L 11125-63 EPA(b)/EWT(1)/FCS(k)/BDS/ES(v) ASD/AFFTC/AFMDC Pd-4/Pe-4
WW
ACCESSION NR: AP3000710 S/0258/63/003/002/0215/0221

65

AUTHOR: Bukovshin, V. G. (Moscow); Taganov, G. I. (Moscow)

TITLE: Calculating the aerodynamic forces acting on bodies with separated flow regions in hypersonic flows.

SOURCE: Inzhenernyy zhurnal, v. 3, no. 2, 1963, 215-221

TOPIC TAGS: hypersonic separated flow, aerodynamic forces, spiked body

ABSTRACT: A theoretical method is outlined for calculating the aerodynamic forces acting on bodies of arbitrary shape in hypersonic flows in the presence of separated flow regions of given configurations. Certain assumptions are given which considerably simplify the problem of flow around spiked bodies and make it possible to calculate forces in three different regions, i.e., a conical dead-air region, a reattachment region, and an outside region. The method is applied to the calculation of lift and drag forces acting on 1) a sphere and 2) a cone, both with a spike at an angle of attack. The results, presented in graphs, show that flow separation phenomena have a great influence on the lift and drag of the sphere, particularly at a zero angle of attack, but very little on those of the cone. Orig. art. has: 7 figures and 17 formulas.

Card 1/1

L 18236-63 EPR/EPA(b)/EWT(1)/BDS/ES(v) AEDC/AFFTC/ASD/AFMDC Ps-4/
Pd-4/Pe-4 WW
ACCESSION NR: AP3006339 S/0258/63/003/003/0419/0423 76

AUTHOR: Neyland, V. Ya. (Moscow); Taganov, G. I. (Moscow)

TITLE: Forward separated flow region in nonsymmetrical supersonic flow over a spiked cone

SOURCE: Inzhenerny*y zhurnal, v. 3, no. 3, 1963, 419-423

TOPIC TAGS: separated flow, hypersonic flow, hypersonic flow over cone, spiked cone, mass flow rate, laminar mixing

ABSTRACT: A generalization of the method used by S. M. Bogdonoff and T. E. Vas (Hypersonic Separated Flows. Seventh Anglo-American Aeronaut. Conf., N. Y., 1959) to solve the problem of hypersonic separated flow over a spiked cone at an angle of attack other than zero is described. The flow configuration is given in Fig. 1 of the Enclosure. Coordinates of lines of intersection of a "fluid cone" (BCB') with the body and flow parameters in the laminar mixing region are determined, and an expression for mass flow rate to the stagnation region is established, and a numerical calculation of the angle of the "fluid cone" is made for various angles of attack α (0—10°) at Mach numbers 5—100. The results (given in graphs) with respect to the maximum value of the angle of attack compatible

Card 1/3

L 18236-63
ACCESSION NR: AP3006339

with the flow model considered are discussed. Orig. art. has: 3 figures and 15 formulus.

ASSOCIATION: none

SUBMITTED: 13Feb63 DATE ACQ: 27Sep63 ENCL: 01

SUB CODE: AI NO REF SOV: 001 OTHER: 002

Card 2/3

[illegible], V.YA.: [illegible] G.I. (Moscow)

"Supersonic flow past bodies with separation regions"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

[redacted], A.I. (Moscow)

"Entropy effects in hypersonic gas flows"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

Spectral Method for Determination of the Thickness of Metallic Coatings by Means of the Steeloscope

J.I. Taganov

Zavodsk.Lab. 16(4),457 1950 U.S.S.R.

The method is based on the fact that the time which elapses between the beginning of the discharge reaction on the surface of the specimen and the moment when the spectrum of the base metal appears, depends upon the thickness of the coating. (Bibl.2)

(D.C.I.Transl.,(T.T.119),2pp.

[redacted], V.M., [redacted], I.N., [redacted].

Automatic unit for the statistical control by the group method.
Trudy [illegible] no.59:133-141 '61.

TAGANOV, K., Cand Tech Sci -- (diss) "Utilization of solar energy for the generation of cold." Mos, 1957. 14 pp. (Acad Sci USSR, Power Inst im G. M. Krzhizhanovskiy). (KL,9-58, 119)

TAGANOV, K.

Possibility of using solar energy in refrigeration engineering.
Izv.AN Turk.S.S.R. no.3:13-23 '57. (MIRA 10:10)

1. Institut fiziki i geofiziki Akademii nauk Turkmenskoy SSR.
(Solar energy) (Refrigeration and refrigerating machinery)

TAGANOV, K.

Studying natural circulation of glycerol in the experimental model of a solar household refrigerator. Izv.AN Turk.SSR no.4:3-12 '57. (MIRA 10:10)

1. Institut fiziki i geofiziki AN Turkmenskoy SSR.
(Glycerol) (Solar engines--Electromechanical analogies)
(Refrigeration and refrigerating machinery)

KAKABAYEV, A.; TAGANOV, K.

Duration of sunshine in individual regions of Turkmenistan.
Trudy fiz.-tekh. inst. AN Turk. SSR 8:49-56 '62.
(MIRA 15:11)

(Turkmenistan--Sunshine)

BAYRAMOV, R.; YERPYLEVA, O.N.; TAGANOV, K.

Technical and economic bases for using solar refrigerators in Turkmenistan. Trudy fiz.-tekh. inst. AN Turk. SSR 8:57-74 '62. (MIRA 15:11)
(Turkmenistan--Solar engines)
(Refrigeration and refrigerating machinery)

NECHAYEVA, N.T., red.; BABAYEV, A.G., red.; RABOCHIY, I.S., red.; PETROV, M.P., akademik, red.; KUNIN, V.N., red.; SMIRNOV, L.N., kand. geol.-miner. nauk, red.; TAGANOV, K., kand. tekhn. nauk; SOKOLOVA, L.I., kand. sel'khoz. nauk, red.; ARTYKOVA, T.V., red.izd-va; IVOYLOVA, G.A., tekhn. red.

[Materials presented at the Interrepublic Scientific Session on the Reclaiming of the Desert Areas of Central Asia and Kazakhstan] Materialy dolozhennye na Mezhrespublikanskoi nauchnoi sessii po osvoeniiu pustynnykh territorii Srednei Azii i Kazakhstana. Ashkhabad, Izd-vo AN TSSR. Book 1. [Natural conditions, animal husbandry, and feed supply of the desert] Prirodnye usloviia, zhivotnovodstvo i kormovaia baza pustyn'. 1963. 485 p. Book 2. [Land and water resources of the desert and their utilization] Zemel'no-vodnye resursy pustyn' i ikh ispol'zovanie. 1963. 178 p. (MIRA 16:11)

(Continued on next card)

NECHAYEVA, M.T.--- (continued) Card 2.

1. Mezhrespublikanskaya nauchnaya sessiya po osvoyeniyu pustynnykh territoriy Sredney Azii i Kazakhstana, Ashkhabad, 1962. 2. Akademiya nauk Turkmenskoy SSR (for Petrov, Nechayeva). 3. Institut pustyn' AN Turkmenskoy SSR (for Petrov). 4. Chlen-korrespondant AN Turkmenskoy SSR (for Kunin)

(Kazakhstan--Reclamation of land--Congresses)
(Soviet Central Asia--Reclamation of land--Congresses)
(Deserts--Congresses)

S/202/63/000/001/001/006
E202/E192

AUTHORS: Davletov, A., Zhadan, S.Z., Taganov, K., and Tsybul'skiy, O.T. (deceased)

TITLE: Freon ejector of low output

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk. no.1, 1963, 6-14

TEXT: A detailed analysis of the performance of a recently built solar refrigerator working on the ejector principle has been carried out. A special installation was built which permitted measuring three specific coefficients of ejection u, as functions of pressure in front of the nozzle P_p, pressure of the ejected vapor P_o, and the counter pressure P_k. The experimental installation consisted of a gas circuit with a relatively high pressure in front of the ejector nozzle generated by a compressor 2FV-6.5 (2FV-6.5). A buffer capacity was arranged between the compressor and the ejector in order to reduce pulsation. In the first series of experiments, in which two characteristics were measured, viz. $u = u(P_o)$ and $u = u(P_k)$, the manometric fluid

Card 1/3

used was mercury. Since it was impossible to differentiate between the various velocity losses in the ejector due to their complex character, the total losses were expressed by means of an auxiliary coefficient determined from the expression

$$u = \varphi^1 \sqrt{\frac{u_p}{u_k}} - 1.$$

The heat loss was calculated from the temperature entropy diagram using a specially large scale to improve the accuracy. In the second part of the experiments, when mercury was replaced by an aqueous solution of calcium chloride, in addition to the above relations, the relation between u and $u(P_p)$ was studied. It was found that after reaching the limiting value u decreased. On analyzing all the three characteristic relations - $u = u(P_o)$; $u = u(P_k)$ and $u = u(P_p)$ it was noticed that the first one, after achieving sonic conditions, continued to increase but at a slower rate; the second remained constant while the third decreased. The velocity loss coefficients behaved in a similar way.

L 12458-63 EPR/EPF(c)/EPF(n)-2/BDS/EWT(1)/EWT(m) AFFTC/ASD/SSD Ps-4/Pr-4/
Pu-4/Pi-4 RM/WW S/066/63/000/002/001/004

AUTHOR: Taganov, K., Candidate of Technical Sciences; Il'yasov, Kh. Engineer

TITLE: Heat transfer with freon-12 boiling in a heliorefrigerating plant

PERIODICAL: Kholodil'naya tekhnika, no. 2, 1963, 4-7

TEXT: The authors obtained an empirical formula for calculating the heat transfer coefficient of freon-12 boiling in an inclined tube. The formula $\alpha = 4.48\, q^{0.646}$ was derived from the graph in Figure 3 of enclosure 1. The effect of the velocity of freon upon the boiling process is characterized by the formular derived from graph in Figure 4 of enclosure 2: $\alpha = (Gq)^{0.32}/d$. The experimental values of heat transfer coefficient are 1.5 to 2 times higher than those computed according to formulas obtained by Kruzhinin, Kutateladze and Tolubinskiy [Abstracter's note: Works of above authors are listed in bibliography]. These comparisons are shown in Figure 3 of enclosure 1. A diagram of the apparatus used in the experiments is shown in Figure 1 of enclosure 3. The results of the study indicate that freon jets are suitable for use in heliorefrigerating plants with relatively high temperatures in the evaporator (above 0° C) and at a boiling point in the producer exceeding 70° C. The article has 4 figures and a table containing

Association: Physics and Engineering Inst. of the Academy of Sciences of the Turkmenskaya SSR

Card 1/3/

L 12458-63 EPR/EPF(c)/EPF(n)-2/BDS/EWT(1)/EWT(m) AFFTC/ASD/SSD Ps-4/Pr-4/
Pu-4/Pi-4 RM/WW S/066/63/000/002/001/004

AUTHOR: Taganov, K., Candidate of Technical Sciences; Il'yasov, Kh. Engineer

TITLE: Heat transfer with freon-12 boiling in a heliorefrigerating plant

PERIODICAL: Kholodil'naya tekhnika, no. 2, 1963, 4-7

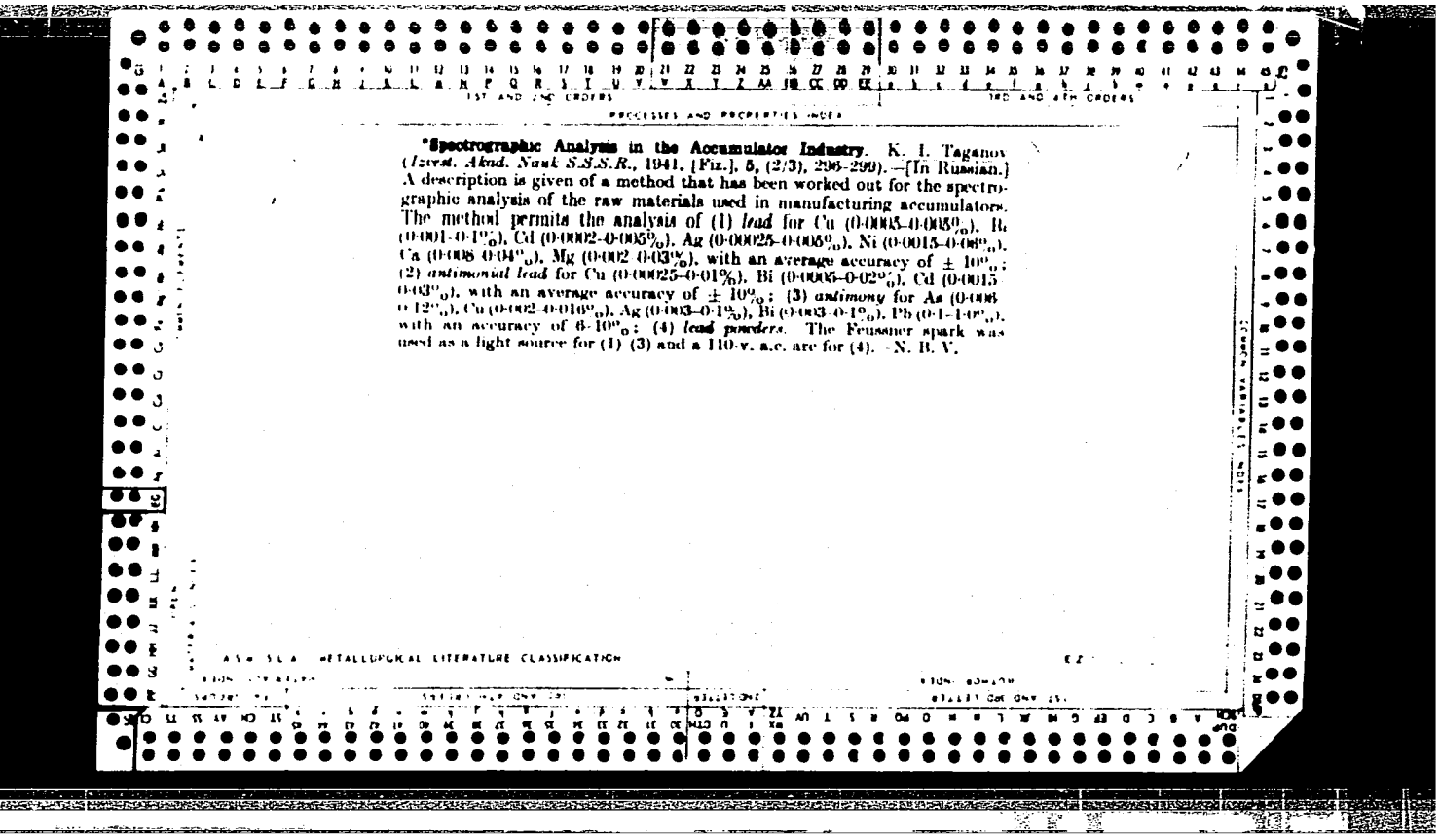
TEXT: The authors obtained an empirical formula for calculating the heat transfer coefficient of freon-12 boiling in an inclined tube. The formula $\alpha = 4.48\, q^{0.646}$ was derived from the graph in Figure 3 of enclosure 1. The effect of the velocity of freon upon the boiling process is characterized by the formular derived from graph in Figure 4 of enclosure 2: $\alpha = (Gq)^{0.32}/d$. The experimental values of heat transfer coefficient are 1.5 to 2 times higher than those computed according to formulas obtained by Kruzhinin, Kutateladze and Tolubinskiy [Abstracter's note: Works of above authors are listed in bibliography]. These comparisons are shown in Figure 3 of enclosure 1. A diagram of the apparatus used in the experiments is shown in Figure 1 of enclosure 3. The results of the study indicate that freon jets are suitable for use in heliorefrigerating plants with relatively high temperatures in the evaporator (above 0° C) and at a boiling point in the producer exceeding 70° C. The article has 4 figures and a table containing

Association: Physics and Engineering Inst. of the Academy of Sciences of the Turkmenskaya SSR

Card 1/1

[illegible], [illegible].; IL'YAS[illegible], Kh.

