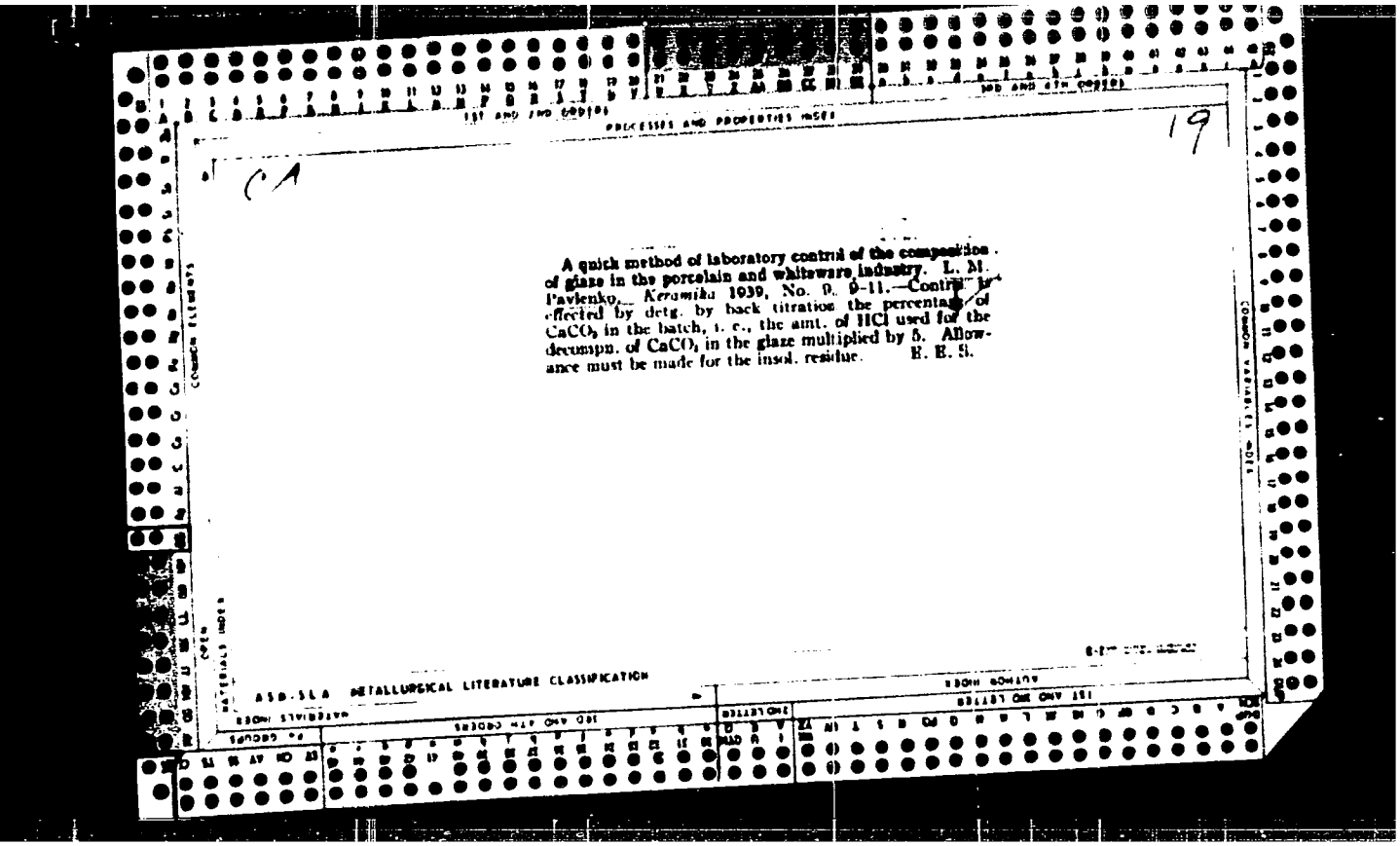
1. Kafedra tekhnologii lekarstv i galenovykh preparatov Khar'kovskogo farmatsevticheskogo instituta (zaveduyushchiy kafedroy doktor G.I. Pivnenko [Pivnenko, H.P.]).



Whiteware

A.C.S.

Rapid method of laboratory control of the composition of glaze in the porcelain and whiteware industry. L. M. PAVLENKO. *Keramika*, 1939, No. 9, pp. 9-11; *Chem. Abs.*, **34**, 4874 (1940).—Control is effected by determining by back titration the percentage of $CaCO_3$ in the batch, i.e., the amount of HCl used for the decomposition of $CaCO_3$ in the glaze multiplied by 5. Allowance must be made for the insoluble residue.

