1200 impulses/min-mg) was the starting material for the preparation of the salts to be investigated. The experimentally found solubility of ammonium and potassium fluorozirconates in hydrofluoric acid at 20 C and values of the separation coefficient are shown in a table. The separation coefficient reflects the ratio of the specific activity of Hf^{181} in the saturated solution to the initial specific activity. In the ammonium fluoride salts of zirconium and hafnium a sequence can be established in the solubility of the zirconium and hafnium salts as a function of their composition. The ratio of the solubilities increases on passing from the heptafluorine salts to the pentafluorine salts, as follows:

$$\frac{(NH_4)_3HfF_7}{(NH_4)_3ZrF_7} = 1{,}07, \quad \frac{(NH_4)_2HfF_6}{(NH_4)_2ZrF_6} = 1{,}3 \text{ и } \frac{NH_4HfF_5}{NH_4ZrF_5} = 1{,}6.$$

An increase in the coordination number in fluorine complexes of zirconium and hafnium decreases somewhat the difference in the properties of these compounds in solution. Orig. art. has: 2 tables

SUB CODE: IC/ SUBM DATE: 03May65/ ORIG REF: 001/ OTH REF: 001

BUSLAYEV, Yu.A.; GUSTYAKOVA, M.P.; TAMM, N.S.

Reaction of beryllium fluoride with hydrogen fluoride in the presence of methyl alcohol. Zhur.neorg.khim. 11 no.1:156-159 Ja '66. (MIRA 19:1)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR. Submitted July 25, 1964.

GUSTYR', L.Ya.

Investigating errors of an optical dividing head. Izm.tekh. no.9: 10-12 S '60. (MIRA 13:9)
(Optical instruments--Testing)

KORONKEVICH, V.P.; GUSTYR', L.Ya.

Precision of the measurement of part dimensions by the method of shadow projections. Izm.tekh. no.5:5-9 My '62. (MIRA 15:6)
(Optical measurements)

S/115/63/000/002/001/008
E194/E155

AUTHORS: Koronkevich, V.P., Gustyr', L.Ya., and Razuvayev, A.N.

TITLE: An interference method of measuring thread parts

PERIODICAL: Izmeritel'naya tekhnika, no.2, 1963, 8-14

TEXT: Since the shadow boundaries observed in the microscope do not coincide with the actual profile of the object, special measuring blades are used to reduce errors when making measurements. If the part is curved in the optical axis, and the measuring microscope has a small aperture of illumination parallel to the part outlined, interference bands are observed which can be used in measuring the part sizes by taking the first interference band as a reference line and calculating the distance from this first band to the shadow outline. However, difficulties arise in using interference bands in this way mainly because the distance to the first interference band depends on the focus of the microscope and on the aperture of the light beam. The present article assesses the influence of these factors. A solution has already been published for transparent objects and large apertures (D.S. Rozhdestvenskiy, Trudy GOI, v.14, 1941, 112-120).

An interference method of ... S/115/63/000/002/001/008
E194/E155

Calculations are first made of the positions of interference bands at the edges of a cylinder, assuming a parallel light beam in the optical axis. The following formulas are derived:

$$\delta = \sqrt{\left(r \cos \frac{u}{2} + y\right)^2 + \left(r + x - r \sin \frac{u}{2}\right)^2} \times (1 + \cos u), \quad (2a)$$

$$x = - r \cos \frac{u}{2} \tan u - r + r \sin \frac{u}{2} - y \tan u \quad (3)$$

where: δ - difference between the distances travelled by the direct and reflected (interfering) beams beyond the point of reflection; u - the half-angle of reflection; x - the abscissus of the interference pattern; y - its ordinate. The position of the first interference band is found by putting δ = one half-wavelength and $y = 0$. Then a table can be drawn up relating the distance to the first interference band in microns to the cylinder diameter in millimetres. Various errors are then analyzed. Quite a small error in focussing the microscope has a considerable

Card 2/4

influence on the result and the development of a simple and convenient method of focussing is a prerequisite to the application of interference bands in the measurement of parts. A small angle between the incident beam and the optical axis is shown to be relatively unimportant. The formulas assume a point source, but in fact the microscope always has an appreciable aperture. Up to a certain point increasing the microscope aperture only affects the outer bands; however, above a certain critical aperture, given by the expression

$$d = \frac{f\lambda \cos u}{2 \; r \cos \frac{u}{2} + y \; \sin u} \qquad (11)$$

the interference bands near the object lose their contrast. For example in examining an object of 100 mm diameter, the critical diaphragm of a microscope type УИМ-21 (UIM-21) is 4 mm, and with an aperture of 8 mm no interference bands are observed. The radius of curvature of a screw surface R is given by

$$R = \frac{d_{cp}}{2 \sin \frac{\alpha}{2}} \qquad (12)$$

where: d_{cp} - mean diameter; α - thread profile angle. Tables may then be drawn up for the correction in microns to be applied for threads of various mean diameters and profile angles. In an experimental check of the theory, to obtain precise focus, a cylindrical gauge of known diameter was measured by the recommended procedure and it was taken that if there was no error the focus was correct. Standard threads of various mean diameters and profile angles were then checked by measurements with blades or by the three-wire method using the same microscope; divergences did not exceed 2 microns. It is concluded that, provided precautions are taken to ensure accurate focussing, the interference method of measuring screw threads has advantages over the usual blade or wire contact methods.
There are 5 figures and 3 tables.

Card 4/4

GUSTYREV, V.F.

Duration of immunity in subjects vaccinated with live influenza vaccine. Vop.virus. 4 no.2:157-61 Mr-Ap '59. (MIRA 12:6)

1. Kafedra epidemiologii Dnepropetrovskogo meditsinskogo instituta.

(INFLUENZA, immunol.
vacc., duration of immun. after vacc. with live vaccine (Rus))

GUSTAREV, V. F., Cand Med Sci — (diss) "Duration of postvaccination immunity in persons vaccinated with the live anti-influenza vaccine," Dnepropetrovsk, 1960, 15 pp (Dnepropetrovsk State Medical Institute) (KL, 40-60, 123)

GUSULEAC, M.

Contributions to the morphoecologic study of the flower of Borago officinalis L. and some phylogenetic considerations. Studii cerc biol veget 11 no.3:273-280 '59. (EEAI 10:3)
(Boraginaceae) (Flowers) (Ecology) (Phylogeny)

HERMAN, G., assist. prof.; GUSULEAC, M., prof.; BALOESCU, C.

Observations on some cases of floral irregularities in Digitalis purpurea Linne. Rumanian M Rev. no.3:88-90 Jl-S '60.
(DIGITALIS)

GUSULEAC, M.

The ecologic morphology of the flower of Borago officinalis and phylogenetic considerations on it. Rev biol 5 no.3:169-175 '60.
(EEAI 10:4)

(BORAGO OFFICINALIS)
(FLOWERS)
(ECOLOGY)
(PHYLOGENY)

YURZHENKO, A. I.; GUSYAKOV, V. P.

Emulsions

Effect of the concentration and nature of an emulsifier on the degree of dispersion of latexes. Dokl. AN SSSR, no. 1, 1952.

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

YURZHENKO, A.I., professor; GUSYAKOV, V.P., assistent.

Study of dispersion of synthetic latexes in relation to the nature and concentration of the emulsifier and the monomer. Dop.ta pov.L'viv.un. no.3 pt.2:36-37 '52. (MLRA 9:11)

(Latex)

USSR/Chemistry - Synthetic Elastomers Mar/Apr 52

"Investigation of Dispersion Capacity of Synthetic Latexes on the Basis of Their Light Dispersion,"
A. I. Yurzhenko, V. P. Gusyakov, Lab of Phys and Colloid Chem, L'vov Med Inst

"Kolloid Zhur" Vol XIV, No 2, pp 140-147

Studied light dispersion in synthetic latexes of polyentadiene in various concns, and depending on the method of their prepn. If the concn of polymer is increased, the light dispersion goes toward a max, because of absorption of dispersed