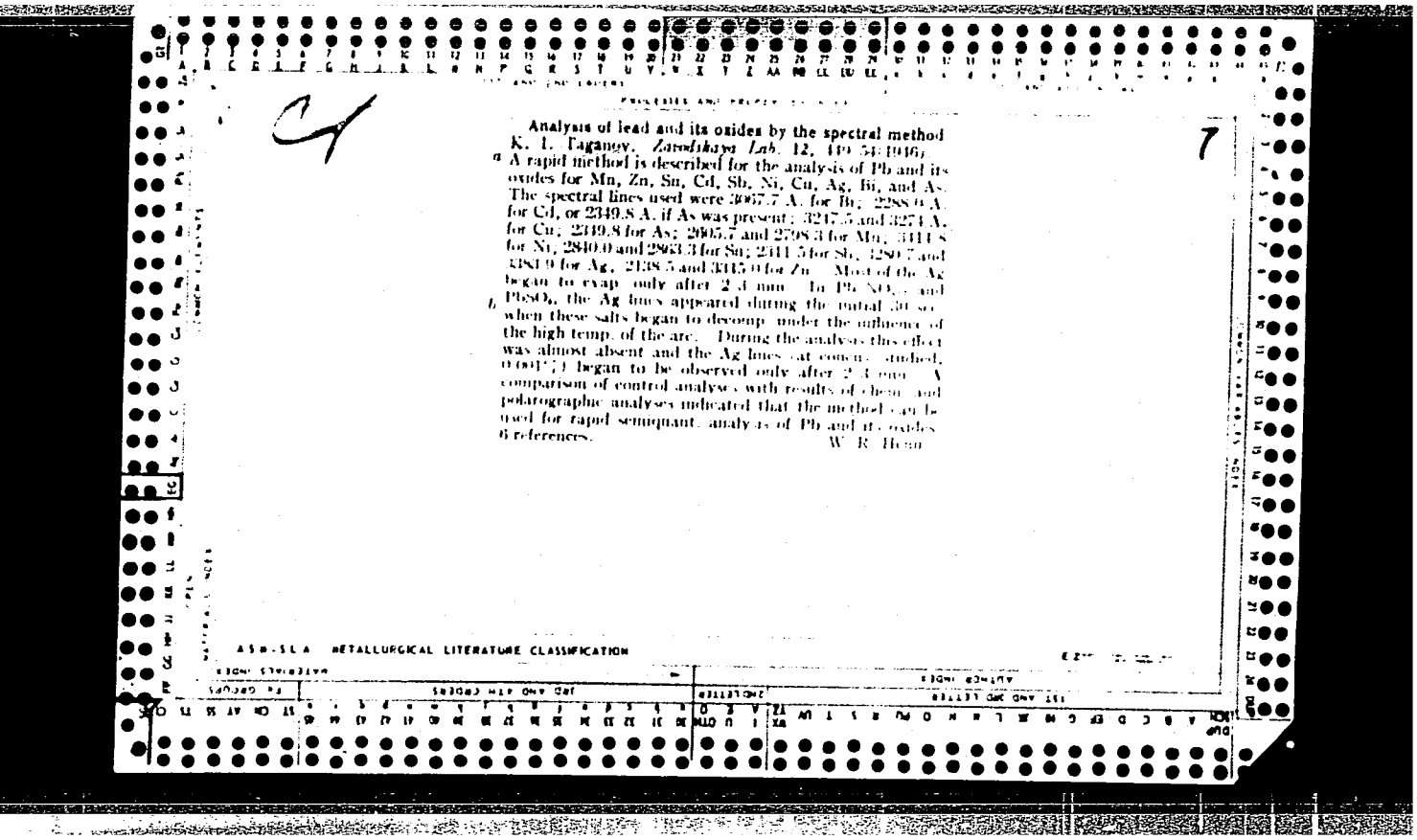
Heat transfer in freon-12 boiling in a vertical tube. Izv. AN Turkm.SSR.Ser.fiz.-tekh., khim. i geol.nauk no.3:11[illegible]-11[illegible] '65. (MIRA 18:11)



PROCESSES AND PROPERTIES INDEX

Spectrographic Analysis in the Accumulator Industry. K. I. Taganov (*Izvest. Akad. Nauk S.S.S.R.*, 1941, [Fiz.], **5**, (2/3), 296–299).—[In Russian.] A description is given of a method that has been worked out for the spectrographic analysis of the raw materials used in manufacturing accumulators. The method permits the analysis of (1) *lead* for Cu (0·0005–0·005%), Bi (0·001–0·1%), Cd (0·0002–0·005%), Ag (0·00025–0·005%), Ni (0·0015–0·08%), Ca (0·008–0·04%), Mg (0·002–0·03%), with an average accuracy of ± 10%; (2) *antimonial lead* for Cu (0·00025–0·01%), Bi (0·0005–0·02%), Cd (0·0015–0·03%), with an average accuracy of ± 10%; (3) *antimony* for As (0·008–0·12%), Cu (0·002–0·016%), Ag (0·003–0·1%), Bi (0·003–0·1%), Pb (0·1–1·0%), with an accuracy of 6–10%; (4) *lead powders*. The Feussner spark was used as a light source for (1) (3) and a 110-v. a.c. arc for (4).—N. B. V.

A.S.M. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



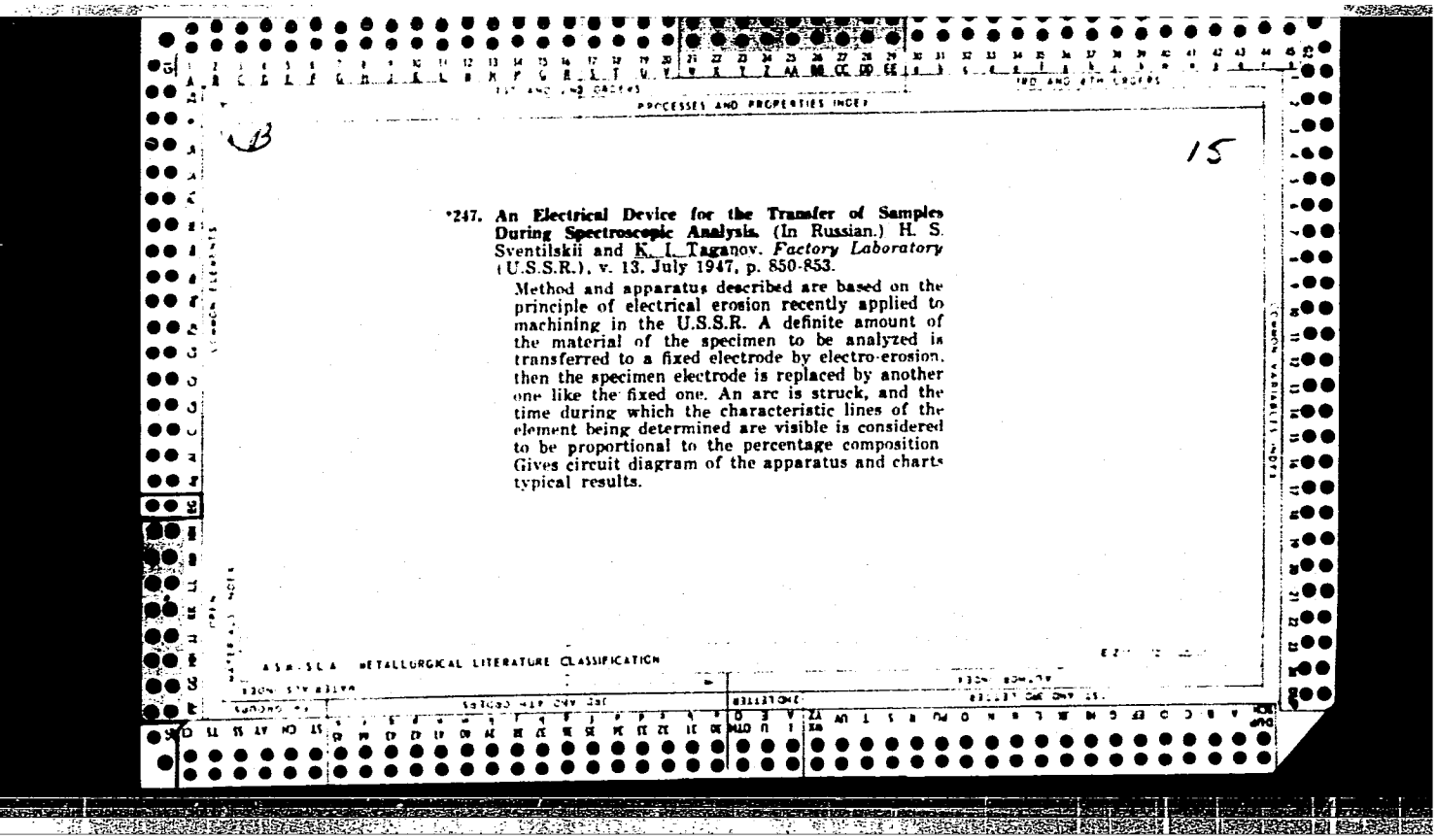
Analysis of lead and its oxides by the spectral method
K. I. Taganov. *Zavodskaya Lab.* 12, 149-54 (1946).
A rapid method is described for the analysis of Pb and its oxides for Mn, Zn, Sn, Cd, Sb, Ni, Cu, Ag, Bi, and As. The spectral lines used were 3067.7 A. for Bi; 2288.0 A. for Cd, or 2349.8 A. if As was present; 3247.5 and 3274 A. for Cu; 2349.8 for As; 2905.7 and 2798.3 for Mn; 3414.8 for Ni; 2840.0 and 2863.3 for Sn; 2311.5 for Sb; 3280.7 and 3383.0 for Ag; 2138.5 and 3175.0 for Zn. Most of the Ag began to evap. only after 2.5 min. In Pb_3NO_4 and $PbSO_4$, the Ag lines appeared during the initial 30 sec. when these salts began to decomp. under the influence of the high temp. of the arc. During the analyses this effect was almost absent and the Ag lines at conens. studied, 0.001%, began to be observed only after 2.5 min. A comparison of control analyses with results of chem. and polarographic analyses indicated that the method can be used for rapid semiquant. analysis of Pb and its oxides. 6 references.
W. R. Hess

13

3832 Spectroscopic Estimation of Carbon (In Iron Alloys). N. S. Sventitskii and K. I. Taganov. Henry Brutcher. Translation 2501. 9 pages. From *Zavodskaya Laboratoriya* (Factory Laboratory), v. 13, Apr. 1947, p. 431-437.

Previously abstracted from original.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710015-0"



PROCESSES AND PROPERTIES INDEX

B

15

*247. **An Electrical Device for the Transfer of Samples During Spectroscopic Analysis.** (In Russian.) H. S. Sventilskii and K. I. Taganov. *Factory Laboratory* (U.S.S.R.), v. 13, July 1947, p. 850-853.

Method and apparatus described are based on the principle of electrical erosion recently applied to machining in the U.S.S.R. A definite amount of the material of the specimen to be analyzed is transferred to a fixed electrode by electro-erosion, then the specimen electrode is replaced by another one like the fixed one. An arc is struck, and the time during which the characteristic lines of the element being determined are visible is considered to be proportional to the percentage composition. Gives circuit diagram of the apparatus and charts typical results.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

TAGANOV, K. I. PA 77T103

USSR/Physics Mar 1948
Electrodes
Spectrum Analysis

"Electric Spark Transference in Spectrum Analysis,"
K. I. Taganov, 6 pp

"Priroda" No 3

Every electrical discharge between two current conducting electrodes is accompanied by transfer of material from one electrode to other. Author describes importance of this fact in spectrum analysis, particularly in stylograph.

77T103

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710015-0

Spectral analysis by transference in the electric spark. N. S. Sventitskii and K. I. Taganov. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 396-401(1948); cf. C. A. 42, 8016i.—The method consists in first allowing material from the alloy electrode to be transferred, through an elec. spark, to an auxiliary electrode, and then using the latter as the sample electrode in an elec. arc. The final detn. is made either by photometry of a line pair, as Cr 4254.3-Fe 4271.71 A. for Cr in steel, or by visual observation of the length of persistence of a line of the element. By the spark-transference method, the slopes of the calibration curves, log of the ratio of intensities against log concn., or time of persistence against concn., are steeper than by the direct method, i.e. the spark transference method, in both its variants, is more sensitive. The amt. of material transferred by the spark is a function of the spark gap, passing through a max. at about 0.5 mm. It increases with the length of sparking only up to a point. N. T.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710015-0"

TAGANOV, K. I.