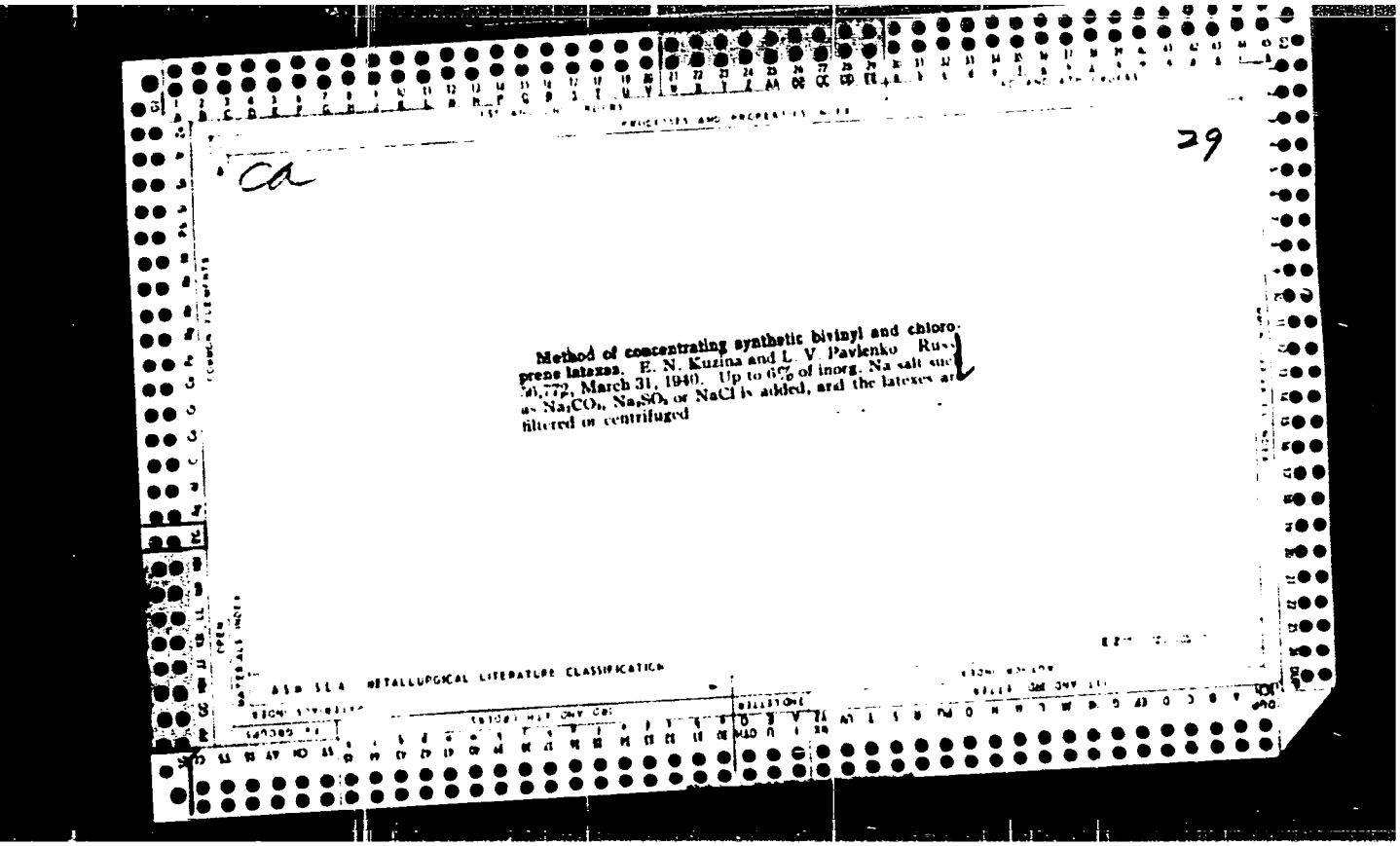


CA

19

A quick method of laboratory control of the composition of glaze in the porcelain and whiteware industry. L. M. Pavlenko. *Keramika* 1939, No. 9, 9-11.—Control is effected by detg. by back titration the percentage of $CaCO_3$ in the batch, i. e., the amt. of HCl used for the decompn. of $CaCO_3$ in the glaze multiplied by 5. Allowance must be made for the insol. residue. E. E. S.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



29

Ca

Method of concentrating synthetic divinyl and chloroprene latexes. E. N. Kuzina and L. V. Pavlenko. Russ. 50,772, March 31, 1940. Up to 6% of inorg. Na salt such as Na_2CO_3, Na_2SO_4 or NaCl is added, and the latexes are filtered or centrifuged

ASM SEA METALLURGICAL LITERATURE CLASSIFICATION

YAYTSOV, I.I., brigadir; PAVLENKO, I.Ya.; ANTIPOV, V.A.; PETRENKO, Ye.V., kand.tekhn.nauk; RUSIN, D.A., inzh.

Produced 28,082 tons of coal in one month with the "Donbass-1" cutter loader. Ugol' Ukr. 6 no.11:9-10 N '62. (MIRA 15:12)

1. Upravlyayushchiy Shakhterskim trestom ugol'nykh predpriyatiy kombinata Rostovugol' Ministerstva ugol'noy promyshlennosti SSSR (for Pavlenko). 2. Glavnyy inzh. Shakhterskogo tresta ugol'nykh predpriyatiy kombinata Rostovugol' Ministerstva ugol'noy promyshlennosti SSSR (for Antipov). 3. Zamestitel' glavnogo inzhenera Artemovskogo ugol'nogo kombinata (for Petrenko).
(Donets Basin--Coal mines and mining)

PAVLENKO L. F.

UNESCO The Conference Concerning the Utilization of Radioactive Isotopes in Scientific Research, Paris, 9-20 Sept 1957. 30-1-17/30

Vestnik AN SSSR, v. 28, No. 1, p. 71-73, (Author Vinogradov, A. P.)

of applying marked atoms in the field of physical and chemical processes. M. I. Starikovich spoke about the results obtained by investigations with marked atoms as regards the distribution of many salts between water and steam. In reports delivered by E. Ye. Vaynshteyn, L. Ye. Pavlenko and Yu I. Belyayev the application of radioactive isotopes in spectral analysis was dealt with. S. S. Medvedev spoke about problems of the polymerization of ethylene in its gaseous and liquid phase. E. K. Gerling's report on the migration of isomerism K^{39} in nature was read out. V. I. Baranov and L. A. Kuz'min submitted material on the determination of the velocity of the formation of salt on the bottom of the ocean. The author reported on the isotope composition of the milieu of meteorites, rocks, sulphides, etc. On the strength of these data he expressed the idea concerning the difference in processes of creation of various classes of meteorites and various types of the crust of the earth