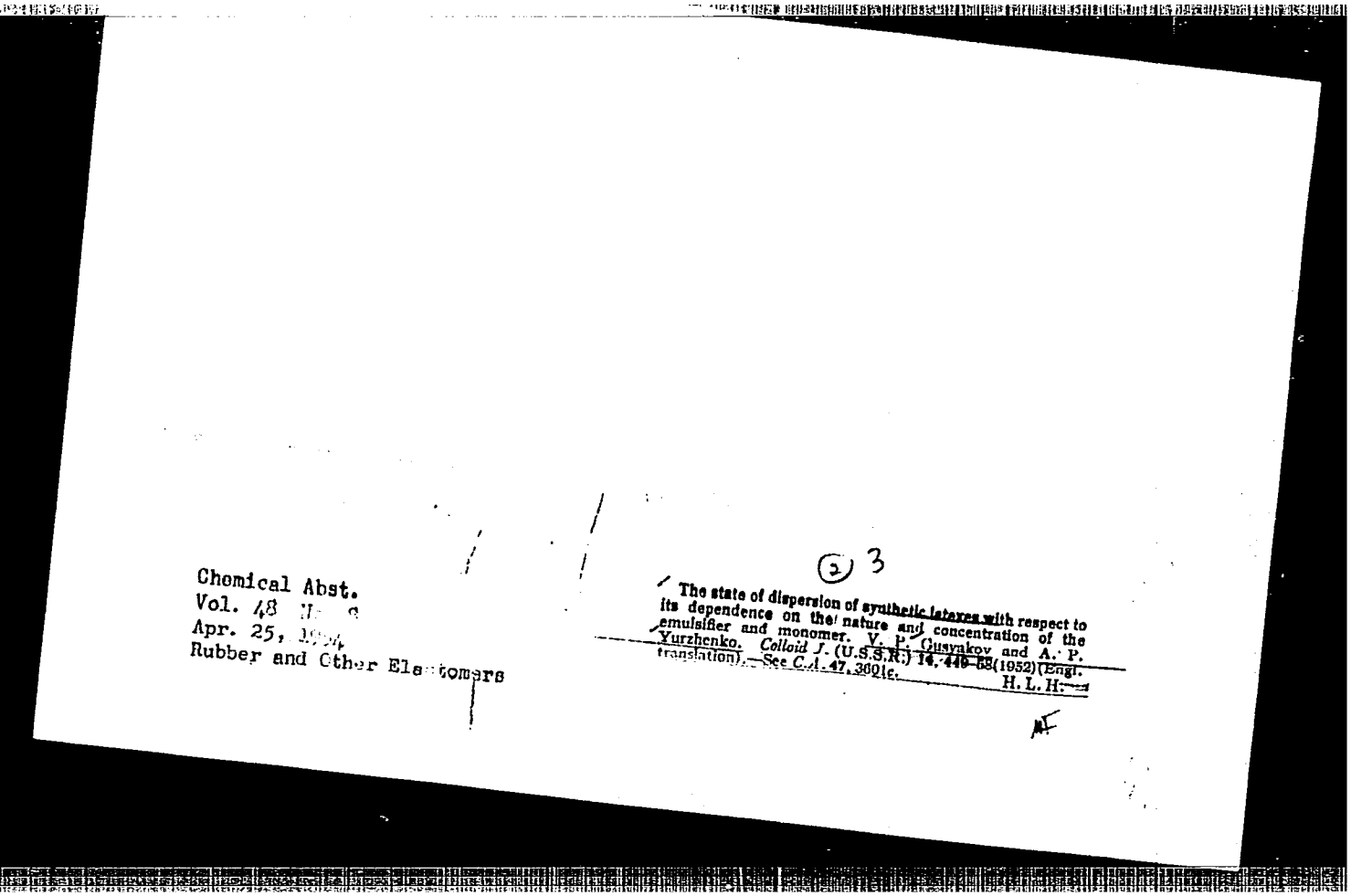
216T16

216T16

light in the latex. In polymer concns below 1-10^{-3}% the relation between turbidity and concn is linear. The increase of the radius of the polymer particles in this concn range, according to the Rayleigh eq, gave results close to those obtained by the ultramicroscope, but shifting to lower values. The Debye eq gave analogous results. If the deg of polymerization is increased, the latex particles grow. Accumulation of polymer in the aq phase of the emulsion generally increases the vol of the polymer particles, but not their number.

216T16

GUSYAKOV, V. P.



Chemical Abst.
Vol. 48 [illegible]
Apr. 25, 1954
Rubber and Other Elastomers

(2) 3

The state of dispersion of synthetic latexes with respect to its dependence on the nature and concentration of the emulsifier and monomer. V. P. Gusyakov and A. P. Yurzhenko. *Colloid J.* (U.S.S.R.) 14, 449-53(1952)(Engl. translation). See *C.A.* 47, 3091c. H. L. H.

AF

GUSYAKOV, V. P.

PA 234T24

USSR/Chemistry - Rubber, Rubber Emulsifiers 1 Sep 52

"The Effect of Concentration and Type of Emulsifier on the Dispersion of Latexes," A. I. Yurzhenko, V. P. Gusyakov, L'vov State U imeni Iv. Franko

"Dok Ak Nauk SSSR" Vol 86, No 1, pp 129-131

Styrene and isoprene latexes were prepd in the laboratory and tested with the following emulsifiers: Na salt of dibutylbenzenesulfonic acid (DBBSK), Na salt of eicosylbenzenesulfonic acid (sulfanol), Na salt of dibutyl-alpha-naphthalenesulfonic acid (nekal) and sodium oleate. Decreasing the concn of emulsifier in the latex increases the size of the particles. This is true for all emulsifiers. When the concn of the emulsifier is over the crit concn, the dispersion of the latex is detd by the dispersion of the emulsifier. At the crit concn, high dispersion latexes form with those emulsifiers whose crit concns are lowest (sulfanol). What happens below the crit concn is still being investigated. Presented by Acad P. A. Rebinder 23 Jun 52.

234T24

GUSYAKOV, V.P. --

Investigating the Dispersity of Synthetic Latexes in Relation to the Conditions of Their Formation." Cand Chem Sci, L'vov State U, L'vov, 1953. (RZhKhim, No 20, Oct 54)

Survey of Scientific and Techinal Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum No. 481, 5 May 55

Gusyakov, V.P.

Effect of the electrolytes of the aqueous phase of styrene emulsions on the dispersity of the resulting latexes. A. Yuttsenko and V. P. Gusyakov (Med. Inst., Ivanovo). *Kolloid. Zhur.* 16, 71–8 (1954); cf. *C.A.* 48, 3001*i*.—The particle radius *r* of polystyrene (I) emulsions, produced by polymerization in the presence of 0.5% Na dibutyl-1-naphthalenesulfonate (II), decreased on increasing pH when $K_2S_2O_8$ or $Me_2PhCOOH$ was the initiator, and increased with pH when $(BzO)_2$ was used as the initiator. E.g., at 40° and 0.18% $K_2S_2O_8$, *r* was 53, 39, and 43 mμ when pH was 1.3, 3.4, and 10.6, resp., and at 45° and 0.02 *M* $(BzO)_2$ *r* was 39, 41, and 46 mμ at pH 1.3, 6.8, and 11.6; the pH was adjusted with Na_2CO_3, NaOH, or H_2SO_4, and *r* was calcd. from the turbidity. The final no. of the latex particles cannot be greater than that of the emulsifier micelles; as the micelles of II are greater, the greater is the pH (they contain 56, 80, and 97 mol. % II at pH 1.8, 6.6, and 12.0, resp.), fewer particles are present in alk. solns., and their *r* (at the const. total concn.) is greater. This is the case of $(BzO)_2$. In the instance of water-sol. initiators, the no. of active radicals of the initiator is greater in alk. solns.; therefore, in acid solns. not all micelles act as nuclei for polymerization, and the resulting *r* is greater at smaller pH. Small addns. of KCl or Na_2SO_4 (up to 0.05 *N*) lowered, and larger addns. raised, *r* because small addns. increased, and large ones decreased, the no. of micelles of II. KCl had no effect on *r* of I emulsions after preppn. The mol. wt. (from viscosity) of I was greater (93,000–310,000) when the polymerization took place at pH 11 than at pH 1.25 (41,000–85,000).

J. J. Bikerman

GUSYAKOV, V. N.

USSR.

Effect of the electrolyte of the aqueous phase of styrene emulsions on the dispersity of the resulting latexes. A. I. Yurzhenko and V. P. Gusyakov. *Colloid J. U.S.S.R.* 16, 85-9(1954)(English translation).—See C.A. 48, 5786f.

H. L. H.

Gusyakov V. P.

3481. Effect of the concentration and nature of the emulsifier on the state of dispersion in latex. A. I. YURZHENKO and V. P. GUSYAKOV. Rubb. Chem. Technol., 1954, 27, 458-72. Cf. this journal, 1951, abs. 2442. A translation of this paper now appears.

232D33

GUSYAKOV, V.P. [Husiakov, V.P.]; YURZHENKO, A.I. [IUrzhenko, O.I.]

Effect of saturated aliphatic alcohols on the scattering light by protein solutions and on their viscosity. Nauk.zap.L'viv.un. 46:34-42 '58. (MIRA 12:7)
(Alcohols) (Viscosity) (Proteins--Optical properties)

GUSYAKOV, V.P., dotsent, kand.khim.nauk

Influence of inorganic salts on the solubility of caffeine, theophylline, and theobromine. Apt.delo 8 no.5:30-33 S-O '59. (MIRA 13:1)

1. Iz kafedry neorganicheskoy khimii L'vovskogo meditsinskogo instituta.

(SALTS) (PURINES)

GUSYAKOV, V.P. [Husiakov, V.P.]; SUKMANSKAYA, I.V. [Sukmans'ka, I.V.]

Study of influence of the nature of the solubilizer on its dissolving action. Dissolving action of the sodium salts of benzoic, orthooxybenzoic, and paraaminosalicyclic acids. Farmatsev. zhur. 15 no.1: 20-23 '60. (MIRA 14:5)

1. Kafedra neorganicheskoy khimii L'vovskogo meditsinskogo instituta.
(BENZOIC ACID) (SALICYLIC ACID)

GUSYAKOV, V.P. [Husyakov, V.P.]; SUKMAKSKAYA, I.V. [Sukmans'ka, I.V.]