Dec 48

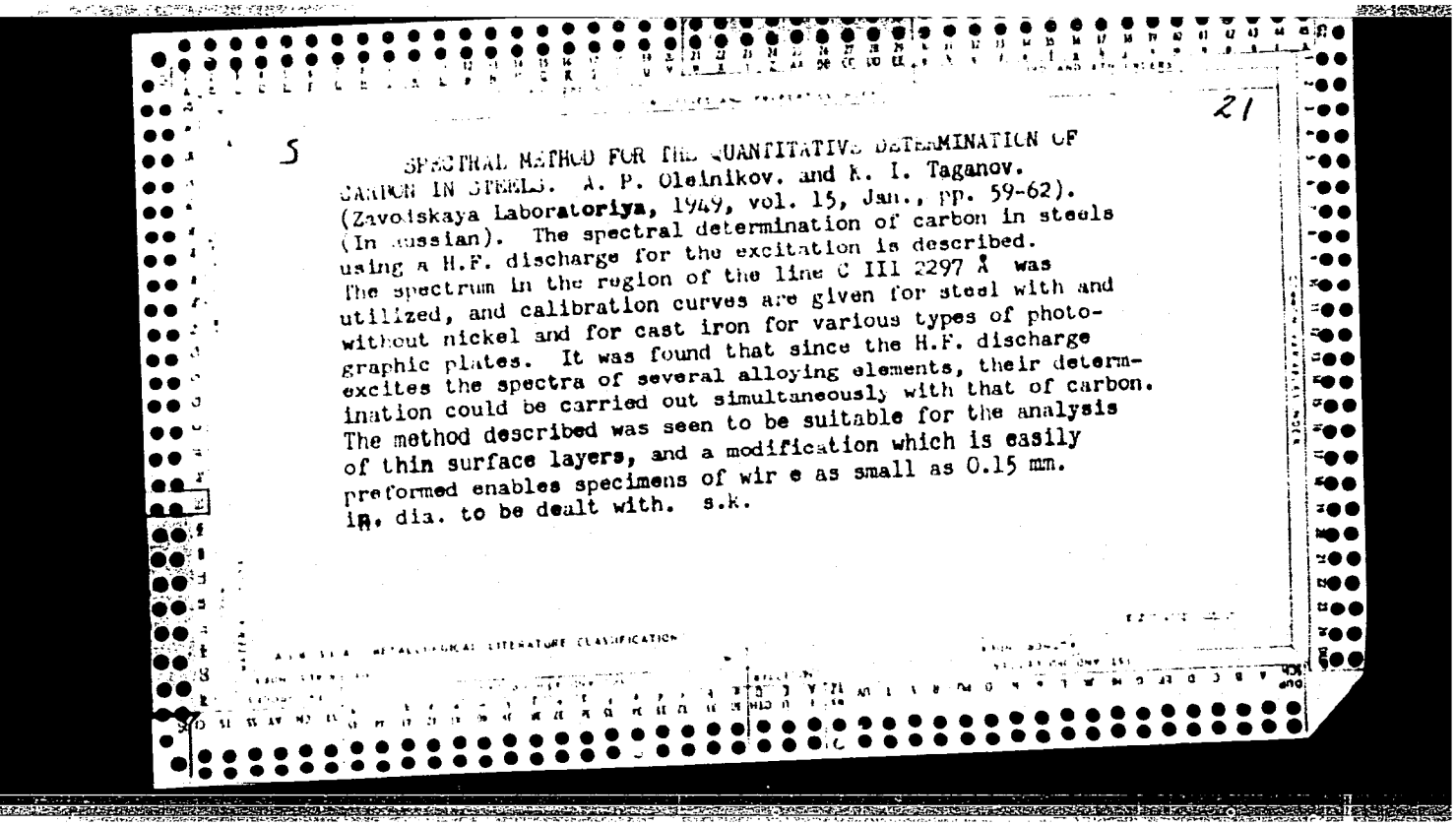
USSR/Geological Prospecting
Petroleum Deposits

"The Problem Concerning theParagenesis of Titanium Organic Carbon, and Several Other Elements," L. V. Khmelevskaya, N. G. Morozova, K. I. Taganov, S. M. Katchenkov, L. A. Voytsekhovich, All-Union Petroleum Sci Res Geol Prospecting Inst, 3 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 6

Spectrographic and statistical analysis of 87 sandstones taken from Maykopskiy, Chokrakskiy, Karaganskiy, and Sarmatskiy deposits in the layer of oilbearing deposits of Groznenskiy Rayon, Terskiy Oblast. Found that presence of organic carbon, vanadium, manganese, titanium, nickel, barium and strontium in various lithologic groups -- sand-silt-stone, clay, and carbon -- was not connected exclusively with any of them. Submitted by Acad D. S. Belyankin, 27 Oct 48.

PA 35/49T46

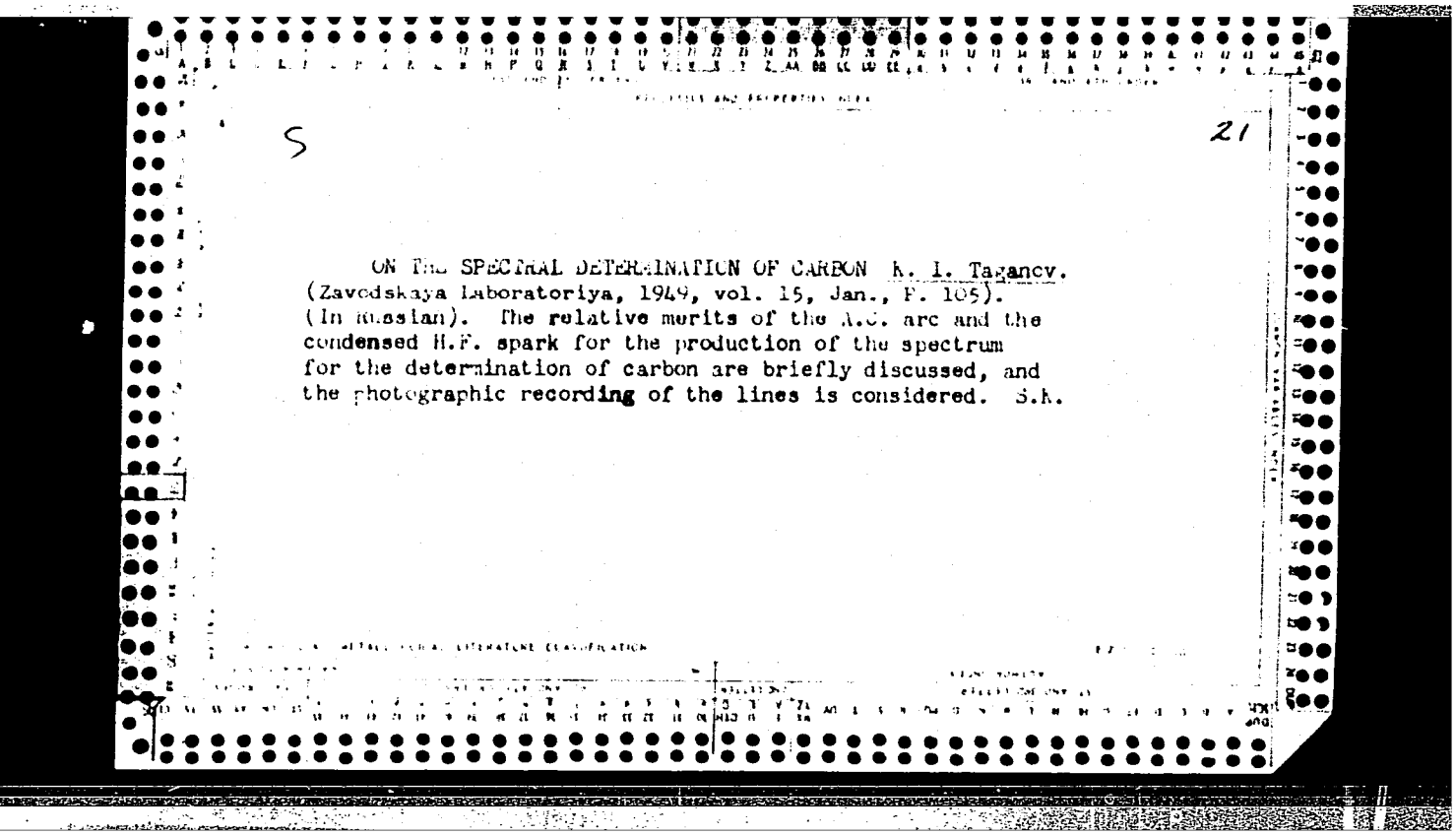


21

5

SPECTRAL METHOD FOR THE QUANTITATIVE DETERMINATION OF CARBON IN STEELS. A. P. Oleinikov, and K. I. Taganov. (Zavodskaya Laboratoriya, 1949, vol. 15, Jan., pp. 59-62). (In Russian). The spectral determination of carbon in steels using a H.F. discharge for the excitation is described. The spectrum in the region of the line C III 2297 Å was utilized, and calibration curves are given for steel with and without nickel and for cast iron for various types of photographic plates. It was found that since the H.F. discharge excites the spectra of several alloying elements, their determination could be carried out simultaneously with that of carbon. The method described was seen to be suitable for the analysis of thin surface layers, and a modification which is easily preformed enables specimens of wire as small as 0.15 mm. in dia. to be dealt with. s.k.

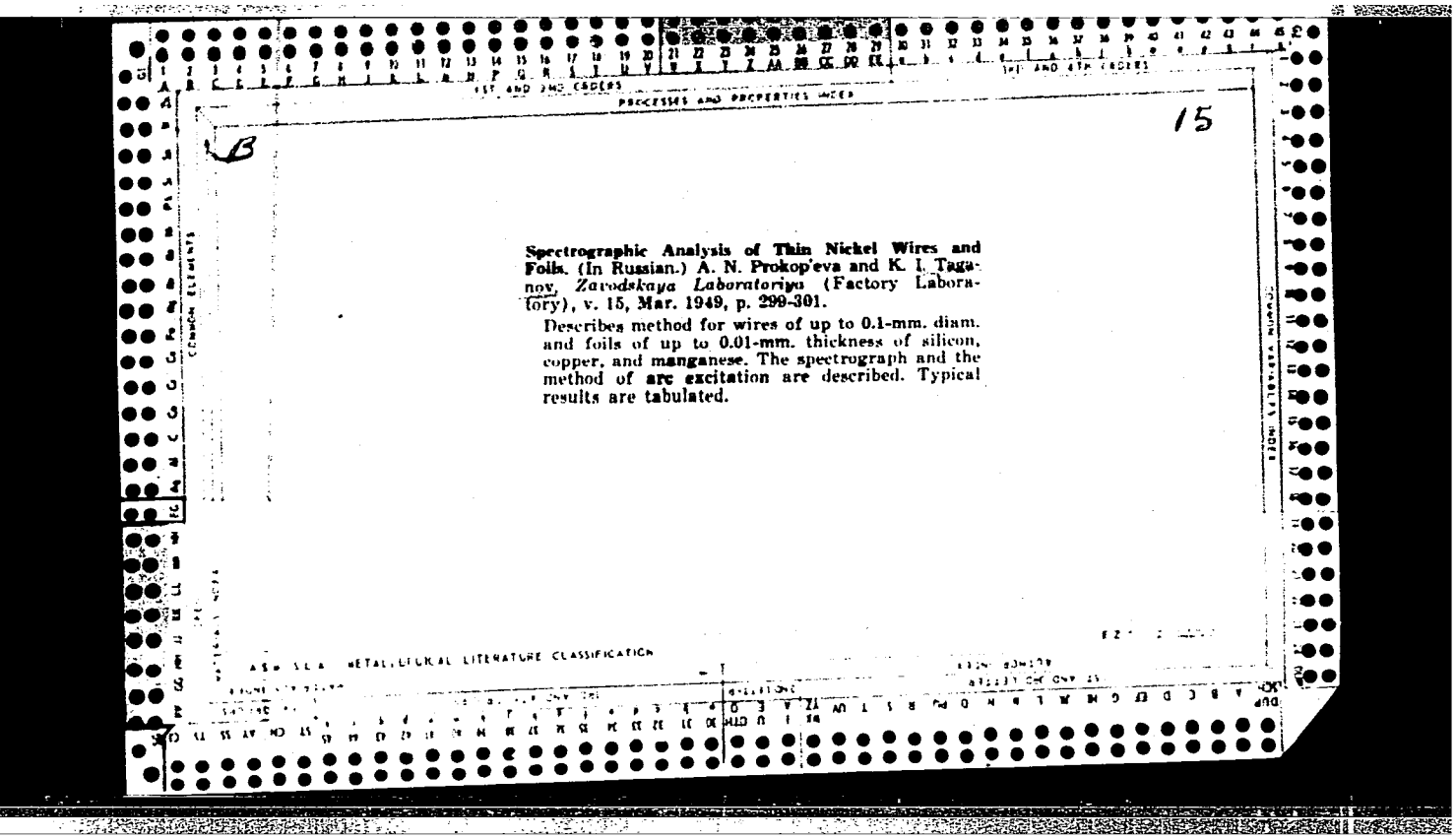
A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION



S

21

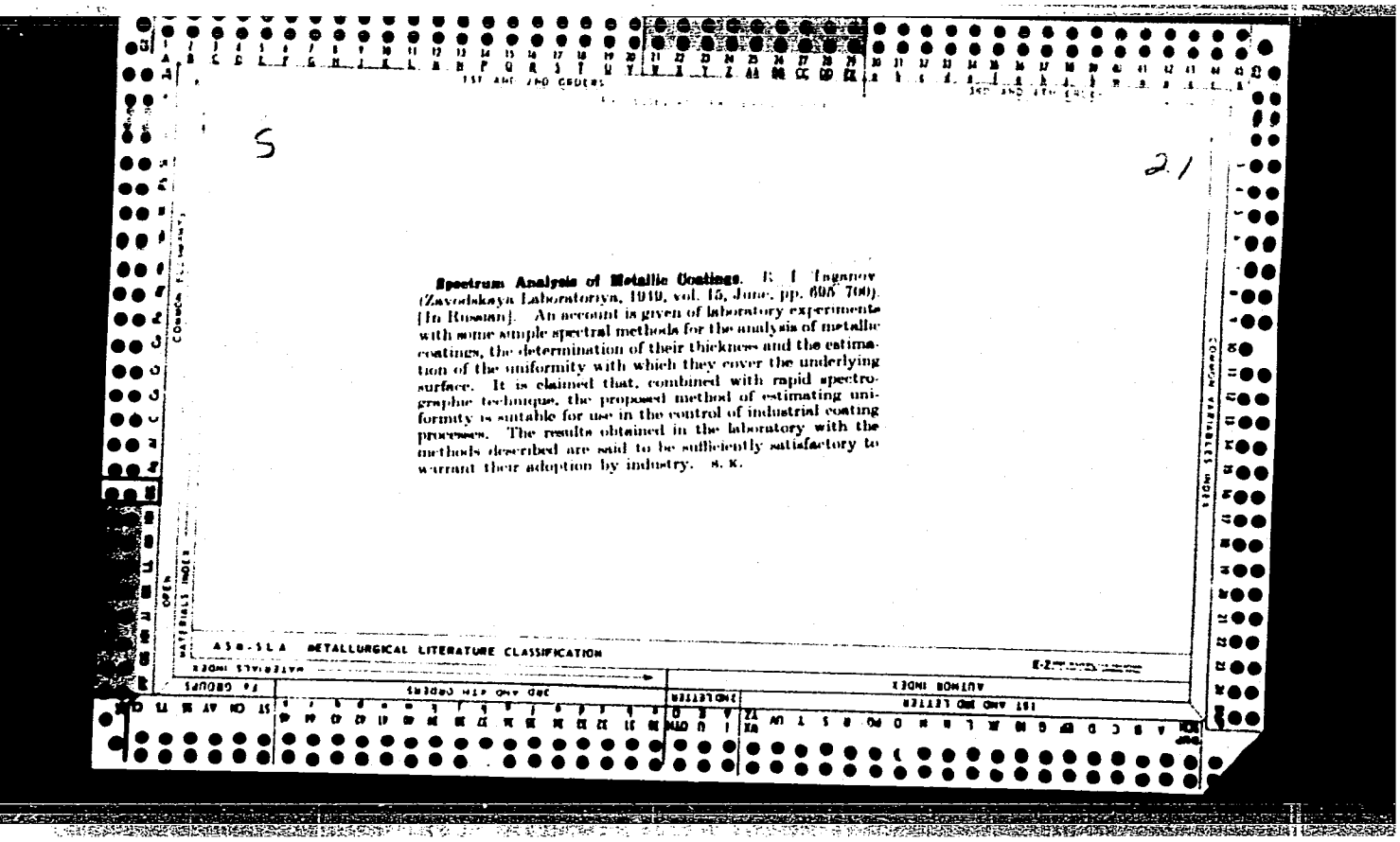
ON THE SPECTRAL DETERMINATION OF CARBON A. I. Tagancv. (Zavodskaya Laboratoriya, 1949, vol. 15, Jan., P. 105). (In Russian). The relative merits of the A.C. arc and the condensed H.F. spark for the production of the spectrum for the determination of carbon are briefly discussed, and the photographic recording of the lines is considered. S.A.