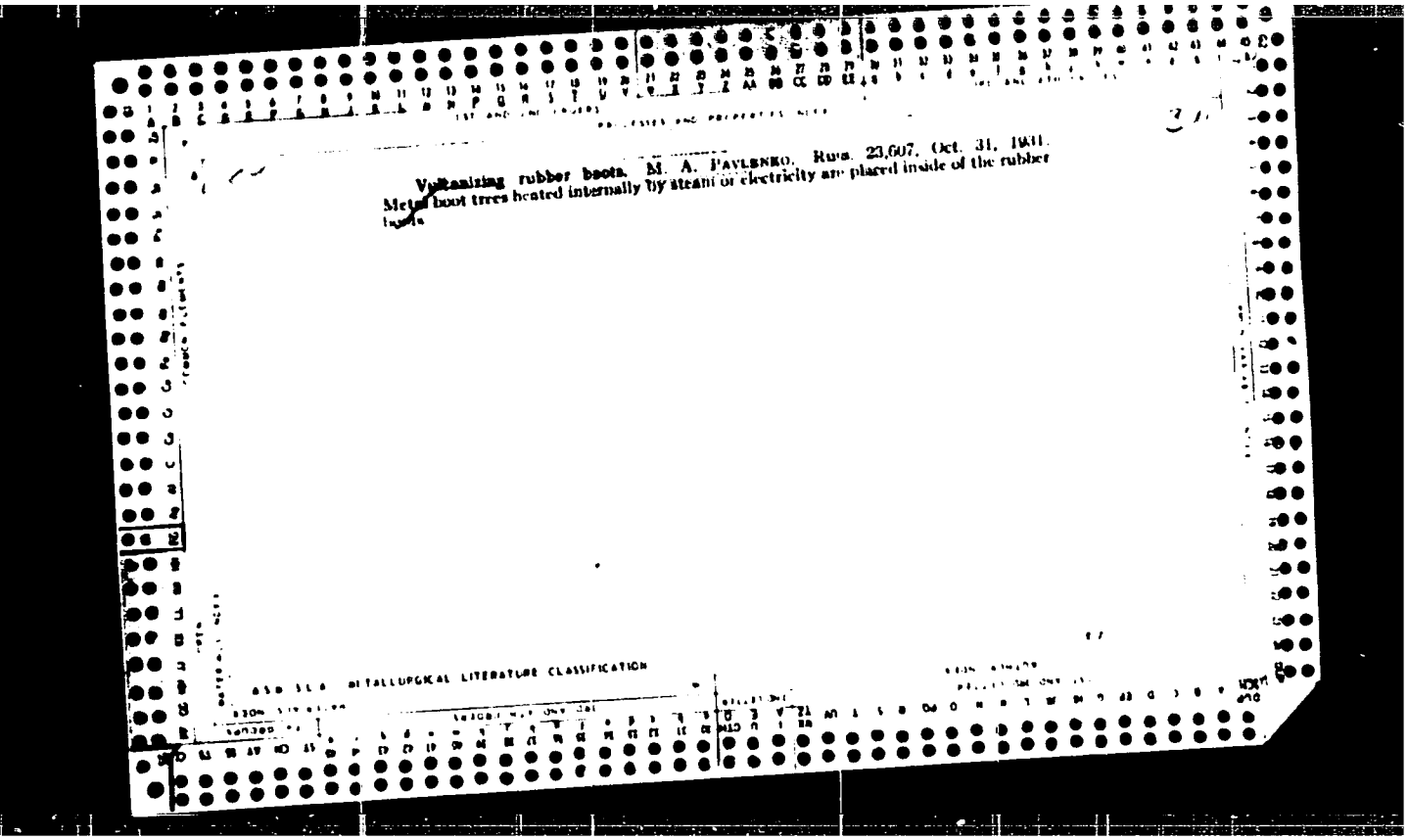
AVAILABLE: Library of Congress

Card 3/3 1. Isotopes (Radioactive)-Applications

PAVLENKO, M.

Machines build houses. Znan. ta pratsia no. 10:5 O '60. (MIRA 14:4)

(Construction industry)



Vulcanizing rubber boots. M. A. PAVLENKO. Rus. 23,607. Oct. 31, 1931. Metal boot trees heated internally by steam or electricity are placed inside of the rubber boots.

ASD SLA METALLURGICAL LITERATURE CLASSIFICATION

PAVLENKO, M.G., inzh.

New machines for cutting and bending of steel reinforcements. Stal. i dor. mashinostr. 4 no.11:17-18 N '59 (MIRA 13:3)
(Bending machines) (Cutting machines)

PAVLENKO, M.G., inzh.

New equipment for pneumatic-tube transportation of cement.
Stroi.i dor.mashinostr. 4 no.10:14-15 O '59. (MIRA 13:2)
(Pneumatic tube transportation)
(Cement--Transportation)

PAVLENKO, M.I.

Double the factory output. Sakh. prom. 33 no.2:16-17 F '59.
(MIRA 12:3)

1.Kshenskiy sakharnyy zavod.
(Sovetskiy (Kurak Province)--Sugar industry))

PAVLENKO, M.K.; TOGOBITSKAYA, N.V.[Tohobits'ka, N.V.], red.;
CHEREVATSKIY, S.A.[Cherevats'kyi, S.A.], tekhn. red.

[Intensive agriculture instead of grassland farming;
practices on the collective farms in Kagarlyk District,
Kiev Province] Intensyvne zemlerobstvo zamist' travopillia;
dosvid kolhospiv Kaharlyts'koho raionu na Kyivshchyni. Kyiv,
Derzhsil'hospvydav URSR, 1962. 122 p. (MIRA 16:4)
(Kagarlyk District--Agriculture)

BUGAY, Samson Mitrofanovich, doktor biol. nauk, prof.; PAVLENKO, F.K., red.; MANZHERAN, P.F., tekhn. red.

[Plant growing] Rastenievodstvo. Kiev, Gossel'khozizdat USSR, 1963. 517 p. (MIRA 17:4)

PAVLENKO, M.K., agronom; PRISHCHEPA, S.P. [Pryshchepa, S.P.]

What the method of continuous grain harvesting showed. Mekh. sil'. hosp. 14 no.6:5 Je '63. (MIRA 17:3)