Study of the influence of the molecular structure of hydrotropic material on its dissolving action. Report No. 2: Dissolving action of the sodium salts of isomeric oxybenzoic acids. Farmatsev. zhur. 16 no. 2:25-28 '61. (MIRA 14:4)

1. Kafedra neorganichnoy khimii L'vovskogo meditsinskogo instituta. (BENZOIC ACID)

GUSYAKOV, V.P. [Husiakov, V.P.]; BRAZHNIKOVA, O.P.

Study of the sulubility of medicinal substances. Part 4: Influence of the nature of an inorganic cation on the solubility of benzoic acid and caffeine. Farmatsev. zhur. 16 no.3:28-30 '61. (MIRA 14:6)

1. Kafedra neorganicheskoy khimii L'vovskogo meditsinskogo instituta.

(BENZOIC ACID) (CAFFEINE) (CATIONS)

BRAZHNIKOVA, O.P. [Brazhnykova, O.P.]; GRUZYAKOV, V.T. [Hruziakov, V.T.]

Investigating the solubility of medicinal substances. Report No.5: Effect of the nature of sulfur-containing anions on the solubility of caffeine and benzoic acid. Farmatsev. zhur. 18 no.2:37-42 '63. (MIRA 17:10)

1. Kafedra neorganicheskoy khimii Lvovskogo meditsinskogo instituta.

GUSYAKOV, V.P.; BRAZHNIKOVA, O.P.

Effect of potassium halides and thiocyanates on the solubility of benzoic acid and its derivatives. Ukr.khim.zhur. 29 no.1:31-34 '63. (MIRA 16:5)

1. L'vovskiy meditsinskiy institut.
(Benzoic acid) (Potassium halides) (Potassium thiocyanate)

LIKHOLET, N.M. [Lykhol'et, N.M.]; GUSYAKOV, V.P. [Husiakov, V.P.]

Studies on the solubility of sulfanilamide preparations. Report No.3: Effect of some organic acids on the solubility of streptocide. Farmatsev.zhur. 19 no.1:52-55 '64. (MIRA 18:5)

1. Kafedra neorganicheskoy khimii L'vovskogo meditsinskogo instituta.

GUSYAKOV, V.. [Husiakov, V.I.]; [illegible]

Preparation and properties of ethyl ester of oleic acid. Farmatsev. zhur. 17 no.3:20-24 '62. (IRA 17:10)

1. Kafedra obshchey khimii L'vovskogo meditsinskogo instituta.

MOCHENOV, I.G., inzh.; GUSYATIN, P.M., inzh.

Automatic voltage regulation at substations. Elek. i tepl. tiaga no.1:44-46 Ja '61. (MIRA 14:3)
(Electric railroads—Substations)

TIKHOMIROV, Vyacheslav Aleksandrovich; GUSYATIN, P.M., inzh., retsenzent; BELYAYEV, I.A., inzh., red.; USENKO, L.A., tekhn. red.

[Spatial-rhombic suspension of a contact network] Prostranstvenno-rombicheskaia kontaktnaia podveska. Moskva, Transzheldorizdat, 1962. 105 p. (MIRA 15:12)
(Electric railroads--Wires and wiring)

GUSYATINER, B.S.

Some restrictions in the synthesis of flat link mechanisms with no degree of freedom. Trudy Inst.mash. Sem. po teor.mash. 21 no.81/82: 12-15 '60. (MIRA 13:11)

(Links and link motion)

GUSYATINER, B.S.; LOBANOVSKIY, M.G., inzh., retsenzent; OTDEL'NOV, P.V., inzh., red. izd-va; MEL'NICHENKO, F.P., tekhn.red.

[Automatic lifting limiters for jib cranes] Avtomaticheskie ogranichiteli gruzopod"emnosti strelovykh kranov. Moskva, Mashgiz, 1963. 101 p. (MIRA 16:7)
(Cranes, derricks, etc.--Safety appliances)

POGODAYEV, K.I.; SAVCHENKO, Z.I.; GUSYATINSKAYA, M.I.

Biochemical bases of clonic spasms. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 5:250-256 '60. (MIRA 13:10)

1. Iz kabineta biokhimii mozga (zav. - K.I. Pogodayev) instituta vysshey nervnoy deyatel'nosti.
(ELECTRICITY—PHYSIOLOGICAL EFFECT) (SPASMS) (METABOLISM)

OVSYANNIKOV, F.V.; BORODULIN, F.R., professor, redaktor; KUZ'MIN, M.K.; MAKAROV, Yu.T. [translator] (deceased); GUSYATINSKAYA, V.S., kandidat filologicheskikh nauk [translator] ZASUKHIN, D.N., doktor biologicheskikh nauk, redaktor; KONDRAT'YEV, S.P., professor, redaktor; GLUKHOVTSOVA, G.A., tekhnicheskiy redaktor.

[Selected works] Izbrannye proizvedeniia. Moskva, Gos.izd-vo med. lit-ry, 1955. 398 p. (MLRA 8:10)
(BIOLOGY)

GUSYATINSKIY, A.I., redaktor

[A collection of summaries of research work carried out by the Academy during 1955] Sbornik annotatsii nauchnykh rabot Akademii, vypolnennykh v 1955 godu. Moskva, 1956. 34 p. (MLRA 9:10)

1. Akademiya kommunal'nogo khozyaystva, Moscow.
(Municipal services)

KOZHINOV, V.F., kand.tekhn.nauk, red.; ZASOV, I.A., kand.tekhn.nauk, red.; GUSYATINSKIY, A.I., red.; POLKOVSKIY, M.A., red.; KHRISTENKO, V.P., red.izd-va; VOLKOV, S.V., tekhn.red.

[New engineering equipment for municipal services] Novaia tekhnika v gorodskom khoziaistve. Moskva, Izd-vo M-va kommun. khoz.RSFSR, 1957. 215 p. (MIRA 11:1)

1. Akademiya kommunalnogo khozyaystva, Moscow.
(Municipal engineering--Equipment and supplies)

GUSYATINSKIY, Igor A.

"Distortion of Signal in Tropospheric Scatter Propagation."

paper presented at the Conference on Propagation of Very Short Waves in Prague (Liblice) 10-12 November 1959.

SOV/106-59-4-1/13

AUTHOR: Gusyatinskiy, I.A.

TITLE: Bandwidth and Power of Transient Interference in Radio-communication by Tropospheric Scatter (Shirina polosy i moshchnost' perekhodnykh pomekh pri radiosvyazi rasseyaniyem v troposfere)

PERIODICAL: Elektrosvyaz', 1959, Nr 4, pp 3 - 12 (USSR)

ABSTRACT: With tropospheric scattering of u.h.f. transmission, a large number of signal components, dispersed by the different irregularities of the dielectric constant of the air, arrive at the receiver. The phase relations between the separate signal components differ for different frequencies and. consequently, the amplitude of the total signal varies in a random manner with change of frequency, leading to amplitude distortion of the transmitted signal. With a single sideband, multi-channel, radio-telephony system, non-linear amplitude distortions are produced in the different channels. The article consists of a theoretical investigation of the distortions of the amplitude spectrum and the power of the transient interference. The formulae obtained can be used in the design of radio-communication links using tropospheric scattering.

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SOV/106-59-4-1/13

Bandwidth and Power of Transient Interference in Radio-communication by Tropospheric Scatter

Candidate of Technical Sciences S.V. Borodich helped the author in this work.
There are 5 figures and 7 references, 2 of which are English, 1 German and 4 Soviet.

SUBMITTED: June 5, 1958

Card 2/2

GUSYATINSKIY, I. A., Cand Tech Sci -- (diss) "Theoretical research into fluctuation and distortion of signal in distant tropospheric propagation of ultra-short waves." Moscow, 1960. 10 pp; (Ministry of Communications USSR, Moscow Electrical Engineering Inst of Communications); 150 copies; price not given; printed on duplicating machine; (KL, 17-60, 153)

28045

S/106/61/000/009/003/008
A055/A127

9,9300
6.6000

AUTHOR: Gusyatinskiy, I. A.

TITLE: Distortions in tropospheric transmission of television using frequency modulation.