15

Spectrographic Analysis of Thin Nickel Wires and Foils. (In Russian.) A. N. Prokop'eva and K. I. Taganov, *Zavodskaya Laboratoriya* (Factory Laboratory), v. 15, Mar. 1949, p. 299-301.

Describes method for wires of up to 0.1-mm. diam. and foils of up to 0.01-mm. thickness of silicon, copper, and manganese. The spectrograph and the method of arc excitation are described. Typical results are tabulated.



Spectrum Analysis of Metallic Coatings. B. I. Ingamov (Zavodskaya Laboratoriya, 1949, vol. 15, June, pp. 695–700). [In Russian]. An account is given of laboratory experiments with some simple spectral methods for the analysis of metallic coatings, the determination of their thickness and the estimation of the uniformity with which they cover the underlying surface. It is claimed that, combined with rapid spectrographic technique, the proposed method of estimating uniformity is suitable for use in the control of industrial coating processes. The results obtained in the laboratory with the methods described are said to be sufficiently satisfactory to warrant their adoption by industry. S. K.

[redacted] I.,

[redacted] / Metals- Spectroscopy Sep/Oct 50

"Spectr[redacted] Determination of Carbon in Steels and Cast Iron," V.I. Borzov, O. S. Gram[redacted], S. S. Mirlyan[redacted], P. G. Ovartitsky, K. I. Taranov

"Iz Ak Nauk SSR, Ser Fiz" Vol XIV, No 5, pp 611-617

Finds spectrograph of medium dispersion is sufficient. Best exciting method is [redacted]f spark.

FA 172T58

The transport of material in the discharge during spectral analysis N. I. Laguntsov *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 634–9 (1950). The method of spectral analysis by transference (cf. *C.A.* 44, 3838*f*, 42, 8095*a*) has been applied to a study of the transport of matter. Fusion resistant materials, such as Al, W, Cu, Mo, are transported mainly from the anode, others such as Cd, Sn, Pb, Sb, Zn mainly from the cathode. The change is preference depending on the inter-electrode distance. From transport measurements on Zn deposited on a rotating Cu disk the duration of the arc-discharge is calcd. to 0.006 sec., the duration of the interval to 0.001 sec.; calcns. made on the diffusion of particles in the arc show that the transport of material results from diffusion and from ionization mobility. An app. has been developed to prepare samples for analysis by spark transference outside the laboratory. S. Paksver

TAGANOV, K. I.

PA 160T69

Apr 50

USSR/Metals - Plating
Steeloscopes

"Spectrum Method for Determining the Thickness of Metal Plating With a Steeloscope," K. I. Taganov, State Opt Inst, 2 pp

"Zavod Lab" Vol XVI, No 4

Develops method based on measuring time elapsed from beginning of discharge action on surface of plated article to appearance of base metal spectrum. Method also permits evaluation of uniformity of plating distribution resulting in rapid operating control of plating bath.

160T69

Taganov, K. I.

5

USSR

Spectrum analysis of several catalysts. R. S. Purkina and K. I. Taganov. *Trudy Vsesoyus. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov (KHIMGAZ)* 6, 101–9 (1951).—The detn. of Na (0.03–2.% by wt.) in Al_2O_3 catalyst by combustion of the sample in an activated a.-c. arc, and the detn. of K in an Fe catalyst are described.
W. M. Sternberg

BOGDANOVA, V.T., inzh.; TITOVA, N.A., inzh.; TAGANOV, K.I., kand. fiz.-mat.nauk; TYUMENEVA, S.T., inzh., red.; PROKOF'YEV, V.K., prof., doktor fiz.-mat.nauk, laureat Stalinskoy premii, otv.red.; FREGER, D.P., tekhn.red.

[Spectral analysis of steels with an alternating-current arc] Spektral'nyi analiz stalei s dugoi peremennogo toka. Leningrad, 1952. 3 p. (Informatsionno-tekhnicheskii listok, no.101 (442)) (MIRA 14:6)

1. Leningradskiy Dom nauchno-tekhnicheskoy propagandy.
(Steel--Spectra)

USSR/Chemistry - Spectral analysis

Card 1/1 Pub. 43 - 96/97

Authors : Taganov, K. I.

Title : Contact electro-spark sampling for spectral analysis

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 299, Mar-Apr 1954

Abstract : A method was developed for electro-spark sampling during spectral analysis. The structural characteristics of such a sampling arrangement are described. Some results obtained through contact electro-spark sampling are listed.

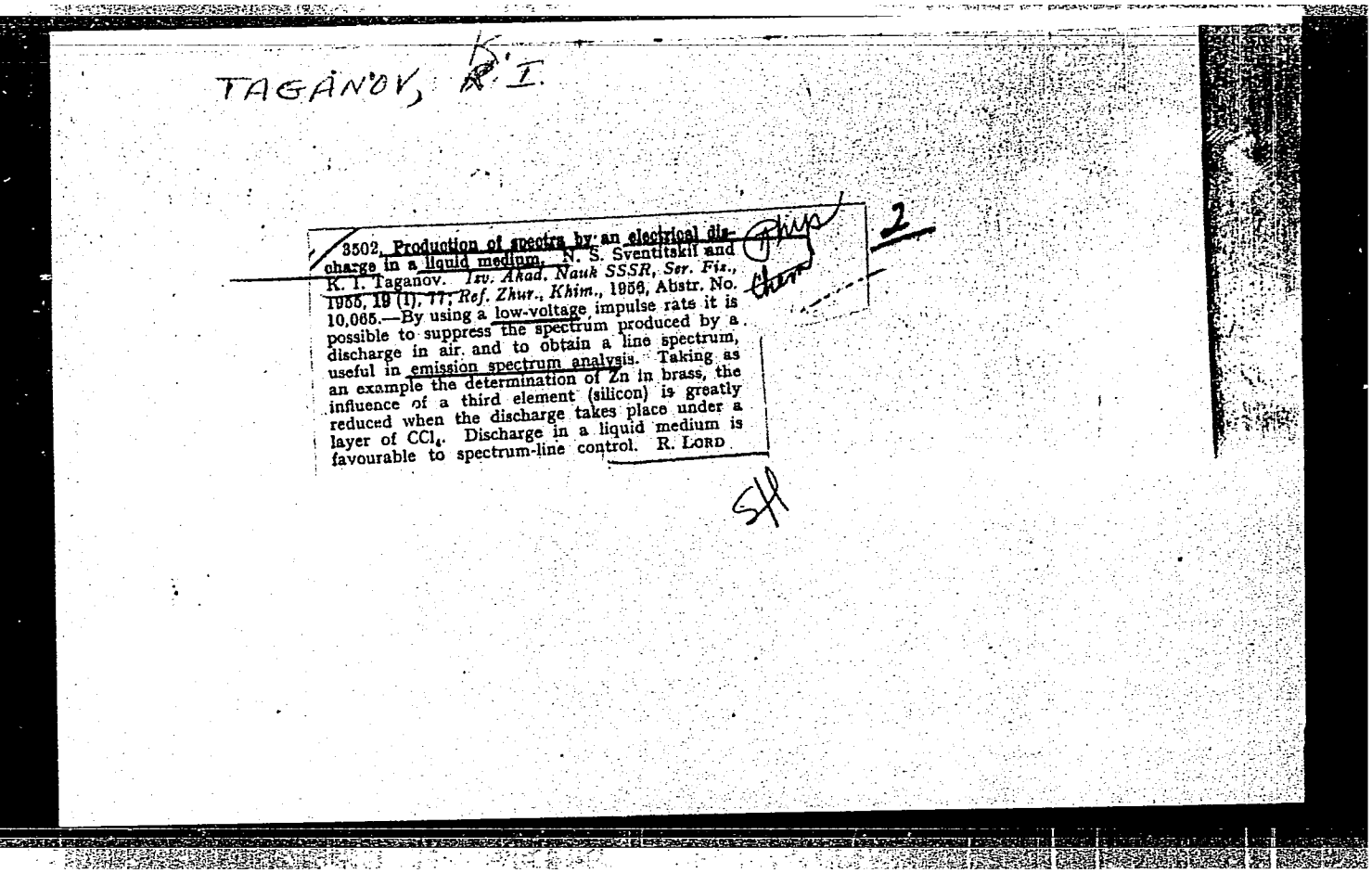
Institution : .....

Submitted : .....

Taganov, K. I.

1217. The spectrographic analysis of complex steels with an alternating current arc. V. T. Bogdanova and K. I. Taganov. Report of Symposium: "Sovrem. Metody Anal. Metall., M., Metallurgizdat," 1955, 51–54; *Ref. Zhur., Khim.*, 1956, Abstr. No. 29,375.—A method is described for the analysis of steels EZh 1 and EZh 2 for Cr, Ni, Mn and Si, and of steel EYa 1T for these elements and Ti. The samples, of diam. 35 mm and height 110 mm, are cast in a metal mould. A copper rod serves as upper electrode, sharpened to a truncated cone; the arc gap is 2 mm. It is observed that there is a difference in composition between the main mass of metal in the sample and the outer zone; the samples are therefore treated with emery to a depth of 2 to 3 mm. Results are calculated by means of a conversion factor. The results are averaged from five spectra. The calculation of the concn. is taken from previously prepared tables. The lines used are—for EYa 1T and EZh, Cr 2890·20 - Fe 2089·21; Mn 2939·30 - Fe 2041·34; Si 2516·12 - Fe 2518·10; for EYa 1T, Ni 3080·76 - Fe 3083·74; Ti 3088·03 - Fe 3083·74; for EZh, Ni 3402·00 - Fe 3495·29 A. The relative probable errors of the determinations of the various elements are within 0·6 to 6%.

C. D. KOPKIN



TAGANOV, K. I.

3502. Production of spectra by an electrical discharge in a liquid medium. N. S. Sventitskii and K. I. Taganov. *Izv. Akad. Nauk SSSR, Ser. Fiz.*, 1955, 19 (1), 77; *Ref. Zhur., Khim.*, 1956, Abstr. No. 10,065.—By using a low-voltage impulse rate it is possible to suppress the spectrum produced by a discharge in air and to obtain a line spectrum, useful in emission spectrum analysis. Taking as an example the determination of Zn in brass, the influence of a third element (silicon) is greatly reduced when the discharge takes place under a layer of CCl_4. Discharge in a liquid medium is favourable to spectrum-line control. R. LORD

GERASIMOVA, N.G.; IVANOVA, T.F.; SVENTITSKIY, N.S.; STARTSEV, G.P.; TAGANOV, K.I.; TRENTOVIUS, M.E.

Spectral determination of hydrogen in metals. Izv.AN SSSR.Ser fiz. 19 no.2:147-148 Mr-Ap '55. (MLRA 9:1)
(Tartu--Spectrum analysis--Congresses)

MAL'TSEV, M.G.; TAGANOV, K.I.

Contact electric spark assaying in the spectrum analysis of metals.
Izv.AN SSSR.Ser.fiz.19 no.2:205-206 Mr-Ap '55. (MLRA 9:1)
(Tartu--Spectrum analysis--Congresses)

TAGANOV, K. I.

Use of Contact Electric-Spark Method for Taking Samples for Spectroscopic Analysis. M. F. Mal'tsev and K. I. Taganov. (*Zavodskaya Laboratoriya*, 1956, 22, (2), 191–194). [In Russian]. The advantages of the electric spark method of sampling metals with the electrode in contact with the surface over that in which metal transfer occurs over a spark-gap are briefly discussed, and apparatus and results for the former are described. Details are given of an easily portable installation, for which two types of sampling head are available for taking samples while moving over the surface or while fixed. The latter is suitable for determining the thickness and composition of metallic coatings. Spectroscopic results for various steels and for grey iron are discussed.

4E4a
4E3c

5

[illegible]

[illegible] : [illegible]

Authors : [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], and Taganov, K.I.

Institution : [illegible]

Title: Spectral Determination of Nitrogen, Hydrogen, and Oxygen in Titanium and Its Alloys

Original Periodical : Zavod. Laboratoriya, 1956, Vol 22, No 6, 66[illegible]-673

Abstract : The determination of N, O, and H in Ti alloys and of H in Ti Powder is described. The determinations were made with a type ISP-51 spectrograph (with a camera of f = 270 mm for N and O and a type UF 85 camera of f = 1,300 mm for H); type III spectroscopic plates [illegible] and O and type 250 [illegible] [illegible] H. Several methods of excitation were tested, including [illegible] condenser sparks and single-phase high- and low-voltage [illegible] discharges. The first method gave the best results with N,

Card 1/2

[illegible]

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1264

Abstract: while the last method was found most effective for O and H. N and O were determind in an atmosphere of helium (7[illegible] and [illegible]00 mm Hg, respectively), while H was determined in air. For standards cast samples of Ti were used the N content of which had been determined chemically, and the O and H content--by hot extraction. The following slit widths were used: 0.015 mm for N, 0.[illegible]2 mm for O, and [illegible].[illegible]7 mm for H. An exposure of one second was used for N with the following pairs: NII 3[illegible], [illegible] A anD TiII [illegible], [illegible] A and TiII [illegible], [illegible] A. In analysis for O the relative intensity of the lines OII 4[illegible], [illegible]2 and OII 4596, 13 A and of the background was determined. In the case of H the darkening of the Line H 6563 A was Measured. The error in the determination of N is ±25%; of O, ±20-40% (as the energy of the discharge is increased, the intensity of the O-lines at first increases and then begins to drop off): and for H, ±[illegible].[illegible]% for heat treated samples and ±15-5% for samples which have not been heat treated. For the determination of H in powdered Ti briquetted [illegible] [illegible] used. Standard [illegible] [illegible] from titanium hydride and Cu powder. The error is ±[illegible]-[illegible]%.

[illegible]

TAGANOV, K.I.

66354
SOV/81-59-19-67720

5.5310

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 19, p 124 (USSR)

AUTHORS: Prokof'yev, V.K., Sventitskiy, N.S., Taganov, K.I.