1. Glavnyy agronom Kagarlykskogo proizvodstvennogo upravleniya, Kiyevskoy obl.

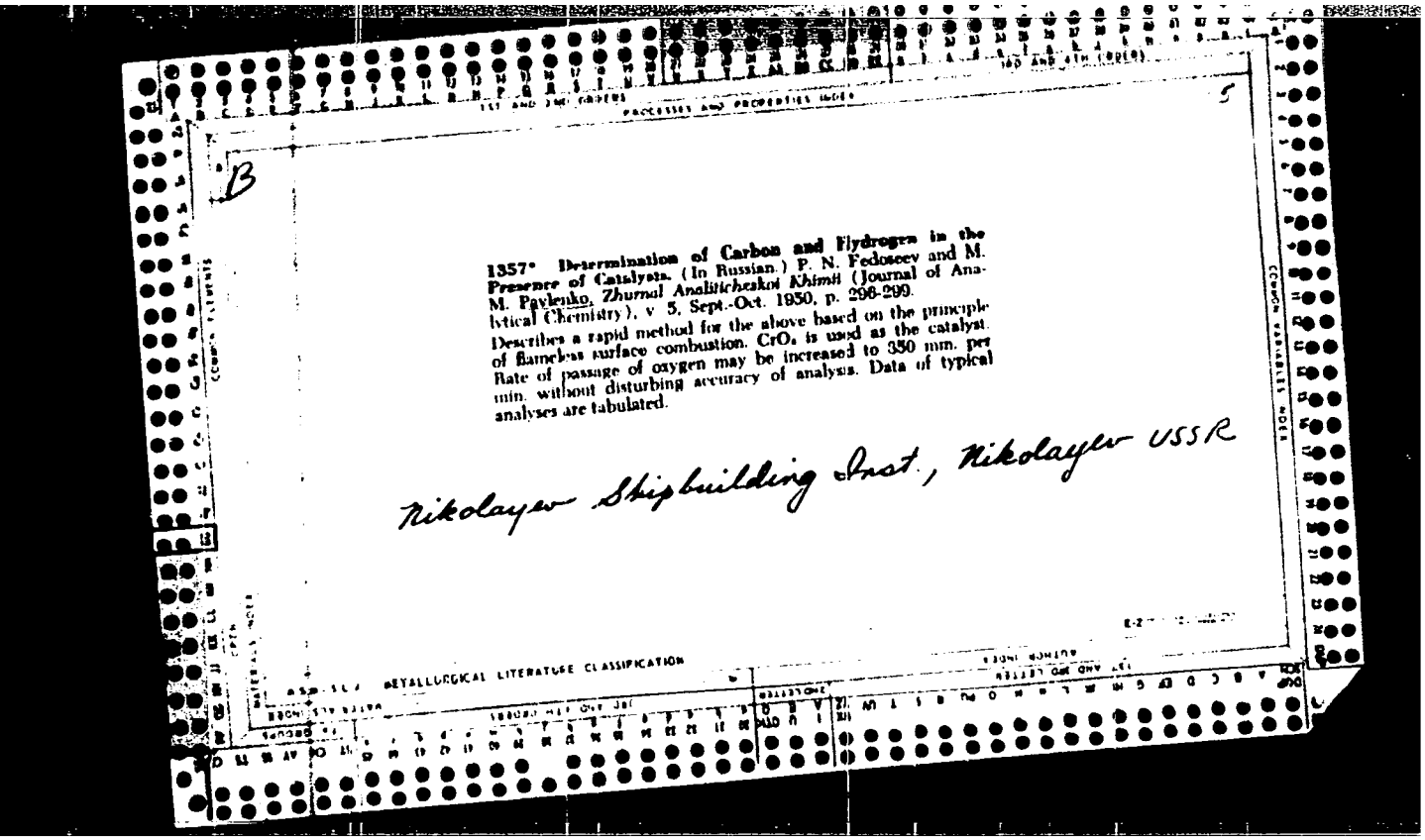
PAVLENKO, M.K.

STARCHENKO, V.F., golovnyy red.; KANEVS'KIY, C.P., red.; RUDNITS'KIY, P.V., red.; LUTSENKO, F.G., red.; BILOZUB, V.G., red.; PAVLENKO, M.K., red.; SVISTEL'NIK, A.N., red.; KHOTENKO, M.P., red.; ZADONTSEV, A.P., red.; POPOV, F.A., red.; DANILYUK, O.T., red.; TRITINCHENKO, A.P., red.; AKS'ONOV, G.G., tekhn.red.

[Agricultural manual for administrative personnel of province and district organizations, directors of machine-tractor stations, chairmen of collective farms and agricultural specialists] Posibnik po sel's'komu hospodarstvu dlia kerivnykh pratsivnykiv oblasnykh i raionnykh organizatsiy, dyrektoriv MTS, holiv kolhospiv i fakhivtsiv sil's'koho hospodarstva. Skladenyi za red.: V.F.Starchenka [and others] Holovnyi red.V.F.Starchenko. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry URSR. Book 1. 1946. (MIRA 11:1)
1269 p.
1. Chlen-korrespondent akademii nauk URSR (for Starchenko).
(Agriculture)

PAVLENKO, M.K. (Kiyev)

"Signor Tomato." Priroda 50 no.4:116 Ap '61. (MIRA 14:4)
(Tomatoes)



B

1357* **Determination of Carbon and Hydrogen in the Presence of Catalysts.** (In Russian.) P. N. Fedoseev and M. M. Pavlenko. *Zhurnal Analiticheskoi Khimii* (Journal of Analytical Chemistry), v 5, Sept.-Oct. 1950, p. 296-299.

Describes a rapid method for the above based on the principle of flameless surface combustion. CrO_3 is used as the catalyst. Rate of passage of oxygen may be increased to 350 mm. per min. without disturbing accuracy of analysis. Data of typical analyses are tabulated.

Nikolayev Shipbuilding Inst., Nikolayev USSR

METALLURGICAL LITERATURE CLASSIFICATION

BA

C 4

380. **Determination of carbon and hydrogen in nitrogen-containing organic substances in presence of surface-combustion catalysts. II.** P. N. Fedoseev and M. M. Pavlenko (*J. anal. Chem., USSR*, 1951, 6, 217—220; cf. C., 1951, ...).—Combustion occurs in a tube containing Co_3O_4 at 600—650° in a stream of O_2. The products are passed through absorption vessels containing anhyd. $CaCl_2$, an oxidising mixture for removing oxides of N (0·1—0·3% $KMnO_4$ in 20—25% H_2SO_4, for conc. H_2SO_4), a saturated solution of $FeSO_4$ in 20—25% H_2SO_4 for removing volatile higher oxides of Mn (or of Cr if $K_2Cr_2O_7$ has been used in place of $KMnO_4$), anhyd. $CaCl_2$ to remove water picked up from the 20—25% H_2SO_4, and then soda KOH. The time taken is 10—20 min.; the errors do not exceed ±0·3% for C and ±0·2% for H, and the method is much simpler than the usual method for C and H.

G. S. Smith.

PAVLENKO, M. M.

PAVLENKO, M. M. -- "New Method for the Quantitative Determination of Carbon and Hydrogen in Organic Substances in the Presence of a Catalyst (Chromium Oxide)." Sub 1 Jul 52, Inst of Organic Chemistry, Acad Sci USSR. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952

PAVLENKO, M M

(2) Chem

Analytical Abst.
Vol. 1 No. 1
Jan. 1954
Organic Analysis

90. **Determination of carbon and hydrogen in organic substances containing sulphur and nitrogen in presence of catalysts. III.** F. N. Fedoseev and M. M. Pavlenko (*J. Anal. Chem., U.S.S.R.*, 1953, 8, 158–162).—The authors' method (*Brit. Abstr. C*, 1951, 33 and 1952, 83) for determining C and H is extended to cover the analysis of organic substances containing S and halogens in addition to C, H, O, and N. Removal of S oxides and halogens is attained by the use of metallic Ag at 650° to 750°C.