PERIODICAL: Elektrosvyaz', no. 9, 1961, 15 - 21

TEXT: This article is a theoretical analysis of the distortion occurring in tropospheric television transmissions. This problem has not yet been treated in literature. The analysis applies to the FM case. The frequency variation at the receiver input is determined in the case of the transmitter frequency varying according to the trapezoidal law. When the transmitter frequency varies according to an arbitrary law:

$$\omega = f(t) \tag{1}$$

signals from different scatterers reach the reception point with different delays. If the delay for a certain point of scattering medium is equal to τ, then, at the moment t, this point reradiates the signal with frequency

$$\omega = f(t - \tau) \tag{2}$$

Card 1/10

The dependence of the signal amplitude on the delay can be expressed by the following random function:

$$U^2 = \phi(\tau) \quad . \tag{3}$$

Averaging gives the following regular dependence:

$$\bar{U}^2 = \bar{\phi}(\tau) \quad . \tag{4}$$

A more explicit form can be given to the relation between the amplitude and the frequency of the individual elementary signals by writing:

$$\tau = -\varphi(\omega) + t \tag{5}$$

and substituting then (5) in (4). We obtain:

$$\bar{U}^2 = \bar{\phi}[-\varphi(\omega) + t] \quad . \tag{6}$$

Expression (6) determines the spectrum of the square amplitude of the total signal at reception in the moment t. This total signal can be characterized by a certain instantaneous frequency (random frequency) whose average value can, under

Distortions in tropospheric transmission ....

certain assumptions, be determined as:

$$\omega_I = \frac{1}{\sigma^2} \int_0^\infty \omega \Phi(\omega)\, d\omega, \tag{7}$$

where $\Phi(\omega)$ is the energy spectrum of the random (and stationary) process representing an oscillation with random amplitude and phase, the signal phase time-derivative being the instantaneous frequency; on the other hand:

$$\sigma^2 = \int_0^\infty \Phi(\omega)\, d\omega. \tag{8}$$

The probability distribution law for the frequency deviation from the average value is:

$$W(\Delta\omega) = \frac{1}{\sqrt{1 + \left(\frac{\delta\omega}{\Delta\omega}\right)^2}} \tag{9}$$

where

$$\delta\omega^2 = \omega_{II}^2 - \omega_I^2 \tag{10}$$

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Distortions in tropospheric transmission ....

and $$\omega_{\Pi}^2 = \frac{1}{\delta^2} \int_0^{\infty} \omega^2 \Phi(\omega)\, d\omega \ . \qquad (11)$$

After this general analysis, the author examines the distortion of a signal of a determined (trapezoidal) shape, this shape having been recommended by the IRCC for testing the television-transmission path. The build-up time of the signal front is

$$\tau_0 = \frac{1}{2F}, \qquad (12)$$

F being the upper limit frequency of the picture signal spectrum. Approximating the antenna radiation pattern by a Gaussian curve, assuming that the elementary signals delay is essentially determined by the altitude of the corresponding scatterers and that it is linearly dependent on this altitude, assuming also that the delay of the signal passing through the intersection point of the pattern axes is equal to zero, the author finds that formula (4) takes here the following form:

$$U^2 = e^{-\frac{\tau_0^2 C^2 R^2}{0.005 a_0^2 d^2}} \qquad (13)$$

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Distortions in tropospheric transmission ....

where α_0 is the radiation pattern width (half-power angle), d is the length of the path, c is the propagation velocity of electromagnetic energy, and R is the effective radius of the Earth. Letus state that, when the test signal is applied to the input of an ideal frequency modulator, ω_0 is the center frequency and $\pm\,\omega_{dev}$ is the frequency deviation (Figure 1). The variation law of the transmitter frequency will then be determined by the following expressions:

$$\left.\begin{aligned} \omega &= \omega_0 - \omega_{dev} \quad \text{at } t < -\frac{\tau_0}{2} \\ \omega &= \omega_0 + \frac{2\omega_{dev}}{\tau_0} t \quad \text{at } -\frac{\tau_0}{2} < t < \frac{\tau_0}{2} \\ \omega &= \omega + \omega_{dev} \quad \text{at } t > \frac{\tau_0}{2} \end{aligned}\right\} \qquad (14)$$

Therefore, and according to (2), the nonhomogeneity for which the delay is equal to τ reradiates, at the moment t, the signal with frequency:

$$\left.\omega = \omega_0 - \omega_{dev} \quad \text{at } t - \tau < -\frac{\tau_0}{2}\right\}$$

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$$\left.\begin{aligned} \omega &= \omega_0 + \frac{2\omega_{dev}}{\tau_0}(t-\tau) \quad \text{at} \quad -\frac{\tau_0}{2} < t-\tau < \frac{\tau_0}{2} \\ \omega &= \omega_0 + \omega_{dev} \quad \text{at} \quad t-\tau > \frac{\tau_0}{2}. \end{aligned}\right\} \tag{15}$$

We are interested only in the deviation of the total signal frequency (at reception) from the center frequency ω_0. Therefore, we shall consider that $\omega_0 = 0$ and that the transmitter frequency varies from $-\omega_{dev}$ to $+\omega_{dev}$ when the test signal is applied. Under these conditions, we have:

$$\tau = \frac{\omega}{2\omega_{dev}}\tau_0 + t \quad \text{at} \quad -\frac{\tau_0}{2} + t < \tau < \frac{\tau_0}{2} + t. \tag{16}$$

Substitution of (16) in (13) gives the signal spectrum at the moment t:

$$\bar{U}^2 = e^{-\frac{(\omega-b)^2}{2p^2}} \quad \text{at} \quad -\omega_{dev} < \omega < \omega_{dev} \tag{17}$$

where $$b = 2\frac{t}{\tau_0}\omega_{dev} \tag{18}$$

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and $$p = 0{,}3\,\frac{\omega_{dev}}{\tau_0}\,\frac{\alpha_0 d^2}{cR}\,. \qquad (19).$$

At $\omega < -\omega_{dev}$ in (17), we must evidently suppose that:

$$\omega \equiv -\omega_{dev} \qquad (20)$$

and at $\omega > \omega_{dev}$ $$\omega \equiv \omega_{dev}. \qquad (21)$$

According to (8), we find:

$$\delta^2 = \int_{-\infty}^{+\infty} e^{-\frac{(\omega-b)^2}{2p^2}}\,d\omega = \sqrt{2\pi p}. \qquad (22)$$

Then, substituting (17), (20) and (21) in (7) and taking (22) into account, we find the average frequency of the total signal at the moment t:

$$\omega_f(t) = \frac{1}{\sqrt{2\pi p}}\left[-\omega_{dev}\int_{-\infty}^{-\omega_{dev}} e^{-\frac{(\omega-b)^2}{2p^2}}\,d\omega + \int_{-\omega_{dev}}^{\omega_{dev}} \omega\, e^{-\frac{(\omega-b)^2}{2p^2}}\,d\omega + \right.$$
$$\left. + \omega_{dev}\int_{\omega_{dev}}^{\infty} e^{-\frac{(\omega-b)^2}{2p^2}}\,d\omega\right]. \qquad (23)$$

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Substitution of (17), (20) and (21) in (11) gives an analogous expression for ω_{II}^2 (t). Integrating and using (18) and (19), we obtain the following final formulae:

$$\frac{\omega_I(t)}{\omega_{dev}} = 0.5\left[(D+1)\Phi(z_1) - (D-1)\Phi(z_2)\right] + 0.24\gamma\left(e^{-\frac{z_1^2}{2}} - e^{-\frac{z_2^2}{2}}\right) \quad (25)$$

$$\text{and} \quad \frac{\omega_{II}^2(t)}{\omega_{dev}} = 1 - 0.5\,(1 - D^2 - 0.36\gamma^2)\left[\Phi(z_1) - \Phi(z_2)\right] +$$

$$+ 0.12(0.12\gamma^2 z_1 + 4\gamma D)\, e^{-\frac{z_1^2}{2}} - 0.12\,(0.12\gamma^2 z_2 + 4\gamma D)\, e^{-\frac{z_2^2}{2}}, \quad (26)$$

where $z_1 = \frac{1.65}{\gamma}(D+1)$; $z_2 = \frac{1.65}{\gamma}(D-1)$; $D = \frac{t}{t_0/2}$; $\Phi(z) = \frac{2}{\sqrt{2\pi}}\int_0^z e^{-\frac{x^2}{2}}\,dx$

and $\gamma = \frac{F}{\Delta f_0}$, $\Delta f_0 = \frac{cR}{\alpha_0 a^2}$. ($\Delta f_0$ is the "correlation band" [Ref. 5: I. A. Gus-

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yatinskiy, Shirina polosy i moshchnost' perekhodnykh pomekh pri radiosvyazi rasseyaniem v troposfere (Band Width and Cross Talk Power in Tropospheric Radio Communication) "Elektrosvyaz'", 1959, no. 4] within the limits of which the correlation coefficient between the signal amplitudes decreases to 1/e.) The examination of the final formulae and of the corresponding graphs leads the author to the following conclusions: At $\gamma = 1$, a high-quality television picture can be expected for at least 90% of the time. At $\gamma = 2$, the picture transmission is possible, but the picture quality will decrease at times. At $\gamma = 3$, the signal distortions become intolerable. With the usual length of line sections of the order of 250 km, it is necessary to use highly directional antennae whose α_1 must not be greater then 0.5°. The magnitude of the distortions depends only on γ; it does not depend on the frequency deviation. There are 4 figures, 5 Soviet-bloc and 5 non-Soviet-bloc references. The references to the English-language publications read as follows: Tidd. Demonstration of bandwidth capabilities of beyond-horizon tropospheric radio propagation. Proc. IRE., 1955, no. 10, Dyke, Tropospheric communication for intercontinental TV transmission. J. of SMPTE, February 1960. Chisholm. Measurements of the bandwidth of radio-waves propagated by the troposphere beyond the horizon. "IRE. Transact." AP-6, 1958, no. 4. Crawford. Studies

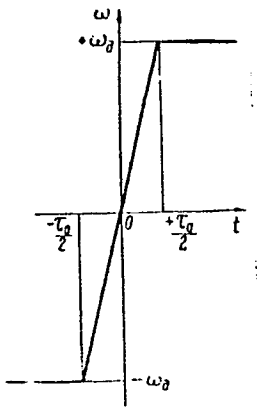
Distortions in tropospheric Transmission .....

in tropospheric propagation beyond the horizon. "BSTJ" Sept. 1959, 38.