TITLE: The Spectral Analysis of Uranium and Its Compounds for Admixtures by Means of Diffusion-Convection Transfer

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, Nr 4(9), pp 42 - 44

ABSTRACT: For eliminating the superpositions of the U spectrum and the intense continuous background it has been proposed to divide in time the processes of separation of admixtures and the excitation of their spectra. This is obtained by a preliminary transfer of the admixtures to a supporting graphite electrode. The second graphite electrode containing an uranium sample which has been preliminarily calcined and converted to U_3O_8 is heated by an auxiliary d-c current. The electrode with the sample serves as anode; two carbon cathodes are installed symmetrically perpendicularly to it. At the burning of the auxiliary arc the fractionating admixtures are transferred to the supporting upper electrode and the non-volatile U_3O_8 remains in the channel of the lower electrode. This transfer, in distinction from the electro-spark transfer, is termed diffusion-convection

Card 1/2

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SVENTITSKIY, N.S.; TAGANOV, K.I.

Some investigations of the spectral determination of hydrogen in metals. Fiz.sbor. no.4:209-212 '58. (MIRA 12:5)

1. Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I.Vavilova.
(Metals--Hydrogen content) (Spectrum analysis)

SVENTITSKIY, N.S.; SUKHENKO, K.A.; FAL'KOVA, O.B.; GALONOV, P.P.; TAGANOV, K.I.; ALPATOV, M.S.

Spectrum analysis of titanium, molybdenum, and their alloys for nitrogen, hydrogen, and oxygen. Fiz.sbor. no.4:225-231 '58. (MIRA 12:5)

1. Vsesoyuznyy ordena Lenina nauchno-issledovatel'skiy institut aviatsionnykh materialov.
(Gases in metals) (Spectrum analysis)

MAL'TSEV, M.G.; PTITSYNA, Ye.A.; TAGANOV, K.I.

Some physical characteristics of the contact-electric spark selection of a sample for spectrum analysis. Fiz.sbor. no.4:252-255 '58. (MIRA 12:5)

1. Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I.Vavilova.

(Spectrum analysis)

BORBAT, A.M.; MAL'TSEV, M.G.; TAGANOV, K.I.

Effect of a third component in spectrum analysis with electric selection of samples. Fiz.sbor. no.4:255-257 '58. (MIRA 12:5)

1. Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I.Vavilova.

(Spectrum analysis)

Taganov, K.I.

66356
SOV/81-59-19-67722

5.5310

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 19, pp 124 - 125 (USSR)

AUTHORS: Sventitskiy, N.S., Sukhenko, K.A., Pal'kova, O.B., Galonov, P.P., Taganov, K.I., Alpatov, M.S.

TITLE: The Spectral Analysis of Titanium, Molybdenum and Their Alloys for Nitrogen, Hydrogen and Oxygen

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, Nr 1(9), pp 225 - 231

ABSTRACT: The determination of 0.01 - 3% N in titanium is carried out at
excitation of the spectrum by a low-voltage spark at a capacitance
of 280 μ farad with an inductance equal to zero and with the application
of a W-electrode of 6 mm in diameter sharpened to a rounded cone; spark
gap 0.3 mm. The vacuum chamber of the light source is evacuated to
10^{-2} mm Hg and filled up with helium to a pressure of 500 mm Hg. The
spectra are photographed on an ISP-51 spectrograph with a camera of F =
270 mm, a slit of 0.015 mm and an exposure of 1 sec on spectral plates
of type II and III. The determination is carried out by the line N
3994.99 A being compared to Ti 3889.95 or Ti 3998.64 A. The mean
arithmetic error of an individual determination is 25%. The possibility

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of N determination at the excitation of the spectrum by a low-voltage pulse discharge
from a capacitance of 4,000 μ farad has been shown. The determination of 0.1 - 1% O
in Ti is carried out also in a pulse discharge but at a capacitance of 400 μ farad
without introduction of inductance; the discharge vessel is filled up with helium to
a pressure of 500 mm Hg. The distance between the sample and the carbon rod of 6 mm
in diameter sharpened to a truncated cone is 1 mm; the slit width of the spectrograph
is 0.02 mm. The lines O 4705.32 and O 7771.9 A are compared with the background of the
spectrum. For photographing one spectrum 80 pulses are necessary. It has been shown
that the intensity of the O lines depends in different ways on the energy of the dis-
charge for different metals, e.g. for Ti the optimum intensity is reached at 400 μ
farad, for molybdenum at 4,500 μ farad. Concentrations of 0.005 - 0.15% H in Ti are
found at the excitation of spectra by a single low-voltage pulse discharge at a capa-
citance of 2,000 μ farad, a tension of 270 v and a self-induction of 10 μ henry
between the sample cathode and the Cu-electrode of 3 - 5 mm in diameter sharpened to
a point; the discharge takes place in the interelectrode gap of 0.3 mm in the air
medium. The spectra are photographed on an ISP-51 spectrograph with a UP-85 camera

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with F = 1,300 mm at a slit of 0.07 mm on a panchromatic film with a sensitivity of
250 State Standard (GOST) units. A spectrograph with a camera of F = 270 mm can also
be used. The blackening of the line H 6563.8 A shows a satisfactory dependence on the
concentration without application of an inner standard. Every sample and standard is
photographed on an ISP-51 spectrograph with a UP-85 camera with a cleaned surface. The
preparation of samples and standards is carried out under the conditions of maximum
cleanliness to avoid H-containing pollutions. The mean arithmetic error of an in-
dividual determination is ± 8.8%. In a similar way H is determined in Ti powder from
which a briquet of 8 mm in diameter is prepared under a pressure of 160 atm. Samples
of cast Ti serve as standards, to which equivalent H concentrations are ascribed based
on powders of known composition. The error of analysis is ± 12%. The determination of
N, H and O concentrations in molybdenum and its alloys is carried out under the same
conditions as in Ti but the spectra are photographed from 2-4 pulses, in which case the
sample serves as anode. In a low-voltage spark N is determined with a W-electrode; the
line N 3995 is compared with the line W 3972 A; in the spectra of pulse discharge the
same line is compared with the line Mo 3963.52 A. The mean arithmetic error for O and
N is ± 25%.

M. Sventitskiy

Card 3/3

66352
SOV/81-59-19-67683

18.8400, 5.5310

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 19, p 117 (USSR)

AUTHORS: Sventitskiy, N.S., Taganov, K.I.

TITLE: Some Investigations on the Spectral Determination of Hydrogen in Metals

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, Nr 4(9), pp 209 - 212

ABSTRACT: The conditions have been studied for changes in the concentration sensitivity (CS) of the spectral determination of H in metals at the excitation of the spectrum by a low-voltage pulse discharge. It has been established that the value of CS has a maximum at 100 μ henry. An increase in the ohmic resistance sharply reduces CS which at 6 ohms vanishes completely. An increase in the charge voltage of the capacitor from 100 to 200 v increases CS; an increase in the capacitance of the discharge circuit from 300 to 1,000 μ farad increases it two times. At high contents of H, in the measuring of the complete intensity of $H\alpha$ based on the area of the contour, CS is by 50% higher than in the comparison of the intensities based on the maxima. The possibility is considered of reproducing various intensities of H-lines according to artificial samples, which an equivalent H content can be given in

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Some Invesitgations on the Spectral Determination of Hydrogen in Metals

calibration for plotting calibration graphs. Solutions of colophony in ethanol and celluloid in acetone proved to be the most suitable for this purpose. A proportioned quantity of solution applied onto a Cu-electrode produces a film which during evaporation in the flame of a pulse discharge shows a certain intensity of the H-line. Equivalent concentrations of 8 - 100 ml per 100 g established by means of these films are reproduced with a mean error of 10%. When electrical parameters of the discharge circuit are maintained, the curve of the H_α contour is reproduced sufficiently well and can serve as a peculiar calibration graph, if equivalent H concentrations are assigned to intensities at fixed values of the abscissa of the contour (to the frequencies, wavelengths or the divisions of the scale of the microphotometer carriage). It is also expedient to make calibration by the width of the H line which is very great at the selected excitation conditions. In this case the H_α profile which was obtained in the blackenings can be made use of.

N. Sventitskiy

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TAGANOV, K.I.

Physical characteristics of spectrum analysis with test sample selection by electric discharges. Inzh.-fiz.zhur. no.7:54-60 Jl '58. (MIRA 11:8)

(Spectrum analysis) (Mass transfer)

SOV/48-23-9-19/57

24(7)
AUTHORS: Sventitskiy, N. S., Taganov, K. I.

TITLE: On Spectroscopic Investigations of the Electro-erosional Properties of Oxygen-containing Titanium

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1096-1097 (USSR)

ABSTRACT: The investigation of the electroerosive distortion of metals and alloys may be carried out either directly from the discharge spectrum as also from the spectrum of the transfer products which settle on the carrier electrode. The authors investigated titanium containing 0.12 to 2.32% O. In both cases it was, however, possible to estimate the erosion of the samples according to the line intensity of titanium. In the case of a lack of contacts between the electrodes in the spark and in the alternating current arc, a reduction of transfer products with an increase of the oxygen content in titanium was observed. However, in the case of contact spark discharges an intensification of transfer is observed in titanium with an increase in the oxygen content, which reduces the resistivity to erosion. From the relation between the intensity of the titanium lines and the oxygen concentration only oxygen concentration can normally be evaluated, but here the possibility

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On Spectroscopic Investigations of the Electro-erosional Properties of Oxygen-containing Titanium

offers itself spectroscopically evaluating the physico-chemical properties of titanium from its electroerosive behavior. Experiments were carried out for the purpose of evaluating the influence exercised by polarity in contact spark discharges upon the titanium transfer to the carrying copper electrode in air and in carbon tetrachloride. The ratio between the line intensities of titanium of the transfer products from the cathode and those from the anode I_-/I_+ amounted to 0.8 in air for 0.12% O, and to 0.5 for 2.32% O. In carbon tetrachloride the corresponding values were 2.0 and 1.6 respectively. Thus, the destruction in air is greater on the anode, and in carbon tetrachloride in the cathode. If the sample contains calcium, this effect is exactly reversed. Moreover, the possibility arises of investigating oxygen-containing titanium as to its thermoelectrical properties spectroscopically, as a linear dependence between the oxygen content of titanium and its thermo-current exists.

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24(7) SOV/48-23-9-20/57

AUTHOR: Taganov, K. I.

TITLE: Some Spectroscopical Investigations of the Effect of Polarity on the Electric Erosion of Metals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1097-1099 (USSR)

ABSTRACT: In the case of a variation of discharge parameters an inversion of electric erosion and thus a change of sign in the polarity effect may occur. It has already previously been shown by the author that a variation of the electrode gap may lead to such an inversion (Ref 1). In the present paper several new factors influencing the polarity effect are investigated. Evaluation of this effect was carried out by determining the ratio of the line intensities of the products removed from the anode and cathode respectively (I_-/I_+). The transfer of zinc, iron, and molybdenum in low-voltage pulsed discharges was investigated and differences in the quantitative variation of the transfer from cathode and anode were found to occur in the case of changes in the discharge parameters. An increase of the electrode gap in all cases led to a decrease of the transfer, especially from the anode. Much interest is displayed for the variations of transfer depending upon polarity in

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Some Spectroscopical Investigations of the Effect of Polarity on the Electric Erosion of Metals

pulsed discharges when the discharge is localized on the metal surface, and in this case an essential difference in the transfer from cathode and anode was found to exist. The localization of the discharge causes a considerable increase of the transfer from the anode, and here an inversion of the polarity effect may already be observed. A spectroscopical investigation of the polarity effect in the case of contact-spark erosion on the transfer showed that processes developing in the contact zone of two heterogeneous metals play the main part. When explaining the described rules, the author describes the Peltier heat occurring in the discharge as being responsible for the inversion. In conclusion, the interrelation between the spectroscopically estimated amount of the contact-electrical spark erosion and the thermoelectrical characteristics of the contacting metals is dealt with. In a number of cases a direct interrelation between the amount of the thermo-current and the concentration of one or the other element could be proved to exist. There are 2 Soviet references.

24(7) SOV/48-23-9-36/37

AUTHORS: Sventitskiy, N. S., Tayanov, K. I., Shlepkova, Z. I.

TITLE: Some Characteristic Features of the Spectroscopical Determination of Oxygen in Titanium

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1118 - 1120 (USSR)

ABSTRACT: In the introduction the low degree of dependence of line intensities on oxygen concentration in titanium is pointed out. The extraction of oxygen and following spectral analysis of the gas mixture would be a more exact method, but this requires the application of platinum troughs and the development of analysis methods in which it is possible to carry out extraction of the gases and excitation of their spectra simultaneously. The low concentration-sensitivity in titanium is assumed to be due to the stability of the titanium oxides which are already present in the alloys or are formed during the discharge. For the purpose of checking the correctness of this assumption, experiments were made with copper powder containing TiO_2 in a concentration of 0.5-5%, and by using various light sources. The experiments showed that the highest intensity

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ratio I_{TiII}/I_{CaII} is obtained by pulsed discharges. Similar experiments were carried out with ZrC_2, and it could be seen from both results that in the case of pulsed discharges and of sparks, the bound oxygen must enter into the discharge cloud of the light source. Experiments on metallic titanium having an oxygen content of 0.35 - 0.80% are then discussed, which were carried out with pulsed discharges and high-frequency sparks. Again, the line intensities were found to depend only little on the oxygen content. Experiments carried out on technical titanium containing 0.12- 2% oxygen showed a considerable decrease of the concentration sensitivity of the lines. Comparative investigations were carried out on samples with calcium, the Ca-concentration of which varied within the range of 0.30 - 0.48% parallel to that of oxygen. It was found that after high-frequency sparks had been acting for four minutes in hydrogen at normal pressure, the line intensity and the concentration sensitivity increase considerably. Finally, it is found that the oxygen spectrum is sufficiently well excited by pulsed discharges and other light sources, and that the

Some Characteristic Features of the Spectroscopical Determination of Oxygen in Titanium

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Oxygen contained in metallic titanium has only a low degree of concentration sensitivity. Concentration sensitivity may be increased by a reduction of the energy of the excitation pulses. It is assumed that the major part of the oxygen contained in metallic titanium forms oxides on the surface of the electrodes and does not enter into the discharge cloud. There are 2 tables and 5 references, 3 of which are Soviet.

Card 3/3

TAGANOV, Konstantin Ivanovich; TYUMENEVA, S.T., red.; FREGER, D.P., izd.red.; BELOGUROVA, I.A., tekhn.red.