G. S. SMITH

5-21-54 mef

Shipbuilding Inst, Nikolayev

PAVLENKO, M.M. (Kherson).

Experiments illustrating the law of M.V.Lomonosov. Khim.v shkole 11 no.6:46-47 N-D '56. (MLRA 9:12)
(Matter)

DEREVYANKIN, Timofey Ivanovich [Derev'iankin, T.I.]; VIRNIK, D.F. [Virnyk, D.F.], kand. ekon. nauk, otv. red.; PAVLENKO, M.P., red.; VUNIY, R.O. [Bunii, R.O.], tekhn. red.

[Ukrainian textile factories based on hand labor in the late 18th and the first half of the 19th century] Manufaktura na Ukraini v kintsi XVIII - pershii polovyni XIX st.; tekstyl'ne vyrobnytstvo. Kyiv, Vyd-vo Akad. nauk URSR, 1960. 126 p. (MIRA 14:7)
(Ukraine--Textile industry)

NESHUMOV, B.V., kand.iskusstvoved.nauk; KOSHELEV, A.Ye., arkhitektor; ASTROVA, T.Ye., arkhitektor; SHIKHEYEV, V.N., arkhitektor; VOSHCHANOVA, G.K., arkhitektor; GORBUNOVA, V.A., arkhitektor; KOVAL'KOV, V.G., arkhitektor; MARKEYEV, Yu.S., arkhitektor; YAVOROVSKAYA, M.E., arkhitektor; OGRYZKO, P.V., arkhitektor; TIKHONOVA, N.V., arkhitektor; MANANNIKOVA, L.V., arkhitektor; GRADOV, G.A., red.; PAVLENKO, M.V., red.

[Furniture and equipment for public buildings; catalog based on materials from the Exhibition of Furniture and Equipment for Public Buildings, 1959-1960] Mebel' i oborudovanie dlia obshchestvennykh zdanii; katalog sostavlen po materialam vystavki mebeli i oborudovaniia dlia obshchestvennykh zdanii, 1959-1960 gg. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 186 plates. (MIRA 14:2)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut obshchestvennykh zdaniy i sooruzheniy. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Gradov). (Furniture--Catalogs) (Public buildings--Equipment and supplies)

KOSSAKOVSKIY, V.A.; RZHEKHINA, O.I.; PAVLENKO, M.V., red.; GOLOVKINA, A.A., tekhn.red.

[Row houses in foreign countries] Blokirovannye doma za rubezhom. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 177 p. (MIRA 13:6)
(Apartment houses)

PAVLENKO, M.Ye., starshiy nauchnyy sotrudnik

Materials on the problem of the role of the nervous system in the pathogenesis of hematogenic tuberculosis of the larynx; report No. 3. K izuch.roli nerv.sist.v pat., immun.i lech.tub. no.2:237-242 '61. (MIRA 15:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (zav. - G.S.Kan) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza.

(LARYNX—TUBERCULOSIS) (NERVOUS SYSTEM)

PAVLENKO, N., inzh.

Contribution of science to the world. Znan.ta pratsia no.9:1-5 S '62. (MIRA 15:11)
(Nuclear physics) (Cybernetics) (Astronautics)

PAVLENKO, N.

In three years. Pozh.delo 8 no.6:30 Je '62. (MIRA 15:6)

1. Sekretar' partiynoy organizatsii vos'moy pozharnoy chasti Ust'-Kamenogorska, Vostochno-Kazakhstanskoy obl.
(Kazakhstan--Firemen)
(Physical education and training)

PAVLENKO, N.

Universe under a roof. Znan. ta pratsia no.7:5-6 Jl '62.
(MIRA 15:7)
(Planetaria)

PAVLENKO, B. (Moskva)

Biological currents direct the movement. Znan. ta pratsia no.9:6-7 S '60. (MIRA 13:9)
(ELECTROPHYSIOLOGY) (ARTIFICIAL LIMBS)

PAVLENKO, N., inzh.

'Strange airplanes. Znan.ta pratsia no.9:31 S '59. (MIRA 13:1)
(Airplanes)

DELIMARSKIY, Yu.K., akademik; CHETVERIKOV, A.V., kand.khimicheskikh nauk; PAVLENKO, N.A., inzh.; TYUTYUNNIK, O.A.

Effect of iron chloride on the electrolytic tin plating of black plate from fused salts. Sbor. trud. TSNIICHM no.28:153-158 '62. (MIRA 15:11)

1. AN UkrSSR.

(Tin plating) (Iron chloride)

DELIMARSKIY, Yu.K., akademik; CHETVERIKOV, A.V., kand.tekhn.nauk;
PAVLENKO, N.A., inzh.

Effect of iron chloride on current efficiency during electrolysis in fused $SnCl_2$ - KCl with the use of liquid tin electrodes. Sbor. trud. TSNIICHM no.34:40-44 '63. (MIRA 17:4)

CHETVERIKOV, A.V., kand.tekhn.nauk; PAVLENKO, N.A., inzh.; TYUTYUNIK, O.A., inzh.

Using a protective atmosphere in electrolytic tinning from fused electrolytes. Sbor. trud. TSNIICHM no.34:45-50 '63. (MIRA 17:4)

CHETVERIKOV, A.V., kand.tekhn.nauk; PAVLENKO, N.A., inzh.; MAKOGON, V.F.

Effect of a protective atmosphere on current efficiency and the quality of the coating in sheet steel tinning from fused salts. Sbor. trud. TSNIICHM no.34:51-57 '63. (MIRA 17:4)

L 37688-66 EEC(k)-2/EWP(k)/EWT(1)/EWT(m)/FBD/T/EWP(e)/EWP(t)/ETI IJP(c)
ACC NR: AP6025255 WH/WG/JD/JG SOURCE CODE: UR/0057/66/036/007/1269/1272

AUTHOR: Bonch-Bruyevich, A. M.; Imas, Ya. A.; Molchanov, V. A.; Pavlenko, N. A.