SUBMITTED: January 21, 1961.

[Abstracter's note: The following subscripts and symbols are translated in text and formulae: dev (deviation) stands for ∂ (subscript); D stands for ∂ (symbol in 25 and 26)]

Figure 1: 1 - dev instead of "∂".



Card 10/10

GUSYATINSKIY, I.A.; RYSKIN, E.Ya.

Theoretical and experimental study of the power of transient interference during multibeam reception. Elektrosviaz' 16 no.12:3-13 D '62. (MIRA 16:1)

(Radio relay lines)
(Microwave communication systems)

ACCESSION NR: AP4042501 S/0106/64/000/007/0013/0016

AUTHOR: Gusyatinskiy, I.A.; Nemirovskiy, A. S.

TITLE: Experimental investigation of a transmission band in single and diversity reception of signals of long-distance tropospheric ultrashort-wave propagation

SOURCE: Elektrosvyaz', no. 7, 1964, 13-16

TOPIC TAGS: troposphere frequency characteristic, tropospheric propagation, diversity signal reception, wide transmission band

ABSTRACT: A study of the probability distribution of irregularities in the troposphere frequency characteristics was conducted during the reception of signals with a single receiver as well as during diversity reception with two receivers. The distance between the transmitter and receivers was 303 km, and the antenna beam width at half-power points was 1°. The FM transmitter was modulated with sawtooth voltages, and the output frequency varied between $f_{carrier}$ -5 Mc and $f_{carrier}$ +5 Mc. During the diversity reception the receiver i-f signals were combined and fed to three oscillographs. It was

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found that the probability of the occurrence of irregularities in the frequency characteristics during the reception with a single receiver in the 1-Mc band was equal to that obtained during the diversity reception in the 3-Mc band. Also, the linear superposition of i-f signals during the diversity reception resulted in the widening of the transmission band along the propagation path. Orig. art. has: 4 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 15Jan64 ATD PRESS: 3067 ENCL: 00

SUB CODE: EC NO REF SOV: 003 OTHER: 001

Card 2/2

L 32835-65 FSS-2/EWT(d)/EEC(t)/EEC-4 Pn-4/Pp-4/Pac-4

ACCESSION NR: AP5005579 S/0106/65/000/002/0024/0033

AUTHOR: Gusyatinskiy, I. A.; Ryskin, E. Ya.

TITLE: Theoretical and experimental investigation of the fluctuations of amplitude and phase of the modulating signal in an FM multipath channel

SOURCE: Elektrosvyaz', no. 2, 1965, 24-33

TOPIC TAGS: multipath communication, multipath transmission, FM radio telegraphy

ABSTRACT: A theoretical investigation is presented of the amplitude and phase fluctuations of the first harmonic at the output of a frequency detector, with a single-tone sinusoidal modulation and a signal transmission over a multipath channel having random parameters. The amplitude fluctuation grows with the higher modulating frequency, i.e., the net attenuation decreases. The integral distribution of the group transmission time and of the first-harmonic amplitude is

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found for a double reception with a linear signal addition and for a quadruple reception with an automatic selection of the best of four signals. Some theoretical formulas were experimentally verified on a 300-km-long route, with a 1°-wide directional pattern; a 275-kc sinusoidal signal was used to frequency-modulate the transmitter with a maximum deviation of 140 kc. Some experimental data is presented. Orig. art. has: 5 figures and 55 formulas.

ASSOCIATION: none

SUBMITTED: 09Jun64 ENCL: 00 SUB CODE: EC

NO REF SOV: 005 OTHER: 000

Card 2/2

ARMAND, N.A.; VVEDENSKIY, B.A.; GUSYATINSKIY, I.A.; IGOSHEV, I.P.; KAZAKOV, L.Ya.; KALININ, A.I.; KOLOSOV, M.A.; LEVSHIN, I.P.; LOMAKIN, A.N.; NAZAROVA, L.G.; NEMIROVSKIY, A.S.; PROSIN, A.V.; RYSKIN, E.Ya.; SOKOLOV, A.V.; TARASOV, V.A.; TRASHKOV, P.S.; TIKHOMIROV, Yu.A.; TROITSKIY, V.N.; FEDOROVA, L.V.; CHERNYY, F.B.; SHABEL'NIKOV, A.V.; SHIREY, R.A.; SHIFRIN, Ya.S.; SHUR, A.A.; YAKOVLEV, O.I.; ARENBERG, N.Ya., red.

[Long-distance tropospheric propagation of ultrashort radio waves] Dal'nee troposfernoe rasprostranenie ul'trakorotkikh radiovoln. Moskva, Sovetskoe radio, 1965. 414 p. (MIRA 18:9)

GUSYATINSKIY, Igor' Aleksandrovich; RYZHKOV, Yevgeniy Vasil'yevich; NEMIROVSKIY, Aleksandr Solomonovich; MARKOV, V.V., retsenzent; LEVIN, G.A., retsenzent [deceased]; BORODICH, S.V., otv. red.; NOSOVA, M.N., red.

[Radio relay communication lines] Radiorelейnye linii sviazi. Moskva, Sviaz', 1965. 542 p. (MIRA 19:1)

ACC NR: AM5027749 Monograph UR/

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Frosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shirey, R. A.; Shifrin, YA. S.; Shur, A. A.;;YAkovlev, O. I.; Kolosov, M. A.; Levshin, I. P.; Lomakin, A. M.

Upper tropospheric propagation of ultrashort radio waves (Dal'neye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

UDC: 621.371.24

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ACC NR: AM5027749

Problems of investigating the troposphere by means of refractometers, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical characteristics of the signals at diversity reception in time, space, frequency and angle as well as the distortion of signals in the communication systems are also investigated. The long-distance propagat- theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagation which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geographical conditions of the territory involved should be taken into consideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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3. Specialized photoelectric input device -- 401
4. Schematics of generalized statistical processing of experimental data -- 404

Bibliography -- 410

SUB CODE: 17/ SUBM DATE: 24Jun65/ ORIG REF: 071/ OTH REF: 0103/

Card 10/10

GUSYATINSKIY, I. A.

USSR/Electronics - Radio

Card : 1/1

Authors : Gusyatinskiy, I. A., Senior Engineer of a main terminal of a radio-relay line.

Title : From experience in the operation of a radio-relay main line

Periodical : Vest Svyaz, 5, 12 - 13, May 1954

Abstract : Ultra-high-frequency radio-broadcasting and radio-relay communications are discussed and a radio-relay communication line, which operates on decimeter waves (300 - 3000 mgc) is described. Deficiencies, which have occurred from time to time during operation, are analyzed and some measures, which should be taken to improve the operation are recommended.

Institution : .....

Submitted : .....

GUSYATINSKIY, I.A., inzhener.

Radio relay systems. Vest.sviazi 16 no.10:31-32 O '56. (MIRA 10:10)

(Unite States--Radio relay systems)

ACC NR: AT7004472 (A) SOURCE CODE: UR/3245/66/000/002/0044/0046

AUTHORS: Gusyatinskiy, L. I.; Besarabov, Ye. S.; Fedenko, V. S.

ORG: Kiev Institute of Automation (Kiyevskiy institut avtomatiki)

TITLE: A device for regulating automatically the level of remote control signals

SOURCE: Kharkov. Institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki. Pribory i sistemy avtomatiki, no. 2, 1966. Promyshlennaya telemekhanika (Industrial telemechanics), 44-46

TOPIC TAGS: electronic circuit, feedback circuit, remote control system, automatic regulation, automatic control design, photoresistor, lamp, signal reception/ FS-K1 photoresistor, SM-37 lamp

ABSTRACT: A device has been developed for the automatic regulation of the level (ARL) of remote control signals for systems which use contact leads, such as electric locomotives in mines. A photoresistor is used as the regulating element to give a broader regulation range and a higher regulation rate. In a contact system, the operating attenuation changes as the object being controlled is moved. The photoresistor is included in the common negative feedback circuit encompassing all the amplifier stages. The ARL device consists of: an ARL amplifier which broadens the regulation limits and increases the precision; a detector which separates out the AM oscillations and rectifies this; a filter which determines the regulation rate; a DC amplifier for feeding the filament of an SM-37 incandescent lamp. The regulation

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ACC NR: AT7004472

action is accomplished by comparing the ARL input signal with a delay voltage. When the ARL output signal exceeds the delay voltage, the lamp is turned on. This reduces the photoresistance, increasing the feedback, thereby reducing the amplification. This system is especially effective for multiple loop circuits. The principal advantage of this ARL circuit is its structural simplicity. Regulating the photoresistor by a gas-filled device produces a sharp triggering threshold and eliminates the need for a reference voltage. Such a circuit, using an FS-K1 photoresistor and an SM-37 lamp, gave a regulation limit of 4 nep at a rate of 0.7 nep/sec with precision of 0.5--0.7 nep. Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: none

Card 2/2

ACCESSION NR: AP4020320 S/0302/64/000/001/0058/0059

AUTHOR: Gusyatinskiy, L. I.; Skry*nchenko, D. A.