[Spectrum analysis - a progressive physical method of research and control; on the hundredth anniversary of its discovery] Spektral'nyi analiz - progressivnyi fizicheskii metod issledovaniia i kontrolia; k stoletiiu otkrytiia spektral'nogo analiza. Leningrad, 1960. 23 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Seriia: Kontrol' kachestva produktsii, vyp.3) (MIRA 14:3)

(Spectrum analysis)

TAGIYEV, M.A., aspirant

Use of ascorbic acid in the treatment of thyrotoxicosis and the condition of the oxidation-reduction process. Azerb.med.zhur. no.2:51-56 F '60. (MIRA 13:5)

1. Iz 1-y fakul'tetskoy terapevticheskoy kliniki (zav. - zasluzh. deyatel' nauki, prof. I.M. Orudzhev) i kafedry biokhimii (zav. - zasluzhennyy deyatel' nauki, prof. A.S. Gasanov) Azgosmedinstituta imeni N. Narimanova.
(ASCORBIC ACID) (THYROID GLAND--DISEASES) (OXIDATION, PHYSIOLOGICAL)

TAGANOV, K.I. (Leningrad)

Spectrum analysis. Priroda no.6:27-34 Je '60. (MIRA 13:6)

(Spectrum analysis)

TA: 9/30/ Sheerekoo, G. A

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PHASE I BOOK EXPLOITATION SOV/6181

Ural'skoye soveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTO.

Eds. (Title page): G. P. Skornyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skornyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

COVERAGE: The collection presents theoretical and practical problems of the application of atomic and molecular spectral analysis in controlling the chemical composition of various materials in ferrous and nonferrous metallurgy, geology, chemical industry, and medicine. The authors express their thanks to G. V. Chentsova for help in preparing the materials for the press. References follow the individual articles.

S/048/62/026/007/004/030
B104/B138

AUTHOR: Taganov, K. I.

TITLE: Spectroscopic study of the erosive properties of an electric discharge in vacuo

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 7, 1962, 860-862

TEXT: The erosion of Fe, Cu, Ti, and Al alloys in a d-c contact discharge was studied at $7 \cdot 10^{-3}$ mm Hg, with a reciprocating upper electrode. The quantity of material transported during discharge was assessed from the intensity of the phosphorus and silicon lines. It was found that $I_-/I_+ > 1$, i. e., material was mainly removed from the cathode. According to the spectral lines of the base material I_-/I_+ for titanium alloys = 25. The lines of the cathode material were particularly intense in the discharge spectrum. A process similar to that of cathode sputtering is thought to occur at the cathode: there are no signs of local thermal action and the entire cathode surface has a

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half time. The usual erosion track is formed on the anode. Erosion in contact discharges in the air is compared and differences discussed. It was found on various alloys that I_-/I_+ may be less than unity. The line intensities were found to depend on the polarization of the electrode and on the thermoelectric properties of the electrode metals. There are 3 figures.

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TAGANOV, N.I.

Obtaining the calculations of equations on the basis of varying units of measurement. Zhur.prikl.khim. 35 no.10:2262-2266 O '62. (MIRA 15:12)

(Chemical equations)

S/048/63/027/001/001/043
B163/B180

AUTHORS: Baskov, V. S., Berger, S. I., Mal'tsev, M. G., Pallacin, M. N. and Taganov, K. I.

TITLE: New data on spectroscopic analysis with preliminary material transfer by contact-electric-spark treatment

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 2-5

TEXT: The absolute sensitivity of the spectroscopic analysis of metals and alloys can be increased by a preliminary spark treatment, in some cases due to selective transfer of the components. It is shown how the intensity of the Mg lines in spheroidal-graphite cast iron and Pb lines in the alloy "Al'kusip" is ennanced. Another way of increasing sensitivity is to activate the sampling process by first depositing a suitable catalyst on the surface of the specimen. For example, if Ti alloys are activated in a cadmium electrode discharge or by immersion in a cadmium chloride solution, the spectrum intensity increases 4 to 5 times. The spectra of small Si, Mn, and Fe impurities can then be recorded

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New data on spectroscopic analysis ... S/048/63/027/001/001/043
B163/B180

simultaneously instead of the usual method which requires separate determination of Si in an arc discharge. The spectrum of a specimen sampled by electric discharge can usually be recorded without heating the transfer products, but the intensity ratios may vary with time. Sampling by electric spark treatment can be further improved by using single discharge pulses, which helps to keep the composition of the transfer products constant and exclude the effect of other components. The circuit diagram is given, for an electric spark sampler without vibrational mechanism, in which the sampling electrode moves along the surface, and the discharge is initiated by a periodically discharging capacitor in a spark circuit. This paper was presented at the 14th Conference on Spectroscopy in Gor'kiy, July 5-12, 1961. There are 3 figures.

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S/048/63/027/001/003/043
B163/B180

AUTHORS: Obukhova, Ye. S., Rudnevskiy, N. K., and Taganov, K. I.

TITLE: Electric discharge sampling for the calibration in the spectral analysis of metals and alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 6-7

TEXT: I, the intensity of a spectral line depends on c the concentration of the component to be determined and on the mass consumed in the light source, which is itself dependent on the discharge current, electrode distance d, and transfer time. In intensity measurements of the PI 2535,65 Å line from binary Cu-P alloys with 0.67 - 1.33% P, and i the current in the transfer arc discharge from 2 - 8a, log I was found to be a linear function of log c I^P with P = 1.3. For constant i, log I was a linear function of log c d^P with negative P. In similar experiments with a Cu - Ni alloy S, the optical density of the Ni I 3050. 8 Å line was measured for Ni concentrations of 7.43 - 29.14% and varying T, the

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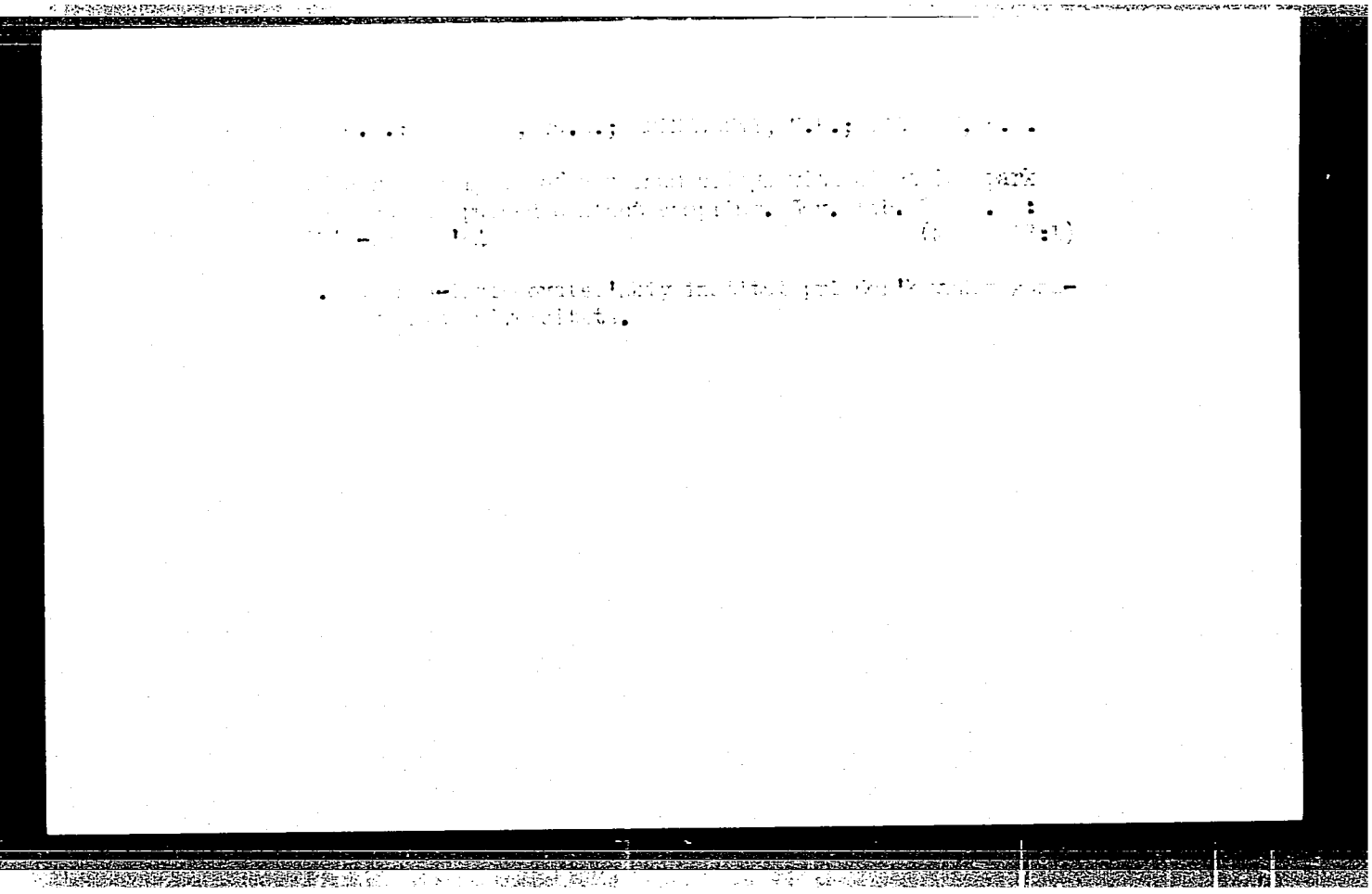
GUDKOVA, K.V.; TAGANOV, K.I.; SHLEPKOVA, Z.I.

New possibilities for the spectral analysis of metals and alloys using a preliminary dosage by contact-spark discharge. Trudy po khim.i khim. tekh. no.1:26-30 '63. (MIRA 17:12)

ZAGORSKAYA, N.N.; TAGANOV, K.I.

Particularities in the manifestation of the polarity effect in the spectral analysis of metals and alloys. Trudy po khim.i khim.tekh. no.1:31-36 '63. (MIRA 17:12)



BORZOV, Vasiliy Pavlovich; TAGANOV, Konstantin Ivanovich; KAPORSKIY, L.N., red.

[Using photoelectric devices in spectrum analysis] Ispol'zovanie fotoelektricheskikh priborov pri spektral'nom analize. Leningrad, 1965. 26 p. (MIRA 18:5)

L 15960-66 EWT(1)

ACC NR: AP6001483 SOURCE CODE: UR/0368/65/003/006/0563/0566

AUTHOR: Silin', E. A.; Taganov, K. I.

3/
B

ORG: None

TITLE: The evaporation mechanism of small quantities of matter in spectral light sources

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 6, 1965, 563-566

TOPIC TAGS: spectrophotographic analysis, light source, evaporation, spectral line

21,44,55

ABSTRACT: In spectral analysis of samples with limited mass, the intensity of spectral lines varies with time. Many authors investigating the kinetics of evaporation of small amounts of matter established various kinds of analytical relationships. The present paper presents the results of experimental investigations which seem to be in good agreement with the theoretically derived expression $I = Ax \exp(-\beta t) \cdot [1 - \exp(-\alpha t)]$ similar to an expression proposed earlier by A. G. Nepokoychitskiy and A A Yankovskiy (Vestsi An BSSR, ser. fiz.-tekhn. navuk, No. 3, 124, 1963; DAN BSSR, 7, 814, 1963). The mean square deviation of the theoretical from the experimental values, for the various cases, is within 2—10%.

Card 1/2 UDC: 543.42

L 15960-66

ACC NR: AP6001483

Coefficients A, β, and α are directly related to evaporation conditions in the light source. The theoretical curves can be used successfully for the investigation of the influence of various parameters (voltage, polarity, current pulse duration, etc.) on the contact spark transfer of matter, and of the physical processes in spectral light sources. Orig. art. has: 3 formulas, 2 figures, and 2 tables.

SUB CODE: 07 / SUBM DATE: 23Mar65 / ORIG REF: 010

bvk

Card 2/2

[illegible]

[illegible]-impact [illegible] sampler for spectrum analysis of metals and alloys. Zav. lab. 31 no.1:131 '65. (MIRA 18:3)

ACC NR: AP6023366 SOURCE CODE: UR/0237/66/000/007/0011/0012

AUTHOR: Taganov, K. I.; Faynberg, L. M.

ORG: none

TITLE: Determination of coating thickness from flash spectra resulting from the interaction of a laser with a substance

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 7, 1966, 11-12

TOPIC TAGS: laser application, nickel plate, metal coating, spectrographic camera

ABSTRACT: Samples tested were 5-15-40 μ chrome plating on brass and three-layer platings of copper (3-20 μ), nickel (3-25 μ), and chromium (1-6 μ) on steel. Also tested were 0.1-4.5 μ layers of vacuum-deposited aluminum on glass. Spectra were taken on panchromatic film with an ISP-28 spectrograph and single laser flashes of 10 joules on neodymium glass. The spectral line intensity of the coatings was found in all cases to depend on the quantity of substance evaporated by the laser flash. Many of the spectral lines exhibit self-reversal, and such lines often are more sensitive to the concentration of substance in the plasma of the flash. The flash spectrum also depends on the location of the focal point of the laser light with respect to the target surface. With chrome-plated brass the self-reversal of the 327.4 and 324.75 mμ copper lines increases linearly as the thickness of the coating increases. Sensitivity

UDC: 543.42 : 621.378.9

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L [illegible]-66
ACC NR: AP6023366