ORG: none

TITLE: A neodymium glass laser with a rectangular cross-section rod

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 7, 1269-1272

TOPIC TAGS: solid state laser, paramagnetic laser, neodymium glass laser, laser r and d / GSI-1 laser, GSI-IM laser

ABSTRACT: A rectangular-rod neodymium glass laser described by the authors elsewhere (ZhPS, 1, 1, 45-50, 1964) was produced with slight modifications and marketed under the industrial designation GSI-1 (Fig. 1). The GSI-1 is being used currently for scientific research and in the solution of certain technological problems. Its characteristics are essentially the same as those of the laser described earlier, provided the same glasses and resonator mirrors are used. The marked disadvantages of the GSI-1 are the comparatively low effectiveness of its eight IFK-2000 standard flashlamps and its consequent low efficiency (0.3—0.4%), and the saturation of the lamp characteristics. These disadvantages were partly remedied when a rectangular cross-section spiral flashlamp was used instead of the IFK-2000 lamp. This led to a twofold increase in the laser efficiency and increased pulse energy of up to 100 j.

Card 1/4

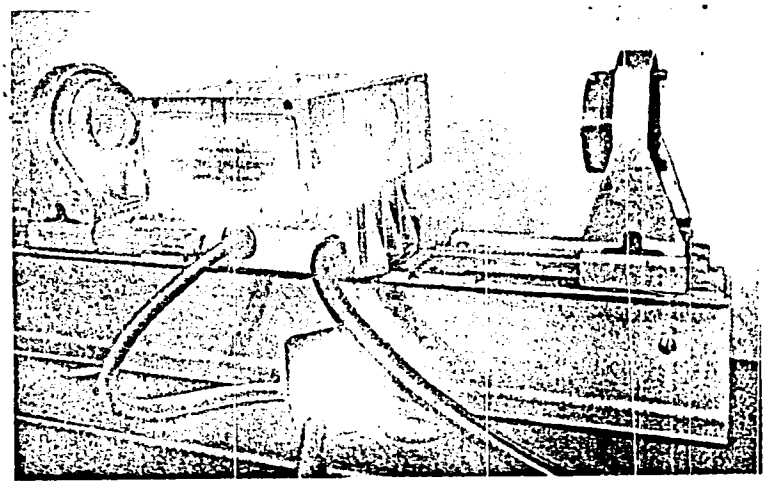


Fig. 1. External view of the GSI-1 laser

L 37688-66

ACC NR: AP6025255

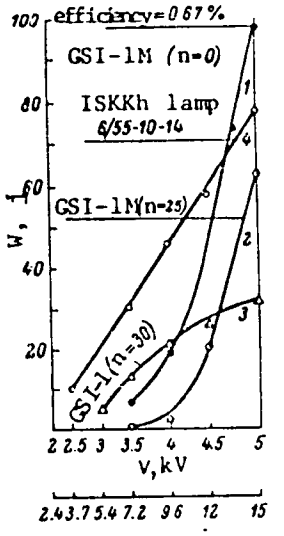


Fig. 2. Dependence of laser (GSI-1 and GSI-1M) output pulse on the pump energy

The present article deals with the GSI-1 laser and its modified version, GSI-1M. The output pulse energy of each laser was shown as a function of the pumping energy (Fig. 2).

Card 3/4

L 37688-66

ACC NR: AP6025255 O

The effects of radiation noise on the emission from the GSI-1M laser were also evaluated. The authors showed that the lifetime of the excited state of neodymium ions decreased at high pump densities, resulting in corresponding elevation of the threshold and a drop in the laser efficiency. Orig. art. has: 3 figures and 6 formulas. [YK]

SUB CODE: 20/ SUBM DATE: 26Jun65/ ORIG REF: 004/ ATD PRESS: 5141

Card 4/4

L 40385-66 FBD/EWT(l)/EWT(m)/EEC(k)-2/T/EWP(t)/ETI/EWP(k) LIP(c) WW/JG

ACC NR: AP6025256 SOURCE CODE: UR/0057/66/036/007/1273/1284

AUTHOR: Anisimov,S.I.; Bonch-Bruyevich,A.M.; Yel'yashevich,M.A.; Imas,Ya.A.; Pavlenko,N.A.; Romanov,G.S.

ORG: none

TITLE: The effects of intense light beams on metals

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no.7, 1273-1284

TOPIC TAGS: laser effect, metal melting, metal vaporizing, heat of sublimation

ABSTRACT: The authors have investigated theoretically and experimentally the phenomena accompanying the disruption of metals by focused laser beams. In the present paper there is considered the case of a laser producing approximately 1 millisec pulses, each consisting of a sequence of approximately 1 microsec spikes. The phenomena accompanying disruption of metals by giant laser pulses will be discussed in a future paper. In the theoretical part of the paper, fluxes of 10^{12} to 10^{16} erg/cm^2 sec on an approximately 1 mm diameter spot are considered. It is shown that under these conditions the transport of energy in the metal by heat conduction during the duration of a spike is negligible, and the problem of the vaporization of the metal is accordingly treated in one dimension. Formulas are derived, and curves are presented for different metals, relating the energy flux in the laser beam, the temperature of the metal surface, the erosion rate of the metal surface (i.e., the rate of increase

Card 1/3

L 40385-66
ACC NR: AP6025256

in the depth of the hole), and the velocity and pressure of the jet of metal vapor. The temperature of the metal surface is not equal to the boiling temperature, as was erroneously assumed by J.F.Ready (J. Appl. Phys., 36, No.2, 462, 1965). The theoretical relations were tested by experiments on some 16 metals and alloys, using neodymium glass lasers producing up to 300 J pulses. The laser beam was focused with a lens onto the parallelepipedonical specimen and the disruptive process was recorded cinematographically at 10^5 frames per sec. In most of the experiments a glass plate was cemented to one face of the specimen and the laser beam was so directed parallel to the glass-metal boundary that about half of the beam passed freely through the glass and the other half penetrated into the metal, vaporizing it. In those experiments the process was photographed through the glass. The mass of metal removed by the laser pulse was determined by weighing the specimen, and the impulse due to reaction of the metal vapor jet was measured. The experiments were in qualitative agreement with the theory, and quantitative agreement in order of magnitude was found. The authors feel that development of a more accurate theory would not be worthwhile, owing to the large variations between different lasers. Three stages were distinguished in the disruption process: in the first stage the temperature of the metal surface increased at the rate of approximately 10^{10} degree/sec; in the second stage metal was vaporized from the specimen and a hole was formed in it; and in the third stage a pressure of 10^2 to 10^3 atmospheres developed within the hole and a powerful jet of metal vapor issued from it at supersonic velocities. The ratio of the laser pulse energy to the mass of metal

Card 2/3

Card 3/3 vmb

SOV/49-58-9-4/14

AUTHORS: Kachalov, V.P., Pavlenko, N.A. and Yakovleva, A.V.