TITLE: Device for shaping square-pulse voltages out of slow-varying voltages

SOURCE: Avtomatika i priborostroyeniye, no. 1, 1964, 58-59

TOPIC TAGS: voltage shaper, square wave shaper, automatic cast iron pouring, metallurgical plant automation

ABSTRACT: Electronic relays, Schmitt's triggers, and other threshold marking devices cannot operate correctly if the rate-of-change of the input voltage is 4 v/sec or higher; in addition, their operating-threshold stability is inadequate. A new semiconductor device, described in the article, was developed for automatic cast-iron pouring purposes. The input-voltage rate-of-change is determined by the speed of the conveyer carrying cast-iron-filled molds. The new device consists of a threshold unit and a trigger unit. The threshold unit is

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designed with two single-shot multivibrators fed through D809 stabilivolts. It is claimed that the device showed a stable operation with a -5 +58C temperature range. It was introduced at the Metallurgical Plant im. Dzerzhinskiy.
Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED 00	DATE ACQ: 31Mar64	ENCL: 00
SUB CODE: CG, IE	NO REF SOV: 000	OTHER: 000

Card 2/2

GUSYATINSKIY, L.I.

Resonance selector with a negative resistance for telemechanical frequency devices. Avtom. i prib. no.2:41-43 Ap-Je '65. (MIRA 18:7)

L 3975-66 EWT(1)/EWA(h)

ACCESSION NR: AR5014347 UR/0271/65/000/005/A024/A024
621.318.563.5

35
03

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 5A165

AUTHOR: Gusyatinskiy, L. I.

TITLE: Long-delay semiconductor relay 25

CITED SOURCE: Sb. Ustroystvo i elementy prom. telemekhan. Kiyev, 1964, 91-96

TOPIC TAGS: semiconductor relay

TRANSLATION: Several variants are considered of a long-delay semiconductor relay which has an RC relaxation circuit and a switching device of high-input impedance. A capacitor is charged via a silicon D-102 diode which has an exponential resistance. A final device is connected to the capacitor via a buffer switch of high-input impedance. A D-813 diode is employed as a switch. The final device may be represented by a trigger, a flip-flop, or other switch having a stable operating threshold. Voltage pulses from a blocking generator or other pulse source should be superposed on the capacitor voltage, to obtain positive

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operation of the final device. With a capacitor of 4 and 10 μf, the obtained delays are 24.5 and 62 sec, respectively. Figs. 4, tab. 1.

SUB CODE: EC, DP ENCL: 00

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GUSYATINSKIY, M.A., inzhener; OVES, I.S., kandidat tekhnicheskikh nauk.

[Utilization of MAZ-205 dump-trucks in the construction of the Lenin Volga-Don Navigation Canal] Ekspluatatsiia avtomobilei-samosvalov MAZ-205 na stroitel'stve Volgo-Donskogo sudokhodnogo kanala imeni V.I. Lenina. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 94 p. (MLRA 7:6)
(Dump trucks) (Volga-Don Canal)

AGAPOV, D.S.; ARTIBILOV, B.M.; VIKTOROV, A.M.; GINTS, A.N.; GOR'KOV, A.V.; GUSYATINSKIY, M.A.; KARPOV, A.S.; KOLOT, I.I.; KOMAREVSKIY, V.T.; KORYAGIN, A.I.; KRIVSKIY, M.N.; KRAYNOV, A.G.; NESTEROVA, I.N.; OBMS, I.S., kandidat tekhnicheskikh nauk; SOSNOVIKOV, K.S.; SUKHOTSKIY, S.F.; CHLENOV, G.O.; YUSOV, S.K.; ZHUK, S.Ya., akademik, glavnyy redaktor; KOSTROV, I.N., redaktor; BARONENKOV, A.V., professor, doktor tekhnicheskikh nauk, redaktor; KIRZHNER, D.M., professor, doktor tekhnicheskikh nauk, redaktor; SHESHKO, Ye.F., professor, doktor tekhnicheskikh nauk, redaktor; AVERIN, N.D., inzhener, redaktor [deceased]; GOR'KOV, A.V., inzhener, redaktor; KOMAREVSKIY, V.T., inzhener, redaktor; ROGOVSKIY, L.V., inzhener, redaktor; SHAPOVALOV, T.I., inzhener, redaktor; RUSSO, G.A., kandidat tekhnicheskikh nauk, redaktor; FILIMONOV, N.A., inzhener, redaktor; VOLKOV, L.N., inzhener, redaktor; GRISHIN, M.M., professor, doktor tekhnicheskikh nauk, redaktor; ZHURIN, V.D., professor, doktor tekhnicheskikh nauk, redaktor; LIKHACHEV, V.P., inzhener, redaktor; MEDVEDEV, V.M., kandidat tekhnicheskikh nauk, redaktor; MIKHAYLOV, A.V., kandidat tekhnicheskikh nauk, redaktor; PETROV, G.D., inzhener, redaktor; RAZIN, N.V., redaktor; SOBOLEV, V.P., inzhener, redaktor; FERINGER, B.P., inzhener, redaktor; TSYPLAKOV, V.D., inzhener, redaktor; ISAYEV, N.V., redaktor; TISTROVA, O.N., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor

[The Volga-Don Canal; technical report on the construction of the Volga-Don Canal, the TSimlyanskaya hydro development and irrigation works (1949-1952); in five volumes] Volgo-Don; tekhnicheskii otchet

(continued on next card)

AGAPOV, D.S. --- (continued) Card 2.
o stroitel'stve Volgo-Donskogo sudokhodnogo kanala imeni V.I.Lenina. TSimlianskogo gidrouzla i orositel'nykh sooruzhenii (1949-1952) v piati tomakh. Glav.red. S.IA. Zhuk. Moskva, Gos.energ. izd-vo. Vol.5. [Quarry management] Kar'ernoe khoziaistvo. Red.toma I.N. Kostrov. 1956. 172 p. (MLRA 10:4)

1. Russia (1923- U.S.S.R.) Ministerstvo elektrostantsii. Byuro tekhnicheskogo otcheta o stroitel'stve Volgo-Dona. 2. Deystvitel'nyy chelen Akademii stroitel'stva, i arkhitektury SSSR (for Razin)
(Quarries and quarrying)

GUSYATINSKIY, M.A.

AFONIN, K.B.; BURTSEV, K.I.; BYSTROV, S.N.; VINETS, G.B.; VODNEV, G.G.; VORONIN, A.S.; GEVLICH, A.S.; GRYAZNOV, N.S.; GUDIM, A.F.; GUSYATINSKIY, M.A.; DVORIN, S.S.; DIDENKO, V.Ye.; DMITRIYEV, M.M.; DONDE, M.M.; DOROGOBID, G.M.; ZHDANOV, G.I.; ZAGORUL'KO, A.I.; ZELENETSKIY, A.G.; IVASHCHENKO, Ya.N.; KAFTAN, S.I.; KVASHA, A.S.; KIREYEV, A.D.; KLISHEVSKIY, G.S.; KOZYREV, V.P.; KOLOBOV, V.N.; LGALOV, K.I.; LEYTES, V.A.; LERNER, B.Z.; LOBODA, N.S.; LUBINETS, I.A.; MANDRYKIN, I.I.; MUSTAFIN, F.A.; NEMIROVSKIY, N.Kh.; NEFEDOV, V.A.; OBUKHOVSKIY, Ya.M.; PERTSEV, M.A.; PETROV, I.D.; PODOROZHANSKIY, M.O.; POPOV, A.P.; RAK, A.I.; REVYAKIN, A.A.; ROGHKOV, A.P.; ROZENGAUZ, D.A.; SAZONOV, S.A.; SIGALOV, M.B.; STOMAKHIN, Ya.B.; TARASOV, S.A.; FILIPPOV, B.S.; FRIDMAN, N.K.; FRISHBERG, V.D.; KHAR'KOVSKIY, K.V.; KHOLOPTSEV, V.P.; TSAREV, M.N.; TSOGLIN, M.E.; CHERNYY, I.I. CHERTOK, V.T.; SHELKOV, A.K.

Samuil Borisovich Bamme. Koks i khim. no.6:64 '56. (MLRA 9:10)
(Bamme, Samuil Borisovich, 1910-1956)

POVALIY, M.R.; GUSYATINSKIY, M.A.

Using truck-trains in open-cut mine transportation. Stroi. mat. 6 no.9:19-21 S '60. (MIRA 13:9)

1. Upravlyayushchiy Balaklavskim rudoupravleniyem (for Povaliy).
2. Glavnyy mekhanik Balaklavskogo rudoupravleniya for (Gusyatinskiy).

(Quarries and quarrying) (Motortrucks)

GUSYATINSKIY, M.A., inzh.; DEMENT'YEV, V.I., inzh.

Operation of building machinery in the Far North. Mekh. stroi. 20 no.10:11-13 O '63. (MIRA 16:10)

Gusyatinskiy, N.A.

10 июня

(с 10 до 16 часов)

Ю. К. Муравьев

Новый метод приближенного решения интегрального уравнения теории антенн

В. Н. [illegible]

К вопросу о возбуждении диэлектрических волноводов.