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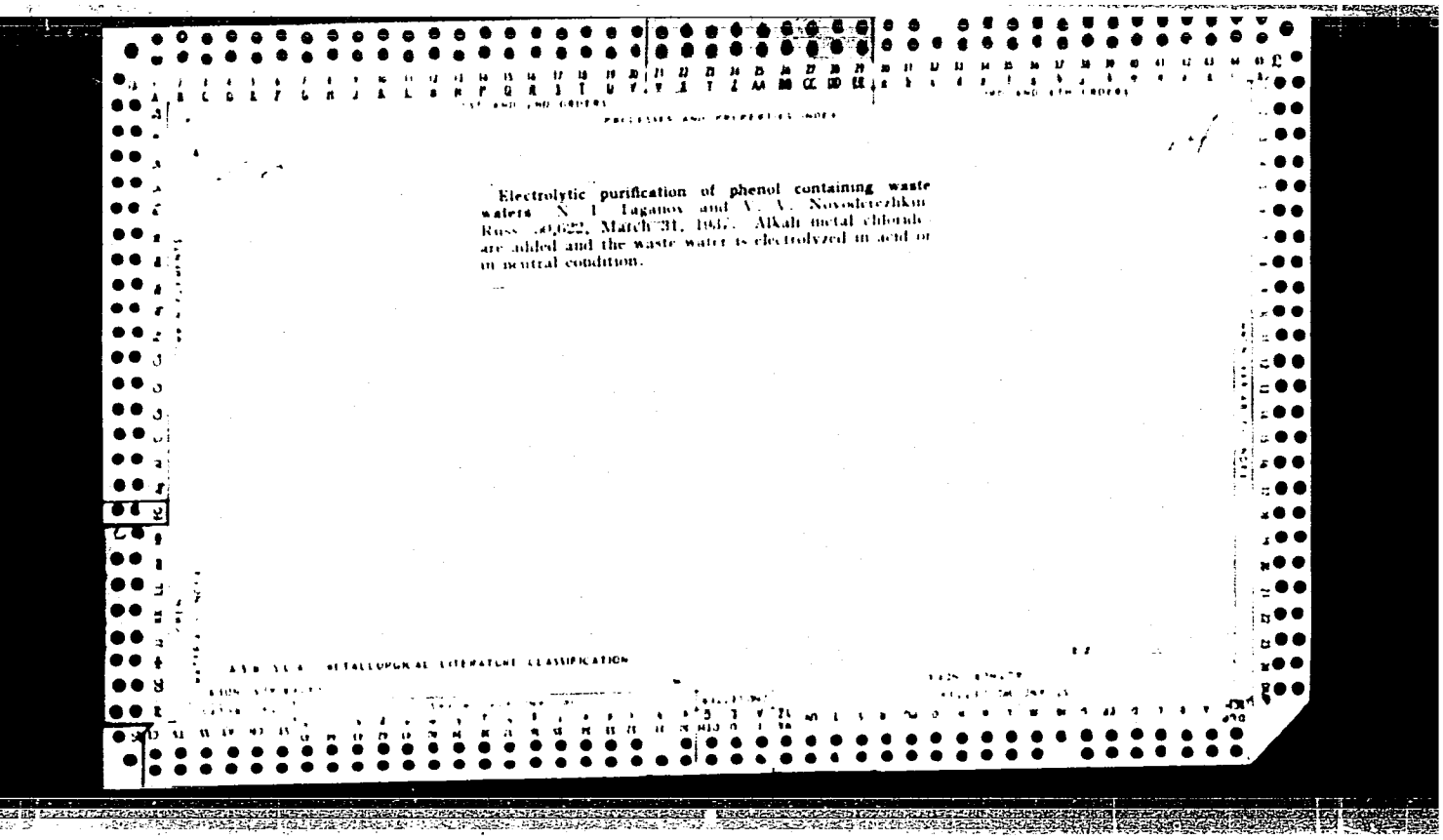
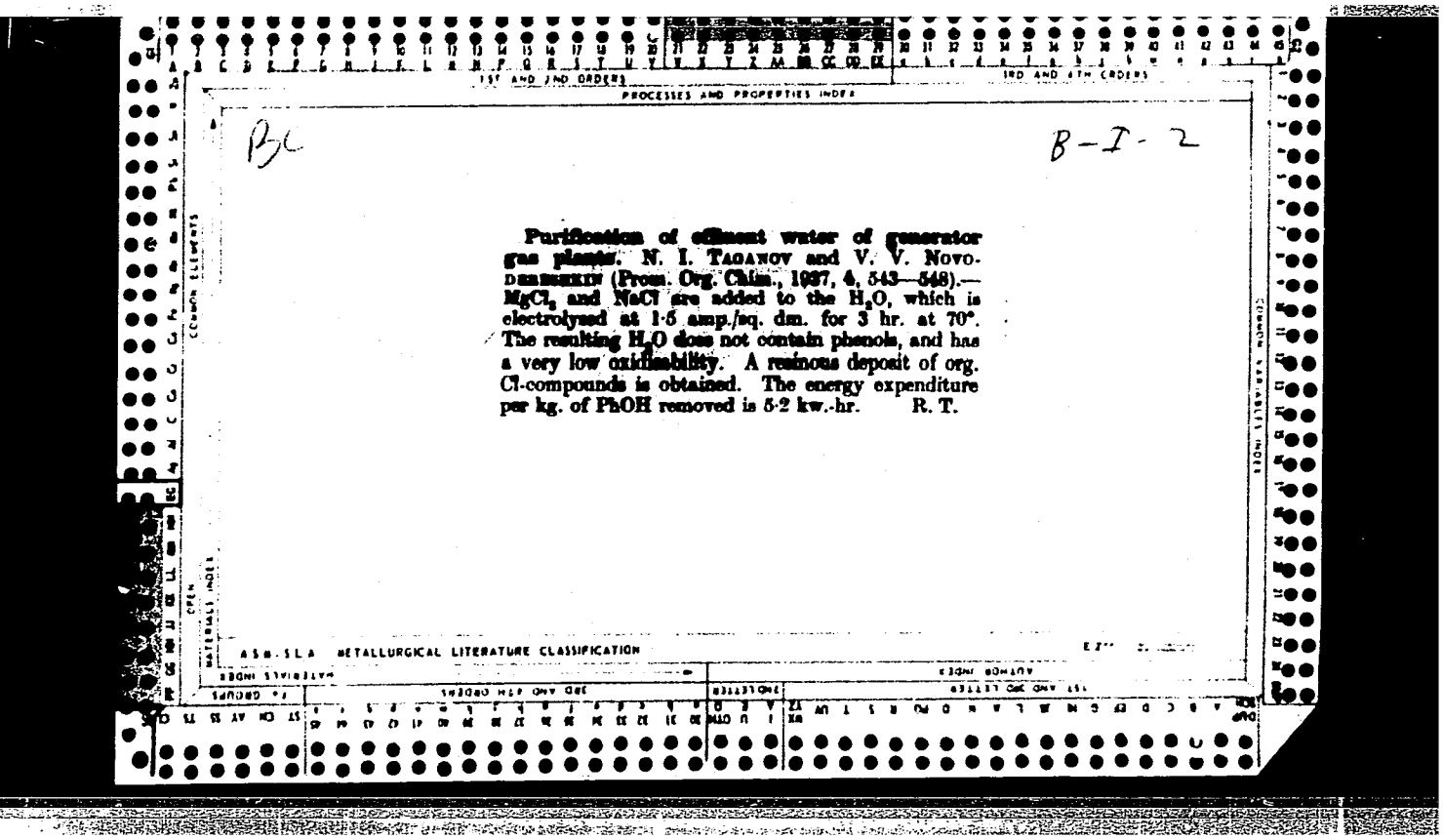
to coating thickness holds when the beam is focused above the sample surface, and decreases when the beam is focused below. Time scans were also made. Spectra of triple layers on steel are also sensitive to layer thickness. The spectrum of the basis shows no effect of coating thickness. The same holds for aluminum on glass. Orig. art. has: 2 figures. [14]

SUB CODE: 20,11/ SUBM DATE: 08Jul65/ ORIG REF: 005/ ATD PRESS: 5056

Card 2/2 mlp



Electrolytic purification of phenol containing waste waters. N. I. Taganov and V. V. Novoseletzhkin. Russ. 140,622, March 31, 1961. Alkali metal chlorids are added and the waste water is electrolyzed in acid or in neutral condition.



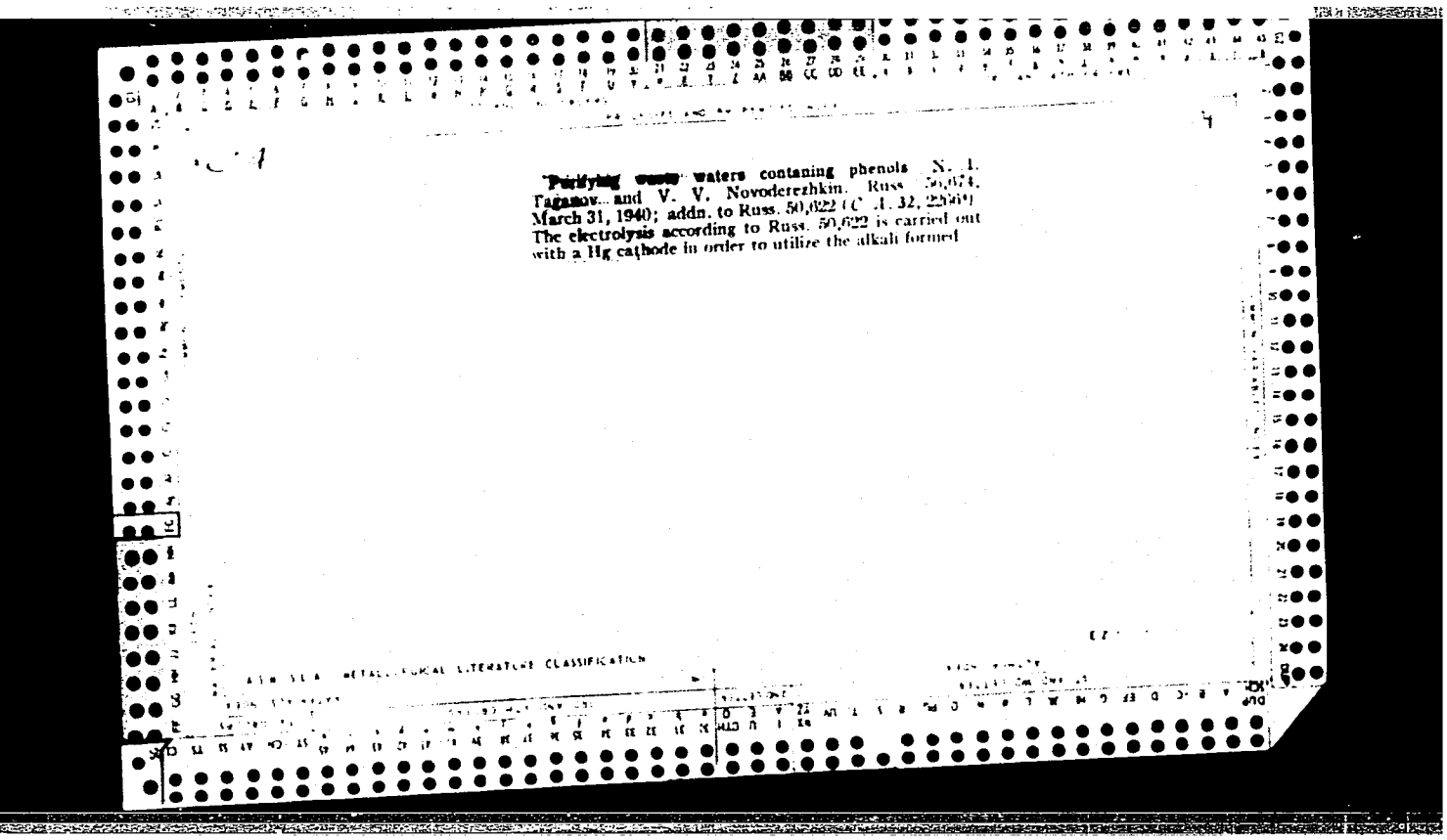
PROCESSES AND PROPERTIES INDEX

BC

B-I-2

Purification of effluent water of generator gas plants. N. I. TAGANOV and V. V. NOVODERESHKIN (Prom. Org. Chim., 1937, 4, 543—548).—$MgCl_2$ and NaCl are added to the H_2O, which is electrolysed at 1·5 amp./sq. dm. for 3 hr. at 70°. The resulting H_2O does not contain phenols, and has a very low oxidisability. A resinous deposit of org. Cl-compounds is obtained. The energy expenditure per kg. of PhOH removed is 5·2 kw.-hr. R. T.

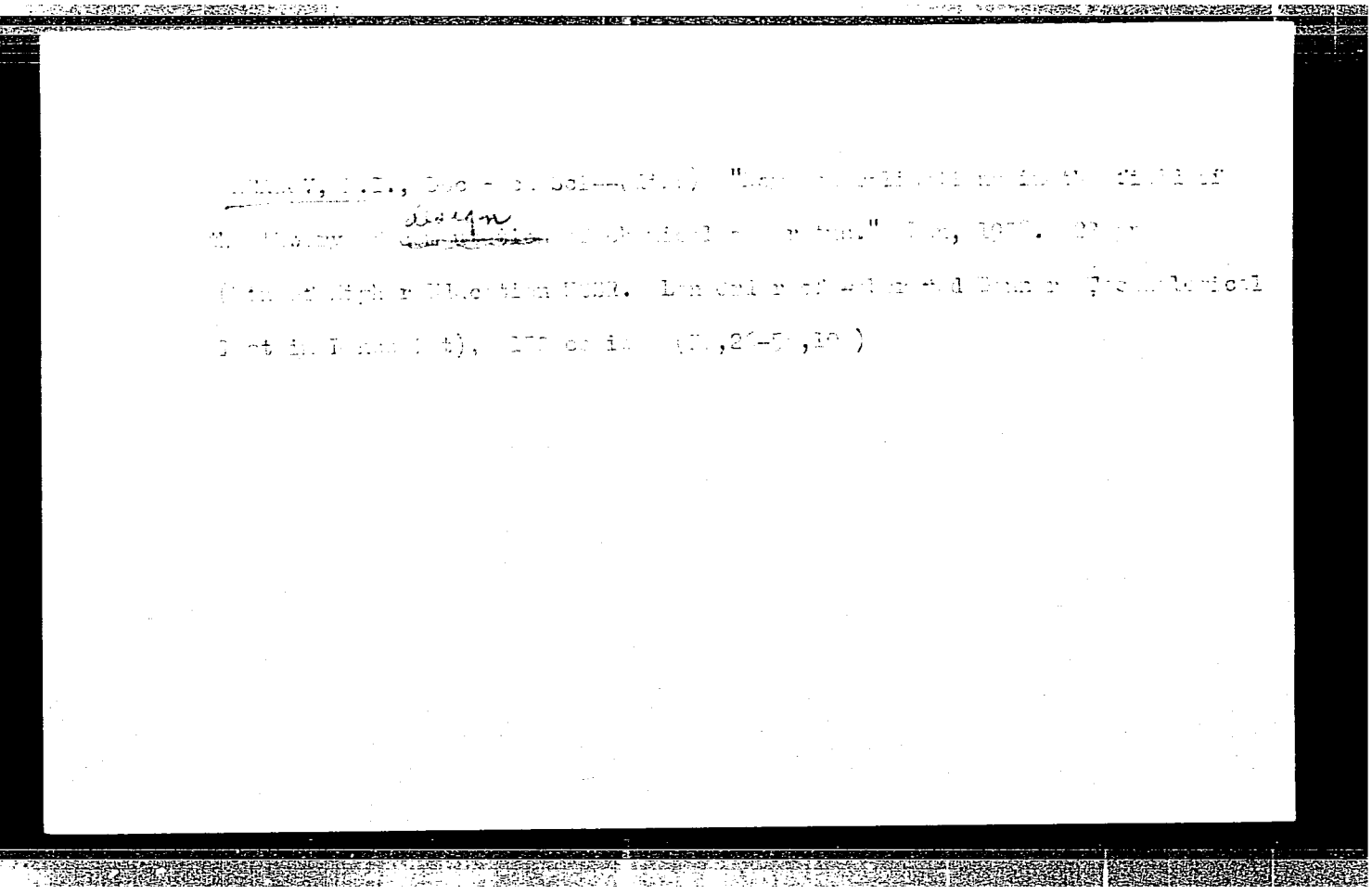
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Purifying waste waters containing phenols. N. I. Tagunov and V. V. Novoderezhkin. Russ. 50,674, March 31, 1940; addn. to Russ. 50,622 (C. A. 32, 2350[9]). The electrolysis according to Russ. 50,622 is carried out with a Hg cathode in order to utilize the alkali formed.

ROMANKOV, P.G.; TAGANOV, N.I.

"Gas cooling in scrubbers". N.N.Egorov. Reviewed by P.G.Romankov, N.I.Taganov. Zhur.prikl.khim. 29 no.2:319-320 F '56. (MLRA 9:6)
(Scrubber (Chemical technology)) (Egorov, N.N.)