TITLE: The Ultra-violet Spectrum of the Sun in the Region 2471 - 2635 Å (Ul'trafioletovyy spektr solntsa v oblasti 2471-2635 Å)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 9, pp 1099 - 1104 (USSR)

ABSTRACT: 14 spectrograms were obtained at heights up to 100 km. Lists of lines in the region 2471 - 2635 Å have previously only been published for low dispersion spectrograms (40 Å/mm) (Refs 1-3). Ref 4 gives a list of lines with wavelengths longer than 2635 Å for a dispersion, in the second order, of 20 Å/mm. These agree well with the authors'.
The spectrograph had a concave diffraction (600 lines/mm). The dispersion was 16.7 Å/mm and the slit width 0.02 mm. A moveable hand was included in the spectrograph to compensate for the precession of the rocket and thus obtain constant slit illumination. The exposures were for two secs. and the dial of a stopwatch was photographed simultaneously to correlate the exposure time with height. Three particularly good spectrograms were chosen from the fourteen taken and they were measured on a comparator, IZA-2,

Card1/4

The Ultra-violet Spectrum of the Sun in the Region 2471-2635 Å

with a magnification of 40. In order to increase resolution by averaging over the photographic grains seen on the plate, a special apparatus was constructed which vibrated the objective at a 50-cycle frequency. The resolution obtained was ~ 0.2 Å. The least blended lines:

2488.143	2591.542
2510.834	(2605.656
2545.977	(2605.697

were used to construct a dispersion equation for the region. The correction required to the equation was up to 0.03 Å. The correction required in the comparison of the measured lines with water vapour lines in the atmosphere was of the same magnitude but opposite sign. Average error in measuring was 0.06 Å.
A microphotometer (MF-4) was used with an Sb-Cs cell. A full photometric survey has not yet been made and the list gives visual intensities on a scale of 10.
Owing to the dispersion used, most of the absorption lines were blended. The method of measurement was as follows.

The Ultra-violet Spectrum of the Sun in the Region 2471-2635 Å

For each wavelength, lines were chosen from tables (Refs 5 and 6) of elements widely distributed on the sun, which agreed within the measurement error. The majority of lines could have arisen from a variety of ions. Many could be excluded by straightforward comparison (e.g. by considering number and intensity of multiplets). When the superimposed lines had an intensity ratio of 30% or greater, both lines were included in the table in brackets. The measured wavelength is placed opposite the basic contributor to the line.
Elements which are uncommon on the sun, e.g. boron, mercury and phosphorus coincided generally in line position with more common elements, but BeI was observed.
The authors append a list of the lines with the following notation:

r	-	sharp bands
d	-	diffused bands
sh	-	wide bands
f1k [f and k]	-	bands with distorted contours t... the violet and red ends respectively

Card3/4

SOV/49-58-9-4/14

The Ultra-violet Spectrum of the Sun in the Region 2471-2635 Å

Insufficiently resolved lines are in round brackets and multiplet numbers from C.E. Moore's tables are given in round brackets after the element.
There are 1 figure, 1 table and 6 references, 1 of which is Soviet and 5 English.

ASSOCIATION: Gosudarstvennyy opticheskiy institut
(State Optical Institute)

SUBMITTED: October 3, 1957

Card 4/4

SOV/49-59-8-10/27

AUTHORS: Kachalov, V. P., Pavlenko, N. A. and Yakovleva, A.V.

TITLE: The Ultraviolet Solar Spectrum in the Region of 2636-2937 Å

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 8, pp 1177-1185 (USSR)

ABSTRACT: The data were calculated by means of photographs obtained with a spectrograph having a concave diffracting mesh. The results are presented in a table where the following data are included:
Column 1 - wavelength,
Column 2 - intensity and character of line,
Column 3 - probable identification.
There are 1 table and 4 references, 2 of which are Soviet and 2 English.

ASSOCIATION: Gosudarstvennyy opticheskiy institut (State Optical Institute)

SUBMITTED: October 14, 1958

Card 1/1

YAKOVLEVA, A.V.; KUDRYAVTSEVA, L.A.; BRITAYEV, A.S.; GERASEV, V.F.; KACHALOV, V.P.; KUZNETSOV, A.P.; PAVLENKO, N.A.; IOZENAS, V.A.

Spectrometric investigation of the ozone layer up to the altitude of 60 km. Isk.sput.Zem. no.14:57-68 '62. (MIRA 15:11)

(Ozone)
(Atmosphere, Upper—Rocket observations)

ACC NR: AP7001313 SOURCE CODE: UR/0057/66/036/012/2175/2180

AUTHOR: Bonch-Bruyevich, A. M.; Yesepkina, N. A.; Imas, Ya. A; Pavlenko, N. A.; Pakhomov, L. N.; Petrun'kin, V. Yu.; Potapov, S. Ye.

ORG: none

TITLE: Investigation of a neodymium glass laser with a resonator of spherical mirrors

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2175-2180

TOPIC TAGS: ~~solid state~~ laser, neodymium laser, ~~neodymium~~ glass laser, spherical mirror, ~~laser~~ resonator, laser pumping

ABSTRACT: The operational characteristics of a neodymium glass laser with a resonator of spherical mirrors were investigated for varying distances between the mirrors. The introductory theoretical considerations proceed from results obtained earlier by other authors (e.g., Boyd and Gordon, Bell. System. Techn. J., 40, 2, 1961, 489) and define the regions occupied by certain modes as determined solely by the distance between the mirrors and the radius of their curvature. Further, the beam divergence is assumed to be determined by the divergence of the highest mode in the system. The minimum divergence is attained when the

Card 1/3 UDC: 621.378.32

distance between the mirrors equals the radius of curvature of the mirrors, corrected for the presence of a rod having a certain length and refractive index. Experiments were conducted with various rod and mirror dimensions, but measurement data are presented only for mirrors with a 150—cm radius and rods 50 cm long and 2.5 cm in diameter. This was done since the dependcies in all cases have the same character. The output energy varied between 200 and 500 J. The oscillograms of the output pulses show a high degree of uniformity in pulse amplitude, shape, and frequency, compared with the rather unsteady characteristics of the output from a plane mirror resonator. The pulse frequency is proportional to the square root of the instant pumping power, and starts to increase gradually when the distance between the mirrors is reduced below the optimal. This increase, however, never exceeds the frequency at the optimum by more than 1.4. The beam divergence increases to either side of the confocal position, in good agreement with the theoretical relations. The beam brightness is at a maximum when the distance between the mirrors is optimal. The cross-sectional energy distribution within the beam is rather uniform and is independent of the distance between mirrors. The emission spectra were studied as functions of pumping power and the distance between mirrors. An increase in pumping power from the emission threshold level to its maximum changes the spectrum width from 5—7 Å to 40—60 Å. An increase in the distance between mirrors from "short" (about one-third of their radius), where the spectrum is diffuse, to "long" (about two-third of the radius)