О. Г. [illegible]

Синтез линейных излучателей с [illegible] качанием луча.

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Г. Х. [illegible]

Фокусирующие свойства дифракционных отражателей (решеток).

А. Н. [illegible]

Метод измерения коэффициента направленного действия антенн на малых расстояниях.

В. С. [illegible],

Н. А. Гусятинский

Влияние условий распространения на антенны, работающие на линиях, использующих рассеяние радиоволн в тропосфере

С. П. [illegible]

Антенна бегущей волны для приема [illegible] волн.

В. Д. [illegible],

А. Н. [illegible]

Система [illegible] использования сложных [illegible] антенн

11 июня

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Дифракция электромагнитных волн на [illegible] спиральной линии

В. С. [illegible]

Расчет [illegible] [illegible] делителя мощности

В. Н. [illegible]

О статистических характеристиках коэффициента отражения антенны в случайно неоднородных линиях передачи.

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959

POPOV, V.N., kand. tekhn. nauk; GUSYATNIKOV, V.A., inzh.

Results of the studies of the D-130 engine at unsteady load. Trakt. i sel'khozmash. no.7:11-13 Jl '64. (MIRA 18:7)

1. Chelyabinskiy traktornyy zavod (for Popov). 2. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Gusyatnikov).

ACC NR: AR6036305 SOURCE CODE: UR/0273/66/000/009/0004/0004

AUTHOR: Gusyatnikov, V. A.; Kozyukov, V. A.

TITLE: Investigation of torsional vibrations of the transmission shaft on a reduced model

SOURCE: Ref. zh. Dvigateli vnutrennogo sgoraniya, Abs. 9.39.22

REF SOURCE: Tr. Chelyab. in-ta mekhaniz. i elektrifik. s. kh., vyp. 24, 1965, 49-53

TOPIC TAGS: torsional vibration, internal combustion engine, electric generator, shear stress

ABSTRACT: The described investigation was carried out on a shaft connecting the DET-250 diesel-electric tractor with an electric-transmission generator. The torsional system consisted of an internal combustion engine, shaft, and electric generator is a multiple-mass one. Such a system can be replaced with a simpler two-mass system by combining a number of cited masses. A diagram of this system is given. A model study of the resonance effect has shown that the

Card 1/2 UDC: 621.423-233.12-752

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torsional system of the diesel, transmission shaft, and generator has a zone of resonance revolutions in the range of 200—300 rpm at starting. The shear stresses arising in this case exceed the calculated ones at the rated moment by 10—11 times. [Translation of abstract] [NT]

SUB CODE: 21/

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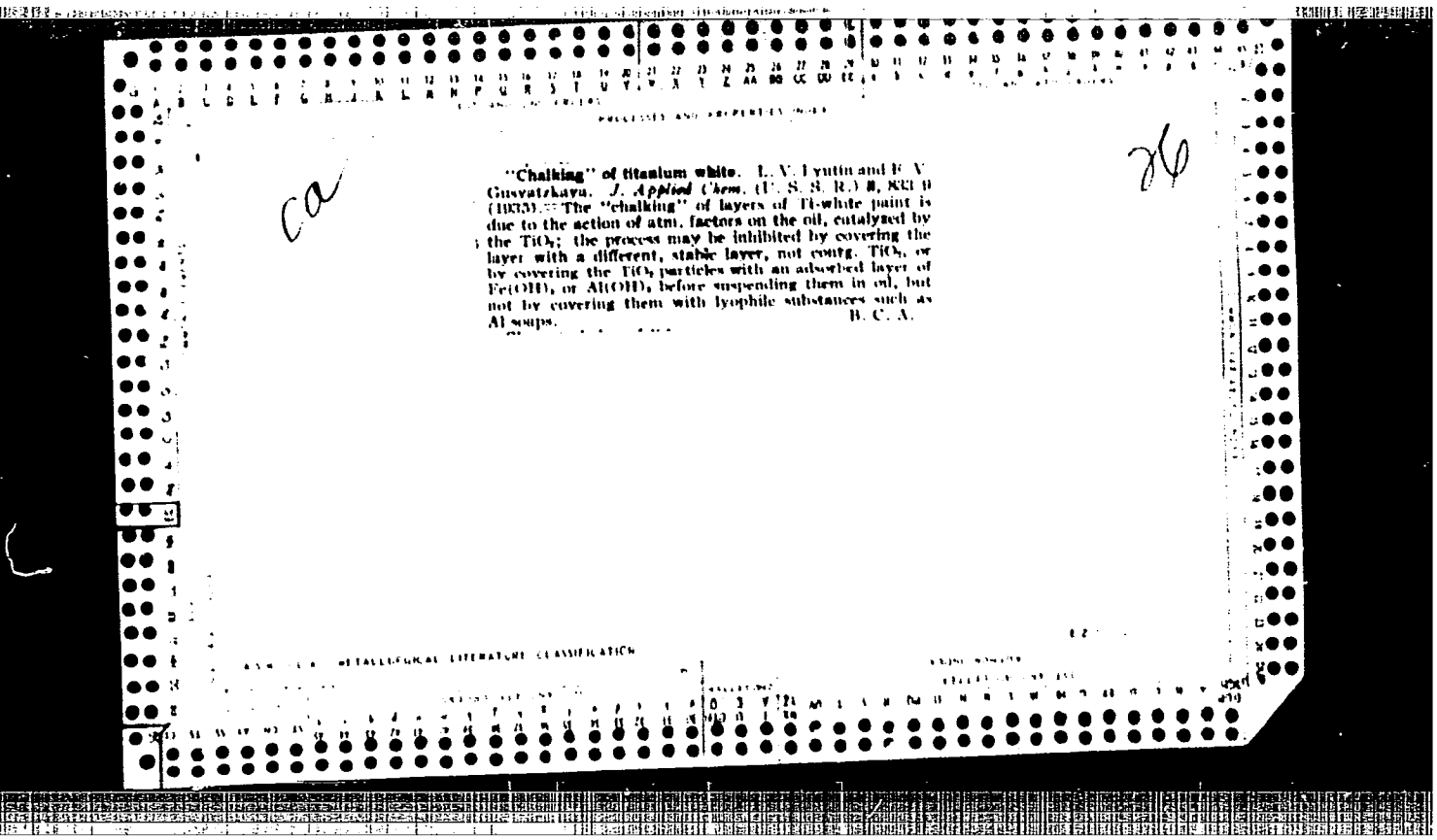
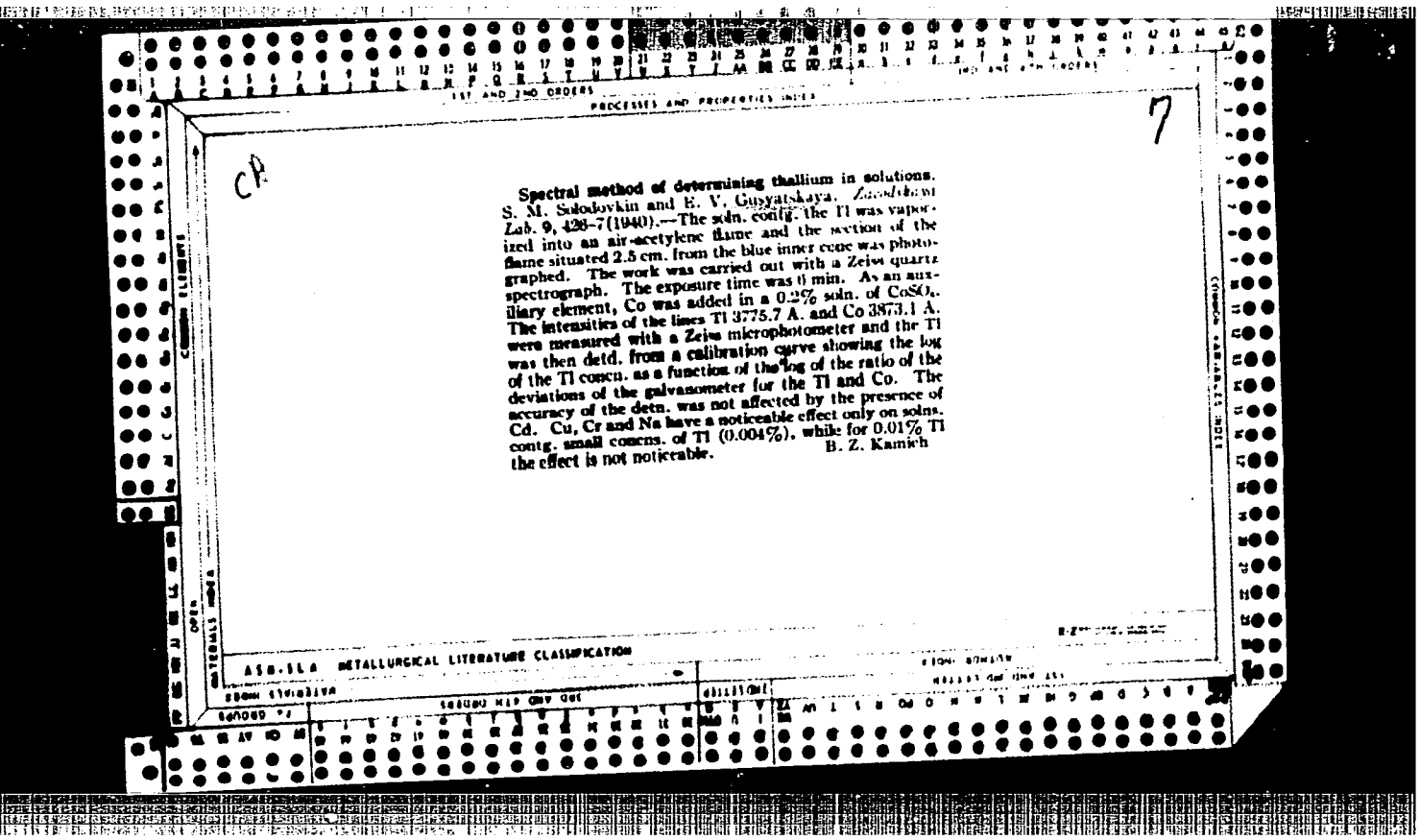