AUTHORS: Taganov, N.I., Michalev, M.F., Candidates of Technical Sciences

TITLE: Thrust Forces of Rollers Depending on the Softness and Recovery Properties of Rubber During Their Mastication

PERIODICAL: Khimicheskoye mashinostroeniye, 1959, Nr. 5, pp. 10-11 (USSR)

ABSTRACT: Using the theory of similitude and the dimensional analysis for processing experimental data is the only reliable method of obtaining equations for determining the thrust forces arising in the roller contact areas during the rubber mastication process. Formulas for calculating these thrust forces are given. They are based on the graphoanalytic processing of experimental data and the limits of their applicability are indicated. The experimental investigation was carried out on a laboratory test installation of the Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Institute of Technology imeni Lensovet). The rollers used were 450 mm long and 200 mm in diameter. Factors affecting the magnitude of the thrust forces varied within the following limits: gap - 0.6-2.0 mm; speed - 6.28-18.9 m/min; ratio of the peripheral speeds of the rollers - 1.0-3.0; rubber band width - 150-400 mm; charge 350-1,800 g; initial plasticity of rubbers - 0.06-0.15; duration of

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Thrust Forces of Rollers Depending on the Softness and Recovery Properties of Rubber During Their Mastication

mastication - 7-40 minutes. Under all processing conditions the temperature of the rollers was 45± 5°C, while that of the rubber was 80±5°C. The following rubber grades were used for the experiments: "CKH-40" (SKN-40) (specific gravity 986) and "CKH-26" (SKN-26) (specific gravity 962) butadiene nitryl rubber; "CKC-30 (SKS-30) (specific gravity 944) and "CKC-10" (SKS-10) (specific gravity 912), butadiene-styrol rubber; natural "smoked sheet" rubber (specific gravity 930). For demonstrating the practical use of the equations obtained, the authors compiled in a table the results of calculating the thrust forces of "Пд-2130С" (Pd-2130S) rollers (660 mm diameter; 2130 mm long; 1 mm gap) during the mastication of the aforementioned rubber grades. There are 2 graphs and 1 table.

TAGANOV, I.I.

On the theory of computations of chemical apparatus. Zhur. prikl. khim. 33 no.8:1813-1818 Ag '60. (MIRA 13:9)
(Chemical apparatus) (Chemistry, Physical and theoretical)

TAGANOV, N.I.

Design of chemical apparatus. Zhur.prikl.khim. 34 no.7:1509-1514 Jl '61. (MIRA 14:7)

(Chemical apparatus)

L 8306-66 EWT(m)/EWP(j)/T RPL WW/DJ/RM
ACCESSION NR: AP5026432 SOURCE CODE: UR/0153/65/008/004/0691/0695

AUTHOR: Shchuplyak, I. A.; Taganov, N. I.; Kirillov, V. N.

ORG: Department of Machines and Instruments for the Chemical Industries, Leningrad Technological Institute im. Lensovet (Kafedra mashin i apparatov khimicheskikh proizvodstv, Leningradskiy tekhnologicheskiy institut)

TITLE: Study of the sealing capacity of gaskets from polymeric materials

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 8, no. 4, 1965, 691-695

TOPIC TAGS: hermetic seal, polyvinyl chloride, polyethylene, polytetrafluoroethylene

ABSTRACT: The conditions under which the tightness of flanged joints is achieved by using polymer gaskets were studied experimentally by using a special stand with an oil pump. The investigated materials were polytetrafluoroethylene (VTU M- 172-54), polyethylene VD (VTU MKhP 4138-55), and gasket PVC plasticized resin (VTU MKhP 1535-47). A mathematical treatment of the experimental data yielded an equation expressing the relationship

UDC: 62164-762.42

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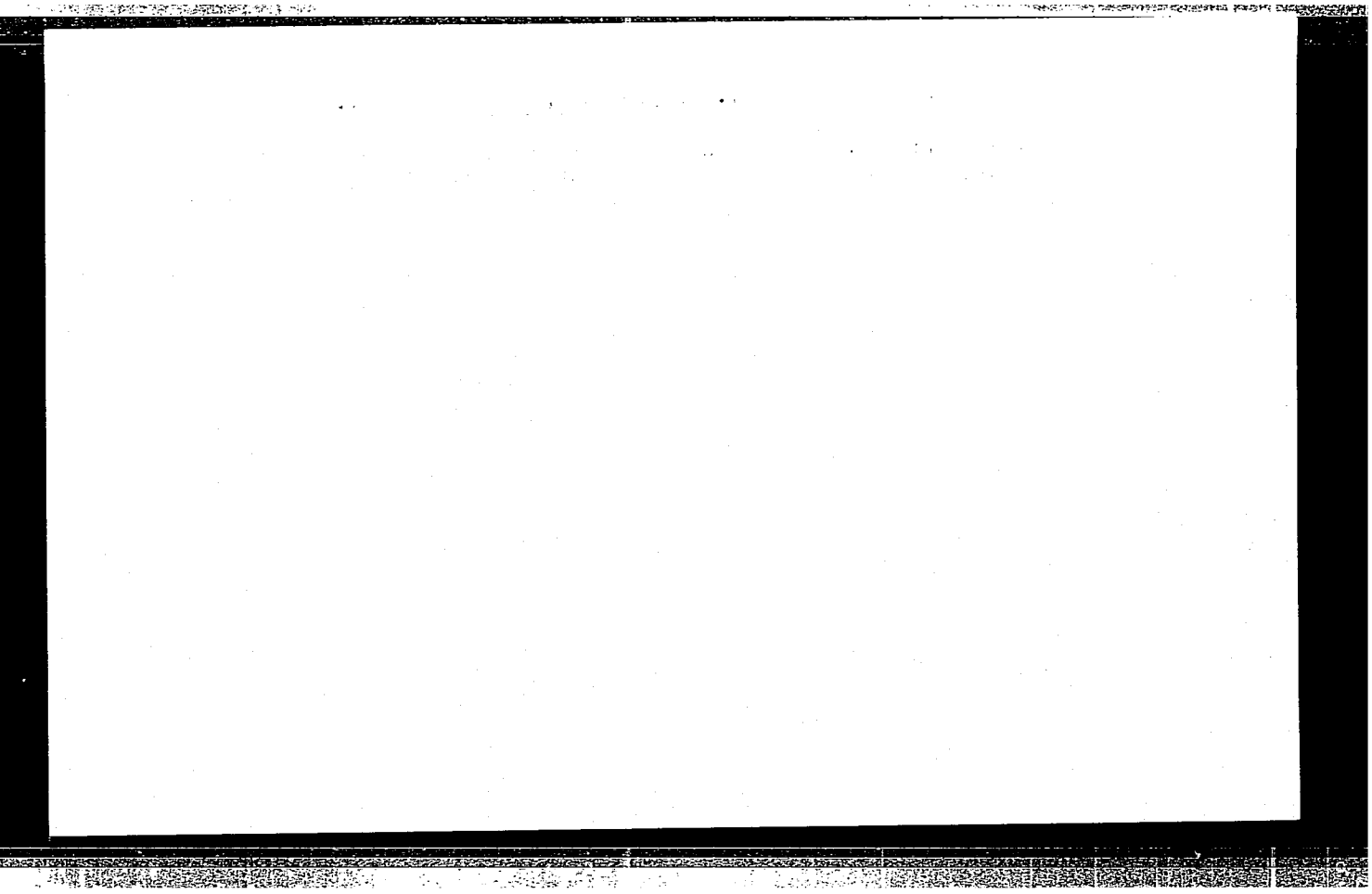
L 8306-66

ACCESSION NR: AP5026432

between the initial compressive stress of the gasket and its dimensions, internal pressure of the medium, and the modulus of compression, taken as the main characteristics of the physicomechanical properties of the gasket material. The equations obtained can be used for practical calculations of this nature. Orig. art. has: 2 figures, 1 table, and 15 formulas.

SUB CODE: 11 / SUBM DATE: 06Jul64 / ORIG REF: 007 / OTH REF: 002

Card 2/2



APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710015-0"

TIMOSHUK, A.S.; TAGANOV, N.I.; KIRILLOV, V.N.

Design of packing glands. Izv.vys.ucheb.zav.; khim. i khim.tekh. 8 no.2:338-342 '65. (MIRA 18:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra mashin i apparatov khimicheskoy promyshlennosti.

SHCHUPLYAK, I.A., inzh.; TAGANOV, N.I., doktor tekhn.nauk, prof.

Calculating the density of flanged joints with polymer packings. Vest.mashinostr. 46 no.1:33-34 Ja '66.
(MIRA 19:1)

[redacted], Anton Samoylovich; TAGANOV, Nikolay Ivanovich; BRAGINSKIY, V.A., red.

[Use of fluoroplast-4 shavings as material for packing glands] Primenenie struzhki ftoroplasta-4 v kachestve nabivok sal'nikovykh uplotnenii. Leningrad, 1955. 14 p. (MIRA 18:10)

[redacted]

[redacted] geographical distribution of epimeroids and ephemeroids in central Asia and in South Kazakhstan. Vest. LGU 20 no.3:58-65 '65.
(MIRA 18:2)

L 03011-67 EWP(d)/EWP(m)/EWP(v)/T/EWP(t) ETI/ETC(k)/EWP(h)/EWP(l)
ACC NR: AP6023435 JD/HM SOURCE CODE: UR/0135/66/000/007/0001/0003

AUTHOR: Baranov, M. S. (Candidate of technical sciences); Afanas'yev, V. N. (Engineer); Voshchinskiy, M. L. (Engineer); Vaynshteyn, R. M. (Engineer); Nedel'chik, E. V. (Engineer); Taganov, Yu. I. (Engineer); Geynrikhs, I. N. (Engineer)

ORG: All-Union Extramural Machine Building Institute (Vsesoyuznyy zaochnyy mashinostroitel'nyy institut)

TITLE: Laser welding of some metals

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 1-3

TOPIC TAGS: laser application, laser welding / SU-1 laser welder, 1Kh18N9T steel, KO steel

ABSTRACT: The results of laser welding of fillet joints of copper and L-62 silver coated brass with 1Kh18N9T steel, KO steel and copper are presented. The SU-1 laser welder (shown in photograph) was used to weld thin wires [$d < 0.1$ mm] attached to semiconductive and microelectronic devices. The unit power input is regulated by adjusting various object lenses with focal distances of 10, 20, 40, and 50 mm. Unit power input is calculated by the formula $g = W^2/tF$ where W^2 is the energy of radiation considering the losses in the optic system in joules; t is the pulse time in sec and F is the focal area in cm^2. The weld penetration and width are proportional to the maximum volt-

UDC: 621.791.72:535.14:669.15-194

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L 03011-67
ACC NR: AP6023435

age of the condenser battery. This relationship is shown in a table for U8A steel where focal distance is 20 mm. Another test was carried out on strips of U8A steel with a thickness of 2.6 mm (surface condition of the 10th class in accordance with GOST 2789-59) in order to determine the relationship between width and penetration of the welds and the defocusing. These tests showed that when Δf = 0.75, the weld penetration was max h = 22 μ. Overlap welding was carried out on copper with L-62 brass, with non-coated brass, 1Kh18N9T stainless steel, KO low-carbon steel and finally on copper wires. Without stripping the insulation [M1] copper wire of d = 0.05 mm was welded to a silver-coated brass rod of d = 0.5 mm. Neither of these specimens showed cracks in the welds. However, microporosity was indicated in some of the specimens. Shear strength tests of the welds were carried out on two types of welds: without stripping the insulation from the copper wire and with bare wire. The first specimens had an average shear strength of 25.3 kg/mm^2 while for the second typepe, a shear strength of 26 kg/mm^2. The small difference makes it feasible to recommend this welding process without stripping the insulation. A comparative test of the laser-welded and brassed joints was made. The latter showed an average strength 13% less than the welded joints. The authors conclude that the laser-welded joints have considerably better mechanical properties than the soldered joints. This is due to the smaller heat-affected zone. Orig. art. has: 6 figures, 1 table.

SUB CODE: 13,20/ SUBM DATE: none

Joining of dissimilar metals

Card 2/2 awm

[redacted], P.S.

"[redacted] Soluble Admixtures on the Crystallization of Aluminum Sulfate in the Coke-Chemical Industry." Cand Tech Sci, Trans Order of Labor Red Banner Polytechnic Inst [redacted] S.M. Kirov, Min Higher Education USSR, Tomsk, 1954. (KL, No 1, Jan 55)

Survey of Sci-Tech and Technical Dissertations Defended at USSR Higher Education Institutions (13)
Sc: Sum. No. 612, 2 Jul 55

TAGANOVICH, D.D.

68-7-8/16

AUTHOR: Taganovich, D.D. (Cand.Tech.Sc.)

TITLE: The Influence of Soluble Admixtures on the Crystallization of Ammonium Sulphate Under Coke Oven Works' Conditions. (Vliyaniye rastvorimykh primesey na kristallizatsiyu sul'fata ammoniya v usloviyakh koksokhimicheskogo proizvodstva).

PERIODICAL: Koks i Khimiya, 1957, Nr 7, pp.31 - 39 (USSR).

ABSTRACT: The work was carried out in order to determine the influence of soluble admixtures on the shape of ammonium sulphate crystals and to study the crystal growth in pure solutions as well as in the presence of aluminium, ferrous and ferric ions. The investigation was carried out using artificial and works' mother liquors. The laboratory apparatus used for the study of crystal growth is described (Fig.3). The method was based on measuring the rate of growth of faces of individual crystals based on the method described by Mokievskiy (Ref.6). It was established that the rate of growth of (110) and (010) faces is the same and under different growth conditions it changes in the same way. Therefore the rate of growth of faces of the pseudohexoganol prism was taken as a mean rate of growth of all the 6 faces measured in three directions as shown in Fig.2. The crystal

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The Influence of Soluble Admixtures on the Crystallization of Ammonium Sulphate Under Coke Oven Works' Conditions.

growth was observed at 40 and 60 C. The dependence of the rate of growth of ammonium sulphate crystals in pure solutions on the degree of saturation is given in Table 1. The influence of the rate of growth of $Al^{...}$, $Fe^{..}$ and $Fe^{...}$ (concentration: 0.005-0.04 g/100 ml) is shown in Figs.4, 5 and 6 respectively and mean results for temperatures 38 and 58.5 C in Figs 7 and 8 respectively. Further increase of the concentration of admixtures from 0.04 to 0.2 g/100 ml was also studied but its influence was insignificant. The influence of the simultaneous presence of two components $Al^{...}$ and $Fe^{..}$ was also studied, but the effect of the presence of the second component was found to be insignificant. It was established that the highest rates of growth take place in pure solutions and that the rate of growth increases with increasing temperature. Admixtures of $Al^{...}$, $Fe^{..}$ and $Fe^{...}$ decrease the rate of crystal growth. $Fe^{...}$ has the highest effect and $Fe^{..}$ the lowest. The presence of the above admixtures causes the formation of needle like crystals. The influence of admixtures on the crystal shape can be quantitatively determined from the rate of growth of