ACC NR: AP7001313

results in the appearance and separation of lines. The results suggest the existance, within the resonator, of a large number of transverse modes having equal Q. However, the observed multiplicity of spectral lines still requires clarification. Orig. art. has: 6 figures and 9 formulas. [WA-14]

SUB CODE: 20/ SUBM DATE: 01Jun66/ ORIG REF: 003/ OTH REF: 004

Card 3/3

ACC NR: AP6029834 (A) SOURCE CODE: UR/0073/66/032/008/0849/0852

AUTHOR: Yagupol'skiy, L. M.; Pavlenko, N. G.; Solodushenkov, S. N.; Fialkov, Yu. A.

ORG: Institute of Organic Chemistry, AN UkrSSR (Institut organicheskoy khimii AN UkrSSR)

TITLE: Nitro derivatives of benzotrichloride

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 8, 1966, 849-852

TOPIC TAGS: organic nitro compound, halogenated organic compound, mixed halogenated organic compound

ABSTRACT: An attempt was made to find new methods of preparing nitro derivatives of benzotrichloride. Nitration of benzotrichloride was carried out by using pure nitric acid and nitrating mixtures of various compositions. With HNO_3 alone, taken in amounts of 10-30 moles per mole of benzotrichloride, even at -20°C a considerable hydrolysis of the trichloromethyl group takes place, and the yield of the products, a mixture of isomeric nitrobenzotrichlorides, does not exceed 30%. The optimum nitrating mixture consists of 25% HNO_3 and 75% H_2SO_4 (by weight), 3 moles of HNO_3 being taken for 1 mole of benzotrichloride. The yield of isomeric nitrobenzotrichlorides then exceeds 90%, and the isomers consist of 16.8% ortho-, 20.7% para- and 62.5% metanitro derivatives. Fluorination of p-nitro-α,α,α-dichlorobromotoluene with antimony trifluoride and anhydrous HF produced p-nitrobenzotrifluoride in good yield. The substitution of fluorine

Card 1/2 UDC: 547.539.232.3

ACC NR: AP6029834

for chlorine and bromine in p-nitro-α,α,α-dichlorobromotoluene by means of HF proceeds with much more difficulty than in benzotrichloride; this is because the presence of the electronegative substituent in the benzotrichloride molecule hinders the halogen exchange.

SUB CODE: 07/ SUBM DATE: 04Feb55/ OTH REF: 013

Card 2/2

PAVLENKO, N.I.

Study of regimes for thermal treatment of cable drilling bits. Sbor. nauch. trud. KGRI no.13:144-149 '62. (MIRA 16:8)

(Boring machinery--Testing)
(Steel--Heat treatment)

KOVAL', G.A.; PAVLENKO, N.I.; FEDOROVA, Ye.G.

Prospects for using plastics in building mining machinery.
Sbor. nauch. trud. KGRI no.13:77-85 '62. (MIRA 16:8)

(Mining machinery—Equipment and supplies)
(Plastics—Testing)

KOVAL', G.A.; PAVLENKO, N.I.; FEDOROVA, Ye.G.

Industrial tests of parts of mining and metallurgical machinery made of capron. Sbor. nauch. trud. KGRI no.19:43-46 '62. (MIRA 16:5)

(Mining machinery—Testing)
(Metallurgical plants—Equipment and supplies)
(Nylon)

PAVLENKO, N.I., inzh.

New highly-stable bit for cable drilling. Sbor. nauch. trud. KGRI no.7:251-255 '59. (MIRA 16:9)
(Boring machinery)

TSARITSYN, V.V., doktor tekhn.nauk; PAVLENKO, N.I., inzh.

Increasing the efficiency of percussion boring with reduction of the ratio of bit friction against rocks. Met. i gornorud. prom. no.3:51-53 My-Je '62. (MIRA 15:9)
(Boring)

GRISHIN, G.T.; PAVLENKO, N.I.

Lower administrative territorial and production regionalization; using the example of Voronezh Province. Izv. AN SSSR. Ser. geog. no.6:56-61 N-D '63. (MIRA 17:1)

1. Voronezhskiy gosudarstvennyy universitet i Voronezhskiy sel'skiy oblastnoy komitet Kommunisticheskoy partii Sovetskogo Soyuza.

PAVLENKO, N.I., kand. tekhn. nauk

Kinematics of double maltese-cross mechanisms. Izv. vys. ucheb. zav.; mashinostr. no.8:5-17 '64. (MIRA 17:11)

1. Tul'skiy mekhanicheskiy institut.

PAVLENKO, N.I., aspirant

Electric drive with a cam-ratchet gear for the tractive equipment of electric locomotives. Izv.vys.uchab.zav.; mashinostr. no.2: 166-178 '62. (MIRA 15:5)

1. Moskovskoye vysshaye tekhnicheskoye uchilishche im. Baumana.
(Electric locomotives)

MATSELYUKH, B.P.; SHEVCHENKO, A.A.; PAVLENKO N.I.

Comparative physicochemical characteristics of high polymer deoxyribonucleic acids in actinomycetes and Bacillus breslavensis. Mikrobiologiia 34 no.4:590-597 Jl-Ag '65. (MIRA 18:10)

1. Institut mikrobiologii i virusologii imeni D.K.Zabolotnogo AN UkrSSR, Kiyev.

PAVLENKO, Nikolay Ivanovich; NOVOSEL'SKIY, A.A., otv. red.; BUDOVNITS, I.U., red. izd-va; GUS'KOVA, O.M., tekhn. red

[History of metallurgy in 18th-century Russia; plants and industrialists] Istoriia metallurgii v Rossii XVIII veka; zavody i zavodovladel'tsy. Moskva, Izd-vo Akad. nauk SSSR, 1962. 564 p. (MIRA 15:9)

(Metal industries)