"Chalking" of titanium white. L. V. Lyutin and E. V. Gusvatzkaya. *J. Applied Chem.* (U. S. S. R.) 8, 832-9 (1935).—The "chalking" of layers of Ti-white paint is due to the action of atm. factors on the oil, catalyzed by the TiO_2; the process may be inhibited by covering the layer with a different, stable layer, not contg. TiO_2, or by covering the TiO_2 particles with an adsorbed layer of $Fe(OH)_3$ or $Al(OH)_3$ before suspending them in oil, but not by covering them with lyophile substances such as Al soaps. B. C. A.



Spectral method of determining thallium in solutions. S. M. Salodovkin and E. V. Guyvatskaya. *Zavodskaya Lab.* 9, 428–7(1940).—The soln. contg. the Tl was vaporized into an air-acetylene flame and the section of the flame situated 2.5 cm. from the blue inner cone was photographed. The work was carried out with a Zeiss quartz spectrograph. The exposure time was 0 min. As an auxiliary element, Co was added in a 0.2% soln. of $CoSO_4$. The intensities of the lines Tl 3775.7 A. and Co 3873.1 A. were measured with a Zeiss microphotometer and the Tl was then detd. from a calibration curve showing the log of the Tl concn. as a function of the log of the ratio of the deviations of the galvanometer for the Tl and Co. The accuracy of the detn. was not affected by the presence of Cd, Cu, Cr and Na have a noticeable effect only on solns. contg. small concns. of Tl (0.004%), while for 0.01% Tl the effect is not noticeable.

B. Z. Kamich

GUSYATSKAYA, E. V.

PA 53/49T76

USSR/Metals/Minerals
Spectrum Analysis

Jul/Aug 48

"Determination of Small Quantities of Beryllium in Solutions and Alumino-Magnesium Alloys by Spectrum Analysis," E. V. Gusyatskaya, A. K. Rusanov, State Inst of Rare and Fine Metals, 3 pp

"Iz Ak Nauk SSSR, Ser Fiz" Vol XII, No 4

Applied method of spectrum analysis using a preliminary introduction of the metal into a solution to determine beryllium in aluminum, magnesium, and their alloys. Placed 0.1 g of the metal in a graduated test tube and dissolved in 2 ml of

[redacted]

53/49T76

USSR/Metals/Minerals (Contd) Jul/Aug 48

HCl. Used measurements of the relative intensities of beryllium and cadmium (0.1% cadmium chloride in every solution) to determine beryllium in the solution.

[redacted]

53/49T76

CA

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Spectroscopic determination of small quantities of beryllium in solutions and in aluminum magnesium alloys. R. V. Gusyatskaya and A. K. Rusanov. *Zavod. Lab. Khim.* 6, 807-7(1940).—For detg. small quantities of Be in soln. a Feussner spark was used and a specially constructed lower electrode. The latter comprised a brass rod inserted in a glass tube. The tube flared upwards and to it was joined a glass thimble for the analyzed soln. A Pt wire extended from the brass rod through the bottom of the thimble. Inside the thimble the wire was fashioned in the shape of a cup over which was inserted a hollow graphite cylinder 13 mm. high and 13 mm. diam. which acted as the lower electrode. The amt. of Be was detd. from the difference in darkening between the Be line 2348.61 and the Cd line 2288.02 A. The Cd was introduced as an internal standard. To det. Be in Al Mg alloys, dissolve a 0.1-g. sample in HCl. Test as above but if the Al content is known, the relative intensities of Be 2348.61 and Al 2367.06 and 2373.13 A. can be used.

M. Hirsch

State Inst. of Rare & Fine Metals

GUSYATSKAYA, E. V.

Apr 50

USSR/Chemistry - Analytical Methods
Photometry

"Photometric Flame Method for Determination of Sodium and Potassium in Solutions," A. K. Rusanov, E. V. Gusyatskaya, N. V. Il'yasova, 7 pp

"Zavod Lab" Vol XVI, No 4

Use of acetylene flame for spectrum excitation in determining sodium and potassium eliminates use of monochromators, allows separation of lines of these elements with aid of light filters installed before photocells. Amplification of photoelectric currents, most difficult part of process, may be omitted in this case. Simple apparatus for rapid determination of sodium and potassium gives possibility of determining these elements in several minutes in cases of their simultaneous presence in solutions.

PA 160T10

GUSYATSKAYA, E. V.

Determination of hafnium and zirconium by optical spectrum analysis. E. V. Gusyatskaya and A. K. Rusanov (All-Union Inst. Mineral Deposits, Moscow). *Zhur. Anal. Khim.* 10, 75–85 (1955); *J. Anal. Chem. U.S.S.R.* 10, 67–75 (1955) (Engl. translation).—Detn. of Hf and Zr in a C arc and a spark discharge are described. When Hf and Zr were detd. in the presence of other elements, as is the case in ores and minerals, fractionation of the elements caused changes in the arc temp. which in turn affected the intensity of the Hf and Zr lines. In order of their vaporization, the elements studied were arranged as follows: Al, Cd, Zn, Bi, Pb, Sb, Na, B, Sn, Mo, W, U, Th, Nb, Ta, Hf, and Zr. Attempts at stabilizing the arc temp. with addns. proved unreliable. When only Hf and Zr were present, the C arc gave satisfactory results. In the presence of other elements detn. of Hf and Zr was difficult. For spark-discharge detn. ZrO_2 and HfO_2 were freed of their admixts. and thoroughly mixed with sponge Ag by using Ag 75 and oxides 25%. The mixt. was pressed into rods of 4-mm. diam. and briefly heated at approx. 800°. To conserve Hf and Zr they were incorporated only in 1–1.5 mm. of the electrode, the rest being pure Ag. This method of detg. Hf in Zr and Zr in Hf over a wide range of concns. gave good results.

M. Hesel

(1)

GUSYATSKAYA, E.V.; LOGINOVA, L.G.

Spectrum analysis technique for determining lead in natural waters. Izv.AN SSSR.Ser.fiz.19 no.2:194-196 Mr-Ap '55. (MLRA 9:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii "Vsegingeo".
(Tartu--Spectrum analysis--Congresses)

GUSYATSKAYA, M.V.; LOGINOVA, L.G.; KRASNOVA, N.M.redaktor; PEN'KOVA, S.A., tekhnicheskiy redaktor

[Manual on the spectrum determination of microelements in dry sediment of slightly mineralized natural water] Rukovodstvo po spektral'nomu opredeleniiu mikroelementov v sukhikh ostatkakh malomineralizovannykh prirodnykh vod. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1956. 18 p. (MLRA 10:4)

(Spectrum analysis) (Water--Analysis) (Trace elements)

GUSYATSKIY, Fedor

PHASE I BOOK EXPLOITATION 254

Gusyatskiy, Fedor L'vovich, and Panov, Ivan Nikolayevich

Gazorezatel'nyy avtomat MDFKS i rabota na nem (Automatic Gas Cutter Controlled by a Scaled Distance Photoelectric Copying System; Method of Operation) Leningrad, Sudpromgiz, 1957. 107 p. (Nauchno-proizvodstvennyy opyt) 2,000 copies printed.

Resp. Ed.: Sokolov, I. P.; Ed.: Mishkevich, G. I.; Tech. Ed.: Levochkina, L. I.

PURPOSE: This book is intended as a training aid for raising the qualifications of personnel operating cutters. It may also be useful to workers preparing tracing sketches, and to the engineering and technical staffs of hullworking shops in shipyards. Workers in enterprises producing boilers, tanks, and steel structures using oxygen-cutting machines will also find it useful.

COVERAGE: This book is a brief review of general problems encountered in oxygen cutting and it describes the latest automatic

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Automatic Gas Center Controlled by a Scaled Distance (Cont.) 254

oxygen cutter employing a scaled, remotely controlled, photoelectric tracing system. The technical process of oxygen cutting with the above-mentioned cutter, along with maintenance rules and safety measures,are reviewed. A description is given of the process of preparing tracing prints. Mention is made of Engineer A. Ya. Rubin who assisted in describing the electric circuit of the automatic cutter. There are no references.

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